



EBERLINE SERVICES

August 22, 2007

Ms. Joan Kessner
Washington Closure Hanford
2620 Fermi Avenue
MSIN H4-21
Richland, WA 99352



Reference: **P.O. #630**
Eberline Services R7-08-095-7848, SDG K0917

Dear Ms. Kessner:

Enclosed is the data report for five solid (soil) samples designated under SAF No. RC-032, received at Eberline Services on August 16, 2007. The samples were analyzed according to the accompanying chain-of-custody document.

Please call if you have any questions concerning this report.

Sincerely,

Melissa C. Mannion
Senior Program Manager

MCM/njv

Enclosure: Data Package

Analytical Services
2030 Wright Avenue
P.O. Box 4040
Richmond, California 94804-0040
(510) 235-2633 Fax (510) 235-0438
Toll Free (800) 841-5487
www.eberlineservices.com

1.0 GENERAL

Washington Closure Hanford (WCH) Sample Delivery Group K0917 was composed of five solid (soil) samples designated under SAF No. RC-032 with a Project Designation of: 100-F Remaining Sites Burial Grounds-Soil Full Protocol.

The samples were received as stated on the Chain-of-Custody document. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to WCH via e-mail on August 22, 2007.

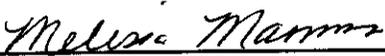
2.0 ANALYSIS NOTES

2.1 Gamma Spectroscopy

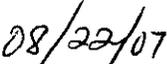
No problems were encountered during the course of the analyses.

3.0 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 K0917

SDG 7848
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG_K0917

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

T A B L E O F C O N T E N T S				
About this section	.	.	.	1
Sample Summaries	.	.	.	3
Prep Batch Summary	.	.	.	5
Work Summary	.	.	.	6
Method Blanks	.	.	.	8
Lab Control Samples	.	.	.	9
Duplicates	.	.	.	10
Data Sheets	.	.	.	11
Method Summaries	.	.	.	16
Report Guides	.	.	.	17
End of Section	.	.	.	31

Melissa Mannion

Prepared by

Melissa Mannion

Reviewed by

Lab id	<u>EBRLNE</u>
Protocol	<u>Hanford</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-TOC</u>
Version	<u>3.06</u>
Report date	<u>08/22/07</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K0917

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

Page 1

SUMMARY DATA SECTION

Page 1

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE , c o n t .

Client Hanford
Contract No. 630
Case no SDG K0917

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.

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

LAB SAMPLE SUMMARY

SDG 7848
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG K0917

LAB SAMPLE ID	CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	SAF NO	CHAIN OF CUSTODY	COLLECTED
R708095-01	J15F73	100-F-26:10 Verification	SOLID		RC-032	RC-032-147	08/14/07 07:30
R708095-02	J15F74	100-F-26:10 Verification	SOLID		RC-032	RC-032-147	08/14/07 07:55
R708095-03	J15F75	100-F-26:10 Verification	SOLID		RC-032	RC-032-147	08/14/07 08:20
R708095-04	J15F76	100-F-26:10 Verification	SOLID		RC-032	RC-032-147	08/14/07 08:45
R708095-05	J15F77	100-F-26:10 Verification	SOLID		RC-032	RC-032-147	08/14/07 09:10
R708095-06	Lab Control Sample		SOLID		RC-032		
R708095-07	Method Blank		SOLID		RC-032		
R708095-08	Duplicate (R708095-03)	100-F-26:10 Verification	SOLID		RC-032		08/14/07 08:20

LAB SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LS
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
 Contact Melissa C. Mannion

QC SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG K0917

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7848	RC-032-147	J15F73	SOLID	99.5	859 g		08/16/07	2	R708095-01	7848-001
		J15F74	SOLID	99.3	798 g		08/16/07	2	R708095-02	7848-002
		J15F75	SOLID	99.3	821 g		08/16/07	2	R708095-03	7848-003
		J15F76	SOLID	99.6	896 g		08/16/07	2	R708095-04	7848-004
		J15F77	SOLID	99.3	836 g		08/16/07	2	R708095-05	7848-005
		Method Blank	SOLID						R708095-07	7848-007
		Lab Control Sample	SOLID						R708095-06	7848-006
		Duplicate (R708095-03)	SOLID	99.3	821 g		08/16/07	2	R708095-08	7848-008

QC SUMMARY

Page 1

SUMMARY DATA SECTION

Page 4

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-QS
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
 Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
 Contract No. 630
 Case no SDG K0917

TEST	MATRIX	METHOD	PREPARATION ERROR		PLANCHETS ANALYZED				QUALI-	
			BATCH	2σ %	CLIENT	MORE	RE	BLANK		LCS
Gamma Spectroscopy										
GAM	SOLID	Gamma Scan	6122-064	15.0	5			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 08/22/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

LAB WORK SUMMARY

SDG 7848
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG K0917

LAB SAMPLE	CLIENT SAMPLE ID				SUF-					
COLLECTED	LOCATION	MATRIX			FIX	ANALYZED	REVIEWED	BY	METHOD	
RECEIVED	CUSTODY	SAF No	PLANCHET	TEST						
R708095-01	J15F73		7848-001	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
08/14/07	100-F-26:10 Verification	SOLID								
08/16/07	RC-032-147	RC-032								
R708095-02	J15F74		7848-002	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
08/14/07	100-F-26:10 Verification	SOLID								
08/16/07	RC-032-147	RC-032								
R708095-03	J15F75		7848-003	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
08/14/07	100-F-26:10 Verification	SOLID								
08/16/07	RC-032-147	RC-032								
R708095-04	J15F76		7848-004	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
08/14/07	100-F-26:10 Verification	SOLID								
08/16/07	RC-032-147	RC-032								
R708095-05	J15F77		7848-005	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
08/14/07	100-F-26:10 Verification	SOLID								
08/16/07	RC-032-147	RC-032								
R708095-06	Lab Control Sample		7848-006	GAM		08/18/07	08/20/07	CSS	Gamma Scan	
		SOLID								
		RC-032								
R708095-07	Method Blank		7848-007	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
		SOLID								
		RC-032								
R708095-08	Duplicate (R708095-03)		7848-008	GAM		08/17/07	08/20/07	CSS	Gamma Scan	
08/14/07	100-F-26:10 Verification	SOLID								
08/16/07		RC-032								

WORK SUMMARY

Page 1

SUMMARY DATA SECTION

Page 6

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LWS
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

WORK SUMMARY, cont.

SDG 7848
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG K0917

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
GAM	RC-032	Gamma Scan	GAMMA_GS	5			1	1	1		8
TOTALS				5			1	1	1		8

WORK SUMMARY

Page 2

SUMMARY DATA SECTION

Page 7

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LWS
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

7848-007

Method Blank

METHOD BLANK

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	<u>SDG K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R708095-07</u>	Client sample id <u>Method Blank</u>	
Dept sample id <u>7848-007</u>	Material/Matrix <u>SOLID</u>	
	SAF No <u>RC-032</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Potassium 40	13966-00-2	U		0.697		U	GAM
Cobalt 60	10198-40-0	U		0.030	0.050	U	GAM
Cesium 137	10045-97-3	U		0.033	0.100	U	GAM
Radium 226	13982-63-3	U		0.065	0.100	U	GAM
Radium 228	15262-20-1	U		0.130	0.200	U	GAM
Europium 152	14683-23-9	U		0.087	0.100	U	GAM
Europium 154	15585-10-1	U		0.080	0.100	U	GAM
Europium 155	14391-16-3	U		0.079	0.100	U	GAM
Thorium 228	14274-82-9	U		0.045		U	GAM
Thorium 232	TH-232	U		0.130		U	GAM
Uranium 235	15117-96-1	U		0.126		U	GAM
Uranium 238	U-238	U		3.11		U	GAM
Americium 241	14596-10-2	U		0.106		U	GAM
Silver 108m	14391-65-2	U		0.024		U	GAM
Barium 133	13981-41-4	U		0.034		U	GAM

100-F Remaining Sites Burial Grounds

QC-BLANK #62474

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>08/22/07</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

7848-006

Lab Control Sample

LAB CONTROL SAMPLE

SDG <u>7848</u> Contact <u>Melissa C. Mannion</u> Lab sample id <u>R708095-06</u> Dept sample id <u>7848-006</u>	Client/Case no <u>Hanford</u> <u>SDG K0917</u> Contract No. <u>630</u> Client sample id <u>Lab Control Sample</u> Material/Matrix _____ <u>SOLID</u> SAF No <u>RC-032</u>
---	---

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Cobalt 60	2.69	0.19	<u>0.098</u>	0.050	GAM	2.49	0.10	108	72-128	80-120
Cesium 137	2.76	0.17	<u>0.107</u>	0.100	GAM	2.47	0.099	112	72-128	80-120

100-F Remaining Sites Burial Grounds

QC-LCS #62473

LAB CONTROL SAMPLES

Page 1

SUMMARY DATA SECTION

Page 9

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>08/22/07</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

7848-008

J15F75

DUPLICATE

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	SDG <u>K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
DUPLICATE	ORIGINAL	
Lab sample id <u>R708095-08</u>	Lab sample id <u>R708095-03</u>	Client sample id <u>J15F75</u>
Dept sample id <u>7848-008</u>	Dept sample id <u>7848-003</u>	Location/Matrix <u>100-F-26:10 Verification SOLID</u>
	Received <u>08/16/07</u>	Collected/Weight <u>08/14/07 08:20 821 g</u>
% solids <u>99.3</u>	% solids <u>99.3</u>	Custody/SAF No <u>RC-032-147 RC-032</u>

ANALYTE	DUPLICATE		MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST	ORIGINAL		MDA pCi/g	QUALI- FIERS	RPD %	3σ TOT	DER σ
	pCi/g	2σ ERR (COUNT)					pCi/g	2σ ERR (COUNT)					
Potassium 40	9.23	3.3	0.973			GAM	10.7	3.2	0.794		15	76	0.6
Cobalt 60	U		<u>0.077</u>	0.050	U	GAM	U		<u>0.082</u>	U	-		0.1
Cesium 137	U		<u>0.170</u>	0.100	U	GAM	U		0.092	U	-		0.8
Radium 226	0.249	0.16	<u>0.176</u>	0.100		GAM	0.466	0.18	<u>0.167</u>		61	106	1.7
Radium 228	0.664	0.31	<u>0.322</u>	0.200		GAM	0.679	0.38	<u>0.373</u>		2	114	0.1
Europium 152	U		<u>0.226</u>	0.100	U	GAM	U		<u>0.235</u>	U	-		0.1
Europium 154	U		<u>0.239</u>	0.100	U	GAM	U		<u>0.270</u>	U	-		0.2
Europium 155	U		<u>0.232</u>	0.100	U	GAM	U		<u>0.237</u>	U	-		0
Thorium 228	0.582	0.10	0.108			GAM	0.662	0.17	0.172		13	57	0.7
Thorium 232	0.664	0.31	0.322			GAM	0.679	0.38	0.373		2	114	0.1
Uranium 235	U		0.336		U	GAM	U		0.346	U	-		0
Uranium 238	U		10.0		U	GAM	U		10.5	U	-		0.1
Americium 241	U		0.323		U	GAM	U		0.335	U	-		0.1
Silver 108m	U		0.062		U	GAM	U		0.058	U	-		0.1
Barium 133	U		0.107		U	GAM	U		0.107	U	-		0

100-F Remaining Sites Burial Grounds

QC-DUP#3 62475

DUPLICATES

Page 1

SUMMARY DATA SECTION

Page 10

Lab id <u>EBRLNE</u>
Protocol <u>Hanford</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>08/22/07</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

7848-001

J15F73

D A T A S H E E T

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	SDG <u>K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract <u>No. 630</u>	
Lab sample id <u>R708095-01</u>	Client sample id <u>J15F73</u>	
Dept sample id <u>7848-001</u>	Location/Matrix <u>100-F-26:10 Verification SOLID</u>	
Received <u>08/16/07</u>	Collected/Weight <u>08/14/07 07:30</u> <u>859 g</u>	
% solids <u>99.5</u>	Custody/SAF No <u>RC-032-147</u> <u>RC-032</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Potassium 40	13966-00-2	13.2	1.2	0.745			GAM
Cobalt 60	10198-40-0	U		<u>0.052</u>	0.050	U	GAM
Cesium 137	10045-97-3	U		0.055	0.100	U	GAM
Radium 226	13982-63-3	0.457	0.12	<u>0.120</u>	0.100		GAM
Radium 228	15262-20-1	0.677	0.23	<u>0.226</u>	0.200		GAM
Europium 152	14683-23-9	U		<u>0.156</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.178</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.134</u>	0.100	U	GAM
Thorium 228	14274-82-9	0.661	0.072	0.070			GAM
Thorium 232	TH-232	0.677	0.23	0.226			GAM
Uranium 235	15117-96-1	U		0.223		U	GAM
Uranium 238	U-238	U		6.13		U	GAM
Americium 241	14596-10-2	U		0.076		U	GAM
Silver 108m	14391-65-2	U		0.043		U	GAM
Barium 133	13981-41-4	U		0.054		U	GAM

100-F Remaining Sites Burial Grounds

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>08/22/07</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

7848-002

J15F74

DATA SHEET

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	SDG <u>K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R708095-02</u>	Client sample id <u>J15F74</u>	
Dept sample id <u>7848-002</u>	Location/Matrix <u>100-F-26:10 Verification SOLID</u>	
Received <u>08/16/07</u>	Collected/Weight <u>08/14/07 07:55</u> <u>798 g</u>	
% solids <u>99.3</u>	Custody/SAF No <u>RC-032-147</u> <u>RC-032</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALIFIERS	TEST
Potassium 40	13966-00-2	14.2	1.5	0.421			GAM
Cobalt 60	10198-40-0	U		<u>0.080</u>	0.050	U	GAM
Cesium 137	10045-97-3	U		0.077	0.100	U	GAM
Radium 226	13982-63-3	0.454	0.15	<u>0.155</u>	0.100		GAM
Radium 228	15262-20-1	0.769	0.33	<u>0.330</u>	0.200		GAM
Europium 152	14683-23-9	U		<u>0.188</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.260</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.159</u>	0.100	U	GAM
Thorium 228	14274-82-9	0.669	0.092	0.092			GAM
Thorium 232	TH-232	0.769	0.33	0.330			GAM
Uranium 235	15117-96-1	U		0.275		U	GAM
Uranium 238	U-238	U		8.09		U	GAM
Americium 241	14596-10-2	U		0.102		U	GAM
Silver 108m	14391-65-2	U		0.051		U	GAM
Barium 133	13981-41-4	U		0.071		U	GAM

100-F Remaining Sites Burial Grounds

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>08/22/07</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

7848-003

J15F75

DATA SHEET

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	SDG <u>K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract <u>No. 630</u>	
Lab sample id <u>R708095-03</u>	Client sample id <u>J15F75</u>	
Dept sample id <u>7848-003</u>	Location/Matrix <u>100-F-26:10 Verification SOLID</u>	
Received <u>08/16/07</u>	Collected/Weight <u>08/14/07 08:20 821 g</u>	
% solids <u>99.3</u>	Custody/SAF No <u>RC-032-147 RC-032</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Potassium 40	13966-00-2	10.7	3.2	0.794			GAM
Cobalt 60	10198-40-0	U		<u>0.082</u>	0.050	U	GAM
Cesium 137	10045-97-3	U		0.092	0.100	U	GAM
Radium 226	13982-63-3	0.466	0.18	<u>0.167</u>	0.100		GAM
Radium 228	15262-20-1	0.679	0.38	<u>0.373</u>	0.200		GAM
Europium 152	14683-23-9	U		<u>0.235</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.270</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.237</u>	0.100	U	GAM
Thorium 228	14274-82-9	0.662	0.17	0.172			GAM
Thorium 232	TH-232	0.679	0.38	0.373			GAM
Uranium 235	15117-96-1	U		0.346		U	GAM
Uranium 238	U-238	U		10.5		U	GAM
Americium 241	14596-10-2	U		0.335		U	GAM
Silver 108m	14391-65-2	U		0.058		U	GAM
Barium 133	13981-41-4	U		0.107		U	GAM

100-F Remaining Sites Burial Grounds

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>08/22/07</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

7848-004

J15F76

D A T A S H E E T

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	SDG <u>K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R708095-04</u>	Client sample id <u>J15F76</u>	
Dept sample id <u>7848-004</u>	Location/Matrix <u>100-F-26:10 Verification SOLID</u>	
Received <u>08/16/07</u>	Collected/Weight <u>08/14/07 08:45</u> <u>896 g</u>	
% solids <u>99.6</u>	Custody/SAF No <u>RC-032-147</u> <u>RC-032</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Potassium 40	13966-00-2	13.6	1.4	0.589			GAM
Cobalt 60	10198-40-0	U		<u>0.060</u>	0.050	U	GAM
Cesium 137	10045-97-3	U		0.056	0.100	U	GAM
Radium 226	13982-63-3	0.459	0.11	<u>0.101</u>	0.100		GAM
Radium 228	15262-20-1	0.677	0.32	<u>0.324</u>	0.200		GAM
Europium 152	14683-23-9	U		<u>0.172</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.188</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.144</u>	0.100	U	GAM
Thorium 228	14274-82-9	0.575	0.078	0.083			GAM
Thorium 232	TH-232	0.677	0.32	0.324			GAM
Uranium 235	15117-96-1	U		0.246		U	GAM
Uranium 238	U-238	U		7.31		U	GAM
Americium 241	14596-10-2	U		0.087		U	GAM
Silver 108m	14391-65-2	U		0.049		U	GAM
Barium 133	13981-41-4	U		0.060		U	GAM

100-F Remaining Sites Burial Grounds

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>08/22/07</u>

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

7848-005

J15F77

DATA SHEET

SDG <u>7848</u>	Client/Case no <u>Hanford</u>	SDG <u>K0917</u>
Contact <u>Melissa C. Mannion</u>	Contract No. <u>630</u>	
Lab sample id <u>R708095-05</u>	Client sample id <u>J15F77</u>	
Dept sample id <u>7848-005</u>	Location/Matrix <u>100-F-26:10 Verification SOLID</u>	
Received <u>08/16/07</u>	Collected/Weight <u>08/14/07 09:10 836 g</u>	
% solids <u>99.3</u>	Custody/SAF No <u>RC-032-147 RC-032</u>	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI- FIERS	TEST
Potassium 40	13966-00-2	10.9	2.8	0.534			GAM
Cobalt 60	10198-40-0	U		<u>0.059</u>	0.050	U	GAM
Cesium 137	10045-97-3	U		0.069	0.100	U	GAM
Radium 226	13982-63-3	0.327	0.11	<u>0.116</u>	0.100		GAM
Radium 228	15262-20-1	0.537	0.28	<u>0.278</u>	0.200		GAM
Europium 152	14683-23-9	U		<u>0.171</u>	0.100	U	GAM
Europium 154	15585-10-1	U		<u>0.196</u>	0.100	U	GAM
Europium 155	14391-16-3	U		<u>0.169</u>	0.100	U	GAM
Thorium 228	14274-82-9	0.553	0.085	0.079			GAM
Thorium 232	TH-232	0.537	0.28	0.278			GAM
Uranium 235	15117-96-1	U		0.258		U	GAM
Uranium 238	U-238	U		7.34		U	GAM
Americium 241	14596-10-2	U		0.245		U	GAM
Silver 108m	14391-65-2	U		0.048		U	GAM
Barium 133	13981-41-4	U		0.077		U	GAM

100-F Remaining Sites Burial Grounds

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>08/22/07</u>

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP K0917

Test GAM Matrix SOLID
 SDG 7848
 Contact Melissa C. Mannion

LAB METHOD SUMMARY

GAMMA SCAN
 GAMMA SPECTROSCOPY

Client Hanford
 Contract No. 630
 Contract SDG K0917

RESULTS

LAB RAW SUF-
 SAMPLE ID TEST FIX PLANCHET CLIENT SAMPLE ID Cobalt 60 Cesium 137

Preparation batch 6122-064

R708095-01	7848-001	J15F73		U	U
R708095-02	7848-002	J15F74		U	U
R708095-03	7848-003	J15F75		U	U
R708095-04	7848-004	J15F76		U	U
R708095-05	7848-005	J15F77		U	U
R708095-06	7848-006	LCS (QC ID=62473)		ok	ok
R708095-07	7848-007	BLK (QC ID=62474)		U	U
R708095-08	7848-008	Duplicate (R708095-03)		- U	- U

Nominal values and limits from method RDLs (pCi/g) 0.050 0.100
 100-F Remaining Sites Burial Grounds

METHOD PERFORMANCE

LAB	RAW	SUF-	MDA	ALIQ	PREP	DILU-	YIELD	EFF	COUNT	FWHM	DRIFT	DAYS	ANAL-		
SAMPLE ID	TEST FIX	CLIENT SAMPLE ID	pCi/g	g	FAC	TION	%	%	min	keV	KeV	HELD	PREPARED	YZED	DETECTOR
Preparation batch 6122-064			2σ prep error 15.0 % Reference Lab Notebook #6122, pg. 64												
R708095-01		J15F73	10.4	211					150			3	08/17/07	08/17	JR,07,00
R708095-02		J15F74	13.4	193					102			3	08/17/07	08/17	JR,07,00
R708095-03		J15F75	21.9	198					102			3	08/17/07	08/17	JR,08,00
R708095-04		J15F76	11.7	222					108			3	08/17/07	08/17	JR,07,00
R708095-05		J15F77	15.5	221					150			3	08/17/07	08/17	JR,08,00
R708095-06		LCS (QC ID=62473)	0.098	193					115				08/17/07	08/18	JR,01,00
R708095-07		BLK (QC ID=62474)	7.73	193					610				08/17/07	08/17	JR,08,00
R708095-08		Duplicate (R708095-03)	19.7	198					108			3	08/17/07	08/17	JR,08,00
		(QC ID=62475)													

Nominal values and limits from method 0.050 193 100 180

PROCEDURES REFERENCE GAMMA_GS
 SPP-100 Ge(Li) Preparation for Commercial Samples, rev 7

AVERAGES ± 2 SD MDA 12.6 ± 13.8
 FOR 8 SAMPLES YIELD _____ ± _____

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-LMS
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0917

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.

REPORT GUIDES

Page 1

SUMMARY DATA SECTION

Page 17

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG_K0917

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.

REPORT GUIDES

Page 2

SUMMARY DATA SECTION

Page 18

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG K0917

REPORT GUIDE

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.

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0917

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).

REPORT GUIDES

Page 4

SUMMARY DATA SECTION

Page 20

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0917

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.

REPORT GUIDES

Page 5

SUMMARY DATA SECTION

Page 21

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG_K0917

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.

REPORT GUIDES

Page 6

SUMMARY DATA SECTION

Page 22

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0917

LAB CONTROL SAMPLE

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.

REPORT GUIDES

Page 7

SUMMARY DATA SECTION

Page 23

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
 Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
 Contract No. 630
 Case no SDG K0917

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.

REPORT GUIDES

Page 8

SUMMARY DATA SECTION

Page 24

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0917

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

Page 9

SUMMARY DATA SECTION

Page 25

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
 Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
 Contract No. 630
 Case no SDG K0917

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

Page 10

SUMMARY DATA SECTION

Page 26

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0917

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

Page 11

SUMMARY DATA SECTION

Page 27

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

REPORT GUIDE

Client Hanford
Contract No. 630
Case no SDG K0917

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

Page 12

SUMMARY DATA SECTION

Page 28

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP K0917

SDG 7848
 Contact Melissa C. Mannion

Client Hanford
 Contract No. 630
 Case no SDG K0917

GUIDE, cont.

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.

Lab id EBRLNE
 Protocol Hanford
 Version Ver 1.0
 Form DVD-RG
 Version 3.06
 Report date 08/22/07

REPORT GUIDES

Page 13

SUMMARY DATA SECTION

Page 29

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0917

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

Page 14

SUMMARY DATA SECTION

Page 30

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

EBERLINE SERVICES / RICHMOND
SAMPLE DELIVERY GROUP K0917

SDG 7848
Contact Melissa C. Mannion

GUIDE, cont.

Client Hanford
Contract No. 630
Case no SDG K0917

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

Page 15

SUMMARY DATA SECTION

Page 31

Lab id EBRLNE
Protocol Hanford
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 08/22/07

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					RC-032-147		Page 1 of 3							
Collector T. Welch-Koelling		Company Contact R.T. Coffman		Telephone No. 528-6409		Project Coordinator KESSNER, JH		Price Code 6B		Data Turnaround 7 DAY						
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol		Sampling Location 100-F-26:10 Verification			K0917 (7848)			SAF No. RC-032								
Ice Chest No. AFS-04-004		Field Logbook No. EFL-1174-3		COA R10F262000		Method of Shipment FED EX										
Shipped To EBERLINE SERVICES LIONVILLE		Offsite Property No. A070370			Bill of Lading/Air Bill No. See OSPC form											
POSSIBLE SAMPLE HAZARDS/REMARKS NA				Preservation		None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None					
Special Handling and/or Storage NA				Type of Container		P	P	aG	aG	aG	P					
				No. of Container(s)		1	1	1	1	1	1					
				Volume		250mL	125mL	60mL	120mL	250mL	500mL					
SAMPLE ANALYSIS				See item (1) in Special Instructions.		Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	See item (2) in Special Instructions.						
Sample No.		Matrix *	Sample Date		Sample Time											
J15F73		SOIL	8-14-07		07:30										BCL-A	
J15F74		SOIL	8-14-07		0755										BCL-B	
J15F75		SOIL	8-14-07		0820										BCL-C	
J15F76		SOIL	8-14-07		0845										BCL-D	
J15F77		SOIL	8-14-07		09:10										I	
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				Matrix *				
Relinquished By/Removed From T. Welch-Koelling		Date/Time 8-14-07 1000		Received By/Stored In JP Derwin		Date/Time 1000 8-14-07		(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable) Samples unavailable to relinquish samples from 3728 Ref # 9A. 3728 Custodian removed samples for shipping on 8/15/07. Computer unavailable to relinquish.				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				
Relinquished By/Removed From JP Derwin		Date/Time 1515		Received By/Stored In 3728/3A		Date/Time 8-14-07										
Relinquished By/Removed From 3728/3A		Date/Time 8-15-07 1000		Received By/Stored In M. [Signature]		Date/Time 8-15-07 1000										
Relinquished By/Removed From M. [Signature]		Date/Time 8-15-07 1500		Received By/Stored In FED EX		Date/Time										
Relinquished By/Removed From FED EX		Date/Time		Received By/Stored In FED EX		Date/Time 08/16/07 9:15										
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time										
LABORATORY SECTION		Received By		Title				Date/Time								
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time								



RICHMOND, CA LABORATORY

SAMPLE RECEIPT CHECKLIST

AK 8/16/07

Client: W.C. HANFORD City MICHLAND State WA

Date/Time received 08/16/07 9:15 CoC No. PC-032-147

Container I.D. No. AFS-04-004 Requested TAT (Days) 7 P.O. Received Yes [] No []

INSPECTION

- 1. Custody seals on shipping container intact? Yes [X] No [] N/A []
- 2. Custody seals on shipping container dated & signed? Yes [X] No [] N/A []
- 3. Custody seals on sample containers intact? Yes [X] No [] N/A []
- 4. Custody seals on sample containers dated & signed? Yes [X] No [] N/A []
- 5. Packing material is: Wet [] Dry [X]
- 6. Number of samples in shipping container: 5 Sample Matrix S
- 7. Number of containers per sample: 1 (Or see CoC _____)
- 8. Samples are in correct container Yes [X] No []
- 9. Paperwork agrees with samples? Yes [X] No []
- 10. Samples have: Tape [] Hazard labels [] Rad labels [] Appropriate sample labels [X]
- 11. Samples are: In good condition [X] 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 AFM Date: 08/16/07 Time: 10:15

Customer Sample No.	com	mR/hr	Wide	Customer Sample No.	com	mR/hr	Wide

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

Calibration date _____
Calibration date _____
Calibration date _____



24 August 2007



Joan Kessner
WC-Hanford
3190 Washington Way
MSIN H9-03
Richland, WA 99354

Subject: Analytical Data Package

Dear Ms. Kessner:

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

LvLI Batch #	0708L766
SDG #	K0917
SAF #	RC-032
Date Received	8/16/07
# Samples	5
Matrix	SOIL
Volatiles	
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
GC Alcohols	
Herbicides	
Metals	X
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

Ornette S. Johnson
Project Manager

r:\group\pm\ornette\tnu-hanford\data\b_ltrs.doc

Lionville Laboratory, Inc.
 BNA ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032



DATE RECEIVED: 08/16/07

LVL LOT #

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15F73	001	S	07LE0459	08/14/07	08/17/07	08/21/07
J15F74	002	S	07LE0459	08/14/07	08/17/07	08/20/07
J15F74	002 MS	S	07LE0459	08/14/07	08/17/07	08/20/07
J15F74	002 MSD	S	07LE0459	08/14/07	08/17/07	08/20/07
J15F75	003	S	07LE0459	08/14/07	08/17/07	08/21/07
J15F76	004	S	07LE0459	08/14/07	08/17/07	08/20/07
J15F77	005	S	07LE0459	08/14/07	08/17/07	08/20/07

LAB QC:

SBLKNN	MB1	S	07LE0459	N/A	08/17/07	08/20/07
SBLKNN	MB1 BS	S	07LE0459	N/A	08/17/07	08/20/07



Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0708L766
SDG/SAF # K0917/RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 07-26-2007

SEMIVOLATILE

Five (5) soil samples were collected on 08-16-2007.

The samples and their associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3540C on 08-17-2007 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 08-20,21-2007.

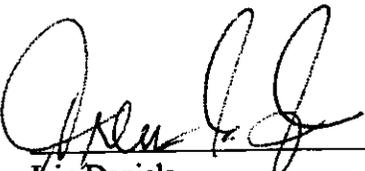
All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.
2. Non-target compounds were detected in the samples.
4. Five (5) of fifty-four (54) surrogate recoveries was outside acceptance criteria. However, the surrogate recovery acceptance criteria were met (i.e. no more than one outlier per sample).
5. Four (4) of one hundred twenty-eight (128) matrix spike recoveries were outside acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminants Bis (2-Ethylhexyl) phthalate and Di-n-butylphthalate at levels less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 20 pages.

10. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

11. 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 data package, has been authorized, by the Laboratory Manager or a designee, as verified by the following signature.



Jaim Daniels
Laboratory Manager
Lionville Laboratory Incorporated
kim\group\data\bra\trn-hanford\0708-766.doc

8/23/07
Date



Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 07MS177

Initiator: Sham Sylva
 Date: 8-21-07
 Client: Tms R032

Batch: 070FL766
 Samples: 02ms
 Method: SWB49MCAWW/CLPI

Parameter: f270
 Matrix: COLM
 Prep Batch: 07460 459

1. Reason for SDR

a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C
 Transcription Error Wrong Test Code Other _____

b. General Discrepancy

Missing Sample/Extract Container Broken Wrong Sample Pulled Label ID's Illegible
 Hold Time Exceeded Insufficient Sample Preservation Wrong Received Past Hold
 Improper Bottle Type Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. Problem (include all relevant specific results; attach data if necessary)

low recovery of 1,2,4-trichlorobenzene + 2-methylnaphthalene in the ms but msd + SS are OK

2. Known or Probable Causes(s) *Spontaneous*

3. Discussion and Proposed Action

Other Description:

- Re-log
- Entire Batch
- Following Samples: _____
- Re-leach
- Re-extract
- Re-digest
- Revise EDD
- Change Test Code to _____
- Place On/Take Off Hold (circle)

nanate

[Signature]

4. Project Manager Instructions...signature/date:

- Concur with Proposed Action
- Disagree with Proposed Action; See Instruction
- Include in Case Narrative
- Client Contacted: _____
- Date/Person _____
- Add
- Cancel

5. Final Action...signature/date:

Other Explanation:

- Verified re-[log][leach][extract][digest][analysis] (circle)
- Included in Case Narrative
- Hard Copy COC Revised
- Electronic COC Revised
- EDD Corrections Completed

When Final Action has been recorded, forward original to QA Specialist for distribution and filing.

Route Distribution of Completed SDR
 Initiator
 Lab General Manager: M. Taylor
 Project Mgr. Stone/Johnson
 Data Management: Stilwell
 Sample Prep: Beegle/Kiger

Route Distribution of Completed SDR
 Metals: Beegle
 Inorganic: Perrone
 GC/LC: Kiger
 MS: Rychlak/Daley
 Log-in: Perry
 Admin: _____
 Other: _____

GLOSSARY

DATA QUALIFIERS

- U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I = Interference.
- NQ = Result qualitatively confirmed but not able to quantify.
- A = Indicates that a TIC is a suspected aldol-condensation product.
- N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y = Additional qualifiers used as required are explained in the case narrative.

mmz\10-94\gloss.bna



000000005

GLOSSARY

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP, Z** = Indicates Spiked Compound.

munz\10-94\gloss.bna



000000006

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

- MP - Missed Peak: manually added peak not found by automatic quan program.
- PA - Peak Assignment: quan report was changed to reflect correct peak assignment.
- RI - Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP - Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB - Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI - Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

RFW Batch Number: 0708L766

Client: TNU-HANFORD RC-032

Work Order: 11343606001

Page: 1a

	Cust ID:	J15F73	J15F74	J15F74	J15F74	J15F75	J15F76
Sample	RFW#:	001	002	002 MS	002 MSD	003	004
Information	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
	Nitrobenzene-d5	81 %	75 %	57 %	62 %	88 %	84 %
Surrogate	2-Fluorobiphenyl	91 %	77 %	77 %	103 %	102 %	87 %
Recovery	Terphenyl-d14	164 * %	112 %	102 %	130 %	156 * %	131 %
	Phenol-d5	97 %	83 %	91 %	109 %	101 %	88 %
	2-Fluorophenol	99 %	84 %	85 %	97 %	99 %	95 %
	2,4,6-Tribromophenol	80 %	83 %	71 %	92 %	91 %	75 %
-----fl-----fl-----fl-----fl-----fl-----fl-----fl-----fl							
	Phenol	330 U	340 U	91 %	120 %	330 U	330 U
	bis(2-Chloroethyl) ether	330 U	340 U	73 %	81 %	330 U	330 U
	2-Chlorophenol	330 U	340 U	89 %	109 %	330 U	330 U
	1,3-Dichlorobenzene	330 U	340 U	68 %	75 %	330 U	330 U
	1,4-Dichlorobenzene	330 U	340 U	67 %	74 %	330 U	330 U
	1,2-Dichlorobenzene	330 U	340 U	71 %	78 %	330 U	330 U
	2-Methylphenol	330 U	340 U	85 %	109 %	330 U	330 U
	2,2'-oxybis(1-Chloropropane)	330 U	340 U	74 %	85 %	330 U	330 U
	3/4 Methylphenol	330 U	340 U	90 %	117 %	330 U	330 U
	N-Nitroso-di-n-propylamine	330 U	340 U	89 %	107 %	330 U	330 U
	Hexachloroethane	330 U	340 U	67 %	72 %	330 U	330 U
	Nitrobenzene	330 U	340 U	54 %	64 %	330 U	330 U
	Isophorone	330 U	340 U	62 %	76 %	330 U	330 U
	2-Nitrophenol	330 U	340 U	58 %	71 %	330 U	330 U
	2,4-Dimethylphenol	330 U	340 U	62 %	81 %	330 U	330 U
	bis(2-Chloroethoxy)methane	330 U	340 U	56 %	70 %	330 U	330 U
	2,4-Dichlorophenol	330 U	340 U	61 %	78 %	330 U	330 U
	1,2,4-Trichlorobenzene	330 U	340 U	53 * %	62 %	330 U	330 U
	Naphthalene	330 U	340 U	59 %	67 %	330 U	330 U
	4-Chloroaniline	330 U	340 U	28 %	46 %	330 U	330 U
	Hexachlorobutadiene	330 U	340 U	57 %	65 %	330 U	330 U
	4-Chloro-3-methylphenol	330 U	340 U	62 %	79 %	330 U	330 U
	2-Methylnaphthalene	330 U	340 U	59 * %	71 %	330 U	330 U
	Hexachlorocyclopentadiene	330 U	340 U	75 %	94 %	330 U	330 U
	2,4,6-Trichlorophenol	330 U	340 U	75 %	106 %	330 U	330 U
	2,4,5-Trichlorophenol	840 U	850 U	89 %	123 %	840 U	840 U

*= Outside of EPA CLP QC limits.

00000000

Cust ID: J15F73 J15F74 J15F74 J15F74 J15F75 J15F76

RFW#:	001	002	002 MS	002 MSD	003	004
2-Chloronaphthalene	330 U	340 U	76 %	104 %	330 U	330 U
2-Nitroaniline	840 U	850 U	83 %	119 %	840 U	840 U
Dimethylphthalate	330 U	340 U	78 %	110 %	330 U	330 U
Acenaphthylene	330 U	340 U	78 %	110 %	330 U	330 U
2,6-Dinitrotoluene	330 U	340 U	81 %	115 * %	330 U	330 U
3-Nitroaniline	840 U	850 U	55 %	85 %	840 U	840 U
Acenaphthene	330 U	340 U	76 %	107 %	330 U	330 U
2,4-Dinitrophenol	840 U	850 U	116 %	147 * %	840 U	840 U
4-Nitrophenol	840 U	850 U	67 %	91 %	840 U	840 U
Dibenzofuran	330 U	340 U	80 %	112 %	330 U	330 U
2,4-Dinitrotoluene	330 U	340 U	85 %	117 %	330 U	330 U
Diethylphthalate	330 U	340 U	79 %	109 %	330 U	330 U
4-Chlorophenyl-phenylether	330 U	340 U	79 %	110 %	330 U	330 U
Fluorene	330 U	340 U	82 %	114 %	330 U	330 U
4-Nitroaniline	840 U	850 U	66 %	86 %	840 U	840 U
4,6-Dinitro-2-methylphenol	840 U	850 U	102 %	132 %	840 U	840 U
N-Nitrosodiphenylamine (1)	330 U	340 U	58 %	83 %	330 U	330 U
4-Bromophenyl-phenylether	330 U	340 U	67 %	95 %	330 U	330 U
Hexachlorobenzene	330 U	340 U	84 %	116 %	330 U	330 U
Pentachlorophenol	840 U	850 U	92 %	116 %	840 U	840 U
Phenanthrene	330 U	340 U	82 %	113 %	330 U	330 U
Anthracene	330 U	340 U	82 %	114 %	330 U	330 U
Carbazole	330 U	340 U	77 %	106 %	330 U	330 U
Di-n-butylphthalate	23 JB	340 U	83 %	113 %	25 JB	30 JB
Fluoranthene	26 J	340 U	86 %	119 %	330 U	20 J
Pyrene	35 J	340 U	92 %	128 %	20 J	28 J
Butylbenzylphthalate	330 U	340 U	94 %	128 %	330 U	330 U
3,3'-Dichlorobenzidine	330 U	340 U	32 %	39 %	330 U	330 U
Benzo(a)anthracene	330 U	340 U	81 %	110 %	330 U	330 U
Chrysene	23 J	340 U	81 %	110 %	330 U	330 U
bis(2-Ethylhexyl)phthalate	99 JB	100 JB	97 %	124 %	250 JB	61 JB
Di-n-octyl phthalate	330 U	340 U	90 %	121 %	330 U	330 U
Benzo(b)fluoranthene	19 J	340 U	81 %	112 %	330 U	330 U
Benzo(k)fluoranthene	25 J	340 U	78 %	106 %	330 U	330 U
Benzo(a)pyrene	18 J	340 U	82 %	111 %	330 U	330 U
Indeno(1,2,3-cd)pyrene	330 U	340 U	88 %	128 %	330 U	330 U
Dibenz(a,h)anthracene	330 U	340 U	86 %	126 %	330 U	330 U
Benzo(g,h,i)perylene	330 U	340 U	88 %	129 %	330 U	330 U

00000009

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Cust ID:

J15F77

SBLKNN

SBLKNN BS

RFW#:

005

07LE0459-MB1

07LE0459-MB1

2-Chloronaphthalene	330	U	330	U	98	%
2-Nitroaniline	840	U	840	U	111	%
Dimethylphthalate	330	U	330	U	99	%
Acenaphthylene	330	U	330	U	103	%
2,6-Dinitrotoluene	330	U	330	U	105	%
3-Nitroaniline	840	U	840	U	100	%
Acenaphthene	330	U	330	U	99	%
2,4-Dinitrophenol	840	U	840	U	46	%
4-Nitrophenol	840	U	840	U	86	%
Dibenzofuran	330	U	330	U	103	%
2,4-Dinitrotoluene	330	U	330	U	106	%
Diethylphthalate	330	U	330	U	99	%
4-Chlorophenyl-phenylether	330	U	330	U	103	%
Fluorene	330	U	330	U	106	%
4-Nitroaniline	840	U	840	U	97	%
4,6-Dinitro-2-methylphenol	840	U	840	U	65	%
N-Nitrosodiphenylamine (1)	330	U	330	U	78	%
4-Bromophenyl-phenylether	330	U	330	U	88	%
Hexachlorobenzene	330	U	330	U	111	%
Pentachlorophenol	840	U	840	U	75	%
Phenanthrene	330	U	330	U	107	%
Anthracene	330	U	330	U	108	%
Carbazole	330	U	330	U	100	%
Di-n-butylphthalate	330	U	22	J	103	%
Fluoranthene	330	U	330	U	108	%
Pyrene	330	U	330	U	121	%
Butylbenzylphthalate	330	U	330	U	121	%
3,3'-Dichlorobenzidine	330	U	330	U	97	%
Benzo(a)anthracene	330	U	330	U	106	%
Chrysene	330	U	330	U	106	%
bis(2-Ethylhexyl)phthalate	79	JB	100	J	124	%
Di-n-octyl phthalate	330	U	330	U	117	%
Benzo(b)fluoranthene	330	U	330	U	101	%
Benzo(k)fluoranthene	330	U	330	U	103	%
Benzo(a)pyrene	330	U	330	U	104	%
Indeno(1,2,3-cd)pyrene	330	U	330	U	115	%
Dibenz(a,h)anthracene	330	U	330	U	115	%
Benzo(g,h,i)perylene	330	U	330	U	116	%

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

000000011

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15F73

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD RC-032

Matrix: (soil/water) SOIL

Lab Sample ID: 0708L766-001

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N082014

Level: (low/med) LOW

Date Received: 08/16/07

% Moisture: 0 decanted: (Y/N) __

Date Extracted: 08/17/07

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 08/21/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	4.265	300	JAB
2.	ALDOL CONDENSATE	4.361	1000	JAB
3.	ALDOL CONDENSATE	4.902	100000	JAB
4.	ALDOL CONDENSATE	6.070	300	JAB
5.	ALKANE	24.895	300	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15F74

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD RC-032

Matrix: (soil/water) SOIL

Lab Sample ID: 0708L766-002

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N082009

Level: (low/med) LOW

Date Received: 08/16/07

% Moisture: 2 decanted: (Y/N) __

Date Extracted: 08/17/07

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 08/20/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	3.848	200	JA
2.	ALDOL CONDENSATE	4.257	400	JAB
3.	ALDOL CONDENSATE	4.380	1000	JAB
4.	ALDOL CONDENSATE	4.911	100000	JAB
5.	ALDOL CONDENSATE	6.054	500	JAB

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15F75

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD RC-032

Matrix: (soil/water) SOIL

Lab Sample ID: 0708L766-003

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N082015

Level: (low/med) LOW

Date Received: 08/16/07

% Moisture: 0 decanted: (Y/N) __

Date Extracted: 08/17/07

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 08/21/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 5

CONCENTRATION UNITS:
 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	4.345	2000	JAB
2.	ALDOL CONDENSATE	4.894	100000	JAB
3.	ALKANE	24.896	400	J
4.	UNKNOWN	26.421	400	J
5.	UNKNOWN	26.700	400	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15F76

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD RC-032

Matrix: (soil/water) SOIL

Lab Sample ID: 0708L766-004

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N082013

Level: (low/med) LOW

Date Received: 08/16/07

% Moisture: 0 decanted: (Y/N)

Date Extracted: 08/17/07

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 08/20/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH:

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	3.846	200	JA
2.	ALDOL CONDENSATE	4.256	400	JAB
3.	ALDOL CONDENSATE	4.386	1000	JAB
4.	ALDOL CONDENSATE	4.927	100000	JAB
5.	ALDOL CONDENSATE	6.060	400	JAB

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

J15F77

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD RC-032

Matrix: (soil/water) SOIL

Lab Sample ID: 0708L766-005

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N082012

Level: (low/med) LOW

Date Received: 08/16/07

% Moisture: 0 decanted: (Y/N)

Date Extracted: 08/17/07

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 08/20/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	4.256	500	JAB
2.	ALDOL CONDENSATE	4.396	1000	JAB
3.	ALDOL CONDENSATE	4.893	100000	JAB
4.	UNKNOWN	4.937	10000	J
5.	ALDOL CONDENSATE	6.061	500	JAB

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKNN

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD RC-032

Matrix: (soil/water) SOIL

Lab Sample ID: 07LE0459-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: N082005

Level: (low/med) LOW

Date Received: 08/17/07

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: 08/17/07

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 08/20/07

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: _____

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATE	4.265	700	JA
2.	ALDOL CONDENSATE	4.379	2000	JA
3.	ALDOL CONDENSATE	4.928	100000	JA
4.	ALDOL CONDENSATE	6.053	800	JA
5.	UNKNOWN	19.001	1000	J



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

17086766

Site: TNU HANFORD SHE# RC-032
 Final Proj. Sampling Date: _____
 Ict#: 11343-606-001-9999-00
 Contact/Phone#: _____
 Site Laboratory Project Manager: D. Johnson
 Del: SW846 Del: STP TAT: 3 days

Refrigerator #	A		B		C		D		E	
	Liquid	Solid	Liquid	Solid	Liquid	Solid	Liquid	Solid	Liquid	Solid
#/Type Container										
Volume										
Preservatives										
ANALYSES REQUESTED →	ORGANIC					INORG				
	VOA	BVA	Pest	PCB	Herb	Metal	C	N	Other	

Rec'd 8-16-07 Date Due 8-28-07

Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only													
		MS	MSD				1	2	3	4	5	6	7	8	9	10				
001	T 15 F 73			Soil	8-14-07	0730														
002	T 15 F 74			I		0755														
003	T 15 F 75			I		0820														
004	T 15 F 76			I		0845														
005	T 15 F 77			I		0910														

Special Instructions: Met ① = HSL + B, Mg, Si (NOTL)

- Special Instructions:
- _____
 - _____
 - _____
 - _____
 - _____
 - _____

Relinquished by	Received by	Date	Time
<u>DEP</u>	<u>A. Hardy</u>	<u>8/16/07</u>	<u>0950</u>

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN	"COMPOSITE WASTE"		

000000018

Director T. Welch-Koelling	Company Contact R.T. Coffman	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code BB	Data Turnaround 7 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 100-F-26:10 Verification	SAF No. RC-032	303		
Field Chest No. ERC 79-027	Field Logbook No. EFL-1174-3	COA R10F262000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A070398	Bill of Lading/Air Bill No. See OSPC form			

SPECIAL HANDLING AND/OR STORAGE	Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None
	Type of Container	P	P	aG	aG	aG	P
	No. of Container(s)	1	1	1	1	1	1
	Volume	250mL	125mL	60mL	120mL	250mL	500mL

SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8170A (TCL)	Pesticides - 8081	See item (2) in Special Instructions.

Sample No.	Matrix *	Sample Date	Sample Time							
15F73	SOIL	8-14-07	0730	X	X	X	X	X		BCL-A
15F74	SOIL	8-14-07	0755	X	X	X	X	X		BCL-B
15F75	SOIL	8-14-07	0820	X	X	X	X	X		BCL-C
15F76	SOIL	8-14-07	0845	X	X	X	X	X		BCL-D
15F77	SOIL	8-14-07	0910	X	X	X	X	X		I

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS		Matrix *
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-14-07 1000	Received By/Stored In <i>[Signature]</i>	Date/Time 8-14-07 1000	(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) (2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Barium-133, Silver-108 metastable}		S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solid DL=Drum Liquid T=Time W=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-14-07 1515	Received By/Stored In <i>[Signature]</i>	Date/Time 8-14-07 1515			
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-15-07 1000	Received By/Stored In <i>[Signature]</i>	Date/Time 8-15-07 1000			
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-15-07 1500	Received By/Stored In <i>[Signature]</i>	Date/Time 8-15-07 1500			
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-16-07 0950	Received By/Stored In <i>[Signature]</i>	Date/Time 8-16-07 0950			

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

000000019

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
 Project SAFSOW/Release #: RC-032

Date: 8/16/07

LvLI Batch #: 0708L 766

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|---|
| 1. Samples Hand Delivered <u>or Shipped?</u> | Carrier <u>FEDEX</u> | Airbill # <u>792540252890</u> |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Comments: |
| 4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp <u>3-4</u> °C | Cooler # |
| How was the temperature taken? | <input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank | <input type="checkbox"/> Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 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 (Client & LvLI) signed & 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? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 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? (if #5 is no, then this is no.) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| Short holds taken to wet lab? | <input 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 that do not meet the policy, which is on the reverse of this page.) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 16. Project Manager contacted concerning any discrepancies? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| Person Contacted _____ | Date _____ | |





Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 **K0917**

DATE RECEIVED: 08/16/07

LVL LOT # : 07001738

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15F73	001	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F73	001 MS	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F73	001 MSD	S	07LE0458	08/14/07	08/17/07	08/22/07
J15F74	002	S	07LE0458	08/14/07	08/17/07	08/22/07
J15F75	003	S	07LE0458	08/14/07	08/17/07	08/22/07
J15F76	004	S	07LE0458	08/14/07	08/17/07	08/22/07
J15F77	005	S	07LE0458	08/14/07	08/17/07	08/22/07

LAB QC:

PBLKEZ	MB1	S	07LE0458	N/A	08/17/07	08/21/07
PBLKEZ	MB1 BS	S	07LE0458	N/A	08/17/07	08/21/07



Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0708L766
SDG/SAF # *K0917* /RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 08-16-2007

CHLORINATED PESTICIDES

Five (5) soil samples were collected on 08-14-2007.

The samples and their associated QC samples were extracted on 08-17-2007 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 08-21,22-2007. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8081A.

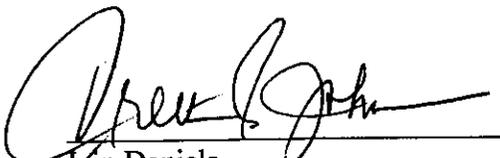
All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

1. Samples were extracted and analyzed within required holding time.
2. The method blank was below the reporting limits for all target compounds.
3. One (1) of eighteen (18) surrogate recoveries were outside acceptance criteria. However, the surrogate recovery acceptance criteria were met (i.e. no more than one outlier per sample).
4. All blank spike recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. The samples and its associated matrix spike samples required a 4-fold instrument dilution due to the sample matrix. The reporting limits were adjusted to reflect the necessary dilution.
7. The initial calibrations associated with this data set were within acceptance criteria.
8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 **9** pages.



9. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
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 data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.


John Daniels
Laboratory Manager
Lionville Laboratory Incorporated


Date

kim\vr\group\data\pest\tnu hanford\0708s766.pst



GLOSSARY OF DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I** = Interference.
- .I** = Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- NS** = Not Spiked.
- SP** = Indicates Spiked Compound.
- P** = This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C** = This flag applies to a compound that has been confirmed by GC/MS.
- NPM** = No pattern match for multi-component target analytes.

RFW Batch Number: 0708L766

Client: TNU-HANFORD RC-032

Work Order: 11343606001 Page: 1

Sample Information	Cust ID:	J15F73	J15F73	J15F73	J15F74	J15F75	J15F76
	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	4.00	4.00	4.00	4.00	4.00	4.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate: Tetrachloro-m-xylene		114 %	118 %	120 * %	110 %	116 %	114 %
Decachlorobiphenyl		108 %	102 %	110 %	98 %	109 %	99 %
-----fl-----fl-----fl-----fl-----fl-----fl-----fl							
Alpha-BHC		1.3 U	98 %	100 %	1.4 U	1.3 U	1.3 U
gamma-BHC (Lindane)		1.3 U	109 %	111 %	1.4 U	1.3 U	1.3 U
Beta-BHC		1.3 U	117 %	117 %	1.4 U	1.3 U	1.3 U
Heptachlor		1.3 U	114 %	116 %	1.4 U	1.3 U	1.3 U
Delta-BHC		1.3 U	90 %	91 %	1.4 U	1.3 U	1.3 U
Aldrin		1.3 U	99 %	102 %	1.4 U	1.3 U	1.3 U
Heptachlor epoxide		1.3 U	106 %	107 %	1.4 U	1.3 U	1.3 U
gamma-Chlordane		1.3 U	104 %	105 %	1.4 U	1.3 U	1.3 U
Endosulfan I		1.3 U	108 %	109 %	1.4 U	1.3 U	1.3 U
alpha-Chlordane		1.3 U	105 %	106 %	1.4 U	1.3 U	1.3 U
4,4'-DDE		1.3 U	109 %	109 %	1.4 U	1.3 U	1.3 U
Dieldrin		1.3 U	102 %	103 %	1.4 U	1.3 U	1.3 U
Endrin		1.3 U	108 %	110 %	1.4 U	1.3 U	1.3 U
4,4'-DDD		1.3 U	101 %	103 %	1.4 U	1.3 U	1.3 U
Endosulfan II		1.3 U	108 %	109 %	1.4 U	1.3 U	1.3 U
4,4'-DDT		1.3 U	110 %	109 %	1.4 U	1.3 U	1.3 U
Endrin aldehyde		1.3 U	103 %	102 %	1.4 U	1.3 U	1.3 U
Endosulfan sulfate		1.3 U	103 %	103 %	1.4 U	1.3 U	1.3 U
Methoxychlor		1.3 U	121 %	122 %	1.4 U	1.3 U	1.3 U
Endrin ketone		1.3 U	108 %	108 %	1.4 U	1.3 U	1.3 U
Toxaphene		13 U	13 U	13 U	14 U	13 U	13 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
% = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000000005



07086766

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: <u>TNU HANFORD SAF RC-032</u>	Refrigerator #	A	B	C	D	E														
Est. Final Proj. Sampling Date	#/Type Container	Liquid																		
Project #: <u>11343-606-001-9999-00</u>		Solid	16	16	16	16	16													
Project Contact/Phone#	Volume																			
Lionville Laboratory Project Manager: <u>O. Johnson</u>	Preservatives																			
QC: <u>SW846</u> Del: <u>STP</u> TAT: <u>3 days</u>	ANALYSES REQUESTED →	ORGANIC					INORG													
Date Rec'd: <u>8-16-07</u> Date Due: <u>8-21-07</u>		VOA	BNA	Pres PCB	Herb	Pest	Metal	N	OC	Ph										

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only													
			MS	MSD				0625 H	0625 B	0608 H	Met	ICRG									
S- Sol	001	T 15 F 73			Soil	8-16-07	0730	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SS- Sediment	002	T 15 F 74			I		0755	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SO- Solid	003	T 15 F 75			I		0820	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SL- Sludge	004	T 15 F 76			I		0845	X	X	X	X	X	X	X	X	X	X	X	X	X	X
W- Water	005	T 15 F 77			I		0910	X	X	X	X	X	X	X	X	X	X	X	X	X	X
O- Oil																					
A- Air																					
DS- Drum Solids																					
DL- Drum Liquids																					
L- EP/TCLP Leachate																					
WI- Wipe																					
X- Other																					
F- Fish																					

Special Instructions: Met ① = HSL + B, mg, Si (NO TL)

Special Instructions:

- _____
- _____
- _____
- _____
- _____
- _____

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>F. Sed</u>	<u>A. Sed</u>	<u>8/16/07</u>	<u>0950</u>					<u>ORIGINAL</u>	<u>COMPOSITE</u>		
								<u>REWRITTEN</u>	<u>MASTER</u>		

000000007

Collector T. Welch-Koelling	Company Contact R.T. Coffman	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code BB	Data Turnaround 7 DAY 30g
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 100-F-26:10 Verification	SAF No. RC-032			
Ice Chest No. ERC 99-027	Field Logbook No. EFL-1174-3	COA R10F262000	Method of Shipment FED EX		
Shipped To EBERLINE SERVICES (LONVILLE)	Offsite Property No. A070398	Bill of Lading/Air Bill No. See OSPC form			

POSSIBLE SAMPLE HAZARDS/REMARKS NA	Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None						
		Type of Container	P	P	aG	aG	aG						P
		No. of Container(s)	1	1	1	1	1						1
		Volume	250mL	125mL	60mL	120mL	250mL						500mL

SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8290A (TCL)	Pesticides - 8081	See item (2) in Special Instructions.						
-----------------	---------------------------------------	---------------------	-------------	------------------------	-------------------	---------------------------------------	--	--	--	--	--	--

Sample No.	Matrix *	Sample Date	Sample Time									
J15F73	SOIL	8-14-07	0730	X	X	X	X	X	X			BCL-A
J15F74	SOIL	8-14-07	0755	X	X	X	X	X	X			BCL-B
J15F75	SOIL	8-14-07	0820	X	X	X	X	X	X			BCL-C
J15F76	SOIL	8-14-07	0845	X	X	X	X	X	X			BCL-D
J15F77	SOIL	8-14-07	0910	X	X	X	X	X	X			I

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-14-07 1000	Received By/Stored In <i>[Signature]</i>	Date/Time 8-14-07 1000
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-14-07 1515	Received By/Stored In <i>[Signature]</i>	Date/Time 8-14-07 1515
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-15-07 1000	Received By/Stored In <i>[Signature]</i>	Date/Time 8-15-07 1000
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-15-07 1500	Received By/Stored In <i>[Signature]</i>	Date/Time 8-15-07 1500
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-16-07 0950	Received By/Stored In <i>[Signature]</i>	Date/Time 8-16-07 0950
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS	Matrix *
(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable)	S=Soil SE=Soil/Earth SO=Soil SL=Sludge W=Water O=Oil A=Air DS=Dry Solids DL=Dry Liquids T=Trash W=Wipe L=Liquid V=Vegetation X=Other
Original samples from 3728 Ref # 31 3728 Custodian removed samples for shipping on 8/15/07 Custodian unavailable to relinquish	

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

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNA HANFORD
 Project/SAMPLE/Release #: RC-032

Date: 8/16/07

LvLI Batch #: 0708L 766

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier <u>FEDEX</u>	Airbill # <u>792540252890</u>
2. Custody Seals on coolers or shipping containers intact, signed & dated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Seals
3. Outside of coolers or shipping containers are free from damage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Comments:
4. All expected paperwork received (COC & other client specific information) sealed in plastic bag and easily accessible?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Samples received cooled or ambient?	Temp <u>3-4</u> °C	Cooler #
How was the temperature taken?	<input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank	<input type="checkbox"/> Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
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 (Client & LvLI) signed & 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 <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? (If #5 is no, then this is no.)	<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 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
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 that do not meet the policy, which is on the reverse of this page.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
16. Project Manager contacted concerning any discrepancies? Person Contacted _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A Date _____



Lionville Laboratory, Inc.
PCB ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032 **K0917**

DATE RECEIVED: 08/16/07

LVL LOT # :07C8L766

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15F73	001	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F73	001 MS	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F73	001 MSD	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F74	002	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F75	003	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F76	004	S	07LE0458	08/14/07	08/17/07	08/21/07
J15F77	005	S	07LE0458	08/14/07	08/17/07	08/21/07

LAB QC:

PBLKEZ	MB1	S	07LE0458	N/A	08/17/07	08/21/07
PBLKEZ	MB1 BS	S	07LE0458	N/A	08/17/07	08/21/07



Case Narrative

Client: TNU-HANFORD RC-032
LVL #: 0708L766
SDG/SAF # K0917 /RC-032

W.O. #: 11343-606-001-9999-00
Date Received: 08-16-2007

PCB

Five (5) soil samples were collected on 08-14-2007.

The samples and their associated QC samples were extracted on 08-17-2007 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 08-21-2007. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

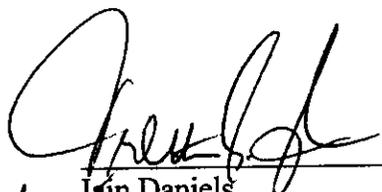
All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise. The following is a summary of the QC results accompanying the sample results. Lionville Laboratory Inc (LvLI) certifies that all test results meet the requirements of NELAC except as noted below:

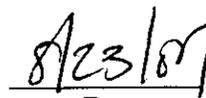
1. Samples were extracted and analyzed within required holding time.
2. The samples and their associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
3. The method blank was below the reporting limits for all target compounds.
4. All surrogate recoveries were within acceptance criteria.
5. The blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. The initial calibrations associated with this data set were within acceptance criteria.
8. The continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 8 pages.



9. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
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 data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.


Jim Daniels
Laboratory Manager
Lionville Laboratory Incorporated


Date

kim\vr\group\data\pest\tnu hanford\0708s766.pcb



GLOSSARY OF DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I** = Interference.
- .I** = Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- NS** = Not Spiked.
- SP** = Indicates Spiked Compound.
- P** = This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form 1 and flagged with a "P".
- D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C** = This flag applies to a compound that has been confirmed by GC/MS.
- NPM** = No pattern match for multi-component target analytes.

RFW Batch Number: 0708L766

Client: TNU-HANFORD RC-032

Work Order: 11343606001 Page: 1

00000005

Sample Information	Cust ID:	J15F73	J15F73	J15F73	J15F74	J15F75	J15F76
	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	95 %	92 %	89 %	86 %	90 %	90 %
	Decachlorobiphenyl	94 %	88 %	93 %	96 %	98 %	95 %
-----fl-----fl-----fl-----fl-----fl-----fl-----fl-----							
Aroclor-1016		13 U	95 %	94 %	14 U	13 U	13 U
Aroclor-1221		13 U	13 U	13 U	14 U	13 U	13 U
Aroclor-1232		13 U	13 U	13 U	14 U	13 U	13 U
Aroclor-1242		13 U	13 U	13 U	14 U	13 U	13 U
Aroclor-1248		13 U	13 U	13 U	14 U	13 U	13 U
Aroclor-1254		7.9 J	I	I	14 U	13 U	13 U
Aroclor-1260		4.7 J	91 %	90 %	14 U	3.8 J	10 J

Sample Information	Cust ID:	J15F77	PBLKEZ	PBLKEZ BS
	RFW#:	005	07LE0458-MB1	07LE0458-MB1
	Matrix:	SOIL	SOIL	SOIL
	D.F.:	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG
Surrogate:	Tetrachloro-m-xylene	92 %	83 %	84 %
	Decachlorobiphenyl	100 %	91 %	96 %
-----fl-----fl-----fl-----fl-----fl-----fl-----fl-----				
Aroclor-1016		13 U	13 U	93 %
Aroclor-1221		13 U	13 U	13 U
Aroclor-1232		13 U	13 U	13 U
Aroclor-1242		13 U	13 U	13 U
Aroclor-1248		13 U	13 U	13 U
Aroclor-1254		13 U	13 U	13 U
Aroclor-1260		13 U	13 U	98 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. * Outside of EPA CLP QC



000000006

0708L766

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNUC HANFORD SAF# RC-032
 Est. Final Proj. Sampling Date: _____
 Project#: 11343-606-001-9999-00
 Project Contact/Phone#: _____
 Lionville Laboratory Project Manager: O. Johnson Sr
 DC: SW846 Del: STP TAT: 3 days

Refrigerator #	A		B		C		D		E	
	Liquid	Solid	Liquid	Solid	Liquid	Solid	Liquid	Solid	Liquid	Solid
#/Type Container										
Volume										
Preservatives										
ANALYSES REQUESTED →	ORGANIC					Pest	INORG			Metals
	VOA	BNA	Pest/PCB	Herb			Metals	CN	Other	

Date Rec'd: 8-16-07 Date Due: 8-21-07

MATRIX CODES: B- Sol BE- Sacment SO- Solid SL- Sludge W- Water O- Oil A- Air DB- Drum Sds- Solids DL- Drum L- Liquids EP/TCLP Leachate WI- Wipe X- Other F- Fish	Lab ID	Client ID/Description	Matrix DC Chosen (✓)		Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only													
			MS	MSD				0625H	0PCB	0608H	MDW	ICRG									
	001	I 15 F 73			Soil	8-14-07	0730														
	002	I 15 F 74			I		0755														
	003	I 15 F 75			I		0820														
	004	I 15 F 76			I		0845														
	005	I 15 F 77			I		0910														

Special Instructions:
 Met ① = HSL + B, Mg, Si
 (NOT L)

- Special Instructions:
- _____
 - _____
 - _____
 - _____
 - _____
 - _____

Relinquished by	Received by	Date	Time
<u>F. D. E.</u>	<u>A. H. J.</u>	<u>8/16/07</u>	<u>0950</u>

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN	COMPOSITE WASTE		

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-032-147	Page 1 of 2
Collector T. Welch-Koelling	Company Contact R.T. Coffman	Telephone No. 528-6409	Project Coordinator KESSNER, JH		Price Code 8B	Date Turnaround 7 DAY 30g	
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol		Sampling Location 100-F-26:10 Verification		SAF No. RC-032			
Ice Chest No. ERC 99-027	Field Logbook No. EFL-1174-3	COA R10F262000		Method of Shipment FED EX			
Shipped To EBERLINE SERVICES (LIONVILLE)		Offsite Property No. A070398		Bill of Lading/Air Bill No. See OSPC form			

POSSIBLE SAMPLE HAZARDS/REMARKS NA	Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None				
	Type of Container	P	P	aG	aG	aG	P				
	No. of Container(s)	1	1	1	1	1	1				
	Volume	250mL	125mL	60mL	120mL	250mL	500mL				
Special Handling and/or Storage NA											

SAMPLE ANALYSIS		See item (1) in Special Instructions.	Chromium Hex - 7196	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	See item (2) in Special Instructions.				
-----------------	--	---------------------------------------	---------------------	-------------	------------------------	-------------------	---------------------------------------	--	--	--	--

Sample No.	Matrix *	Sample Date	Sample Time	X	X	X	X	X	X			
J15F73	SOIL	8-14-07	0730	X	X	X	X	X	X			BCL-A
J15F74	SOIL	8-14-07	0755 ✓	X	X	X	X	X	X			BCL-B
J15F75	SOIL	8-14-07	0820 ✓	X	X	X	X	X	X			BCL-C
J15F76	SOIL	8-14-07	0845	X	X	X	X	X	X			BCL-D
J15F77	SOIL	8-14-07	0910 ✓	X	X	X	X	X	X			I

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS				Matrix *
Relinquished By/Removed From <i>T. Welch-Koelling</i>	Date/Time 8-14-07 1000	Received By/Stored In <i>J. DeVigne TRD</i>	Date/Time 8-14-07 1000	(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108 metastable) samples from 3728 Ref # 31. 3728 Custodian removed samples for shipping on 8/15/07 Computer unavailable to relinquish				S=Soil SE=Sediment SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trash WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From <i>J. DeVigne TRD</i>	Date/Time 8-14-07 1515	Received By/Stored In <i>3728/SA</i>	Date/Time 8-14-07 1515					
Relinquished By/Removed From <i>3728/SA</i>	Date/Time 8-15-07 1000	Received By/Stored In <i>M. S. [Signature]</i>	Date/Time 8-15-07 1000					
Relinquished By/Removed From <i>M. S. [Signature]</i>	Date/Time 8-15-07 1500	Received By/Stored In <i>FED EX</i>	Date/Time					
Relinquished By/Removed From <i>TRD</i>	Date/Time 8-16-07 0950	Received By/Stored In <i>[Signature]</i>	Date/Time 8-16-07 0950					

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

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
 Project/AFISOW/Release #: RC-032

Date: 8/16/07

LvLI Batch #: 0708L 766

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

<p>1. Samples Hand Delivered or Shipped?</p>	<p>Carrier <u>FEDEX</u></p>	<p>Airbill # <u>792540252890</u></p>
<p>2. Custody Seals on coolers or shipping containers intact, signed & dated?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> No Seals</p>
<p>3. Outside of coolers or shipping containers are free from damage?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Comments:</p>
<p>4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>5. Samples received cooled or ambient?</p> <p>How was the temperature taken?</p> <p>Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)</p>	<p>Temp <u>3-4</u> °C</p> <p><input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Cooler #</p> <p><input type="checkbox"/> Other (Specify):</p>
<p>6. Custody seals on sample containers intact, signed and dated?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input type="checkbox"/> No Seals</p>
<p>7. COC (Client & LvLI) signed & dated?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>8. Sample containers are intact?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>9. All samples on COC received? All samples received on COC?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>10. All sample label information matches COC?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>11. Samples properly preserved? (If #5 is no, then this is no.)</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>12. Samples received within hold times? Short holds taken to wet lab?</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input checked="" type="checkbox"/> N/A</p>
<p>13. VOA, TOC, TOX free of headspace?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input checked="" type="checkbox"/> N/A</p>
<p>14. QC stickers placed on bottles designated by client?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input checked="" type="checkbox"/> N/A</p>
<p>15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.)</p>	<p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	
<p>16. Project Manager contacted concerning any discrepancies? Person Contacted _____</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p><input checked="" type="checkbox"/> N/A</p> <p>Date _____</p>



Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032



DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15F73						
SILVER, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
SILVER, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
SILVER, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
BERYLLIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
BERYLLIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
BERYLLIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
IRON, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
IRON, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032

DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
IRON, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
MERCURY, TOTAL	001	S	07C0157	08/14/07	08/17/07	08/20/07
MERCURY, TOTAL	001 REP	S	07C0157	08/14/07	08/17/07	08/20/07
MERCURY, TOTAL	001 MS	S	07C0157	08/14/07	08/17/07	08/20/07
POTASSIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
POTASSIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
POTASSIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
MANGANESE, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
MANGANESE, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
MANGANESE, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07
ZINC, TOTAL	001	S	07L0413	08/14/07	08/21/07	08/21/07

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032

DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ZINC, TOTAL	001 REP	S	07L0413	08/14/07	08/21/07	08/21/07
ZINC, TOTAL	001 MS	S	07L0413	08/14/07	08/21/07	08/21/07

J15F74

SILVER, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
BERYLLIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
IRON, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
MERCURY, TOTAL	002	S	07C0157	08/14/07	08/17/07	08/20/07
POTASSIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
MANGANESE, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07
ZINC, TOTAL	002	S	07L0413	08/14/07	08/21/07	08/21/07

J15F75

SILVER, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032

DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BERYLLIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
IRON, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
MERCURY, TOTAL	003	S	07C0157	08/14/07	08/17/07	08/20/07
POTASSIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
MANGANESE, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07
ZINC, TOTAL	003	S	07L0413	08/14/07	08/21/07	08/21/07

J15F76

SILVER, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
BERYLLIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
IRON, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
MERCURY, TOTAL	004	S	07C0157	08/14/07	08/17/07	08/20/07
POTASSIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032

DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07
ZINC, TOTAL	004	S	07L0413	08/14/07	08/21/07	08/21/07

J15F77

SILVER, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
ALUMINUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
ARSENIC, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
BORON, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
BARIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
BERYLLIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
CALCIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
CADMIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
COBALT, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
CHROMIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
COPPER, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
IRON, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
MERCURY, TOTAL	005	S	07C0157	08/14/07	08/17/07	08/20/07
POTASSIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
MAGNESIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
MANGANESE, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
MOLYBDENUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
SODIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
NICKEL, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
LEAD, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
ANTIMONY, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
SELENIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
SILICON, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
VANADIUM, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07
ZINC, TOTAL	005	S	07L0413	08/14/07	08/21/07	08/21/07

LAB QC:

Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD RC-032

DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SILVER LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
SILVER, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
ALUMINUM LABORTORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
ALUMINUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
ARSENIC LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
ARSENIC, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
BORON LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
BORON, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
BARIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
BARIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
BERYLLIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
BERYLLIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
CALCIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
CALCIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
CADMIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
CADMIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
COBALT LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
COBALT, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
CHROMIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
CHROMIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
COPPER LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
COPPER, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
IRON LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
IRON, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
MERCURY LABORATORY	LC1 BS	S	07C0157	N/A	08/17/07	08/20/07
MERCURY, TOTAL	MB1	S	07C0157	N/A	08/17/07	08/20/07
POTASSIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
POTASSIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
MAGNESIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
MAGNESIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
MANGANESE LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
MANGANESE, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
MOLYBDENUM LABORATOR	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
MOLYBDENUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
SODIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD RC-032

DATE RECEIVED: 08/16/07

LVL LOT # :0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SODIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
NICKEL LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
NICKEL, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
LEAD LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
LEAD, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
ANTIMONY LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
ANTIMONY, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
SELENIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
SELENIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
SILICON LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
SILICON, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
VANADIUM LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
VANADIUM, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07
ZINC LABORATORY	LC1 BS	S	07L0413	N/A	08/21/07	08/21/07
ZINC, TOTAL	MB1	S	07L0413	N/A	08/21/07	08/21/07

000000007



Analytical Report

Client: TNU-HANFORD RC-032
LVL#: 0708L766
SDG/SAF#: K0917/RC-032

W.O.#: 11343-606-001-9999-00
Date Received: 08-16-07

METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

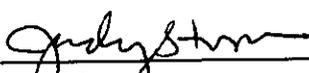
1. This narrative covers the analyses of 5 soil samples.
2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The samples were reported with 3-fold dilutions for ICP metals due to sample matrix.
3. All analyses were performed within the required holding times.
4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).
5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).
6. The preparation/method blanks for 2 analytes were outside method criteria. {less than the Practical Quantitation Limit (3X the IDL), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
 - a). The MB results for Sodium and Zinc were greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and all samples read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.
7. All ICP Interference Check Standards were within control limits.

The results presented in this report relate only to the analytical testing and conditions of the samples at 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 23 pages.

8. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
9. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.
10. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A PDS was prepared at meaningful concentration level for the following analytes:

<u>Sample ID</u>	<u>Element</u>	<u>PDS</u> <u>Concentration (ppb)</u>	<u>PDS</u> <u>% Recovery</u>
J15F73	Aluminum	66,000	101.3
	Iron	66,000	98.5
	Manganese	3,000	103.8
	Silicon	6,300	93.8

11. The duplicate analyses for 5 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
13. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
14. 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 data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.



 Jain Daniels
 Laboratory Manager
 Lionville Laboratory Incorporated

8/24/07

 Date

jjw/m08-766



METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within t

Lot#: 07082766

Leaching Procedure: 1310 1311 1312 Other:

CLP Metals Digestion and Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A 3010A 3015 3020A X3050B 3051 200.7 SS17
 Other:

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	X 6010B	200.7			99
Antimony	X 6010B 7041 ^s	200.7 204.2			99
Arsenic	X 6010B 7060A ^s	200.7 206.2	3113B		99
Barium	X 6010B	200.7			99
Beryllium	X 6010B	200.7			99
Bismuth	6010B ^s	200.7 ^s		1620	99
Boron	X 6010B	200.7			99
Cadmium	X 6010B 7131A ^s	200.7 213.2			99
Calcium	X 6010B	200.7			99
Chromium	X 6010B 7191 ^s	200.7 218.2			SS17
Cobalt	X 6010B	200.7			99
Copper	X 6010B 7211 ^s	200.7 220.2			99
Iron	X 6010B	200.7			99
Lead	X 6010B 7421 ^s	200.7 239.2	3113B		99
Lithium	6010B 7430 ^s	200.7		1620	99
Magnesium	X 6010B	200.7			99
Manganese	X 6010B	200.7			99
Mercury	7470A ^s X 7471A ^s	245.1 ^s 245.5 ^s			99
Molybdenum	X 6010B	200.7			99
Nickel	X 6010B	200.7			99
Potassium	X 6010B 7610 ^s	200.7 258.1 ^s			99
Rare Earths	6010B ^s	200.7 ^s		1620	99
Selenium	X 6010B 7740 ^s	200.7 270.2	3113B		99
Silicon	X 6010B ^s	200.7		1620	99
Silica	6010B	200.7		1620	99
Silver	X 6010B 7761 ^s	200.7 272.2			99
Sodium	X 6010B 7770 ^s	200.7 273.1 ^s			99
Strontium	6010B	200.7			99
Thallium	6010B 7841 ^s	200.7 279.2 200.9			99
Tin	6010B	200.7			99
Titanium	6010B	200.7			99
Uranium	6010B ^s	200.7 ^s		1620	99
Vanadium	X 6010B	200.7			99
Zinc	X 6010B	200.7			99
Zirconium	6010B ^s	200.7 ^s		1620	99

Other: _____

Method: _____

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
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-W1-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/22/07

CLIENT: TNU-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J15F73	Silver, Total	0.26	u MG/KG	0.26	3.0
		Aluminum, Total	5910	MG/KG	4.8	3.0
		Arsenic, Total	2.3	MG/KG	1.2	3.0
		Boron, Total	4.0	MG/KG	1.0	3.0
		Barium, Total	68.7	MG/KG	0.06	3.0
		Beryllium, Total	0.27	MG/KG	0.03	3.0
		Calcium, Total	4930	MG/KG	2.0	3.0
		Cadmium, Total	0.14	u MG/KG	0.14	3.0
		Cobalt, Total	6.1	MG/KG	0.23	3.0
		Chromium, Total	8.3	MG/KG	0.29	3.0
		Copper, Total	12.0	MG/KG	0.26	3.0
		Iron, Total	14700	MG/KG	6.9	3.0
		Mercury, Total	0.02	u MG/KG	0.02	1.0
		Potassium, Total	1140	MG/KG	9.2	3.0
		Magnesium, Total	3690	MG/KG	2.3	3.0
		Manganese, Total	263	MG/KG	0.20	3.0
		Molybdenum, Total	0.46	u MG/KG	0.46	3.0
		Sodium, Total	171	MG/KG	2.0	3.0
		Nickel, Total	10.5	MG/KG	0.78	3.0
		Lead, Total	7.8	MG/KG	0.95	3.0
		Antimony, Total	0.73	MG/KG	0.63	3.0
		Selenium, Total	1.8	MG/KG	1.2	3.0
		Silicon, Total	1650	MG/KG	2.5	3.0
		Vanadium, Total	32.2	MG/KG	0.23	3.0
		Zinc, Total	44.2	MG/KG	0.12	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/22/07

CLIENT: TNU-HANFORD RC-032

LVL LOT #: 0708L766

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	J15F74	Silver, Total	0.26	u MG/KG	0.26	3.0
		Aluminum, Total	6690	MG/KG	4.9	3.0
		Arsenic, Total	3.7	MG/KG	1.2	3.0
		Boron, Total	1.1	u MG/KG	1.1	3.0
		Barium, Total	66.0	MG/KG	0.06	3.0
		Beryllium, Total	0.27	MG/KG	0.03	3.0
		Calcium, Total	3990	MG/KG	2.1	3.0
		Cadmium, Total	0.15	u MG/KG	0.15	3.0
		Cobalt, Total	6.4	MG/KG	0.24	3.0
		Chromium, Total	9.9	MG/KG	0.29	3.0
		Copper, Total	11.6	MG/KG	0.26	3.0
		Iron, Total	16300	MG/KG	7.0	3.0
		Mercury, Total	0.02	u MG/KG	0.02	1.0
		Potassium, Total	1410	MG/KG	9.4	3.0
		Magnesium, Total	3790	MG/KG	2.4	3.0
		Manganese, Total	291	MG/KG	0.21	3.0
		Molybdenum, Total	0.47	u MG/KG	0.47	3.0
		Sodium, Total	168	MG/KG	2.1	3.0
		Nickel, Total	10.3	MG/KG	0.79	3.0
		Lead, Total	10.7	MG/KG	0.97	3.0
		Antimony, Total	0.65	u MG/KG	0.65	3.0
		Selenium, Total	1.3	u MG/KG	1.3	3.0
		Silicon, Total	932	MG/KG	2.5	3.0
		Vanadium, Total	34.9	MG/KG	0.24	3.0
		Zinc, Total	44.3	MG/KG	0.12	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/22/07

CLIENT: TNJ-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	J15F75	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	7510	MG/KG	4.7	3.0
		Arsenic, Total	4.7	MG/KG	1.2	3.0
		Boron, Total	5.8	MG/KG	1.0	3.0
		Barium, Total	117	MG/KG	0.06	3.0
		Beryllium, Total	0.28	MG/KG	0.03	3.0
		Calcium, Total	8460	MG/KG	2.0	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	6.8	MG/KG	0.23	3.0
		Chromium, Total	10.7	MG/KG	0.29	3.0
		Copper, Total	15.8	MG/KG	0.26	3.0
		Iron, Total	16500	MG/KG	6.8	3.0
		Mercury, Total	0.02 u	MG/KG	0.02	1.0
		Potassium, Total	1300	MG/KG	9.1	3.0
		Magnesium, Total	4560	MG/KG	2.3	3.0
		Manganese, Total	291	MG/KG	0.20	3.0
		Molybdenum, Total	0.46 u	MG/KG	0.46	3.0
		Sodium, Total	228	MG/KG	2.0	3.0
		Nickel, Total	12.3	MG/KG	0.77	3.0
		Lead, Total	8.8	MG/KG	0.94	3.0
		Antimony, Total	0.88	MG/KG	0.63	3.0
		Selenium, Total	1.2 u	MG/KG	1.2	3.0
		Silicon, Total	1460	MG/KG	2.5	3.0
		Vanadium, Total	36.5	MG/KG	0.23	3.0
		Zinc, Total	51.9	MG/KG	0.11	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/22/07

CLIENT: TNU-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	J15F76	Silver, Total	0.26 u	MG/KG	0.26	3.0
		Aluminum, Total	5950	MG/KG	4.8	3.0
		Arsenic, Total	2.6	MG/KG	1.2	3.0
		Boron, Total	2.4	MG/KG	1.0	3.0
		Barium, Total	50.6	MG/KG	0.06	3.0
		Beryllium, Total	0.23	MG/KG	0.03	3.0
		Calcium, Total	3740	MG/KG	2.0	3.0
		Cadmium, Total	0.14 u	MG/KG	0.14	3.0
		Cobalt, Total	5.7	MG/KG	0.23	3.0
		Chromium, Total	8.8	MG/KG	0.29	3.0
		Copper, Total	11.0	MG/KG	0.25	3.0
		Iron, Total	14600	MG/KG	6.9	3.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Potassium, Total	1040	MG/KG	9.2	3.0
		Magnesium, Total	3610	MG/KG	2.3	3.0
		Manganese, Total	244	MG/KG	0.20	3.0
		Molybdenum, Total	0.46 u	MG/KG	0.46	3.0
		Sodium, Total	164	MG/KG	2.0	3.0
		Nickel, Total	9.6	MG/KG	0.78	3.0
		Lead, Total	4.8	MG/KG	0.95	3.0
		Antimony, Total	0.72	MG/KG	0.63	3.0
		Selenium, Total	1.2 u	MG/KG	1.2	3.0
		Silicon, Total	1170	MG/KG	2.5	3.0
		Vanadium, Total	33.6	MG/KG	0.23	3.0
		Zinc, Total	33.8	MG/KG	0.12	3.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 08/22/07

CLIENT: TNO-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	J15F77	Silver, Total	0.27	u MG/KG	0.27	3.0
		Aluminum, Total	7020	MG/KG	4.9	3.0
		Arsenic, Total	6.4	MG/KG	1.2	3.0
		Boron, Total	2.5	MG/KG	1.1	3.0
		Barium, Total	61.2	MG/KG	0.06	3.0
		Beryllium, Total	0.30	MG/KG	0.03	3.0
		Calcium, Total	4300	MG/KG	2.1	3.0
		Cadmium, Total	0.15	u MG/KG	0.15	3.0
		Cobalt, Total	6.6	MG/KG	0.24	3.0
		Chromium, Total	10.7	MG/KG	0.30	3.0
		Copper, Total	11.9	MG/KG	0.27	3.0
		Iron, Total	16400	MG/KG	7.1	3.0
		Mercury, Total	0.02	u MG/KG	0.02	1.0
		Potassium, Total	1310	MG/KG	9.5	3.0
		Magnesium, Total	4060	MG/KG	2.4	3.0
		Manganese, Total	287	MG/KG	0.21	3.0
		Molybdenum, Total	0.48	u MG/KG	0.48	3.0
		Sodium, Total	200	MG/KG	2.1	3.0
		Nickel, Total	11.5	MG/KG	0.80	3.0
		Lead, Total	8.2	MG/KG	0.98	3.0
		Antimony, Total	1.0	MG/KG	0.65	3.0
		Selenium, Total	1.5	MG/KG	1.3	3.0
		Silicon, Total	1120	MG/KG	2.6	3.0
		Vanadium, Total	34.8	MG/KG	0.24	3.0
		Zinc, Total	38.2	MG/KG	0.12	3.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 08/22/07

CLIENT: TNU-KANFORD RC-032

LVL LOT #: 0708L766

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	07L0413-MB1	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Aluminum, Total	3.8	MG/KG	1.6	1.0
		Arsenic, Total	0.40 u	MG/KG	0.40	1.0
		Boron, Total	0.35 u	MG/KG	0.35	1.0
		Barium, Total	0.05	MG/KG	0.02	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Calcium, Total	20.6	MG/KG	0.70	1.0
		Cadmium, Total	0.05	MG/KG	0.05	1.0
		Cobalt, Total	0.08 u	MG/KG	0.08	1.0
		Chromium, Total	0.12	MG/KG	0.1	1.0
		Copper, Total	0.09 u	MG/KG	0.09	1.0
		Iron, Total	2.8	MG/KG	2.3	1.0
		Potassium, Total	5.9	MG/KG	3.1	1.0
		Magnesium, Total	1.7	MG/KG	0.79	1.0
		Manganese, Total	0.07 u	MG/KG	0.07	1.0
		Molybdenum, Total	0.16 u	MG/KG	0.16	1.0
		Sodium, Total	17.6	MG/KG	0.69	1.0
		Nickel, Total	0.26 u	MG/KG	0.26	1.0
		Lead, Total	0.32 u	MG/KG	0.32	1.0
		Antimony, Total	0.24	MG/KG	0.22	1.0
		Selenium, Total	0.42 u	MG/KG	0.42	1.0
		Silicon, Total	7.1	MG/KG	0.84	1.0
		Vanadium, Total	0.08 u	MG/KG	0.08	1.0
		Zinc, Total	3.7	MG/KG	0.04	1.0
BLANK1	07C0157-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 08/22/07

CLIENT: TNU-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	J15F73	Silver, Total	4.8	0.26u	4.8	100	3.0
		Aluminum, Total	5910	5910	192	-2.5*	3.0
		Arsenic, Total	188	2.3	192	96.6	3.0
		Boron, Total	97.7	4.0	96.1	97.5	3.0
		Barium, Total	256	68.7	192	97.7	3.0
		Beryllium, Total	5.0	0.27	4.8	98.5	3.0
		Calcium, Total	6810	4930	2400	78.1	3.0
		Cadmium, Total	4.8	0.14u	4.8	100	3.0
		Cobalt, Total	53.1	6.1	48.0	97.9	3.0
		Chromium, Total	26.4	8.3	19.2	94.3	3.0
		Copper, Total	35.3	12.0	24.0	97.1	3.0
		Iron, Total	13200	14700	96.1	-1600. *	3.0
		Mercury, Total	0.17	0.02u	0.15	109.2	1.0
		Potassium, Total	3320	1140	2400	90.7	3.0
		Magnesium, Total	5740	3690	2400	85.2	3.0
		Manganese, Total	288	263	48.0	51.2*	3.0
		Molybdenum, Total	90.6	0.46u	96.1	94.3	3.0
		Sodium, Total	2540	171	2400	98.5	3.0
		Nickel, Total	55.9	10.5	48.0	94.6	3.0
		Lead, Total	58.2	7.8	48.0	105.0	3.0
		Antimony, Total	38.9	0.73	48.0	79.5	3.0
		Selenium, Total	162	1.8	192	83.6	3.0
		Silicon, Total	3270	1650	96.1	1681 *	3.0
		Vanadium, Total	73.8	32.2	48.0	86.7	3.0
		Zinc, Total	85.9	44.2	48.0	86.9	3.0

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 08/22/07

CLIENT: TNU-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	J15F73	Silver, Total	0.26u	0.26u	NC	3.0
		Aluminum, Total	5910	5610	5.2	3.0
		Arsenic, Total	2.3	3.0	26.4	3.0
		Boron, Total	4.0	3.1	25.4	3.0
		Barium, Total	68.7	66.1	3.9	3.0
		Beryllium, Total	0.27	0.27	1.1	3.0
		Calcium, Total	4930	4640	6.2	3.0
		Cadmium, Total	0.14u	0.14u	NC	3.0
		Cobalt, Total	6.1	6.0	1.7	3.0
		Chromium, Total	8.3	9.8	16.6	3.0
		Copper, Total	12.0	11.8	1.7	3.0
		Iron, Total	14700	14600	1.1	3.0
		Mercury, Total	0.02u	0.01u	NC	1.0
		Potassium, Total	1140	1090	4.6	3.0
		Magnesium, Total	3690	3630	1.7	3.0
		Manganese, Total	263	260	1.2	3.0
		Molybdenum, Total	0.46u	0.46u	NC	3.0
		Sodium, Total	171	154	10.2	3.0
		Nickel, Total	10.5	11.0	4.7	3.0
		Lead, Total	7.8	7.2	8.0	3.0
		Antimony, Total	0.73	0.63u	NC	3.0
		Selenium, Total	1.8	1.2 u	NC	3.0
		Silicon, Total	1650	1100	39.9	3.0
		Vanadium, Total	32.2	32.5	0.93	3.0
		Zinc, Total	44.2	42.9	3.0	3.0

Handwritten note:
 700
 700
 corrected values
 per 8/25/07

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 08/22/07

CLIENT: TNU-HANFORD RC-032
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	07L0413-LC1	Silver, LCS	45.2	49.0	MG/KG	92.2
		Aluminum, LCS	456	490	MG/KG	93.1
		Arsenic, LCS	884	980	MG/KG	90.2
		Boron, LCS	444	490	MG/KG	90.6
		Barium, LCS	449	490	MG/KG	91.6
		Beryllium, LCS	23.4	24.5	MG/KG	95.5
		Calcium, LCS	2350	2450	MG/KG	95.9
		Cadmium, LCS	23.2	24.5	MG/KG	94.7
		Cobalt, LCS	232	245	MG/KG	94.7
		Chromium, LCS	46.6	49.0	MG/KG	95.1
		Copper, LCS	114	122	MG/KG	92.8
		Iron, LCS	471	490	MG/KG	96.1
		Potassium, LCS	2180	2450	MG/KG	88.9
		Magnesium, LCS	2240	2450	MG/KG	91.3
		Manganese, LCS	70.6	73.5	MG/KG	96.1
		Molybdenum, LCS	448	490	MG/KG	91.4
		Sodium, LCS	2170	2450	MG/KG	88.4
		Nickel, LCS	184	196	MG/KG	94.0
		Lead, LCS	232	245	MG/KG	94.6
		Antimony, LCS	266	294	MG/KG	90.4
		Selenium, LCS	835	980	MG/KG	85.2
		Silicon, LCS	425	490	MG/KG	86.8
		Vanadium, LCS	228	245	MG/KG	93.0
		Zinc, LCS	92.1	98.0	MG/KG	94.0
LCS1	07C0157-LC1	Mercury, LCS	3.0	2.8	MG/KG	107.2

Wille Laboratory Use Only
 1708L466

Custody Transfer Record/Lab Work Request



FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

at TNU HANFORD SAF# RC-032
 Final Proj. Sampling Date _____
 acct# 11343-606-001-9999-00
 Contact/Phone# _____
 Wille Laboratory Project Manager D. Johnson
SW846 Del. STP TAT 3 days

Refrigerator #	A B C D E					
	6 6 6 6 6					
#/Type Container	Liquid					
	Solid	16	16	16	16	16
Volume		100	60	250	250	125
Preservatives		-	-	-	-	-
ANALYSES REQUESTED →	ORGANIC				INORG	
	VOA	BNA	Heavy PCB	Herb	Metal	Other

Rec'd 8-16-07 Date Due 8-21-07

Lab ID	Client ID/Description	Matrix	Date Collected	Time Collected	Lionville Laboratory Use Only							
					MS	MSD	0625H	0PCB	0608H	Metal	ICRG	
001	J 15 F 73	Solid	8-14-07	0730								
002	J 15 F 74	I	I	0755								
003	J 15 F 75	I	I	0820								
004	J 15 F 76	I	I	0845								
005	J 15 F 77	I	I	0910								

Special Instructions:
 Met ① = HSL + B, Mg, Si
 (NOT L)

- Special Instructions:
- _____
 - _____
 - _____
 - _____
 - _____
 - _____

Relinquished by	Received by	Date	Time
<u>J. E. F.</u>	<u>A. H. G.</u>	<u>8/16/07</u>	<u>0950</u>

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
ORIGINAL REWRITTEN	"COMPOSITE WASTE"		

000000021

Washington Closure Hanford

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

RC-032-147 Page 1 of 3

Collector T. Welch-Koelling	Company Contact R.T. Coffman	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code BB	Date Turnaround 7 DAY 30g
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 100-F-26:10 Verification	SAF No. RC-032			
Field Logbook No. EFL-1174-3	COA R10F262000	Method of Shipment FED EX			
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A070398	BHL of Ladline/Air Bill No. See OSPC form			

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None
Type of Container	P	P	aG	aG	aG	P
No. of Container(s)	1	1	1	1	1	1
Volume	250mL	125mL	60mL	120mL	250mL	500mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	See item (1) in Special Instructions	Chromium Hex - 7196	PCBs - 1082	Semi-VOA - 8270A (TCL)	Pesticides - 1041	See item (2) in Special Instructions			
15F73	SOIL	8-14-07	0730	X	X	X	X	X				BCL-A
15F74	SOIL	8-14-07	0755	X	X	X	X	X				BCL-B
15F75	SOIL	8-14-07	0820	X	X	X	X	X				BCL-C
15F76	SOIL	8-14-07	0845	X	X	X	X	X				BCL-D
15F77	SOIL	8-14-07	0910	X	X	X	X	X				I

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-14-07 1000	Received By/Stored In <i>[Signature]</i>	Date/Time 8-14-07 1000
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-14-07 1515	Received By/Stored In <i>[Signature]</i>	Date/Time 8-14-07 1515
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-15-07 1000	Received By/Stored In <i>[Signature]</i>	Date/Time 8-15-07 1000
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-15-07 1500	Received By/Stored In <i>[Signature]</i>	Date/Time 8-15-07 1500
Relinquished By/Removed From <i>[Signature]</i>	Date/Time 8-16-07 0950	Received By/Stored In <i>[Signature]</i>	Date/Time 8-16-07 0950

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010 (Client List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV)

(2) Gamma Spectroscopy (TCL List) (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Barium-133, Silver-108-metastable)

samples unavailable to relinquish samples from 3728 Ref # 24. 3728 Custodian removed samples for shipping on 8/15/07. Samples unavailable to relinquish.

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

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

00000022

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU HANFORD
 Project/SITISOW/Release #: RC-032

Date: 8/16/07

LvLI Batch #: 0708L 766

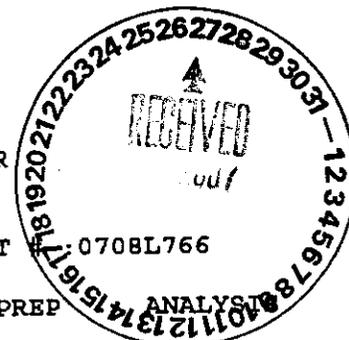
Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|---|
| 1. Samples Hand Delivered <u>or Shipped?</u> | Carrier: <u>FEDEX</u> | Airbill #: <u>792540252890</u> |
| 2. Custody Seals on coolers or shipping containers intact, signed & dated? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals |
| 3. Outside of coolers or shipping containers are free from damage? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Comments: |
| 4. All expected paperwork received (COC & other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 5. Samples received cooled or ambient? | Temp: <u>3-4</u> °C | Cooler # |
| How was the temperature taken? | <input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank | <input type="checkbox"/> Other (Specify): |
| Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 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 (Client & LvLI) signed & 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? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 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? (If #5 is no, then this is no.) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 12. Samples received within hold times? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| Short holds taken to wet lab? | <input 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 that do not meet the policy, which is on the reverse of this page.) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| 16. Project Manager contacted concerning any discrepancies? | <input type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A |
| Person Contacted _____ | Date _____ | |



Lionville Laboratory, Inc.
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD RC-032 K0917



DATE RECEIVED: 08/16/07

LVL LOT : 0708L766

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J15F73						
% SOLIDS	001	S	07L&S099	08/14/07	08/17/08	08/17/08
% SOLIDS	001 REP	S	07L&S099	08/14/07	08/17/08	08/17/08
CHROMIUM VI	001	S	07LVI066	08/14/07	08/17/07	08/17/07
J15F74						
% SOLIDS	002	S	07L&S099	08/14/07	08/17/08	08/17/08
CHROMIUM VI	002	S	07LVI066	08/14/07	08/17/07	08/17/07
J15F75						
% SOLIDS	003	S	07L&S099	08/14/07	08/17/08	08/17/08
CHROMIUM VI	003	S	07LVI066	08/14/07	08/17/07	08/17/07
J15F76						
% SOLIDS	004	S	07L&S099	08/14/07	08/17/08	08/17/08
CHROMIUM VI	004	S	07LVI066	08/14/07	08/17/07	08/17/07
CHROMIUM VI	004 REP	S	07LVI066	08/14/07	08/17/07	08/17/07
CHROMIUM VI	004 MS	S	07LVI066	08/14/07	08/17/07	08/17/07
CHROMIUM VI	004 MSD	S	07LVI066	08/14/07	08/17/07	08/17/07
J15F77						
% SOLIDS	005	S	07L&S099	08/14/07	08/17/08	08/17/08
CHROMIUM VI	005	S	07LVI066	08/14/07	08/17/07	08/17/07

LAB QC:

CHROMIUM VI	MB1	S	07LVI066	N/A	08/17/07	08/17/07
CHROMIUM VI	MB1 BS	S	07LVI066	N/A	08/17/07	08/17/07
CHROMIUM VI	MB1 BSD	S	07LVI066	N/A	08/17/07	08/17/07

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	
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 08/20/07

CLIENT: TNU-HANFORD RC-032 K0917
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	J15F73	% Solids Chromium VI	100 0.27	% MG/KG	0.01 0.20	1.0 1.0
-002	J15F74	% Solids Chromium VI	98.0 0.20 u	% MG/KG	0.01 0.20	1.0 1.0
-003	J15F75	% Solids Chromium VI	99.9 0.20 u	% MG/KG	0.01 0.20	1.0 1.0
-004	J15F76	% Solids Chromium VI	100 0.20 u	% MG/KG	0.01 0.20	1.0 1.0
-005	J15F77	% Solids Chromium VI	100 0.27	% MG/KG	0.01 0.20	1.0 1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 08/20/07

CLIENT: TNU-MANFORD RC-032 K0917
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	07LVI066-MB1	Chromium VI	0.20 u	MG/KG	0.20	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 08/20/07

CLIENT: TNU-HANFORD RC-032 K0917
 WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-004	J15F76	Soluble Chromium VI	3.9	0.20u	4.0	94.6	1.0
		Insoluble Chromium VI	1110	0.20u	1220	91.2	100
BLANK10	07LVI066-MB1	Soluble Chromium VI	3.9	0.20u	4.0	98.4	1.0
		Insoluble Chromium VI	1320	0.20u	1290	102.1	100

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 08/20/07

CLIENT: TNU-HANFORD RC-032 K0917
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0708L766

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	J15F73	% Solids	100	100	0.010	1.0
-004REP	J15F76	Chromium VI	0.20u	0.20u	NC	1.0

Collector T. Welch-Koelling	Company Contact R.T. Coffman	Telephone No. 528-6409	Project Coordinator KESSNER, JH	Price Code BB	Data Turnaround 7 DAY
Project Designation 100-F Remaining Sites Burial Grounds - Soil Full Protocol	Sampling Location 100-F-26:10 Verification	SAF No. RC-032			
Chest No. ERC 99-027	Field Logbook No. EFL-1174-3	COA R10F262000	Method of Shipment FED EX	305	
Shipped To EBERLINE SERVICES (LIONVILLE)	Offsite Property No. A070398	Bill of Lading/Air Bill No. See OSPC form			

Special Handling and/or Storage	Preservation	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None
	Type of Container	P	P	aG	aG	aG	P
	No. of Container(s)	1	1	1	1	1	1
	Volume	250mL	125mL	60mL	120mL	250mL	500mL

SAMPLE ANALYSIS				See item (1) in Special Instructions.	Chromium Hex - 7194	PCBs - 8082	Semi-VOA - 8270A (TCL)	Pesticides - 8081	See item (2) in Special Instructions.
Sample No.	Matrix *	Sample Date	Sample Time						
5F73	SOIL	8-14-07	0730	X	X	X	X	X	
5F74	SOIL	8-14-07	0755	X	X	X	X	X	BCL-A
5F75	SOIL	8-14-07	0820	X	X	X	X	X	BCL-B
5F76	SOIL	8-14-07	0845	X	X	X	X	X	BCL-C
5F77	SOIL	8-14-07	0910	X	X	X	X	X	BCL-D

CHAIN OF POSSESSION		Sign/Print Names		SPECIAL INSTRUCTIONS	Matrix *		
Acquired By/Removed From	Date/Time	Received By/Stored In	Date/Time			(1) ICP Metals - 6010 (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) (2) Gamma Spectroscopy (TCL List) {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on (Barium-133, Silver-108 metastable)	S=Soil SE=Soil/Earth SO=Solid SL=Sludge W=Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trash W=Wipe L=Liquid V=Vegetation X=Other
Acquired By/Removed From	Date/Time	Received By/Stored In	Date/Time				
Acquired By/Removed From	Date/Time	Received By/Stored In	Date/Time				
Acquired By/Removed From	Date/Time	Received By/Stored In	Date/Time				
Acquired By/Removed From	Date/Time	Received By/Stored In	Date/Time				

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

00000010

Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNA HANFORD
 Project/SIT/SOW/Release #: RC-032

Date: 8/16/07

LvLI Batch #: 0708L 766

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier <u>FEDEX</u>	Airbill # <u>792540252890</u>
2. Custody Seals on coolers or shipping containers intact, signed & dated?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No Seals
3. Outside of coolers or shipping containers are free from damage?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Comments:
4. All expected paperwork received (coc & other client specific information) sealed in plastic bag and easily accessible?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Samples received cooled or ambient?	Temp <u>3-4</u> °C	Cooler #
How was the temperature taken?	<input checked="" type="checkbox"/> IR <input type="checkbox"/> Temp. Blank	<input type="checkbox"/> Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
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 (Client & LvLI) signed & 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 <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? (If #5 is no, then this is no.)	<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 <input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
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 that do not meet the policy, which is on the reverse of this page.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
16. Project Manager contacted concerning any discrepancies? Person Contacted _____	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
	Date _____	

