



June 17, 2005

Mr. Steve Trent
Fluor Hanford Inc.
825 Jadwin Avenue
Richland, WA 99352



Reference: **P.O. #630**
Eberline Services R5-05-037-7268, SDG H3146

Dear Mr. Trent:

Enclosed is the data report for two solid samples designated under SAF No. F04-019 received at Eberline Services on May 6, 2005. The samples were analyzed according to the accompanying chain-of-custody documents.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Senior Program Manager

MCM/

Enclosure: Data Package

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Analytical Services
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P.O. Box 4040
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(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
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1.0 GENERAL

Fluor Hanford Inc. (FH) Sample Delivery Group H3146 was composed of two solid (soil) samples designated under SAF No. F04-019 with a Project Designation of: 200-MW-1 Characterization Sampling and Analysis-Waste Management.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Tritium Analyses

No problems were encountered during the course of the analyses.

2.2 Carbon-14 Analyses

No problems were encountered during the course of the analyses.

2.3 Nickel-63 Analyses

No problems were encountered during the course of the analyses.

2.4 Technetium-99 Analyses

No problems were encountered during the course of the analyses.

2.5 Iodine-129 Analyses

No problems were encountered during the course of the analyses.

2.6 Isotopic Thorium Analyses

The LCS percent recovery was 77%, below the laboratory's limits (80-120%), but within the Hanford contract protocol limits (70-130%). No other problems were encountered during the course of the analyses.

Case Narrative Certification Statement

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

Melissa C. Mannion
Senior Program Manager

Date

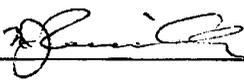
EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP H3146

SDG 7268
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG_H3146

S U M M A R Y D A T A S E C T I O N

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Prepared by 
Reviewed by Melissa Mannion

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-TOC
Version 3.06
Report date 06/16/05

SDG 7268

Contact Melissa C. Mannion

REPORT GUIDE

Client HanfordContract No. 630Case no SDG H3146

ABOUT THE DATA SUMMARY SECTION

The Data Summary Section of a Data Package has all data, in several useful orders, necessary for first level, routine review of the data package for a Sample Delivery Group (SDG). This section follows the Data Package Narrative, which has an overview of the data package and a discussion of special problems. It is followed by the Raw Data Section, which has full details.

The Data Summary Section has several groups of reports:

SAMPLE SUMMARIES

The Sample and QC Summary Reports show all samples, including QC samples, reported in one SDG. These reports cross-reference client and lab sample identifiers.

PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches (lab groupings reflecting how work was organized) relevant to the reported SDG with information necessary to check the completeness and consistency of the SDG.

WORK SUMMARY

The Work Summary Report shows all samples and work done on them relevant to the reported SDG.

METHOD BLANKS

The Method Blank Reports, one for each Method Blank relevant to the SDG, show all results and primary supporting information for the blanks.

LAB CONTROL SAMPLES

The Lab Control Sample Reports, one for each Lab Control Sample relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EBRLINEProtocol HanfordVersion Ver 1.0Form DVD-RGVersion 3.06Report date 06/16/05

SDG 7268
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H3146

ABOUT THE DATA SUMMARY SECTION

DUPLICATES

The Duplicate Reports, one for each Duplicate and Original sample pair relevant to the SDG, show all results, differences and primary supporting information for these QC samples.

MATRIX SPIKES

The Matrix Spike Reports, one for each Spiked and Original sample pair relevant to the SDG, show all results, recoveries and primary supporting information for these QC samples.

DATA SHEETS

The Data Sheet Reports, one for each client sample in the SDG, show all results and primary supporting information for these samples.

METHOD SUMMARIES

The Method Summary Reports, one for each test used in the SDG, show all results, QC and method performance data for one analyte on one or two pages. (A test is a short code for the method used to do certain work to the client's specification.)

REPORT GUIDES

The Report Guides, one for each of the above groups of reports, have documentation on how to read the associated reports.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 2

Lab id EBRINE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 06/16/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

SAMPLE SUMMARY

SDG 7268
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG H3146

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB		CHAIN OF CUSTODY	COLLECTED
				SAMPLE ID	SAF NO		
B1C784	216-T-13; 8-9 ft	SOLID		R505037-01	F04-019	F04-019-013	04/27/05 09:20
B1CY50	216-T-13; 8-9 ft-B	SOLID		R505037-02	F04-019	F04-019-021	04/28/05 14:20
Method Blank		SOLID		R505037-04	F04-019		
Lab Control Sample		SOLID		R505037-03	F04-019		
Duplicate (R505037-02)	216-T-13; 8-9 ft-B	SOLID		R505037-05	F04-019		04/28/05 14:20

SAMPLE SUMMARY

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-CS
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 Report date 06/16/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

SDG 7268
 Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG H3146

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLR ID	DEPARTMENT SAMPLE ID
7268	F04-019-013	B1C784	SOLID	98.2	98 g		05/06/05 9	R505037-01		7268-001
	F04-019-021	B1CY50	SOLID	98.3	112 g		05/06/05 8	R505037-02		7268-002
		Method Blank	SOLID					R505037-04		7268-004
		Lab Control Sample	SOLID					R505037-03		7268-003
		Duplicate (R505037-02)	SOLID	98.3	112 g		05/06/05 8	R505037-05		7268-005

Lab id EBRINE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 06/16/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

SDG 7268
 Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG H3146

TEST	MATRIX	METHOD	PREPARATION ERROR			PLANCHETS ANALYZED			QUALI-
			BATCH	2σ %	CLIENT MORE	RE BLANK	LCS	DUP/ORIG MS/ORIG	
Alpha Spectroscopy									
TH	SOLID	Thorium, Isotopic in Solids	7132-129	5.0	2	1	1	1/1	
Beta Counting									
TC	SOLID	Technetium 99 in Solids	7132-129	10.0	2	1	1	1/1	
Gamma Spectroscopy									
I	SOLID	Iodine 129 in Solids	7132-129	10.0	1	1	1	1/1	
Liquid Scintillation Counting									
C	SOLID	Carbon 14 in Solids	7132-129	10.0	2	1	1	1/1	
H	SOLID	Tritium in Solids	7132-129	10.0	2	1	1	1/1	
NI_L	SOLID	Nickel 63 in Solids	7132-129	10.0	2	1	1	1/1	

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
 Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-PBS
 Version 3.06
 Report date 06/16/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

SDG 7268
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG H3146

WORK SUMMARY

CLIENT SAMPLE ID	LAB SAMPLE ID	LOCATION	MATRIX	COLLECTED	PLANCHET	TEST	SUF-	FIX	ANALYZED	REVIEWED	BY	METHOD
CUSTODY	SAF No			RECEIVED								
B1C784	R505037-01			7268-001		C		06/03/05	06/07/05	MWT		Carbon 14 in Solids
216-T-13; 8-9 ft		SOLID		04/27/05	7268-001	H		06/04/05	06/07/05	MWT		Tritium in Solids
F04-019-013	F04-019			05/06/05	7268-001	NI_L		05/28/05	06/06/05	MWT		Nickel 63 in Solids
					7268-001	TC		06/04/05	06/08/05	MWT		Technetium 99 in Solids
					7268-001	TH		06/07/05	06/10/05	MWT		Thorium, Isotopic in Solids
B1CY50	R505037-02			7268-002		C		06/03/05	06/07/05	MWT		Carbon 14 in Solids
216-T-13; 8-9 ft-B		SOLID		04/28/05	7268-002	H		06/04/05	06/07/05	MWT		Tritium in Solids
F04-019-021	F04-019			05/06/05	7268-002	I		06/13/05	06/14/05	MWT		Iodine 129 in Solids
					7268-002	NI_L		05/28/05	06/06/05	MWT		Nickel 63 in Solids
					7268-002	TC		06/07/05	06/08/05	MWT		Technetium 99 in Solids
					7268-002	TH		06/07/05	06/10/05	MWT		Thorium, Isotopic in Solids
Method Blank	R505037-04			7268-004		C		06/03/05	06/07/05	MWT		Carbon 14 in Solids
		SOLID			7268-004	H		06/04/05	06/07/05	MWT		Tritium in Solids
	F04-019				7268-004	I		06/14/05	06/14/05	MWT		Iodine 129 in Solids
					7268-004	NI_L		05/28/05	06/06/05	MWT		Nickel 63 in Solids
					7268-004	TC		06/07/05	06/08/05	MWT		Technetium 99 in Solids
					7268-004	TH		06/07/05	06/10/05	MWT		Thorium, Isotopic in Solids
Lab Control Sample	R505037-03			7268-003		C		06/03/05	06/07/05	MWT		Carbon 14 in Solids
		SOLID			7268-003	H		06/05/05	06/07/05	MWT		Tritium in Solids
	F04-019				7268-003	I		06/13/05	06/14/05	MWT		Iodine 129 in Solids
					7268-003	NI_L		05/28/05	06/06/05	MWT		Nickel 63 in Solids
					7268-003	TC		06/04/05	06/08/05	MWT		Technetium 99 in Solids
					7268-003	TH		06/08/05	06/10/05	MWT		Thorium, Isotopic in Solids
Duplicate (R505037-02)	R505037-05			7268-005		C		06/03/05	06/07/05	MWT		Carbon 14 in Solids
216-T-13; 8-9 ft-B		SOLID		04/28/05	7268-005	H		06/04/05	06/07/05	MWT		Tritium in Solids
F04-019	F04-019			05/06/05	7268-005	I		06/14/05	06/14/05	MWT		Iodine 129 in Solids
					7268-005	NI_L		05/28/05	06/06/05	MWT		Nickel 63 in Solids
					7268-005	TC		06/08/05	06/08/05	MWT		Technetium 99 in Solids
					7268-005	TH		06/07/05	06/10/05	MWT		Thorium, Isotopic in Solids

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-CWS
 Version 3.06
 Report date 06/16/05

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

SDG 7268
 Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
 Contract No. 630
 Case no SDG H3146

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP SPIKE	TOTAL
C	F04-019	Carbon 14 in Solids	C14_COX_LSC	2			1	1	1	5
H	F04-019	Tritium in Solids	TRITIUM_COX_LSC	2			1	1	1	5
I	F04-019	Iodine 129 in Solids	I129_SEP_LEPS_GS	1			1	1	1	4
NI_L	F04-019	Nickel 63 in Solids	NI63_LSC	2			1	1	1	5
TC	F04-019	Technetium 99 in Solids	TC99_TR_SEP_LSC	2			1	1	1	5
TH	F04-019	Thorium, Isotopic in Solids	THISO_IE_PLATE_AEA	2			1	1	1	5
TOTALS				11			6	6	6	29

WORK SUMMARY

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SUMMARY DATA SECTION

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Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-CWS
 Version 3.06
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EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H3146

R505037-04

Method Blank

METHOD BLANK

SDG <u>7268</u>	Client/Case no <u>Hanford</u>	<u>SDG H3146</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R505037-04</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7268-004</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F04-019</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.13	2.3	3.8	400	U	H
Carbon 14	14762-75-5	4.07	2.9	4.7	50	U	C
Nickel 63	13981-37-8	1.49	1.7	2.9	30	U	NI_L
Technetium 99	14133-76-7	0.063	0.20	0.52	15	U	TC
Thorium 228	14274-82-9	0	0.042	0.10	1.0	U	TH
Thorium 230	14269-63-7	0.053	0.13	0.24	1.0	U	TH
Thorium 232	TH-232	-0.021	0.042	0.10	1.0	U	TH
Iodine 129	15046-84-1	-0.034	0.29	0.65	2.0	U	I

200-MW-1 Charac.Samp.&Analys-WastMan

QC-BLANK 52872

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>06/16/05</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

R505037-03

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7268</u>	Client/Case no <u>Hanford</u>	<u>SDG H3146</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R505037-03</u>	Client sample id <u>Lab Control Sample</u>	
Dept sample id <u>7268-003</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>F04-019</u>	

ANALYTE	RESULT	2σ ERR	MDA	RDL	QUALI-	ADDED	2σ ERR	REC	3σ	LMTS	PROTOCOL
	pCi/g	(COUNT)	pCi/g	pCi/g	FIERS TEST		pCi/g	pCi/g	%	(TOTAL)	LIMITS
Tritium	918	12	4.1	400	H	967	39	95	84-116	80-120	
Carbon 14	2000	41	11	50	C	2130	85	94	84-116	80-120	
Nickel 63	263	8.3	3.9	30	NI_L	272	11	97	84-116	80-120	
Technetium 99	118	2.6	0.62	15	TC	120	4.8	98	84-116	80-120	
Thorium 230	35.9	1.5	0.21	1.0	TH	46.4	1.9	<u>77</u>	90-110	80-120	
Iodine 129	128	1.9	<u>3.3</u>	2.0	I	127	5.1	101	84-116	80-120	

200-MW-1 Charac.Samp.&Analys-WastMan

QC-LCS 52871

LAB CONTROL SAMPLES

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Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-LCS</u>
Version <u>3.06</u>
Report date <u>06/16/05</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

R505037-05

B1CY50

DUPLICATE

SDG <u>7268</u>	Client/Case no <u>Hanford</u>	SDG <u>H3146</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>R505037-05</u>	Lab sample id <u>R505037-02</u>	Client sample id <u>B1CY50</u>
Dept sample id <u>7268-005</u>	Dept sample id <u>7268-002</u>	Location/Matrix <u>216-T-13; 8-9 ft-B</u> SOLID
	Received <u>05/06/05</u>	Collected/Weight <u>04/28/05 14:20</u> <u>112 g</u>
% solids <u>98.3</u>	% solids <u>98.3</u>	Custody/SAP No <u>F04-019-021</u> <u>F04-019</u>

ANALYTE	DUPLICATE	2σ ERR	MDA	RDL	QUALI-	TEST	ORIGINAL	2σ ERR	MDA	QUALI-	RPD	3σ	PROT
	pCi/g	(COUNT)	pCi/g	pCi/g	FIERS		pCi/g	(COUNT)	pCi/g	FIERS	%	TOT	LIMIT
Tritium	1.36	1.9	3.1	400	U	H	1.34	1.9	3.2	U	-		
Carbon 14	1.89	2.3	3.8	50	U	C	0.835	2.3	3.8	U	-		
Nickel 63	2.19	2.1	3.4	30	U	NI_L	0.803	2.1	3.6	U	-		
Technetium 99	-0.033	0.17	0.56	15	U	TC	0.116	0.36	0.57	U	-		
Thorium 228	0.870	0.14	0.046	1.0		TH	0.766	0.14	0.064		13	38	
Thorium 230	0.384	0.13	0.20	1.0		TH	0.442	0.14	0.19		14	70	
Thorium 232	0.773	0.13	0.059	1.0		TH	0.765	0.14	0.070		1	39	
Iodine 129	0.837	1.3	<u>2.9</u>	2.0	U	I	-0.203	0.56	1.3	U	-		

200-MW-1 Charac.Samp.&Analys-WastMan

QC-DOP#2 52873

DUPLICATES

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SUMMARY DATA SECTION

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Lab id <u>EBERLINE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>06/16/05</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP H3146

R505037-01

B1C784

DATA SHEET

SDG <u>7268</u>	Client/Case no <u>Hanford</u>	SDG <u>H3146</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R505037-01</u>	Client sample id <u>B1C784</u>	
Dept sample id <u>7268-001</u>	Location/Matrix <u>216-T-13; 8-9 ft</u>	<u>SOLID</u>
Received <u>05/06/05</u>	Collected/Weight <u>04/27/05 09:20</u>	<u>98 g</u>
% solids <u>98.2</u>	Custody/SAF No <u>F04-019-013</u>	<u>F04-019</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	2.99	2.1	3.4	400	U	H
Carbon 14	14762-75-5	1.76	2.5	4.2	50	U	C
Nickel 63	13981-37-8	2.25	1.8	3.0	30	U	NI L
Technetium 99	14133-76-7	0.198	0.26	0.71	15	U	TC
Thorium 228	14274-82-9	0.777	0.14	0.079	1.0		TH
Thorium 230	14269-63-7	0.634	0.17	0.21	1.0		TH
Thorium 232	TH-232	0.741	0.14	0.073	1.0		TH

200-MW-1 Charac.Samp.&Analys-WastMan

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DS</u>
Version <u>3.06</u>
Report date <u>06/16/05</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP H3146

R505037-02

B1CY50

DATA SHEET

SDG <u>7268</u>	Client/Case no <u>Hanford</u>	SDG <u>H3146</u>
Contact <u>Melissa C. Mannion</u>	Contract <u>No. 630</u>	
Lab sample id <u>R505037-02</u>	Client sample id <u>B1CY50</u>	
Dept sample id <u>7268-002</u>	Location/Matrix <u>216-T-13; 8-9 ft-B</u>	<u>SOLID</u>
Received <u>05/06/05</u>	Collected/Weight <u>04/28/05 14:20</u>	<u>112 g</u>
% solids <u>98.3</u>	Custody/SAF No <u>F04-019-021</u>	<u>F04-019</u>

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Tritium	10028-17-8	1.34	1.9	3.2	400	U	H
Carbon 14	14762-75-5	0.835	2.3	3.8	50	U	C
Nickel 63	13981-37-8	0.803	2.1	3.6	30	U	NI_L
Technetium 99	14133-76-7	0.116	0.36	0.57	15	U	TC
Thorium 228	14274-82-9	0.766	0.14	0.064	1.0		TH
Thorium 230	14269-63-7	0.442	0.14	0.19	1.0		TH
Thorium 232	TH-232	0.765	0.14	0.070	1.0		TH
Iodine 129	15046-84-1	-0.203	0.56	1.3	2.0	U	I

200-MW-1 Charac.Samp.&Analys-WastMan

Lab id <u>EBRLNE</u>
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DATA SHEETS

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SUMMARY DATA SECTION

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

Test TH Matrix SOLID
 SDG 7268
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Contract SDG H3146

METHOD SUMMARY

THORIUM, ISOTOPIC IN SOLIDS
 ALPHA SPECTROSCOPY

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW SUP- TEST FIX	PLANCHET	Thorium 230
Preparation batch 7132-129				
B1C784	R505037-01		7268-001	0.634
B1CY50	R505037-02		7268-002	0.442
BLK (QC ID=52872)	R505037-04		7268-004	U
LCS (QC ID=52871)	R505037-03		7268-003	<u>LOW</u>
Duplicate (R505037-02)	R505037-05		7268-005	ok

Nominal values and limits from method RDLs (pCi/g) 1.0
 200-MW-1 Charac.Samp.&Analys-WastMan

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW SUP- TEST FIX	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZED	DETECTOR
Preparation batch 7132-129 2σ prep error 5.0 % Reference Lab Notebook 7132 pg. 129															
B1C784	R505037-01		0.21	0.250			92		1125			41	06/07/05	06/07	SS-063
B1CY50	R505037-02		0.19	0.250			92		1126			40	06/07/05	06/07	SS-064
BLK (QC ID=52872)	R505037-04		0.24	0.250			46		1126				06/07/05	06/07	SS-066
LCS (QC ID=52871)	R505037-03		0.21	0.250			85		1043				06/07/05	06/08	SS-066
Duplicate (R505037-02)	R505037-05		0.20	0.250			91		1118			40	06/07/05	06/07	SS-028
	(QC ID=52873)														

Nominal values and limits from method 1.0 0.250 20-105 150 180

PROCEDURES	REFERENCE	THISO IE PLATE AEA
CP-061		Determination of Moisture Content in Solid Samples rev 3
CP-071		Soil Dissolution, > 1.0g Aliquot, rev 5
CP-900		Thorium in Water and Dissolved Solid Samples by Extraction Chromatography, rev 1
CP-008		Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD	MDA	<u>0.21</u> ± <u>0.037</u>
FOR 5 SAMPLES	YIELD	<u>81</u> ± <u>40</u>

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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

METHOD SUMMARY

TECHNETIUM 99 IN SOLIDS

BETA COUNTING

Test TC Matrix SOLID
 SDG 7268
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Contract SDG H3146

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW SUP- TEST FIX	PLANCHET	Technetium
Preparation batch 7132-129				
B1C784	R505037-01		7268-001	U
B1CY50	R505037-02		7268-002	U
BLK (QC ID=52872)	R505037-04		7268-004	U
LCS (QC ID=52871)	R505037-03		7268-003	ok
Duplicate (R505037-02)	R505037-05		7268-005	- U

Nominal values and limits from method RDLS (pCi/g) 15
 200-MW-1 Charac.Samp.&Analys-WastMan

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW SUP- TEST FIX	MDA pCi/g	ALIQ g	PREP PAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZED	DETECTOR
Preparation batch 7132-129 2σ prep error 10.0 % Reference Lab Notebook 7132 pg. 129															
B1C784	R505037-01		0.71	1.00			82		50			38	06/01/05	06/04	GRB-231
B1CY50	R505037-02		0.57	1.00			91		50			40	06/01/05	06/07	GRB-227
BLK (QC ID=52872)	R505037-04		0.52	1.00			98		50				06/01/05	06/07	GRB-228
LCS (QC ID=52871)	R505037-03		0.62	1.00			90		50				06/01/05	06/04	GRB-229
Duplicate (R505037-02)	R505037-05		0.56	1.00			91		50			41	06/01/05	06/08	GRB-224
	(QC ID=52873)														

Nominal values and limits from method 15 1.00 20-105 50 180

PROCEDURES REFERENCE TC99_TR_SEP_LSC
 CP-431 Technetium-99 Purification of Soil or Resin by
 Extraction Chromatography, rev 2
 CP-008 Heavy Element Electroplating, rev 9

AVERAGES ± 2 SD MDA 0.60 ± 0.15
 FOR 5 SAMPLES YIELD 90 ± 11

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 Version 3.06
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H3146

METHOD SUMMARY

IODINE 129 IN SOLIDS
GAMMA SPECTROSCOPY

Test I Matrix SOLID
SDG 7268
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Contract SDG H3146

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST FIX	SUF- PLANCHET	Iodine 129
Preparation batch 7132-129				
B1CY50	R505037-02		7268-002	U
BLK (QC ID=52872)	R505037-04		7268-004	U
LCS (QC ID=52871)	R505037-03		7268-003	ok
Duplicate (R505037-02)	R505037-05		7268-005	- U

Nominal values and limits from method RDLs (pCi/g) 2.0
200-MW-1 Charac.Samp.&Analys-WastMan

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST FIX	SUF- pCi/g	MDA	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZRD	DETECTOR
Preparation batch 7132-129 2σ prep error 10.0 % Reference Lab Notebook 7132 pg. 129																
B1CY50	R505037-02		1.3	1.00				48		954		46	06/13/05	06/13		XSPEC-004
BLK (QC ID=52872)	R505037-04		0.65	1.00				85		990			06/13/05	06/14		XSPEC-004
LCS (QC ID=52871)	R505037-03		3.3	1.00				67		954			06/13/05	06/13		XSPEC-016
Duplicate (R505037-02) (QC ID=52873)	R505037-05		2.9	1.00				49		989		47	06/13/05	06/14		XSPEC-016

Nominal values and limits from method 2.0 1.00 20-105 300 180

PROCEDURES	REFERENCE	I129_SEP_LEPS_GS
CP-060	Soil Preparation, rev 7	
CP-024	Iodine-129, Sample Dissolution, rev 5	
CP-530	Iodine-129 Purification, rev 1	

AVERAGES ± 2 SD	MDA	2.0	±	2.5
FOR 4 SAMPLES	YIELD	62	±	35

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SAMPLE DELIVERY GROUP H3146

Test C Matrix SOLID
 SDG 7268
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Contract SDG H3146

METHOD SUMMARY

CARBON 14 IN SOLIDS
 LIQUID SCINTILLATION COUNTING

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	Carbon 14
Preparation batch 7132-129					
B1C784	R505037-01			7268-001	U
B1CY50	R505037-02			7268-002	U
BLK (QC ID=52872)	R505037-04			7268-004	U
LCS (QC ID=52871)	R505037-03			7268-003	ok
Duplicate (R505037-02)	R505037-05			7268-005	- U

Nominal values and limits from method RDLs (pCi/g) 50
 200-MW-1 Charac.Samp.&Analys-WastMan

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	MDA pCi/g	ALIQ g	PRRP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7132-129 2σ prep error 10.0 % Reference Lab Notebook 7132 pg. 129																
B1C784	R505037-01			4.2	0.338			100		50			37	06/02/05	06/03	LSC-004
B1CY50	R505037-02			3.8	0.358			100		50			36	06/02/05	06/03	LSC-004
BLK (QC ID=52872)	R505037-04			4.7	0.300			100		50				06/02/05	06/03	LSC-004
LCS (QC ID=52871)	R505037-03			11	0.300			100		<u>11</u>				06/02/05	06/03	LSC-004
Duplicate (R505037-02) (QC ID=52873)	R505037-05			3.8	0.365			100		50			36	06/02/05	06/03	LSC-004

Nominal values and limits from method 50 0.300 25 180

PROCEDURES REFERENCE C14_COX_LSC
 CP-251 Tritium/Carbon-14 Oxidation, rev 8

AVERAGES ± 2 SD MDA 5.5 ± 6.2
 FOR 5 SAMPLES YIELD 100 ± 0

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SAMPLE DELIVERY GROUP H3146

METHOD SUMMARY

TRITIUM IN SOLIDS
LIQUID SCINTILLATION COUNTING

Test H Matrix SOLID
SDG 7268
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Contract SDG H3146

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	Tritium
Preparation batch 7132-129					
B1C784	R505037-01			7268-001	U
B1CY50	R505037-02			7268-002	U
BLK (QC ID=52872)	R505037-04			7268-004	U
LCS (QC ID=52871)	R505037-03			7268-003	ok
Duplicate (R505037-02)	R505037-05			7268-005	- U

Nominal values and limits from method RDLs (pCi/g) 400
200-MW-1 Charac.Samp.&Analys-WastMan

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZED	DETECTOR
Preparation batch 7132-129 2σ prep error 10.0 % Reference Lab Notebook 7132 pg. 129																
B1C784	R505037-01			3.4	0.338			100	120			38	06/02/05	06/04		LSC-005
B1CY50	R505037-02			3.2	0.358			100	120			37	06/02/05	06/04		LSC-005
BLK (QC ID=52872)	R505037-04			3.8	0.300			100	120				06/02/05	06/04		LSC-005
LCS (QC ID=52871)	R505037-03			4.1	0.300			100	120				06/02/05	06/05		LSC-005
Duplicate (R505037-02)	R505037-05			3.1	0.365			100	120			37	06/02/05	06/04		LSC-005
	(QC ID=52873)															

Nominal values and limits from method 400 0.300 25 180

PROCEDURES REFERENCE TRITIUM_COX_LSC
CP-251 Tritium/Carbon-14 Oxidation, rev 8

AVERAGES ± 2 SD MDA 3.5 ± 0.84
FOR 5 SAMPLES YIELD 100 ± 0

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SAMPLE DELIVERY GROUP H3146

Test NI L Matrix SOLID
 SDG 7268
 Contact Melissa C. Mannion

METHOD SUMMARY

NICKEL 63 IN SOLIDS
 LIQUID SCINTILLATION COUNTING

Client Hanford
 Contract No. 630
 Contract SDG H3146

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST FIX	SUF- PLANCHET	Nickel 63
Preparation batch 7132-129				
B1C784	R505037-01		7268-001	U
B1CY50	R505037-02		7268-002	U
BLK (QC ID=52872)	R505037-04		7268-004	U
LCS (QC ID=52871)	R505037-03		7268-003	ok
Duplicate (R505037-02)	R505037-05		7268-005	- U

Nominal values and limits from method RDLs (pCi/g) 30
 200-MW-1 Charac.Samp.&Analys-WastMan

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST FIX	SUF- pCi/g	MDA	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- PREPARED	YZED	DETECTOR
Preparation batch 7132-129 2σ prep error 10.0 % Reference Lab Notebook 7132 pg. 129																
B1C784	R505037-01		3.0	0.500				92		50			31	05/27/05	05/28	LSC-004
B1CY50	R505037-02		3.6	0.500				77		50			30	05/27/05	05/28	LSC-004
BLK (QC ID=52872)	R505037-04		2.9	0.500				95		50				05/27/05	05/28	LSC-004
LCS (QC ID=52871)	R505037-03		3.9	0.500				96		27				05/27/05	05/28	LSC-004
Duplicate (R505037-02) (QC ID=52873)	R505037-05		3.4	0.500				81		50			30	05/27/05	05/28	LSC-004

Nominal values and limits from method 30 0.500 30-105 25 180

PROCEDURES	REFERENCE	NI63_LSC
CP-060	Soil Preparation, rev 7	
CP-071	Soil Dissolution, > 1.0g Aliquot, rev 5	
CP-280	Nickel-63 Purification, rev 3	

AVERAGES ± 2 SD	MDA	3.4	±	0.83
FOR 5 SAMPLES	YIELD	88	±	17

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SAMPLE DELIVERY GROUP H3146

SDG 7268
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REPORT GUIDE

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SAMPLE SUMMARY

The Sample and QC Summary Reports show all samples, including QC samples, reported in one Sample Delivery Group (SDG).

The Sample Summary Report fully identifies client samples and gives the corresponding lab sample identification. The QC Summary Report shows at the sample level how the lab organized the samples into batches and generated QC samples. The Preparation Batch and Method Summary Reports show this at the analysis level.

The following notes apply to these reports:

- * LAB SAMPLE ID is the lab's primary identification for a sample.
- * DEPARTMENT SAMPLE ID is an alternate lab id, for example one assigned by a radiochemistry department in a lab.
- * CLIENT SAMPLE ID is the client's primary identification for a sample. It includes any sample preparation done by the client that is necessary to identify the sample.
- * QC BATCH is a lab assigned code that groups samples to be processed and QCed together. These samples should have similar matrices.

QC BATCH is not necessarily the same as SDG, which reflects samples received and reported together.

- * All Lab Control Samples, Method Blanks, Duplicates and Matrix Spikes are shown that QC any of the samples. Due to possible reanalyses, not all results for all these QC samples may be relevant to the SDG. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.

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PREPARATION BATCH SUMMARY

The Preparation Batch Summary Report shows all preparation batches in one Sample Delivery Group (SDG) with information necessary to check the completeness and consistency of the SDG.

The following notes apply to this report:

- * The preparation batches are shown in the same order as the Method Summary Reports are printed.
- * Only analyses of planchets relevant to the SDG are included.
- * Each preparation batch should have at least one Method Blank and LCS in it to validate client sample results.
- * The QUALIFIERS shown are all qualifiers other than U, J, B, L and H that occur on any analysis in the preparation batch. The Method Summary Report has these qualifiers on a per sample basis.

These qualifiers should be reviewed as follows:

- X Some data has been manually entered or modified. Transcription errors are possible.
- P One or more results are 'preliminary'. The data is not ready for final reporting.
- 2 There were two or more results for one analyte on one planchet imported at one time. The results in DVD may not be the same as on the raw data sheets.

Other lab defined qualifiers may occur. In general, these should be addressed in the SDG narrative.

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WORK SUMMARY

The Work Summary Report shows all samples, including QC samples, and all relevant analyses in one Sample Delivery Group (SDG). This report is often useful as supporting documentation for an invoice.

The following notes apply to this report:

- * TEST is a code for the method used to measure associated analytes. Results and related information for each analyte are on the Data Sheet Report. In special cases, a test code used in the summary data section is not the same as in associated raw data. In this case, both codes are shown on the Work Summary.
- * SUFFIX is the lab's code to distinguish multiple analyses (recounts, reworks, reanalyses) of a fraction of the sample. The suffix indicates which result is being reported. An empty suffix normally identifies the first attempt to analyze the sample.
- * The LAB SAMPLE ID, TEST and SUFFIX uniquely identify all supporting data for a result. The Method Summary Report for each TEST has method performance data, such as yield, for each lab sample id and suffix and procedures used in the method.
- * PLANCHET is an alternate lab identifier for work done for one test. It, combined with the TEST and SUFFIX, may be the best link to raw data.
- * For QC samples, only analyses that directly QC some regular sample are shown. The Lab Control Sample, Method Blank, Duplicate, Matrix Spike and Method Summary Reports detail these relationships.
- * The SAS (Special Analytical Services) Number is a client or lab assigned code that reflects special processing for samples, such as rapid turn around. Counts of tests done are lists by SAS number since it is likely to affect prices.

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SDG 7268
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DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity).

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DATA SHEET

If the MDA is blank, the ERROR is used as the limit.

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.
- Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.
- For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.
- L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.
- H Similar to 'L' except the recovery was high.
- P The RESULT is 'preliminary'.
- X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
- 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.

Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.

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DATA SHEET

- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA may not be a good estimate of the 'real' minimum detectable activity.
- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

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R E P O R T G U I D E

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L A B C O N T R O L S A M P L E

The Lab Control Sample Report shows all results, recoveries and primary supporting information for one Lab Control Sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. Refer to its Report Guide for details.
- * An amount ADDED is the lab's value for the actual amount spiked into this sample with its ERROR an estimate of the error of this amount.

An amount added is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is RESULT divided by ADDED expressed as a percent.
- * The first, computed limits for the recovery reflect:
 1. The error of RESULT, including that introduced by rounding the result prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.
 2. The error of ADDED.
 3. A lab specified, per analyte bias. The bias changes the center of the computed limits.
- * The second limits are protocol defined upper and lower QC limits for the recovery.
- * The recovery is underlined if it is outside either of these ranges.

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S U M M A R Y D A T A S E C T I O N

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DUPLICATE

The Duplicate Report shows all results, differences and primary supporting information for one Duplicate and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Duplicate and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Duplicate has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * The RPD (Relative Percent Difference) is the absolute value of the difference of the RESULTS divided by their average expressed as a percent.

If both RESULTS are less than their MDAs, no RPD is computed and a '-' is printed.

For an analyte, if the lab did work for both samples but has data for only one, the MDA from the sample with data is used as the other's result in the RPD.

- * The first, computed limit is the sum, as square root of sum of squares, of the errors of the results divided by the average result as a percent, hence the relative error of the difference rather than the error of the relative difference. The errors include those introduced by rounding the RESULTS prior to printing.

If this limit is labeled TOT, it includes the preparation error in the RESULTS. If labeled CNT, it does not.

This value reported for this limit is at most 999.

- * The second limit for the RPD is the larger of:

1. A fixed percentage specified in the protocol.

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DUPLICATE

2. A protocol factor (typically 2) times the average MDA as a percent of the average result. This limit applies when the results are close to the MDAs.

- * The RPD is underlined if it is greater than either limit.
- * If specified by the lab, the second limit column is replaced by the Difference Error Ratio (DER), which is the absolute value of the difference of the results divided by the quadratic sum of their one sigma errors, the same errors as used in the first limit.

Except for differences due to rounding, the DER is the same as the RPD divided by the first RPD limit with the limit scaled to 1 sigma.

- * The DER is underlined if it is greater than the sigma factor, typically 2 or 3, shown in the header for the first RPD limit.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 27

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 06/16/05

SDG 7268
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG H3146

MATRIX SPIKE

The Matrix Spike Report shows all results, recoveries and primary supporting information for one Matrix Spike and associated Original sample.

The following notes apply to this report:

- * All fields in common with the Data Sheet Report have similar usage. This applies both to the Spiked and Original sample data. Refer to the Data Sheet Report Guide for details.

If the Spike has data for a TEST and the lab did not do this test to the Original, the Original's RESULTS are underlined.

- * An amount ADDED is the lab's value for the actual amount spiked into the Spike sample with its ERROR an estimate of the error of this amount.

An amount is underlined if its ratio to the corresponding RDL is outside protocol specified limits.

- * REC (Recovery) is the Spike RESULT minus the Original RESULT divided by ADDED expressed as a percent.

- * The first, computed limits for the recovery reflect:

1. The errors of the two RESULTS, including those introduced by rounding them prior to printing.

If the limits are labeled (TOTAL), they include preparation error in the result. If labeled (COUNT), they do not.

2. The error of ADDED.

3. A lab specified, per analyte bias. The bias changes the center of the computed limits.

- * The second limits are protocol defined upper and lower QC limits

REPORT GUIDES

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SUMMARY DATA SECTION

Page 28

Lab id EBRINE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 06/16/05

SDG 7268
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H3146

MATRIX SPIKE

for the recovery.

These limits are left blank if the Original RESULT is more than a protocol defined factor (typically 4) times ADDED. This is a way of accounting for that when the spike is small compared to the amount in the original sample, the recovery is unreliable.

- * The recovery is underlined (out of spec) if it is outside either of these ranges.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 06/16/05

SDG 7268
 Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
 Contract No. 630
 Case no SDG H3146

METHOD SUMMARY

The Method Summary Report has two tables. One shows up to five results measured using one method. The other has performance data for the method. There is one report for each TEST, as used on the Data Sheet Report.

The following notes apply to this report:

- * Each table is subdivided into sections, one for each preparation batch. A preparation batch is a group of aliquots prepared at roughly the same time in one work area of the lab using the same method.

There should be Lab Control Sample and Method Blank results in each preparation batch since this close correspondence makes the QC meaningful. Depending on lab policy, Duplicates need not occur in each batch since they QC sample dependencies such as matrix effects.

- * The RAW TEST column shows the test code used in the raw data to identify a particular analysis if it is different than the test code in the header of the report. This occurs in special cases due to method specific details about how the lab labels work.

The Lab Sample or Planchet ID combined with the (Raw) Test Code and Suffix uniquely identify the raw data for each analysis.

- * If a result is less than both its MDA and RDL, it is replaced by just 'U' on this report. If it is greater than or equal to the RDL but less than the MDA, the result is shown with a 'U' flag.

The J and X flags are as on the data sheet.

- * Non-U results for Method Blanks are underlined to indicate possible contamination of other samples in the preparation batch. The Method Blank Report has supporting data.
- * Lab Control Sample and Matrix Spike results are shown as: ok, No data, LOW or HIGH, with the last two underlined. 'No data'

REPORT GUIDES

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SUMMARY DATA SECTION

Page 30

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 06/16/05

SDG 7268
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H3146

METHOD SUMMARY

means no amount ADDED was specified. 'LOW' and 'HIGH' correspond to when the recovery is underlined on the Lab Control Sample or Matrix Spike Report. See these reports for supporting data.

- * Duplicate sample results are shown as: ok, No data, or OUT, with the last two underlined. 'No data' means there was no original sample data found for this duplicate. 'OUT' corresponds to when the RPD is underlined on the Duplicate Report. See this report for supporting data.
- * If the MDA column is labeled 'MAX MDA', there was more than one result measured by the reported method and the MDA shown is the largest MDA. If not all these results have the same RDL, the MAX MDA reflects only those results with RDL equal to the smallest one.

MDAs are underlined if greater than the printed RDL.

- * Aliquots are underlined if less than the nominal value specified for the method.
- * Preparation factors are underlined if greater than the nominal value specified for the method.
- * Dilution factors are underlined if greater than the nominal value specified for the method.
- * Residues are underlined if outside the range specified for the method. Residues are not printed if yields are.
- * Yields, which may be gravimetric, radiometric or some type of recovery depending on the method, are underlined if outside the range specified for the method.
- * Efficiencies are underlined if outside the range specified for the method. Efficiencies are detector and geometry dependent so this test is only approximate.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 31

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 06/16/05

SDG 7268

Contact Melissa C. Mannion

GUIDE, cont.

Client HanfordContract No. 630Case no SDG H3146

METHOD SUMMARY

- * Count times are underlined if less than the nominal value specified for the method.
- * Resolutions (as FWHM; Full Width at Half Max) are underlined if greater than the method specified limit.
- * Tracer drifts are underlined if their absolute values are greater than the method specified limit. Tracer drifts are not printed if percent moistures are.
- * Days Held are underlined if greater than the holding time specified in the protocol.
- * Analysis dates are underlined if before their planchet's preparation date or, if a limit is specified, too far after it.

For some methods, ratios as percentages and error estimates for them are computed for pairs of results. A ratio column header like '1+3' means the ratio of the first result column and the third result column.

Ratios are not computed for Lab Control Sample, Method Blank or Matrix Spike results since their matrices are not necessarily similar to client samples'.

The error estimate for a ratio of results from one planchet reflects only counting errors since other errors should be correlated. For a ratio involving different planchets, if QC limits are computed based on total errors, the error for the ratio allows for the preparation errors for the planchets.

The ratio is underlined (out of spec) if the absolute value of its difference from the nominal value is greater than its error estimate. If no nominal value is specified, this test is not done.

For Gross Alpha or Gross Beta results, there may be a column showing the sum of other Alpha or Beta emitters. This sum includes all relevant

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id EBRINEProtocol HanfordVersion Ver 1.0Form DVD-RGVersion 3.06Report date 06/16/05

SDG 7268
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG H3146

METHOD SUMMARY

results in the DVD database, whether reported or not. Results in the sum are weighted by a particles/decay value specified by the lab for each relevant analyte. Results less than their MDA are not included. No sums are computed for Lab Control, Method Blank or Matrix Spike samples since their various planchets may not be physically related.

If a ratio of total isotopic to Gross Alpha or Beta is shown, the error for the ratio reflects both the error in the Gross result and the sum, as square root of sum of squares, of the errors in the isotopic results.

For total elemental uranium or thorium results, there may be a column showing the total weight computed from associated isotopic results. Ignoring results less than their MDAs, this is a weighted sum of the isotopic results. The weights depend on the molecular weight and half-life of each isotope so as to convert activities (decays) to weight (atoms).

If a ratio of total computed to measured elemental uranium or thorium is shown, the error for the ratio reflects the errors in all the measurements.

REPORT GUIDES

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SUMMARY DATA SECTION

Page 33

Lab id EBERLINE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 06/16/05

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-019-013	PAGE 1 OF 1
COLLECTOR Pope/Hfister/Hughes/Wiberg	COMPANY CONTACT TRENT, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-T-13; 8-9 ft	PROJECT DESIGNATION H3(46 (7268))	200-MW-1 Characterization Sampling and Analysis - Waste Management		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. SANS-106	FIELD LOGBOOK NO. WVF-N-3861	COA 119144ES10	METHOD OF SHIPMENT Federal Express		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. SA PTR 15463	BILL OF LADING/AIR BILL NO. SA PTR 15463			
MATRIX* A=Air DL=Drum L=Liquids DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION None			
		TYPE OF CONTAINER AG			
		NO. OF CONTAINER(S) 1			
		VOLUME 60ml			
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B1C785					
SAMPLE NO. B1C784	MATRIX* SOIL	SAMPLE DATE 4-27-05	SAMPLE TIME 0920		
CHAIN OF POSSESSION					
RELINQUISHED BY/REMOVED FROM JANUARY 13 2005	DATE/TIME 4/27/05 1310	SIGN/PRINT NAMES		RECEIVED BY/STORED IN RETR-10 EKATOKS	DATE/TIME 4/27/05 1310
RELINQUISHED BY/REMOVED FROM NO. 021 05 05 05 05	DATE/TIME 05/05/05			RECEIVED BY/STORED IN M.H. BAINUM	DATE/TIME 05/05/05
RELINQUISHED BY/REMOVED FROM MADANMATHAN	DATE/TIME 05/05/05			RECEIVED BY/STORED IN H.A. LA	DATE/TIME 05/05/05
RELINQUISHED BY/REMOVED FROM	DATE/TIME			RECEIVED BY/STORED IN NEM	DATE/TIME 05/06/05 0.00
RELINQUISHED BY/REMOVED FROM	DATE/TIME			RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME			RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME			RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY				DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD				DATE/TIME

SPECIAL INSTRUCTIONS

** The laboratory is to achieve a detection limit of 50.0 pCi/g for Carbon-14.
 (1) Iodine-129, Carbon-14; Nickel-63; Technetium-99; Isotopic Thorium (Thorium-228, Thorium-232) Tritium - H3;



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

Client: FLUOR HANFORD City RICHLAND State WA

Date/Time received 05/06/05 10:00 CoC No. FO4-019(013,021)

Container I.D. No. ^{ICE CRIST} SKWS 106 Requested TAT (Days) 45 P.O. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes No [] N/A []
- 2. Custody seals on shipping container dated & signed? Yes No [] N/A []
- 3. Custody seals on sample containers intact? Yes No [] N/A []
- 4. Custody seals on sample containers dated & signed? Yes No [] N/A []
- 5. Packing material is: Wet [] Dry
- 6. Number of samples in shipping container: 2 Sample Matrix S
- 7. Number of containers per sample: 1 (Or see CoC _____)
- 8. Samples are in correct container Yes No []
- 9. Paperwork agrees with samples? Yes No []
- 10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels
- 11. Samples are: In good condition Leaking [] Broken Container [] Missing []
- 12. Samples are: Preserved [] Not preserved [] pH _____ Preservative _____
- 13. Describe any anomalies:

14. Was P.M. notified of any anomalies? Yes [] No [] Date _____

15. Inspected by MFW Date: 05/06/05 Time: 11:00

Customer Sample No.	cpm	mR/hr	Wipe	Customer Sample No.	cpm	mR/hr	wipe

Ion Chamber Ser. No. _____ Calibration date _____
 Alpha Meter Ser. No. _____ Calibration date _____
 Beta/Gamma Meter Ser. No. _____ Calibration date _____



2

Mr. Steve Trent
Fluor Hanford Inc.
825 Jadwin Ave.
Richland, WA 99352



**Subject: Contract No. 630
Analytical Data Package**

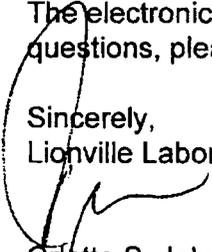
Dear Mr. Trent:

Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0505L ⁴ 821 <i>by 6/6/05</i>
SDG #	H3146
SAF #	F04-019
Date Received	5-6-05
# Samples	2
Matrix	Soil
Volatiles	
Semivolatiles	
Pest/PCB	
DRO/GRO/KRO	
Herbicides	
GC Alcohol	
Metals	
Inorganics	X

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,
Lionville Laboratory Incorporated


Orlette S. Johnson
Project Manager

r:\group\pm\orlette\tnu-hanford\data\fc_ltrs.doc

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD F04-019 H3146

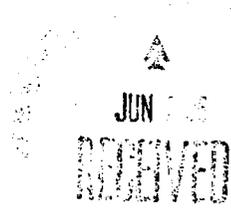
DATE RECEIVED: 05/06/05

LVL LOT # :0505L421

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1C784						
% SOLIDS	001	S	05L%S064	04/27/05	05/11/05	05/12/05
OIL & GREASE BY GRAV	001	S	05LOG022	04/27/05	05/16/05	05/18/05
OIL AND GREASE BY GR	001 REP	S	05LOG022	04/27/05	05/16/05	05/18/05
OIL AND GREASE BY GR	001 MS	S	05LOG022	04/27/05	05/16/05	05/18/05
B1CY50						
% SOLIDS	002	S	05L%S064	04/28/05	05/11/05	05/12/05
OIL & GREASE BY GRAV	002	S	05LOG022	04/28/05	05/16/05	05/18/05

LAB QC:

OIL & GREASE BY GRAV	MB1	S	05LOG022	N/A	05/16/05	05/18/05
OIL AND GREASE BY GR	MB1 BS	S	05LOG022	N/A	05/16/05	05/18/05
OIL AND GREASE BY GR	MB1 BSD	S	05LOG022	N/A	05/16/05	05/18/05


 JUN 16
 RECEIVED



Analytical Report

Client: TNU-HANFORD F04-019 H3146
LVL#: 0505L421

W.O.#: 11343-606-001-9999-00
Date Received: 05-06-05

INORGANIC NARRATIVE

1. This narrative covers the analyses of 2 soil samples.
2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met.
4. The results presented in this report are derived from samples that met LVL's sample acceptance policy.
5. The method blank for Oil and Grease was within the method criteria.
6. The Laboratory Control Samples (LCS) for Oil and Grease were within the laboratory control limits. The duplicate LCS was within the 20% Relative Percent Difference (RPD) control limit.
7. The matrix spike recovery for Oil and Grease was within the 75-125% control limits.
8. The replicate analysis for Oil and Grease was within the 20% RPD control limit.
9. Results for solid samples are reported on a dry weight basis.
10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.


Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

6/1/05
Date

njpl05-421

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 13 pages.

02

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	___ D2216-80		
% Moisture	___ D2216-80		___ ILMO4.0 (e)
% Solids	✓ ___ D2216-80		___ ILMO4.0 (e)
% Volatile Solids	___ D2216-80		
ASTM Extraction in Water	___ D3987-81/85		
BTU	___ D240-87		
CEC		___ 9081	___ c
Chromium VI		___ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		___ 1110(mod) ___ 9045C	
Cyanide, Total		___ 9010B	___ ILMO4.0 (e)
Cyanide, Reactive		___ Section 7.3/9014	
Halides, Extractable Organic		___ 9020B	___ EPA 600/4/84-008
Halides, Total		___ 9020B	___ EPA 600/4/84-008
EP Toxicity		___ 1310A	
Flash Point		___ 1010	
Ignitability		___ 1010	
Oil & Grease		✓ ___ 9071A(mod.)	✓ ___ EPA 413.i(mod.)
Carbon, Total Organic		___ 9060	___ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	___ D240-87(mod)	___ 5050	
Petroleum Hydrocarbons, Total Recoverable		___ 9071	___ EPA 418.1
pH, Soil		___ 9045C	
Sulfide, Reactive		___ Section 7.3/9030B	
Sulfide		___ 9030B(mod)	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Preparation Leach		___ 1312	
Paint Filter		___ 9095A	
Other:	Method:		
Other:	Method:		

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LC = Laboratory Control Sample.

NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.
2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
 - a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).
 - b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).
 - c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).
 - d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).
 - e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
 - f. Code of Federal Regulations.

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/19/05

CLIENT: TNUHANFORD F04-019 H3146
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0505L421

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B1C784	% Solids	98.4	%	0.01	1.0
		Oil & Grease Gravimetri	677	u MG/KG	677	1.0
-002	B1CY50	% Solids	98.2	%	0.01	1.0
		Oil & Grease Gravimetri	678	u MG/KG	678	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/19/05

CLIENT: TNUHANFORD F04-019 H3146
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0505L421

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	05LOG022-MB1	Oil & Grease Gravimetri	667	u MG/KG	667	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 05/19/05

CLIENT: TNUHANFORD P04-019 H3146
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0505L421

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B1C784	Oil & Grease Gravimetr	6500	677 u	6770	96.0	1.0
BLANK10	05LOG022-MB1	Oil & Grease Gravimetr	5440	667 u	6660	81.6	1.0
		Oil & Grease - Grav M	5390	667 u	6660	80.8	1.0

Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 05/19/05

CLIENT: TNUHANFORD F04-019 H3146
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0505L421

SAMPLE	SITE ID	ANALYTE	SPIKE#1		SPIKE#2	
			%RECOV	%RECOV	%RECOV	%DIFF
BLANK10	05LOG022-MB1	Oil & Grease - Grav	81.6	80.8	0.98	

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 05/19/05

CLIENT: TNUHANFORD F04-019 H3146
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 05051421

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	B1C784	Oil & Grease Gravimetri	677 u	677 u	NC	1.0

COLLECTOR: Pope/Pfister/Hughes/Wiberg
 COMPANY CONTACT: TRENT, SJ
 PROJECT COORDINATOR: TRENT, SJ
 PRICE CODE: 8N
 DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: 216-T-13; 8-9 ft
 PROJECT DESIGNATION: 200-MW-1 Characterization Sampling and Analysis - Waste Management
 SAF NO.: F04-019
 AIR QUALITY:

ICE CHEST NO.: GRR-05-001
 FIELD LOGBOOK NO.: WNF-21-8861
 COA: 119144ES10
 METHOD OF SHIPMENT: Federal Express

SHIPPED TO: Lionville Laboratory Incorporated
 BILL OF LADING/AIR BILL NO.: 20 PTR 13464

OFFSITE PROPERTY NO.: 20 PTR 15464

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SPECIAL HANDLING AND/OR STORAGE	SAMPLE DATE	SAMPLE TIME
A=Air D=Drum L=Liquid DS=Drum S=Solids L=Liquid O=Oil S=Soil T=Tissue V=Vegetation W=Water W=Wipe X=Other		Coat #C	GC	1	120ml	SSEE ITR# (1) IN SPECIAL INSTRUCTIONS	Radioactive To: BIC785	4-27-05	0920

CHAIN OF POSSESSION	SIGN/PRINT NAMES	RECEIVED BY/STORING IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM: J. M. K... RELINQUISHED BY/REMOVED FROM: M.D. ... RELINQUISHED BY/REMOVED FROM: M.H. ... RELINQUISHED BY/REMOVED FROM: F. ...	RECEIVED BY/STORING IN: [Signature] RECEIVED BY/STORING IN: [Signature] RECEIVED BY/STORING IN: [Signature] RECEIVED BY/STORING IN: [Signature]	DATE/TIME: 4/23/05 1310 DATE/TIME: 5/15/05 0950 DATE/TIME: 5/15/05 0950 DATE/TIME: 5/16/05 1455	DATE/TIME: 4/23/05 1310 DATE/TIME: 5/15/05 0950 DATE/TIME: 5/15/05 0950 DATE/TIME: 5/16/05 1455

SPECIAL INSTRUCTIONS: (1) MO2/MO3 - 3337; Oil & Grease - 413.1; Chromium-Hex - 7496; PMG 2/14/05

LABORATORY SECTION: RECEIVED BY: TITLE: DATE/TIME:

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD: DATE/TIME:

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-019-022	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Hughes/Wiberg	COMPANY CONTACT Trent, SJ	TELEPHONE NO. 373-5869	PROJECT COORDINATOR Trent, SJ	PRICE CODE BN	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-T-13; 8-9 ft - β	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Waste Management	FIELD LOGBOOK NO. COA 119144ES10	SAF NO. F04-019	AIR QUALITY	
ICE CHECK NO. GPP-05-001	OFFSITE PROPERTY NO. 20 PTK 15464	COA 119144ES10	METHOD OF SHIPMENT Federal Express		
SHIPPED TO Lyonville Laboratory Incorporated	PREPARATION Cool 4C	TYPE OF CONTAINER WG	BILL OF LADING/AIRBILL NO. 20 PTK 15464		
MATRIX* A-Air DL-Drum L-Liquids DS-Drum S-Solids L-Liquid O-Oil S-Soil SF-Sediment T-Tissue V-Vegetation W-Water WI-Wipe X-Other	POSSIBLE SAMPLE HAZARDS/REMARKS	NO. OF CONTAINER(S) 1			
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B1C785	VOLUME 120ml.			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B1CY50	SOIL	6-28-08	1420	X	
CHAIN OF POSSESSION					
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
S. Miller / [Signature]		4-28-08	M. [Signature]		5/10/08
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
M. [Signature]		5/10/08	M. [Signature]		5/10/08
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
FedEx			M. [Signature]		5/16/08
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
SPECIAL INSTRUCTIONS (1) M054N03-355-2; Oil & Grease - 413.1; Chromium Hex-2+564 AR-4-2-08					
LABORATORY SECTION		TITLE			DATE/TIME
FINAL SAMPLE DISPOSITION		DISPOSED BY			DATE/TIME

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: *TNU Hanford*

Date: *5/6/05*

Purchase Order / Project# /
 SAF# / SOW# / Release #:

LvLI Batch #: *0505L421*

Sample Custodian: *Rummy*

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <i>FedEx</i> | Airbill# <i>7922 7422 0461</i> |
| 2. Custody seals on coolers or shipping container intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals Comments |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received <u>cooled</u> or ambient? | Temp <i>3.2</i> °C | Cooler # <i>6RP-05-001</i> |
| 6. Custody seals on sample containers intact, signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 7. coc signed and dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 8. Sample containers are intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 9. All samples on coc received? All samples received on coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 10. All sample label information matches coc? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 11. Samples properly preserved? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? Short holds taken to wet lab? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. VOA, TOC, TOX free of headspace? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 14. QC stickers placed on bottles designated by client? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria) | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |