SEVERN TRENT STL

0059599

February 10, 2003

FEB 2003
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Melissa Gerrard
Fluor Hanford
2430 Stevens Center, Room 169
Richland, WA 99352

Reference: Contract 615

Dear Ms. Gerrard:

Accompanying this letter are the Data Package(s) for the radiochemical analyses for the following Fluor Sample Delivery Groups:

SDG NUMBER	SAF NUMBER	LOT NUMBER
W03900	F03-003	J2K150312, J2K250209, J2K180187

If you have any questions regarding this data package or require any additional information please contact Barb Gillespie at 375-3131.

Receipt of this letter and the packages are acknowledged by:

Name	Date	Time
MGerrard	2/11/03	4:05

XC: File

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Severn Trent Laboratories, Inc.
STL Richland • 2800 George Washington Way, Richland, WA 99352
Tel 509 375 3131 Fax 509 375 5590 • www.stl-inc.com

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Analytical Data Package Prepared For

Fluor Hanford Inc.

FEB 2003
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Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99352, (509)-375-3131.

Assigned Laboratory Code: STLRL

Data Package Contains 103 Pages

Report No.: 21735

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W03900	F03-003	B15XM4	J2K150312-1	FC8N41AC	9FC8N410	2336544
		B15XM4	J2K150312-1	FC8N41AJ	9FC8N410	2336546
		B15XM4	J2K150312-1	FC8N41AF	9FC8N410	2336547
		B15XM4	J2K150312-1	FC8N41AG	9FC8N410	2336548
		B15XM4	J2K150312-1	FC8N41AH	9FC8N410	2336549
		B15XM4	J2K150312-1	FC8N41AA	9FC8N410	2336550
		B15XM4	J2K150312-1	FC8N41AK	9FC8N410	2336551
		B15XM4	J2K150312-1	FC8N41AL	9FC8N410	2336553
		B15XM4	J2K150312-1	FC8N41AM	9FC8N410	2336554
		B15XM4	J2K150312-1	FC8N42AD	9FC8N420	3029340
		B15YF9	J2K250209-1	FDVJK1AD	9FDVJK10	2336544
		B15YF9	J2K250209-1	FDVJK1AK	9FDVJK10	2336546
		B15YF9	J2K250209-1	FDVJK1AG	9FDVJK10	2336547
		B15YF9	J2K250209-1	FDVJK1AH	9FDVJK10	2336548
		B15YF9	J2K250209-1	FDVJK1AJ	9FDVJK10	2336549
		B15YF9	J2K250209-1	FDVJK1AC	9FDVJK10	2336550
		B15YF9	J2K250209-1	FDVJK1AL	9FDVJK10	2336551
		B15YF9	J2K250209-1	FDVJK1AA	9FDVJK10	2336553
		B15YF9	J2K250209-1	FDVJK1AM	9FDVJK10	2336554
		B15YF9	J2K250209-1	FDVJK2AE	9FDVJK20	3029340
		B15YL4	J2K180187-1	FDC1G1AD	9FDC1G10	2336544
		B15YL4	J2K180187-1	FDC1G1AK	9FDC1G10	2336546
		B15YL4	J2K180187-1	FDC1G1AG	9FDC1G10	2336547
		B15YL4	J2K180187-1	FDC1G1AH	9FDC1G10	2336548
		B15YL4	J2K180187-1	FDC1G1AJ	9FDC1G10	2336549
		B15YL4	J2K180187-1	FDC1G1AC	9FDC1G10	2336550

Report No.: 21735

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W03900	F03-003	B15YL4	J2K180187-1	FDC1G1AL	9FDC1G10	2336551
		B15YL4	J2K180187-1	FDC1G1AA	9FDC1G10	2336553
		B15YL4	J2K180187-1	FDC1G1AM	9FDC1G10	2336554
		B15YL4	J2K180187-1	FDC1G2AE	9FDC1G20	3029340

SEVERN TRENT STL

CERTIFICATE OF ANALYSIS

FEB 2003
RECEIVED

Fluor Hanford Inc.
825 Jadwin Ave.
Richland, WA 99352

February 10, 2003

Attention: Steve Trent

SAF Number	:	F03-003
Date SDG Closed	:	November 27, 2002
Number of Samples	:	Soil (3)
Sample Type	:	Water
SDG Number	:	W03900
Data Deliverable	:	45-Day / Summary

I. Introduction

On January 23, 2002, three soil samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford, Inc. specific IDs:

STLR ID#	Fluor ID#	MATRIX	DATE OF RECEIPT
FC8N4	B15XM4	Soil	11/14/02
FDC1G	B15YL4	Soil	11/18/02
FDVJK	B15YF9	Soil	11/25/02

II. 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 analysis was:

Alpha Spectrometry
Americium-241 by method RICH-RC-5010
Plutonium-238, 239/240 by method RICH-RC-5010
Uranium-234, 235, 238 by method RICH-RC-50779
Neptunium-237 by method RICH-RC-5009
Thorium-228, 230, 232 by method RICH-RC5084

Gas Proportional Counting
Gross Alpha by method RICH-RC-5020
Gross Beta by method RICH-RC-5020
Total Strontium by method RICH-RC-5006
Gamma Spectroscopy
Gamma Spectroscopy by method RICH-RC-5017
Total Uranium
Total Uranium by method RICH-RC-5058

III. Quality Control

The analytical results for each analysis performed under SDG W03900 includes a minimum of two Laboratory Control Samples (LCS) and one method (reagent) blank. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

IV. Comments

Alpha Spectrometry
Americium-241 by method RICH-RC-5010:
The initial process batch had no LCS recovery, therefore the entire batch was re-processed. The LCS, batch blank, matrix blank, matrix spike, samples and sample duplicate (B15XM4) results are within contractual requirements.

Plutonium-238, 239/240 by method RICH-RC-5010:
The LCS, batch blank, matrix blank, matrix spike, samples and sample duplicate (B15YF9) results are within contractual requirements.

Uranium-234, 235, 238 by method RICH-RC-50779:
The LCS, batch blank, samples and sample duplicate (B15XM4) results are within contractual requirements.

Neptunium-237 by method RICH-RC-5009:
The LCS had a 16% tracer yield (62% recovery). The LCS was recounted and confirm. The client was informed and the laboratory was directed to report. Except as noted, the LCS, batch blank, samples and sample duplicate (B15LY4) results are within contractual requirements.

Thorium-228, 230, 232 by method RICH-RC5084:
The LCS, batch blank, samples and sample duplicate (B15LY4) results are within contractual requirements.

Gas Proportional Counting
Gross Alpha by method RICH-RC-5020:
The LCS, batch blank, samples and sample duplicate (B15LY4) results are within contractual requirements.

Gross Beta by method RICH-RC-5020:
The LCS, batch blank, samples and sample duplicate (B15XM4) results are within contractual requirements.

Total Strontium by method RICH-RC-5006:
The LCS, batch blank, samples and sample duplicate (B15LY4) results are within contractual requirements.

Gamma Spectroscopy
Gamma Spectroscopy by method RICH-RC-5017:
The LCS, batch blank, samples and sample duplicate (B16YF9) results are within contractual requirements.

Total Uranium
Total Uranium by method RICH-RC-5058:
The LCS, batch blank, samples, sample duplicate (B15XM4), and matrix spike (B1YF9) 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:

Barbara M. Gillespie
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

STL Richland STLRL

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

Date: 10-Feb-03

Report No. : 21735

SDG No: W03900

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
2336554 UTOT_KPA									
B15XM4									
	FC8N41AM	TOTAL-URANIUM	1.62E+00 +- 2.63E-01		ug/g		7.29E-05		
B15XM4 DUP									
	FC8N41AQ	TOTAL-URANIUM	1.42E+00 +- 2.32E-01		ug/g		7.29E-05	1.00E+00	12.9
B15YF9									
	FDVJK1AM	TOTAL-URANIUM	1.49E+00 +- 2.44E-01		ug/g		7.29E-05		
B15YL4									
	FDC1G1AM	TOTAL-URANIUM	2.01E+00 +- 3.31E-01		ug/g		7.29E-05		
2336544 PUISO_PLATE_AEA									
B15XM4									
	FC8N41AC	PU-238	0.00E+00 +- 1.82E-02	U	pCi/g	42.55%	2.01E-02	1.00E+00	
		PU239/40	-2.97E-03 +- 4.25E-03	U	pCi/g	42.55%	4.19E-02	1.00E+00	
B15YF9									
	FDVJK1AD	PU-238	0.00E+00 +- 1.68E-02	U	pCi/g	48.71%	1.86E-02	1.00E+00	
		PU239/40	2.74E-02 +- 2.81E-02	U	pCi/g	48.71%	1.86E-02	1.00E+00	
B15YF9 DUP									
	FDVJK1AN	PU-238	7.35E-03 +- 1.88E-02	U	pCi/g	35.77%	4.40E-02	1.00E+00	200.0
		PU239/40	3.67E-02 +- 3.77E-02	U	pCi/g	35.77%	2.49E-02	1.00E+00	29.0
B15YL4									
	FDC1G1AD	PU-238	0.00E+00 +- 2.12E-02	U	pCi/g	37.70%	2.34E-02	1.00E+00	
		PU239/40	7.58E-01 +- 2.42E-01		pCi/g	37.70%	4.13E-02	1.00E+00	
3029340 AMCMISO_EIE_PLT_AEA									
B15XM4									
	FC8N42AD	AM-241	3.45E-02 +- 2.30E-02		pCi/g	89.78%	1.68E-02	1.00E+00	
B15XM4 DUP									
	FC8N41AR	AM-241	8.02E-02 +- 3.88E-02		pCi/g	97.42%	1.94E-02	1.00E+00	79.8
B15YF9									
	FDVJK2AE	AM-241	2.53E-01 +- 7.46E-02		pCi/g	88.17%	1.76E-02	1.00E+00	
B15YL4									
	FDC1G2AE	AM-241	1.99E-01 +- 7.89E-02		pCi/g	62.53%	1.68E-02	1.00E+00	
2336547 THISO_IE_PRECIP_AEA									
B15XM4									
	FC8N41AF	TH-228	8.65E-01 +- 1.77E-01		pCi/g	103.28%	3.16E-02	1.00E+00	
		TH-230	5.50E-01 +- 1.24E-01		pCi/g	103.28%	1.85E-02	1.00E+00	
		TH-232	8.22E-01 +- 1.67E-01		pCi/g	103.28%	2.78E-02	1.00E+00	
B15YF9									
	FDVJK1AG	TH-228	5.15E-01 +- 1.32E-01		pCi/g	96.41%	3.52E-02	1.00E+00	
		TH-230	4.27E-01 +- 1.14E-01		pCi/g	96.41%	1.45E-02	1.00E+00	
		TH-232	3.94E-01 +- 1.08E-01		pCi/g	96.41%	2.67E-02	1.00E+00	

STL Richland

rptSTLRchSaSummary2 V3.98 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

STL Richland STLRL

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

Date: 10-Feb-03

Report No. : 21735

SDG No: W03900

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
2336547 THISO_IE_PRECIP_AEA									
B15YL4									
	FDC1G1AG	TH-228	6.08E-01 +- 1.35E-01		pCi/g	102.16%	2.10E-02	1.00E+00	
		TH-230	5.29E-01 +- 1.20E-01		pCi/g	102.16%	1.58E-02	1.00E+00	
		TH-232	5.83E-01 +- 1.28E-01		pCi/g	102.16%	1.79E-02	1.00E+00	
B15YL4 DUP									
	FDC1G1AN	TH-228	5.06E-01 +- 1.31E-01		pCi/g	99.84%	3.68E-02	1.00E+00	18.4
		TH-230	4.59E-01 +- 1.20E-01		pCi/g	99.84%	1.45E-02	1.00E+00	14.1
		TH-232	5.93E-01 +- 1.42E-01		pCi/g	99.84%	1.45E-02	1.00E+00	1.5
2336553 UISO_IE_PLATE_AEA									
B15XM4									
	FC8N41AL	U-234	5.33E-01 +- 1.46E-01		pCi/g	61.39%	3.32E-02		
		U-235	8.70E-03 +- 1.39E-02	U	pCi/g	61.39%	2.31E-02		
		U-238	4.55E-01 +- 1.30E-01		pCi/g	61.39%	3.32E-02		
B15XM4 DUP									
	FC8N41AP	U-234	6.50E-01 +- 1.69E-01		pCi/g	63.76%	2.69E-02	1.00E+00	19.9
		U-235	3.24E-02 +- 2.61E-02		pCi/g	63.76%	2.28E-02	1.00E+00	115.3
		U-238	6.76E-01 +- 1.75E-01		pCi/g	63.76%	1.29E-02	1.00E+00	39.1
B15YF9									
	FDVJK1AA	U-234	5.24E-01 +- 1.38E-01		pCi/g	71.85%	3.25E-02		
		U-235	4.99E-03 +- 1.23E-02	U	pCi/g	71.85%	2.86E-02		
		U-238	5.36E-01 +- 1.40E-01		pCi/g	71.85%	2.35E-02		
B15YL4									
	FDC1G1AA	U-234	5.63E-01 +- 1.47E-01		pCi/g	70.74%	4.50E-02		
		U-235	1.37E-02 +- 1.77E-02	U	pCi/g	70.74%	2.95E-02		
		U-238	5.68E-01 +- 1.48E-01		pCi/g	70.74%	3.69E-02		
2336546 GAMMA_GS									
B15XM4									
	FC8N41AJ	AM-241	2.09E-02 +- 7.53E-02	U	pCi/g		1.25E-01		
		CO-60	7.33E-03 +- 1.16E-02	U	pCi/g		2.10E-02		
		CS-137	3.56E+00 +- 4.35E-01		pCi/g		2.31E-02		
		EU-152	-3.65E-02 +- 3.97E-02	U	pCi/g		6.55E-02		
		EU-154	-2.94E-02 +- 3.82E-02	U	pCi/g		6.19E-02		
		EU-155	5.00E-02 +- 4.05E-02	U	pCi/g		6.90E-02		
		RA-228	8.24E-01 +- 1.38E-01		pCi/g		6.50E-02		
B15YF9									
	FDVJK1AK	AM-241	-2.79E-03 +- 3.21E-02	U	pCi/g		5.10E-02		
		CO-60	8.96E-03 +- 1.17E-02	U	pCi/g		2.11E-02		
		CS-137	6.68E-03 +- 1.12E-02	U	pCi/g		1.94E-02		

STL Richland

rptSTLRchSaSummary2 V3.98 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

STL Richland STLRL

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

Date: 10-Feb-03

Report No. : 21735

SDG No: W03900

Batch	Client Id Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
2336546 GAMMA_GS									
B15YF9									
	FDVJK1AK	EU-152	-1.42E-02 +- 2.76E-02	U	pCi/g		4.60E-02		
		EU-154	1.76E-02 +- 3.72E-02	U	pCi/g		6.46E-02		
		EU-155	1.48E-02 +- 2.63E-02	U	pCi/g		4.54E-02		
		RA-228	6.83E-01 +- 1.11E-01		pCi/g		6.93E-02		
B15YF9 DUP									
	FDVJK1AQ	AM-241	2.10E-02 +- 3.75E-02	U	pCi/g		6.28E-02		261.1
		CO-60	2.13E-03 +- 1.11E-02	U	pCi/g		1.95E-02	5.00E-02	123.1
		CS-137	-4.10E-03 +- 1.09E-02	U	pCi/g		1.82E-02	1.00E-01	835.9
		EU-152	4.96E-03 +- 3.05E-02	U	pCi/g		4.66E-02	1.00E-01	-414.0
		EU-154	-3.02E-03 +- 3.37E-02	U	pCi/g		5.78E-02	1.00E-01	282.5
		EU-155	1.89E-02 +- 3.04E-02	U	pCi/g		5.21E-02	1.00E-01	24.4
		RA-228	7.11E-01 +- 1.22E-01		pCi/g		6.57E-02		4.1
B15YL4									
	FDC1G1AK	AM-241	-1.23E-03 +- 1.24E-01	U	pCi/g		2.05E-01		
		CO-60	-6.45E-03 +- 1.13E-02	U	pCi/g		1.89E-02		
		CS-137	2.57E-01 +- 4.02E-02		pCi/g		1.99E-02		
		EU-152	4.22E-02 +- 4.84E-02	U	pCi/g		5.62E-02		
		EU-154	-3.95E-03 +- 3.56E-02	U	pCi/g		6.08E-02		
		EU-155	-1.38E-02 +- 4.84E-02	U	pCi/g		8.10E-02		
		RA-228	6.58E-01 +- 1.20E-01		pCi/g		6.96E-02		
2336548 9310_ALPHABETA_GPC									
B15XM4									
	FC8N41AG	ALPHA	8.04E+00 +- 4.68E+00		pCi/g	100.00%	5.86E+00		
B15YF9									
	FDVJK1AH	ALPHA	1.14E+01 +- 5.38E+00		pCi/g	100.00%	4.75E+00		
B15YL4									
	FDC1G1AH	ALPHA	1.12E+01 +- 5.26E+00		pCi/g	100.00%	4.91E+00		
B15YL4 DUP									
	FDC1G1AP	ALPHA	1.40E+01 +- 6.03E+00		pCi/g	100.00%	5.00E+00	1.00E+01	21.9
2336549 9310_ALPHABETA_GPC									
B15XM4									
	FC8N41AH	BETA	3.32E+01 +- 6.49E+00		pCi/g	100.00%	4.59E+00		
B15XM4 DUP									
	FC8N41AN	BETA	2.33E+01 +- 5.06E+00		pCi/g	100.00%	4.43E+00	1.50E+01	35.1
B15YF9									
	FDVJK1AJ	BETA	3.04E+01 +- 6.13E+00		pCi/g	100.00%	4.44E+00		
B15YL4									
	FDC1G1AJ	BETA	2.47E+01 +- 5.29E+00		pCi/g	100.00%	4.76E+00		

STL Richland

rptSTLRchSaSummary2 V3.98 A97

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

STL Richland STLRL

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

Date: 10-Feb-03

Report No. : 21735

SDG No: W03900

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
2336549	**9310_ALPHABETA_GPC**								
2336550	**SRTOT_SEP_PRECIP_GPC**								
	B15XM4								
	FC8N41AA	STRONTIUM	5.76E-01 +- 1.80E-01		pCi/g	75.20%	1.20E-01		
	B15YF9								
	FDVJK1AC	STRONTIUM	6.65E-02 +- 5.75E-02	U	pCi/g	85.50%	1.12E-01		
	B15YL4								
	FDC1G1AC	STRONTIUM	7.74E-01 +- 2.33E-01		pCi/g	68.20%	1.28E-01		
	B15YL4 DUP								
	FDC1G1AQ	STRONTIUM	7.55E-01 +- 2.23E-01		pCi/g	88.70%	1.10E-01		2.5
2336551	**NP237_LLE_PLATE_AEA**								
	B15XM4								
	FC8N41AK	NP-237	0.00E+00 +- 1.37E-02	U	pCi/g	71.03%	1.52E-02	1.00E+00	
	B15YF9								
	FDVJK1AL	NP-237	1.43E-02 +- 2.04E-02	U	pCi/g	56.36%	1.94E-02	1.00E+00	
	B15YL4								
	FDC1G1AL	NP-237	0.00E+00 +- 1.36E-02	U	pCi/g	75.79%	1.50E-02	1.00E+00	
	B15YL4 DUP								
	FDC1G1AR	NP-237	0.00E+00 +- 1.44E-02	U	pCi/g	70.70%	1.59E-02	1.00E+00	

No. of Results: 84

RPD - Relative Percent Difference.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary
STL Richland STLRL

Date: 10-Feb-03

Ordered by Method, Batch No, QC Type,.

Report No. : 21735 **SDG No.:** W03900

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
UTOT_KPA								
2336554 MATRIX SPIKE								
FDVJK1AR	TOTAL-URANIUM	9.38E+00 +- 2.67E+00		ug/g		93.18%	-0.1	7.29E-05
2336554 BLANK QC								
FD4P31AA	TOTAL-URANIUM	1.18E-02 +- 3.46E-03		ug/g				7.29E-05
2336554 LCS								
FD4P31AC	TOTAL-URANIUM	1.06E+01 +- 2.56E+00		ug/g		105.28%	0.1	7.29E-05
PUISO_PLATE_AEA								
2336544 BLANK QC								
FD4N61AA	PU-238	0.00E+00 +- 2.05E-02	U	pCi/g	39.60%			2.26E-02
	PU239/40	3.34E-03 +- 1.77E-02	U	pCi/g	39.60%			5.27E-02
FD4N61AD	PU-238	4.09E-03 +- 8.22E-03	U	pCi/g	83.97%			1.11E-02
	PU239/40	1.49E+00 +- 3.21E-01		pCi/g	83.97%			1.11E-02
2336544 LCS								
FD4N61AE	PU239/40	1.82E-02 +- 3.66E-02	U	pCi/g	18.22%	0.53%	-1.0	4.93E-02
FD4N61AC	PU239/40	3.59E+00 +- 7.43E-01		pCi/g	38.95%	104.79%	0.0	2.36E-02
AMCMISO_EIE_PLT_AEA								
3029340 BLANK QC								
FGTVT1AA	AM-241	1.93E-02 +- 1.96E-02	U	pCi/g	85.65%			1.31E-02
3029340 LCS								
FGTVT1AC	AM-241	4.30E+00 +- 7.85E-01		pCi/g	95.30%	94.97%	-0.1	2.44E-02
THISO_IE_PRECIP_AEA								
2336547 BLANK QC								
FD4PG1AA	TH-228	1.24E-02 +- 2.70E-02	U	pCi/g	43.43%			5.41E-02
	TH-230	-2.01E-03 +- 2.85E-03	U	pCi/g	43.43%			5.72E-02
	TH-232	-1.00E-03 +- 2.01E-03	U	pCi/g	43.43%			5.04E-02
2336547 LCS								
FD4PG1AC	TH-230	8.87E-01 +- 2.62E-01		pCi/g	39.69%	77.56%	-0.2	5.77E-02
UISO_IE_PLATE_AEA								
2336553 BLANK QC								
FD4PX1AA	U-234	4.90E-02 +- 4.28E-02		pCi/g	35.33%			4.05E-02
	U-235	1.52E-02 +- 2.44E-02	U	pCi/g	35.33%			4.05E-02
	U-238	1.35E-02 +- 2.45E-02	U	pCi/g	35.33%			4.78E-02
2336553 LCS								
FD4PX1AC	U-234	1.61E+00 +- 3.71E-01		pCi/g	56.57%	97.53%	0.0	1.48E-02
	U-238	1.62E+00 +- 3.74E-01		pCi/g	56.57%	93.76%	-0.1	1.48E-02
GAMMA_GS								
2336548 BLANK QC								
FD4PD1AA	AM-241	7.45E-03 +- 2.99E-02	U	pCi/g				5.21E-02
	CO-60	-2.77E-03 +- 1.32E-02	U	pCi/g				2.31E-02
	CS-137	-2.58E-03 +- 1.19E-02	U	pCi/g				2.04E-02
	EU-152	-1.49E-02 +- 3.06E-02	U	pCi/g				5.05E-02

STL Richland

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

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary
STL Richland STLRL

Ordered by Method, Batch No, QC Type,.

Date: 10-Feb-03

Report No. : 21735

SDG No.: W03900

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
FD4PD1AA	EU-154	-5.03E-03 +- 3.45E-02	U	pCi/g				6.01E-02
	EU-155	1.24E-02 +- 2.58E-02	U	pCi/g				4.42E-02
	RA-228	-3.35E-02 +- 6.52E-02	U	pCi/g				8.84E-02
2336546 LCS								
FD4PD1AC	CS-137	3.67E-01 +- 6.52E-02		pCi/g		127.42%	0.3	3.82E-02
	K-40	1.78E+01 +- 2.32E+00		pCi/g		91.28%	-0.1	3.19E-01
	RA-226	1.05E+00 +- 1.64E-01		pCi/g		90.79%	-0.1	6.85E-02
	RA-228	2.00E+00 +- 3.09E-01		pCi/g		106.63%	0.1	1.18E-01
	U-238DHP	2.15E+00 +- 7.38E-01		pCi/g		204.81%	1.1	6.22E-01
9310_ALPHABETA_GPC								
2336548 BLANK QC								
FD4PJ1AA	ALPHA	-4.13E-01 +- 6.96E-01	U	pCi/g	100.00%			2.48E+00
2336548 LCS								
FD4PJ1AC	ALPHA	6.60E+01 +- 1.55E+01		pCi/g	100.00%	72.50%	-0.3	2.38E+00
9310_ALPHABETA_GPC								
2336549 BLANK QC								
FD4PL1AA	BETA	3.14E+00 +- 1.96E+00	U	pCi/g	100.00%			3.68E+00
2336549 LCS								
FD4PL1AC	BETA	6.40E+01 +- 1.04E+01		pCi/g	100.00%	95.13%	0.0	3.55E+00
SRTOT_SEP_PRECIP_GPC								
2336550 BLANK QC								
FD4PP1AA	STRONTIUM	-8.43E-03 +- 4.27E-02	U	pCi/g	92.30%			1.05E-01
2336550 LCS								
FD4PP1AC	STRONTIUM	1.04E+00 +- 2.96E-01		pCi/g	89.20%	91.21%	-0.1	1.07E-01
NP237_LLE_PLATE_AEA								
2336551 BLANK QC								
FD4PR1AA	NP-237	-9.03E-04 +- 1.81E-03	U	pCi/g	70.62%			2.16E-02
2336551 LCS								
FD4PR2AC	NP-237	5.88E-01 +- 3.06E-01		pCi/g	18.02%	62.40%	-0.4	6.37E-02
FD4PR1AC	NP-237	5.36E-01 +- 2.53E-01		pCi/g	16.68%	56.94%	-0.4	1.13E-01

No. of Results: 41

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

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/12/2002 10:10:00 AM
Lot-Sample No.:	J2K150312-1	**Report No. :**	21735	**Received Date:**	11/14/2002 2:45:00 PM
Client Sample ID:	B15XM4	**COC No. :**	F03-003-027	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336544	PUISO_PLATE_AEA			**Work Order:** FC8N41AC			**Report DB ID:** 9FC8N410					
PU-238	0.00E+00	U	0.00E+00	1.82E-02	2.01E-02	pCi/g	42.55%	*0.*	1/20/03 03:41 p		1.98	ALP41
							1.00E+00	*0.*			G	
PU239/40	-2.97E-03	U	4.20E-03	4.25E-03	4.19E-02	pCi/g	42.55%	*-0.07*	1/20/03 03:41 p		1.98	ALP41
						1.09E-02	1.00E+00	*-(1.4)*			G	
Batch: 2336546	GAMMA_GS			**Work Order:** FC8N41AJ			**Report DB ID:** 9FC8N410					
AM-241	2.09E-02	U	7.53E-02	7.53E-02	1.25E-01	pCi/g		*0.17*	12/14/02 11:20 a		354.2	GER4$1
								0.55			g	
CO-60	7.33E-03	U	1.16E-02	1.16E-02	2.10E-02	pCi/g		*0.35*	12/14/02 11:20 a		354.2	GER4$1
								(1.3)			g	
CS-137	3.56E+00		4.35E-01	4.35E-01	2.31E-02	pCi/g		*(153.7)*	12/14/02 11:20 a		354.2	GER4$1
								(16.3)			g	
EU-152	-3.65E-02	U	3.97E-02	3.97E-02	6.55E-02	pCi/g		*-0.56*	12/14/02 11:20 a		354.2	GER4$1
								-(1.8)			g	
EU-154	-2.94E-02	U	3.82E-02	3.82E-02	6.19E-02	pCi/g		*-0.48*	12/14/02 11:20 a		354.2	GER4$1
								-(1.5)			g	
EU-155	5.00E-02	U	4.05E-02	4.05E-02	6.90E-02	pCi/g		*0.73*	12/14/02 11:20 a		354.2	GER4$1
								(2.5)			g	
RA-228	8.24E-01		1.38E-01	1.38E-01	6.50E-02	pCi/g		*(12.7)*	12/14/02 11:20 a		354.2	GER4$1
								(11.9)			g	
Batch: 2336547	THISO_IE_PRECIP_AEA			**Work Order:** FC8N41AF			**Report DB ID:** 9FC8N410					

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/12/2002 10:10:00 AM
Lot-Sample No.:	J2K150312-1	**Report No. :**	21735	**Received Date:**	11/14/2002 2:45:00 PM
Client Sample ID:	B15XM4	**COC No. :**	F03-003-027	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
TH-228	8.65E-01		1.23E-01	1.77E-01	3.16E-02	pCi/g	103.28%	*(27.4)*	1/17/03 02:42 p		2.05	ALP113
						9.92E-03	1.00E+00	*(9.8)*			G	
TH-230	5.50E-01		9.44E-02	1.24E-01	1.85E-02	pCi/g	103.28%	*(29.7)*	1/17/03 02:42 p		2.05	ALP113
						3.77E-03	1.00E+00	*(8.9)*			G	
TH-232	8.22E-01		1.16E-01	1.67E-01	2.78E-02	pCi/g	103.28%	*(29.6)*	1/17/03 02:42 p		2.05	ALP113
						8.43E-03	1.00E+00	*(9.8)*			G	
Batch: 2336548	9310_ALPHABETA_GPC			**Work Order:**	FC8N41AG		**Report DB ID:**	9FC8N410				
ALPHA	8.04E+00		4.38E+00	4.68E+00	5.86E+00	pCi/g	100.00%	*(1.4)*	12/14/02 02:04 p		0.0505	GPC10A
						2.32E+00		*(3.4)*			G	
Batch: 2336549	9310_ALPHABETA_GPC			**Work Order:**	FC8N41AH		**Report DB ID:**	9FC8N410				
BETA	3.32E+01		4.52E+00	6.49E+00	4.59E+00	pCi/g	100.00%	*(7.2)*	12/14/02 07:47 a		0.2006	GPC28A
						2.13E+00		*(10.2)*			G	
Batch: 2336550	SRTOT_SEP_PRECIP_GPC			**Work Order:**	FC8N41AA		**Report DB ID:**	9FC8N410				
STRONTIUM	5.76E-01		1.00E-01	1.80E-01	1.20E-01	pCi/g	75.20%	*(4.8)*	12/29/02 07:55 a		6.0	GPC31A
						5.55E-02		*(6.4)*			G	
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:**	FC8N41AK		**Report DB ID:**	9FC8N410				
NP-237	0.00E+00	U	0.00E+00	1.37E-02	1.52E-02	pCi/g	71.03%	*0.*	1/24/03 11:05 a		2.0	ALP125
							1.00E+00	*0.*			G	
Batch: 2336553	UISO_IE_PLATE_AEA			**Work Order:**	FC8N41AL		**Report DB ID:**	9FC8N410				
U-234	5.33E-01		1.02E-01	1.46E-01	3.32E-02	pCi/g	61.39%	*(16.)*	1/10/03 08:35 a		1.99	ALP1
						1.01E-02		*(7.3)*			G	

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name:	STL Richland	SDG:	W03900	Collection Date:	11/12/2002 10:10:00 AM
Lot-Sample No.:	J2K150312-1	Report No. :	21735	Received Date:	11/14/2002 2:45:00 PM
Client Sample ID:	B15XM4	COC No. :	F03-003-027	Matrix:	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
U-235	8.70E-03	U	1.38E-02	1.39E-02	2.31E-02	pCi/g	61.39%	*0.38*	1/10/03 08:35 a		1.99	ALP1
						5.03E-03		*(1.3)*			G	
U-238	4.55E-01		9.43E-02	1.30E-01	3.32E-02	pCi/g	61.39%	*(13.7)*	1/10/03 08:35 a		1.99	ALP1
						1.01E-02		*(7.)*			G	
								Ratio U-234/238 = 1.2				
Batch: 2336554	UTOT_KPA			**Work Order:**	FC8N41AM		**Report DB ID:**	9FC8N410				
TOTAL-URANIUM	1.62E+00		0.00E+00	2.63E-01	7.29E-05	ug/g		*(22173.7)*	1/7/03 12:24 p	0.99	0.99	LIP3
						2.58E-05		*(12.3)*		ML	ML	
Batch: 3029340	AMCMISO_EIE_PLT_AEA			**Work Order:**	FC8N42AD		**Report DB ID:**	9FC8N420				
AM-241	3.45E-02		2.23E-02	2.30E-02	1.68E-02	pCi/g	89.78%	*(2.)*	2/7/03 01:39 p		2.02	ALP38
						3.66E-03	1.00E+00	*(3.)*			G	

No. of Results: 21 **Comments:**

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/21/2002 8:50:00 AM
Lot-Sample No.:	J2K250209-1	**Report No. :**	21735	**Received Date:**	11/25/2002 1:20:00 PM
Client Sample ID:	B15YF9	**COC No. :**	F03-003-054	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336544	PUISO_PLATE_AEA			**Work Order:** FDVJK1AD			**Report DB ID:** 9FDVJK10					
PU-238	0.00E+00	U	0.00E+00	1.68E-02	1.86E-02	pCi/g	48.71%	*0.*	1/20/03 03:42 p		1.99	ALP45
							1.00E+00	*0.*			G	
PU239/40	2.74E-02	U	2.74E-02	2.81E-02	1.86E-02	pCi/g	48.71%	*(1.5)*	1/20/03 03:42 p		1.99	ALP45
							1.00E+00	*(2.)*			G	
Batch: 2336546	GAMMA_GS			**Work Order:** FDVJK1AK			**Report DB ID:** 9FDVJK10					
AM-241	-2.79E-03	U	3.21E-02	3.21E-02	5.10E-02	pCi/g		*-0.05*	12/14/02 02:46 p		357.0	GER6$1
								-0.17			g	
CO-60	8.96E-03	U	1.17E-02	1.17E-02	2.11E-02	pCi/g		*0.43*	12/14/02 02:46 p		357.0	GER6$1
								(1.5)			g	
CS-137	6.68E-03	U	1.12E-02	1.12E-02	1.94E-02	pCi/g		*0.34*	12/14/02 02:46 p		357.0	GER6$1
								(1.2)			g	
EU-152	-1.42E-02	U	2.76E-02	2.76E-02	4.60E-02	pCi/g		*-0.31*	12/14/02 02:46 p		357.0	GER6$1
								-(1.)			g	
EU-154	1.76E-02	U	3.72E-02	3.72E-02	6.46E-02	pCi/g		*0.27*	12/14/02 02:46 p		357.0	GER6$1
								0.95			g	
EU-155	1.48E-02	U	2.63E-02	2.63E-02	4.54E-02	pCi/g		*0.33*	12/14/02 02:46 p		357.0	GER6$1
								(1.1)			g	
RA-228	6.83E-01		1.11E-01	1.11E-01	6.93E-02	pCi/g		*(9.8)*	12/14/02 02:46 p		357.0	GER6$1
								(12.3)			g	
Batch: 2336547	THISO_IE_PRECIP_AEA			**Work Order:** FDVJK1AG			**Report DB ID:** 9FDVJK10					

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V3.98 A97

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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name: STL Richland | **SDG:** W03900 | **Collection Date:** 11/21/2002 8:50:00 AM

Lot-Sample No.: J2K250209-1 | **Report No. :** 21735 | **Received Date:** 11/25/2002 1:20:00 PM

Client Sample ID: B15YF9 | **COC No. :** F03-003-054 | **Matrix:** SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
TH-228	5.15E-01		1.09E-01	1.32E-01	3.52E-02	pCi/g	96.41%	*(14.6)*	1/17/03 02:43 p		2.01	ALP116
						9.91E-03	1.00E+00	*(7.8)*			G	
TH-230	4.27E-01		9.56E-02	1.14E-01	1.45E-02	pCi/g	96.41%	*(29.5)*	1/17/03 02:43 p		2.01	ALP116
							1.00E+00	*(7.5)*			G	
TH-232	3.94E-01		9.19E-02	1.08E-01	2.67E-02	pCi/g	96.41%	*(14.8)*	1/17/03 02:43 p		2.01	ALP116
						6.09E-03	1.00E+00	*(7.3)*			G	
Batch: 2336548	9310_ALPHABETA_GPC			**Work Order:**	FDVJK1AH		**Report DB ID:**	9FDVJK10				
ALPHA	1.14E+01		4.84E+00	5.38E+00	4.75E+00	pCi/g	100.00%	*(2.4)*	12/14/02 02:04 p		0.0501	GPC10D
						1.76E+00		*(4.2)*			G	
Batch: 2336549	9310_ALPHABETA_GPC			**Work Order:**	FDVJK1AJ		**Report DB ID:**	9FDVJK10				
BETA	3.04E+01		4.34E+00	6.13E+00	4.44E+00	pCi/g	100.00%	*(6.8)*	12/14/02 07:47 a		0.2001	GPC28D
						2.05E+00		*(9.9)*			G	
Batch: 2336550	SRTOT_SEP_PRECIP_GPC			**Work Order:**	FDVJK1AC		**Report DB ID:**	9FDVJK10				
STRONTIUM	6.65E-02	U	5.48E-02	5.75E-02	1.12E-01	pCi/g	85.50%	*0.59*	12/29/02 07:55 a		6.05	GPC31D
						5.22E-02		*(2.3)*			G	
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:**	FDVJK1AL		**Report DB ID:**	9FDVJK10				
NP-237	1.43E-02	U	2.03E-02	2.04E-02	1.94E-02	pCi/g	56.36%	*0.74*	1/24/03 02:47 p		2.0	ALP37
							1.00E+00	*(1.4)*			G	
Batch: 2336553	UISO_IE_PLATE_AEA			**Work Order:**	FDVJK1AA		**Report DB ID:**	9FDVJK10				
U-234	5.24E-01		9.40E-02	1.38E-01	3.25E-02	pCi/g	71.85%	*(16.1)*	1/10/03 08:36 a		1.98	ALP4
						1.06E-02		*(7.6)*			G	

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name: STL Richland
Lot-Sample No.: J2K250209-1
Client Sample ID: B15YF9

SDG: W03900
Report No. : 21735
COC No. : F03-003-054

Collection Date: 11/21/2002 8:50:00 AM
Received Date: 11/25/2002 1:20:00 PM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
U-235	4.99E-03	U	1.22E-02	1.23E-02	2.86E-02	pCi/g	71.85%	*0.17*	1/10/03 08:36 a		1.98	ALP4
						8.67E-03		*0.81*			G	
U-238	5.36E-01		9.46E-02	1.40E-01	2.35E-02	pCi/g	71.85%	*(22.8)*	1/10/03 08:36 a		1.98	ALP4
						6.13E-03		*(7.6)*			G	
							Ratio U-234/238 = 1.0					
Batch: 2336554	UTOT_KPA			**Work Order:**	FDVJK1AM		**Report DB ID:**	9FDVJK10				
TOTAL-URANIUM	1.49E+00		0.00E+00	2.44E-01	7.29E-05	ug/g		*(20450.2)*	1/7/03 12:43 p	1.0	1.0	LIP3
						2.58E-05		*(12.2)*		ML	ML	
Batch: 3029340	AMCMISO_EIE_PLT_AEA			**Work Order:**	FDVJK2AE		**Report DB ID:**	9FDVJK20				
AM-241	2.53E-01		6.12E-02	7.46E-02	1.76E-02	pCi/g	88.17%	*(14.4)*	2/7/03 10:31 p		2.01	ALP41
						3.83E-03	1.00E+00	*(6.8)*			G	

No. of Results: 21 **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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/14/2002 9:59:00 AM
Lot-Sample No.:	J2K180187-1	**Report No. :**	21735	**Received Date:**	11/18/2002 10:45:00 AM
Client Sample ID:	B15YL4	**COC No. :**	F03-003-079	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336544	PUISO_PLATE_AEA			**Work Order:** FDC1G1AD			**Report DB ID:** 9FDC1G10					
PU-238	0.00E+00	U	0.00E+00	2.12E-02	2.34E-02	pCi/g	37.70%	*0.*	1/20/03 03:41 p		2.01	ALP43
							1.00E+00	*0.*			G	
PU239/40	7.58E-01		1.62E-01	2.42E-01	4.13E-02	pCi/g	37.70%	*(18.3)*	1/20/03 03:41 p		2.01	ALP43
						8.98E-03	1.00E+00	*(6.3)*			G	
Batch: 2336546	GAMMA_GS			**Work Order:** FDC1G1AK			**Report DB ID:** 9FDC1G10					
AM-241	-1.23E-03	U	1.24E-01	1.24E-01	2.05E-01	pCi/g		*-0.01*	12/14/02 02:46 p		378.3	GER2$1
								-0.02			g	
CO-60	-6.45E-03	U	1.13E-02	1.13E-02	1.89E-02	pCi/g		*-0.34*	12/14/02 02:46 p		378.3	GER2$1
								-(1.1)			g	
CS-137	2.57E-01		4.02E-02	4.02E-02	1.99E-02	pCi/g		*(12.9)*	12/14/02 02:46 p		378.3	GER2$1
								(12.8)			g	
EU-152	4.22E-02	U	4.84E-02	4.84E-02	5.62E-02	pCi/g		*0.75*	12/14/02 02:46 p		378.3	GER2$1
								(1.7)			g	
EU-154	-3.95E-03	U	3.56E-02	3.56E-02	6.08E-02	pCi/g		*-0.06*	12/14/02 02:46 p		378.3	GER2$1
								-0.22			g	
EU-155	-1.38E-02	U	4.84E-02	4.84E-02	8.10E-02	pCi/g		*-0.17*	12/14/02 02:46 p		378.3	GER2$1
								-0.57			g	
RA-228	6.58E-01		1.20E-01	1.20E-01	6.96E-02	pCi/g		*(9.4)*	12/14/02 02:46 p		378.3	GER2$1
								(10.9)			g	
Batch: 2336547	THISO_IE_PRECIP_AEA			**Work Order:** FDC1G1AG			**Report DB ID:** 9FDC1G10					

20

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

SAMPLE RESULTS

Date: 10-Feb-03

Lab Name: STL Richland
Lot-Sample No.: J2K180187-1
Client Sample ID: B15YL4

SDG: W03900
Report No. : 21735
COC No. : F03-003-079

Collection Date: 11/14/2002 9:59:00 AM
Received Date: 11/18/2002 10:45:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
TH-228	6.08E-01		1.01E-01	1.35E-01	2.10E-02	pCi/g	102.16%	*(29.)*	1/17/03 02:42 p		1.98	ALP114
						4.79E-03	1.00E+00	*(9.)*			G	
TH-230	5.29E-01		9.11E-02	1.20E-01	1.58E-02	pCi/g	102.16%	*(33.5)*	1/17/03 02:42 p		1.98	ALP114
						2.58E-03	1.00E+00	*(8.8)*			G	
TH-232	5.83E-01		9.57E-02	1.28E-01	1.79E-02	pCi/g	102.16%	*(32.6)*	1/17/03 02:42 p		1.98	ALP114
						3.65E-03	1.00E+00	*(9.1)*			G	
Batch: 2336548	9310_ALPHABETA_GPC			**Work Order:** FDC1G1AH			**Report DB ID:** 9FDC1G10					
ALPHA	1.12E+01		4.72E+00	5.26E+00	4.91E+00	pCi/g	100.00%	*(2.3)*	12/14/02 02:04 p		0.05	GPC10B
						1.88E+00		*(4.3)*			G	
Batch: 2336549	9310_ALPHABETA_GPC			**Work Order:** FDC1G1AJ			**Report DB ID:** 9FDC1G10					
BETA	2.47E+01		4.04E+00	5.29E+00	4.76E+00	pCi/g	100.00%	*(5.2)*	12/14/02 07:47 a		0.2004	GPC28C
						2.21E+00		*(9.4)*			G	
Batch: 2336550	SRTOT_SEP_PRECIP_GPC			**Work Order:** FDC1G1AC			**Report DB ID:** 9FDC1G10					
STRONTIUM	7.74E-01		1.18E-01	2.33E-01	1.28E-01	pCi/g	68.20%	*(6.1)*	12/29/02 07:55 a		6.03	GPC31B
						5.91E-02		*(6.6)*			G	
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:** FDC1G1AL			**Report DB ID:** 9FDC1G10					
NP-237	0.00E+00	U	0.00E+00	1.36E-02	1.50E-02	pCi/g	75.79%	*0.*	1/24/03 11:05 a		1.99	ALP129
							1.00E+00	*0.*			G	
Batch: 2336553	UISO_IE_PLATE_AEA			**Work Order:** FDC1G1AA			**Report DB ID:** 9FDC1G10					
U-234	5.63E-01		9.95E-02	1.47E-01	4.50E-02	pCi/g	70.74%	*(12.5)*	1/10/03 08:36 a		1.9	ALP3
						1.67E-02		*(7.6)*			G	

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V3.98 A97

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: 10-Feb-03

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/14/2002 9:59:00 AM
Lot-Sample No.:	J2K180187-1	**Report No. :**	21735	**Received Date:**	11/18/2002 10:45:00 AM
Client Sample ID:	B15YL4	**COC No. :**	F03-003-079	**Matrix:**	SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
U-235	1.37E-02	U	1.75E-02	1.77E-02	2.95E-02	pCi/g	70.74%	*0.47*	1/10/03 08:36 a		1.9	ALP3
						8.93E-03		*(1.6)*			G	
U-238	5.68E-01		9.94E-02	1.48E-01	3.69E-02	pCi/g	70.74%	*(15.4)*	1/10/03 08:36 a		1.9	ALP3
						1.26E-02		*(7.7)*			G	
							Ratio U-234/238 = 1.0					
Batch: 2336554	UTOT_KPA			**Work Order:**	FDC1G1AM		**Report DB ID:**	9FDC1G10				
TOTAL-URANIUM	2.01E+00		0.00E+00	3.31E-01	7.29E-05	ug/g		*(27524.4)*	1/7/03 12:39 p	0.99	0.99	LIP3
						2.58E-05		*(12.1)*		ML	ML	
Batch: 3029340	AMCMISO_EIE_PLT_AEA			**Work Order:**	FDC1G2AE		**Report DB ID:**	9FDC1G20				
AM-241	1.99E-01		7.02E-02	7.89E-02	1.68E-02	pCi/g	62.53%	*(11.8)*	2/7/03 01:40 p		2.02	ALP39
							1.00E+00	*(5.)*			G	

No. of Results: 21 **Comments:**

22

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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 10-Feb-03

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/12/2002 10:10:00 AM
Lot-Sample No.:	J2K150312-1	**Report No. :**	21735	**Received Date:**	11/14/2002 2:45:00 PM
Client Sample ID:	B15XM4 DUP	**COC No. :**	F03-003-027	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336549	9310_ALPHABETA_GPC			**Work Order:** FC8N41AN		**Report DB ID:** FC8N41NR			**Orig Sa DB ID:** 9FC8N410			
BETA	2.33E+01		3.87E+00	5.06E+00	4.43E+00	pCi/g	100.00%	(5.2)	12/14/02 07:47 a		0.2002	GPC28B
	3.32E+01		RPD 35.1			1.50E+01		(9.2)			G	
Batch: 2336553	UISO_IE_PLATE_AEA			**Work Order:** FC8N41AP		**Report DB ID:** FC8N41PR			**Orig Sa DB ID:** 9FC8N410			
U-234	6.50E-01		1.11E-01	1.69E-01	2.69E-02	pCi/g	63.76%	(24.2)	1/10/03 08:36 a		1.99	ALP2
	5.33E-01		RPD 19.9			1.00E+00		(7.7)			G	
U-235	3.24E-02		2.53E-02	2.61E-02	2.28E-02	pCi/g	63.76%	(1.4)	1/10/03 08:36 a		1.99	ALP2
	8.70E-03	U	RPD 115.3			1.00E+00		(2.5)			G	
U-238	6.76E-01		1.13E-01	1.75E-01	1.29E-02	pCi/g	63.76%	(52.4)	1/10/03 08:36 a		1.99	ALP2
	4.55E-01		RPD 39.1			1.00E+00		(7.7)			G	
						Ratio U-234/238 = 1.0			***Alpha Spec Result Sum = 1.4E+00***			
Batch: 2336554	UTOT_KPA			**Work Order:** FC8N41AQ		**Report DB ID:** FC8N41QR			**Orig Sa DB ID:** 9FC8N410			
TOTAL-URANIUM	1.42E+00		0.00E+00	2.32E-01	7.29E-05	ug/g		(19480.2)	1/7/03 12:29 p	1.01	1.01	LIP3
	1.62E+00		RPD 12.9			1.00E+00		(12.2)		ML	ML	
									Alpha Spec Result Sum = 1.4E+00			
Batch: 3029340	AMCMISO_EIE_PLT_AEA			**Work Order:** FC8N41AR		**Report DB ID:** FC8N41RR			**Orig Sa DB ID:** 9FC8N420			
AM-241	8.02E-02		3.63E-02	3.88E-02	1.94E-02	pCi/g	97.42%	(4.1)	2/7/03 01:39 p		2.05	ALP37
	3.45E-02		RPD 79.8			1.00E+00		(4.1)			G	
									Alpha Spec Result Sum = 1.4E+00			

No. of Results: 6 **Comments:**

STL Richland
rptSTLRchDupV3.
98 A97

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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 10-Feb-03

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/21/2002 8:50:00 AM
Lot-Sample No.:	J2K250209-1	**Report No. :**	21735	**Received Date:**	11/25/2002 1:20:00 PM
Client Sample ID:	B15YF9 DUP	**COC No. :**	F03-003-054	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336544	PUISO_PLATE_AEA			**Work Order:** FDVJK1AN		**Report DB ID:** FDVJK1NR			**Orig Sa DB ID:** 9FDVJK10			
PU-238	7.35E-03	U	1.87E-02	1.88E-02	4.40E-02	pCi/g	35.77%	0.17	1/20/03 03:42 p		1.99	ALP46
	0.00E+00	U	RPD 200.0			1.00E+00		0.78			G	
PU239/40	3.67E-02	U	3.67E-02	3.77E-02	2.49E-02	pCi/g	35.77%	(1.5)	1/20/03 03:42 p		1.99	ALP46
	2.74E-02	U	RPD 29.0			1.00E+00		(1.9)			G	
									Alpha Spec Result Sum = 4.4E-02			
Batch: 2336546	GAMMA_GS			**Work Order:** FDVJK1AQ		**Report DB ID:** FDVJK1QR			**Orig Sa DB ID:** 9FDVJK10			
AM-241	2.10E-02	U	3.75E-02	3.75E-02	6.28E-02	pCi/g		0.34	12/14/02 02:47 p		358.0	GER7$1
	-2.79E-03	U	RPD 261.1					(1.1)			g	
CO-60	2.13E-03	U	1.11E-02	1.11E-02	1.95E-02	pCi/g		0.11	12/14/02 02:47 p		358.0	GER7$1
	8.96E-03	U	RPD 123.1			5.00E-02		0.38			g	
CS-137	-4.10E-03	U	1.09E-02	1.09E-02	1.82E-02	pCi/g		-0.22	12/14/02 02:47 p		358.0	GER7$1
	6.68E-03	U	RPD 835.9			1.00E-01		-0.76			g	
EU-152	4.96E-03	U	3.05E-02	3.05E-02	4.66E-02	pCi/g		0.11	12/14/02 02:47 p		358.0	GER7$1
	-1.42E-02	U	RPD -414.0			1.00E-01		0.33			g	
EU-154	-3.02E-03	U	3.37E-02	3.37E-02	5.78E-02	pCi/g		-0.05	12/14/02 02:47 p		358.0	GER7$1
	1.76E-02	U	RPD 282.5			1.00E-01		-0.18			g	
EU-155	1.89E-02	U	3.04E-02	3.04E-02	5.21E-02	pCi/g		0.36	12/14/02 02:47 p		358.0	GER7$1
	1.48E-02	U	RPD 24.4			1.00E-01		(1.2)			g	
RA-228	7.11E-01		1.22E-01	1.22E-01	6.57E-02	pCi/g		(10.8)	12/14/02 02:47 p		358.0	GER7$1
	6.83E-01		RPD 4.1					(11.6)			g	
									Alpha Spec Result Sum = 4.4E-02			

34

STL Richland
rptSTLRchDupV3.
98 A97

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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 10-Feb-03

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/21/2002 8:50:00 AM
Lot-Sample No.:	J2K250209-1	**Report No. :**	21735	**Received Date:**	11/25/2002 1:20:00 PM
Client Sample ID:	B15YF9 DUP	**COC No. :**	F03-003-054	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2σ)	Total Uncert(2σ)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 9 Comments:

RPD - Relative Percent Difference.

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

FORM II

Date: 10-Feb-03

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W03900	**Collection Date:**	11/14/2002 9:59:00 AM
Lot-Sample No.:	J2K180187-1	**Report No. :**	21735	**Received Date:**	11/18/2002 10:45:00 AM
Client Sample ID:	B15YL4 DUP	**COC No. :**	F03-003-079	**Matrix:**	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336547	THISO_IE_PRECIP_AEA			**Work Order:** FDC1G1AN		**Report DB ID:** FDC1G1NR			**Orig Sa DB ID:** 9FDC1G10			
TH-228	5.06E-01		1.08E-01	1.31E-01	3.68E-02	pCi/g	99.84%	(13.7)	1/17/03 02:43 p		2.02	ALP115
	6.08E-01		RPD 18.4			1.00E+00		(7.7)			G	
TH-230	4.59E-01		9.90E-02	1.20E-01	1.45E-02	pCi/g	99.84%	(31.7)	1/17/03 02:43 p		2.02	ALP115
	5.29E-01		RPD 14.1			1.00E+00		(7.7)			G	
TH-232	5.93E-01		1.12E-01	1.42E-01	1.45E-02	pCi/g	99.84%	(41.)	1/17/03 02:43 p		2.02	ALP115
	5.83E-01		RPD 1.5			1.00E+00		(8.4)			G	
									Alpha Spec Result Sum = 1.6E+00			
Batch: 2336548	9310_ALPHABETA_GPC			**Work Order:** FDC1G1AP		**Report DB ID:** FDC1G1PR			**Orig Sa DB ID:** 9FDC1G10			
ALPHA	1.40E+01		5.29E+00	6.03E+00	5.00E+00	pCi/g	100.00%	(2.8)	12/14/02 02:04 p		0.0505	GPC10C
	1.12E+01		RPD 21.9			1.00E+01		(4.6)			G	
									Alpha Spec Result Sum = 1.6E+00			
Batch: 2336550	SRTOT_SEP_PRECIP_GPC			**Work Order:** FDC1G1AQ		**Report DB ID:** FDC1G1QR			**Orig Sa DB ID:** 9FDC1G10			
STRONTIUM	7.55E-01		1.04E-01	2.23E-01	1.10E-01	pCi/g	88.70%	(6.9)	12/29/02 07:55 a		5.99	GPC31C
	7.74E-01		RPD 2.5					(6.8)			G	
									Alpha Spec Result Sum = 1.6E+00			
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:** FDC1G1AR		**Report DB ID:** FDC1G1RR			**Orig Sa DB ID:** 9FDC1G10			
NP-237	0.00E+00	U	0.00E+00	1.44E-02	1.59E-02	pCi/g	70.70%	0.	1/24/03 11:05 a		2.0	ALP130
	0.00E+00	U	RPD			1.00E+00		0.			G	
									Alpha Spec Result Sum = 1.6E+00			

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 10-Feb-03

DUPLICATE RESULTS

Lab Name:	STL Richland	SDG:	W03900	Collection Date:	11/14/2002 9:59:00 AM
Lot-Sample No.:	J2K180187-1	Report No. :	21735	Received Date:	11/18/2002 10:45:00 AM
Client Sample ID:	B15YL4 DUP	COC No. :	F03-003-079	Matrix:	SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

No. of Results: 6 Comments:

27

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

FORM II

BLANK RESULTS

Date: 10-Feb-03

Lab Name: STL Richland

Matrix: SOIL

SDG: W03900

Report No. : 21735

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336544	PUISO_PLATE_AEA			**Work Order:** FD4N61AA		**Report DB ID:** FD4N61AB						
PU-238	0.00E+00	U	0.00E+00	2.05E-02	2.26E-02	pCi/g	39.60%	0.	1/20/03 03:43 p		2.0	ALP47
						1.00E+00		0.			G	
PU239/40	3.34E-03	U	1.77E-02	1.77E-02	5.27E-02	pCi/g	39.60%	0.06	1/20/03 03:43 p		2.0	ALP47
					1.50E-02	1.00E+00		0.38			G	
Batch: 2336544	PUISO_PLATE_AEA			**Work Order:** FD4N61AD		**Report DB ID:** FD4N61DX						
PU-238	4.09E-03	U	8.18E-03	8.22E-03	1.11E-02	pCi/g	83.97%	0.37	1/20/03 03:40 p		1.99	ALP127
						1.00E+00		1.			G	
PU239/40	1.49E+00		1.56E-01	3.21E-01	1.11E-02	pCi/g	83.97%	(134.3)	1/20/03 03:40 p		1.99	ALP127
						1.00E+00		(9.3)			G	
Batch: 3029340	AMCMISO_EIE_PLT_AEA			**Work Order:** FGTVT1AA		**Report DB ID:** FGTVT1AB						
AM-241	1.93E-02	U	1.93E-02	1.96E-02	1.31E-02	pCi/g	85.65%	(1.5)	2/7/03 01:41 p		2.0	ALP43
						1.00E+00		(2.)			G	
Batch: 2336553	UISO_IE_PLATE_AEA			**Work Order:** FD4PX1AA		**Report DB ID:** FD4PX1AB						
U-234	4.90E-02		4.15E-02	4.28E-02	4.05E-02	pCi/g	35.33%	(1.2)	1/10/03 08:36 a		2.0	ALP9
					8.79E-03			(2.3)			G	
U-235	1.52E-02	U	2.41E-02	2.44E-02	4.05E-02	pCi/g	35.33%	0.38	1/10/03 08:36 a		2.0	ALP9
					8.79E-03			(1.2)			G	
U-238	1.35E-02	U	2.44E-02	2.45E-02	4.78E-02	pCi/g	35.33%	0.28	1/10/03 08:36 a		2.0	ALP9
					1.24E-02			(1.1)			G	
							Ratio U-234/238 = 3.6					
Batch: 2336554	UTOT_KPA			**Work Order:** FD4P31AA		**Report DB ID:** FD4P31AB						
TOTAL-URANIUM	1.18E-02		0.00E+00	3.46E-03	7.29E-05	ug/g		(161.7)	1/7/03 11:09 a	1.0	1.0	LIP3
					2.58E-05			(6.8)		ML	ML	

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

BLANK RESULTS

Date: 10-Feb-03

Lab Name: STL Richland

Matrix: SOIL

SDG: W03900

Report No. : 21735

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 2336547	THISO_IE_PRECIP_AEA			**Work Order:**	FD4PG1AA	**Report DB ID:**	FD4PG1AB					
TH-228	1.24E-02	U	2.69E-02	2.70E-02	5.41E-02	pCi/g	43.43%	0.23	1/17/03 02:43 p		2.0	ALP119
					8.84E-03	1.00E+00		0.91			G	
TH-230	-2.01E-03	U	2.84E-03	2.85E-03	5.72E-02	pCi/g	43.43%	-0.04	1/17/03 02:43 p		2.0	ALP119
					1.17E-02	1.00E+00		-(1.4)			G	
TH-232	-1.00E-03	U	2.01E-03	2.01E-03	5.04E-02	pCi/g	43.43%	-0.02	1/17/03 02:43 p		2.0	ALP119
					8.25E-03	1.00E+00		-1.			G	
Batch: 2336546	GAMMA_GS			**Work Order:**	FD4PD1AA	**Report DB ID:**	FD4PD1AX					
AM-241	7.45E-03	U	2.99E-02	2.99E-02	5.21E-02	pCi/g		0.14	12/18/02 07:11 p		200.0	GER7$1
								0.5			g	
CO-60	-2.77E-03	U	1.32E-02	1.32E-02	2.31E-02	pCi/g		-0.12	12/18/02 07:11 p		200.0	GER7$1
								-0.42			g	
CS-137	-2.58E-03	U	1.19E-02	1.19E-02	2.04E-02	pCi/g		-0.13	12/18/02 07:11 p		200.0	GER7$1
								-0.43			g	
EU-152	-1.49E-02	U	3.06E-02	3.06E-02	5.05E-02	pCi/g		-0.3	12/18/02 07:11 p		200.0	GER7$1
								-0.98			g	
EU-154	-5.03E-03	U	3.45E-02	3.45E-02	6.01E-02	pCi/g		-0.08	12/18/02 07:11 p		200.0	GER7$1
								-0.29			g	
EU-155	1.24E-02	U	2.58E-02	2.58E-02	4.42E-02	pCi/g		0.28	12/18/02 07:11 p		200.0	GER7$1
								0.96			g	
RA-228	-3.35E-02	U	6.52E-02	6.52E-02	8.84E-02	pCi/g		-0.38	12/18/02 07:11 p		200.0	GER7$1
								-(1.)			g	
Batch: 2336548	9310_ALPHABETA_GPC			**Work Order:**	FD4PJ1AA	**Report DB ID:**	FD4PJ1AB					

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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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

BLANK RESULTS

Date: 10-Feb-03

Lab Name: STL Richland

Matrix: SOIL

SDG: W03900

Report No. : 21735

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
ALPHA	-4.13E-01	U	6.91E-01	6.96E-01	2.48E+00	pCi/g	100.00%	-0.17	12/14/02 02:04 p		0.05	GPC10E
					9.60E-01			-(1.2)			G	
Batch: 2336549	9310_ALPHABETA_GPC			**Work Order:**	FD4PL1AA		**Report DB ID:**	FD4PL1AB				
BETA	3.14E+00	U	1.91E+00	1.96E+00	3.68E+00	pCi/g	100.00%	0.85	12/14/02 08:40 a		0.2	GPC28A
					1.70E+00			(3.2)			G	
Batch: 2336550	SRTOT_SEP_PRECIP_GPC			**Work Order:**	FD4PP1AA		**Report DB ID:**	FD4PP1AB				
STRONTIUM	-8.43E-03	U	4.26E-02	4.27E-02	1.05E-01	pCi/g	92.30%	-0.08	12/29/02 07:56 a		6.0	GPC32A
					4.85E-02			-0.4			G	
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:**	FD4PR1AA		**Report DB ID:**	FD4PR1AB				
NP-237	-9.03E-04	U	1.81E-03	1.81E-03	2.16E-02	pCi/g	70.62%	-0.04	1/24/03 02:48 p		2.0	ALP38
					4.69E-03	1.00E+00		-1.			G	

No. of Results: 23 **Comments:**

30

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 the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

LCS RESULTS

Date: 10-Feb-03

Lab Name: STL Richland

Matrix: SOIL

SDG: W03900

Report No. : 21735

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 2336544	PUISO_PLATE_AEA			Work Order:	FD4N61AC		Report DB ID:	FD4N61CS					
PU239/40	3.59E+00		3.54E-01	7.43E-01	2.36E-02	pCi/g	38.95%	3.43E+00	1.72E-01	104.79%	1/20/03 03:40 p	2.0	ALP124
							Rec Limits:	70	130	0.0		G	
Batch: 2336544	PUISO_PLATE_AEA			Work Order:	FD4N61AE		Report DB ID:	FD4N61EM					
PU239/40	1.82E-02	U	3.64E-02	3.66E-02	4.93E-02	pCi/g	18.22%	3.44E+00	1.73E-01	0.53%	1/20/03 03:41 p	2.0	ALP128
							Rec Limits:	70	130	-1.0		G	
Batch: 3029340	AMCMISO_EIE_PLT_AEA			Work Order:	FGTVT1AC		Report DB ID:	FGTVT1CS					
AM-241	4.30E+00		2.73E-01	7.85E-01	2.44E-02	pCi/g	95.30%	4.53E+00	1.48E-01	94.97%	2/7/03 01:41 p	2.0	ALP45
							Rec Limits:	70	130	-0.1		G	
Batch: 2336553	UISO_IE_PLATE_AEA			Work Order:	FD4PX1AC		Report DB ID:	FD4PX1CS					
U-234	1.61E+00		1.87E-01	3.71E-01	1.48E-02	pCi/g	56.57%	1.65E+00	1.06E-02	97.53%	1/10/03 08:36 a	2.0	ALP10
							Rec Limits:			0.0		G	
U-238	1.62E+00		1.88E-01	3.74E-01	1.48E-02	pCi/g	56.57%	1.73E+00	1.11E-02	93.76%	1/10/03 08:36 a	2.0	ALP10
							Rec Limits:			-0.1		G	
Batch: 2336554	UTOT_KPA			Work Order:	FD4P31AC		Report DB ID:	FD4P31CS					
TOTAL-URANIUM	1.06E+01		0.00E+00	2.56E+00	7.29E-05	ug/g		1.01E+01	6.22E-02	105.28%	1/7/03 12:19 p	1.0	LIP3
							Rec Limits:			0.1		ML	
Batch: 2336547	THISO_IE_PRECIP_AEA			Work Order:	FD4PG1AC		Report DB ID:	FD4PG1CS					
TH-230	8.87E-01		2.26E-01	2.62E-01	5.77E-02	pCi/g	39.69%	1.14E+00	3.43E-02	77.56%	1/17/03 02:44 p	2.0	ALP120
							Rec Limits:	70	130	-0.2		G	
Batch: 2336546	GAMMA_GS			Work Order:	FD4PD1AC		Report DB ID:	FD4PD1CM					
CS-137	3.67E-01		6.52E-02	6.52E-02	3.82E-02	pCi/g		2.88E-01	1.30E-02	127.42%	12/18/02 07:11 p	200.01	GER5$1
							Rec Limits:			0.3		g	

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Bias - (Result/Expected)-1 as defined by ANSI N13.30.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

LCS RESULTS

Date: 10-Feb-03

Lab Name: STL Richland

Matrix: SOIL

SDG: W03900

Report No. : 21735

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
K-40	1.78E+01		2.32E+00	2.32E+00	3.19E-01	pCi/g		1.95E+01	1.88E+00	91.28%	12/18/02 07:11 p	200.01	GER5$1
							Rec Limits:			-0.1		g	
RA-226	1.05E+00		1.64E-01	1.64E-01	6.85E-02	pCi/g		1.15E+00	5.18E-02	90.79%	12/18/02 07:11 p	200.01	GER5$1
							Rec Limits:			-0.1		g	
RA-228	2.00E+00		3.09E-01	3.09E-01	1.18E-01	pCi/g		1.87E+00	9.55E-02	106.63%	12/18/02 07:11 p	200.01	GER5$1
							Rec Limits:			0.1		g	
U-238DHP	2.15E+00		7.38E-01	7.38E-01	6.22E-01	pCi/g		1.05E+00	5.36E-02	204.81%	12/18/02 07:11 p	200.01	GER5$1
							Rec Limits:			1.1		g	
Batch: 2336548	9310_ALPHABETA_GPC			**Work Order:**	FD4PJ1AC		**Report DB ID:**	FD4PJ1CS					
ALPHA	6.60E+01		7.43E+00	1.55E+01	2.38E+00	pCi/g	100.00%	9.10E+01	2.98E+00	72.50%	12/14/02 02:04 p	0.05	GPC10F
							Rec Limits:			-0.3		G	
Batch: 2336549	9310_ALPHABETA_GPC			**Work Order:**	FD4PL1AC		**Report DB ID:**	FD4PL1CS					
BETA	6.40E+01		5.26E+00	1.04E+01	3.55E+00	pCi/g	100.00%	6.73E+01	1.34E+00	95.13%	12/14/02 08:40 a	0.2	GPC28B
							Rec Limits:			0.0		G	
Batch: 2336550	SRTOT_SEP_PRECIP_GPC			**Work Order:**	FD4PP1AC		**Report DB ID:**	FD4PP1CS					
STRONTIUM	1.04E+00		1.18E-01	2.96E-01	1.07E-01	pCi/g	89.20%	1.14E+00	2.23E-02	91.21%	12/29/02 07:56 a	6.0	GPC32B
							Rec Limits:			-0.1		G	
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:**	FD4PR1AC		**Report DB ID:**	FD4PR1CS					
NP-237	5.36E-01		2.26E-01	2.53E-01	1.13E-01	pCi/g	16.68%	9.42E-01	2.82E-02	56.94%	1/24/03 02:48 p	2.0	ALP39
							Rec Limits:	70	130	-0.4		G	
Batch: 2336551	NP237_LLE_PLATE_AEA			**Work Order:**	FD4PR2AC		**Report DB ID:**	FD4PR2CS					
NP-237	5.88E-01		2.35E-01	3.06E-01	6.37E-02	pCi/g	18.02%	9.42E-01	2.82E-02	62.40%	1/27/03 02:36 p	2.0	ALP132
							Rec Limits:	70	130	-0.4		G	

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

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FORM II

LCS RESULTS

Date: 10-Feb-03

Lab Name: STL Richland

Matrix: SOIL

SDG: W03900

Report No. : 21735

Parameter	Result	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector

No. of Results: 17 Comments:

33

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

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V3.98 A97

FORM II

MATRIX SPIKE RESULTS

Date: 10-Feb-03

Lab Name: STL Richland **SDG:** W03900

Lot-Sample No.: J2K250209-1 **Report No. :** 21735 **Matrix:** SOIL

Parameter	SpikeResult, Orig Rst	Qual	Count Error (2s)	Total Uncert(2s)	MDC|MDA	Rpt Unit, CRDL	Yield	Rec-overy	Exp-ected	Exp Uncert	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 2336554	UTOT_KPA			**Work Order:**	FDVJK1AR		**Report DB ID:**	FDVJK1RW		**Orig Sa DB ID:**	9FDVJK10		
TOTAL-URANIUM	9.38E+00		0.00E+00	2.67E+00	7.29E-05	ug/g		93.18%	1.01E+01	3.20E-02	1/7/03 12:48 p	1.0	LIP3
	1.49E+00	RPD	5.9									ML	

No. of Results: 1 **Comments:**

34

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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 Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187, J2K250209 P
Client ID: FCH
Due Date: 2/7/03
QC Batch Number: 3029340
Method Test Parameter: SX-Am
Matrix: SOIL
SDG Number: N/A

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?	✓		
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?	✓		
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		X 15-10-03
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response: J07267 Reruns ok. Correct Tracer & spike added.

First Level Review: Pam Anderson Date: 2-10-03

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 3029340

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: 2/10/03

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #:	J07267	Classification:	**Deficiency**
NCM Initiated By:	Pam Anderson	Status:	**QAREVIEW**
Date Opened:	02/10/03	Production Area:	Environmental - Sep
Date Closed:	N/A	Tests:	AmIso by ALP
		Lot #'s (Sample #'s):	J2K150312 (1); J2K180187 (1); J2K250209 (1)
		QC Batch:	3029340
Nonconformance:	Technician Error		
Subcategory:	Laboratory error: prep error		

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	02/10/03	No Am spike vial was added to the spiked sample. A Pu vial only was added. It was a PuAm sequential. Am batch rerun. Data good.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	02/10/03	Tech aware of error.

Approval History

Name	Date Approved:	Position
Pam Anderson	02/10/03	Group Leader

W03900

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180117, J2K250209
Client ID: FUT
Due Date: 1/10/03
QC Batch Number: 2336544
Method Test Parameter: SU-Ra
Matrix: SOIL
SDG Number: NA

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?	✓		
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?			
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response:

First Level Review: Pam Anderson Date: 1-21-03

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336544

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: Matrix Spk @ 18.2% Tracer Yld

Second Level Review: Beverly Atkins for B Gillespie Date: 1-23-03

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

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187, J2K250209
Client ID: FUT
Due Date: 1/10/03
QC Batch Number: 2333655
Method Test Parameter: XW-NP
Matrix: SOIL
SDG Number: W03900

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?	✓		
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?		✓	
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response: Recount - says spiked fails will accept.
J07167

First Level Review: Pam Anderson Date: 1-29-03

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336557

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: Write up LCS low recovery & tracer yield

Second Level Review: [illegible] Date: 1/30/03

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

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #:	J07167	Classification:	**Anomaly**
NCM Initiated By:	Pam Anderson	Status:	**QAREVIEW**
Date Opened:	01/29/03	Production Area:	Environmental - Sep
Date Closed:	N/A	Tests:	Np-237 w/tracer
		Lot #'s (Sample #'s):	J2K150312 (1); J2K180187 (1); J2K250209 (1); J2L020000 (551)
		QC Batch:	2336551
Nonconformance:	Tracer yield out of limits		
Subcategory:	Unknown		

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	01/29/03	Spike fails with a 16% yield. Recount proves this. Client says to report as is.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	01/29/03	Will watch Np yields carefully.

Approval History

Name	Date Approved:	Position
Pam Anderson	01/29/03	Group Leader

SEVERN TRENT STL

WO 3900

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J21K503/2, J21K180187, J21K250209
Client ID: FCIT
Due Date: 1/10/03
QC Batch Number: 2336547
Method Test Parameter: SP-TH
Matrix: Soil
SDG Number: WO3900

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?	✓		
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?	✓		
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response:

First Level Review: Pam Anderson Date: 1-21-03

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336547

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: Beverly Allen for B. Gillespie Date: 1-23-03

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

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187
Client ID: FCLT
Due Date: 1/10/03
QC Batch Number: 2336553
Method Test Parameter: SR-GFSG
Matrix: SOIL
SDG Number: W03900

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?	✓		
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?	✓		
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response:

First Level Review: Pam Anderson Date: 1-14-03

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2 336 553

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: 1/15/03

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187, J2K250209
Client ID: FLH
Due Date: 1-10-03
QC Batch Number: 2336546
Method Test Parameter: GAMMA
Matrix: Soil
SDG Number: W03900

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?			✓
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?	✓	✓	
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?			✓
E. Other 1. Are all Nonconformances included and noted? J06915	✓		
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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response:

First Level Review: [signature] Date: 12-22-02

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336546

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: 12/29/02

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

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #:	J06915	Classification:	Anomaly
NCM Initiated By:	Dale OConnell	Status:	QAREVIEW
Date Opened:	12/27/02	Production Area:	Counting
Date Closed:	N/A	Tests:	Gamma by GER
		Lot #'s (Sample #'s):	J2L020000 (546)
		QC Batch:	2336546
Nonconformance:	Batch Result Out of Limits		
Subcategory:	LCS result outside acceptance limits		

Problem Description / Root Cause

Name	Date	Description
Dale OConnell	12/27/02	Client requested U-238DHP at lower abundance, therefor erratic recoveries and higher MDA.

Corrective Action

Name	Date	Corrective Action
Dale OConnell	12/27/02	Client requested U-238DHP at lower abundance, therefor erratic recoveries and higher MDA.

Approval History

Name	Date Approved:	Position
Dale OConnell	12/27/02	Group Leader

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187, J2K250205
Client ID: PLH
Due Date: 1/10/03
QC Batch Number: 2336548
Method Test Parameter: 37-2
Matrix: Soil
SDG Number: 403400

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	√		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	√		
2. Are the QC appropriate for the analysis included in the batch?	√		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	√		
4. Does the Worksheets include a Tracer Vial label for each sample?			√
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	√		
2. Is the LCS result, yield and MDA within contract limits?	√		
3. Are the MS/MSD results, yields and MDAs within contract limits?			√
4. Are the duplicate results, yields and MDAs within contract limits?	√		
5. Are the sample yields and MDAs within contract limits?	√		
D. Raw Data 1. Were results calculated in the correct units?	√		
2. Were analysis volumes entered correctly?	√		
3. Were yields entered correctly?	√		
4. Were spectra reviewed/meet contractual requirements?	√		
5. Were raw counts reviewed for anomalies?	√		
E. 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. Are worksheet entries complete and correct?	√		

Comments on any "No" response:

First Level Review: [signature] Date: 12/15/02

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336548

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: 12/18/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187, J2K250207
Client ID: PLH
Due Date: 1/10/03
QC Batch Number: 2336549
Method Test Parameter: Sr-Bulk
Matrix: Soil
SDG Number: W0350

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	√		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	√		
2. Are the QC appropriate for the analysis included in the batch?	√		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	√		
4. Does the Worksheets include a Tracer Vial label for each sample?			√
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	√		
2. Is the LCS result, yield and MDA within contract limits?	√		
3. Are the MS/MSD results, yields and MDAs within contract limits?	√		√
4. Are the duplicate results, yields and MDAs within contract limits?	√		
5. Are the sample yields and MDAs within contract limits?	√		
D. Raw Data 1. Were results calculated in the correct units?	√		
2. Were analysis volumes entered correctly?	√		
3. Were yields entered correctly?	√		
4. Were spectra reviewed/meet contractual requirements?	√		
5. Were raw counts reviewed for anomalies?	√		
E. 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. Are worksheet entries complete and correct?	√		

Comments on any "No" response:

First Level Review: [signature] Date: 12/18/02

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336549

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: 12/18/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: J2K150312, J2K180187
Client ID: IFCH
Due Date: 1/10/03
QC Batch Number: 2336550
Method Test Parameter: TH-TSR
Matrix: Soil
SDG Number: N/A

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?	✓		
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?	✓		
3. Are the MS/MSD results, yields and MDAs within contract limits?			✓
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?	✓		
4. Were spectra reviewed/meet contractual requirements?			✓
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response:

First Level Review: Pam Anderson Date: 12-31-02

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336556

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: 1/3/03

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

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
First Level Review

Lot Number: JAK150312
Client ID: BHI
Due Date: 1-10-03
QC Batch Number: 2336554
Method Test Parameter: uranium
Matrix: soil
SDG Number: W03900

Review Item	Yes (√)	No (√)	N/A (√)
A. COC 1. Is the ICOC page complete (includes all applicable analysts, dates, SOP numbers and revisions)?	✓		
B. QC Batch 1. Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2. Are the QC appropriate for the analysis included in the batch?	✓		
3. Is the Analytical Batch Worksheets complete (includes, as appropriate, volumes, count times, etc.)?	✓		
4. Does the Worksheets include a Tracer Vial label for each sample?			✓
C. QC & Samples 1. Is the blank result, yield and MDA within contract limits?	✓		
2. Is the LCS result, yield and MDA within contract limits?	✓		
3. Are the MS/MSD results, yields and MDAs within contract limits?	✓		
4. Are the duplicate results, yields and MDAs within contract limits?	✓		
5. Are the sample yields and MDAs within contract limits?	✓		
D. Raw Data 1. Were results calculated in the correct units?	✓		
2. Were analysis volumes entered correctly?	✓		
3. Were yields entered correctly?			✓
4. Were spectra reviewed/meet contractual requirements?	✓		
5. Were raw counts reviewed for anomalies?	✓		
E. 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. Are worksheet entries complete and correct?	✓		

Comments on any "No" response:

First Level Review: Pam Anderson Date: 1-13-03

LS-038A, Rev. 9, 8/02

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 2336554

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: 1/13/03

CHAIN OF CUSTODY

Q-506054

FLUOR Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-003-027	Page 1 of 1

Collector: RJ Nielson	Company Contact: Steve Trent — Telephone No.: 373-5869	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days — Air Quality ☐
Project Designation: 200 Area Source Characterization 200-CS-1 OU - Soil Sampli	Sampling Location: BT-1	SAF No.: F03-003	
Ice Chest No.: ERC-96-025 ~~ERC 99 042~~ s/b 11/14/02	Field Logbook No.: HNF-N-3251 — COA: 117514ES10	Method of Shipment: ~~Federal Express~~ HAND DELIVER GOV. VEHICLE	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: ~~A038039~~ N/A s/b	Bill of Lading/Air Bill No.: SOG 037C	

POSSIBLE SAMPLE HAZARDS/REMARKS

RADIOACTIVE

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	None RJN 11/12/02	None RJN 11/12/02	None
Type of Container	G	aG	G	aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	G/P	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	150g	850g	150g	150g	500g	1000g	50g	1000g	500g	200g

SDG W03900

SAMPLE ANALYSIS J2K150312

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL)	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015M (Add-on) (1-Propanol, Ethanol)	PCBs - 8082	See item (2) in Special Instructions.	See item (3) in Special Instructions.	pH (Soil) - 9045	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan
B15XM4 FC8N4	SOIL	11-12-02	1010	X	X	X	X	X	X	X	X		X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R.J. Nielson / R. Nielson	11-12-02 1430	Ref # 1B / 3728	11-12-02 1430
REF 1B	111402 1000	SJ GALE	111402 1000
~~SJ GALE~~	~~111402 1000~~	~~FED EX~~	~~111402~~
S.J. GALE	111402 1445	A. Rhineheart	11/14/02 1445

SPECIAL INSTRUCTIONS

** Please check the SAF for specific sampling instructions.

(1) Semi-VOA -- 8270A (Add-On) (Tributyl phosphate); TPH-Diesel Range - WTPH-D
(2) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc); Mercury - 7471 - (CV); Chromium Hex - 7196
(3) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); NO2/NO3 - 353.1; Ammonia - 350.1; Total Cyanide - 9010; Sulfides - 9030
(4) Gross Alpha; Gross Beta; Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Americium-241, Radium-228); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; Neptunium-237; Total Uranium

Personnel not available to relinquish samples from the 3728 Ref # 1B on 11/14/02

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

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

BHI-EE-011 (03/01/2002)

69

VMS Gamma Spectroscopy Report generated 13-NOV-2002 14:45:12

Configuration : DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_RCF10647_DET1_50GRAMPILLBOX60
Sample ID : B15XM0 Project Number : BT-1
RFC Number : RCF10647 SAF Number : F03-05
Sample Quantity : 2.84000E+01 GRAMS
Sample Type : Soil Sample Geometry :
Sample Date : 12-NOV-2002 09:40:00 Acquisition date : 13-NOV-2002 13:44:57
Decay time : 1 04:04:57.56 % dead time : 0.0%
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.13
Energy cal. time : 14-FEB-2002 16:05:03 Effic. cal. time : 4-APR-2002 08:08:29.
Detector name : BEGE 3820 Counting geometry: 50Gram pill box
Peak Sensitivity : 3.00000
Efficiency Type : EMPIRICA Energy tolerance: 2.00000

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	8.384E+00	5.354E+00	5.172E+00	5.133E-01	1.621
CS-137	3.557E+00	7.991E-01	3.549E-01	4.051E-02	10.021
TL-208	5.892E-01	2.284E-01	3.162E+00	3.481E-01	0.186
PB-212	9.977E-01	2.941E-01	4.052E-01	4.656E-02	2.462
PB-214	6.077E-01	4.900E-01	7.065E-01	7.180E-02	0.860
RA-226	5.322E+00	3.673E+00	3.767E+00	3.362E-01	1.413
AC-228	1.695E+00	1.254E+00	0.000E+00	0.000E+00	0.000

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	4.557E-02		1.901E-01	4.629E-01	4.484E-02	0.098
EU-152	8.520E-02		1.716E-01	3.322E-01	5.292E-02	0.256
EU-154	-8.047E-02		1.357E-01	2.268E-01	3.296E-02	-0.355
EU-155	2.633E-01	+	2.479E-01	3.297E-01	3.854E-02	0.799
BI-212	2.978E+00		3.127E+00	6.971E+00	8.619E-01	0.427
BI-214	4.585E-01	+	7.727E-01	1.290E+00	1.480E-01	0.356
TH-234	7.749E-01		1.149E+00	2.093E+00	8.816E-01	0.370
U-235	3.020E-01	+	2.088E-01	2.765E-01	2.683E-02	1.092
AM-241	-5.536E-02		1.163E-01	1.957E-01	2.728E-02	-0.283

Approved by: _____ Approval Date: 11 / 13 / 02.

ERC Radiological Counting Facility
Sample Activity Report - Gross Alpha/Beta

RCF10647

Sample Run ID: LB55 15min Unk 4-in Pu-Sr - 200211131342 **Project/Cust. ID:** 200-CS-1 B15XM0

Machine LB5500 **Report Date:** Wednesday, November 13, 2002 **SAF #** None

Sample ID	Carrier	Sample Type	Sample Volume/Mass	Acquistion Date/Time
200211131342 27	1	60ml PILLBOX	2303 mg	11/13/02 1:57:45 PM

Net Alpha cpm	Alpha dpm	Alpha dpm 2 sigma	Alpha Bkgd cpm	Net Beta cpm	Beta dpm	Beta dpm 2 sigma	Beta Bkgd cpm
2.794	8.548	3.050	0.472	70.161	134.182	8.989	4.572

MDA (dpm)

Alpha	Beta
3.576	73.836

Beta Efficiency: 52.29%

Alpha Efficiency: 32.69%

α = 2pCi/gm

β^- = ~~36pC~~ 11/13/02 26pCi/gm

Samples Analyzed By: [signature] **Date:** 11/13/02

Samples Reviewed By: TIMOTHY J. SNIDER [signature] **Date:** 11/13/02

SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 11/14/02@14:45ar

Client: FHI SDG #: W03900 NA [ ] SAF #: F03-003 NA [ ]

Work Order Number: J2K150312 Chain of Custody # F03-003-027

Shipping Container ID: ERC-96-025 Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature:_____ NA [X] 5.Vermiculite/packing materials is NA [ ] Wet [ ] Dry [X]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   - X tape
   - X custody seals
   - ____hazard labels
   - X appropriate samples labels
9. Samples are:
   - X in good condition
   - ____broken
   - ____leaking
   - ____have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): _____

Sample Custodian [signature] Date: 11/14/02

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, 9/01, Rev. 4

Q-50639

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-003-079	Page 1 of 1

Collector: R. Nielson	Company Contact: Steve Trent — Telephone No.: 373-5869	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days
Project Designation: 200 Area Source Characterization 200-CS-1 OU - Soil Sampli	Sampling Location: SP-1	SAF No.: F03-003	Air Quality ☐
Ice Chest No.: ERC 96 081	Field Logbook No.: HNF-N-3251 — COA: 117514ES10	Method of Shipment: ~~Federal Express~~ GOV. VEHICLE	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	None	None RIN 11/13/02	None
Type of Container	G	aG	G	aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	150g 120ml	850g 600ml	150g 120ml	150g 120ml	500g 500ml	1000g 1000ml	50g 60ml	1000g 1000ml	500g 500ml	20g 20ml
SAMPLE ANALYSIS	VOA - 8260A (TCL)	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015M (Add-on) {1-Propanol, Ethanol}	PCBs - 8082 R 11-15-02	See item (2) in Special Instructions.	See item (3) in Special Instructions.	pH (Soil) - 9045	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3 R	Activity Scan 11-15-02

SDG W03900 J2K180187

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL)	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015M (Add-on) {1-Propanol, Ethanol}	PCBs - 8082	See item (2) in Special Instructions.	See item (3) in Special Instructions.	pH (Soil) - 9045	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan
B15YL4 FDC1G	SOIL	11-14-02	0959	X	X	X	X	X	X	X	X		X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Nielson / R. Nielson	11-14-02 1320	Ref #18/3728	11-14-02 1320
Ref 18	11 18 02 0700	SJ Gale	11/18/02 0700
SJ Gale	11/18/02 1045	A. Rhineheart	11/18/02 1045

SPECIAL INSTRUCTIONS

** Please check the SAF for specific sampling instructions.

(1) Semi-VOA -- 8270A (Add-On) {Tributyl phosphate}; TPH-Diesel Range - WTPH-D
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196
(3) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; NO2/NO3 - 353.1; Ammonia - 350.1; Total Cyanide - 9010; Sulfides - 9030
(4) Gross Alpha; Gross Beta; Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241, Radium-228}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; Neptunium-237; Total Uranium

Personnel not available to relinquish samples from the 3728 Ref # 18 on 11 18 02

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

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

HI-EE-011 (03/01/2002)

3

VMS Gamma Spectroscopy Report generated 14-NOV-2002 14:54:53

Configuration	: DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_RCF10657_ORTEC_50GRAMPILLBOX_		
Sample ID	: B15YL9	Project Number	: 200-SP-1
RFC Number	: RCF10657	SAF Number	: F03-005
Sample Quantity	: 2.70000E+01 GRAMS ←		
Sample Type	: Soil	Sample Geometry	:
Sample Date	: 13-NOV-2002 10:20:00	Acquisition date	: 14-NOV-2002 12:50:00
Decay time	: 1 02:30:00.28	% dead time	: 0.0%
Elapsed live time	: 0 02:00:00.00	Elapsed real time	: 0 02:00:00.43 ←
Energy cal. time	: 17-SEP-2002 06:13:11	Effic. cal. time	: 10-OCT-2002 13:22:52
Detector name	: Theortec	Counting geometry	: 50 gram pillbox
Peak Sensitivity	: 3.00000		
Efficiency Type	: EMPIRICA	Energy tolerance	: 2.00000

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.278E+01	4.723E+00	2.403E+00	2.263E-01	5.318
CS-137	4.242E-01	2.154E-01	2.707E-01	2.806E-02	1.567
TL-208	~~3.133E-01~~	1.915E-01	2.422E+00	2.492E-01	0.129
PB-212	~~8.277E-01~~	3.044E-01	3.456E-01	3.789E-02	2.395
PB-214	4.732E-01	3.936E-01	4.514E-01	4.369E-02	1.048
RA-226	5.231E+00	4.908E+00	4.118E+00	3.604E-01	1.270
AC-228	2.971E+00	1.184E+00	0.000E+00	0.000E+00	0.000

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1.283E-01		1.496E-01	3.047E-01	2.800E-02	0.421
EU-152	1.250E-01		2.507E-01	4.426E-01	5.370E-02	0.282
EU-154	1.748E-01		1.832E-01	3.290E-01	3.384E-02	0.531
EU-155	-1.732E-02		2.611E-01	4.376E-01	4.797E-02	-0.040
BI-212	1.419E+00		2.327E+00	4.236E+00	4.829E-01	0.335
BI-214	2.412E-01	+	4.569E-01	7.898E-01	8.313E-02	0.305
TH-234	-1.158E+00		2.136E+00	3.700E+00	1.526E+00	-0.313
U-235	2.983E-01	+	2.801E-01	3.576E-01	3.414E-02	0.834
AM-241	-5.604E-01		2.263E-01	3.317E-01	3.447E-02	-1.689

Approved by: _____ Approval Date: 11 / 14 / 02

TIMOTHY J. SNIDER

SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 11/18/02 @ 10:45 aR

Client: FHI SDG #: W03900 NA [ ] SAF #: F03-003 NA [ ]

Work Order Number: J2K180187 Chain of Custody # F03-003-79

Shipping Container ID: ERC-96-081 Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature: _____ NA [X] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [X]
6. Number of samples in shipping container: 8
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   - [X] tape
   - [X] custody seals
   - [X] hazard labels
   - [X] appropriate samples labels
9. Samples are:
   - [X] in good condition
   - [ ] broken
   - [ ] leaking
   - [ ] have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: [illegible] / Richland Date: 11/18/02

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, 9/01, Rev. 4

QV-50634

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-003-054	Page 1 of 1

Collector: R Nielson	Company Contact: Steve Trent — Telephone No.: 373-5869	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days
Project Designation: 200 Area Source Characterization 200-CS-1 OU - Soil Sampli	Sampling Location: SD-1	SAF No.: F03-003	Air Quality ☐
Ice Chest No.: TJ-9	Field Logbook No.: HNF-N-3251 — COA: 117514ES10	Method of Shipment: ~~Federal Express~~ GOV. VEHICLE	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS: RADIOACTIVE

Special Handling and/or Storage

SDG W03900

SAMPLE ANALYSIS: J2K250209

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	None	None	None
Type of Container	G	aG	G	aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	~~150g~~ 120 ml	~~850g~~ 500 ml	~~150g~~ 120 ml	~~150g~~ 120 ml	~~500g~~ 500 ml	~~1000g~~ 1000 ml	~~50g~~ 60 ml	~~1000g~~ 1000 ml	~~500g~~	~~20g~~ 20 ml
	VOA - 8260A (TCL)	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015M (Add-on) (1-Propanol, Ethanol)	PCBs - 8082	See item (2) in Special Instructions.	See item (3) in Special Instructions.	pH (Soil) - 9045	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan

Sample No.	Matrix *	Sample Date	Sample Time										
B15YF9 FDVJK	SOIL	11/21/02	0850	X	X	X	X	X	X	X	X		X

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: R Nielson JR Nielson 11-21-02	1515	Received By/Stored In: Ref # 1B 3728 11-21-02	1515
Relinquished By/Removed From: REF 1B 112502	1000	Received By/Stored In: SJGALE 112502	1000
Relinquished By/Removed From: ERC SJGALE 112502	1320	Received By/Stored In: SFT BWKreutz 11-25-02	1320
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

** Please check the SAF for specific sampling instructions.

(1) Semi-VOA -- 8270A (Add-On) (Tributyl phosphate); TPH-Diesel Range - WTPH-D
(2) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Beryllium, Copper, Nickel, Vanadium, Zinc); Mercury - 7471 - (CV); Chromium Hex - 7196
(3) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); NO2/NO3 - 353.1; Ammonia - 350.1; Total Cyanide - 9010; Sulfides - 9030
(4) Gross Alpha; Gross Beta; Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Americium-241, Radium-228); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; Neptunium-237; Total Uranium

Personnel not available to relinquish samples from the 3728 Ref # 1B on 11/25/02

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

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

BHI-EE-011 (03/01/2002)

VMS Gamma Spectroscopy Report generated 25-NOV-2002 08:19:36

Configuration	: DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_RCF10675_DET1_50GRAMPILLBOX60		
Sample ID	: B15YR2	Project Number	: 200-SP-4
RFC Number	: RCF10675	SAF Number	: F03-005
Sample Quantity	: 2.40000E-01 GRAMS		
Sample Type	: Soil	Sample Geometry	:
Sample Date	: 20-NOV-2002 09:11:00	Acquisition date	: 25-NOV-2002 07:19:23
Decay time	: 4 22:08:20.76	% dead time	: 0.0%
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.11
Energy cal. time	: 14-FEB-2002 16:05:03	Effic. cal. time	: 4-APR-2002 08:06:29.
Detector name	: BEGE 3820	Counting geometry	: 50Gram pill box
Peak Sensitivity	: 3.00000		
Efficiency Type	: EMPIRICA	Energy tolerance	: 2.00000

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.435E+01	6.209E+00	5.672E+00	5.629E-01	2.530
PB-212	1.107E+00	2.959E-01	4.491E-01	5.160E-02	2.466
PB-214	3.172E-01	4.894E-01	6.879E-01	6.991E-02	0.461
AC-228	4.455E-01	9.707E-01	0.000E+00	0.000E+00	0.000

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	4.566E-03		2.459E-01	5.484E-01	5.313E-02	0.008
CS-137	-1.727E-02		2.168E-01	4.264E-01	4.866E-02	-0.041
EU-152	5.585E-02		1.830E-01	3.523E-01	3.612E-02	0.159
EU-154	-3.965E-02		1.242E-01	2.198E-01	3.194E-02	-0.180
EU-155	2.220E-01	+	1.737E-01	2.864E-01	3.349E-02	0.775
TL-208	4.637E-01		1.942E+00	4.126E+00	4.542E-01	0.112
BI-212	1.942E+00		3.119E+00	6.933E-00	8.572E-01	0.280
BI-214	1.372E-01	+	5.400E-01	1.165E+00	1.338E-01	0.118
RA-226	3.376E+00		2.851E+00	5.852E-00	5.223E-01	0.577
TH-234	1.694E-01		1.060E+00	1.946E+00	8.198E-01	0.087
U-235	2.032E-01		1.663E-01	3.406E-01	3.305E-02	0.597
AM-241	-3.753E-03		1.118E-01	2.054E-01	2.863E-02	-0.018

Approved by: _____ Approval Date: 11 / 25 / 02

TIMOTHY J. SNIDER

ERC Radiological Counting Facility
Sample Activity Report - Gross Alpha/Beta

RCF10675

Sample Run ID: LB55 15min Unk 4-in Pu-Sr - 200211211511 **Project/Cust. ID:** 200-SD-1 B15YR2

Machine LB5500 **Report Date:** Monday, November 25, 2002 SAF # F03-005

Sample ID	Carrier	Sample Type	Sample Volume/Mass	Acquisition Date/Time
200211211152556	2	60mL PILLBOX	2228 mg	11/21/02 3:42:08 PM

Net Alpha cpm	Alpha dpm	Alpha dpm 2 sigma	Alpha Bkgd cpm	Net Beta cpm	Beta dpm	Beta dpm 2 sigma	Beta Bkgd cpm
2.153	6.585	2.748	0.581	39.647	75.825	6.775	4.486

MDA (dpm)

Alpha	Beta
2.873	42.474

Beta Efficiency: 52.29%

Alpha Efficiency: 32.69%

$\alpha = 1$ pCi/g
$\beta = 15$ pCi/g

Samples Analyzed By: [signature] Date: 11/25/02

Samples Reviewed By: TIMOTHY J. SNIDER [signature] Date: 11/25/02

SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 11-25-02 1320

Client: FH - Central Plateau Project SDG #: W03900 NA [ ] SAF #: F03-003 NA [ ]

Work Order Number: J2K250209 Chain of Custody # F03-003-054

Shipping Container ID: TJ-9 Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? Yes [✓] No [ ]
4. Cooler temperature: _____ NA [✓] 5. Vermiculite/packing materials is NA [✓] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ tape
   - ✓ custody seals
   - ✓ hazard labels
   - ✓ appropriate samples labels
9. Samples are:
   - ✓ in good condition
   - broken
   - leaking
   - have air bubbles (Only for samples requiring head space)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ]
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: _____

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, 9/01, Rev. 4

SEVERN TRENT STL

PRIORITY

new due date
2-7-03

*** RE-ANALYSIS REQUEST ***

DUE DATE 1-10-03

CUSTOMER FLH

ANALYSIS Am-241

MATRIX soil

LOT NUMBER J2K150312, J2K180187, J2K250209

SAMPLE DELIVERY GROUP W03900

OLD BATCH NUMBER 2336545

NEW BATCH NUMBER 3029340

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) FC8N4 1AD	
2) FDC1G 1AE	
3) FDVJK 1AE	
4)	
5)	Make sure to add LCS this time!
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	B, S, mix.
20)	
LAB QC ID	Assigned with new batch.

1/31/03 7:31:07 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

6I PuAm PrpRC5013/RC5019, SepRC5080(5003)/RC5010(5039)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

PRIORITY

Pipet #: NA

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 3029340 SOIL pCi/g PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: 2336544, 6ISO All Tests: 2336544 6ISO, 2336545 6ISX, 2336546 AXTA, 2336547 9RS1, 2336548 AYS7, 2336549 BBS8, 2336550 CHTH, 2336551 D3XW, 2336552 88OV, 2336553 7SSR, 2336554 7ZSS, 3029340 6ISX,

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AR-X J2K150312-1-DUP		2.05g,in	AMTC1400 11/08/02 08/08/02,r		200			
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
2 FC8N4-2-AD J2K150312-1-SAMP		2.02g,in	AMTC1401 11/08/02 08/08/02,r					
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
3 FDC1G-2-AE J2K180187-1-SAMP		2.02g,in	AMTC1402 11/08/02 08/08/02,r					
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
4 FDVJK-2-AE J2K250209-1-SAMP		2.01g,in	AMTC1403 11/08/02 08/08/02,r					
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
5 FGTVT-1-AA-B J3A290000-340-BLK		2.0g,in	AMTC1504 12/05/02 11/15/02,r					
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
6 FGTVT-1-AC-C J3A290000-340-LCS		2.0g,in	AMSJ0163 01/09/03 11/15/02,r					
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
7 FGTVT-1-AD-BX J3A290000-340-MBLK		1.96g,in	AMTC1505 12/05/02 11/15/02,r					
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:

STL Richland
Richland,Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
r - Reference date, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 7
Prep_SamplePrep v4.6

1/31/03 7:31:08 AM

Sample Preparation/Analysis

6I PuAm PrpRC5013/RC5019, SepRC5080(5003)/RC5010(5039)
SX Americium-241 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: N/A

PRIORITY

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 3029340 pCi/g

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
8 FGTVT-1-AE-CM J3A290000-340-MLCS		2.0g,in	AMSJ0164 01/09/03 11/15/02 r		200			
11/12/2002 10:10		AmtRec:	#Containers: 1			Scr Rst:	Alpha:	Beta:

Comments: Samples were muffled. JW 1-31-03
Sample FGTVT-1-AE CM blew its safety membrane, D.O. per instructed us to continue with the procedure - JW 1-31-03

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AR-DUP Constituent List:

Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
FGTVT1AA-BLK:											
Am-241	RDL:1	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
FGTVT1AC-LCS:											
Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
FGTVT1AD-MBLK:											
Am-241	RDL:1	pCi/g	LCL:	UCL:	RPD:	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
FGTVT1AE-MLCS:											
Am-241	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	AM-243	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

FC8N41AR-DUP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FGTVT1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FGTVT1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FGTVT1AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FGTVT1AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

2/10/03 11:38:10 AM

ICOC Fraction Transfer/Status Report

ByDate: 1/11/03, 2/11/03, Batch: '3029340', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
3029340						
AC		CalcC	WAGNERJ	1/29/03 7:51:49 PM		
SC			AndersonP	IsBatched	1/29/03 11:56:40 AM	ICOC_RADCALC v4.5.3.2
SC			WAGNERJ	InPrep2	1/29/03 7:51:49 PM	RICH-RC-5019 REVISION 4
SC			WAGNERJ	Prep2C	2/1/03 12:29:42 PM	RICH-RC-5019 REVISION 4
SC			HAMMERL	InSep1	2/3/03 8:43:16 AM	RICH-RC-5080 REVISION 1
SC			HAMMERL	Sep1C	2/7/03 8:43:38 AM	RICH-RC-5080 REVISION 1
SC			DobeckiT	InSep2	2/7/03 11:33:27 AM	RICH-RC-5003 REVISION 4
SC			DobeckiT	Sep2C	2/7/03 11:33:36 AM	RICH-RC-5003 REVISION 4
SC			BlackCL	InCnt1	2/7/03 11:37:24 AM	RICH-RD-0008 REVISION 2
SC			BlackCL	CalcC	2/8/03 8:08:29 AM	RICH-RD-0008 REVISION 2
AC			WAGNERJ	2/1/03 12:29:42 PM		
AC			HAMMERL	2/3/03 8:43:16 AM		
AC			HAMMERL	2/7/03 8:43:38 AM		
AC			DobeckiT	2/7/03 11:33:27 AM		
AC			DobeckiT	2/7/03 11:33:36 AM		
AC			BlackCL	2/7/03 11:37:24 AM		
AC			BlackCL	2/8/03 8:08:29 AM		

73

AC: Accepting Entry; SC: Status Change

1/13/03 9:57:43 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

6I PuAm PrpRC5013/RC5019, SepRC5080(5003)/RC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336544 SOIL pCi/g PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: 2336545, 6ISX

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AC J2K150312-1-SAMP		1.98g,in	PATC0217 01/08/03 09/30/02 r		206			
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
2 FDC1G-1-AD J2K180187-1-SAMP		2.01g,in	PATC0218 01/08/03 09/30/02 r					
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
3 FDVJK-1-AD J2K250209-1-SAMP		1.99g,in	PATC0219 01/08/03 09/30/02 r					
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
4 FDVJK-1-AN-X J2K250209-1-DUP		1.99g,in	PATC0220 01/08/03 09/30/02 r					
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
5 FD4N6-1-AA-B J2L020000-544-BLK		2.0g,in	PATC0221 01/08/03 09/30/02 r					
11/21/2002 08:50		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
6 FD4N6-1-AC-C J2L020000-544-LCS		2.0g,in	PUSK0514 12/30/02 05/31/02 r					
11/21/2002 08:50		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
7 FD4N6-1-AD-BX J2L020000-544-MBLK		1.99g,in	PATC0222 01/08/03 09/30/02 r					
11/21/2002 08:50		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:

1/13/03 9:57:44 AM

Sample Preparation/Analysis

6I PuAm PrpRC5013/RC5019, SepRC5080(5003)/RC5010(5039)
SO Plutonium-238,239/40 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336544 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
8 FD4N6-1-AE-CM J2L020000-544-MLCS		2.0g,in	PUSK0515 12/30/02 05/31/02 r		200			

11/21/2002 08:50 AmtRec: #Containers: 1 Scr Rst: Alpha: Beta:

Comments: Sumples were muffled over night. 1-13-02 gck

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AC-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						
FD4N61AA-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						
FD4N61AC-LCS:											
PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35
FD4N61AD-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						
FD4N61AE-MLCS:											
PU-239	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Pu-242	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

FC8N41AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4N61AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4N61AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4N61AD-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4N61AE-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

CI

1/21/03 4:31:27 PM

ICOC Fraction Transfer/Status Report

ByDate: 12/22/02, 1/22/03, Batch: '2336544', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336544						
AC		CalcC	WAGNERJ	1/7/03 5:21:45 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:23:46 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:45:56 PM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	InPrep2	1/7/03 5:21:45 PM	RICH-RC-5019 REVISION 2
SC			WAGNERJ	Prep2C	1/13/03 10:33:47 AM	RICH-RC-5019 REVISION 2
SC			HAMMERL	InSep1	1/14/03 8:52:22 AM	RICH-RC-5080 REVISION 1
SC			DobeckiT	InSep2	1/20/03 1:32:55 PM	RICH-RC-5039 REVISION 3
SC			DobeckiT	Sep2C	1/20/03 1:33:08 PM	RICH-RC-5039 REVISION 3
SC			BlackCL	InCnt1	1/20/03 1:42:47 PM	RICH-RD-0008 REVISION 2
SC			BlackCL	CalcC	1/21/03 9:21:02 AM	RICH-RD-0008 REVISION 2
AC			WAGNERJ	1/13/03 10:33:47 AM		
AC			HAMMERL	1/14/03 8:52:22 AM		
AC			DobeckiT	1/20/03 1:32:55 PM		
AC			DobeckiT	1/20/03 1:33:08 PM		
AC			BlackCL	1/20/03 1:42:47 PM		
AC			BlackCL	1/21/03 9:21:02 AM		

76

AC: Accepting Entry; SC: Status Change

SEVERN TRENT SERVICES

*** RE-COUNT REQUEST ***

DUE DATE 1-10-03

CUSTOMER 2336551

ANALYSIS Np

MATRIX soil

LOT NUMBER J2K150133, J2K180187

SAMPLE DELIVERY GROUP

OLD BATCH NUMBER 2336551

LAB SAMPLE ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) FD4PR1AC	spike has 16% yield, 56.9% recovery
2)	
3)	please recount β & ~~spike~~ α
4)	pt 1-27-03
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	
13)	
14)	
15)	
16)	
17)	
18)	
19)	
20)	

RC-126 05/01 REV 3

1/27/03 11:36:01 AM

Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

D3 Np PrpRC5013/5077, SepRC5009(5003)
XW Neptunium-237 with tracer by alpha spec
5I CLIENT: HANFORD

Report Due: 01/10/2003

Balance Id:

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,WAGNERJ

Batch: 2336551 SOIL pCi/g PM, Quote: BG1, 50639

SEQ Batch, Test: None All Tests: 2336544 6ISO, 2336545 6ISX, 2336546 AXTA, 2336547 9RS1, 2336548 AYS7, 2336549 BBS8, 2336550 CHTH, 2336551 D3XW, 2336552 88OV, 2336553 7SSR, 2336554 7ZSS,

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AK J2K150312-1-SAMP 11/12/2002 10:10		2.0g,in AmtRec: LP	NPTA4841 12/12/02 07/23/02,r	#Containers: 1		Scr Rst:	Alpha: 3.33E+01 pCi/g		Beta: 3.98E+01 pCi/g	
2 FDC1G-1-AL J2K180187-1-SAMP 11/14/2002 09:59		1.99g,in AmtRec: LP	NPTA4842 12/12/02 07/23/02,r	#Containers: 1		Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g	
3 FDC1G-1-AR-X J2K180187-1-DUP 11/14/2002 09:59		2.0g,in AmtRec: LP	NPTA4843 12/12/02 07/23/02,r	#Containers: 1		Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g	
4 FDVJK-1-AL J2K250209-1-SAMP 11/21/2002 08:50		2.0g,in AmtRec: LP	NPTA4844 12/12/02 07/23/02,r	#Containers: 1		Scr Rst:	Alpha: 3.34E+00 pCi/g		Beta: 1.95E+01 pCi/g	
5 FD4PR-1-AA-B J2L020000-551-BLK 11/14/2002 09:59		2.0g,in AmtRec:	NPTA4845 12/12/02 07/23/02,r	#Containers: 1		Scr Rst:	Alpha:		Beta:	
6 FD4PR-1-AC-C J2L020000-551-LCS 11/14/2002 09:59		2.0g,in AmtRec:	NPSE0048 09/18/02 04/04/01,r	#Containers: 1		Scr Rst:	Alpha:		Beta:	

1/27/03 11:36:02 AM

Sample Preparation/Analysis

D3 Np PrpRC5013/5077, SepRC5009(5003)
XW Neptunium-237 with tracer by alpha spec
5I CLIENT: HANFORD

Report Due: 01/10/2003

Batch: 2336551 pCi/g

SEQ Batch, Test: None

Balance Id:

Pipet #: 2

Sep1 DT/Tm Tech: 23 Jan 03 11:00 cm

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
7 FD4PR-2-AC-C J2L020000-551-LCS		2.0g	NpSE0048				200min			

11/14/2002 09:59 AmtRec: #Containers: 1 Scr Rst: Alpha: Beta:

Comments:

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AK-SAMP Constituent List:

Np-237	RDL:1	pCi/g	LCL:	UCL:	RPD:20	Np-239	RDL:	pCi/g	LCL:20	UCL:115	RPD:35

FD4PR1AA-BLK:

Np-237	RDL:1	pCi/g	LCL:	UCL:	RPD:20	Np-239	RDL:	pCi/g	LCL:20	UCL:115	RPD:35

FD4PR1AC-LCS:

Np-237	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Np-239	RDL:	pCi/g	LCL:20	UCL:115	RPD:35

FD4PR2AC-LCS:

Np-237	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Np-239	RDL:	pCi/g	LCL:30	UCL:110	RPD:35

FC8N41AK-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PR1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PR1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PR2AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

12/26/02 8:21:24 AM

Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

D3 Np PrpRC5013/5077, SepRC5009(5003)
XW Neptunium-237 with tracer by alpha spec
5I CLIENT: HANFORD

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech: 23 Jan 03 11:00 AM DRM

Batch: 2336551 SOIL pCi/g PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None All Tests: 2336544 6ISO, 2336545 6ISX, 2336546 AXTA, 2336547 9RS1, 2336548 AYS7, 2336549 BBS8, 2336550 CHTH, 2336551 D3XW, 2336552 88OV, 2336553 7SSR, 2336554 7ZSS,

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AK J2K150312-1-SAMP 11/12/2002 10:10		2.0g,in AmtRec: LP	NPTA4841 12/12/02 07/23/02,r #Containers: 1				200		Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
2 FDC1G-1-AL J2K180187-1-SAMP 11/14/2002 09:59		1.99g,in AmtRec: LP	NPTA4842 12/12/02 07/23/02,r #Containers: 1						Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
3 FDC1G-1-AR-X J2K180187-1-DUP 11/14/2002 09:59		2.0g,in AmtRec: LP	NPTA4843 12/12/02 07/23/02,r #Containers: 1						Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
4 FDVJK-1-AL J2K250209-1-SAMP 11/21/2002 08:50		2.0g,in AmtRec: LP	NPTA4844 12/12/02 07/23/02,r #Containers: 1						Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
5 FD4PR-1-AA-B J2L020000-551-BLK 11/14/2002 09:59		2.0g,in AmtRec:	NPTA4845 12/12/02 07/23/02,r #Containers: 1						Scr Rst: Alpha:	Beta:
6 FD4PR-1-AC-C J2L020000-551-LCS 11/14/2002 09:59		2.0g,in AmtRec:	NPSE0048 09/18/02 04/04/01,r #Containers: 1						Scr Rst: Alpha:	Beta:

08

12/26/02 8:21:25 AM

Sample Preparation/Analysis

D3 Np PrpRC5013/5077, SepRC5009(5003)
XW Neptunium-237 with tracer by alpha spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336551 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments: FUHPR IAC C Qcst on Shaker DM 1-23-03.

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AK-SAMP Constituent List:

Np-237	RDL:1	pCi/g	LCL:	UCL:	RPD:	Np-239	RDL:	pCi/g	LCL:20	UCL:115	RPD:35

FD4PR1AA-BLK:

Np-237	RDL:1	pCi/g	LCL:	UCL:	RPD:	Np-239	RDL:	pCi/g	LCL:20	UCL:115	RPD:35

FD4PR1AC-LCS:

Np-237	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Np-239	RDL:	pCi/g	LCL:20	UCL:115	RPD:35

FC8N41AK-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PR1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PR1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

1/29/03 11:24:11 AM

ICOC Fraction Transfer/Status Report

ByDate: 12/30/02, 1/30/03, Batch: '2336551', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336551						
AC		CalcC	ManisD	1/6/03 3:23:42 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:24:51 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:46:21 PM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	InPrep2	12/26/02 8:01:34 AM	RICH-RC-5077 REVISION 1
SC			WAGNERJ	Prep2C	12/27/02 10:33:24 AM	RICH-RC-5077 REVISION 1
SC			ManisD	InSep1	1/6/03 3:23:42 PM	RICH-RC-5009 REVISION 2
SC			ManisD	Sep1C	1/23/03 1:24:28 PM	RICH-RC-5009 REVISION 2
SC			ManisD	InSep2	1/23/03 1:25:15 PM	RICH-RC-5003 REVISION 4
SC			ManisD	Sep2C	1/23/03 3:25:51 PM	RICH-RC-5003 REVISION 4
SC			DAWKINSO	InCnt1	1/23/03 10:01:42 PM	RICH-RD-0008 REVISION 2
SC			BlackCL	CalcC	1/25/03 9:13:30 AM	RICH-RD-0008 REVISION 2
SC			BlackCL	InCnt1	1/27/03 11:53:02 AM	RICH-RD-0008 REVISION 2
SC			BlackCL	CalcC	1/28/03 7:41:17 AM	RICH-RD-0008 REVISION 2
AC			ManisD	1/23/03 1:24:28 PM		
AC			ManisD	1/23/03 1:25:15 PM		
AC			ManisD	1/23/03 3:25:51 PM		
AC			DAWKINSO	1/23/03 10:01:42 PM		
AC			BlackCL	1/25/03 9:13:30 AM		
AC			BlackCL	1/27/03 11:53:02 AM		
AC			BlackCL	1/28/03 7:41:17 AM		

82

AC: Accepting Entry; SC: Status Change

1/10/03 3:25:36 PM

Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

9R Thiso PrpRC5013/RC5019, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922
Pipet #: _____

Report Due: 01/10/2003 W03900

Batch: 2336547 **SOIL** **pCi/g** **PM, Quote: BG1, 50639**

SEQ Batch, Test: None

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

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AF J2K150312-1-SAMP		2.05g,in	THTC5381 12/23/02 11/18/02 r		200			
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
2 FDC1G-1-AG J2K180187-1-SAMP		1.98g,in	THTC5382 12/23/02 11/18/02 r					
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
3 FDC1G-1-AN-X J2K180187-1-DUP		2.02g,in	THTC5391 01/06/03 11/18/02 r					
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
4 FDVJK-1-AG J2K250209-1-SAMP		2.01g,in	THTC5392 01/06/03 11/18/02 r					
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
5 FD4PG-1-AA-B J2L020000-547-BLK		2.0g,in	THTC5393 01/06/03 11/18/02 r					
11/14/2002 09:59		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
6 FD4PG-1-AC-C J2L020000-547-LCS		2.0g,in	THSI0564 12/23/02 11/18/02 r					
11/14/2002 09:59		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:

83

1/10/03 3:25:38 PM

Sample Preparation/Analysis

9R Thiso PrpRC5013/RC5019, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336547 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments: Samples were muffled. 1-10-03
Samples were converted 3X with ca HCL 1-10-03

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AF-SAMP Constituent List:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

FD4PG1AA-BLK:

Th-228	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/g	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/g	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

FD4PG1AC-LCS:

Th-230	RDL:1	pCi/g	LCL:70	UCL:130	RPD:35	Th-234	RDL:	pCi/g	LCL:20	UCL:105	RPD:35

FC8N41AF-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4PG1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4PG1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

48

1/21/03 4:31:05 PM

ICOC Fraction Transfer/Status Report

ByDate: 12/22/02, 1/22/03, Batch: '2336547', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336547						
AC		CalcC	WAGNERJ	1/7/03 5:21:30 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:24:00 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:46:08 PM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	InPrep2	1/7/03 5:21:30 PM	RICH-RC-5019 REVISION 2
SC			WAGNERJ	Prep2C	1/10/03 3:32:54 PM	RICH-RC-5019 REVISION 2
SC			HAMMERL	InSep1	1/12/03 7:44:51 AM	RICH-RC-5084 REVISION 0
SC			DobeckiT	InSep2	1/17/03 10:50:19 AM	RICH-RC-5003 REVISION 4
SC			DobeckiT	Sep2C	1/17/03 10:50:28 AM	RICH-RC-5003 REVISION 4
SC			BlackCL	InCnt1	1/17/03 10:58:25 AM	RICH-RD-0008 REVISION 2
SC			BlackCL	CalcC	1/20/03 10:39:22 AM	RICH-RD-0008 REVISION 2
AC			WAGNERJ	1/10/03 3:32:54 PM		
AC			HAMMERL	1/12/03 7:44:51 AM		
AC			DobeckiT	1/17/03 10:50:19 AM		
AC			DobeckiT	1/17/03 10:50:28 AM		
AC			BlackCL	1/17/03 10:58:25 AM		
AC			BlackCL	1/20/03 10:39:22 AM		

85

AC: Accepting Entry; SC: Status Change

1/6/03 3:24:38 PM

Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

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

Pipet #: _____

Report Due: 01/10/2003 W03900

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 2336553 SOIL pCi/g PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AL J2K150312-1-SAMP		1.99g,in	UITC8590 12/12/02 10/05/02 r		200			
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
2 FC8N4-1-AP-X J2K150312-1-DUP		1.99g,in	UITC8591 12/12/02 10/05/02 r					
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
3 FDC1G-1-AA J2K180187-1-SAMP		1.99g,in	UITC8592 12/12/02 10/05/02 r					
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
4 FDVJK-1-AA J2K250209-1-SAMP		1.98g,in	UITC8593 12/12/02 10/05/02 r					
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
5 FD4PX-1-AA-B J2L020000-553-BLK		2.0g,in	UITC8594 12/12/02 10/05/02 r					
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
6 FD4PX-1-AC-C J2L020000-553-LCS		2.0g,in	UISH0160 10/13/02 05/06/02 r					
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:

Samples were muffled. [illegible] 1-6-03
Samples were converted 3X with con HCL, [illegible] 1-6-03
Tech had put 25ml of 8m HNO3 - Split half w/ Y9103
(2)
(2) → in Sample FD4PX B

1/6/03 3:24:40 PM

Sample Preparation/Analysis

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

Balance Id:1120373922

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336553 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments:

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AL-SAMP Constituent List:

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

FD4PX1AA-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:

FD4PX1AC-LCS:

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

FC8N41AL-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4PX1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4PX1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

1/15/03 8:50:00 AM

ICOC Fraction Transfer/Status Report

ByDate: 12/16/02, 1/16/03, Batch: '2336553', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336553						
AC		CalcC	WAGNERJ	12/30/02 3:35:25 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:24:37 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:46:17 PM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	InPrep2	12/30/02 3:35:25 PM	RICH-RC-5019 REVISION 2
SC			WAGNERJ	Prep2C	1/6/03 3:24:49 PM	RICH-RC-5019 REVISION 2
SC			HAMMERL	InSep1	1/7/03 8:53:43 AM	RICH-RC-5079 REVISION 1
SC			HAMMERL	Sep1C	1/8/03 3:28:43 PM	RICH-RC-5079 REVISION 1
SC			McPHERONC	InSep2	1/10/03 6:13:20 AM	RICH-RC-5039 REVISION 3
SC			McPHERONC	Sep2C	1/10/03 6:13:41 AM	RICH-RC-5039 REVISION 3
SC			BlackCL	InCnt1	1/10/03 6:30:27 AM	RICH-RD-0008 REVISION 2
SC			BlackCL	CalcC	1/10/03 11:11:28 AM	RICH-RD-0008 REVISION 2
AC			WAGNERJ	1/6/03 3:24:49 PM		
AC			HAMMERL	1/7/03 8:53:43 AM		
AC			HAMMERL	1/8/03 3:28:43 PM		
AC			McPHERONC	1/10/03 6:13:20 AM		
AC			McPHERONC	1/10/03 6:13:41 AM		
AC			BlackCL	1/10/03 6:30:27 AM		
AC			BlackCL	1/10/03 11:11:28 AM		

88

AC: Accepting Entry; SC: Status Change

FLH SOIL

12/2/2002 4:40:29 PM

Sample Preparation/Analysis

Balance Id: PB3001-3

108302, FLUOR HANFORD IC , Flour
Hanford Inc

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

Pipet #: N/A

Report Due: 01/10/2003 WO 3900

Sep1 DT/Tm Tech:

Batch: 2336546 SOIL pCi/g

PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: MB

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit (3)	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AJ J2K150312-1-SAMP		354.2				S200	600	G4	2120	12/14/02
11/12/2002 10:10		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.33E+01 pCi/g		Beta: 3.98E+01 pCi/g	
2 FDC1G-1-AK J2K180187-1-SAMP		378.3						G2	12/15 0046	12/14/02
11/14/2002 09:59		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g	
3 FDVJK-1-AK J2K250209-1-SAMP		357.0						G6	0044	
11/21/2002 08:50		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.34E+00 pCi/g		Beta: 1.95E+01 pCi/g	
4 FDVJK-1-AQ-X J2K250209-1-DUP		358.0						G7	0047	
11/21/2002 08:50		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.34E+00 pCi/g		Beta: 1.95E+01 pCi/g	
5 FD4PD-1-AA-BX J2L020000-546-MBLK		200.0				200		G7	12/19 0512	12/18/2002
12/13/02 ~~11/21/2002 08:50~~		AmtRec:		#Containers: 1		Scr Rst:	Alpha:		Beta:	
6 FD4PD-1-AC-CM J2L020000-546-MLCS		200.01	CAL491			S200		G5	12/19 0511	
10/1/02 ~~11/21/2002 08:50~~		AmtRec:		#Containers: 1		Scr Rst:	Alpha:		Beta:	

12/2/2002 4:40:29 PM

Sample Preparation/Analysis

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

Balance Id:

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336546 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments:

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AJ-SAMP Constituent List:

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

FD4PD1AA-MBLK:

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

FD4PD1AC-MLCS:

Cs-137	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

FC8N41AJ-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PD1AA-MBLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

FD4PD1AC-MLCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

90

12/21/02 12:01:09 PM

ICOC Fraction Transfer/Status Report

ByDate: 11/21/02, 12/22/02, Batch: '2336546', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336546						
AC		CalcC	HARBINSOND	12/12/02 4:23:30 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:23:30 PM	RICH-RC-5017 REVISION 3
SC			BELSITOB	Prep1C	12/13/02 2:45:30 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:45:43 PM	RICH-RC-5017 REVISION 3
SC			DAWKINSO	InCnt1	12/13/02 2:50:28 PM	RICH-RD-0007 REVISION 3
SC			DAWKINSO	CalcC	12/19/02 6:03:23 PM	RICH-RD-0007 REVISION 3
AC			BELSITOB	12/13/02 2:45:30 PM		
AC			BELSITOB	12/13/02 2:45:43 PM		
AC			DAWKINSO	12/13/02 2:50:28 PM		
AC			DAWKINSO	12/19/02 6:03:23 PM		

91

AC: Accepting Entry; SC: Status Change

12/2/2002 4:40:30 PM

Sample Preparation/Analysis

Balance Id: BA1105/Room80

108302, FLUOR HANFORD IC , Flour
Hanford Inc

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

Pipet #: N/A

Report Due: 01/10/2003 W003900

Sep1 DT/Tm Tech:

Batch: 2336548 SOIL pCi/g PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: D HARDINSON

Work Order, Lot, Sample DateTime	Total Amt/Unit (g)	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry (mg)	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AG J2K150312-1-SAMP	0.0505				1.5	50.5	100	10A	1454	D/14/02
11/12/2002 10:10		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.33E+01 pCi/g		Beta: 3.98E+01 pCi/g	
2 FDC1G-1-AH J2K180187-1-SAMP	0.0500					50.0		10D		
11/14/2002 09:59		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g	
3 FDC1G-1-AP-X J2K180187-1-DUP	0.0505					50.5		10C		
11/14/2002 09:59		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g	
4 FDVJK-1-AH J2K250209-1-SAMP	0.0501					50.1		10D		
11/21/2002 08:50		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.34E+00 pCi/g		Beta: 1.95E+01 pCi/g	
5 FD4PJ-1-AA-B J2L020000-548-BLK	0.0500					0.4		10E		
11/14/2002 09:59		AmtRec:		#Containers: 1		Scr Rst:	Alpha:		Beta:	
6 FD4PJ-1-AC-C J2L020000-548-LCS	0.0500	ASD1834 PR.8/19/02 EX. 8/12/03				0.4		10F		
11/14/2002 09:59		AmtRec:		#Containers: 1		Scr Rst:	Alpha:		Beta:	

DH 12/13/02

25

12/2/2002 4:40:31 PM

Sample Preparation/Analysis

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

Report Due: 01/10/2003

Batch: 2336548 pCi/g

SEQ Batch, Test: None

Balance Id:

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments:

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All Clients for Batch:
   108302, FLUOR HANFORD IC                    Flour Hanford Inc          ,  BGi, 50639

FC8N41AG-SAMP Constituent List:
  ALPHA       RDL:1.00E+01    pCi/g     LCL:        UCL:        RPD:
FD4PJ1AA-BLK:
  ALPHA       RDL:1.00E+01    pCi/g     LCL:        UCL:        RPD:
FD4PJ1AC-LCS:
  Am-241      RDL:            pCi/g     LCL:70      UCL:130     RPD:35

FC8N41AG-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
FD4PJ1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
FD4PJ1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

12/18/2002 9:51:08 AM

ICOC Fraction Transfer/Status Report

ByDate: 11/18/2002, 12/19/2002, Batch: '2336548', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336548						
AC		CalcC	HARBINSOND	12/12/2002 4:24:07		
SC			WagarR	IsBatched	12/2/2002 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/2002 4:24:07 PM	RICH-RC-5020 REVISION 1
SC			HARBINSOND	InPrep	12/13/2002 2:40:35 PM	RICH-RC-5020 REVISION 1
SC			HARBINSOND	Prep1C	12/13/2002 4:56:17 PM	RICH-RC-5020 REVISION 1
SC			DAWKINSO	InCnt1	12/13/2002 5:42:34 PM	RICH-RD-0003 REVISION 3
SC			BlackCL	CalcC	12/15/2002 8:59:25 AM	RICH-RD-0003 REVISION 3
AC			HARBINSOND	12/13/2002 2:40:35		
AC			HARBINSOND	12/13/2002 4:56:17		
AC			DAWKINSO	12/13/2002 5:42:34		
AC			BlackCL	12/15/2002 8:59:25		

94

AC: Accepting Entry; SC: Status Change

12/2/2002 4:40:31 PM

Sample Preparation/Analysis

108302, FLUOR HANFORD IC , Flour
Hanford Inc

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

Balance Id: BA 1105 / Room 80
Pipet #: N/A
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: D. Harbinson

Report Due: 01/10/2003 W03900

Batch: 2336549 SOIL pCi/g PM, Quote: BG1, 50639

SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit (g)	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry (mg)	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AH J2K150312-1-SAMP	0.2006				1.5	200.6	50	28A	0811	12/14/02
11/12/2002 10:10		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.33E+01 pCi/g		Beta: 3.98E+01 pCi/g	
2 FC8N4-1-AN-X J2K150312-1-DUP	0.2002					200.2		28D		
11/12/2002 10:10		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.33E+01 pCi/g		Beta: 3.98E+01 pCi/g	
3 FDC1G-1-AJ J2K180187-1-SAMP	0.2004					200.4		28C		
11/14/2002 09:59		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g	
4 FDVJK-1-AJ J2K250209-1-SAMP	0.2001					200.1		28D		
11/21/2002 08:50		AmtRec: LP		#Containers: 1		Scr Rst:	Alpha: 3.34E+00 pCi/g		Beta: 1.95E+01 pCi/g	
5 FD4PL-1-AA-B J2L020000-549-BLK	0.2000					0.4		28A	0903	12/14/02
11/12/2002 10:10		AmtRec:		#Containers: 1		Scr Rst:	Alpha:		Beta:	
6 FD4PL-1-AC-C J2L020000-549-LCS	0.2000	BESD0298 PR.8/19/02 EX.6/6/03				0.3		28D		
11/12/2002 10:10		AmtRec:		#Containers: 1		Scr Rst:	Alpha:		Beta:	

DH 12/13/02

12/2/2002 4:40:31 PM

Sample Preparation/Analysis

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

Balance Id:

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336549 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments:

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All Clients for Batch:
   108302, FLUOR HANFORD IC                    Flour Hanford Inc          ,  BG1, 50639

FC8N41AH-SAMP Constituent List:
  BETA        RDL:1.50E+01    pCi/g     LCL:        UCL:        RPD:
FD4PL1AA-BLK:
  BETA        RDL:1.50E+01    pCi/g     LCL:        UCL:        RPD:
FD4PL1AC-LCS:
  Sr-90       RDL:            pCi/g     LCL:70      UCL:130     RPD:35

FC8N41AH-SAMP Calc Info:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
FD4PL1AA-BLK:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
FD4PL1AC-LCS:
     Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

96

12/18/2002 9:43:49 AM

ICOC Fraction Transfer/Status Report

ByDate: 11/18/2002, 12/19/2002, Batch: '2336549', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336549						
AC		CalcC	**HARBINSOND**	12/12/2002 4:24:19		
SC			WagarR	IsBatched	12/2/2002 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/2002 4:24:19 PM	RICH-RC-5020 REVISION 1
SC			HARBINSOND	Prep1C	12/13/2002 4:56:28 PM	RICH-RC-5020 REVISION 1
SC			DAWKINSO	InCnt1	12/13/2002 5:42:45 PM	RICH-RD-0003 REVISION 3
SC			BlackCL	CalcC	12/14/2002 12:28:14 PM	RICH-RD-0003 REVISION 3
AC			**HARBINSOND**	12/13/2002 4:56:28		
AC			**DAWKINSO**	12/13/2002 5:42:45		
AC			**BlackCL**	12/14/2002 12:28:14		

97

AC: Accepting Entry; SC: Status Change

12/20/02 10:41:21 AM

Sample Preparation/Analysis

Balance Id:1120373922 / 402

108302, FLUOR HANFORD IC , Flour
Hanford Inc

CH Sr-Total PrpRC5013, SepRC5006
TH Total Strontium by GPC

Pipet #: NA

Report Due: 01/10/2003

5i CLIENT: HANFORD

Sep1 DT/Tm Tech: 12/27/02 7:20 PM

Batch: 2336550 SOIL pCi/g PM, Quote: BG1, 50639

Sep2 DT/Tm Tech: NA

SEQ Batch, Test: None All Tests: 2336544 6ISO, 2336545 6ISX, 2336546 AXTA, 2336547 9RS1, 2336548 AYS7, 2336549 BBS8, 2336550 CHTH, 2336551 D3XW, 2336552 88OV, 2336553 7SSR, 2336554 7ZSS,

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry (mg)	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AA J2K150312-1-SAMP		6.0g,in	SRTA8531 12/06/02 09/19/02,r			75.2	50	31A	0879	12/29 JL
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst:	Alpha: 3.33E+01 pCi/g		Beta: 3.98E+01 pCi/g
2 FDC1G-1-AC J2K180187-1-SAMP		6.03g,in	SRTA8532 12/06/02 09/19/02,r			68.2		31B		
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g
3 FDC1G-1-AQ-X J2K180187-1-DUP		5.99g,in	SRTA8533 12/06/02 09/19/02,r			88.7		31C		
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst:	Alpha: 1.54E+01 pCi/g		Beta: 7.75E+01 pCi/g
4 FDVJK-1-AC J2K250209-1-SAMP		6.05g,in	SRTA8534 12/06/02 09/19/02,r			85.5		31D		
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst:	Alpha: 3.34E+00 pCi/g		Beta: 1.95E+01 pCi/g
5 FD4PP-1-AA-B J2L020000-550-BLK		6.0g,in	SRTA8535 12/06/02 09/19/02,r			92.3		32A		
11/14/2002 09:59		AmtRec:	#Containers: 1				Scr Rst:	Alpha:		Beta:
6 FD4PP-1-AC-C J2L020000-550-LCS		6.0g,in	STSB0658 10/03/02 09/19/02,r			89.2		32D		
11/14/2002 09:59		AmtRec:	#Containers: 1				Scr Rst:	Alpha:		Beta:

12/20/02 10:41:23 AM

Sample Preparation/Analysis

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

Balance Id:1120373922

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336550 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments:

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AA-SAMP Constituent List:
Sr-90 RDL:1 pCi/g LCL:70 UCL:130 RPD:35
FD4PP1AA-BLK:
Sr-90 RDL:1 pCi/g LCL: UCL: RPD:
FD4PP1AC-LCS:
Sr-90 RDL:1 pCi/g LCL:70 UCL:130 RPD:35

FC8N41AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4PP1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4PP1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

1/2/03 4:09:16 PM

ICOC Fraction Transfer/Status Report

ByDate: 12/3/02, 1/3/03, Batch: '2336550', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336550						
AC		CalcC	HARBINSOND	12/12/02 4:24:29 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:24:29 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:46:13 PM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	InPrep2	12/20/02 10:33:57 AM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	Prep2C	12/23/02 8:27:35 AM	RICH-RC-5013 REVISION 4
SC			FABREM	InSep1	12/26/02 12:34:12 PM	RICH-RC-5006 REVISION 4
SC			FABREM	Sep1C	12/28/02 11:27:07 AM	RICH-RC-5006 REVISION 4
SC			BlackCL	InCnt1	12/28/02 11:35:22 AM	RICH-RD-0003 REVISION 3
SC			BlackCL	CalcC	12/29/02 9:28:38 AM	RICH-RD-0003 REVISION 3
AC			BELSITOB	12/13/02 2:46:13 PM		
AC			WAGNERJ	12/20/02 10:33:57		
AC			WAGNERJ	12/23/02 8:27:35 AM		
AC			FABREM	12/26/02 12:34:12 PM		
AC			FABREM	12/28/02 11:27:07		
AC			BlackCL	12/28/02 11:35:22		
AC			BlackCL	12/29/02 9:28:38 AM		

100

AC: Accepting Entry; SC: Status Change

1/6/03 1:57:19 PM

Sample Preparation/Analysis

Balance Id:1120373922

108302, FLUOR HANFORD IC , Flour
Hanford Inc

7Z Unat_Laser PrpRC5013/RC5019, SepRC5015
SS Total Uranium by KPA

Pipet #: _____

Report Due: 01/10/2003 W03900

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 2336554 SOIL ug/g

PM, Quote: BG1, 50639

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date
1 FC8N4-1-AM J2K150312-1-SAMP		0.99g,in						
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
2 FC8N4-1-AQ-X J2K150312-1-DUP		1.01g,in						
11/12/2002 10:10		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.33E+01 pCi/g	Beta: 3.98E+01 pCi/g
3 FDC1G-1-AM J2K180187-1-SAMP		0.99g,in						
11/14/2002 09:59		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 1.54E+01 pCi/g	Beta: 7.75E+01 pCi/g
4 FDVJK-1-AM J2K250209-1-SAMP		1.0g,in						
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
5 FDVJK-1-AR-S J2K250209-1-MS		1.0g,in	UNSI0634 12/11/02 10/05/02 r					
11/21/2002 08:50		AmtRec: LP	#Containers: 1				Scr Rst: Alpha: 3.34E+00 pCi/g	Beta: 1.95E+01 pCi/g
6 FD4P3-1-AA-B J2L020000-554-BLK		1.0g,in						
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:
7 FD4P3-1-AC-C J2L020000-554-LCS		1.0g,in	UNSI0635 12/11/02 10/05/02 r					
11/12/2002 10:10		AmtRec:	#Containers: 1				Scr Rst: Alpha:	Beta:

STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
Richland Wa. r - Reference date, ec-Enrichment Cell, ct-Cocktailed Added

WO Cnt: 7
Prep_SamplePrep v4.6

1/6/03 1:57:21 PM

Sample Preparation/Analysis

7Z Unat_Laser PrpRC5013/RC5019, SepRC5015
SS Total Uranium by KPA
5I CLIENT: HANFORD

Balance Id:1120373922

Pipet #: _____

Report Due: 01/10/2003

Sep1 DT/Tm Tech:

Batch: 2336554 ug/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: WAGNERJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	QC Vial 2 Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date

Comments: Samples were muffled overnight. 01-06-03 gek

All Clients for Batch:
108302, FLUOR HANFORD IC Flour Hanford Inc , BG1, 50639

FC8N41AM-SAMP Constituent List:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35
FDVJK1AR-MS:

FD4P31AA-BLK:
Uranium RDL:1 ug/g LCL: UCL: RPD:
FD4P31AC-LCS:
Uranium RDL:1 ug/g LCL:70 UCL:130 RPD:35

FC8N41AM-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FDVJK1AR-MS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4P31AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
FD4P31AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

1/13/03 11:44:43 AM

ICOC Fraction Transfer/Status Report

ByDate: 12/14/02, 1/14/03, Batch: '2336554', User: *All Order by BatchNbr,WorkOrderNbr,DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
2336554						
AC		InCnt1	WAGNERJ	12/30/02 3:35:07 PM		
SC			WagarR	IsBatched	12/2/02 4:39:58 PM	ICOC_RADCALC v4.5.3.2
SC			HARBINSOND	InPrep	12/12/02 4:24:56 PM	RICH-RC-5013 REVISION 4
SC			BELSITOB	Prep1C	12/13/02 2:46:26 PM	RICH-RC-5013 REVISION 4
SC			WAGNERJ	InPrep2	12/30/02 3:35:07 PM	RICH-RC-5019 REVISION 2
SC			WAGNERJ	Prep2C	1/6/03 4:08:58 PM	RICH-RC-5015 REVISION 2
SC			IOVINC	InCnt1	1/7/03 6:14:49 AM	RICH-RC-5058 REV4
AC			WAGNERJ	1/6/03 4:08:58 PM		
AC			IOVINC	1/7/03 6:14:49 AM		

1 of 3

AC: Accepting Entry; SC: Status Change

SEVERN TRENT SERVICES

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

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

ANALYTICAL REPORT

JAN 2003
RECEIVED

PROJECT NO. 200 SOURCE CHAR

F03-003

Lot #: F2K180113
SDG #: W03900

Steve Trent

Flour Hanford Inc
825 Jadwin
Richland, WA 99352

SEVERN TRENT LABORATORIES, INC.

MWard

MARTI WARD
Project Manager

December 30, 2002

SEVERN TRENT SERVICES

STL St. Louis

CASE NARRATIVE

Fluor Hanford Incorporated
825 Jadwin
Richland, Washington 99352
December 30, 2002

Attention: Steve Trent

JAN 2003 RECEIVED

Project Number	:	50409
SAF	:	F03-003
SDG	:	W03900
Number of Samples	:	three
Sample Matrix	:	Soil
Data Deliverable	:	Summary
Date SDG Closed	:	November 28, 2002

II. Introduction

Between November 15 and November 26, 2002, three (3) "soil" samples were received by STL--St. Louis for chemical analysis. The samples were received at the St. Louis lab within temperature criteria. Samples received at 1° C were not frozen. Review the COC and CUR forms for variations in sample condition or temperature upon arrival at the lab. See the attached Sample Summary form for the Lab ID's and corresponding Client Ids.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. This report is incomplete without the Case Narrative. Results are reported "as received"; i.e. wet weight, unless otherwise noted on the data sheets.

Analyses requested: see attached Method Summary Sheet

Deviation from Request: The latest revisions of the SW846 methods were used.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
MS- Matrix Spike.
DUP- Matrix Duplicate
MSD- Matrix Spike Duplicate.

SEVERN TRENT SERVICES

STL St. Louis

Bechtel Hanford Incorporated
December 30, 2002
Project Number: 50409
SDG: W03900
Page 2

V. Comments

General:

The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

Volatiles:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

Sample B15XM4 was run with a five fold dilution due to matrix interferences. The initial, undiluted run had no recovery of the internal standards. The recovery for Bromoform was outside limits in the MS/MSD. LCS recoveries for this compound met criteria. Method blank F2K270000-166 had levels of Methylene Chloride that were above the 5 ug/l reporting limit (found at 5.2 ug/l). This is a recognized laboratory contaminant and concentrations up to five times the level observed in the blank, in associated samples, may be attributed to its presence in the laboratory.

Semi-Volatiles:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The LCS and MS/MSD had several non-target compounds outside QC limits. Lab practices allow for up to ten percent of the compounds to be out without necessitating re-extraction.

PCBs:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The MS recovery for Aroclor 1260 is slightly above control limits. The MSD and LCS met criteria.

TPH:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with the TPH data.

SEVERN TRENT SERVICES

STL St. Louis

Bechtel Hanford Incorporated
December 30, 2002
Project Number: 50409
SDG: W03900
Page 3

Alcohols: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The samples were prepped outside holding time.

Metals: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with the metals data.

Wet Chemistry: A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

The MS had poor recovery for Cyanide and Nitrate/Nitrite (353.1). Matrix interference is evident in the sample. LCS recoveries were in control.

I certify that this Summary 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:

Marti Ward

Marti Ward
St. Louis Project Manager

SAMPLE SUMMARY

W03900 : F2K180113

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
FDA2H	001	B15XM4	11/12/02	10:10

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.

(Continued on next page)

SAMPLE SUMMARY

W03900 : F2K190261

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
FDE4H	001	B15YL4	11/14/02	09:59

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.

(Continued on next page)

SAMPLE SUMMARY

W03900 : F2K260215

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
FDW9C	001	B15YF9	11/21/02	08:50

NOTE(S):

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

(Continued on next page)

METHODS SUMMARY

F2K180113

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH Non-Aqueous	SW846 9045A	
Chloride	MCAWW 300.0A	MCAWW 300.0A
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Hexavalent Chromium	SW846 7196A	SW846 7196A/DI
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrate-Nitrite	MCAWW 353.1	
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Nonhalogenated Organics Using GC/FID	SW846 8015B	
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Phosphate as P, Ortho	MCAWW 300.0A	MCAWW 300.0A
PCBs by SW-846 8082	SW846 8082	SW846 3550
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
Sulfate	MCAWW 300.0A	MCAWW 300.0A
Sulfide	SW846 9030	
Total Cyanide	SW846 9010A	SW846 9010A
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Volatile Organics by GC/MS	SW846 8260B	SW846 5030

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.

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/18/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:33:13
STL St. Louis User Id.: WARDM

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K180113-001
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDA2H
REPORT TO: Steve Trent RECEIVING DATE: 11/14/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/12/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/19/02N
AMOUNT REC"D: 3X150;1X850;1X500;1X1000 REPORT DUE DATE: 12/24/02
STORAGE LOC: R129 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 10:10
MATRIX: SOLID RECEIVING TIME: 10:00
USAF MATRIX:
SAMPLE ID: B15XM4
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	11/18/02	0/00/00	5/11/03
METALS, TOTAL - Soils				
MT6010_S AG,AS,BA,BE,CD,CR,CU,NI,PB,SE,VX,ZN				
(A-46-QM-01) FDA2H Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	11/18/02	0/00/00	12/10/02
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) FDA2H Protocol: A QC Program: STANDARD TEST SET				
Nitrate-Nitrite (353.1)	06	11/18/02	12/10/02	12/10/02
LEACHATE, DI (Routine)				
(A-82-HN-01) FDA2H-1-AC Protocol: A QC Program: STANDARD TEST SET				
Chloride (300.0, Ion Chromatography)	06	11/18/02	2/19/03	3/19/03
LEACHATE, DI (Routine)				
(A-82-CX-01) FDA2H-1-AR Protocol: A QC Program: STANDARD TEST SET				
Fluoride (300.0, Ion Chromatography)	06	11/18/02	2/19/03	3/19/03
LEACHATE, DI (Routine)				
(A-82-C8-01) FDA2H-1-AT Protocol: A QC Program: STANDARD TEST SET				
Nitrate as N (300.0, Ion Chromatography)	06	11/18/02	2/19/03	2/21/03
LEACHATE, DI (Routine)				
(A-82-C9-01) FDA2H-1-AU Protocol: A QC Program: STANDARD TEST SET				
Nitrite as N (300.0, Ion Chromatography)	06	11/18/02	2/19/03	2/21/03
LEACHATE, DI (Routine)				
(A-82-GO-01) FDA2H-1-AV Protocol: A QC Program: STANDARD TEST SET				
Phosphate as P, Ortho (300.0, Ion Chroma	06	11/18/02	2/19/03	2/21/03
LEACHATE, DI (Routine)				
(A-82-DO-01) FDA2H-1-AW Protocol: A QC Program: STANDARD TEST SET				

Sulfate (300.0, Ion Chromatography) 06 11/18/02 2/19/03 3/19/03
LEACHATE, DI (Routine)
(A-82-CY-01) FDA2H-1-AX Protocol: A QC Program: STANDARD TEST SET

Nitrogen, Ammonia (350.1, Automated) 06 11/18/02 0/00/00 12/10/02
LEACHATE, DI (Routine)
(A-82-VM-01) FDA2H-1-A0 Protocol: A QC Program: STANDARD TEST SET

Chromium, Hexavalent (7196A) 06 11/18/02 2/19/03 2/23/03
LEACHATE, DI (Routine)
(A-82-EA-01) FDA2H-1-A1 Protocol: A QC Program: STANDARD TEST SET

Cyanide, Total (9010) 06 11/18/02 0/00/00 11/26/02
DISTILLATION, MICRO/MIDI - Acid
(A-06-RV-01) FDA2H-1-A2 Protocol: A QC Program: STANDARD TEST SET

Sulfide (9030) 06 11/18/02 12/10/02 12/11/02
LEACHATE, DI (Routine)
(A-82-P3-01) FDA2H-1-A3 Protocol: A QC Program: STANDARD TEST SET

pH (9045) - Non-Aqueous 06 11/18/02 0/00/00 11/14/02
LEACHATE, DI (Routine)
(A-82-FK-01) FDA2H-1-A4 Protocol: A QC Program: STANDARD TEST SET

Base/Neutrals and Acids (8270C) 06 11/18/02 11/26/02 1/05/03
SONICATION - Low Level
(A-13-QL-01) FDA2H-1-A5 Protocol: A QC Program: STANDARD TEST SET

Hydrocarbons, Extractable Petroleum (801 06 11/18/02 11/26/02 1/05/03
SONICATION - Low Level
(A-13-HS-01) FDA2H-1-A6 Protocol: A QC Program: STANDARD TEST SET

Volatile Organics, GC/MS (8260B) 06 11/18/02 0/00/00 11/26/02
PURGE AND TRAP - 5 mL purge
STL: SW-846 8260B
(A-15-QK-01) FDA2H-1-A7 Protocol: A QC Program: STANDARD TEST SET

Volatile Organics (8015B) 06 11/18/02 0/00/00 11/26/02
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
(A-88-QT-01) FDA2H-1-A8 Protocol: A QC Program: STANDARD TEST SET

PCBs (8082) 06 11/18/02 11/26/02 1/05/03
SONICATION w/ACID STRIP (PCB)
STL: HANFORD PCB GC:LIST-1(7)
(A-71-QH-01) FDA2H-1-A9 Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 06 11/18/02 0/00/00 2/19/03
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
(A-88-WM-01) FDA2H-1-CA Protocol: A QC Program: STANDARD TEST SET

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/18/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:33:13
STL St. Louis User Id.: WARDM

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K180113-001-D
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDA2H MSD
REPORT TO: Steve Trent RECEIVING DATE: 11/14/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/12/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/19/02N
AMOUNT REC"D: 3X150;1X850;1X500;1X1000 REPORT DUE DATE: 12/24/02
STORAGE LOC: R129 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 10:10
MATRIX: SOLID RECEIVING TIME: 10:00
USAF MATRIX:
SAMPLE ID: B15XM4
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Base/Neutrals and Acids (8270C)	06	11/18/02	11/26/02	1/05/03
SONICATION - Low Level				
(A-13-QL-01) FDA2H-1-CJ Protocol: A QC Program: STANDARD TEST SET				
Hydrocarbons, Extractable Petroleum (801	06	11/18/02	11/26/02	1/05/03
SONICATION - Low Level				
(A-13-HS-01) FDA2H-1-CL Protocol: A QC Program: STANDARD TEST SET				
Volatile Organics, GC/MS (8260B)	06	11/18/02	0/00/00	11/26/02
PURGE AND TRAP - 5 mL purge				
STL: SW-846 8260B				
(A-15-QK-01) FDA2H-1-CN Protocol: A QC Program: STANDARD TEST SET				
Volatile Organics (8015B)	06	11/18/02	0/00/00	11/26/02
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION				
(A-88-QT-01) FDA2H-1-CQ Protocol: A QC Program: STANDARD TEST SET				
PCBs (8082)	06	11/18/02	11/26/02	1/05/03
SONICATION w/ACID STRIP (PCB)				
STL: HANFORD PCB GC:LIST-1(7)				
(A-71-QH-01) FDA2H-1-CT Protocol: A QC Program: STANDARD TEST SET				
Inductively Coupled Plasma (6010B Trace)	06	11/18/02	0/00/00	5/11/03
METALS, TOTAL - Soils				
MT6010_S AG,AS,BA,BE,CD,CR,CU,NI,PB,SE,VX,ZN				
(A-46-QM-01) FDA2H Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	11/18/02	0/00/00	12/10/02
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-09-01) FDA2H Protocol: A QC Program: STANDARD TEST SET				

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/18/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:33:13
STL St. Louis User Id.: WARDM

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K180113-001-S
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDA2H MS
REPORT TO: Steve Trent RECEIVING DATE: 11/14/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/12/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/19/02N
AMOUNT REC"D: 3X150;1X850;1X500;1X1000 REPORT DUE DATE: 12/24/02
STORAGE LOC: R129 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 10:10
MATRIX: SOLID RECEIVING TIME: 10:00
USAF MATRIX:
SAMPLE ID: B15XM4
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Nitrogen, Ammonia (350.1, Automated) LEACHATE, DI (Routine) (A-82-VM-01) FDA2H-1-CC Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	12/10/02
Chromium, Hexavalent (7196A) LEACHATE, DI (Routine) (A-82-EA-01) FDA2H-1-CD Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	2/23/03
Cyanide, Total (9010) DISTILLATION, MICRO/MIDI - Acid (A-06-RV-01) FDA2H-1-CE Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	11/26/02
Sulfide (9030) LEACHATE, DI (Routine) (A-82-P3-01) FDA2H-1-CF Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	12/10/02	12/11/02
Base/Neutrals and Acids (8270C) SONICATION - Low Level (A-13-QL-01) FDA2H-1-CH Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	11/26/02	1/05/03
Hydrocarbons, Extractable Petroleum (801 SONICATION - Low Level (A-13-HS-01) FDA2H-1-CK Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	11/26/02	1/05/03
Volatile Organics, GC/MS (8260B) PURGE AND TRAP - 5 mL purge STL: SW-846 8260B (A-15-QK-01) FDA2H-1-CM Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	11/26/02
Volatile Organics (8015B) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (A-88-QT-01) FDA2H-1-CP Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	11/26/02

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/18/02
Page 2 CLIENT ANALYSIS SUMMARY Time: 8:33:13
STL St. Louis User Id.: WARDM

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K180113-001-S
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDA2H MS
REPORT TO: Steve Trent RECEIVING DATE: 11/14/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/12/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/19/02N
AMOUNT REC"D: 3X150;1X850;1X500;1X1000 REPORT DUE DATE: 12/24/02
STORAGE LOC: R129 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 10:10
MATRIX: SOLID RECEIVING TIME: 10:00
USAF MATRIX:
SAMPLE ID: B15XM4
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
PCBs (8082) SONICATION w/ACID STRIP (PCB) STL: HANFORD PCB GC:LIST-1(7) (A-71-QH-01) FDA2H-1-CR Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	11/26/02	1/05/03
Inductively Coupled Plasma (6010B Trace) METALS, TOTAL - Soils MT6010_S AG,AS,BA,BE,CD,CR,CU,NI,PB,SE,VX,ZN (A-46-QM-01) FDA2H Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	5/11/03
Mercury (7471A, Cold Vapor) - Solids METALS, TOTAL (Method Exclusive) - Solids M7471_S HG (A-70-09-01) FDA2H Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	12/10/02
Nitrate-Nitrite (353.1) LEACHATE, DI (Routine) (A-82-HN-01) FDA2H-1-CW Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	12/10/02	12/10/02
Chloride (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-CX-01) FDA2H-1-DQ Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	3/19/03
Fluoride (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-C8-01) FDA2H-1-DR Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	3/19/03
Nitrate as N (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-C9-01) FDA2H-1-DT Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	2/21/03
Nitrite as N (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-GO-01) FDA2H-1-DU Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	2/21/03

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/18/02
Page 3 CLIENT ANALYSIS SUMMARY Time: 8:33:13
STL St. Louis User Id.: WARDM

CLIENT: 108302 FLUOR HANFORD IC
PROJECT MANAGER: MARTI WARD
PROJECT #: 200 SOURCE CHAR
REPORT TO: Steve Trent
P.O. NUMBER: MRC-SBB-A-19981
SITE: F03-003
AMOUNT REC"D: 3X150;1X850;1X500;1X1000
STORAGE LOC: R129
LOT COMMENTS: Anions/Metals: CRDL standard required
MATRIX: SOLID
USAF MATRIX:
SAMPLE ID: B15XM4
QC PACKAGE: Report
SAMPLE COMMENTS:

QUOTE/SAR #: 50409
LAB ID: F-2K180113-001-S
WORK ORDER: FDA2H MS
RECEIVING DATE: 11/14/02
SAMPLING DATE: 11/12/02
ANALYTICAL DUE DATE: 12/19/02N
REPORT DUE DATE: 12/24/02
PRIORITY: 35
+ SAMPLING TIME: 10:10
RECEIVING TIME: 10:00

SDG# : W03900

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Phosphate as P, Ortho (300.0, Ion Chroma	06	11/18/02	2/19/03	2/21/03
LEACHATE, DI (Routine)				
(A-82-DO-01) FDA2H-1-DV Protocol: A QC Program: STANDARD TEST SET				
Sulfate (300.0, Ion Chromatography)	06	11/18/02	2/19/03	3/19/03
LEACHATE, DI (Routine)				
(A-82-CY-01) FDA2H-1-DW Protocol: A QC Program: STANDARD TEST SET				

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/18/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 8:33:13
STL St. Louis User Id.: WARDM

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K180113-001-X
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDA2H SMPDUP
REPORT TO: Steve Trent RECEIVING DATE: 11/14/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/12/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/19/02N
AMOUNT REC"D: 3X150;1X850;1X500;1X1000 REPORT DUE DATE: 12/24/02
STORAGE LOC: R129 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 10:10
MATRIX: SOLID RECEIVING TIME: 10:00
USAF MATRIX:
SAMPLE ID: B15XM4 DUP
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
pH (9045) - Non-Aqueous LEACHATE, DI (Routine) (A-82-FK-01) FDA2H-1-CG Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	11/14/02
Nitrogen, Ammonia (350.1, Automated) LEACHATE, DI (Routine) (A-82-VM-01) FDA2H-1-DX Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	12/10/02
Chromium, Hexavalent (7196A) LEACHATE, DI (Routine) (A-82-EA-01) FDA2H-1-D0 Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	2/23/03
Cyanide, Total (9010) DISTILLATION, MICRO/MIDI - Acid (A-06-RV-01) FDA2H-1-D1 Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	0/00/00	11/26/02
Sulfide (9030) LEACHATE, DI (Routine) (A-82-P3-01) FDA2H-1-D2 Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	12/10/02	12/11/02
Nitrate-Nitrite (353.1) LEACHATE, DI (Routine) (A-82-HN-01) FDA2H-1-D3 Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	12/10/02	12/10/02
Chloride (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-CX-01) FDA2H-1-D4 Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	3/19/03
Fluoride (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-C8-01) FDA2H-1-D5 Protocol: A QC Program: STANDARD TEST SET	06	11/18/02	2/19/03	3/19/03
Nitrate as N (300.0, Ion Chromatography) LEACHATE, DI (Routine)	06	11/18/02	2/19/03	2/21/03

(A-82-C9-01) FDA2H-1-D6 Protocol: A QC Program: STANDARD TEST SET

Nitrite as N (300.0, Ion Chromatography) 06 11/18/02 2/19/03 2/21/03
LEACHATE, DI (Routine)
(A-82-GO-01) FDA2H-1-D7 Protocol: A QC Program: STANDARD TEST SET

Phosphate as P, Ortho (300.0, Ion Chroma 06 11/18/02 2/19/03 2/21/03
LEACHATE, DI (Routine)
(A-82-DO-01) FDA2H-1-D8 Protocol: A QC Program: STANDARD TEST SET

Sulfate (300.0, Ion Chromatography) 06 11/18/02 2/19/03 3/19/03
LEACHATE, DI (Routine)
(A-82-CY-01) FDA2H-1-D9 Protocol: A QC Program: STANDARD TEST SET

SDG# W03900

STL ST. LOUIS

FLUOR Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-003-027	Page 1 of 1

Collector: RJ Nielson	Company Contact: Steve Trent; Telephone No.: 373-5869	Project Coordinator: TRENT, SJ	Price Code: 8N; Data Turnaround: 45 Days
Project Designation: 200 Area Source Characterization 200-CS-1 OU - Soil Sampli	Sampling Location: BT-1	SAF No.: F03-003	Air Quality ☐
Ice Chest No.: ERC-99-052	Field Logbook No.: HNF-N-3251; COA: 117514ES10	Method of Shipment: Federal Express	
Shipped To: Severn Trent Incorporated, ~~Richland~~ ST. LOUIS	Offsite Property No.: A030 060	Bill of Lading/Air Bill No.: SEE 03PC	

POSSIBLE SAMPLE HAZARDS/REMARKS

RADIOACTIVE

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	None RJN 11/12/02	None	None
Type of Container	G	aG	G	aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	G/P	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	150g	850g	150g	150g	500g	1000g	50g	1000g	500g	20g
SAMPLE ANALYSIS (W03900)	VOA - 8260A (TCL) ✓	See item (1) in Special Instructions. ✓	Alcohols, Glycols, & Ketones - 8015M (Add-on) {1-Propanol, Ethanol} ✓	PCBs - 8082 ✓	See item (2) in Special Instructions. ✓	See item (3) in Special Instructions.	pH (Soil) - 9045 ✓	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL)	Item (1)	Alcohols, Glycols, & Ketones - 8015M	PCBs - 8082	Item (2)	Item (3)	pH (Soil) - 9045	Item (4)	Nickel-63; Technetium-99; Tritium - H3	Activity Scan
B15XM4	SOIL	11-12-02	1010	X	X	X	X	X	X	X	X		X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R.Nielson / R.Nielson	11-12-02 1430	Ref #1B / 3728	11-12-02 1430
REF 1B	11 14 02 1000	SSGALE	11 14 02 1000
SSGALE	11 14 02 1000	FED EX	
FED Ex			

SPECIAL INSTRUCTIONS

** Please check the SAF for specific sampling instructions.

(1) Semi-VOA -- 8270A (Add-On) {Tributyl phosphate}; TPH-Diesel Range - WTPH-D
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196
(3) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; NO2/NO3 - 353.1; Ammonia - 350.1; Total Cyanide - 9010; Sulfides - 9030
(4) Gross Alpha; Gross Beta; Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241, Radium-228}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; Neptunium-237; Total Uranium

Personnel not available to relinquish samples from the 3728 Ref # 1B on 11/14/02

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: [signature]	Title	11-15-02 0900 Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

17

STL ST.LOUIS

SEVERN TRENT SERVICES

Lot No.: F2K180113
WO3900

Condition Upon Receipt Form
St. Louis Laboratory

Client: RICHLAND - Fluor Hanford
Date: 11-15-02 Time: 0900
Quote No: 50409
Initiated by: CHRIS CLIFFORD
Shipper/No: FEDEX 7901 4017 7800
COC/RFA Numbers: F03-003-027

Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation):

1.	Y N	Sample received in undamaged condition.	5.	Y N	Sample volume sufficient for analysis.
2.	Y N	Sample received within 4°C ± 2°C*	6.	Y N	Sample received with Chain of Custody.
		Record temperature: 1 *	7.	Y N	Chain of Custody matches sample IDs on containers.
3.	Y N N/A	Sample received with proper pH**.	8.	Y N	Custody seal received intact and tamper evident on cooler.
4.	Y N	Sample received in proper containers.	9.	Y N	Custody seal received intact and tamper evident on bottles.

*** Temperature Variance Does Not Affect the Following Analyses:** _____

**** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.**

Notes: * samples not frozen

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor (or designate) Review: [signature] Date: 11-15-02

Project Management Review: MWard Date: 11.15.02

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

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/26/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 16:55:22
STL St. Louis User Id.: AKERSK

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K260215-001
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDW9C
REPORT TO: Steve Trent RECEIVING DATE: 11/26/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/21/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/31/02N
AMOUNT REC"D: 3X120G,2X500G,60G,LG,20ML REPORT DUE DATE: 1/06/03
STORAGE LOC: VK2,R164 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 8:50
MATRIX: SOLID RECEIVING TIME: 9:00
USAF MATRIX:
SAMPLE ID: B15YF9
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Nitrate-Nitrite (353.1) LEACHATE, DI (Routine) (A-82-HN-01) FDW9C-1-AA Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	12/19/02	12/19/02
Inductively Coupled Plasma (6010B Trace) METALS, TOTAL - Soils MT6010_S AG,AS,BA,BE,CD,CR,CU,NI,PB,SE,VX,ZN (A-46-QM-01) FDW9C Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	0/00/00	5/20/03
Mercury (7471A, Cold Vapor) - Solids METALS, TOTAL (Method Exclusive) - Solids M7471_S HG (A-70-09-01) FDW9C Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	0/00/00	12/19/02
Chloride (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-CX-01) FDW9C-1-AQ Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	2/28/03	3/28/03
Fluoride (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-C8-01) FDW9C-1-AR Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	2/28/03	3/28/03
Nitrate as N (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-C9-01) FDW9C-1-AT Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	2/28/03	3/02/03
Nitrite as N (300.0, Ion Chromatography) LEACHATE, DI (Routine) (A-82-GO-01) FDW9C-1-AU Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	2/28/03	3/02/03
Phosphate as P, Ortho (300.0, Ion Chroma LEACHATE, DI (Routine) (A-82-DO-01) FDW9C-1-AV Protocol: A QC Program: STANDARD TEST SET	06	11/26/02	2/28/03	3/02/03

Sulfate (300.0, Ion Chromatography) 06 11/26/02 2/28/03 3/28/03
LEACHATE, DI (Routine)
(A-82-CY-01) FDW9C-1-AW Protocol: A QC Program: STANDARD TEST SET

Nitrogen, Ammonia (350.1, Automated) 06 11/26/02 0/00/00 12/19/02
LEACHATE, DI (Routine)
(A-82-VM-01) FDW9C-1-AX Protocol: A QC Program: STANDARD TEST SET

Cyanide, Total (9010) 06 11/26/02 0/00/00 12/05/02
DISTILLATION, MICRO/MIDI - Acid
(A-06-RV-01) FDW9C-1-A0 Protocol: A QC Program: STANDARD TEST SET

Sulfide (9030) 06 11/26/02 12/19/02 12/20/02
LEACHATE, DI (Routine)
(A-82-P3-01) FDW9C-1-A1 Protocol: A QC Program: STANDARD TEST SET

Base/Neutrals and Acids (8270C) 06 11/26/02 12/05/02 1/14/03
SONICATION - Low Level
(A-13-QL-01) FDW9C-1-A2 Protocol: A QC Program: STANDARD TEST SET

Volatile Organics, GC/MS (8260B) 06 11/26/02 0/00/00 12/05/02
PURGE AND TRAP - 5 mL purge
STL: SW-846 8260B
(A-15-QK-01) FDW9C-1-A3 Protocol: A QC Program: STANDARD TEST SET

Volatile Organics (8015B) 06 11/26/02 0/00/00 12/05/02
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
(A-88-QT-01) FDW9C-1-A4 Protocol: A QC Program: STANDARD TEST SET

PCBs (8082) 06 11/26/02 12/05/02 1/14/03
SONICATION w/ACID STRIP (PCB)
STL: HANFORD PCB GC:LIST-1(7)
(A-71-QH-01) FDW9C-1-A5 Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 06 11/26/02 0/00/00 2/28/03
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
(A-88-WM-01) FDW9C-1-A6 Protocol: A QC Program: STANDARD TEST SET

RAD SCREEN 06 11/26/02 0/00/00 11/21/02
IN-HOUSE RAD SCREEN
(A-RA-ZV-01) FDW9C-1-A7 Protocol: R QC Program: STANDARD TEST SET

Hydrocarbons, Extractable Petroleum (801 06 11/26/02 12/05/02 1/14/03
SONICATION - Low Level
(A-13-HS-01) FDW9C-1-A8 Protocol: A QC Program: STANDARD TEST SET

Chromium, Hexavalent (7196A) 06 11/26/02 2/28/03 3/04/03
LEACHATE, DI (Routine)
(A-82-EA-01) FDW9C-1-CA Protocol: A QC Program: STANDARD TEST SET

pH (9045) - Non-Aqueous 06 11/26/02 0/00/00 11/23/02
LEACHATE, DI (Routine)
(A-82-FK-01) FDW9C-1-CC Protocol: A QC Program: STANDARD TEST SET

SDG# WO3900

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-003-054	Page 1 of 1
Collector R. Nielson	Company Contact Steve Trent; Telephone No. 373-5869	Project Coordinator TRENT, SJ	Price Code 8N; Data Turnaround 45 Days
Project Designation 200 Area Source Characterization 200-CS-1 OU - Soil Sampli	Sampling Location SD-1	SAF No. F03-003	Air Quality ☐
Ice Chest No. ERC 96-042	Field Logbook No. HNF-N-3251; COA 117514ES10	Method of Shipment Federal Express	
Shipped To Severn Trent Incorporated, ~~Richland~~ ST LOUIS 11/25/02	Offsite Property No. A030086	Bill of Lading/Air Bill No. SEE OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	None	None	None
Type of Container	G	aG	G	aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	~~150g~~ 120ml	~~850g~~ 500ml	~~150g~~ 120ml	~~150g~~ 120ml	~~500g~~ 500ml	~~1000g~~ 1000ml	~~50g~~ 60ml	~~1000g~~ 1000ml	~~500g~~	~~20g~~ 20ml

SAMPLE ANALYSIS

	VOA - 8260A (TCL)	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015M (Add-on) {1-Propanol, Ethanol}	PCBs - 8082	See item (2) in Special Instructions.	See item (3) in Special Instructions.	pH (Soil) - 9045	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan
	120G	500G	120G	120G	500G	1G	60G			

Sample No.	Matrix *	Sample Date	Sample Time										
B15YF9	SOIL	11/21/02	0850	X	X	X	X	X	X	X	X		X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Nielson / R Nielson	11-21-02 1515	Ref # 1B 3728	11-21-02 1515
Ref 1B	112502 1000	S. Joyce	112502 1000
S. Joyce	112502 1000	FED EX	
FED EX			

SPECIAL INSTRUCTIONS

** Please check the SAF for specific sampling instructions.

(1) Semi-VOA -- 8270A (Add-On) {Tributyl phosphate}; TPH-Diesel Range - WTPH-D
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196
(3) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; NO2/NO3 - 353.1; Ammonia - 350.1; Total Cyanide - 9010; Sulfides - 9030
(4) Gross Alpha; Gross Beta; Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241, Radium-228}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; Neptunium-237; Total Uranium

Personnel not available to relinquish samples from the 3728 Ref # 1B on 11/25/02

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: JM Klyczuk	Title: QA Scientist	Date/Time: 11-26-02 / 0900
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

2

VMS Gamma Spectroscopy Report generated 25-NOV-2002 08:19:36

Configuration	: DKA100:[GAMMA.SCUSR.ARCHIVE]SMP_RCF10675_DET1_50GRAMPILLBOX60		
Sample ID	: B15YR2	Project Number	: 200-SP-4
RFC Number	: RCF10675	SAF Number	: F03-005
Sample Quantity	: 2.40000E-01 GRAMS		
Sample Type	: Soil	Sample Geometry	:
Sample Date	: 20-NOV-2002 09:11:00	Acquisition date	: 25-NOV-2002 07:19:20
Decay time	: 4 22:08:20.76	% dead time	: 0.0%
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.11
Energy cal. time	: 14-FEB-2002 16:05:03	Effic. cal. time	: 4-APR-2002 08:08:29.
Detector name	: BEGE 3820	Counting geometry	: 50Gram pill box
Peak Sensitivity	: 3.00000		
Efficiency Type	: EMPIRICA	Energy tolerance	: 2.00000

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.435E+01	6.209E+00	5.672E+00	5.629E-01	2.530
PB-212	1.107E+00	2.959E-01	4.491E-01	5.160E-02	2.466
PB-214	3.172E-01	4.894E-01	6.879E-01	6.991E-02	0.461
AC-228	4.455E-01	9.707E-01	0.000E+00	0.000E+00	0.000

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	4.566E-03		2.459E-01	5.484E-01	5.313E-02	0.008
CS-137	-1.727E-02		2.168E-01	4.264E-01	4.866E-02	-0.041
EU-152	5.585E-02		1.830E-01	3.523E-01	5.612E-02	0.159
EU-154	-3.965E-02		1.242E-01	2.198E-01	3.194E-02	-0.180
EU-155	2.220E-01	+	1.737E-01	2.864E-01	3.349E-02	0.775
TL-208	4.637E-01		1.942E+00	4.126E+00	4.542E-01	0.112
BI-212	1.942E-00		3.119E+00	6.933E-00	8.572E-01	0.280
BI-214	1.372E-01	+	5.400E-01	1.165E-00	1.338E-01	0.118
RA-226	3.376E+00		2.851E+00	5.852E-00	5.223E-01	0.577
TH-234	1.694E-01		1.060E+00	1.946E-00	8.198E-01	0.087
U-235	2.032E-01		1.663E-01	3.406E-01	3.305E-02	0.597
AM-241	-3.753E-00		1.118E-01	2.054E-01	2.863E-02	-0.018

Approved by: _____ Approval Date: 11 / 25 / 02

TIMOTHY J. SNIDER

ERC Radiological Counting Facility
Sample Activity Report - Gross Alpha/Beta

RCF10675

Sample Run ID: LB55 15min Unk 4-in Pu-Sr - 200211211511 **Project/Cust. ID:** 200-SD-1 B15YR2

Machine LB5500 **Report Date:** Monday, November 25, 2002 **SAF #** F03-005

Sample ID	Carrier	Sample Type	Sample Volume/Mass	Acquistion Date/Time
20021121152556	2	60mL PILLBOX	2228 mg	11/21/02 3:42:08 PM

Net Alpha cpm	Alpha dpm	Alpha dpm 2 sigma	Alpha Bkgd cpm	Net Beta cpm	Beta dpm	Beta dpm 2 sigma	Beta Bkgd cpm
2.153	6.585	2.748	0.581	39.647	75.825	6.775	4.486

MDA (dpm)

Alpha	Beta
2.873	42.474

Beta Efficiency: 52.29%

Alpha Efficiency: 32.69%

$\alpha = 1$ pCi/g
$\beta = 15$ pCi/g

Samples Analyzed By: [signature] **Date:** 11/25/02

Samples Reviewed By: TIMOTHY J. SNIDER [signature] **Date:** 11/25/02

SEVERN TRENT SERVICES

Lot No.: F2K260215
W03900

Condition Upon Receipt Form
St. Louis Laboratory

Client: ST Richland (Bechtel)
Quote No: 50409
Shipper/No: FedEx 7906 3995 3090

Date: 11-26-02 Time: 0945
Initiated by: J. Kleszczewski
COC/RFA Numbers: F03-003-054

Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation):

1.	Y N	Sample received in undamaged condition.	5.	Y N	Sample volume sufficient for analysis.
2.	Y N	Sample received within 4°C ± 2°C*	6.	Y N	Sample received with Chain of Custody.
		Record temperature: 2°C	7.	Y N	Chain of Custody matches sample IDs on containers.
3.	Y N N/A	Sample received with proper pH**.	8.	Y N	Custody seal received intact and tamper evident on cooler.
4.	Y N	Sample received in proper containers.	9.	Y N	Custody seal received intact and tamper evident on bottles.

*** Temperature Variance Does Not Affect the Following Analyses:** _____

**** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.**

Notes:

Corrective Action:

- ☐ Client's Name: _____ Informed verbally on: _____ By: _____
- ☐ Client's Name: _____ Informed in writing on: _____ By: _____
- ☐ Sample(s) processed "as is". _____
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor (or designate) Review: [signature] Date: 11-26-02

Project Management Review: [signature] Date: 11.26.02

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

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 11/19/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 15:00:17
STL St. Louis User Id.: WILSONS

CLIENT: 108302 FLUOR HANFORD IC QUOTE/SAR #: 50409
PROJECT MANAGER: MARTI WARD LAB ID: F-2K190261-001
PROJECT #: 200 SOURCE CHAR WORK ORDER: FDE4H
REPORT TO: Steve Trent RECEIVING DATE: 11/19/02
P.O. NUMBER: MRC-SBB-A-19981 SAMPLING DATE: 11/14/02
SITE: F03-003 ANALYTICAL DUE DATE: 12/24/02N
AMOUNT REC"D: 20ML,2X120G,2X500G,LG,60G REPORT DUE DATE: 12/30/02
STORAGE LOC: VK2,R137 PRIORITY: 35
LOT COMMENTS: Anions/Metals: CRDL standard required + SAMPLING TIME: 9:59
MATRIX: SOLID RECEIVING TIME: 9:00
USAF MATRIX:
SAMPLE ID: B15YL4
QC PACKAGE: Report SDG# : W03900
SAMPLE COMMENTS:

Beginning Depth: .00 **Ending Depth:** .00

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Inductively Coupled Plasma (6010B Trace)	06	11/19/02	0/00/00	5/13/03
METALS, TOTAL - Soils				
MT6010_S AG,AS,BA,BE,CD,CR,CU,NI,PB,SE,VX,ZN				
(A-46-QM-01) FDE4H Protocol: A QC Program: STANDARD TEST SET				
Mercury (7471A, Cold Vapor) - Solids	06	11/19/02	0/00/00	12/12/02
METALS, TOTAL (Method Exclusive) - Solids				
M7471_S HG				
(A-70-O9-01) FDE4H Protocol: A QC Program: STANDARD TEST SET				
Nitrate-Nitrite (353.1)	06	11/19/02	12/12/02	12/12/02
LEACHATE, DI (Routine)				
(A-82-HN-01) FDE4H-1-AC Protocol: A QC Program: STANDARD TEST SET				
Chloride (300.0, Ion Chromatography)	06	11/19/02	2/21/03	3/21/03
LEACHATE, DI (Routine)				
(A-82-CX-01) FDE4H-1-AR Protocol: A QC Program: STANDARD TEST SET				
Fluoride (300.0, Ion Chromatography)	06	11/19/02	2/21/03	3/21/03
LEACHATE, DI (Routine)				
(A-82-C8-01) FDE4H-1-AT Protocol: A QC Program: STANDARD TEST SET				
Nitrate as N (300.0, Ion Chromatography)	06	11/19/02	2/21/03	2/23/03
LEACHATE, DI (Routine)				
(A-82-C9-01) FDE4H-1-AU Protocol: A QC Program: STANDARD TEST SET				
Nitrite as N (300.0, Ion Chromatography)	06	11/19/02	2/21/03	2/23/03
LEACHATE, DI (Routine)				
(A-82-GO-01) FDE4H-1-AV Protocol: A QC Program: STANDARD TEST SET				
Phosphate as P, Ortho (300.0, Ion Chroma	06	11/19/02	2/21/03	2/23/03
LEACHATE, DI (Routine)				
(A-82-DO-01) FDE4H-1-AW Protocol: A QC Program: STANDARD TEST SET				

Sulfate (300.0, Ion Chromatography) 06 11/19/02 2/21/03 3/21/03
LEACHATE, DI (Routine)
(A-82-CY-01) FDE4H-1-AX Protocol: A QC Program: STANDARD TEST SET

Nitrogen, Ammonia (350.1, Automated) 06 11/19/02 0/00/00 12/12/02
LEACHATE, DI (Routine)
(A-82-VM-01) FDE4H-1-A0 Protocol: A QC Program: STANDARD TEST SET

Chromium, Hexavalent (7196A) 06 11/19/02 2/21/03 2/25/03
LEACHATE, DI (Routine)
(A-82-EA-01) FDE4H-1-A1 Protocol: A QC Program: STANDARD TEST SET

Cyanide, Total (9010) 06 11/19/02 0/00/00 11/28/02
DISTILLATION, MICRO/MIDI - Acid
(A-06-RV-01) FDE4H-1-A2 Protocol: A QC Program: STANDARD TEST SET

Sulfide (9030) 06 11/19/02 12/12/02 12/13/02
LEACHATE, DI (Routine)
(A-82-P3-01) FDE4H-1-A3 Protocol: A QC Program: STANDARD TEST SET

pH (9045) - Non-Aqueous 06 11/19/02 0/00/00 11/16/02
LEACHATE, DI (Routine)
(A-82-FK-01) FDE4H-1-A4 Protocol: A QC Program: STANDARD TEST SET

Base/Neutrals and Acids (8270C) 06 11/19/02 11/28/02 1/07/03
SONICATION - Low Level
(A-13-QL-01) FDE4H-1-A5 Protocol: A QC Program: STANDARD TEST SET

Hydrocarbons, Extractable Petroleum (801 06 11/19/02 11/28/02 1/07/03
SONICATION - Low Level
(A-13-HS-01) FDE4H-1-A6 Protocol: A QC Program: STANDARD TEST SET

Volatile Organics, GC/MS (8260B) 06 11/19/02 0/00/00 11/28/02
PURGE AND TRAP - 5 mL purge
STL: SW-846 8260B
(A-15-QK-01) FDE4H-1-A7 Protocol: A QC Program: STANDARD TEST SET

Volatile Organics (8015B) 06 11/19/02 0/00/00 11/28/02
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
(A-88-QT-01) FDE4H-1-A8 Protocol: A QC Program: STANDARD TEST SET

PCBs (8082) 06 11/19/02 11/28/02 1/07/03
SONICATION w/ACID STRIP (PCB)
STL: HANFORD PCB GC:LIST-1(7)
(A-71-QH-01) FDE4H-1-A9 Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 06 11/19/02 0/00/00 2/21/03
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION
(A-88-WM-01) FDE4H-1-CA Protocol: A QC Program: STANDARD TEST SET

RAD SCREEN 06 11/19/02 0/00/00 11/14/02
IN-HOUSE RAD SCREEN
(A-RA-ZV-01) FDE4H-1-CC Protocol: R QC Program: STANDARD TEST SET

SDG# W03900

STL ST. LOUIS

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

FH-Central Plateau Project | F03-003-079 | Page 1 of 1

Collector: R. Nielson
Company Contact: Steve Trent — Telephone No.: 373-5869
Project Coordinator: TRENT, SJ
Price Code: 8N — Data Turnaround: 45 Days
Air Quality: ☐
Project Designation: 200 Area Source Characterization 200-CS-1 OU - Soil Sampli
Sampling Location: SP-1
SAF No.: F03-003
Ice Chest No.: ERC 02 004
Field Logbook No.: HNF-N-3251 — COA: 117514ES10
Method of Shipment: Federal Express
Shipped To: Severn Trent Incorporated, ~~Richland~~ ST LOUIS
Offsite Property No.: ~~NA~~ A050 062
Bill of Lading/Air Bill No.: ~~NA~~ SEE OSP C

POSSIBLE SAMPLE HAZARDS/REMARKS
Rx
Tie To B15YL9

Special Handling and/or Storage
Cool 4°C

W03900

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None	None	None	None RJN 11/13/02	None
Type of Container	G	aG	G	aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	~~G/P~~ aG	P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	150g 120ml	850g 500ml	150g 120ml	150g 120ml	500g 500ml	1000g 1000ml	50g 60ml	1000g 1000ml	500g 500ml	20g 20ml
SAMPLE ANALYSIS	VOA - 8260A (TCL) 120G	See item (1) in Special Instructions. 500G	Alcohols, Glycols, & Ketones - 8015M (Add-on) (1-Propanol, Ethanol)	PCBs - 8082 120G	See item (2) in Special Instructions. 500G	See item (3) in Special Instructions. 1G	pH (Soil) - 9045 60G	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan 20mL

Sample No.	Matrix *	Sample Date	Sample Time	VOA - 8260A (TCL)	See item (1) in Special Instructions.	Alcohols, Glycols, & Ketones - 8015M (Add-on) (1-Propanol, Ethanol)	PCBs - 8082	See item (2) in Special Instructions.	See item (3) in Special Instructions.	pH (Soil) - 9045	See item (4) in Special Instructions.	Nickel-63; Technetium-99; Tritium - H3	Activity Scan
B15YL4	SOIL	11-14-02	0959	X	X	X	X	X	X	X	X		X

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
R. Nielson	11-14-02 1320	Ref #1B/3728	11-14-02 1320
REF 1B 111802	1000	SJ GALE	111802 1000
SJ GALE	111802 1000	FED EX	
FED EX			

SPECIAL INSTRUCTIONS
** Please check the SAF for specific sampling instructions.

(1) Semi-VOA -- 8270A (Add-On) {Tributyl phosphate}; TPH-Diesel Range - WTPH-D
(2) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Beryllium, Copper, Nickel, Vanadium, Zinc}; Mercury - 7471 - (CV); Chromium Hex - 7196
(3) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; NO2/NO3 - 353.1; Ammonia - 350.1; Total Cyanide - 9010; Sulfides - 9030
(4) Gross Alpha; Gross Beta; Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241, Radium-228}; Isotopic Plutonium; Isotopic Thorium {Thorium-232}; Isotopic Uranium; Americium-241; Strontium-89,90 -- Total Sr; Neptunium-237; Total Uranium

Personnel not available to relinquish samples from the 3728 Ref # 1B on 11/18/02

Matrix *
S=Soil
SP=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: [signature]	Title	Date/Time 11.19.02 0900
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

STL S

SEVERN TRENT SERVICES

Lot No.: F2K19026, W03900

Condition Upon Receipt Form
St. Louis Laboratory

Client: Richland

Quote No: 50409

Shipper/No: FedX 792777389713

Date: 11.19.02 Time: 0900

Initiated by: SV

COC/RFA Numbers: F03-003-079

Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation):

1.	Y N	Sample received in undamaged condition.	5.	Y N	Sample volume sufficient for analysis.
2.	Y N	Sample received within 4°C ± 2°C*	6.	Y N	Sample received with Chain of Custody.
		Record temperature: 4°	7.	Y N	Chain of Custody matches sample IDs on containers.
3.	Y N N/A	Sample received with proper pH**.	8.	Y N	Custody seal received intact and tamper evident on cooler.
4.	Y N	Sample received in proper containers.	9.	Y N	Custody seal received intact and tamper evident on bottles.

*** Temperature Variance Does Not Affect the Following Analyses:** _____

**** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.**

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor (or designate) Review: [signature] Date: 11.19.02

Project Management Review: [signature] Date: 11.19.02

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

SL-ADMIN-0004, Revised 5/24/01
\\Qstlmo05\QA\FORMS\ST-LOUIS\ADMIN\Admin004_rev_5_24_01.doc

SDG# WO3900

VOLATILE ORGANICS

FLUOR HANFORD IC

Client Sample ID: B15XM4

GC/MS Volatiles

Lot-Sample #...: F2K180113-001 **Work Order #...:** FDA2H2A7 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 11/25/02 **Analysis Date..:** 11/25/02
Prep Batch #...: 2330140
Dilution Factor: 5
% Moisture.....: 4.5 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	52	ug/kg	5.0
Vinyl chloride	ND	26	ug/kg	4.2
Bromomethane	ND	52	ug/kg	5.4
Chloroethane	ND	52	ug/kg	2.8
Acetone	**17 J,B**	**100**	**ug/kg**	**12**
1,1-Dichloroethene	ND	26	ug/kg	1.6
Methylene chloride	**27 B**	**26**	**ug/kg**	**1.3**
Carbon disulfide	ND	26	ug/kg	1.7
1,1-Dichloroethane	ND	26	ug/kg	1.4
2-Butanone	ND	100	ug/kg	8.8
1,2-Dichloroethene (total)	ND	26	ug/kg	2.9
Chloroform	ND	26	ug/kg	1.2
1,1,1-Trichloroethane	ND	26	ug/kg	1.5
Carbon tetrachloride	ND	26	ug/kg	1.3
1,2-Dichloroethane	ND	26	ug/kg	1.4
Benzene	ND	26	ug/kg	0.73
Trichloroethene	ND	26	ug/kg	1.2
1,2-Dichloropropane	ND	26	ug/kg	1.2
Bromodichloromethane	ND	26	ug/kg	0.73
4-Methyl-2-pentanone	ND	100	ug/kg	3.7
cis-1,3-Dichloropropene	ND	26	ug/kg	2.3
Toluene	ND	26	ug/kg	1.3
trans-1,3-Dichloropropene	ND	26	ug/kg	4.2
1,1,2-Trichloroethane	ND	26	ug/kg	3.3
2-Hexanone	ND	100	ug/kg	9.1
Tetrachloroethene	ND	26	ug/kg	5.4
Dibromochloromethane	ND	26	ug/kg	1.8
Chlorobenzene	ND	26	ug/kg	1.4
Ethylbenzene	ND	26	ug/kg	3.9
Xylenes (total)	ND	26	ug/kg	5.1
Styrene	ND	26	ug/kg	1.9
Bromoform	ND	26	ug/kg	1.3
1,1,2,2-Tetrachloroethane	ND	26	ug/kg	2.2

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	100	(85 - 125)
Dibromofluoromethane	101	(78 - 119)
1,2-Dichloroethane-d4	104	(69 - 133)
4-Bromofluorobenzene	95	(76 - 143)

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FLUOR HANFORD IC

B15XM4

GC/MS Volatiles

Lot-Sample #: F2K180113-001 **Work Order #:** FDA2H2A7 **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900
MS Lot-Sample #: F2K180113-001
Date Sampled...: 11/12/02
Prep Date.....: 11/25/02
Prep Batch #...: 2330140
Dilution Factor: 5

Work Order #...: FDA2H1EC-MS
FDA2H1ED-MSD
Date Received..: 11/14/02
Analysis Date..: 11/25/02
% Moisture.....: 4.5

Matrix.....: SOLID

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Chloromethane	ND	262	210	ug/kg	80		SW846 8260B
	ND	262	203	ug/kg	78	3.2	SW846 8260B
Vinyl chloride	ND	262	226	ug/kg	86		SW846 8260B
	ND	262	226	ug/kg	86	0.32	SW846 8260B
Bromomethane	ND	262	197	ug/kg	75		SW846 8260B
	ND	262	201	ug/kg	77	2.1	SW846 8260B
Chloroethane	ND	262	244	ug/kg	93		SW846 8260B
	ND	262	242	ug/kg	92	1.1	SW846 8260B
Acetone	17	262	266	ug/kg	95		SW846 8260B
	17	262	252	ug/kg	90	5.4	SW846 8260B
1,1-Dichloroethene	ND	262	242	ug/kg	93		SW846 8260B
	ND	262	245	ug/kg	93	0.86	SW846 8260B
Methylene chloride	27	262	221	ug/kg	74		SW846 8260B
	27	262	225	ug/kg	76	1.8	SW846 8260B
Carbon disulfide	ND	262	243	ug/kg	93		SW846 8260B
	ND	262	242	ug/kg	92	0.51	SW846 8260B
1,1-Dichloroethane	ND	262	233	ug/kg	89		SW846 8260B
	ND	262	236	ug/kg	90	1.3	SW846 8260B
2-Butanone	ND	262	292	ug/kg	111		SW846 8260B
	ND	262	288	ug/kg	110	1.2	SW846 8260B
1,2-Dichloroethene (total)	ND	524	515	ug/kg	98		SW846 8260B
	ND	524	517	ug/kg	99	0.42	SW846 8260B
Chloroform	ND	262	270	ug/kg	103		SW846 8260B
	ND	262	272	ug/kg	104	0.85	SW846 8260B
1,1,1-Trichloroethane	ND	262	279	ug/kg	107		SW846 8260B
	ND	262	285	ug/kg	109	2.0	SW846 8260B
Carbon tetrachloride	ND	262	289	ug/kg	110		SW846 8260B
	ND	262	287	ug/kg	110	0.61	SW846 8260B
1,2-Dichloroethane	ND	262	276	ug/kg	105		SW846 8260B
	ND	262	274	ug/kg	105	0.38	SW846 8260B
Benzene	ND	262	262	ug/kg	100		SW846 8260B
	ND	262	260	ug/kg	99	0.76	SW846 8260B
Trichloroethene	ND	262	233	ug/kg	89		SW846 8260B
	ND	262	231	ug/kg	88	0.72	SW846 8260B
1,2-Dichloropropane	ND	262	265	ug/kg	101		SW846 8260B
	ND	262	265	ug/kg	101	0.04	SW846 8260B
Bromodichloromethane	ND	262	295	ug/kg	113		SW846 8260B
	ND	262	298	ug/kg	114	0.88	SW846 8260B

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MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FDA2H1EC-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1ED-MSD

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
4-Methyl-2-pentanone	**ND**	**262**	**279**	**ug/kg**	**107**		**SW846 8260B**
	ND	**262**	**273**	**ug/kg**	**104**	**2.2**	**SW846 8260B**
cis-1,3-Dichloropropene	**ND**	**262**	**259**	**ug/kg**	**99**		**SW846 8260B**
	ND	**262**	**265**	**ug/kg**	**101**	**2.1**	**SW846 8260B**
Toluene	**ND**	**262**	**269**	**ug/kg**	**103**		**SW846 8260B**
	ND	**262**	**265**	**ug/kg**	**101**	**1.5**	**SW846 8260B**
trans-1,3-Dichloropropene	**ND**	**262**	**293**	**ug/kg**	**112**		**SW846 8260B**
	ND	**262**	**294**	**ug/kg**	**112**	**0.46**	**SW846 8260B**
1,1,2-Trichloroethane	**ND**	**262**	**279**	**ug/kg**	**106**		**SW846 8260B**
	ND	**262**	**278**	**ug/kg**	**106**	**0.33**	**SW846 8260B**
2-Hexanone	**ND**	**262**	**285**	**ug/kg**	**109**		**SW846 8260B**
	ND	**262**	**282**	**ug/kg**	**108**	**1.4**	**SW846 8260B**
Tetrachloroethene	**ND**	**262**	**243**	**ug/kg**	**93**		**SW846 8260B**
	ND	**262**	**240**	**ug/kg**	**91**	**1.5**	**SW846 8260B**
Dibromochloromethane	**ND**	**262**	**308**	**ug/kg**	**117**		**SW846 8260B**
	ND	**262**	**308**	**ug/kg**	**118**	**0.10**	**SW846 8260B**
Chlorobenzene	**ND**	**262**	**277**	**ug/kg**	**106**		**SW846 8260B**
	ND	**262**	**274**	**ug/kg**	**105**	**1.0**	**SW846 8260B**
Ethylbenzene	**ND**	**262**	**277**	**ug/kg**	**106**		**SW846 8260B**
	ND	**262**	**261**	**ug/kg**	**100**	**5.6**	**SW846 8260B**
Styrene	**ND**	**262**	**276**	**ug/kg**	**105**		**SW846 8260B**
	ND	**262**	**272**	**ug/kg**	**104**	**1.2**	**SW846 8260B**
Bromoform	**ND**	**262**	**326**	**ug/kg**	**124 a**		**SW846 8260B**
	ND	**262**	**329**	**ug/kg**	**125 a**	**0.89**	**SW846 8260B**
1,1,2,2-Tetrachloroethane	**ND**	**262**	**276**	**ug/kg**	**105**		**SW846 8260B**
	ND	**262**	**269**	**ug/kg**	**103**	**2.3**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	100	(85 - 125)
	102	(85 - 125)
Dibromofluoromethane	101	(78 - 119)
	105	(78 - 119)
1,2-Dichloroethane-d4	103	(69 - 133)
	108	(69 - 133)
4-Bromofluorobenzene	101	(76 - 143)
	106	(76 - 143)

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.

a Spiked analyte recovery is outside stated control limits.

FLUOR HANFORD IC

Client Sample ID: B15YL4

GC/MS Volatiles

Lot-Sample #...: F2K190261-001 **Work Order #...:** FDE4H1A7 **Matrix.....:** SOLID
Date Sampled...: 11/14/02 **Date Received..:** 11/19/02
Prep Date.....: 11/26/02 **Analysis Date..:** 11/27/02
Prep Batch #...: 2331166
Dilution Factor: 1
% Moisture.....: 4.3 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/kg	0.99
Vinyl chloride	ND	5.2	ug/kg	0.84
Bromomethane	ND	10	ug/kg	1.1
Chloroethane	ND	10	ug/kg	0.56
Acetone	ND	21	ug/kg	2.5
1,1-Dichloroethene	ND	5.2	ug/kg	0.32
Methylene chloride	**5.4 B**	**5.2**	**ug/kg**	**0.25**
Carbon disulfide	ND	5.2	ug/kg	0.33
1,1-Dichloroethane	ND	5.2	ug/kg	0.28
2-Butanone	ND	21	ug/kg	1.8
1,2-Dichloroethene (total)	ND	5.2	ug/kg	0.57
Chloroform	ND	5.2	ug/kg	0.24
1,1,1-Trichloroethane	ND	5.2	ug/kg	0.29
Carbon tetrachloride	ND	5.2	ug/kg	0.25
1,2-Dichloroethane	ND	5.2	ug/kg	0.27
Benzene	ND	5.2	ug/kg	0.15
Trichloroethene	ND	5.2	ug/kg	0.23
1,2-Dichloropropane	ND	5.2	ug/kg	0.23
Bromodichloromethane	ND	5.2	ug/kg	0.15
4-Methyl-2-pentanone	ND	21	ug/kg	0.73
cis-1,3-Dichloropropene	ND	5.2	ug/kg	0.46
Toluene	**4.2 J**	**5.2**	**ug/kg**	**0.25**
trans-1,3-Dichloropropene	ND	5.2	ug/kg	0.84
1,1,2-Trichloroethane	ND	5.2	ug/kg	0.66
2-Hexanone	ND	21	ug/kg	1.8
Tetrachloroethene	ND	5.2	ug/kg	1.1
Dibromochloromethane	ND	5.2	ug/kg	0.36
Chlorobenzene	ND	5.2	ug/kg	0.28
Ethylbenzene	ND	5.2	ug/kg	0.77
Xylenes (total)	ND	5.2	ug/kg	1.0
Styrene	ND	5.2	ug/kg	0.38
Bromoform	ND	5.2	ug/kg	0.26
1,1,2,2-Tetrachloroethane	ND	5.2	ug/kg	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	98	(85 - 125)
Dibromofluoromethane	103	(78 - 119)
1,2-Dichloroethane-d4	106	(69 - 133)
4-Bromofluorobenzene	94	(76 - 143)

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FLUOR HANFORD IC

B15YL4

GC/MS Volatiles

Lot-Sample #: F2K190261-001 **Work Order #:** FDE4H1A7 **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

FLUOR HANFORD IC

Client Sample ID: B15YF9

GC/MS Volatiles

Lot-Sample #...: F2K260215-001 **Work Order #...:** FDW9C1A3 **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
Prep Date.....: 12/04/02 **Analysis Date..:** 12/04/02
Prep Batch #...: 2339166
Dilution Factor: 1
% Moisture.....: 5.3 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	11	ug/kg	1.0
Vinyl chloride	ND	5.3	ug/kg	0.84
Bromomethane	ND	11	ug/kg	1.1
Chloroethane	ND	11	ug/kg	0.57
Acetone	**3.2 J**	**21**	**ug/kg**	**2.5**
1,1-Dichloroethene	ND	5.3	ug/kg	0.33
Methylene chloride	**2.0 J,B**	**5.3**	**ug/kg**	**0.25**
Carbon disulfide	ND	5.3	ug/kg	0.34
1,1-Dichloroethane	ND	5.3	ug/kg	0.28
2-Butanone	ND	21	ug/kg	1.8
1,2-Dichloroethene (total)	ND	5.3	ug/kg	0.58
Chloroform	ND	5.3	ug/kg	0.24
1,1,1-Trichloroethane	ND	5.3	ug/kg	0.30
Carbon tetrachloride	ND	5.3	ug/kg	0.25
1,2-Dichloroethane	ND	5.3	ug/kg	0.27
Benzene	ND	5.3	ug/kg	0.15
Trichloroethene	ND	5.3	ug/kg	0.23
1,2-Dichloropropane	ND	5.3	ug/kg	0.23
Bromodichloromethane	ND	5.3	ug/kg	0.15
4-Methyl-2-pentanone	ND	21	ug/kg	0.74
cis-1,3-Dichloropropene	ND	5.3	ug/kg	0.46
Toluene	ND	5.3	ug/kg	0.25
trans-1,3-Dichloropropene	ND	5.3	ug/kg	0.84
1,1,2-Trichloroethane	ND	5.3	ug/kg	0.66
2-Hexanone	ND	21	ug/kg	1.8
Tetrachloroethene	ND	5.3	ug/kg	1.1
Dibromochloromethane	ND	5.3	ug/kg	0.36
Chlorobenzene	ND	5.3	ug/kg	0.28
Ethylbenzene	ND	5.3	ug/kg	0.78
Xylenes (total)	ND	5.3	ug/kg	1.0
Styrene	ND	5.3	ug/kg	0.38
Bromoform	ND	5.3	ug/kg	0.26
1,1,2,2-Tetrachloroethane	ND	5.3	ug/kg	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	94	(85 - 125)
Dibromofluoromethane	99	(78 - 119)
1,2-Dichloroethane-d4	97	(69 - 133)
4-Bromofluorobenzene	85	(76 - 143)

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FLUOR HANFORD IC

B15YF9

GC/MS Volatiles

Lot-Sample #: F2K260215-001 **Work Order #:** FDW9C1A3 **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FDV5Q1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2K260000-140

Prep Date.....: 11/25/02
Analysis Date..: 11/25/02 **Prep Batch #...:** 2330140
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	**1.1 J**	**10**	**ug/kg**	**SW846 8260B**
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Bromomethane	**1.2 J**	**10**	**ug/kg**	**SW846 8260B**
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	**5.1 J**	**20**	**ug/kg**	**SW846 8260B**
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	**2.8 J**	**5.0**	**ug/kg**	**SW846 8260B**
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	20	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Toluene	**0.34 J**	**5.0**	**ug/kg**	**SW846 8260B**
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	20	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	**1.5 J**	**5.0**	**ug/kg**	**SW846 8260B**
Styrene	ND	5.0	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(85 - 125)
Dibromofluoromethane	104	(78 - 119)
1,2-Dichloroethane-d4	107	(69 - 133)
4-Bromofluorobenzene	98	(76 - 143)

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FLUOR HANFORD IC

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F2K260000-140 B **Work Order #:** FDV5Q1AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FD0DP1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2K270000-166
Prep Date.....: 11/26/02
Analysis Date..: 11/27/02 **Prep Batch #...:** 2331166
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	**4.4 J**	**20**	**ug/kg**	**SW846 8260B**
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	**5.2**	**5.0**	**ug/kg**	**SW846 8260B**
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	20	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	20	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B
Styrene	**0.88 J**	**5.0**	**ug/kg**	**SW846 8260B**
Bromoform	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	100	(85 - 125)
Dibromofluoromethane	104	(78 - 119)
1,2-Dichloroethane-d4	107	(69 - 133)
4-Bromofluorobenzene	93	(76 - 143)

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FLUOR HANFORD IC

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F2K270000-166 B **Work Order #:** FD0DP1AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FD81C1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2L050000-166

Prep Date.....: 12/04/02
Analysis Date..: 12/04/02 **Prep Batch #...:** 2339166
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	ND	20	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	**2.3 J**	**5.0**	**ug/kg**	**SW846 8260B**
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	20	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	**2.4 J**	**20**	**ug/kg**	**SW846 8260B**
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	20	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B
Styrene	ND	5.0	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	94	(85 - 125)
Dibromofluoromethane	100	(78 - 119)
1,2-Dichloroethane-d4	98	(69 - 133)
4-Bromofluorobenzene	85	(76 - 143)

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FLUOR HANFORD IC

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F2L050000-166 B **Work Order #:** FD81C1AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 Work Order #...: FDV5Q1AC Matrix.....: SOLID
LCS Lot-Sample#: F2K260000-140
Prep Date.....: 11/25/02 Analysis Date..: 11/25/02
Prep Batch #...: 2330140
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Chloromethane	50.0	40.5	ug/kg	81	SW846 8260B
Vinyl chloride	50.0	43.1	ug/kg	86	SW846 8260B
Bromomethane	50.0	35.0	ug/kg	70	SW846 8260B
Chloroethane	50.0	45.0	ug/kg	90	SW846 8260B
Acetone	50.0	37.2	ug/kg	74	SW846 8260B
1,1-Dichloroethene	50.0	43.8	ug/kg	88	SW846 8260B
Methylene chloride	50.0	36.7	ug/kg	73	SW846 8260B
Carbon disulfide	50.0	45.2	ug/kg	90	SW846 8260B
1,1-Dichloroethane	50.0	42.4	ug/kg	85	SW846 8260B
2-Butanone	50.0	48.3	ug/kg	97	SW846 8260B
1,2-Dichloroethene (total)	100	92.7	ug/kg	93	SW846 8260B
Chloroform	50.0	46.1	ug/kg	92	SW846 8260B
1,1,1-Trichloroethane	50.0	48.0	ug/kg	96	SW846 8260B
Carbon tetrachloride	50.0	49.4	ug/kg	99	SW846 8260B
1,2-Dichloroethane	50.0	46.0	ug/kg	92	SW846 8260B
Benzene	50.0	47.6	ug/kg	95	SW846 8260B
Trichloroethene	50.0	39.2	ug/kg	78	SW846 8260B
1,2-Dichloropropane	50.0	47.2	ug/kg	94	SW846 8260B
Bromodichloromethane	50.0	49.3	ug/kg	99	SW846 8260B
4-Methyl-2-pentanone	50.0	45.8	ug/kg	92	SW846 8260B
cis-1,3-Dichloropropene	50.0	45.4	ug/kg	91	SW846 8260B
Toluene	50.0	48.6	ug/kg	97	SW846 8260B
trans-1,3-Dichloropropene	50.0	50.6	ug/kg	101	SW846 8260B
1,1,2-Trichloroethane	50.0	47.2	ug/kg	94	SW846 8260B
2-Hexanone	50.0	46.1	ug/kg	92	SW846 8260B
Tetrachloroethene	50.0	42.1	ug/kg	84	SW846 8260B
Dibromochloromethane	50.0	50.2	ug/kg	100	SW846 8260B
Chlorobenzene	50.0	48.8	ug/kg	98	SW846 8260B
Ethylbenzene	50.0	49.0	ug/kg	98	SW846 8260B
Styrene	50.0	48.2	ug/kg	96	SW846 8260B
Bromoform	50.0	52.7	ug/kg	105	SW846 8260B
1,1,2,2-Tetrachloroethane	50.0	49.6	ug/kg	99	SW846 8260B

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FDV5Q1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2K260000-140

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	97	(84 - 116)
Dibromofluoromethane	94	(85 - 115)
1,2-Dichloroethane-d4	97	(79 - 126)
4-Bromofluorobenzene	96	(73 - 126)

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 Work Order #...: FD0DP1AC Matrix.....: SOLID
LCS Lot-Sample#: F2K270000-166
Prep Date.....: 11/26/02 Analysis Date..: 11/27/02
Prep Batch #...: 2331166
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Chloromethane	50.0	43.6	ug/kg	87	SW846 8260B
Vinyl chloride	50.0	51.9	ug/kg	104	SW846 8260B
Bromomethane	50.0	38.8	ug/kg	78	SW846 8260B
Chloroethane	50.0	40.6	ug/kg	81	SW846 8260B
Acetone	50.0	50.6	ug/kg	101	SW846 8260B
1,1-Dichloroethene	50.0	51.6	ug/kg	103	SW846 8260B
Methylene chloride	50.0	47.9	ug/kg	96	SW846 8260B
Carbon disulfide	50.0	49.5	ug/kg	99	SW846 8260B
1,1-Dichloroethane	50.0	49.9	ug/kg	100	SW846 8260B
2-Butanone	50.0	58.0	ug/kg	116	SW846 8260B
1,2-Dichloroethene (total)	100	109	ug/kg	109	SW846 8260B
Chloroform	50.0	54.0	ug/kg	108	SW846 8260B
1,1,1-Trichloroethane	50.0	54.9	ug/kg	110	SW846 8260B
Carbon tetrachloride	50.0	54.0	ug/kg	108	SW846 8260B
1,2-Dichloroethane	50.0	50.0	ug/kg	100	SW846 8260B
Benzene	50.0	52.2	ug/kg	104	SW846 8260B
Trichloroethene	50.0	51.4	ug/kg	103	SW846 8260B
1,2-Dichloropropane	50.0	54.1	ug/kg	108	SW846 8260B
Bromodichloromethane	50.0	55.0	ug/kg	110	SW846 8260B
4-Methyl-2-pentanone	50.0	42.4	ug/kg	85	SW846 8260B
cis-1,3-Dichloropropene	50.0	51.6	ug/kg	103	SW846 8260B
Toluene	50.0	53.1	ug/kg	106	SW846 8260B
trans-1,3-Dichloropropene	50.0	55.2	ug/kg	110	SW846 8260B
1,1,2-Trichloroethane	50.0	52.7	ug/kg	105	SW846 8260B
2-Hexanone	50.0	53.9	ug/kg	108	SW846 8260B
Tetrachloroethene	50.0	52.1	ug/kg	104	SW846 8260B
Dibromochloromethane	50.0	53.5	ug/kg	107	SW846 8260B
Chlorobenzene	50.0	54.8	ug/kg	110	SW846 8260B
Ethylbenzene	50.0	56.9	ug/kg	114	SW846 8260B
Styrene	50.0	53.8	ug/kg	108	SW846 8260B
Bromoform	50.0	55.3	ug/kg	111	SW846 8260B
1,1,2,2-Tetrachloroethane	50.0	50.8	ug/kg	102	SW846 8260B

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FD0DP1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2K270000-166

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(84 - 116)
Dibromofluoromethane	99	(85 - 115)
1,2-Dichloroethane-d4	101	(79 - 126)
4-Bromofluorobenzene	104	(73 - 126)

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 Work Order #...: FD81C1AC Matrix.....: SOLID
LCS Lot-Sample#: F2L050000-166
Prep Date.....: 12/04/02 Analysis Date..: 12/04/02
Prep Batch #...: 2339166
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Chloromethane	50.0	39.1	ug/kg	78	SW846 8260B
Vinyl chloride	50.0	40.2	ug/kg	80	SW846 8260B
Bromomethane	50.0	40.7	ug/kg	81	SW846 8260B
Chloroethane	50.0	52.5	ug/kg	105	SW846 8260B
Acetone	50.0	35.4	ug/kg	71	SW846 8260B
1,1-Dichloroethene	50.0	46.4	ug/kg	93	SW846 8260B
Methylene chloride	50.0	36.9	ug/kg	74	SW846 8260B
Carbon disulfide	50.0	45.1	ug/kg	90	SW846 8260B
1,1-Dichloroethane	50.0	42.3	ug/kg	85	SW846 8260B
2-Butanone	50.0	51.4	ug/kg	103	SW846 8260B
1,2-Dichloroethene (total)	100	94.1	ug/kg	94	SW846 8260B
Chloroform	50.0	47.0	ug/kg	94	SW846 8260B
1,1,1-Trichloroethane	50.0	48.1	ug/kg	96	SW846 8260B
Carbon tetrachloride	50.0	46.2	ug/kg	92	SW846 8260B
1,2-Dichloroethane	50.0	44.3	ug/kg	89	SW846 8260B
Benzene	50.0	44.4	ug/kg	89	SW846 8260B
Trichloroethene	50.0	43.1	ug/kg	86	SW846 8260B
1,2-Dichloropropane	50.0	45.1	ug/kg	90	SW846 8260B
Bromodichloromethane	50.0	47.1	ug/kg	94	SW846 8260B
4-Methyl-2-pentanone	50.0	37.9	ug/kg	76	SW846 8260B
cis-1,3-Dichloropropene	50.0	44.4	ug/kg	89	SW846 8260B
Toluene	50.0	45.9	ug/kg	92	SW846 8260B
trans-1,3-Dichloropropene	50.0	47.9	ug/kg	96	SW846 8260B
1,1,2-Trichloroethane	50.0	44.7	ug/kg	89	SW846 8260B
2-Hexanone	50.0	49.9	ug/kg	100	SW846 8260B
Tetrachloroethene	50.0	43.2	ug/kg	86	SW846 8260B
Dibromochloromethane	50.0	46.8	ug/kg	94	SW846 8260B
Chlorobenzene	50.0	46.4	ug/kg	93	SW846 8260B
Ethylbenzene	50.0	45.5	ug/kg	91	SW846 8260B
Styrene	50.0	45.5	ug/kg	91	SW846 8260B
Bromoform	50.0	48.6	ug/kg	97	SW846 8260B
1,1,2,2-Tetrachloroethane	50.0	44.2	ug/kg	88	SW846 8260B

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W03900 **Work Order #...:** FD81C1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2L050000-166

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	103	(84 - 116)
Dibromofluoromethane	105	(85 - 115)
1,2-Dichloroethane-d4	104	(79 - 126)
4-Bromofluorobenzene	102	(73 - 126)

NOTE(S):

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

Bold print denotes control parameters

SEMI-VOLATILE ORGANICS

FLUOR HANFORD IC

Client Sample ID: B15XM4

GC/MS Semivolatiles

Lot-Sample #...: F2K180113-001 **Work Order #...:** FDA2H1A5 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 11/20/02 **Analysis Date..:** 11/25/02
Prep Batch #...: 2324223
Dilution Factor: 1
% Moisture.....: 4.5 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tributyl phosphate	ND	350	ug/kg	350

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	70	(28 - 115)
Phenol-d5	69	(34 - 115)
Nitrobenzene-d5	68	(27 - 115)
2-Fluorobiphenyl	75	(33 - 115)
2,4,6-Tribromophenol	72	(29 - 115)
Terphenyl-d14	73	(26 - 115)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 **Work Order #...:** FDA2H1CH-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1CJ-MSD
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 11/20/02 **Analysis Date..:** 11/25/02
Prep Batch #...: 2324223
Dilution Factor: 1 **% Moisture.....:** 4.5

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Phenol	ND	3490	2460	ug/kg	71		SW846 8270C
	ND	3490	2100	ug/kg	60	16	SW846 8270C
bis(2-Chloroethyl)-ether	ND	3490	2350	ug/kg	67		SW846 8270C
	ND	3490	2140	ug/kg	61	9.1	SW846 8270C
2-Chlorophenol	ND	3490	2450	ug/kg	70		SW846 8270C
	ND	3490	2180	ug/kg	63	12	SW846 8270C
2-Methylphenol	ND	3490	2520	ug/kg	72		SW846 8270C
	ND	3490	2170	ug/kg	62	15	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	3490	2370	ug/kg	68		SW846 8270C
	ND	3490	2080	ug/kg	60	13	SW846 8270C
4-Methylphenol	ND	3490	2660	ug/kg	76		SW846 8270C
	ND	3490	2300	ug/kg	66	14	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	3490	2680	ug/kg	77		SW846 8270C
	ND	3490	2330	ug/kg	67	14	SW846 8270C
Hexachloroethane	ND	3490	1900	ug/kg	54		SW846 8270C
	ND	3490	1720	ug/kg	49	10	SW846 8270C
Nitrobenzene	ND	3490	2520	ug/kg	72		SW846 8270C
	ND	3490	2220	ug/kg	63	13	SW846 8270C
Isophorone	ND	3490	2810	ug/kg	81		SW846 8270C
	ND	3490	2390	ug/kg	68	16	SW846 8270C
2-Nitrophenol	ND	3490	2810	ug/kg	81		SW846 8270C
	ND	3490	2470	ug/kg	71	13	SW846 8270C
2,4-Dimethylphenol	ND	3490	2590	ug/kg	74		SW846 8270C
	ND	3490	2150	ug/kg	62	18	SW846 8270C
bis(2-Chloroethoxy) methane	ND	3490	2660	ug/kg	76		SW846 8270C
	ND	3490	2280	ug/kg	65	15	SW846 8270C
2,4-Dichlorophenol	ND	3490	2720	ug/kg	78		SW846 8270C
	ND	3490	2270	ug/kg	65	18	SW846 8270C
1,2,4-Trichloro-benzene	ND	3490	2390	ug/kg	68		SW846 8270C
	ND	3490	2060	ug/kg	59	15	SW846 8270C
Naphthalene	ND	3490	2580	ug/kg	74		SW846 8270C
	ND	3490	2230	ug/kg	64	15	SW846 8270C

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MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 **Work Order #...:** FDA2H1CH-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1CJ-MSD

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
4-Chloroaniline	ND	3490	2030	ug/kg	58		SW846 8270C
	ND	3490	977	ug/kg	28 p	70	SW846 8270C
Hexachlorobutadiene	ND	3490	2420	ug/kg	69		SW846 8270C
	ND	3490	2090	ug/kg	60	15	SW846 8270C
4-Chloro-3-methylphenol	ND	3490	2920	ug/kg	84		SW846 8270C
	ND	3490	2440	ug/kg	70	18	SW846 8270C
2-Methylnaphthalene	ND	3490	2550	ug/kg	73		SW846 8270C
	ND	3490	2140	ug/kg	61	17	SW846 8270C
Hexachlorocyclopenta-diene	ND	3490	2520	ug/kg	72		SW846 8270C
	ND	3490	2210	ug/kg	63	13	SW846 8270C
2,4,6-Trichloro-phenol	ND	3490	2830	ug/kg	81		SW846 8270C
	ND	3490	2360	ug/kg	68	18	SW846 8270C
2,4,5-Trichloro-phenol	ND	3490	2960	ug/kg	85		SW846 8270C
	ND	3490	2480	ug/kg	71	18	SW846 8270C
2-Nitroaniline	ND	3490	3170	ug/kg	91		SW846 8270C
	ND	3490	2660	ug/kg	76	18	SW846 8270C
Dimethyl phthalate	ND	3490	2960	ug/kg	85		SW846 8270C
	ND	3490	2470	ug/kg	71	18	SW846 8270C
Acenaphthylene	ND	3490	2860	ug/kg	82		SW846 8270C
	ND	3490	2380	ug/kg	68	18	SW846 8270C
2,6-Dinitrotoluene	ND	3490	3500	ug/kg	100		SW846 8270C
	ND	3490	2950	ug/kg	85	17	SW846 8270C
3-Nitroaniline	ND	3490	2810	ug/kg	80		SW846 8270C
	ND	3490	1860	ug/kg	53 p	41	SW846 8270C
Acenaphthene	ND	3490	2980	ug/kg	85		SW846 8270C
	ND	3490	2490	ug/kg	71	18	SW846 8270C
2,4-Dinitrophenol	ND	3490	1860	ug/kg	53		SW846 8270C
	ND	3490	1750	ug/kg	50	5.9	SW846 8270C
4-Nitrophenol	ND	3490	3080	ug/kg	88		SW846 8270C
	ND	3490	2600	ug/kg	74	17	SW846 8270C
Dibenzofuran	ND	3490	2780	ug/kg	80		SW846 8270C
	ND	3490	2280	ug/kg	65	20	SW846 8270C
2,4-Dinitrotoluene	ND	3490	3800	ug/kg	109		SW846 8270C
	ND	3490	3210	ug/kg	92	17	SW846 8270C
Diethyl phthalate	ND	3490	3270	ug/kg	94		SW846 8270C
	ND	3490	2740	ug/kg	79	17	SW846 8270C

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MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 **Work Order #...:** FDA2H1CH-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1CJ-MSD

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
4-Chlorophenyl phenyl ether	ND	3490	2930	ug/kg	84		SW846 8270C
	ND	3490	2470	ug/kg	71	17	SW846 8270C
Fluorene	ND	3490	3080	ug/kg	88		SW846 8270C
	ND	3490	2580	ug/kg	74	18	SW846 8270C
4-Nitroaniline	ND	3490	3040	ug/kg	87		SW846 8270C
	ND	3490	2390	ug/kg	68	24	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	3490	2880	ug/kg	82		SW846 8270C
	ND	3490	2540	ug/kg	73	13	SW846 8270C
N-Nitrosodiphenylamine	ND	3490	3240	ug/kg	93		SW846 8270C
	ND	3490	2700	ug/kg	77	18	SW846 8270C
4-Bromophenyl phenyl ether	ND	3490	3070	ug/kg	88		SW846 8270C
	ND	3490	2540	ug/kg	73	19	SW846 8270C
Hexachlorobenzene	ND	3490	3150	ug/kg	90		SW846 8270C
	ND	3490	2640	ug/kg	76	18	SW846 8270C
Pentachlorophenol	ND	3490	2920	ug/kg	84		SW846 8270C
	ND	3490	2430	ug/kg	70	18	SW846 8270C
Phenanthrene	ND	3490	3050	ug/kg	87		SW846 8270C
	ND	3490	2560	ug/kg	73	17	SW846 8270C
Anthracene	ND	3490	2960	ug/kg	85		SW846 8270C
	ND	3490	2450	ug/kg	70	19	SW846 8270C
Carbazole	ND	3490	2960	ug/kg	85		SW846 8270C
	ND	3490	2510	ug/kg	72	17	SW846 8270C
Di-n-butyl phthalate	ND	3490	3200	ug/kg	92		SW846 8270C
	ND	3490	2690	ug/kg	77	17	SW846 8270C
Fluoranthene	ND	3490	3000	ug/kg	86		SW846 8270C
	ND	3490	2530	ug/kg	73	17	SW846 8270C
Pyrene	ND	3490	3160	ug/kg	91		SW846 8270C
	ND	3490	2620	ug/kg	75	19	SW846 8270C
Butyl benzyl phthalate	ND	3490	3100	ug/kg	89		SW846 8270C
	ND	3490	2570	ug/kg	74	19	SW846 8270C
3,3'-Dichlorobenzidine	ND	3490	2500	ug/kg	72		SW846 8270C
	ND	3490	1430	ug/kg	41 p	54	SW846 8270C
Benzo(a)anthracene	ND	3490	3120	ug/kg	89		SW846 8270C
	ND	3490	2580	ug/kg	74	19	SW846 8270C
Chrysene	ND	3490	4140	ug/kg	119 a		SW846 8270C
	ND	3490	3400	ug/kg	97	20	SW846 8270C

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MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 **Work Order #...:** FDA2H1CH-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1CJ-MSD

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
bis(2-Ethylhexyl) phthalate	ND	3490	3180	ug/kg	91		SW846 8270C
	ND	3490	2620	ug/kg	75	19	SW846 8270C
Di-n-octyl phthalate	ND	3490	2740	ug/kg	78		SW846 8270C
	ND	3490	2450	ug/kg	70	11	SW846 8270C
Benzo(b)fluoranthene	ND	3490	2760	ug/kg	79		SW846 8270C
	ND	3490	2380	ug/kg	68	15	SW846 8270C
Benzo(k)fluoranthene	ND	3490	2680	ug/kg	77		SW846 8270C
	ND	3490	2320	ug/kg	66	14	SW846 8270C
Benzo(a)pyrene	ND	3490	2790	ug/kg	80		SW846 8270C
	ND	3490	2370	ug/kg	68	16	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	3490	2400	ug/kg	69		SW846 8270C
	ND	3490	2560	ug/kg	73	6.5	SW846 8270C
Dibenz(a,h)anthracene	ND	3490	3690	ug/kg	106		SW846 8270C
	ND	3490	3860	ug/kg	110	4.4	SW846 8270C
Benzo(ghi)perylene	ND	3490	2090	ug/kg	60		SW846 8270C
	ND	3490	2240	ug/kg	64	6.8	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	77	(28 - 115)
	66	(28 - 115)
Phenol-d5	75	(34 - 115)
	65	(34 - 115)
Nitrobenzene-d5	78	(27 - 115)
	67	(27 - 115)
2-Fluorobiphenyl	86	(33 - 115)
	71	(33 - 115)
2,4,6-Tribromophenol	95	(29 - 115)
	78	(29 - 115)
Terphenyl-d14	84	(26 - 115)
	68	(26 - 115)

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.

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

a Spiked analyte recovery is outside stated control limits.

FLUOR HANFORD IC

Client Sample ID: B15YL4

GC/MS Semivolatiles

Lot-Sample #...: F2K190261-001 **Work Order #...:** FDE4H1A5 **Matrix.....:** SOLID
Date Sampled...: 11/14/02 **Date Received..:** 11/19/02
Prep Date.....: 11/20/02 **Analysis Date..:** 11/25/02
Prep Batch #...: 2324223
Dilution Factor: 1
% Moisture.....: 4.3 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tributyl phosphate	ND	340	ug/kg	340

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	68	(28 - 115)
Phenol-d5	66	(34 - 115)
Nitrobenzene-d5	67	(27 - 115)
2-Fluorobiphenyl	74	(33 - 115)
2,4,6-Tribromophenol	70	(29 - 115)
Terphenyl-d14	77	(26 - 115)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B15YF9

GC/MS Semivolatiles

Lot-Sample #...: F2K260215-001 **Work Order #...:** FDW9C1A2 **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
Prep Date.....: 12/02/02 **Analysis Date..:** 12/07/02
Prep Batch #...: 2336200
Dilution Factor: 1
% Moisture.....: 5.3 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tributyl phosphate	ND	350	ug/kg	350

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	71	(28 - 115)
Phenol-d5	74	(34 - 115)
Nitrobenzene-d5	71	(27 - 115)
2-Fluorobiphenyl	70	(33 - 115)
2,4,6-Tribromophenol	64	(29 - 115)
Terphenyl-d14	55	(26 - 115)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FDGDE1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2K200000-223

Prep Date.....: 11/20/02
Analysis Date..: 11/23/02 **Prep Batch #...:** 2324223
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Tributyl phosphate	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	88	(28 - 115)
Phenol-d5	86	(34 - 115)
Nitrobenzene-d5	90	(27 - 115)
2-Fluorobiphenyl	97	(33 - 115)
2,4,6-Tribromophenol	76	(29 - 115)
Terphenyl-d14	96	(26 - 115)

NOTE(S):

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

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: W03900
MB Lot-Sample #: F2L020000-200
Work Order #...: FD3T91AA
Matrix.....: SOLID
Prep Date.....: 12/02/02
Analysis Date..: 12/06/02
Prep Batch #...: 2336200
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Tributyl phosphate	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(28 - 115)
Phenol-d5	70	(34 - 115)
Nitrobenzene-d5	68	(27 - 115)
2-Fluorobiphenyl	70	(33 - 115)
2,4,6-Tribromophenol	48	(29 - 115)
Terphenyl-d14	72	(26 - 115)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 Work Order #...: FDGDE1AC Matrix.....: SOLID
LCS Lot-Sample#: F2K200000-223
Prep Date.....: 11/20/02 Analysis Date..: 11/23/02
Prep Batch #...: 2324223
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Phenol	3330	2370	ug/kg	71	SW846 8270C
bis(2-Chloroethyl)-ether	3330	2260	ug/kg	68	SW846 8270C
2-Chlorophenol	3330	2360	ug/kg	71	SW846 8270C
2-Methylphenol	3330	2470	ug/kg	74	SW846 8270C
2,2'-oxybis(1-Chloropropa	3330	2120	ug/kg	64	SW846 8270C
4-Methylphenol	3330	2660	ug/kg	80	SW846 8270C
N-Nitrosodi-n-propyl-amine	3330	2520	ug/kg	76	SW846 8270C
Hexachloroethane	3330	1730	ug/kg	52	SW846 8270C
Nitrobenzene	3330	2380	ug/kg	71	SW846 8270C
Isophorone	3330	2700	ug/kg	81	SW846 8270C
2-Nitrophenol	3330	2390	ug/kg	72	SW846 8270C
2,4-Dimethylphenol	3330	2730	ug/kg	82	SW846 8270C
bis(2-Chloroethoxy) methane	3330	2560	ug/kg	77	SW846 8270C
2,4-Dichlorophenol	3330	2720	ug/kg	82	SW846 8270C
1,2,4-Trichloro-benzene	3330	2230	ug/kg	67	SW846 8270C
Naphthalene	3330	2450	ug/kg	74	SW846 8270C
4-Chloroaniline	3330	394 a	ug/kg	12	SW846 8270C
Hexachlorobutadiene	3330	2310	ug/kg	69	SW846 8270C
4-Chloro-3-methylphenol	3330	2900	ug/kg	87	SW846 8270C
2-Methylnaphthalene	3330	2440	ug/kg	73	SW846 8270C
Hexachlorocyclopenta-diene	3330	2300	ug/kg	69	SW846 8270C
2,4,6-Trichloro-phenol	3330	2870	ug/kg	86	SW846 8270C
2,4,5-Trichloro-phenol	3330	2940	ug/kg	88	SW846 8270C
2-Nitroaniline	3330	2920	ug/kg	88	SW846 8270C
Dimethyl phthalate	3330	2990	ug/kg	90	SW846 8270C
Acenaphthylene	3330	2830	ug/kg	85	SW846 8270C
2,6-Dinitrotoluene	3330	3150	ug/kg	95	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 Work Order #...: FDGDE1AC Matrix.....: SOLID
LCS Lot-Sample#: F2K200000-223

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
3-Nitroaniline	3330	758	ug/kg	23	SW846 8270C
Acenaphthene	3330	2970	ug/kg	89	SW846 8270C
2,4-Dinitrophenol	3330	3050	ug/kg	91	SW846 8270C
4-Nitrophenol	3330	2970	ug/kg	89	SW846 8270C
Dibenzofuran	3330	2760	ug/kg	83	SW846 8270C
2,4-Dinitrotoluene	3330	3480	ug/kg	104	SW846 8270C
Diethyl phthalate	3330	3290	ug/kg	99	SW846 8270C
4-Chlorophenyl phenyl ether	3330	3010	ug/kg	90	SW846 8270C
Fluorene	3330	3080	ug/kg	93	SW846 8270C
4-Nitroaniline	3330	2040	ug/kg	61	SW846 8270C
4,6-Dinitro-2-methylphenol	3330	2990	ug/kg	90	SW846 8270C
N-Nitrosodiphenylamine	3330	2980	ug/kg	89	SW846 8270C
4-Bromophenyl phenyl ether	3330	3090	ug/kg	93	SW846 8270C
Hexachlorobenzene	3330	3260	ug/kg	98	SW846 8270C
Pentachlorophenol	3330	3120	ug/kg	94	SW846 8270C
Phenanthrene	3330	3120	ug/kg	94	SW846 8270C
Anthracene	3330	2930	ug/kg	88	SW846 8270C
Carbazole	3330	2740	ug/kg	82	SW846 8270C
Di-n-butyl phthalate	3330	3160	ug/kg	95	SW846 8270C
Fluoranthene	3330	3010	ug/kg	90	SW846 8270C
Pyrene	3330	3140	ug/kg	94	SW846 8270C
Butyl benzyl phthalate	3330	2970	ug/kg	89	SW846 8270C
3,3'-Dichlorobenzidine	3330	260 a	ug/kg	7.8	SW846 8270C
Benzo(a)anthracene	3330	3020	ug/kg	91	SW846 8270C
Chrysene	3330	4050 a	ug/kg	122	SW846 8270C
bis(2-Ethylhexyl) phthalate	3330	2960	ug/kg	89	SW846 8270C
Di-n-octyl phthalate	3330	2720	ug/kg	82	SW846 8270C
Benzo(b)fluoranthene	3330	3120	ug/kg	93	SW846 8270C
Benzo(k)fluoranthene	3330	2980	ug/kg	89	SW846 8270C
Benzo(a)pyrene	3330	3010	ug/kg	90	SW846 8270C
Indeno(1,2,3-cd)pyrene	3330	2950	ug/kg	89	SW846 8270C
Dibenz(a,h)anthracene	3330	4870	ug/kg	146	SW846 8270C
Benzo(ghi)perylene	3330	2530	ug/kg	76	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F2K180113 **Work Order #...:** FDGDE1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2K200000-223

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	81	(39 - 115)
Phenol-d5	79	(40 - 115)
Nitrobenzene-d5	82	(35 - 115)
2-Fluorobiphenyl	91	(39 - 115)
2,4,6-Tribromophenol	97	(38 - 115)
Terphenyl-d14	87	(31 - 115)

NOTE(S):

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

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

PESTICIDE/PCBS

FLUOR HANFORD IC

Client Sample ID: B15XM4

GC Semivolatiles

Lot-Sample #...: F2K180113-001 **Work Order #...:** FDA2H1A9 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 11/20/02 **Analysis Date..:** 11/22/02
Prep Batch #...: 2324385
Dilution Factor: 1
% Moisture.....: 4.5 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	35	ug/kg	13
Aroclor 1221	ND	35	ug/kg	13
Aroclor 1232	ND	35	ug/kg	13
Aroclor 1242	ND	35	ug/kg	13
Aroclor 1248	ND	35	ug/kg	13
Aroclor 1254	ND	35	ug/kg	7.5
Aroclor 1260	ND	35	ug/kg	7.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	136	(50 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: W03900
MS Lot-Sample #: F2K180113-001
Date Sampled...: 11/12/02
Prep Date.....: 11/20/02
Prep Batch #...: 2324385
Dilution Factor: 1

Work Order #...: FDA2H1CR-MS
FDA2H1CT-MSD
Date Received..: 11/14/02
Analysis Date..: 11/23/02
% Moisture.....: 4.5

Matrix.....: SOLID

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Aroclor 1016	**ND**	**175**	**214**	**ug/kg**	**123**		**SW846 8082**
	ND	**175**	**206**	**ug/kg**	**118**	**4.0**	**SW846 8082**
Aroclor 1260	**ND**	**175**	**271**	**ug/kg**	**155 a**		**SW846 8082**
	ND	**175**	**244**	**ug/kg**	**140**	**10**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	121	(50 - 150)
	149	(50 - 150)

NOTE(S):

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

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

FLUOR HANFORD IC

Client Sample ID: B15YL4

GC Semivolatiles

Lot-Sample #...: F2K190261-001 **Work Order #...:** FDE4H1A9 **Matrix.....:** SOLID
Date Sampled...: 11/14/02 **Date Received..:** 11/19/02
Prep Date.....: 11/20/02 **Analysis Date..:** 12/07/02
Prep Batch #...: 2324385
Dilution Factor: 1
% Moisture.....: 4.3 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	34	ug/kg	13
Aroclor 1221	ND	34	ug/kg	13
Aroclor 1232	ND	34	ug/kg	13
Aroclor 1242	ND	34	ug/kg	13
Aroclor 1248	ND	34	ug/kg	13
Aroclor 1254	ND	34	ug/kg	7.5
Aroclor 1260	ND	34	ug/kg	7.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	139	(50 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B15YF9

GC Semivolatiles

Lot-Sample #...: F2K260215-001 **Work Order #...:** FDW9C1A5 **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
Prep Date.....: 11/27/02 **Analysis Date..:** 12/14/02
Prep Batch #...: 2331370
Dilution Factor: 1
% Moisture.....: 5.3 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Aroclor 1016	ND	35	ug/kg	13
Aroclor 1221	ND	35	ug/kg	13
Aroclor 1232	ND	35	ug/kg	13
Aroclor 1242	ND	35	ug/kg	13
Aroclor 1248	ND	35	ug/kg	13
Aroclor 1254	ND	35	ug/kg	7.5
Aroclor 1260	ND	35	ug/kg	7.5

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	106	(50 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FDG871AA **Matrix.....:** SOLID
MB Lot-Sample #: F2K200000-385
Prep Date.....: 11/20/02
Analysis Date..: 11/22/02 **Prep Batch #...:** 2324385
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	128	(50 - 150)

NOTE(S):

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

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FD0411AA **Matrix.....:** SOLID
MB Lot-Sample #: F2K270000-370

Prep Date.....: 11/27/02
Analysis Date..: 12/11/02 **Prep Batch #...:** 2331370
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	101	(50 - 150)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FDG871AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2K200000-385
Prep Date.....: 11/20/02 **Analysis Date..:** 11/22/02
Prep Batch #...: 2324385
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Aroclor 1016	**167**	**185**	**ug/kg**	**111**	**SW846 8082**
Aroclor 1260	**167**	**198**	**ug/kg**	**119**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	120	(59 - 150)

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FD0411AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2K270000-370
Prep Date.....: 11/27/02 **Analysis Date..:** 12/14/02
Prep Batch #...: 2331370
Dilution Factor: 1

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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Decachlorobiphenyl	100	(59 - 150)

NOTE(S):

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

Bold print denotes control parameters

GC
TPH

FLUOR HANFORD IC

Client Sample ID: B15XM4

GC Semivolatiles

Lot-Sample #...: F2K180113-001 **Work Order #...:** FDA2H1A6 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 11/21/02 **Analysis Date..:** 11/22/02
Prep Batch #...: 2325264
Dilution Factor: 1
% Moisture.....: 4.5 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Kerosene	ND	26	mg/kg	26
TPH - Diesel Range - WTPH-D	ND	26	mg/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	50	(30 - 170)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FDA2H1CK-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1CL-MSD
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 11/21/02 **Analysis Date..:** 11/22/02
Prep Batch #...: 2325264
Dilution Factor: 1 **% Moisture.....:** 4.5

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
TPH - Diesel Range - WTPH	**ND**	**87.3**	**47.5**	**mg/kg**	**54**		**SW846 8015 MOD**
	ND	**87.2**	**55.3**	**mg/kg**	**63**	**15**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	107	(30 - 170)
	112	(30 - 170)

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.

FLUOR HANFORD IC

Client Sample ID: B15YL4

GC Semivolatiles

Lot-Sample #...: F2K190261-001 **Work Order #...:** FDE4H1A6 **Matrix.....:** SOLID
Date Sampled...: 11/14/02 **Date Received..:** 11/19/02
Prep Date.....: 11/21/02 **Analysis Date..:** 11/22/02
Prep Batch #...: 2325264
Dilution Factor: 1
% Moisture.....: 4.3 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Kerosene	ND	26	mg/kg	26
TPH - Diesel Range - WTPH-D	ND	26	mg/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	68	(30 - 170)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B15YF9

GC Semivolatiles

Lot-Sample #...: F2K260215-001 **Work Order #...:** FDW9C1A8 **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
Prep Date.....: 12/04/02 **Analysis Date..:** 12/06/02
Prep Batch #...: 2338384
Dilution Factor: 1
% Moisture.....: 5.3 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Kerosene	ND	26	mg/kg	26
TPH - Diesel Range - WTPH-D	ND	26	mg/kg	1.4

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	64	(30 - 170)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FDKXQ1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2K210000-264
Prep Date.....: 11/21/02
Analysis Date..: 11/22/02 **Prep Batch #...:** 2325264
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Kerosene	ND	25	mg/kg	SW846 8015 MOD
TPH - Diesel Range - WTPH	ND	25	mg/kg	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	47	(30 - 170)

NOTE(S):

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

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FD7VR1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2L040000-384

Prep Date.....: 12/04/02
Analysis Date..: 12/06/02 **Prep Batch #...:** 2338384
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Kerosene	ND	25	mg/kg	SW846 8015 MOD
TPH - Diesel Range - WTPH	ND	25	mg/kg	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	79	(30 - 170)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FDKXQ1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2K210000-264
Prep Date.....: 11/21/02 **Analysis Date..:** 11/22/02
Prep Batch #...: 2325264
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
TPH - Diesel Range - WTPH	**83.3**	**57.4**	**mg/kg**	**69**	**SW846 8015 MO**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	116	(42 - 157)

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: W03900 **Work Order #...:** FD7VR1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2L040000-384
Prep Date.....: 12/04/02 **Analysis Date..:** 12/06/02
Prep Batch #...: 2338384
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
TPH - Diesel Range - WTPH	**83.3**	**59.6**	**mg/kg**	**72**	**SW846 8015 MO**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	116	(42 - 157)

NOTE(S):

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

Bold print denotes control parameters

GC

FLUOR HANFORD IC

Client Sample ID: B15XM4

GC Volatiles

Lot-Sample #...: F2K180113-001 **Work Order #...:** FDA2H1A8 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 12/18/02 **Analysis Date..:** 12/19/02
Prep Batch #...: 2353620
Dilution Factor: 1
% Moisture.....: 4.5 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethanol	ND	5.2	mg/kg	6.2
1-Propanol	ND	5.2	mg/kg	52

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	104	(70 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: F2K180113 **Work Order #...:** FDA2H1CP-MS **Matrix.....:** SOLID
MS Lot-Sample #: F2K180113-001 FDA2H1CQ-MSD
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
Prep Date.....: 12/18/02 **Analysis Date..:** 12/19/02
Prep Batch #...: 2353620
Dilution Factor: 1 **% Moisture.....:** 4.5

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Ethanol	**ND**	**105**	**101**	**mg/kg**	**97**		**SW846 8015B**
	ND	**105**	**106**	**mg/kg**	**101**	**4.7**	**SW846 8015B**
1-Propanol	**ND**	**105**	**103**	**mg/kg**	**98**		**SW846 8015B**
	ND	**105**	**114**	**mg/kg**	**109**	**10**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	92	(70 - 130)
	102	(70 - 130)

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.

FLUOR HANFORD IC

Client Sample ID: B15YL4

GC Volatiles

Lot-Sample #...: F2K190261-001 **Work Order #...:** FDE4H1A8 **Matrix.....:** SOLID
Date Sampled...: 11/14/02 **Date Received..:** 11/19/02
Prep Date.....: 12/18/02 **Analysis Date..:** 12/19/02
Prep Batch #...: 2353620
Dilution Factor: 1
% Moisture.....: 4.3 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethanol	ND	5.2	mg/kg	6.2
1-Propanol	ND	5.2	mg/kg	52

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	103	(70 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B15YF9

GC Volatiles

Lot-Sample #...: F2K260215-001 **Work Order #...:** FDW9C1A4 **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
Prep Date.....: 12/18/02 **Analysis Date..:** 12/19/02
Prep Batch #...: 2353620
Dilution Factor: 1
% Moisture.....: 5.3 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Ethanol	ND	5.3	mg/kg	6.2
1-Propanol	ND	5.3	mg/kg	53

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	101	(70 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: W03900 **Work Order #...:** FE7RP1AA **Matrix.....:** SOLID
MB Lot-Sample #: F2L190000-620

Prep Date.....: 12/18/02
Analysis Date..: 12/19/02 **Prep Batch #...:** 2353620
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Ethanol	ND	5.0	mg/kg	SW846 8015B
1-Propanol	ND	5.0	mg/kg	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	98	(70 - 130)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: W03900 **Work Order #...:** FE7RP1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F2L190000-620
Prep Date.....: 12/18/02 **Analysis Date..:** 12/19/02
Prep Batch #...: 2353620
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Ethanol	**100**	**106**	**mg/kg**	**106**	**SW846 8015B**
1-Propanol	**100**	**107**	**mg/kg**	**107**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	92	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

METALS

FLUOR HANFORD IC

Client Sample ID: B15XM4

TOTAL Metals

Lot-Sample #...: F2K180113-001 Matrix.....: SOLID
Date Sampled...: 11/12/02 Date Received..: 11/14/02
% Moisture.....: 4.5

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2331149						
Mercury	0.047 J	0.035	mg/kg	SW846 7471A	11/27/02	FDA2H1AA
		Dilution Factor: 1		MDL.....: 0.0082		
Prep Batch #...: 2339224						
Arsenic	3.3	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AD
		Dilution Factor: 1		MDL.....: 0.10		
Barium	85.5	21.0	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AE
		Dilution Factor: 1		MDL.....: 0.44		
Beryllium	0.28 B	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AF
		Dilution Factor: 1		MDL.....: 0.019		
Cadmium	ND	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AG
		Dilution Factor: 1		MDL.....: 0.28		
Chromium	8.4	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AH
		Dilution Factor: 1		MDL.....: 0.12		
Copper	15.7	2.6	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AJ
		Dilution Factor: 1		MDL.....: 0.44		
Lead	4.9	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AK
		Dilution Factor: 1		MDL.....: 0.070		
Nickel	8.9	4.2	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AL
		Dilution Factor: 1		MDL.....: 0.75		
Selenium	0.24 B	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AM
		Dilution Factor: 1		MDL.....: 0.21		
Silver	ND	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AN
		Dilution Factor: 1		MDL.....: 0.65		
Vanadium	59.4	5.2	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AP
		Dilution Factor: 1		MDL.....: 0.32		
Zinc	48.9	2.1	mg/kg	SW846 6010B	12/05-12/06/02	FDA2H1AQ
		Dilution Factor: 1		MDL.....: 0.45		

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FLUOR HANFORD IC

Client Sample ID: B15XM4

TOTAL Metals

Lot-Sample #...: F2K180113-001 Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

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

B Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: W03900 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F2K180113-001 **Prep Batch #...:** 2331149									
								% Moisture.....: 4.5	
Mercury									
	0.047	0.175	0.229	mg/kg	104		SW846 7471A	11/27/02	FDA2H1CU
	0.047	0.175	0.215	mg/kg	96	6.3	SW846 7471A	11/27/02	FDA2H1CV
			Dilution Factor: 1						
MS Lot-Sample #: F2K180113-001 **Prep Batch #...:** 2339224									
								% Moisture.....: 4.5	
Arsenic									
	3.3	105	106	mg/kg	98		SW846 6010B	12/05-12/06/02	FDA2H1CX
	3.3	105	106	mg/kg	98	0.16	SW846 6010B	12/05-12/06/02	FDA2H1C0
			Dilution Factor: 1						
Barium									
	85.5	105	194	mg/kg	104		SW846 6010B	12/05-12/06/02	FDA2H1C1
	85.5	105	191	mg/kg	101	1.6	SW846 6010B	12/05-12/06/02	FDA2H1C2
			Dilution Factor: 1						
Beryllium									
	0.28	105	106	mg/kg	101		SW846 6010B	12/05-12/06/02	FDA2H1C3
	0.28	105	106	mg/kg	101	0.34	SW846 6010B	12/05-12/06/02	FDA2H1C4
			Dilution Factor: 1						
Cadmium									
	ND	105	98.9	mg/kg	94		SW846 6010B	12/05-12/06/02	FDA2H1C5
	ND	105	99.0	mg/kg	94	0.10	SW846 6010B	12/05-12/06/02	FDA2H1C6
			Dilution Factor: 1						
Chromium									
	8.4	105	109	mg/kg	96		SW846 6010B	12/05-12/06/02	FDA2H1C7
	8.4	105	108	mg/kg	96	0.17	SW846 6010B	12/05-12/06/02	FDA2H1C8
			Dilution Factor: 1						
Copper									
	15.7	105	121	mg/kg	101		SW846 6010B	12/05-12/06/02	FDA2H1C9
	15.7	105	120	mg/kg	99	1.3	SW846 6010B	12/05-12/06/02	FDA2H1DA
			Dilution Factor: 1						
Lead									
	4.9	105	102	mg/kg	93		SW846 6010B	12/05-12/06/02	FDA2H1DC
	4.9	105	103	mg/kg	93	0.10	SW846 6010B	12/05-12/06/02	FDA2H1DD
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: W03900 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel									
	8.9	105	109	mg/kg	95		SW846 6010B	12/05-12/06/02	FDA2H1DE
	8.9	105	109	mg/kg	96	0.12	SW846 6010B	12/05-12/06/02	FDA2H1DF
			Dilution Factor: 1						
Selenium									
	0.24	105	97.4	mg/kg	93		SW846 6010B	12/05-12/06/02	FDA2H1DG
	0.24	105	97.0	mg/kg	92	0.36	SW846 6010B	12/05-12/06/02	FDA2H1DH
			Dilution Factor: 1						
Silver									
	ND	26.2	25.5	mg/kg	97		SW846 6010B	12/05-12/06/02	FDA2H1DJ
	ND	26.2	25.4	mg/kg	97	0.25	SW846 6010B	12/05-12/06/02	FDA2H1DK
			Dilution Factor: 1						
Vanadium									
	59.4	105	158	mg/kg	94		SW846 6010B	12/05-12/06/02	FDA2H1DL
	59.4	105	153	mg/kg	90	3.0	SW846 6010B	12/05-12/06/02	FDA2H1DM
			Dilution Factor: 1						
Zinc									
	48.9	105	152	mg/kg	98		SW846 6010B	12/05-12/06/02	FDA2H1DN
	48.9	105	149	mg/kg	95	2.1	SW846 6010B	12/05-12/06/02	FDA2H1DP
			Dilution Factor: 1						

NOTE(S):

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

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B15YL4

TOTAL Metals

Lot-Sample #...: F2K190261-001 Matrix.....: SOLID
Date Sampled...: 11/14/02 Date Received..: 11/19/02
% Moisture.....: 4.3

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2331149						
Mercury	0.13 J	0.035	mg/kg	SW846 7471A	11/27/02	FDE4H1AA
		Dilution Factor: 1		MDL.....: 0.0082		
Prep Batch #...: 2339224						
Arsenic	3.3	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AD
		Dilution Factor: 1		MDL.....: 0.10		
Barium	91.1	20.9	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AE
		Dilution Factor: 1		MDL.....: 0.44		
Beryllium	0.24 B	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AF
		Dilution Factor: 1		MDL.....: 0.019		
Cadmium	ND	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AG
		Dilution Factor: 1		MDL.....: 0.28		
Chromium	21.9	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AH
		Dilution Factor: 1		MDL.....: 0.11		
Copper	17.7	2.6	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AJ
		Dilution Factor: 1		MDL.....: 0.44		
Lead	2.7	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AK
		Dilution Factor: 1		MDL.....: 0.070		
Nickel	10.3	4.2	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AL
		Dilution Factor: 1		MDL.....: 0.75		
Selenium	ND	0.52	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AM
		Dilution Factor: 1		MDL.....: 0.21		
Silver	0.74 B	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AN
		Dilution Factor: 1		MDL.....: 0.65		
Vanadium	81.7	5.2	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AP
		Dilution Factor: 1		MDL.....: 0.32		
Zinc	59.7	2.1	mg/kg	SW846 6010B	12/05-12/06/02	FDE4H1AQ
		Dilution Factor: 1		MDL.....: 0.45		

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FLUOR HANFORD IC

Client Sample ID: B15YL4

TOTAL Metals

Lot-Sample #...: F2K190261-001 Matrix.....: SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

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

B Estimated result. Result is less than RL.

FLUOR HANFORD IC

Client Sample ID: B15YF9

TOTAL Metals

Lot-Sample #...: F2K260215-001 **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
% Moisture.....: 5.3

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 2331149						
Mercury	**0.044 J**	**0.035**	**mg/kg**	**SW846 7471A**	**11/27/02**	**FDW9C1A9**
		Dilution Factor: 1		MDL.....: 0.0082		
Prep Batch #...: 2339224						
Arsenic	**3.8**	**1.1**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AC**
		Dilution Factor: 1		MDL.....: 0.10		
Barium	**88.9**	**21.1**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AD**
		Dilution Factor: 1		MDL.....: 0.44		
Beryllium	**0.22 B**	**0.53**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AE**
		Dilution Factor: 1		MDL.....: 0.019		
Cadmium	ND	0.53	mg/kg	SW846 6010B	12/05-12/06/02	FDW9C1AF
		Dilution Factor: 1		MDL.....: 0.28		
Chromium	**8.4**	**1.1**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AG**
		Dilution Factor: 1		MDL.....: 0.12		
Copper	**15.4**	**2.6**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AH**
		Dilution Factor: 1		MDL.....: 0.44		
Lead	**2.8**	**0.53**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AJ**
		Dilution Factor: 1		MDL.....: 0.071		
Nickel	**16.3**	**4.2**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AK**
		Dilution Factor: 1		MDL.....: 0.76		
Selenium	**0.22 B**	**0.53**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AL**
		Dilution Factor: 1		MDL.....: 0.21		
Silver	ND	1.1	mg/kg	SW846 6010B	12/05-12/06/02	FDW9C1AM
		Dilution Factor: 1		MDL.....: 0.65		
Vanadium	**82.7**	**5.3**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AN**
		Dilution Factor: 1		MDL.....: 0.33		
Zinc	**53.7**	**2.1**	**mg/kg**	**SW846 6010B**	**12/05-12/06/02**	**FDW9C1AP**
		Dilution Factor: 1		MDL.....: 0.45		

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FLUOR HANFORD IC

Client Sample ID: B15YF9

TOTAL Metals

Lot-Sample #...: F2K260215-001 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

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

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: W03900 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F2K270000-149 **Prep Batch #...:** 2331149						
Mercury	**0.012 B**	**0.033**	**mg/kg**	**SW846 7471A**	**11/27/02**	**FD0C91AA**
		Dilution Factor: 1				
MB Lot-Sample #: F2L050000-224 **Prep Batch #...:** 2339224						
Arsenic	ND	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AA
		Dilution Factor: 1				
Barium	ND	20.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AC
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AD
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AE
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AF
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AG
		Dilution Factor: 1				
Lead	ND	0.50	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AH
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AJ
		Dilution Factor: 1				
Selenium	ND	0.50	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AK
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AL
		Dilution Factor: 1				
Vanadium	ND	5.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AM
		Dilution Factor: 1				
Zinc	ND	2.0	mg/kg	SW846 6010B	12/05-12/06/02	FD9A91AN
		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 #...: W03900 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F2K270000-149 **Prep Batch #...:** 2331149							
Mercury	9.41	7.78	mg/kg	83	SW846 7471A	11/27/02	FD0C91AC
			Dilution Factor: 10				
LCS Lot-Sample#: F2L050000-224 **Prep Batch #...:** 2339224							
Arsenic	197	221	mg/kg	112	SW846 6010B	12/05-12/06/02	FD9A91AP
			Dilution Factor: 1				
Barium	392	432	mg/kg	110	SW846 6010B	12/05-12/06/02	FD9A91AQ
			Dilution Factor: 1				
Beryllium	75.7	86.4	mg/kg	114	SW846 6010B	12/05-12/06/02	FD9A91AR
			Dilution Factor: 1				
Cadmium	69.1	75.0	mg/kg	109	SW846 6010B	12/05-12/06/02	FD9A91AT
			Dilution Factor: 1				
Chromium	82.6	88.9	mg/kg	108	SW846 6010B	12/05-12/06/02	FD9A91AU
			Dilution Factor: 1				
Copper	127	142	mg/kg	111	SW846 6010B	12/05-12/06/02	FD9A91AV
			Dilution Factor: 1				
Lead	95.0	102	mg/kg	107	SW846 6010B	12/05-12/06/02	FD9A91AW
			Dilution Factor: 1				
Nickel	85.7	91.7	mg/kg	107	SW846 6010B	12/05-12/06/02	FD9A91AX
			Dilution Factor: 1				
Selenium	117	128	mg/kg	110	SW846 6010B	12/05-12/06/02	FD9A91A0
			Dilution Factor: 1				
Silver	141	180	mg/kg	128	SW846 6010B	12/05-12/06/02	FD9A91A1
			Dilution Factor: 1				
Vanadium	158	173	mg/kg	109	SW846 6010B	12/05-12/06/02	FD9A91A2
			Dilution Factor: 1				
Zinc	275	299	mg/kg	109	SW846 6010B	12/05-12/06/02	FD9A91A3
			Dilution Factor: 1				

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WET CHEMISTRY

FLUOR HANFORD IC

Client Sample ID: B15XM4

General Chemistry

Lot-Sample #...: F2K180113-001 **Work Order #...:** FDA2H **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02
% Moisture.....: 4.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Phosphate as P, Ortho	ND	5.2	mg/kg	MCAWW 300.0A	12/05/02	2340216
		Dilution Factor: 1		MDL.....: 0.83		
pH (solid)	**8.2**		**No Units**	**SW846 9045A**	**11/19/02**	**2323326**
		Dilution Factor: 1		MDL.....:		
Chloride	**2.3**	**2.1**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340212**
		Dilution Factor: 1		MDL.....: 0.30		
Fluoride	**0.69 B**	**1.0**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340213**
		Dilution Factor: 1		MDL.....: 0.32		
Hexavalent Chromium	ND	0.42	mg/kg	SW846 7196A	12/03/02	2337419
		Dilution Factor: 1		MDL.....: 0.057		
Nitrate	**33.2**	**2.1**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340214**
		Dilution Factor: 10		MDL.....: 0.46		
Nitrate/Nitrite as N	**27.3**	**5.2**	**mg/kg**	**MCAWW 353.1**	**11/21/02**	**2325282**
		Dilution Factor: 10		MDL.....: 0.38		
Nitrite	**0.25**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340215**
		Dilution Factor: 1		MDL.....: 0.11		
Nitrogen, as Ammonia	ND	0.52	mg/kg	MCAWW 350.1	11/18/02	2322358
		Dilution Factor: 1		MDL.....: 0.12		
Percent Moisture	**4.5**	**0.10**	**%**	**MCAWW 160.3 MOD**	**11/19/02**	**2322603**
		Dilution Factor: 1		MDL.....:		
Sulfate	**25.7**	**5.2**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340217**
		Dilution Factor: 1		MDL.....: 0.39		
Total Cyanide	ND	0.52	mg/kg	SW846 9010A	11/19/02	2323373
		Dilution Factor: 1		MDL.....: 0.13		
Total Sulfide	ND	10.5	mg/kg	SW846 9030	11/26/02	2330214
		Dilution Factor: 1		MDL.....: 7.3		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: J2K150312 **Work Order #...:** FDA2H-SMP FDA2H-DUP **Matrix.....:** SOLID

Date Sampled...: 11/12/02 **Date Received..:** 11/14/02

% Moisture.....: 4.5

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N						SD Lot-Sample #:	F2K180113-001	
	27.3	27.6	mg/kg	0.76	(0-20)	MCAWW 353.1	11/21/02	2325282
			Dilution Factor: 10					
Chloride						SD Lot-Sample #:	F2K180113-001	
	2.3	3.3	mg/kg	34	(0-30)	MCAWW 300.0A	12/05/02	2340212
			Dilution Factor: 1					
Fluoride						SD Lot-Sample #:	F2K180113-001	
	0.69 B	0.70 B	mg/kg	0.89	(0-30)	MCAWW 300.0A	12/05/02	2340213
			Dilution Factor: 1					
Nitrate						SD Lot-Sample #:	F2K180113-001	
	33.2	33.6	mg/kg	1.0	(0-30)	MCAWW 300.0A	12/05/02	2340214
			Dilution Factor: 10					
Nitrite						SD Lot-Sample #:	F2K180113-001	
	0.25	0.21	mg/kg	14	(0-30)	MCAWW 300.0A	12/05/02	2340215
			Dilution Factor: 1					
Phosphate as P, Ortho						SD Lot-Sample #:	F2K180113-001	
	ND	ND	mg/kg	0	(0-20)	MCAWW 300.0A	12/05/02	2340216
			Dilution Factor: 1					
Sulfate						SD Lot-Sample #:	F2K180113-001	
	25.7	26.7	mg/kg	3.6	(0-30)	MCAWW 300.0A	12/05/02	2340217
			Dilution Factor: 1					
Nitrogen, as Ammonia						SD Lot-Sample #:	F2K180113-001	
	ND	ND	mg/kg	0	(0-30)	MCAWW 350.1	11/18/02	2322358
			Dilution Factor: 1					
Hexavalent Chromium						SD Lot-Sample #:	F2K180113-001	
	ND	ND	mg/kg	0	(0-35)	SW846 7196A	12/03/02	2337419
			Dilution Factor: 1					
Total Cyanide						SD Lot-Sample #:	F2K180113-001	
	ND	0.063 B	mg/kg	200	(0-30)	SW846 9010A	11/19/02	2323373
			Dilution Factor: 1					
Total Sulfide						SD Lot-Sample #:	F2K180113-001	
	ND	ND	mg/kg	0	(0-35)	SW846 9030	11/26/02	2330214
			Dilution Factor: 1					

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SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Lot-Sample #...: J2K150312-000 **Work Order #...:** FDA2H-SMP FDA2H-DUP **Matrix.....:** SOLID

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)						SD Lot-Sample #:	F2K180113-001	
	8.2	8.2	No Units	0.37	(0-30)	SW846 9045A	11/19/02	2323326

Dilution Factor: 1

NOTE(S):

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

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F2K180113 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02

Percnt Moisture: 0.0

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride			Work Order #...:		FDA2H1DQ	MS Lot-Sample #: F2K180113-001		
	2.3	21.0	22.9	mg/kg	98	MCAWW 300.0A	12/05/02	2340212
			Dilution Factor: 1					
Fluoride			Work Order #...:		FDA2H1DR	MS Lot-Sample #: F2K180113-001		
	0.69	21.0	23.0	mg/kg	107	MCAWW 300.0A	12/05/02	2340213
			Dilution Factor: 1					
Hexavalent Chromium			Work Order #...:		FDA2H1CD	MS Lot-Sample #: F2K180113-001		
	ND	41.9	42.2	mg/kg	101	SW846 7196A	12/03/02	2337419
			Dilution Factor: 1					
Nitrate			Work Order #...:		FDA2H1DT	MS Lot-Sample #: F2K180113-001		
	33.2	41.9	77.1	mg/kg	105	MCAWW 300.0A	12/05/02	2340214
			Dilution Factor: 10					
Nitrate/Nitrite as N			Work Order #...:		FDA2H1CW	MS Lot-Sample #: F2K180113-001		
	27.3	26.2	71.3 N	mg/kg	168	MCAWW 353.1	11/21/02	2325282
			Dilution Factor: 10					
Nitrite			Work Order #...:		FDA2H1DU	MS Lot-Sample #: F2K180113-001		
	0.25	1.05	1.29	mg/kg	99	MCAWW 300.0A	12/05/02	2340215
			Dilution Factor: 1					
Nitrogen, as Ammonia			Work Order #...:		FDA2H1CC	MS Lot-Sample #: F2K180113-001		
	ND	5.24	4.88	mg/kg	93	MCAWW 350.1	11/18/02	2322358
			Dilution Factor: 1					
Phosphate as P, Ortho			Work Order #...:		FDA2H1DV	MS Lot-Sample #: F2K180113-001		
	ND	41.9	47.7	mg/kg	114	MCAWW 300.0A	12/05/02	2340216
			Dilution Factor: 1					
Sulfate			Work Order #...:		FDA2H1DW	MS Lot-Sample #: F2K180113-001		
	25.7	41.9	65.3	mg/kg	94	MCAWW 300.0A	12/05/02	2340217
			Dilution Factor: 1					
Total Cyanide			Work Order #...:		FDA2H1CE	MS Lot-Sample #: F2K180113-001		
	ND	5.24	2.58 N	mg/kg	49	SW846 9010A	11/19/02	2323373
			Dilution Factor: 1					

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MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F2K180113 **Matrix.....:** SOLID
Date Sampled...: 11/12/02 **Date Received..:** 11/14/02

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Sulfide			Work Order #...:		FDA2H1CF		MS Lot-Sample #:	F2K180113-001
	ND	10.5	10.3	mg/kg	98	SW846 9030	11/26/02	2330214
			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.

FLUOR HANFORD IC

Client Sample ID: B15YL4

General Chemistry

Lot-Sample #...: F2K190261-001 **Work Order #...:** FDE4H **Matrix.....:** SOLID
Date Sampled...: 11/14/02 **Date Received..:** 11/19/02
% Moisture.....: 4.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Phosphate as P, Ortho	ND	5.2	mg/kg	MCAWW 300.0A	12/05/02	2340216
		Dilution Factor: 1		MDL.....: 0.83		
pH (solid)	**9.2**		**No Units**	**SW846 9045A**	**11/21-11/22/02**	**2325368**
		Dilution Factor: 1		MDL.....:		
Chloride	**3.1**	**2.1**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340212**
		Dilution Factor: 1		MDL.....: 0.30		
Fluoride	**1.1**	**1.0**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340213**
		Dilution Factor: 1		MDL.....: 0.32		
Hexavalent Chromium	ND	0.42	mg/kg	SW846 7196A	12/03/02	2337419
		Dilution Factor: 1		MDL.....: 0.056		
Nitrate	**3.6**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340214**
		Dilution Factor: 1		MDL.....: 0.046		
Nitrate/Nitrite as N	**4.7**	**0.52**	**mg/kg**	**MCAWW 353.1**	**11/21/02**	**2325282**
		Dilution Factor: 1		MDL.....: 0.038		
Nitrite	**0.48**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340215**
		Dilution Factor: 1		MDL.....: 0.11		
Nitrogen, as Ammonia	ND	0.52	mg/kg	MCAWW 350.1	11/22/02	2326305
		Dilution Factor: 1		MDL.....: 0.12		
Percent Moisture	**4.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**11/19-11/20/02**	**2323469**
		Dilution Factor: 1		MDL.....:		
Sulfate	**5.9**	**5.2**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340217**
		Dilution Factor: 1		MDL.....: 0.39		
Total Cyanide	**0.20 B**	**0.52**	**mg/kg**	**SW846 9010A**	**11/25/02**	**2329304**
		Dilution Factor: 1		MDL.....: 0.13		
Total Sulfide	ND	10.5	mg/kg	SW846 9030	11/26/02	2330214
		Dilution Factor: 1		MDL.....: 7.3		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

FLUOR HANFORD IC

Client Sample ID: B15YF9

General Chemistry

Lot-Sample #...: F2K260215-001 **Work Order #...:** FDW9C **Matrix.....:** SOLID
Date Sampled...: 11/21/02 **Date Received..:** 11/26/02
% Moisture.....: 5.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Phosphate as P, Ortho	ND	5.3	mg/kg	MCAWW 300.0A	12/05/02	2340216
		Dilution Factor: 1		MDL.....: 0.83		
pH (solid)	**8.5**		**No Units**	**SW846 9045A**	**12/09/02**	**2343232**
		Dilution Factor: 1		MDL.....:		
Chloride	**1.1 B**	**2.1**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340212**
		Dilution Factor: 1		MDL.....: 0.31		
Fluoride	**0.70 B**	**1.1**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340213**
		Dilution Factor: 1		MDL.....: 0.33		
Hexavalent Chromium	ND	0.42	mg/kg	SW846 7196A	12/03/02	2337419
		Dilution Factor: 1		MDL.....: 0.057		
Nitrate	**0.57**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340214**
		Dilution Factor: 1		MDL.....: 0.046		
Nitrate/Nitrite as N	ND	0.53	mg/kg	MCAWW 353.1	12/05/02	2339223
		Dilution Factor: 1		MDL.....: 0.038		
Nitrite	**0.35**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340215**
		Dilution Factor: 1		MDL.....: 0.12		
Nitrogen, as Ammonia	ND	0.53	mg/kg	MCAWW 350.1	12/02/02	2336111
		Dilution Factor: 1		MDL.....: 0.13		
Percent Moisture	**5.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**11/26-11/27/02**	**2330418**
		Dilution Factor: 1		MDL.....:		
Sulfate	**3.2 B**	**5.3**	**mg/kg**	**MCAWW 300.0A**	**12/05/02**	**2340217**
		Dilution Factor: 1		MDL.....: 0.39		
Total Cyanide	ND	0.53	mg/kg	SW846 9010A	12/10/02	2344208
		Dilution Factor: 1		MDL.....: 0.13		
Total Sulfide	ND	10.6	mg/kg	SW846 9030	12/11/02	2345441
		Dilution Factor: 1		MDL.....: 7.4		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: W03900 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: FELA11AA		MB Lot-Sample #:	F2L060000-212	
	ND	2.0	mg/kg	MCAWW 300.0A	12/05/02	2340212
		Dilution Factor: 1				
Fluoride		Work Order #: FELA81AA		MB Lot-Sample #:	F2L060000-213	
	ND	1.0	mg/kg	MCAWW 300.0A	12/05/02	2340213
		Dilution Factor: 1				
Hexavalent Chromium		Work Order #: FEDQJ1AA		MB Lot-Sample #:	F2L030000-419	
	ND	0.40	mg/kg	SW846 7196A	12/03/02	2337419
		Dilution Factor: 1				
Nitrate		Work Order #: FELCK1AA		MB Lot-Sample #:	F2L060000-214	
	ND	0.20	mg/kg	MCAWW 300.0A	12/05/02	2340214
		Dilution Factor: 1				
Nitrate/Nitrite as N		Work Order #: FDK5E1AA		MB Lot-Sample #:	F2K210000-282	
	ND	0.50	mg/kg	MCAWW 353.1	11/21/02	2325282
		Dilution Factor: 1				
Nitrate/Nitrite as N		Work Order #: FD9AD1AA		MB Lot-Sample #:	F2L050000-223	
	ND	0.50	mg/kg	MCAWW 353.1	12/05/02	2339223
		Dilution Factor: 1				
Nitrite		Work Order #: FELCQ1AA		MB Lot-Sample #:	F2L060000-215	
	ND	0.20	mg/kg	MCAWW 300.0A	12/05/02	2340215
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: FDCC81AA		MB Lot-Sample #:	F2K180000-358	
	ND	0.50	mg/kg	MCAWW 350.1	11/18/02	2322358
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: FDN4D1AA		MB Lot-Sample #:	F2K220000-305	
	ND	0.50	mg/kg	MCAWW 350.1	11/22/02	2326305
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: FD3J81AA		MB Lot-Sample #:	F2L020000-111	
	ND	0.50	mg/kg	MCAWW 350.1	12/02/02	2336111
		Dilution Factor: 1				
Phosphate as P, Ortho		Work Order #: FELCW1AA		MB Lot-Sample #:	F2L060000-216	
	ND	5.0	mg/kg	MCAWW 300.0A	12/05/02	2340216
		Dilution Factor: 1				

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METHOD BLANK REPORT

General Chemistry

Client Lot #...: W03900 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Sulfate		Work Order #: FELC21AA		MB Lot-Sample #:	F2L060000-217	
	ND	5.0	mg/kg	MCAWW 300.0A	12/05/02	2340217
		Dilution Factor: 1				
Total Cyanide		Work Order #: FDER71AA		MB Lot-Sample #:	F2K190000-373	
	ND	0.50	mg/kg	SW846 9010A	11/19/02	2323373
		Dilution Factor: 1				
Total Cyanide		Work Order #: FDT0H1AA		MB Lot-Sample #:	F2K250000-304	
	ND	0.50	mg/kg	SW846 9010A	11/25/02	2329304
		Dilution Factor: 1				
Total Cyanide		Work Order #: FEHFJ1AA		MB Lot-Sample #:	F2L100000-208	
	ND	0.50	mg/kg	SW846 9010A	12/10/02	2344208
		Dilution Factor: 1				
Total Sulfide		Work Order #: FDWNF1AA		MB Lot-Sample #:	F2K260000-214	
	ND	10.0	mg/kg	SW846 9030	11/26/02	2330214
		Dilution Factor: 1				
Total Sulfide		Work Order #: FEMCL1AA		MB Lot-Sample #:	F2L110000-441	
	ND	10.0	mg/kg	SW846 9030	12/11/02	2345441
		Dilution Factor: 1				

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: W03900 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD		PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)			WO#:FDEMW1AA-LCS/FDEMW1AC-LCSD				LCS Lot-Sample#: F2K190000-326		
	7.00	7.01	No Units	100		SW846	9045A	11/19/02	2323326
	7.00	7.00	No Units	100	0.14	SW846	9045A	11/19/02	2323326
			Dilution Factor: 1						
pH (solid)			WO#:FDP2H1AA-LCS/FDP2H1AC-LCSD				LCS Lot-Sample#: F2K210000-368		
	7.00	7.00	No Units	100		SW846	9045A	11/21-11/22/02	2325368
	7.00	7.00	No Units	100	0.0	SW846	9045A	11/21-11/22/02	2325368
			Dilution Factor: 1						
pH (solid)			WO#:FEF0E1AA-LCS/FEF0E1AC-LCSD				LCS Lot-Sample#: F2L090000-232		
	7.00	7.00	No Units	100		SW846	9045A	12/09/02	2343232
	7.00	7.00	No Units	100	0.0	SW846	9045A	12/09/02	2343232
			Dilution Factor: 1						
Chloride			WO#:FELA11AC-LCS/FELA11AD-LCSD				LCS Lot-Sample#: F2L060000-212		
	10.0	9.62	mg/kg	96		MCAWW	300.0A	12/05/02	2340212
	10.0	9.18	mg/kg	92	4.7	MCAWW	300.0A	12/05/02	2340212
			Dilution Factor: 1						
Fluoride			WO#:FELA81AC-LCS/FELA81AD-LCSD				LCS Lot-Sample#: F2L060000-213		
	5.00	5.17	mg/kg	103		MCAWW	300.0A	12/05/02	2340213
	5.00	5.02	mg/kg	100	2.9	MCAWW	300.0A	12/05/02	2340213
			Dilution Factor: 1						
Nitrate			WO#:FELCK1AC-LCS/FELCK1AD-LCSD				LCS Lot-Sample#: F2L060000-214		
	2.00	1.92	mg/kg	96		MCAWW	300.0A	12/05/02	2340214
	2.00	1.90	mg/kg	95	0.86	MCAWW	300.0A	12/05/02	2340214
			Dilution Factor: 1						
Nitrate/Nitrite as N			WO#:FDK5E1AC-LCS/FDK5E1AD-LCSD				LCS Lot-Sample#: F2K210000-282		
	20.0	19.5	mg/kg	98		MCAWW	353.1	11/21/02	2325282
	20.0	19.3	mg/kg	96	1.0	MCAWW	353.1	11/21/02	2325282
			Dilution Factor: 1						
Nitrate/Nitrite as N			WO#:FD9AD1AC-LCS/FD9AD1AD-LCSD				LCS Lot-Sample#: F2L050000-223		
	20.0	20.3	mg/kg	102		MCAWW	353.1	12/05/02	2339223
	20.0	20.4	mg/kg	102	0.49	MCAWW	353.1	12/05/02	2339223
			Dilution Factor: 1						

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LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: W03900 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrite		WO#:FELCQ1AC-LCS/FELCQ1AD-LCSD				LCS Lot-Sample#: F2L060000-215		
	0.800	0.754	mg/kg	94		MCAWW 300.0A	12/05/02	2340215
	0.800	0.752	mg/kg	94	0.19	MCAWW 300.0A	12/05/02	2340215
		Dilution Factor: 1						
Nitrogen, as Ammonia		WO#:FDCC81AC-LCS/FDCC81AD-LCSD				LCS Lot-Sample#: F2K180000-358		
	20.0	19.4	mg/kg	97		MCAWW 350.1	11/18/02	2322358
	20.0	19.4	mg/kg	97	0.25	MCAWW 350.1	11/18/02	2322358
		Dilution Factor: 1						
Nitrogen, as Ammonia		WO#:FDN4D1AC-LCS/FDN4D1AD-LCSD				LCS Lot-Sample#: F2K220000-305		
	20.0	21.4	mg/kg	107		MCAWW 350.1	11/22/02	2326305
	20.0	21.6	mg/kg	108	0.92	MCAWW 350.1	11/22/02	2326305
		Dilution Factor: 1						
Nitrogen, as Ammonia		WO#:FD3J81AC-LCS/FD3J81AD-LCSD				LCS Lot-Sample#: F2L020000-111		
	20.0	18.3	mg/kg	91		MCAWW 350.1	12/02/02	2336111
	20.0	18.3	mg/kg	91	0.04	MCAWW 350.1	12/02/02	2336111
		Dilution Factor: 1						
Phosphate as P, Ortho		WO#:FELCW1AC-LCS/FELCW1AD-LCSD				LCS Lot-Sample#: F2L060000-216		
	40.0	42.3	mg/kg	106		MCAWW 300.0A	12/05/02	2340216
	40.0	40.8	mg/kg	102	3.8	MCAWW 300.0A	12/05/02	2340216
		Dilution Factor: 1						
Sulfate		WO#:FELC21AC-LCS/FELC21AD-LCSD				LCS Lot-Sample#: F2L060000-217		
	40.0	38.1	mg/kg	95		MCAWW 300.0A	12/05/02	2340217
	40.0	37.5	mg/kg	94	1.6	MCAWW 300.0A	12/05/02	2340217
		Dilution Factor: 1						
Total Cyanide		WO#:FDER71AC-LCS/FDER71AD-LCSD				LCS Lot-Sample#: F2K190000-373		
	5.00	5.20	mg/kg	104		SW846 9010A	11/19/02	2323373
	5.00	5.20	mg/kg	104	0.0	SW846 9010A	11/19/02	2323373
		Dilution Factor: 1						
Total Cyanide		WO#:FDT0H1AC-LCS/FDT0H1AD-LCSD				LCS Lot-Sample#: F2K250000-304		
	5.00	4.89	mg/kg	98		SW846 9010A	11/25/02	2329304
	5.00	5.10	mg/kg	102	4.2	SW846 9010A	11/25/02	2329304
		Dilution Factor: 1						

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LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: W03900 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT		UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Cyanide			WO#:FEHFJ1AC-LCS/FEHFJ1AD-LCSD				LCS Lot-Sample#: F2L100000-208		
	5.00	4.85		mg/kg	97		SW846 9010A	12/10/02	2344208
	5.00	5.05		mg/kg	101	4.0	SW846 9010A	12/10/02	2344208
			Dilution Factor: 1						
Total Sulfide			WO#:FEMCL1AC-LCS/FEMCL1AD-LCSD				LCS Lot-Sample#: F2L110000-441		
	10.0	9.40		mg/kg	94		SW846 9030	12/11/02	2345441
	100	9.60	N	mg/kg	9.6	2.1	SW846 9030	12/11/02	2345441
			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.

SEVERN TRENT SERVICES

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: W03900 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium			Work Order #:	FEDQJ1AC	LCS Lot-Sample#:	F2L030000-419	
	50.0	48.4	mg/kg	97	SW846 7196A	12/03/02	2337419
			Dilution Factor: 1				
Total Sulfide			Work Order #:	FDWNF1AC	LCS Lot-Sample#:	F2K260000-214	
	10.0	9.60	mg/kg	96	SW846 9030	11/26/02	2330214
			Dilution Factor: 1				

NOTE(S):

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

PO. 3589-0002-30113 Request MK3599 (F2L160190)