

SAF-RC-151
300 Area D4 Waste Sites –
Water
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21

KW 3/7/13
INITIAL/DATE

COMMENTS:

SDG K4049 SAF-RC-151

Rad only

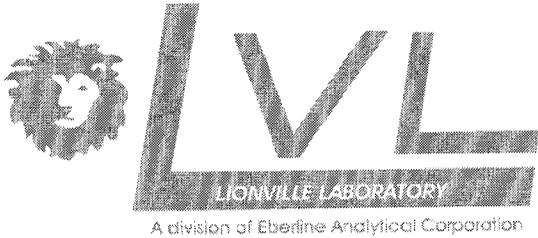
Chem only

Rad & Chem

Complete

Partial

Sample Location/Waste Site: 300-274 Verification – Phase 5
Test Pit Water



264 Welsh Pool Road
 Exton, Pennsylvania 19341
 Phone (610) 280-3000
 Fax (610) 280-3041

5 March 2013

Joan Kessner
 WC-Hanford, Inc.
 2620 Fermi Avenue
 MSIN H4-21
 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 #	1301051
SDG #	K4049
SAF #	RC-151
Date Received	01/23/13
# Samples	1
Matrix	WATER
Volatiles	
Semivolatiles	
Pest/PCB	X
Glycols	
DRO/KRO/GRO	X
PAHs	
Herbicides	
Metals	
Inorganics	X

The electronic data deliverable (EDD) has been emailed. 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

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 28 pages.

CHAIN OF CUSTODY

Washington Closure Hanford **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** **RC-151-007** Page 1 of 1

Collector: Oswald, MG Company Contact: Joan Kessner Telephone No.: 509-375-4688 Project Coordinator: KESSNER, JH Price Code: 7L Data Turnaround: 21 Days

Project Designation: 300 Area D4 Waste Sites - Water Sampling Location: 300-274 Verification - Phase 5 Test Pit Water Field Logbook No.: EL-1663-05 COA: R302742000 Method of Shipment: Fed Ex/Hand Deliver/Government Vehicle Bill of Lading/Air Bill No.: See OSPC

Ice Chest No.: **RC-08-625** Shipped To: **LIONVILLE** Date: **1/18/13** Offsite Preperv No.: **A120714**

POSSIBLE SAMPLE HAZARDS/REMARKS: **Patent Radiactive At 1-21-13** **Duo Siba 1/22/13**

Special Handling and/or Storage: **Cool 4C**

Preservation	None	HCl to pH <2 Cool 4C	Cool 4C
Type of Container	P	gG	gG
No. of Container(s)	1	3	1
Volume	60mL	1000mL	1000mL

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time																
J1RD23	WATER	1/18/2013	1240	X	X	X													

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Sign/Print Names	Date/Time	SPECIAL INSTRUCTIONS
Relinquished By/Removed From: <i>W. A. Howard</i>	1/18/13	Received By/Stored In: <i>DAVID BECKETT</i>	1/18/13	<i>DAVID BECKETT</i>	1/18/13	* Custodian unavailable to remove samples from controlled storage. Shipper/removed samples, taking custody for shipment to lab.
Relinquished By/Removed From: <i>BECKETT</i>	1/21-13	Received By/Stored In: <i>A. Feier</i>	0717	<i>A. Feier</i>	0717	
Relinquished By/Removed From: <i>10602C</i>	0717	Received By/Stored In: <i>A. Feier</i>	1-21-13	<i>A. Feier</i>	1-21-13	
Relinquished By/Removed From: <i>A. Feier</i>	1-22-13	Received By/Stored In: <i>Fed Ex</i>	1-22-13	<i>Fed Ex</i>	1-22-13	



LABORATORY SECTION: Received By: _____ Date/Time: _____ Title: _____

FINAL SAMPLE DISPOSITION: Disposed By: _____ Date/Time: _____

Lionville Laboratory
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: W.C. Hanford
Project/SAF/SOW/Release #: RC-151

Date: 1-23-13

LvL Batch #: 1301051

Sample Custodian: [Signature]

NOTE: EXPLAIN ALL DISCREPANCIES

- | | | | |
|--|---|--|--|
| 1. Samples Hand Delivered or <u>Shipped?</u> | Carrier <u>DEX</u> | Airbill # <u>7945 7298 5606</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>2.8</u> °C | Cooler # <u>RCC-08-025</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 & LvL) 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? Short holds taken to wet lab? | <input type="checkbox"/> Yes
<input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No <u>PH out of hole</u>
<input type="checkbox"/> No <input type="checkbox"/> N/A | |
| 13. VOA, TOC, TOX, RSK-175, Sulfides, Non-Halogenated VOAs (Alcohol/Glycol) 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 LvL Sample Acceptance Policy? (Identify all bottles that do not meet the policy, which is on the reverse of this page.) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <u>See # 12</u> | |
| 16. Project Manager contacted concerning any discrepancies? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> N/A | |

Person Contacted [Signature]

Date 1-23-13

PCBs



264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

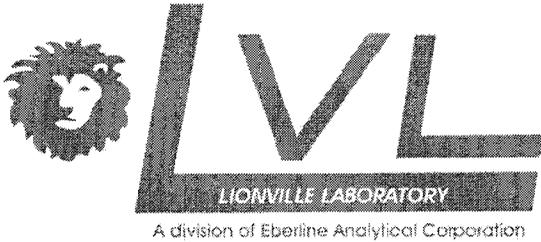
WC-Hanford, Inc.
2620 Fermi Avenue
Richland WA, 99354

Project: RC-151
Project Number: K4049
Project Manager: Joan Kessner

Reported:
01/30/2013 21:52

Analytical Report for Polychlorinated Biphenyls by SW846 8082

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
JIRD23	1301051-01	Water	01/18/2013 12:40	01/23/2013 09:45



264 Welsh Pool Road
Exton, Pennsylvania 19341
Phone (610) 280-3000
Fax (610) 280-3041

Case Narrative

Client: WC-HANFORD RC-151 K4049
LVL #: 1301051

W.O. #: 60049-001-001-0001-00
Received: 01-23-2013

PCBs

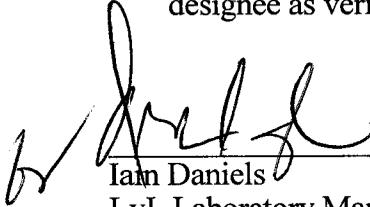
One (1) water sample was collected on 01-18-2013.

The sample and associated QC samples were extracted 01-24-2013 and analyzed 01-28-2013 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3520C and the analysis procedure was based on SW846 Method 8082. All samples received Copper-Sulfur and Sulfuric Acid cleanups based on SW846 methods 3660A and 3665A.

Lionville Laboratory (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. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from a sample that met LvL's sample acceptance policy with exceptions noted on the Sample Receipt Checklist.
2. All required holding times for extraction and analysis have been met.
3. All surrogate recoveries were within QC acceptance criteria.
4. The method blank was below the reporting limits for all target compounds.
5. All blank spike recoveries were within QC acceptance criteria.
6. Due to insufficient sample volume, matrix spike QC could not be performed on the sample in this data set. However, blank spike QC was performed with these samples to demonstrate that systems were in control.
7. The sample required a 5-fold instrument dilution due to high concentrations of target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
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. Per SW846 Method 8000B, the attached table lists compounds where the %difference or drift was greater than 15%, and the mean across all compounds was used for evaluation of the continuing calibration. Results associated with these compounds are considered to have greater uncertainty.
10. Patterns of Aroclor 1260 were identified in this sample. The reported Aroclors were chosen based on the best pattern match and fit. Quantitation was performed using congeners common to all Aroclors to give the best overall total PCB concentration.

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 hardcopy data package has been authorized by the laboratory manager or a designee as verified by the following signature.



Ian Daniels
LvL Laboratory Manager

2/28/12
Date

8082A PCBs

Analytes with %Difference or %Drift >15%, Where Mean is Used for Continuing Calibration

Analyte	CCV1 01.28.13 11:23:21 AM		CCV2 01.28.13 04:17:40 PM		CCV3 01.29.13 12:27:41 AM		CCV4 01.29.13 05:50:55 AM		CCV5 01.29.13 10:25:20 AM		CCV6 01.29.13 01:53:57 PM		CCV7	CCV8
	Primary	Secondary	Primary	Secondary										
Tetrachloro-meta-xylene (surrogate)														
Decachlorobiphenyl (surrogate)	-26.9		-24.0		-17.8		-16.6		-17.1					
Aroclor 1016-1					16.1		16.0		16.7		20.8			
Aroclor 1016-2											16.8			
Aroclor 1016-3														
Aroclor 1016-4														
Aroclor 1016-5											15.4			
Aroclor 1260-1											16.5			
Aroclor 1260-2					17.5						17.2			
Aroclor 1260-3											17.2			
Aroclor 1260-4	-17.1													
Aroclor 1260-5	-16.2													
Mean %D or %Drift	-10.9	4.9	-7.0	8.2	1.4	11.4	0.4	7.8	-1.6	9.3	5.3	14.9		

Sample results reported from affected CCV:

CCV1: L301180-BIKI, BSI, L301170-BIKI, BSI, BSDI

CCV2: L301195-BIKI, BSI, 1301023-20, 1301061-01, 02, 03, L301180-MS2 MSD2, 1301057-01

CCV3: 1301048-03, 06, 10, 11, 1301058-01, 1301058-03

CCV4: _____

CCV5: 1301058-02, L301180-MSD1, MSD1
sz 01.29.13

CCV6: _____

CCV7: _____

CCV8: _____



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.
- P = This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; 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.

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.
- NPM = No pattern match for multi-component target analytes.



264 Welsh Pool Road
 Exton, PA 19341
 Phone: 610-280-3000
 Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/30/2013 21:52
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J1RD23
1301051-01 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Aroclor 1016	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1221	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1232	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1242	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1248	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1254	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1260	11.1 D	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1262	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
Aroclor 1268	2.00 U	2.00	ug/L	5	L301170	01/24/2013	01/28/2013	8082
<i>Surrogate: Tetrachloro-meta-xylene</i>	98 %	45-117			L301170	01/24/2013	01/28/2013	8082
<i>Surrogate: Decachlorobiphenyl</i>	56 %	22-131			L301170	01/24/2013	01/28/2013	8082



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/30/2013 21:52
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Polychlorinated Biphenyls by SW846 8082 - Quality Control
Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301170 - SW 3520C									
Blank (L301170-BLK1)					Prepared: 01/24/2013 Analyzed: 01/28/2013				
Aroclor 1016	0.400 U	0.400	ug/L						
Aroclor 1221	0.400 U	0.400	ug/L						
Aroclor 1232	0.400 U	0.400	ug/L						
Aroclor 1242	0.400 U	0.400	ug/L						
Aroclor 1248	0.400 U	0.400	ug/L						
Aroclor 1254	0.400 U	0.400	ug/L						
Aroclor 1260	0.400 U	0.400	ug/L						
Aroclor 1262	0.400 U	0.400	ug/L						
Aroclor 1268	0.400 U	0.400	ug/L						
<i>Surrogate: Tetrachloro-meta-xylene</i>	0.911		ug/L	1.0001		91	45-117		
<i>Surrogate: Decachlorobiphenyl</i>	0.704		ug/L	1.0000		70	22-131		
LCS (L301170-BS1)					Prepared: 01/24/2013 Analyzed: 01/28/2013				
Aroclor 1016	4.37	0.400	ug/L	5.0000		87	49-119		
Aroclor 1260	4.49	0.400	ug/L	5.0000		90	53-128		
<i>Surrogate: Tetrachloro-meta-xylene</i>	0.915		ug/L	1.0001		91	45-117		
<i>Surrogate: Decachlorobiphenyl</i>	0.724		ug/L	1.0000		72	22-131		
LCS Dup (L301170-BSD1)					Prepared: 01/24/2013 Analyzed: 01/28/2013				
Aroclor 1016	4.35	0.400	ug/L	5.0000		87	49-119	0.6	40
Aroclor 1260	4.51	0.400	ug/L	5.0000		90	53-128	0.5	40
<i>Surrogate: Tetrachloro-meta-xylene</i>	0.938		ug/L	1.0001		94	45-117		
<i>Surrogate: Decachlorobiphenyl</i>	0.627		ug/L	1.0000		63	22-131		

PREPARATION BENCH SHEET

L301170

Lionville Laboratory

Printed: 1/25/2013 4:22:48PM

Matrix: Water Prepared using: Extraction - SW 3520C Surrogate used: 1201397

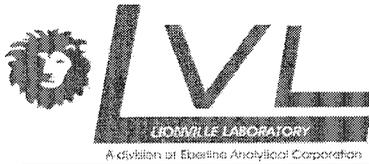
Lab Number	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301048-03	8082 PCBs	01/24/2013 16:20	980	10			250	250	URS/CH2M Oak Ridge (UCOR)	
L301048-06	8082 PCBs	01/24/2013 16:20	1000	10			250	250	URS/CH2M Oak Ridge (UCOR)	
L301048-10	8082 PCBs	01/24/2013 16:20	980	10			250	250	URS/CH2M Oak Ridge (UCOR)	
L301048-11	8082 PCBs	01/24/2013 16:20	990	10			250	250	URS/CH2M Oak Ridge (UCOR)	
L301051-01	8082 PCBs	01/24/2013 16:20	1000	10			250	250	WC-Hanford, Inc.	
L301170-BLK1	QC	01/24/2013 16:20	1000	10				250		
L301170-BS1	QC	01/24/2013 16:20	1000	10	1300037		250	250		
L301170-BSD1	QC	01/24/2013 16:20	1000	10	1300037		250	250		

Spleared 01.28.13
 Cu lot# B10X036



 Extracts Relinquished By: _____ Date: 1/28/13 16:26
 Extracts Received By: B. Stahl Date: 01.28.13 9:00

DRO/MO

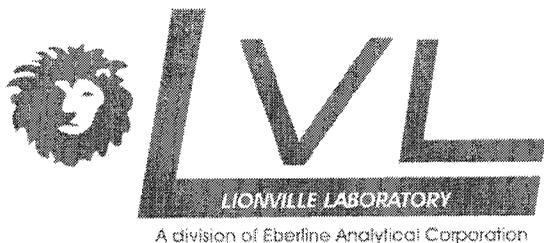


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Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/30/2013 20:17
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Analytical Report for Extractable Petroleum Hydrocarbons by SW846 8015

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1RD23	1301051-01	Water	01/18/2013 12:40	01/23/2013 09:45



264 Welsh Pool Road
Exton, Pennsylvania 19341
Phone (610) 280-3000
Fax (610) 280-3041

Case Narrative

Client: WC-HANFORD RC-151 K4049
LVL #: 1301051

W.O. #: 60049-001-001-0001-00
Date Received: 01-23-2013

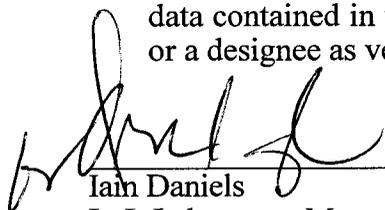
DIESEL RANGE ORGANICS

One (1) water sample was collected on 01-18-2013.

The sample and associated QC samples were extracted 01-25-2013 and analyzed 01-30-2013 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3520C and the analysis procedure was based on SW846 Method 8015B for Diesel Range Organics.

Lionville Laboratory (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. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements:

1. The results presented in this report are derived from a sample that met LvL's sample acceptance policy with exceptions noted on the Sample receipt Checklist.
2. All required holding times for extraction and analysis have been met.
3. All surrogate recoveries were within QC acceptance criteria.
4. The method blank was below the reporting limits for all target compounds.
5. All blank spike recoveries were within QC acceptance criteria.
6. All matrix spike recoveries were within QC acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
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 hardcopy data package has been authorized by the laboratory manager or a designee as verified by the following signature.



Ian Daniels
LvL Laboratory Manager



Date



GLOSSARY OF DATA

DATA QUALIFIERS

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- 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.
- P = This flag is used for a dual column analysis (i.e. pesticides/PCB/herbicides) when there is greater than 40% difference for detected concentrations between the two GC columns; 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.

ABBREVIATIONS

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- NR = Not Required.
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- NPM = No pattern match for multi-component target analytes.



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/30/2013 20:17
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J1RD23
1301051-01 (Water)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
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Lionville Laboratory

Extractable Petroleum Hydrocarbons by SW846 8015

Diesel Range Organics	45.5	J	100	ug/L	1	L301175	01/25/2013	01/30/2013	8015M
Motor Oil	300	U	300	ug/L	1	L301175	01/25/2013	01/30/2013	8015M
Surrogate: <i>p</i> -Terphenyl	68 %		35-130			L301175	01/25/2013	01/30/2013	8015M



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/30/2013 20:17
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Extractable Petroleum Hydrocarbons by SW846 8015 - Quality Control
Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301175 - SW 3520C									
Blank (L301175-BLK1)					Prepared: 01/25/2013 Analyzed: 01/30/2013				
Diesel Range Organics	100 U	100	ug/L						
Motor Oil	300 U	300	ug/L						
<i>Surrogate: p-Terphenyl</i>	179		ug/L	200.00		90	35-130		
LCS (L301175-BS1)					Prepared: 01/25/2013 Analyzed: 01/30/2013				
Diesel Range Organics	1380	100	ug/L	2000.0		69	30-130		
<i>Surrogate: p-Terphenyl</i>	175		ug/L	200.00		88	35-130		
Matrix Spike (L301175-MS1)					Source: 1301051-01 Prepared: 01/25/2013 Analyzed: 01/30/2013				
Diesel Range Organics	1670	100	ug/L	2000.0	45.5	81	30-130		
<i>Surrogate: p-Terphenyl</i>	153		ug/L	200.00		77	35-130		
Matrix Spike Dup (L301175-MSD1)					Source: 1301051-01 Prepared: 01/25/2013 Analyzed: 01/30/2013				
Diesel Range Organics	1510	100	ug/L	2000.0	45.5	73	30-130	10	40
<i>Surrogate: p-Terphenyl</i>	134		ug/L	200.00		67	35-130		

PREPARATION BENCH SHEET

L301175

Lionville Laboratory

Printed: 1/28/2013 12:01:04PM

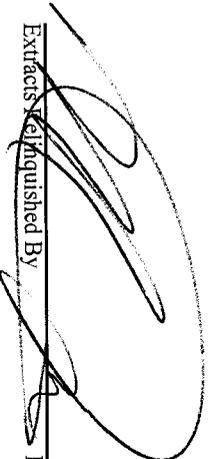
Matrix: Water

Prepared using: Extraction - SW 3520C

Surrogate used: 1300029

Lab Number	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	Spike ul	Surrogate ul	Client	Extraction Comments
L301051-01	8015M DRO	01/25/2013 13:33	1000	1				1000	WC-Hanford, Inc.	
L301175-BLKI	QC	01/25/2013 13:33	1000	1				1000		
L301175-BSI	QC	01/25/2013 13:33	1000	1	1201538		1000	1000		
L301175-MSI	QC	01/25/2013 13:33	1000	1	1201538	1301051-01	1000	1000		
L301175-MSD1	QC	01/25/2013 13:33	1000	1	1201538	1301051-01	1000	1000		

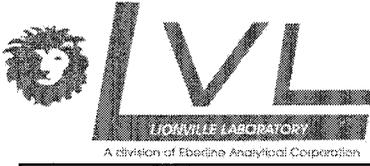
2200000000



 Extracts Acquired By _____ Date 1/28/13 12:25

Extracts Received By _____ Date _____

WET CHEMISTRY



Lionville Laboratory, PADEP Lab ID# 15-00009
264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

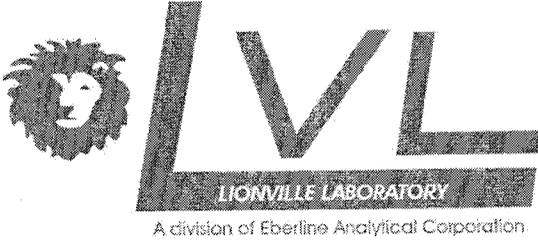
WC-Hanford, Inc.
2620 Fermi Avenue
Richland WA, 99354

Project: RC-151
Project Number: K4049
Project Manager: Joan Kessner

Reported:
01/28/2013 15:25

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1RD23	1301051-01	Water	01/18/2013 12:40	01/23/2013 09:45



264 Welsh Pool Road
Exton, Pennsylvania 19341
Phone (610) 280-3000
Fax (610) 280-3041

Case Narrative

Client: WC-HANFORD RC-151 K4049
LVL#: 1301051

Date Received: 01-23-13

INORGANIC NARRATIVE

1. This narrative covers the analysis of 1 water sample.
2. The sample was prepared and analyzed in accordance with the method indicated on the data summary report.

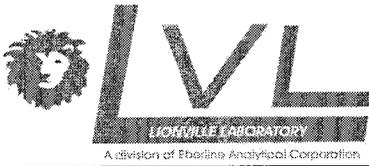
Lionville Lab (LvL) is NELAP accredited by the State of Pennsylvania. For a complete list of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager. LvL certifies that all test results meet the requirements of NELAC with any exception noted in the following statements.

3. Sample holding time as required by the method and/or contract was not met as the sample was received past hold.
4. The results presented in this report are derived from a sample that met LvL's sample acceptance policy with the exception noted on the Sample Receipt Checklist.
5. The Laboratory Control Sample (LCS) was within the method criteria.
6. The replicate analysis was within the 20% Relative Percent Difference (RPD) control limit.
7. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature, has authorized release of the data contained in this hard copy package.

Ian Daniels
Laboratory Manager
Lionville Laboratory

njpli01-051

Date



Lionville Laboratory, PADEP Lab ID# 15-00009
264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
Fax: 610-280-3041

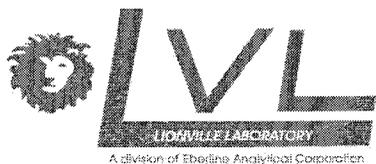
WC-Hanford, Inc.
2620 Fermi Avenue
Richland WA, 99354

Project: RC-151
Project Number: K4049
Project Manager: Joan Kessner

Reported:
01/28/2013 15:25

Notes and Definitions

- * Value outside QC acceptance criteria
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- Dry Sample results reported on a dry weight basis
- Wet Sample results reported on a wet weight basis
- RPD Relative Percent Difference

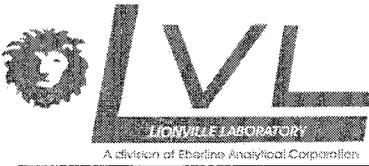


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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/28/2013 15:25
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**Wet Chemistry
 Lionville Laboratory**

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
JIRD23 (1301051-01) Water								
pH	7.95	0.10	pH Units	1	L301176	01/25/2013 11:22	01/25/2013 11:22	SW846 9040B



Lionville Laboratory, PADEP Lab ID# 15-00009
 264 Welsh Pool Road
 Exton, PA 19341
 Phone: 610-280-3000
 Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-151 Project Number: K4049 Project Manager: Joan Kessner	Reported: 01/28/2013 15:25
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Wet Chemistry - Quality Control
Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301176 - NO PREP									
Duplicate (L301176-DUP2)		Source: 1301051-01		Prepared & Analyzed: 01/25/2013 11:28					
pH	8.00	0.10	pH Units		7.95			0.627	20
Reference (L301176-SRM1)		Prepared & Analyzed: 01/25/2013 11:34							
pH	7.05	0.10	pH Units	7.0000		101	99-101		