

RECEIVED DECEMBER 3, 2008



20 November 2008

Mr. Michael Neeley
 CH2M Hill Plateau Remediation Company
 P.O. Box 1600
 Mail Stop - B6-06
 Richland, WA 99352

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

Dear Mr. Neely:

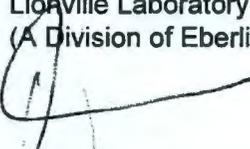
Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0810L013
SDG #	H3904 ✓
SAF #	F08-086
Date Received	10/02/08
# Samples	1
Matrix	WATER
Volatiles	
Semivolatiles	X
Pest/PCB	X
DRO/GRO/KRO	
Herbicides	
GC Alcohol	
Metals	
Inorganics	

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
 (A Division of Eberline Analytical Corporation)


 Orlette S. Johnson
 Project Manager

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

CHAIN OF CUSTODY

000000002

Fluor Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F08-086-072	PAGE 1 OF 1		
COLLECTOR NCO Sampler <i>Herrick/Helms</i>		COMPANY CONTACT Trent, SJ		TELEPHONE NO. 373-5869		PROJECT COORDINATOR WIDRIG, DL		PRICE CODE 7N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION J-C6378-M		PROJECT DESIGNATION Aquifer Tube Installation Sampling and Analysis in the 200-PO-1 OU (Shore)				SAF NO. F08-086		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <i>Slick - 1</i>		FIELD LOGBOOK NO. <i>HNF-N-451-3</i>		ACTUAL SAMPLE DEPTH		COA 122588ES10		METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Lionville Laboratory Incorporated		OFFSITE PROPERTY NO. See PTR <i>22574</i>				BILL OF LADING/AIR BILL NO. See PTR <i>7919 6074 9081</i>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Water X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)		PRESERVATION		Cool-4C	Cool-4C			
			TYPE OF CONTAINER		aG	aG			
			NO. OF CONTAINER(S)		4	2			
			VOLUME		1000mL	1000mL			
	SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.		MATRIX*		SAMPLE DATE	SAMPLE TIME				
B1TRH3		WATER		9-29-08	1000	✓	✓		
CHAIN OF POSSESSION				SIGN/ PRINT NAMES				SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME		** The 200 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. (1)Pesticides - 8081 {Dieldrin, Heptachlor, Heptachlor epoxide} (2)Semi-VOA - 8270B (TCL) {2,4-Dinitrophenol, Bis(2-ethylhexyl) phthalate, Nitrobenzene, Pentachlorophenol} Semi-VOA - 8270B (Add-On) {1,4-Dioxane, Dimethoate}	
<i>MA White, MA White</i>		<i>9-29-08 1300</i>		<i>SSU-R2</i>		<i>9-29-08 1300</i>			
<i>SSU-R2</i>		<i>9-30-8 0730</i>		<i>Donnelly</i>		<i>9-30-8 0730</i>			
<i>Donnelly</i>		<i>9-30-8 1400</i>		<i>Fal Ex</i>					
<i>Donnelly</i>		<i>10-2-08/0940</i>		<i>Donnelly</i>		<i>10-2-08/0940</i>			
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME			
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME			
RELINQUISHED BY/REMOVED FROM		DATE/TIME		RECEIVED BY/STORED IN		DATE/TIME		TITLE	
LABORATORY SECTION		RECEIVED BY		DISPOSED BY		DATE/TIME		DATE/TIME	
FINAL SAMPLE DISPOSITION		DISPOSAL METHOD		DISPOSED BY		DATE/TIME		DATE/TIME	

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Lionville Laboratory Incorporated
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Lewis Hanford
 Project SAF/SOW/Release #: F08-086

Date: 10-2-08

LvLI Batch #: 08101013

Sample Custodian: D. Ymich

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | |
|---|---|---|
| 1. Samples Hand Delivered or <u>Shipped</u> | Carrier <u>FEDEX</u> | Airbill # <u>7919 6074 9081</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 <u>cooled</u> or ambient? | Temp <u>2.0</u> °C | Cooler # <u>Slick-1</u> |
| 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input 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 _____ | |



PESTICIDES

Lionville Laboratory, Inc.
PEST/PCB ANALYTICAL DATA PACKAGE FOR
FLRHANFORD F08-086

DATE RECEIVED: 10/02/08

LVL LOT # :0810L013

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1TRH3	001	W	08LE0490	09/29/08	10/06/08	10/08/08
B1TRH3	001 MS	W	08LE0490	09/29/08	10/06/08	10/08/08
B1TRH3	001 MSD	W	08LE0490	09/29/08	10/06/08	10/09/08

LAB QC:

PBLKVV	MB1	W	08LE0490	N/A	10/06/08	10/08/08
PBLKVV	MB1 BS	W	08LE0490	N/A	10/06/08	10/08/08



Case Narrative

Client: FLUOR-HANFORD F08-086
LVL #: 0810L013
SDG/SAF # H3904/ F08-086

W.O. #: 60197-001-001-0001-00
Date Received: 10-02-2008

CHLORINATED PESTICIDES

One (1) water sample was collected on 09-29-2008.

The sample and its associated QC samples were extracted on 10-06-2008 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 10-08,09-2008. The extraction procedure was based on method 3520C and the extracts were analyzed based on method 8081A.

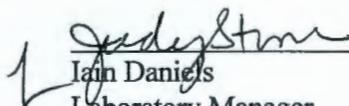
The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LVL) certifies that all test results meet the requirements of NELAC except as noted below:

1. All required holding times for extraction and analysis have been met.
2. The method blank was below the reporting limits for all target compounds.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. All blank spike recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All initial calibrations associated with this data set were within acceptance criteria.

r:\group\data\2008\pest-pcb\wo-hanford\0810-013ck1w.pest.doc

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 pages.

7. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
8. LvL is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.
9. 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.



Ian Daniels
Laboratory Manager
Lionville Laboratory

11/6/02
Date





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.

Lionville Laboratory, Inc.

Pesticides/PCB by GC, Special List

Report Date: 10/29/08 19:53

RFW Batch Number: 0810L013

Client: FLRHANFORD F08-086

Work Order: 60197001001 Page: 1

	Cust ID:	B1TRH3	B1TRH3	B1TRH3	PBLKVV	PBLKVV BS
Sample Information	RFW#:	001	001 MS	001 MSD	08LE0490-MB1	08LE0490-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate:	Decachlorobiphenyl	108 %	108 %	110 %	115 %	122 %
	Tetrachloro-m-xylene	72 %	74 %	72 %	69 %	74 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====						
	Diieldrin	0.10 U	96 %	96 %	0.10 U	109 %
	Heptachlor	0.050 U	90 %	88 %	0.050 U	101 %
	Heptachlor epoxide	0.050 U	91 %	90 %	0.050 U	106 %

000000011

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

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 10/06/08

Extraction Batch No: 08LE0490

Analyst: MF

Method: CONT3520

Test: O608

Cleanup Date:

Analyst:

Client: FLRHANFORD F08-086

LIMS Report Date: 10/08/08

Solvent: DCM,HEXANE

Adsorbent:

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
0810L013-	FLRHANFORD F08-086										
001 X	B1TRH3	7	1000	1.0		10		1.0	N	0.0	10.00
001 XS	B1TRH3	7	1000	1.0	1.0	10		1.0	N	0.0	10.00
001 XT	B1TRH3	7	1000	1.0	1.0	10		1.0	N	0.0	10.00
0810L017-	WC-HANFORD RC-052										
-001 H	J17JX8	7	1000	1.0		10		1.0	N	0.0	10.00
001 HS	J17JX8	7	1000	1.0	1.0	10		1.0	N	0.0	10.00
001 HT	J17JX8	7	950	1.0	1.0	10		1.0	N	0.0	10.53
08LE0490-MB1 H	PBLKVV	7	1000	1.0		10		1.0	N	0.0	10.00
08LE0490-MB1 HS	PBLKVV	7	1000	1.0	1.0	10		1.0	N	0.0	10.00
08LE0490-MB1 X	PBLKVV	7	1000	1.0		10		1.0	N	0.0	10.00
08LE0490-MB1 XS	PBLKVV	7	1000	1.0	1.0	10		1.0	N	0.0	10.00

Comments: *Copper CLEANED 10-8-08 CK*
 Surrogate: 250 UL OLM PSURR 89916408
 Spike: 250 UL FULL LIST PEST SPIKE 89915510

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
<i>all</i>	<i>[Signature]</i>	<i>10/8/08 1615</i>	<i>CK</i>	<i>10/8/08</i>	<i>CC</i>

000000012

SEMIVOLATILES

Lionville Laboratory, Inc.
BNA ANALYTICAL DATA PACKAGE FOR
FLRHANFORD F08-086

DATE RECEIVED: 10/02/08

LVL LOT # :0810L013

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B1TRH3	001	W	08LE0485	09/29/08	10/06/08	10/31/08
B1TRH3	001 MS	W	08LE0485	09/29/08	10/06/08	10/31/08
B1TRH3	001 MSD	W	08LE0485	09/29/08	10/06/08	10/31/08

LAB QC:

SBLKYP	MB1	W	08LE0485	N/A	10/06/08	10/31/08
SBLKYP	MB1 BS	W	08LE0485	N/A	10/06/08	10/31/08

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Case Narrative

Client: FLUOR-HANFORD F08-086 H3904
LVL #: 0810L013

W.O. #: 60197-001-001-0001-00
Date Received: 10-02-2008

SEMIVOLATILE

One (1) water sample was collected on 09-29-2008.

The sample and its associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3520C on 10-06-2008 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for client specified Semivolatile target compounds on 10-31-2008.

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

1. All results presented in this report are derived from samples that met LVL's sample acceptance policy.
2. Samples were extracted and analyzed within holding time.
3. Non-target compounds were detected in these samples.
4. All obtainable surrogate recoveries were within acceptance criteria.
5. Two (2) of eight (8) matrix spike recoveries were outside acceptance criteria. They were biased high and had minimal impact on the data.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminant Bis (2-Ethylhexy) phthalate at a level less than the CRQL.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
10. Internal standard area and retention time criteria were met.
11. 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").
12. LVL is NELAP accredited by the State of Pennsylvania. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

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 _____ pages.



13. 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.


Iain Daniels
Laboratory Manager
Lionville Laboratory

11/6/08
Date

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.

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.

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.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B1TRH3

Lab Name: Lionville Labs, Inc. Work Order: 60197001001

Client: FLRHANFORD F08-086

Matrix: (soil/water) WATER

Lab Sample ID: 0810L013-001

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: C103112

Level: (low/med) LOW

Date Received: 10/02/08

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

Date Extracted: 10/06/08

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 10/31/08

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALKANE	8.456	3	J