

SAF-RC-225
100K Remaining Waste Sites –
Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt

H4-21

KW 1/24/13
INITIAL/DATE

COMMENTS:

SDG KP0171

SAF-RC-225

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location: 100-K-92



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

22 January 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 #	1301011
SDG #	KP0171
SAF #	RC-225
Date Received	01/04/13
# Samples	1
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	
Glycols	
DRO/KRO/GRO	X
PAHs	
Herbicides	
Metals	
Inorganics	

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 13 pages.

CHAIN OF CUSTODY

Collector Brackett, R Company Contact Joan Kessner Telephone No. (509) 375-4688 Project Coordinator KESSNER, JH Price Code **8B** Data Turnaround **7 Days**

Project Designation 100K Remaining Waste Sites - Soil In-Process Sampling Location 100-K-92 Field Notebook No. EL-1666 COA 010K922600 Method of Shipment FedEx SAF No. RC-225

Ice Chest No. **WCH-12-021** Shipped To EBBERLINE SERVICES (LIONVILLE) **12/31/12** Offsite Property No. **A120628- A120687** Bill of Lading/Air Bill No. See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

None

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

Preservation	Cool 4C
Type of Container	ag
No. of Container(s)	1
Volume	125mL

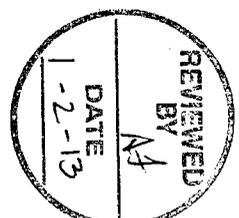
TPH-Diesel Range - WTPH-D+

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time																
J1R7F1	SOIL	12/31/12	0905	X															
44R7F2	SOIL																		

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time	Sign/Print Names	Date/Time
Joan Kessner	12-31-12	BADSON	12/31/12	12/31/12	1045
PHIXEN	12/31/12	Koss	12/31/12	12/31/12	1222
DUSHEA	12/31/12	PHIXEN	12/31/12	12/31/12	1222
PHIXEN	1-2-13	Fed Ex	1-2-13	1-2-13	1240
PHIXEN	1-4-13	VITTORE	1-4-13	1-4-13	1025



SPECIAL INSTRUCTIONS

KP0171

LABORATORY SECTION Received By Title Date/Time

FINAL SAMPLE DISPOSITION Disposal Method Date/Time

Lionville Laboratory
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford
Project/~~SAF~~/SOW/Release #: PC-225

Date: 1/4/13

LvL Batch #: 1301011

Sample Custodian: [Signature]

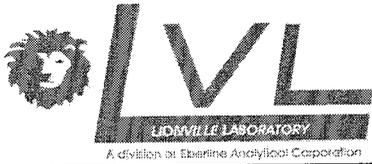
NOTE: EXPLAIN ALL DISCREPANCIES

- | | | | |
|--|---|--------------------------------------|---|
| 1. Samples Hand Delivered or <u>Shipped?</u> | Carrier <u>Fed Ex</u> | | Airbill # |
| 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>2.3</u> °C | | Cooler # <u>WCH-12-021</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? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Short holds taken to wet lab? | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" 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 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 _____

DRO/MO



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

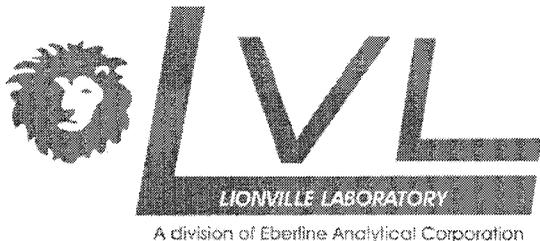
WC-Hanford, Inc.
2620 Fermi Avenue
Richland WA, 99354

Project: RC-225
Project Number: KP0171
Project Manager: Joan Kessner

Reported:
01/08/2013 21:15

Analytical Report for Extractable Petroleum Hydrocarbons by SW846 8015

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7F1	1301011-01	Soil	12/31/2012 09:05	01/04/2013 10:25



264 Welsh Pool Road
Exton, Pennsylvania 19341
Phone (610) 280-3000
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Case Narrative

Client: WC-HANFORD RC-225 KP0171
LVL #: 1301011

W.O. #: 60049-001-001-0001-00
Date Received: 01-04-2013

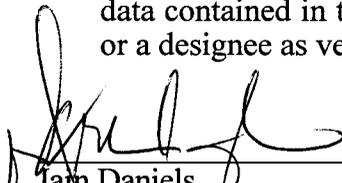
DIESEL RANGE ORGANICS

One (1) soil sample was collected on 12-31-2012.

The sample and associated QC samples were extracted 01-04-2013 and analyzed 01-06,07-2013 according to criteria set forth in Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C 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.
2. All required holding times for extraction and analysis have been met.
3. All obtainable surrogate recoveries were within acceptance criteria.
4. The method blank was below the reporting limits for all target compounds.
5. All blank spike recoveries were within acceptance criteria.
6. All matrix spike recoveries were within acceptance criteria.
7. The samples were reported on a dry weight basis.
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. 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

- 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.



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 2620 Fermi Avenue
 Richland WA, 99354

Project: RC-225
 Project Number: KP0171
 Project Manager: Joan Kessner

Reported:
 01/08/2013 21:15

J1R7F1
1301011-01 (Soil)

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	3980 U	3980	ug/kg dry	1	L301026	01/04/2013	01/07/2013	8015M
Motor Oil	33800	11900	ug/kg dry	1	L301026	01/04/2013	01/07/2013	8015M
Surrogate: <i>p</i> -Terphenyl	76 %	39-129			L301026	01/04/2013	01/07/2013	8015M



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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-225 Project Number: KP0171 Project Manager: Joan Kessner	Reported: 01/08/2013 21:15
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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 L301026 - SW 3540C									
Blank (L301026-BLK1)					Prepared: 01/04/2013 Analyzed: 01/06/2013				
Diesel Range Organics	3330 U	3330	ug/kg wet						
Motor Oil	10000 U	10000	ug/kg wet						
<i>Surrogate: p-Terphenyl</i>	6610		ug/kg wet	6666.7		99	39-129		
LCS (L301026-BS1)					Prepared: 01/04/2013 Analyzed: 01/06/2013				
Diesel Range Organics	58600	3330	ug/kg wet	6666.7		88	42-133		
<i>Surrogate: p-Terphenyl</i>	6620		ug/kg wet	6666.7		99	39-129		
Matrix Spike (L301026-MS1)					Source: 1301011-01 Prepared: 01/04/2013 Analyzed: 01/07/2013				
Diesel Range Organics	69800	4000	ug/kg dry	80056	3980 U	87	42-133		
<i>Surrogate: p-Terphenyl</i>	7800		ug/kg dry	8005.6		97	39-129		
Matrix Spike Dup (L301026-MSD1)					Source: 1301011-01 Prepared: 01/04/2013 Analyzed: 01/07/2013				
Diesel Range Organics	55700	3960	ug/kg dry	79185	3980 U	70	42-133	21	40
<i>Surrogate: p-Terphenyl</i>	6030		ug/kg dry	7918.5		76	39-129		

PREPARATION BENCH SHEET

L301026

Lionville Laboratory

Printed: 1/11/2013 11:51:27AM

Matrix: Solid

Prepared using: GC - SW 3540C

Surrogate used: 1201463

Lab Number	Analysis	Prepared	Initial (g)	Final (ml)	Spike ID	Source ID	Spike ul	Surrogate ul	Client	Extraction Comments
L301011-01	8015M DRO	01/04/2013 13:46	30.21	1				1000	WC-Hanford, Inc.	
L301012-01	8015M DRO	01/04/2013 13:46	30.04	1				1000	WC-Hanford, Inc.	
L301012-02	8015M DRO	01/04/2013 13:46	31.16	1				1000	WC-Hanford, Inc.	
L301013-01	8015M DRO	01/04/2013 13:46	30.08	1				1000	WC-Hanford, Inc.	
L301013-02	8015M DRO	01/04/2013 13:46	30.18	1				1000	WC-Hanford, Inc.	
L301026-BLK1	QC	01/04/2013 13:46	30	1				1000		
L301026-BS1	QC	01/04/2013 13:46	30	1	1201538		1000	1000		
L301026-MS1	QC	01/04/2013 13:46	30.01	1	1201538	1301011-01	1000	1000		
L301026-MS2	QC	01/04/2013 13:46	30.65	1	1201538	1301012-01	1000	1000		
L301026-MS3	QC	01/04/2013 13:46	30.18	1	1201538	1301013-01	1000	1000		
L301026-MSD1	QC	01/04/2013 13:46	30.34	1	1201538	1301011-01	1000	1000		
L301026-MSD2	QC	01/04/2013 13:46	30.11	1	1201538	1301012-01	1000	1000		
L301026-MSD3	QC	01/04/2013 13:46	30.29	1	1201538	1301013-01	1000	1000		

Revision for prep time open 1/11/13

Extracts Relinquished By _____ Date _____

Extracts Received By _____ Date _____

PREPARATION BENCH SHEET

L301026

Lionville Laboratory

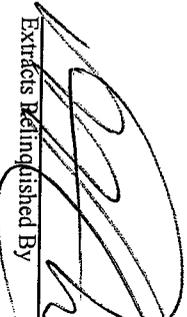
Printed: 1/5/2013 11:44:25AM

Prepared using: Extraction - SW 3540C

Surrogate used: 1201463

Matrix: Solid

Lab Number	Analysis	Prepared	Initial (g)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301011-01	8015M DRO	01/04/2013 14:34	30.21	1			1000	1000	WC-Hanford, Inc.	
L301012-01	8015M DRO	01/04/2013 16:15	30.04	1			1000	1000	WC-Hanford, Inc.	
L301012-02	8015M DRO	01/04/2013 16:15	31.16	1			1000	1000	WC-Hanford, Inc.	
L301013-01	8015M DRO	01/04/2013 16:15	30.08	1			1000	1000	WC-Hanford, Inc.	
L301013-02	8015M DRO	01/04/2013 16:15	30.18	1			1000	1000	WC-Hanford, Inc.	
L301026-BLK1	QC	01/04/2013 14:34	30	1			1000	1000		
L301026-BS1	QC	01/04/2013 14:34	30	1	1201538		1000	1000		
L301026-MS1	QC	01/04/2013 14:34	30.01	1	1201538	1301011-01	1000	1000		
L301026-MS2	QC	01/04/2013 14:34	30.65	1	1201538	1301012-01	1000	1000		
L301026-MS3	QC	01/04/2013 14:34	30.18	1	1201538	1301013-01	1000	1000		
L301026-MSD1	QC	01/04/2013 14:34	30.34	1	1201538	1301011-01	1000	1000		
L301026-MSD2	QC	01/04/2013 14:34	30.11	1	1201538	1301012-01	1000	1000		
L301026-MSD3	QC	01/04/2013 14:34	30.29	1	1201538	1301013-01	1000	1000		



 Extracts Relinquished By _____ Date 1/5/13 1145

Extracts Received By _____ Date _____