SAF-RC-148
300 Area D4 Waste Sites – Soil Full Protocol
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 1/24/13
INITIAL/DATE

COMMENTS:

SDG KP0180 SAF-RC-148

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location/Waste Site: 300-15:2 Staging Pile Area

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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 #	1301025
SDG #	KP0180
SAF #	RC-148
Date Received	01/04/13
# Samples	9
Matrix	SOIL
Volatiles	
Semivolatiles	
Pest/PCB	X
Glycols	
DRO/KRO/GRO	
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 24 pages.

CHAIN OF CUSTODY

Lionville Laboratory Use Only

130/025

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client WC Hanford SAF# RC-148

Est. Final Proj. Sampling Date

Project#

Project Contact/Phone#

Lionville Laboratory Project Manager O. Johnson

QC S+L SW Del Std TAT 3 Days

Date Rec'd 1-10-13 Date Due 1-13-13

| | | |

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-148-118	Page 1 of 2
Collector M. Simonds	**Company Contact** Joan Kessner	**Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 8LA MAB 1-8-13 **Data Turnaround** 21 Days 3 MAB 1-8-13
Project Designation 300 Area D4 Waste Sites - Soil Full Protocol	**Sampling Location** 300-15:2 Staging Pile Area		**SAF No.** RC-148	
Ice Chest No. WCH-12-023	**Field Logbook No.** EL-1665	**COA** R300152000	**Method of Shipment** Fed Ex	
Shipped To EBERLINE SERVICES (LIONVILLE)	**Offsite Property No.** A 120711		**Bill of Lading/Air Bill No.** See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
~~Potential Radioactive~~ < DOT Limits
AJ 1-9-13

Special Handling and/or Storage
Cool 4C

Preservation	Cool 4C										
Type of Container	aG										
No. of Container(s)	1										
Volume	120mL										
SAMPLE ANALYSIS	PCBs - 8082	RCF	35053								

Sample No.	Matrix *	Sample Date	Sample Time									
J1R876	SOIL	1-9-13	0810	✓								
J1R877	SOIL	1-9-13	0815	✓								
J1R878	SOIL	1-9-13	0817	✓								
J1R879	SOIL	1-9-13	0818	✓								
J1R880	SOIL	1-9-13	0832	✓								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From LVI Date/Time Miranda Simmons 1/9/13 0845	Received By/Stored In MA Bamberger Date/Time 0845 MA Bamberger 1-9-13		
Relinquished By/Removed From Date/Time 0944 MA Bamberger MA Bamberger 1-9-13	Received By/Stored In A. Freier Date/Time 0944 A. Freier 1-9-13		
Relinquished By/Removed From WCH Date/Time 1030 A. Freier A. Freier 1-9-13	Received By/Stored In Fed Ex Date/Time		
Relinquished By/Removed From Fed Ex Date/Time 1-10-13 0930	Received By/Stored In VICTOR HERNANDEZ Date/Time 1-10-13 0930		
Relinquished By/Removed From Date/Time	Received By/Stored In Date/Time		
Relinquished By/Removed From Date/Time	Received By/Stored In Date/Time		

SPECIAL INSTRUCTIONS

REVIEWED BY CMB DATE 1-9-13

KP0180

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

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

WCH-EE-011

0000000004

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-148-118	Page 2 of 2
Collector M. Simonds	**Company Contact** Joan Kessner **Telephone No.** 509-375-4688	**Project Coordinator** KESSNER, JH	**Price Code** 8LA MAB 1-8-13 **Data Turnaround** ~~21~~ Days 3 MAB 1-8-13
Project Designation 300 Area D4 Waste Sites - Soil Full Protocol	**Sampling Location** 300-15:2 Staging Pile Area	**SAF No.** RC-148	
Ice Chest No. WCH-12-023	**Field Logbook No.** EL-1665 **COA** R300152000	**Method of Shipment** Fed Ex	
Shipped To EBERLINE SERVICES (LIONVILLE)	**Offsite Property No.** A 120711	**Bill of Lading/Air Bill No.** See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
~~Potential~~ Radioactive & DOT Limits AJ 1-9-13

Special Handling and/or Storage
Cool 4C

Preservation	Cool 4C										
Type of Container	aG										
No. of Container(s)	1										
Volume	120mL										
SAMPLE ANALYSIS	PCBs - 8082			RCF 35053							

Sample No.	Matrix *	Sample Date	Sample Time									
J1R881	SOIL	1-9-13	0834	✓								
J1R882	SOIL	1-9-13	0838	✓								
J1R883	SOIL	1-9-13	0810	✓								
J1R8T5	SOIL	1-9-13	0800	✓								

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Miranda Simonds MAS	1/9/13 0845	MA Bamberger MA Bamberger 1-9-13	0845
MA Bamberger MA Bamberger 1-9-13	Date/Time 0944	A. Freier A. Freier 1-9-13	Date/Time 0944
A. Freier A. Freier 1-9-13	Date/Time 1030	Fed Ex	Date/Time
Fed Ex	1-10-13 0930	Victor Hernandez 1-10-13	0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

REVIEWED BY CMB DATE 1-9-13

KP0180

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

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

WCH-EE-011

0000000005

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford **Date:** 1-10-13

Project/SAF/SOW/Release #: RC-148

LvL Batch #: 1301025 **Sample Custodian:**

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier FedEx		Airbill # 7944 8043 3633
2. Custody Seals on coolers or shipping containers intact, signed & dated?	☐ Yes	☐ No	☐ No Seals
3. Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No	*Comments:*
4. All expected paperwork received (coc & other client specific information) sealed in plactic bag and easily accessible?	☐ Yes	☐ No	
5. Samples received cooled or ambient?	**Temp** 3.1	°C	Cooler # WCH-12-823
How was the temperature taken?	☐ IR	☐ Temp. Blank	☐ Other (Specify):
Is the Temp. Criteria met for these samples? (Hg in soils @ 4°C)	☐ Yes	☐ No	
6. Custody seals on sample containers intact, signed and dated?	☐ Yes	☐ No	☐ No Seals
7. COC (Client & LvL) signed & dated?	☑ Yes	☐ No	
8. Sample containers are intact?	☑ Yes	☐ No	
9. All samples on COC received?	☐ Yes	☐ No	
All samples received on COC?	☐ Yes	☐ No	
10. All sample label information matches COC?	☑ Yes	☐ No	
11. Samples properly preserved? (If #5 is no, then this is no.)	☑ Yes	☐ No	
12. Samples received within hold times?	☐ Yes	☐ No	
Short holds taken to wet lab?	☐ Yes	☐ No	☐ N/A
13. VOA, TOC, TOX, RSK-175, Sulfides, Non-Halogenated VOAs (Alcohol/Glycol) free of headspace?	☐ Yes	☐ No	☐ N/A
14. QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☐ 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.)	☑ Yes	☐ No	
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☐ N/A

Person Contacted _____ Date _____

PCBs

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

WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

Analytical Report for Polychlorinated Biphenyls by SW846 8082

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R876	1301025-01	Soil	01/09/2013 08:10	01/10/2013 09:30
J1R877	1301025-02	Soil	01/09/2013 08:15	01/10/2013 09:30
J1R878	1301025-03	Soil	01/09/2013 08:17	01/10/2013 09:30
J1R879	1301025-04	Soil	01/09/2013 08:18	01/10/2013 09:30
J1R880	1301025-05	Soil	01/09/2013 08:32	01/10/2013 09:30
J1R881	1301025-06	Soil	01/09/2013 08:34	01/10/2013 09:30
J1R882	1301025-07	Soil	01/09/2013 08:38	01/10/2013 09:30
J1R883	1301025-08	Soil	01/09/2013 08:10	01/10/2013 09:30
J1R8T5	1301025-09	Soil	01/09/2013 08:00	01/10/2013 09:30

LIONVILLE LABORATORY
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Exton, Pennsylvania 19341
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Case Narrative

Client: WC-HANFORD RC-148 KP0180
LVL #: 1301025

W.O. #: 60049-001-001-0001-00
Received: 01-10-2013

PCBs

Nine (9) soil samples were collected on 01-09-2013.

The sample and associated QC samples were extracted 01-10-2013 and analyzed 01-14-2013 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 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 samples that met LvL's sample acceptance policy.

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. Sample J1R881 required a 5-fold instrument dilution due to high concentrations of target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.

8. The samples were reported on a dry weight basis.

9. All initial calibrations associated with this data set were within acceptance criteria.

10. 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.

11. Patterns of Aroclor 1248 were identified in these samples. 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.

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.

12. 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.

Iain Daniels
LvL Laboratory Manager

1/22/13
Date

8082A PCBs

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

Analyte	CCV1 01.14.13 9:02:45 AM		CCV2 01.14.13 5:12:58 PM		CCV3 01.14.13 8:34:54 PM		CCV4		CCV5		CCV6		CCV7		CCV8	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
Tetrachloro-meta-xylene (surrogate)	22.6	25.2	18.6	19.4	25.4	24.3										
Decachlorobiphenyl (surrogate)																
Aroclor 1016-1					15.6											
Aroclor 1016-2					18.6											
Aroclor 1016-3					17.9											
Aroclor 1016-4					15.7											
Aroclor 1016-5																
Aroclor 1260-1																
Aroclor 1260-2																
Aroclor 1260-3																
Aroclor 1260-4																
Aroclor 1260-5																
Mean %D or %Drift	5.3	7.2	8.7	4.8	13.0	5.6										

Sample results reported from affected CCV:

CCV1: L301068-BIK1, BS1, MS1, MSD1; 1301025-01, 02, 03, 04, 05, 06

CCV2: 1301025-07, 08, 09

CCV3: _____

CCV4: _____

CCV5: _____

CCV6: _____

CCV7: _____

CCV8: _____

LIONVILLE LABORATORY INC.

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.

LIONVILLE LABORATORY
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Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R876

1301025-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*98 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*123 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R877

1301025-02 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	13.8	U	13.8	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*107 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*129 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R878

1301025-03 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	13.7	U	13.7	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*104 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*122 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R879

1301025-04 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	14.1	U	14.1	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*99 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*121 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R880

1301025-05 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	14.2	U	14.2	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*105 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*109 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R881

1301025-06 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	**506**	D	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	70.1	U	70.1	ug/kg dry	5	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*124 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*128 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R882

1301025-07 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	**63.3**		14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	14.5	U	14.5	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*111 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*129 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R883

1301025-08 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	14.0	U	14.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*92 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*112 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

J1R8T5

1301025-09 (Soil)

Lionville Laboratory

Polychlorinated Biphenyls by SW846 8082

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aroclor 1016	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1221	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1232	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1242	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1248	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1254	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1260	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1262	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Aroclor 1268	13.0	U	13.0	ug/kg dry	1	L301068	01/10/2013	01/14/2013	8082
Surrogate: Decachlorobiphenyl	*97 %*		*43-144*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*111 %*		*52-141*			*L301068*	*01/10/2013*	*01/14/2013*	*8082*

LVL
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WC-Hanford, Inc.	Project: RC-148	
2620 Fermi Avenue	Project Number: KP0180	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/16/2013 11:07

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 L301068 - SW 3540C										
Blank (L301068-BLK1)				Prepared: 01/10/2013 Analyzed: 01/14/2013						
Aroclor 1016	13.3	U	13.3	ug/kg wet						
Aroclor 1221	13.3	U	13.3	ug/kg wet						
Aroclor 1232	13.3	U	13.3	ug/kg wet						
Aroclor 1242	13.3	U	13.3	ug/kg wet						
Aroclor 1248	13.3	U	13.3	ug/kg wet						
Aroclor 1254	13.3	U	13.3	ug/kg wet						
Aroclor 1260	13.3	U	13.3	ug/kg wet						
Aroclor 1262	13.3	U	13.3	ug/kg wet						
Aroclor 1268	13.3	U	13.3	ug/kg wet						
Surrogate: Decachlorobiphenyl	*33.2*			*ug/kg wet*	*33.333*		*100*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*40.7*			*ug/kg wet*	*33.337*		*122*	*52-141*		
LCS (L301068-BS1)				Prepared: 01/10/2013 Analyzed: 01/14/2013						
Aroclor 1016	156		13.3	ug/kg wet	166.67		94	50-138		
Aroclor 1260	176		13.3	ug/kg wet	166.67		106	50-148		
Surrogate: Decachlorobiphenyl	*36.0*			*ug/kg wet*	*33.333*		*108*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*44.5*			*ug/kg wet*	*33.337*		*134*	*52-141*		
Matrix Spike (L301068-MS1)		**Source: 1301025-01**		Prepared: 01/10/2013 Analyzed: 01/14/2013						
Aroclor 1016	165		13.9	ug/kg dry	173.98	14.1 U	95	50-138		
Aroclor 1260	192		13.9	ug/kg dry	173.98	14.1 U	110	50-148		
Surrogate: Decachlorobiphenyl	*36.2*			*ug/kg dry*	*34.797*		*104*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*44.1*			*ug/kg dry*	*34.800*		*127*	*52-141*		
Matrix Spike Dup (L301068-MSD1)		**Source: 1301025-01**		Prepared: 01/10/2013 Analyzed: 01/14/2013						
Aroclor 1016	166		14.5	ug/kg dry	181.12	14.1 U	92	50-138	3	40
Aroclor 1260	194		14.5	ug/kg dry	181.12	14.1 U	107	50-148	3	40
Surrogate: Decachlorobiphenyl	*40.5*			*ug/kg dry*	*36.224*		*112*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*48.3*			*ug/kg dry*	*36.228*		*133*	*52-141*		

PREPARATION BENCH SHEET

L301068

Lionville Laboratory

Printed: 1/15/2013 12:22:01PM

0000000023

Matrix: Solid **Prepared using: GC - SW 3540C** **Surrogate used: 1201397**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301025-01	8082 PCBs	01/10/2013 15:00	30.23	10				250	WC-Hanford, Inc.	
1301025-02	8082 PCBs	01/10/2013 15:00	30.93	10				250	WC-Hanford, Inc.	
1301025-03	8082 PCBs	01/10/2013 15:00	30.9	10				250	WC-Hanford, Inc.	
1301025-04	8082 PCBs	01/10/2013 15:00	30.2	10				250	WC-Hanford, Inc.	
1301025-05	8082 PCBs	01/10/2013 15:00	30.36	10				250	WC-Hanford, Inc.	
1301025-06	8082 PCBs	01/10/2013 15:00	30.57	10				250	WC-Hanford, Inc.	
1301025-07	8082 PCBs	01/10/2013 15:00	30.14	10				250	WC-Hanford, Inc.	
1301025-08	8082 PCBs	01/10/2013 15:00	30.29	10				250	WC-Hanford, Inc.	
1301025-09	8082 PCBs	01/10/2013 15:00	30.82	10				250	WC-Hanford, Inc.	
L301068-BLK1	QC	01/10/2013 15:00	30	10				250		
L301068-BS1	QC	01/10/2013 15:00	30	10	1200902		250	250		
L301068-MS1	QC	01/10/2013 15:00	30.71	10	1200902	1301025-01	250	250		
L301068-MSD1	QC	01/10/2013 15:00	29.5	10	1200902	1301025-01	250	250		

Revision for spike ID & amount

SZ 01.15.13

Extracts Relinquished By Date

Extracts Received By Date

PREPARATION BENCH SHEET

L301068

Lionville Laboratory

Printed: 1/11/2013 4:46:46PM

Matrix: Solid **Prepared using: Extraction - SW 3540C** **Surrogate used: 1201397**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301025-01	8082 PCBs	01/10/2013 15:00	30.23	10				250	WC-Hanford, Inc.	
1301025-02	8082 PCBs	01/10/2013 15:00	30.93	10				250	WC-Hanford, Inc.	
1301025-03	8082 PCBs	01/10/2013 15:00	30.9	10				250	WC-Hanford, Inc.	
1301025-04	8082 PCBs	01/10/2013 15:00	30.2	10				250	WC-Hanford, Inc.	
1301025-05	8082 PCBs	01/10/2013 15:00	30.36	10				250	WC-Hanford, Inc.	
1301025-06	8082 PCBs	01/10/2013 15:00	30.57	10				250	WC-Hanford, Inc.	
1301025-07	8082 PCBs	01/10/2013 15:00	30.14	10				250	WC-Hanford, Inc.	
1301025-08	8082 PCBs	01/10/2013 15:00	30.29	10				250	WC-Hanford, Inc.	
1301025-09	8082 PCBs	01/10/2013 15:00	30.82	10				250	WC-Hanford, Inc.	
L301068-BLK1	QC	01/10/2013 15:00	30	10				250		
L301068-BS1	QC	01/10/2013 15:00	30	10				250		
L301068-MS1	QC	01/10/2013 15:00	30.71	10		1301025-01		250		
L301068-MSD1	QC	01/10/2013 15:00	29.5	10		1301025-01		250		

S cleaned 01.11.13

Cu Lot # B10X036

Extracts Relinquished By 1/11/13 1642 Date

Extracts Received By 01.11.13 15:40 Date