SAF-RC-190
100N Field Remediation – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 1/31/13
INITIAL/DATE

COMMENTS:

SDG K4044 SAF-RC-190

Rad only ☑ Chem only Rad & Chem

☑ Complete Partial

Sample Location: 100-N BCL Piles & South Stock 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 #	1301006
SDG #	K4044
SAF #	RC-190
Date Received	01/03/13
# Samples	17
Matrix	SOIL
Volatiles	
Semivolatiles	X
Pest/PCB	X
Glycols	
DRO/KRO/GRO	X
PAHs	X
Herbicides	
Metals	X
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 192 pages.

R:\GROUP\PM\ORLETTE\Hanford\Data\B_ltrs.DOC

CHAIN OF CUSTODY

Lionville Laboratory Use Only: 1301006

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client: WC Hanford SAF# RC-190
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: O. Johnson
QC: SW Del: STD TAT: 15 Days
Date Rec'd: 1/3/13 Date Due: 1/18/13

		A	B	C	D	E	F
Refrigerator #		2	2	2	2	2	2
#/Type Container	Liquid						
	Solid	1AG	1AG	1AG	1AG	1	1
Volume	Liquid						
	Solid	120	120	120	60	120/60	60
Preservatives		—	—	—	—	—	—
ANALYSES REQUESTED		ORGANIC: VOA	BNA	Pest/PCB	Herb	PAH	SVPAHs
		INORG: Metal Hg	CN	CR-6	IC Anions		
Lionville Laboratory Use Only			8270	8081 8082		8310	BOD5 DEC
			METALS			CrO	pH ANIONS ALKALI

MATRIX CODES: W Water; WW Waste Water; GW Groundwater; WST Waste; WI Wipe; SO Solid; S Soil; SL Sludge; SE Sediment; PC Paint Chips; O Oil; NAL Non-Aqueous Liquid; L Leachate; A Air; T Tissue; F Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	8270	8081 8082	8310	BOD5 DEC	METALS	CrO	pH ANIONS ALKALI
01	J1R7X4			SOIL	12-31-12	1212	X	X	X	X	X	X	X
02	J1R7X5			SOIL	12-31-12	1158	X	X	X	X	X	X	X
03	J1R7X6			SOIL	12-31-12	1202	X	X	X	X	X	X	X
04	J1R7X7			SOIL	12-31-12	1206	X	X	X	X	X	X	X
05	J1R7X8			SOIL	12-31-12	1153	X	X	X	X	X	X	X
06	J1R7X9			SOIL	12-31-12	1245	X		X		X		
07	J1R800			SOIL	12-31-12	1248	X		X		X		
08	J1R801			SOIL	12-31-12	1254	X		X		X		
09	J1R802			SOIL	12-31-12	1258	X		X		X		
10	J1R803			SOIL	12-31-12	1316	X		X		X		

Special Instructions: MATRIX QC
METALS+HSL + B, Mo, Si (MTL)

Special Instructions:
01-05 → 1. ~~BNA~~ USE ~~BOTTLE~~ (A) LH 1-3-13 AND PESTICIDES USE BOTTLE LETTER (B), FOR IC ANIONS USE
2. BOTTLE LETTER (E).
06-17 → 3. FOR PAH TEST USE BOTTLE A
06-17 → 4. REC'd 60ML BOTTLE INSTEAD OF 120 ML. FOR METALS.
01-05 5. FOR BNA USE BOTTLE (C)
6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	1/3/13	1010

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Lionville Laboratory Use Only

1301 006

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Lionville Laboratory
A Division of Eberline Analytical Corporation

Client: WC Hanford SAF# RC-190
Est. Final Proj. Sampling Date:
Project#:
Project Contact/Phone#:
Lionville Laboratory Project Manager: O. Johnson
QC: Del: TAT: 15 Days
Date Rec'd: Date Due:

Refrigerator #		A						D							
		2						2							
#/Type Container	Liquid														
	Solid	1AG						1							
Volume	Liquid														
	Solid	120						60							
Preservatives		—						—							
ANALYSES REQUESTED		ORGANIC						INORG							
		VOA	BNA	~~Pest/PCB~~	~~Herb~~	PAH		Metal ~~Hg~~	CN						
		Lionville Laboratory Use Only													
			8270			8310		METALS							

MATRIX CODES:
W Water
WW Waste Water
GW Groundwater
WST Waste
WI Wipe
SO Solid
S Soil
SL Sludge
SE Sediment
PC Paint Chips
O Oil
NAL Non-Aqueous Liquid
L Leachate
A Air
T Tissue
F Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected		8270			8310			METALS							
11	J1R804			Soil	12-31-12	1319		X			X			X							
12	J1R805			Soil	12-31-12	1322		X			X			X							
13	J1R806			Soil	12-31-12	1325		X			X			X							
14	J1R807			Soil	12-31-12	1328		X			X			X							
15	J1R808			Soil	12-31-12	1331		X			X			X							
16	J1R809			Soil	12-31-12	1337		X			X			X							
17	J1R810			Soil	12-31-12	1340		X			X			X							

Special Instructions:

Special Instructions:

1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
[illegible]	V. Hernandez	1/3/13	1010

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-190-124	Page 1 of 1

Collector Q. Stowe	**Company Contact** Joan Kessner **Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH	**Price Code** ~~8L~~ 8K on 12/31/12 **Data Turnaround** ~~21~~ Days 15 on 12/31/12
Project Designation 100N Field Remediation - Soil In-Process	**Sampling Location** 100-N South Stock Pile Area	**SAF No.** RC-190	
Ice Chest No. WCH-11-009	**Field Logbook No.** EL-1652-08 **COA** R10N612000	**Method of Shipment** FedEx ~~Hand Deliver~~ on 12/31/12	
Shipped To ~~EBERLINE SERVICES~~ / LIONVILLE on 12/31/12	**Offsite Property No.** A120688	**Bill of Lading/Air Bill No.** See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS
Potential Rad < DOT limits
1-2-13 CMB

Special Handling and/or Storage
Cool 4C

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C		
Type of Container	G/P	G/P	G/P	G	aG	aG	aG	aG		
No. of Container(s)	1	1	0	1	0	1	1	0		
Volume	120mL	60mL	120mL	60mL	120mL	120mL	120mL	120mL		
SAMPLE ANALYSIS	See item (1) in Special Instructions. RCF	Chromium Hex - 7196 (Hexavalent Chromium) 35124 / 35125	See item (2) in Special Instructions.	TPH-Diesel Range - WTPH-D +	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Pesticides - 8081		

Sample No.	Matrix *	Sample Date	Sample Time										
J1R7X4	SOIL	12-31-12	1212	X	Y	X	X	X	X	X	X		
J1R7X5	SOIL	12-31-12	1158	X	Y	X	X	Y	X	X	X		
J1R7X6	SOIL	12-31-12	1202	X	Y	X	X	Y	X	X	X		
J1R7X7	SOIL	12-31-12	1206	X	Y	X	X	X	X	X	X		
J1R7X8	SOIL	12-31-12	1153	X	X	X	X	X	X	X	X		

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	1400 12/31/12	Dennis Newman	1400 12-31-12
Dennis Newman	1648 12-31-12	Cindy Bingham	1060#3 12-31-12 1648
Cindy Bingham	1060#3 WCH 1-2-13 1247	Fed Ex	
Fed Ex	1-3-13 1010	Victor Hernandez	1-3-13 1010

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010TR (Client List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}
(2) IC Anions - 300.0 {Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}; NO2/NO3 - 353.2 {Nitrogen in Nitrite and Nitrate}; pH (Soil) - 9045 {pH Measurement}

REVIEWED BY AF
DATE 1-2-13

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

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-190-125	Page 1 of 3

Collector Q. Stowe	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code ~~8L~~ 8K	**Data Turnaround** ~~21~~ 15 Days		
Project Designation 100N Field Remediation - Soil In-Process	**Sampling Location** 100-N BCL Piles		**SAF No.** RC-190
Ice Chest No. WCH-11-009	**Field Logbook No.** EL-1652-08	**COA** R10N612000	**Method of Shipment** FedEx ~~Hand Deliver~~
Shipped To ~~EBERLINE SERVICES~~ LIONVILLE	**Offsite Property No.** A120688		**Bill of Lading/Air Bill No.** See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS
~~Potential~~ Rad < Dot limits
1-2-13 CMB

Special Handling and/or Storage
Cool 4C

Preservation	Cool 4C	Cool 4C	Cool 4C								
Type of Container	G/P	aG	aG								
No. of Container(s)	1	1	0								
Volume	60mL	120mL	120mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions. RCF	Semi-VOA - 8270A (TCL) 38124	PAHs - 8310 35125								

Sample No.	Matrix *	Sample Date	Sample Time										
J1R7X9	SOIL	12-31-12	1245	X	X	X							
J1R800	SOIL	12-31-12	1248	X	X	X							
J1R801	SOIL	12-31-12	1254	X	X	X							
J1R802	SOIL	12-31-12	1258	X	X	X							
J1R803	SOIL	12-31-12	1316	X	V	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	12/31/12 1400	Dennis Newman	12-31-12 1400
Dennis Newman	12-31-12 1648	Cindy Bynum	12-31-12 1648
Cindy Bynum	1-2-13 1247	FedEx	
FedEx	1-3-13 1010	Victor Hernandez	1-3-13 1010

SPECIAL INSTRUCTIONS

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

REVIEWED BY AJ
DATE 1-2-13

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

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

WCH-EE-011

000000006

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-190-125	Page 2 of 3

Collector Q. Stowe	**Company Contact** Joan Kessner	**Telephone No.** 375-4688	**Project Coordinator** KESSNER, JH
Price Code ~~8L~~ 8K 12/31/12	**Data Turnaround** ~~21~~ Days 15 12/31/12		
Project Designation 100N Field Remediation - Soil In-Process	**Sampling Location** 100-N BCL Piles		**SAF No.** RC-190
Ice Chest No. WCH-11-009	**Field Logbook No.** EL-1652-08	**COA** R10N612000	**Method of Shipment** FedEx ~~Hand Deliver~~ 12/31/12
Shipped To ~~EBERLINE SERVICES~~ LIONVILLE 12/31/12	**Offsite Property No.** A120688		**Bill of Lading/Air Bill No.** See OSPC

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad < Dot limits

1-2-13 cmB

Special Handling and/or Storage

Cool 4C

Preservation	Cool 4C	Cool 4C	Cool 4C								
Type of Container	G/P	aG	aG								
No. of Container(s)	1	1	0								
Volume	60mL	120mL	120mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions. RCF	Semi-VOA - 8270A (TCL) 35124	PAHs - 8310 35125								

Sample No.	Matrix *	Sample Date	Sample Time										
J1R804	SOIL	12-31-12	1319	X	X	X							
J1R805	SOIL	12-31-12	1322	X	X	X							
J1R806	SOIL	12-31-12	1325	X	X	X							
J1R807	SOIL	12-31-12	1328	X	X	X							
J1R808	SOIL	12-31-12	1331	X	X	X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	1400 12/31/12	Dennis Newman	1400 12-31-12
Dennis Newman	1648 12/31/12	Carol Bingham	1060#3 12-31-12 1648
Carol Bingham	1060#3 WCH 1-2-13 1247	fed Ex	
Fed Ex	1-3-13 1010	Victor Hernandez	1-3-13 1010

SPECIAL INSTRUCTIONS

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

REVIEWED BY AJ DATE 1-2-13

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

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

WCH-EE-011

000000007

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-190-125	Page 3 of 3
Collector: Q. Stowe	Company Contact: Joan Kessner; Telephone No.: 375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~8L~~ 8K 12/31/12; Data Turnaround: ~~21~~ 15 Days 12/31/12
Project Designation: 100N Field Remediation - Soil In-Process	Sampling Location: 100-N BCL Piles	SAF No.: RC-190	
Ice Chest No.: WCH-11-009	Field Logbook No.: EL-1652-08; COA: R10N612000	Method of Shipment: (FedEx) ~~Hand Deliver~~ 12/31/12	
Shipped To: ~~EBERLINE SERVICES~~ (LIONVILLE) 12/31/12	Offsite Property No.: A120688	Bill of Lading/Air Bill No.: See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

~~Potential~~ Rad < DOT limits
1-2-13 CMB

Special Handling and/or Storage

Cool 4C

Preservation	Cool 4C	Cool 4C	Cool 4C								
Type of Container	G/P	aG	aG								
No. of Container(s)	1	1	0								
Volume	60mL	120mL	120mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Semi-VOA - 8270A (TCL)	PAHs - 8310								
	RCH 35124 / 35125										
Sample No. / Matrix * / Sample Date / Sample Time											
J1R809 / SOIL / 12-31-12 / 1337	X	X	X								
J1R810 / SOIL / 12-31-12 / 1340	X	V	X								
J1R811 / SOIL											
J1R812 / SOIL											
J1R813 / SOIL											

DN 12/31/12

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	12/31/12 1400	Dennis Newman	12-31-12 1400
Dennis Newman	12-31-12 1648	Christopher Bingham	12-31-12 1648
CMB WCH	1-2-13 1247	Fed Ex	
Fed Ex	1-3-13 1010	Victor Hernandez	1-3-13 1010

SPECIAL INSTRUCTIONS

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

REVIEWED BY AJ DATE 1-2-13

Matrix *

S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
Wl=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

Lionville Laboratory

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: WC Hanford **Date:** 1-3-13

Project/SAE/SOW/Release #: RC-190

LvL Batch #: 1301006 **Sample Custodian:** Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1. Samples Hand Delivered or Shipped?	Carrier Fed Ex		Airbill # 794427485570
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** 2.1	°C	Cooler # WCH-11-009
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 OS	☑ No	OP621, N02, N03 rec'd out of hold
Short holds taken to wet lab?	☐ Yes 1/3/13	☐ 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 OS 1/3/13	☑ No	see item 12
16. Project Manager contacted concerning any discrepancies?	☐ Yes	☐ No	☑ N/A

Person Contacted_____ Date _____

SR-002-B-1112.doc

SEMIVOLATILES

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

WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

Analytical Report for Semivolatile Organic Compounds by SW846 8270C

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7X4	1301006-01	Soil	12/31/2012 12:12	01/03/2013 10:10
J1R7X5	1301006-02	Soil	12/31/2012 11:58	01/03/2013 10:10
J1R7X6	1301006-03	Soil	12/31/2012 12:02	01/03/2013 10:10
J1R7X7	1301006-04	Soil	12/31/2012 12:06	01/03/2013 10:10
J1R7X8	1301006-05	Soil	12/31/2012 11:53	01/03/2013 10:10
J1R7X9	1301006-06	Soil	12/31/2012 12:45	01/03/2013 10:10
J1R800	1301006-07	Soil	12/31/2012 12:48	01/03/2013 10:10
J1R801	1301006-08	Soil	12/31/2012 12:54	01/03/2013 10:10
J1R802	1301006-09	Soil	12/31/2012 12:58	01/03/2013 10:10
J1R803	1301006-10	Soil	12/31/2012 13:16	01/03/2013 10:10
J1R804	1301006-11	Soil	12/31/2012 13:19	01/03/2013 10:10
J1R805	1301006-12	Soil	12/31/2012 13:22	01/03/2013 10:10
J1R806	1301006-13	Soil	12/31/2012 13:25	01/03/2013 10:10
J1R807	1301006-14	Soil	12/31/2012 13:28	01/03/2013 10:10
J1R808	1301006-15	Soil	12/31/2012 13:31	01/03/2013 10:10
J1R809	1301006-16	Soil	12/31/2012 13:37	01/03/2013 10:10
J1R810	1301006-17	Soil	12/31/2012 13:40	01/03/2013 10:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Case Narrative

Client: WC-HANFORD RC-190 K4044
LVL #: 1301006

W.O. #: 60049-001-001-0001-00
Date Received: 1-03-2013

GCMS SEMIVOLATILE

Seventeen (17) soil samples were collected on 12-31-2012.

The samples and associated QC samples were extracted 1-6-2013 and analyzed 1-08,09-2013 according to Lionville Laboratory SOPs. The extraction procedure was based on SW846 Method 3540C, and the analysis procedure was based on SW846 Method 8270C for client specified Semivolatile target compounds.

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. Samples were extracted and analyzed within holding time.

3. Non-target compounds were detected in these samples.

4. The following extracted samples required a 2-fold instrument dilution due to the nature of the matrix: J1R7X8, J1R801, J1R806, J1R809, and J1R810. Reporting limits have been adjusted to reflect the necessary dilutions.

5. Seven (7) of one hundred-six (126) surrogate recoveries were outside QC acceptance criteria. The surrogate recovery was not met for the following samples: J1R806, J1R7X9, J1R810, J1R800, J1R7X8, J1R801, and L301031-BLK1. The loss of the surrogate 2,4,6-Tribromophenol in these samples appears to be due to a chemical reaction rather than to a problem with the extraction process. Peaks on the chromatogram indicate this reaction. The conversion compound has been reported as a non-target tentatively identified compound (TICs) in sample J1R7X8 at a retention time of 21.201 minutes, in sample J1R7X9 at a retention time of 21.202 minutes, in sample J1R800 at a retention time of 21.199 minutes, in sample JIR801 at a retention time of 20.582 minutes, in sample J1R806 at a retention time of 20.582 minutes, in sample J1R810 at a retention time of 20.586 minutes, and in sample L301031-BLK1 at a retention time of 21.20 minutes. The loss of this surrogate has been associated with the use of soxhlet extractions. A copy of the Sample Discrepancy Report (SDR# 13MS002) has been enclosed.

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.

6. The method blank was below the reporting limit for all target compounds.

7. One (1) of sixty-four (64) blank spike recoveries was outside QC acceptance criteria. All of the samples were associated with this LCS. A copy of the Sample Discrepancy Report (SDR# 13MS002) has been enclosed.

8. Three (3) of one hundred and twenty-eight (128) matrix spike recoveries were outside QC acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 13MS002) has been enclosed.

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

10. All initial calibrations associated with this data set were within acceptance criteria. Per Method 8000B/8270C, the attached Table 1 shows the target compounds where the %RSD exceeded 15%, and the mean RSD was used for evaluation of the initial calibration. Results associated with these compounds are considered to have greater uncertainty. Refer to the Analysis Batch Sequence Summary Forms to associate the calibration with client samples.

11. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

12. Internal standard area and retention time criteria were met.

13. 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").

14. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hardcopy package has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

1/22/13
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 13MS002

Initiator: Sharon Saylor
Date: 1-18-13
Client: W/Hanford

Batch: 1301006
Samples: L301031-BS1, ms1, msd1
Method: SW846/MCAWW/CLP/

Parameter: 8270C
Matrix: Soil
Prep Batch: L301031

1. Reason for SDR

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

b. General Discrepancy

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

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

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

(1) Several Spike recoveries outside QC acceptance limits in L301031-BS1, L301031-ms1, and L301031-msd1 (4nitrophenol, pentachlorophenol & 4dinitrophenol) RCL 1/18/13
(2) <10% recovery of 2,4,6-tribromophenol in JIR7X9, JIR810

2,4,6 tribromophenol below QC acceptance criteria in BLK1, JIR800, JIR7X8, JIR801, JIR806

2. Known or Probable Causes(s) (1) Acidic phenols subject to erratic chromatographic behavior RCL 1/18/13 (2) See narrative

3. Discussion and Proposed Action Other Description: Narrate

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

4. Project Manager Instructions...signature/date: 1/22/13

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

5. Final Action...signature/date: 1/22/13 Other Explanation:

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

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
__ Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

TABLE 1

TCL - 8000B/8270C COMPOUNDS WHERE THE MEAN %RSD IS USED TO MEET CRITERIA FOR INITIAL CALIBRATION OF AN INDIVIDUAL COMPOUND

MEAN RSD USED FOR EVALUATION: 13.5 CALIBRATION: 1301012

>15% RSD	Compound	>15% RSD	Compound	>15% RSD	Compound
	1,2,4-Trichlorobenzene		Di-n-butyl Phthalate		Surrogates:
✓	1,2-Dichlorobenzene		Di-n-octyl Phthalate		2-Fluorophenol
✓	1,3-Dichlorobenzene	✓	Fluoranthene		Phenol-d5
	1,4-Dichlorobenzene		Fluorene		Nitrobenzene-d5
	2,4,5-Trichlorophenol		Hexachlorobenzene		2-Fluorobiphenyl
	2,4,6-Trichlorophenol		Hexachlorobutadiene		2,4,6-Tribromophenol
	2,4-Dichlorophenol	✓	Hexachlorocyclopentadiene	✓	p-Terphenyl-d14
✓	2,4-Dimethylphenol		Hexachloroethane		
✓	2,4-Dinitrophenol		Indeno[1,2,3-cd]pyrene		
	2,4-Dinitrotoluene		Isophorone		
	2,6-Dinitrotoluene	✓	Naphthalene		
	2-Chloronaphthalene		Nitrobenzene		
✓	2-Chlorophenol		N-Nitrosodi-n-propylamine		
	2-Methylnaphthalene		N-Nitrosodiphenylamine		
	2-Methylphenol		Pentachlorophenol		
	2-Nitroaniline	✓	Phenanthrene		
	2-Nitrophenol	✓	Phenol		
	3- and/or 4-Methylphenol	✓	Pyrene		
	3,3'-Dichlorobenzidine				
	3-Nitroaniline				
	4,6-Dinitro-2-methylphenol		**OLM04.2 TCL addons:**		
	4-Bromophenyl Phenyl Ether		1,1-Biphenyl		
	4-Chloro-3-methylphenol		Atrazine		
	4-Chloroaniline		Benzaldehyde		
	4-Chlorophenyl Phenyl Ether		Caprolactam		
	4-Nitroaniline				
	4-Nitrophenol		**NonTCL addons:**		
✓	Acenaphthene		1,2-Diphenylhydrazine		
✓	Acenaphthylene		1,4-Dioxane		
✓	Anthracene		1-Methylnapthalene		
	Benz[a]anthracene		2,3,4,6-Tetrachlorophenol		
	Benzo[a] pyrene		Acetophenone		
	Benzo[b] fluoranthene		Aniline		
	Benzo[g,h,i] perylene		Benzidine		
	Benzo[k] fluoranthene		Benzoic Acid		
	Benzyl alcohol		N-Nitrosodimethylamine		
✓	Bis(2-chloroethoxy) methane		Pyridine		
	Bis(2-chloroethyl) ether		Tributylphosphate		
	Bis(2-chloroisopropyl) ether				
	Bis(2-ethylhexyl) phthalate				
✓	Butyl Benzyl Phthalate				
	Carbazole				
	Chrysene				
	Dibenz[a,h]anthracene				
✓	Dibenzofuran				
✓	Diethyl Phthalate				
✓	Dimethyl Phthalate				

ANALYSIS BATCH (SEQUENCE) SUMMARY
8270C

Laboratory:	Lionville Laboratory	SDG:	K4044
Client:	WC-Hanford, Inc.	Project:	RC-190
Sequence:	3010090	Instrument:	HP5972D
Matrix:	Solid	Calibration:	1301012

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	3010090-TUN1	D010601.D	01/06/13 12:32
Cal Standard	3010090-CAL5	D010603.D	01/06/13 13:49
Cal Standard	3010090-CAL1	D010604.D	01/06/13 14:38
Cal Standard	3010090-CAL2	D010605.D	01/06/13 15:27
Cal Standard	3010090-CAL3	D010606.D	01/06/13 16:16
Cal Standard	3010090-CAL4	D010607.D	01/06/13 17:06
Secondary Cal Check	3010090-SCV1	D010608.D	01/06/13 17:54

ANALYSIS BATCH (SEQUENCE) SUMMARY
8270C

Laboratory:	Lionville Laboratory	SDG:	K4044
Client:	WC-Hanford, Inc.	Project:	RC-190
Sequence:	3010091	Instrument:	HP5972D
Matrix:	Solid	Calibration:	1301012

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	3010091-TUN1	D010801.D	01/08/13 12:40
Calibration Check	3010091-CCV1	D010802.D	01/08/13 13:04
Blank	L301031-BLK1	D010806.D	01/08/13 16:20
J1R7X7	1301006-04	D010812.D	01/08/13 21:08
J1R7X9	1301006-06	D010813.D	01/08/13 21:56
J1R800	1301006-07	D010814.D	01/08/13 22:44
J1R802	1301006-09	D010815.D	01/08/13 23:32
J1R7X8	1301006-05	D010816.D	01/09/13 00:20

TABLE 1

TCL - 8000B/8270C COMPOUNDS WHERE THE MEAN %RSD IS USED TO MEET CRITERIA FOR INITIAL CALIBRATION OF AN INDIVIDUAL COMPOUND

MEAN RSD USED FOR EVALUATION: 7.41 CALIBRATION: 130/013

>15% RSD	Compound	>15% RSD	Compound	>15% RSD	Compound
	1,2,4-Trichlorobenzene		Di-n-butyl Phthalate		Surrogates:
	1,2-Dichlorobenzene		Di-n-octyl Phthalate		2-Fluorophenol
	1,3-Dichlorobenzene		Fluoranthene		Phenol-d5
	1,4-Dichlorobenzene		Fluorene		Nitrobenzene-d5
	2,4,5-Trichlorophenol		Hexachlorobenzene		2-Fluorobiphenyl
	2,4,6-Trichlorophenol		Hexachlorobutadiene		2,4,6-Tribromophenol
	2,4-Dichlorophenol		Hexachlorocyclopentadiene		p-Terphenyl-d14
	2,4-Dimethylphenol		Hexachloroethane		
✓	2,4-Dinitrophenol		Indeno[1,2,3-cd]pyrene		
	2,4-Dinitrotoluene		Isophorone		
	2,6-Dinitrotoluene		Naphthalene		
	2-Chloronaphthalene		Nitrobenzene		
	2-Chlorophenol		N-Nitrosodi-n-propylamine		
	2-Methylnaphthalene		N-Nitrosodiphenylamine		
	2-Methylphenol	✓	Pentachlorophenol		
	2-Nitroaniline		Phenanthrene		
	2-Nitrophenol		Phenol		
	3- and/or 4-Methylphenol	✓	Pyrene		
	3,3'-Dichlorobenzidine				
	3-Nitroaniline				
✓	4,6-Dinitro-2-methylphenol		**OLM04.2 TCL addons:**		
	4-Bromophenyl Phenyl Ether		1,1-Biphenyl		
	4-Chloro-3-methylphenol		Atrazine		
	4-Chloroaniline		Benzaldehyde		
	4-Chlorophenyl Phenyl Ether		Caprolactam		
	4-Nitroaniline				
	4-Nitrophenol		**NonTCL addons:**		
	Acenaphthene		1,2-Diphenylhydrazine		
	Acenaphthylene		1,4-Dioxane		
	Anthracene		1-Methylnapthalene		
	Benz[a]anthracene		2,3,4,6-Tetrachlorophenol		
	Benzo[a] pyrene		Acetophenone		
	Benzo[b] fluoranthene		Aniline		
	Benzo[g,h,i] perylene		Benzidine		
	Benzo[k] fluoranthene		Benzoic Acid		
	Benzyl alcohol		N-Nitrosodimethylamine		
	Bis(2-chloroethoxy) methane		Pyridine		
	Bis(2-chloroethyl) ether		Tributylphosphate		
	Bis(2-chloroisopropyl) ether				
	Bis(2-ethylhexyl) phthalate				
	Butyl Benzyl Phthalate				
	Carbazole				
	Chrysene				
	Dibenz[a,h]anthracene				
	Dibenzofuran				
	Diethyl Phthalate				
	Dimethyl Phthalate				

ANALYSIS BATCH (SEQUENCE) SUMMARY
8270C

Laboratory:	Lionville Laboratory	SDG:	K4044
Client:	WC-Hanford, Inc.	Project:	RC-190
Sequence:	3010092	Instrument:	HP5972C
Matrix:	Solid	Calibration:	1301013

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	3010092-TUN1	C010801.D	01/08/13 14:47
Cal Standard	3010092-CAL5	C010802.D	01/08/13 15:10
Cal Standard	3010092-CAL1	C010803.D	01/08/13 15:54
Cal Standard	3010092-CAL2	C010804.D	01/08/13 16:39
Cal Standard	3010092-CAL3	C010805.D	01/08/13 17:23
Cal Standard	3010092-CAL4	C010806.D	01/08/13 18:07
Secondary Cal Check	3010092-SCV1	C010807.D	01/08/13 18:52
LCS	L301031-BS1	C010808.D	01/08/13 19:36
J1R803	1301006-10	C010809.D	01/08/13 20:20
J1R804	1301006-11	C010810.D	01/08/13 21:04
J1R807	1301006-14	C010811.D	01/08/13 21:48
J1R805	1301006-12	C010812.D	01/08/13 22:33
J1R808	1301006-15	C010813.D	01/08/13 23:17
J1R801	1301006-08	C010814.D	01/09/13 00:01
J1R809	1301006-16	C010815.D	01/09/13 00:45
J1R806	1301006-13	C010816.D	01/09/13 01:29
J1R810	1301006-17	C010817.D	01/09/13 02:14

ANALYSIS BATCH (SEQUENCE) SUMMARY
8270C

Laboratory:	Lionville Laboratory	SDG:	K4044
Client:	WC-Hanford, Inc.	Project:	RC-190
Sequence:	3010095	Instrument:	HP5972C
Matrix:	Solid	Calibration:	1301013

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	3010095-TUN1	C010901.D	01/09/13 13:17
Calibration Check	3010095-CCV1	C010902.D	01/09/13 13:39
J1R7X4	1301006-01	C010903.D	01/09/13 14:35
J1R7X5	1301006-02	C010904.D	01/09/13 15:20
J1R7X6	1301006-03	C010905.D	01/09/13 16:04
J1R7X6	L301031-MS1	C010906.D	01/09/13 16:49
J1R7X6	L301031-MSD1	C010907.D	01/09/13 17:33

GLOSSARY

DATA QUALIFIERS

U	=	Indicates that the 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 quantitation modifications 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 quantitation modifications:

MP	-	Missed Peak: Manually added peak not found by automatic quantitation program.
PA	-	Peak Assignment: quantitation 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
PI	-	Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

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

WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X4
1301006-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	1730	U	1730	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	1730	U	1730	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	691	U	691	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	1730	U	1730	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	1730	U	1730	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	1730	U	1730	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Anthracene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C

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

WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X4
1301006-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Carbazole	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Chrysene	**59.4**	J	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**87.9**	J	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Fluorene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Isophorone	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	1730	U	1730	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Phenol	346	U	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**89.5**	J	346	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 2	**167**	J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**1250**	B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 3	**131**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**17700**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**1030**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*67 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*65 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*67 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X4

1301006-01 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*75 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*33 %*	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*81 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X5
1301006-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	1710	U	1710	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	1710	U	1710	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	683	U	683	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	1710	U	1710	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	1710	U	1710	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	1710	U	1710	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Anthracene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X5
1301006-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Carbazole	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Chrysene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**72.1**	J	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Fluorene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Isophorone	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	1710	U	1710	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Phenol	341	U	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**66.1**	J	341	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Trichloro-1-propene	**170**	J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**802**	B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 3	**87.2**	A, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**15700**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**816**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*61 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*59 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*64 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X5

1301006-02 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*66 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*33 %*	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*68 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X6
1301006-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	704	U	704	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Anthracene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X6
1301006-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	**109**	J	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Carbazole	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Chrysene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Fluorene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Isophorone	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Phenol	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Pyrene	352	U	352	ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Trichloro-1-propene	**144**	J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**617**	B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 3	**78.6**	A, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**15900**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**779**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*66 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*69 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*65 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X6
1301006-03 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*70 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*55 %*	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*80 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X7
1301006-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1870	U	1870	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1870	U	1870	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	747	U	747	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1870	U	1870	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1870	U	1870	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1870	U	1870	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R7X7
1301006-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1870	U	1870	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	374	U	374	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 2	**416**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**611**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 3	**303**	A, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**11000**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**405**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*52 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*53 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*54 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X7
1301006-04 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*53 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*20 %*	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*57 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X8
1301006-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	3770	U	3770	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	3770	U	3770	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	1510	U	1510	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	3770	U	3770	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	3770	U	3770	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	3770	U	3770	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Anthracene	**707**	J, D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	**2060**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	**1050**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	**1110**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	**332**	J, D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	**1170**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X8
1301006-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Carbazole	**155**	J, D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Chrysene	**2130**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	**219**	J, D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**4280**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluorene	**122**	J, D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	**331**	J, D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Isophorone	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	3770	U	3770	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	**2240**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenol	754	U	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**4010**	D	754	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 1	**997**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 4	**948**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**878**	B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 2	**1340**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 3	**935**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**16700**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*72 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*77 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X8
1301006-05 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: Nitrobenzene-d5	*71 %*	*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2-Fluorobiphenyl	*73 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*14 % **	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*74 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R7X9
1301006-06 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1790	U	1790	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1790	U	1790	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	715	U	715	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1790	U	1790	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1790	U	1790	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1790	U	1790	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	**91.8**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	**82.5**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	**69.8**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	**93.9**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X9
1301006-06 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	**130**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**165**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1790	U	1790	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	**86.1**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**184**	J	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 2	**944**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**532**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 3	**18100**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**762**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**142**	A, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*59 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*64 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*64 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R7X9

1301006-06 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*62 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*9 % **	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*61 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R800
1301006-07 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	713	U	713	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R800
1301006-07 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	357	U	357	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 3	**766**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 2	**626**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**93.7**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**555**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**15200**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*59 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*64 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*59 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R800

1301006-07 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*58 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*11 % **	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*60 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R801
1301006-08 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	3690	U	3690	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	3690	U	3690	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	1480	U	1480	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	3690	U	3690	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	3690	U	3690	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	3690	U	3690	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Anthracene	**173**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	**1020**	D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	**727**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	**602**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	**264**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	**807**	D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R801
1301006-08 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Carbazole	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Chrysene	**1240**	D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	**147**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**1630**	D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluorene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	**257**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Isophorone	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	3690	U	3690	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	**514**	J, D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenol	738	U	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**1650**	D	738	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**922**	B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 2	**698**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 1	**473**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**17100**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**486**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*57 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*46 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*59 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R801

1301006-08 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*60 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*14 % **	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*62 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R802
1301006-09 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	709	U	709	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	**56.9**	**J**	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R802
1301006-09 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	**64.9**	J	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**80.7**	J	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	355	U	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**88.4**	J	355	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**437**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**14400**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**541**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 2	**345**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 3	**90.2**	A, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*58 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*62 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*59 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R802

1301006-09 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*59 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*21 %*	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*62 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R803
1301006-10 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	705	U	705	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	**77.6**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	**56.7**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	**64.6**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R803
1301006-10 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	**98.3**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**136**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1760	U	1760	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	**59.9**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**162**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:PAH 1	**73.7**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**1150**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 3	**167**	A, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**21000**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**1120**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*69 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*70 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*68 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R803
1301006-10 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*72 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*23 %*	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*76 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R804
1301006-11 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	707	U	707	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	**178**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	**692**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	**530**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	**453**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	**204**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	**528**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R804
1301006-11 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	**61.8**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	**844**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	**114**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**1100**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	**213**	J	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1770	U	1770	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	**453**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	353	U	353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**1090**		353	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:PAH 1	**340**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**899**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:PAH 2	**496**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**20900**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**1120**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*68 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*63 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*68 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R804

1301006-11 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*70 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*32 %*	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*70 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R805
1301006-12 (Soil)

Lionville Laboratory

Semivolatile Organic Compounds by SW846 8270C

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
1,2,4-Trichlorobenzene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	713	U	713	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	**109**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	**492**		356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	**292**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	**277**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	**125**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	**333**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R805

1301006-12 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	**551**		356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	**70.1**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**963**		356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	**128**	J	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1780	U	1780	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	**386**		356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	356	U	356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**822**		356	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**1030**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:PAH 2	**297**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:PAH 1	**234**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**19400**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**969**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*63 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*58 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*67 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R805

1301006-12 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*67 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*22 %*	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*70 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R806
1301006-13 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	3610	U	3610	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	3610	U	3610	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	1450	U	1450	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	3610	U	3610	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	3610	U	3610	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	3610	U	3610	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Anthracene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	**655**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	**600**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	**701**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	**332**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	**527**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R806
1301006-13 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Carbazole	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Chrysene	**1030**	D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	**149**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**471**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluorene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	**310**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Isophorone	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	3610	U	3610	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	**133**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenol	723	U	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**583**	J, D	723	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**1320**	B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 2	**678**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 1	**270**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**22100**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**783**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*70 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*65 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*70 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R806

1301006-13 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*80 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*15 % **	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*77 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R807
1301006-14 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1850	U	1850	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1850	U	1850	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	741	U	741	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1850	U	1850	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1850	U	1850	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1850	U	1850	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R807
1301006-14 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**63.9**	J	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1850	U	1850	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	371	U	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**76.3**	J	371	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**814**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Trichloro-1-propene	**181**	J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**21400**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**1070**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 3	**105**	A, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*75 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*71 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*73 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R807

1301006-14 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*75 %*	*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*42 %*	*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*83 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R808

1301006-15 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,2-Dichlorobenzene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,3-Dichlorobenzene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
1,4-Dichlorobenzene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,5-Trichlorophenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4,6-Trichlorophenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dichlorophenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dimethylphenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrophenol	1810	U	1810	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,4-Dinitrotoluene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2,6-Dinitrotoluene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chloronaphthalene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Chlorophenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylnaphthalene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Methylphenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitroaniline	1810	U	1810	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
2-Nitrophenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3,3'-Dichlorobenzidine	724	U	724	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3-Nitroaniline	1810	U	1810	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4,6-Dinitro-2-methylphenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Bromophenyl Phenyl Ether	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloro-3-methylphenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chloroaniline	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Chlorophenyl Phenyl Ether	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
3- and/or 4-Methylphenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitroaniline	1810	U	1810	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
4-Nitrophenol	1810	U	1810	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Acenaphthylene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Anthracene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benz[a]anthracene	**68.5**	J	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[a] pyrene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[b] fluoranthene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[g,h,i] perylene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Benzo[k] fluoranthene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroethoxy) methane	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R808
1301006-15 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-chloroisopropyl) ether	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Bis(2-ethylhexyl) phthalate	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Butyl Benzyl Phthalate	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Carbazole	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Chrysene	**77.9**	**J**	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenz[a,h]anthracene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dibenzofuran	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Diethyl Phthalate	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Dimethyl Phthalate	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-butyl Phthalate	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Di-n-octyl Phthalate	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluoranthene	**145**	J	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Fluorene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobenzene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorobutadiene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachlorocyclopentadiene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Hexachloroethane	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Indeno[1,2,3-cd]pyrene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Isophorone	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Naphthalene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Nitrobenzene	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodi-n-propylamine	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
N-Nitrosodiphenylamine	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pentachlorophenol	1810	U	1810	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenanthrene	**65.7**	J	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Phenol	362	U	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Pyrene	**154**	J	362	ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Unknown 1	**1060**	B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 1	**725**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
TIC:Aldol Condensate 2	**17700**	A, B, J		ug/kg dry	1	L301031	01/06/2013	01/08/2013	8270C
Surrogate: 2-Fluorophenol	*57 %*		*25-121*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Phenol-d5	*54 %*		*24-113*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*59 %*		*23-120*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2-Fluorobiphenyl	*63 %*		*30-115*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*20 %*		*19-122*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R808

1301006-15 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: p-Terphenyl-d14	*67 %*	*18-137*			*L301031*	*01/06/2013*	*01/08/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R809

1301006-16 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	3500	U	3500	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	3500	U	3500	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	1400	U	1400	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	3500	U	3500	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	3500	U	3500	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	3500	U	3500	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Anthracene	**137**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	**315**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	**222**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	**183**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	**238**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R809

1301006-16 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Carbazole	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Chrysene	**375**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**747**	D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluorene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Isophorone	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	3500	U	3500	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	**531**	J, D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenol	699	U	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**729**	D	699	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**325**	B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 2	**223**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 1	**331**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**18700**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**564**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*70 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*56 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*67 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R809

1301006-16 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*76 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*36 %*	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*74 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

J1R810
1301006-17 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
1,2,4-Trichlorobenzene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,2-Dichlorobenzene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,3-Dichlorobenzene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
1,4-Dichlorobenzene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,5-Trichlorophenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4,6-Trichlorophenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dichlorophenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dimethylphenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrophenol	3490	U	3490	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,4-Dinitrotoluene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2,6-Dinitrotoluene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chloronaphthalene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Chlorophenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylnaphthalene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Methylphenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitroaniline	3490	U	3490	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
2-Nitrophenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3,3'-Dichlorobenzidine	1400	U	1400	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3-Nitroaniline	3490	U	3490	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4,6-Dinitro-2-methylphenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Bromophenyl Phenyl Ether	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloro-3-methylphenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chloroaniline	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Chlorophenyl Phenyl Ether	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
3- and/or 4-Methylphenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitroaniline	3490	U	3490	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
4-Nitrophenol	3490	U	3490	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Acenaphthylene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Anthracene	**481**	J, D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benz[a]anthracene	**1800**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[a] pyrene	**1540**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[b] fluoranthene	**1200**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[g,h,i] perylene	**811**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Benzo[k] fluoranthene	**1350**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroethoxy) methane	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R810
1301006-17 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Semivolatile Organic Compounds by SW846 8270C									
Bis(2-chloroethyl) ether	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-chloroisopropyl) ether	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Bis(2-ethylhexyl) phthalate	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Butyl Benzyl Phthalate	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Carbazole	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Chrysene	**2140**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenz[a,h]anthracene	**355**	J, D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dibenzofuran	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Diethyl Phthalate	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Dimethyl Phthalate	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-butyl Phthalate	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Di-n-octyl Phthalate	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluoranthene	**3460**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Fluorene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobenzene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorobutadiene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachlorocyclopentadiene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Hexachloroethane	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Indeno[1,2,3-cd]pyrene	**813**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Isophorone	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Naphthalene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Nitrobenzene	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodi-n-propylamine	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
N-Nitrosodiphenylamine	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pentachlorophenol	3490	U	3490	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenanthrene	**1300**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Phenol	698	U	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Pyrene	**3630**	D	698	ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 2	**1290**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:PAH 1	**980**	J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Unknown 1	**1510**	B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 2	**24500**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
TIC:Aldol Condensate 1	**825**	A, B, J, D		ug/kg dry	2	L301031	01/06/2013	01/09/2013	8270C
Surrogate: 2-Fluorophenol	*74 %*		*25-121*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Phenol-d5	*70 %*		*24-113*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: Nitrobenzene-d5	*76 %*		*23-120*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

J1R810
1301006-17 (Soil)

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory								
Semivolatile Organic Compounds by SW846 8270C								
Surrogate: 2-Fluorobiphenyl	*86 %*	*30-115*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: 2,4,6-Tribromophenol	*6 % **	*19-122*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*
Surrogate: p-Terphenyl-d14	*82 %*	*18-137*			*L301031*	*01/06/2013*	*01/09/2013*	*8270C*

264 Welsh Pool Road
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C										
Blank (L301031-BLK1)				Prepared: 01/06/2013 Analyzed: 01/08/2013						
1,2,4-Trichlorobenzene	330	U	330	ug/kg wet						
1,2-Dichlorobenzene	330	U	330	ug/kg wet						
1,3-Dichlorobenzene	330	U	330	ug/kg wet						
1,4-Dichlorobenzene	330	U	330	ug/kg wet						
2,4,5-Trichlorophenol	330	U	330	ug/kg wet						
2,4,6-Trichlorophenol	330	U	330	ug/kg wet						
2,4-Dichlorophenol	330	U	330	ug/kg wet						
2,4-Dimethylphenol	330	U	330	ug/kg wet						
2,4-Dinitrophenol	1650	U	1650	ug/kg wet						
2,4-Dinitrotoluene	330	U	330	ug/kg wet						
2,6-Dinitrotoluene	330	U	330	ug/kg wet						
2-Chloronaphthalene	330	U	330	ug/kg wet						
2-Chlorophenol	330	U	330	ug/kg wet						
2-Methylnaphthalene	330	U	330	ug/kg wet						
2-Methylphenol	330	U	330	ug/kg wet						
2-Nitroaniline	1650	U	1650	ug/kg wet						
2-Nitrophenol	330	U	330	ug/kg wet						
3,3'-Dichlorobenzidine	660	U	660	ug/kg wet						
3-Nitroaniline	1650	U	1650	ug/kg wet						
4,6-Dinitro-2-methylphenol	330	U	330	ug/kg wet						
4-Bromophenyl Phenyl Ether	330	U	330	ug/kg wet						
4-Chloro-3-methylphenol	330	U	330	ug/kg wet						
4-Chloroaniline	330	U	330	ug/kg wet						
4-Chlorophenyl Phenyl Ether	330	U	330	ug/kg wet						
3- and/or 4-Methylphenol	330	U	330	ug/kg wet						
4-Nitroaniline	1650	U	1650	ug/kg wet						
4-Nitrophenol	1650	U	1650	ug/kg wet						
Acenaphthene	330	U	330	ug/kg wet						
Acenaphthylene	330	U	330	ug/kg wet						
Anthracene	330	U	330	ug/kg wet						
Benz[a]anthracene	330	U	330	ug/kg wet						
Benzo[a] pyrene	330	U	330	ug/kg wet						
Benzo[b] fluoranthene	330	U	330	ug/kg wet						
Benzo[g,h,i] perylene	330	U	330	ug/kg wet						
Benzo[k] fluoranthene	330	U	330	ug/kg wet						
Bis(2-chloroethoxy) methane	330	U	330	ug/kg wet						

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C										
Blank (L301031-BLK1)				Prepared: 01/06/2013 Analyzed: 01/08/2013						
Bis(2-chloroethyl) ether	330	U	330	ug/kg wet						
Bis(2-chloroisopropyl) ether	330	U	330	ug/kg wet						
Bis(2-ethylhexyl) phthalate	330	U	330	ug/kg wet						
Butyl Benzyl Phthalate	330	U	330	ug/kg wet						
Carbazole	330	U	330	ug/kg wet						
Chrysene	330	U	330	ug/kg wet						
Dibenz[a,h]anthracene	330	U	330	ug/kg wet						
Dibenzofuran	330	U	330	ug/kg wet						
Diethyl Phthalate	330	U	330	ug/kg wet						
Dimethyl Phthalate	330	U	330	ug/kg wet						
Di-n-butyl Phthalate	330	U	330	ug/kg wet						
Di-n-octyl Phthalate	330	U	330	ug/kg wet						
Fluoranthene	330	U	330	ug/kg wet						
Fluorene	330	U	330	ug/kg wet						
Hexachlorobenzene	330	U	330	ug/kg wet						
Hexachlorobutadiene	330	U	330	ug/kg wet						
Hexachlorocyclopentadiene	330	U	330	ug/kg wet						
Hexachloroethane	330	U	330	ug/kg wet						
Indeno[1,2,3-cd]pyrene	330	U	330	ug/kg wet						
Isophorone	330	U	330	ug/kg wet						
Naphthalene	330	U	330	ug/kg wet						
Nitrobenzene	330	U	330	ug/kg wet						
N-Nitrosodi-n-propylamine	330	U	330	ug/kg wet						
N-Nitrosodiphenylamine	330	U	330	ug/kg wet						
Pentachlorophenol	1650	U	1650	ug/kg wet						
Phenanthrene	330	U	330	ug/kg wet						
Phenol	330	U	330	ug/kg wet						
Pyrene	330	U	330	ug/kg wet						
Unknown 2 TICS	498	J		ug/kg wet						
Aldol Condensate 3	142	A, J		ug/kg wet						
Aldol Condensate 2 RCC 1/10/13	24500	A, J		ug/kg wet						
Aldol Condensate 1	1090	A, J		ug/kg wet						
Unknown 1	384	J		ug/kg wet						
Surrogate: 2-Fluorophenol	*1460*			*ug/kg wet*	*2500.0*		*58*	*25-121*		
Surrogate: Phenol-d5	*1590*			*ug/kg wet*	*2500.0*		*64*	*24-113*		
Surrogate: Nitrobenzene-d5	*1110*			*ug/kg wet*	*1666.7*		*67*	*23-120*		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C									
Blank (L301031-BLK1)			Prepared: 01/06/2013 Analyzed: 01/08/2013						
Surrogate: 2-Fluorobiphenyl	*1080*		*ug/kg wet*	*1666.7*		*65*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*461*		*ug/kg wet*	*2500.0*		*18**	*19-122*		
Surrogate: p-Terphenyl-d14	*1240*		*ug/kg wet*	*1666.7*		*74*	*18-137*		
LCS (L301031-BS1)			Prepared: 01/06/2013 Analyzed: 01/08/2013						
1,2,4-Trichlorobenzene	1010		ug/kg wet	2000.0		50	45-110		
1,2-Dichlorobenzene	1240		ug/kg wet	2000.0		62	45-105		
1,3-Dichlorobenzene	1190		ug/kg wet	2000.0		60	40-100		
1,4-Dichlorobenzene	1210		ug/kg wet	2000.0		60	35-105		
2,4,5-Trichlorophenol	1430		ug/kg wet	2000.0		71	30-140		
2,4,6-Trichlorophenol	1310		ug/kg wet	2000.0		66	20-110		
2,4-Dichlorophenol	1080		ug/kg wet	2000.0		54	40-110		
2,4-Dimethylphenol	1090		ug/kg wet	2000.0		54	30-105		
2,4-Dinitrophenol	468		ug/kg wet	2000.0		23*	25-130		
2,4-Dinitrotoluene	1390		ug/kg wet	2000.0		70	50-115		
2,6-Dinitrotoluene	1370		ug/kg wet	2000.0		69	40-120		
2-Chloronaphthalene	1330		ug/kg wet	2000.0		66	45-115		
2-Chlorophenol	1340		ug/kg wet	2000.0		67	45-105		
2-Methylnaphthalene	1020		ug/kg wet	2000.0		51	45-110		
2-Methylphenol	1340		ug/kg wet	2000.0		67	40-120		
2-Nitroaniline	1430		ug/kg wet	2000.0		71	45-120		
2-Nitrophenol	1070		ug/kg wet	2000.0		53	40-110		
3,3'-Dichlorobenzidine	946		ug/kg wet	2000.0		47	15-130		
3-Nitroaniline	1110		ug/kg wet	2000.0		56	40-130		
4,6-Dinitro-2-methylphenol	779		ug/kg wet	2000.0		39	20-140		
4-Bromophenyl Phenyl Ether	1450		ug/kg wet	2000.0		72	45-115		
4-Chloro-3-methylphenol	1120		ug/kg wet	2000.0		56	35-115		
4-Chloroaniline	711		ug/kg wet	2000.0		36	10-100		
4-Chlorophenyl Phenyl Ether	1350		ug/kg wet	2000.0		67	45-110		
3- and/or 4-Methylphenol	1340		ug/kg wet	2000.0		67	40-120		
4-Nitroaniline	1290		ug/kg wet	2000.0		64	40-130		
4-Nitrophenol	1240		ug/kg wet	2000.0		62	15-140		
Acenaphthene	1370		ug/kg wet	2000.0		68	45-110		
Acenaphthylene	1410		ug/kg wet	2000.0		70	45-115		
Anthracene	1360		ug/kg wet	2000.0		68	45-130		
Benz[a]anthracene	1460		ug/kg wet	2000.0		73	45-130		
Benzo[a] pyrene	1430		ug/kg wet	2000.0		71	45-130		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C									
LCS (L301031-BS1)			Prepared: 01/06/2013 Analyzed: 01/08/2013						
Benzo[b] fluoranthene	1470		ug/kg wet	2000.0		73	40-130		
Benzo[g,h,i] perylene	1440		ug/kg wet	2000.0		72	45-125		
Benzo[k] fluoranthene	1470		ug/kg wet	2000.0		74	45-125		
Bis(2-chloroethoxy) methane	1120		ug/kg wet	2000.0		56	45-110		
Bis(2-chloroethyl) ether	1310		ug/kg wet	2000.0		65	40-110		
Bis(2-chloroisopropyl) ether	1360		ug/kg wet	2000.0		68	30-115		
Bis(2-ethylhexyl) phthalate	1410		ug/kg wet	2000.0		71	40-145		
Butyl Benzyl Phthalate	1410		ug/kg wet	2000.0		70	50-125		
Carbazole	1370		ug/kg wet	2000.0		68	40-140		
Chrysene	1510		ug/kg wet	2000.0		75	45-130		
Dibenz[a,h]anthracene	1220		ug/kg wet	2000.0		61	45-125		
Dibenzofuran	1330		ug/kg wet	2000.0		67	45-120		
Diethyl Phthalate	1350		ug/kg wet	2000.0		68	50-125		
Dimethyl Phthalate	1310		ug/kg wet	2000.0		66	45-130		
Di-n-butyl Phthalate	1320		ug/kg wet	2000.0		66	50-130		
Di-n-octyl Phthalate	1390		ug/kg wet	2000.0		69	40-150		
Fluoranthene	1390		ug/kg wet	2000.0		70	45-130		
Fluorene	1370		ug/kg wet	2000.0		68	45-120		
Hexachlorobenzene	1530		ug/kg wet	2000.0		76	45-130		
Hexachlorobutadiene	1160		ug/kg wet	2000.0		58	45-105		
Hexachlorocyclopentadiene	1230		ug/kg wet	2000.0		61	10-100		
Hexachloroethane	1210		ug/kg wet	2000.0		61	35-110		
Indeno[1,2,3-cd]pyrene	1420		ug/kg wet	2000.0		71	45-130		
Isophorone	1050		ug/kg wet	2000.0		52	40-110		
Naphthalene	1170		ug/kg wet	2000.0		58	40-110		
Nitrobenzene	1030		ug/kg wet	2000.0		52	40-105		
N-Nitrosodi-n-propylamine	1350		ug/kg wet	2000.0		67	30-130		
N-Nitrosodiphenylamine	1400		ug/kg wet	2000.0		70	50-120		
Pentachlorophenol	987		ug/kg wet	2000.0		49	25-120		
Phenanthrene	1400		ug/kg wet	2000.0		70	50-120		
Phenol	1370		ug/kg wet	2000.0		69	40-115		
Pyrene	1430		ug/kg wet	2000.0		72	45-125		
Surrogate: 2-Fluorophenol	*1550*		*ug/kg wet*	*2500.0*		*62*	*25-121*		
Surrogate: Phenol-d5	*1610*		*ug/kg wet*	*2500.0*		*64*	*24-113*		
Surrogate: Nitrobenzene-d5	*855*		*ug/kg wet*	*1666.7*		*51*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*1070*		*ug/kg wet*	*1666.7*		*64*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*1710*		*ug/kg wet*	*2500.0*		*68*	*19-122*		

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C									
LCS (L301031-BS1)			Prepared: 01/06/2013 Analyzed: 01/08/2013						
Surrogate: p-Terphenyl-d14	*1090*		*ug/kg wet*	*1666.7*		*65*	*18-137*		
Matrix Spike (L301031-MS1)		**Source: 1301006-03**	Prepared: 01/06/2013 Analyzed: 01/09/2013						
1,2,4-Trichlorobenzene	958		ug/kg dry	2129.6	352 U	45	45-110		
1,2-Dichlorobenzene	1020		ug/kg dry	2129.6	352 U	48	45-105		
1,3-Dichlorobenzene	961		ug/kg dry	2129.6	352 U	45	40-100		
1,4-Dichlorobenzene	985		ug/kg dry	2129.6	352 U	46	35-105		
2,4,5-Trichlorophenol	1230		ug/kg dry	2129.6	352 U	58	30-140		
2,4,6-Trichlorophenol	558		ug/kg dry	2129.6	352 U	26	20-110		
2,4-Dichlorophenol	980		ug/kg dry	2129.6	352 U	46	40-110		
2,4-Dimethylphenol	951		ug/kg dry	2129.6	352 U	45	30-105		
2,4-Dinitrophenol	709		ug/kg dry	2129.6	1760 U	33	25-130		
2,4-Dinitrotoluene	1210		ug/kg dry	2129.6	352 U	57	50-115		
2,6-Dinitrotoluene	1270		ug/kg dry	2129.6	352 U	60	40-120		
2-Chloronaphthalene	1160		ug/kg dry	2129.6	352 U	55	45-115		
2-Chlorophenol	1100		ug/kg dry	2129.6	352 U	52	45-105		
2-Methylnaphthalene	957		ug/kg dry	2129.6	352 U	45	45-110		
2-Methylphenol	1130		ug/kg dry	2129.6	352 U	53	40-120		
2-Nitroaniline	1150		ug/kg dry	2129.6	1760 U	54	45-120		
2-Nitrophenol	956		ug/kg dry	2129.6	352 U	45	40-110		
3,3'-Dichlorobenzidine	895		ug/kg dry	2129.6	704 U	42	15-130		
3-Nitroaniline	993		ug/kg dry	2129.6	1760 U	47	40-130		
4,6-Dinitro-2-methylphenol	987		ug/kg dry	2129.6	352 U	46	20-140		
4-Bromophenyl Phenyl Ether	1420		ug/kg dry	2129.6	352 U	66	45-115		
4-Chloro-3-methylphenol	1010		ug/kg dry	2129.6	352 U	47	35-115		
4-Chloroaniline	707		ug/kg dry	2129.6	352 U	33	10-100		
4-Chlorophenyl Phenyl Ether	1270		ug/kg dry	2129.6	352 U	60	45-110		
3- and/or 4-Methylphenol	1110		ug/kg dry	2129.6	352 U	52	40-120		
4-Nitroaniline	1180		ug/kg dry	2129.6	1760 U	56	40-130		
4-Nitrophenol	99.2		ug/kg dry	2129.6	1760 U	5*	15-140		
Acenaphthene	1180		ug/kg dry	2129.6	352 U	56	45-110		
Acenaphthylene	1220		ug/kg dry	2129.6	352 U	57	45-115		
Anthracene	1200		ug/kg dry	2129.6	352 U	57	45-130		
Benz[a]anthracene	1210		ug/kg dry	2129.6	352 U	57	45-130		
Benzo[a] pyrene	1210		ug/kg dry	2129.6	352 U	57	45-130		
Benzo[b] fluoranthene	1310		ug/kg dry	2129.6	352 U	61	40-130		
Benzo[g,h,i] perylene	1150		ug/kg dry	2129.6	352 U	54	45-125		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C									
Matrix Spike (L301031-MS1)	**Source: 1301006-03**		Prepared: 01/06/2013 Analyzed: 01/09/2013						
Benzo[k] fluoranthene	1300		ug/kg dry	2129.6	352 U	61	45-125		
Bis(2-chloroethoxy) methane	960		ug/kg dry	2129.6	352 U	45	45-110		
Bis(2-chloroethyl) ether	1030		ug/kg dry	2129.6	352 U	48	40-110		
Bis(2-chloroisopropyl) ether	1030		ug/kg dry	2129.6	352 U	48	30-115		
Bis(2-ethylhexyl) phthalate	1090		ug/kg dry	2129.6	109	46	40-145		
Butyl Benzyl Phthalate	1080		ug/kg dry	2129.6	352 U	51	50-125		
Carbazole	1200		ug/kg dry	2129.6	352 U	56	40-140		
Chrysene	1270		ug/kg dry	2129.6	352 U	59	45-130		
Dibenz[a,h]anthracene	1010		ug/kg dry	2129.6	352 U	48	45-125		
Dibenzofuran	1170		ug/kg dry	2129.6	352 U	55	45-120		
Diethyl Phthalate	1190		ug/kg dry	2129.6	352 U	56	50-125		
Dimethyl Phthalate	1180		ug/kg dry	2129.6	352 U	56	45-130		
Di-n-butyl Phthalate	1150		ug/kg dry	2129.6	352 U	54	50-130		
Di-n-octyl Phthalate	1180		ug/kg dry	2129.6	352 U	56	40-150		
Fluoranthene	1280		ug/kg dry	2129.6	352 U	60	45-130		
Fluorene	1220		ug/kg dry	2129.6	352 U	57	45-120		
Hexachlorobenzene	1550		ug/kg dry	2129.6	352 U	73	45-130		
Hexachlorobutadiene	1100		ug/kg dry	2129.6	352 U	52	45-105		
Hexachlorocyclopentadiene	1040		ug/kg dry	2129.6	352 U	49	10-100		
Hexachloroethane	925		ug/kg dry	2129.6	352 U	43	35-110		
Indeno[1,2,3-cd]pyrene	1150		ug/kg dry	2129.6	352 U	54	45-130		
Isophorone	911		ug/kg dry	2129.6	352 U	43	40-110		
Naphthalene	1040		ug/kg dry	2129.6	352 U	49	40-110		
Nitrobenzene	904		ug/kg dry	2129.6	352 U	42	40-105		
N-Nitrosodi-n-propylamine	1010		ug/kg dry	2129.6	352 U	47	30-130		
N-Nitrosodiphenylamine	1210		ug/kg dry	2129.6	352 U	57	50-120		
Pentachlorophenol	500		ug/kg dry	2129.6	1760 U	23*	25-120		
Phenanthrene	1250		ug/kg dry	2129.6	352 U	59	50-120		
Phenol	990		ug/kg dry	2129.6	352 U	46	40-115		
Pyrene	1140		ug/kg dry	2129.6	352 U	54	45-125		
Surrogate: 2-Fluorophenol	*1320*		*ug/kg dry*	*2662.0*		*49*	*25-121*		
Surrogate: Phenol-d5	*1290*		*ug/kg dry*	*2662.0*		*48*	*24-113*		
Surrogate: Nitrobenzene-d5	*745*		*ug/kg dry*	*1774.7*		*42*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*945*		*ug/kg dry*	*1774.7*		*53*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*785*		*ug/kg dry*	*2662.0*		*29*	*19-122*		
Surrogate: p-Terphenyl-d14	*892*		*ug/kg dry*	*1774.7*		*50*	*18-137*		

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Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C									
Matrix Spike Dup (L301031-MSD1)	**Source: 1301006-03**		Prepared: 01/06/2013 Analyzed: 01/09/2013						
1,2,4-Trichlorobenzene	990		ug/kg dry	2138.8	352 U	46	45-110	3	40
1,2-Dichlorobenzene	1090		ug/kg dry	2138.8	352 U	51	45-105	6	40
1,3-Dichlorobenzene	1060		ug/kg dry	2138.8	352 U	50	40-100	10	40
1,4-Dichlorobenzene	1060		ug/kg dry	2138.8	352 U	49	35-105	7	40
2,4,5-Trichlorophenol	1320		ug/kg dry	2138.8	352 U	62	30-140	7	40
2,4,6-Trichlorophenol	561		ug/kg dry	2138.8	352 U	26	20-110	0.1	40
2,4-Dichlorophenol	1070		ug/kg dry	2138.8	352 U	50	40-110	9	40
2,4-Dimethylphenol	981		ug/kg dry	2138.8	352 U	46	30-105	3	40
2,4-Dinitrophenol	868		ug/kg dry	2138.8	1760 U	41	25-130	20	40
2,4-Dinitrotoluene	1290		ug/kg dry	2138.8	352 U	60	50-115	6	40
2,6-Dinitrotoluene	1300		ug/kg dry	2138.8	352 U	61	40-120	2	40
2-Chloronaphthalene	1190		ug/kg dry	2138.8	352 U	56	45-115	2	40
2-Chlorophenol	1170		ug/kg dry	2138.8	352 U	55	45-105	5	40
2-Methylnaphthalene	1000		ug/kg dry	2138.8	352 U	47	45-110	4	40
2-Methylphenol	1150		ug/kg dry	2138.8	352 U	54	40-120	2	40
2-Nitroaniline	1180		ug/kg dry	2138.8	1760 U	55	45-120	2	40
2-Nitrophenol	996		ug/kg dry	2138.8	352 U	47	40-110	4	40
3,3'-Dichlorobenzidine	839		ug/kg dry	2138.8	704 U	39	15-130	7	40
3-Nitroaniline	1000		ug/kg dry	2138.8	1760 U	47	40-130	0.6	40
4,6-Dinitro-2-methylphenol	1180		ug/kg dry	2138.8	352 U	55	20-140	18	40
4-Bromophenyl Phenyl Ether	1430		ug/kg dry	2138.8	352 U	67	45-115	0.8	40
4-Chloro-3-methylphenol	1100		ug/kg dry	2138.8	352 U	51	35-115	8	40
4-Chloroaniline	596		ug/kg dry	2138.8	352 U	28	10-100	17	40
4-Chlorophenyl Phenyl Ether	1310		ug/kg dry	2138.8	352 U	61	45-110	2	40
3- and/or 4-Methylphenol	1170		ug/kg dry	2138.8	352 U	55	40-120	5	40
4-Nitroaniline	1270		ug/kg dry	2138.8	1760 U	60	40-130	7	40
4-Nitrophenol	94.0		ug/kg dry	2138.8	1760 U	4*	15-140	6	40
Acenaphthene	1230		ug/kg dry	2138.8	352 U	58	45-110	4	40
Acenaphthylene	1270		ug/kg dry	2138.8	352 U	59	45-115	4	40
Anthracene	1260		ug/kg dry	2138.8	352 U	59	45-130	4	40
Benz[a]anthracene	1290		ug/kg dry	2138.8	352 U	60	45-130	5	40
Benzo[a] pyrene	1270		ug/kg dry	2138.8	352 U	59	45-130	5	40
Benzo[b] fluoranthene	1320		ug/kg dry	2138.8	352 U	62	40-130	0.7	40
Benzo[g,h,i] perylene	1360		ug/kg dry	2138.8	352 U	64	45-125	16	40
Benzo[k] fluoranthene	1340		ug/kg dry	2138.8	352 U	62	45-125	2	40
Bis(2-chloroethoxy) methane	1010		ug/kg dry	2138.8	352 U	47	45-110	5	40

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/18/2013 16:24

Semivolatile Organic Compounds by SW846 8270C - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301031 - SW 3540C									
Matrix Spike Dup (L301031-MSD1)	**Source: 1301006-03**		Prepared: 01/06/2013 Analyzed: 01/09/2013						
Bis(2-chloroethyl) ether	1110		ug/kg dry	2138.8	352 U	52	40-110	7	40
Bis(2-chloroisopropyl) ether	1040		ug/kg dry	2138.8	352 U	49	30-115	1	40
Bis(2-ethylhexyl) phthalate	1170		ug/kg dry	2138.8	109	50	40-145	8	40
Butyl Benzyl Phthalate	1150		ug/kg dry	2138.8	352 U	54	50-125	6	40
Carbazole	1260		ug/kg dry	2138.8	352 U	59	40-140	4	40
Chrysene	1330		ug/kg dry	2138.8	352 U	62	45-130	5	40
Dibenz[a,h]anthracene	1250		ug/kg dry	2138.8	352 U	58	45-125	20	40
Dibenzofuran	1230		ug/kg dry	2138.8	352 U	57	45-120	4	40
Diethyl Phthalate	1260		ug/kg dry	2138.8	352 U	59	50-125	5	40
Dimethyl Phthalate	1220		ug/kg dry	2138.8	352 U	57	45-130	2	40
Di-n-butyl Phthalate	1200		ug/kg dry	2138.8	352 U	56	50-130	4	40
Di-n-octyl Phthalate	1220		ug/kg dry	2138.8	352 U	57	40-150	2	40
Fluoranthene	1320		ug/kg dry	2138.8	352 U	62	45-130	3	40
Fluorene	1270		ug/kg dry	2138.8	352 U	59	45-120	3	40
Hexachlorobenzene	1580		ug/kg dry	2138.8	352 U	74	45-130	2	40
Hexachlorobutadiene	1150		ug/kg dry	2138.8	352 U	54	45-105	4	40
Hexachlorocyclopentadiene	1050		ug/kg dry	2138.8	352 U	49	10-100	0.3	40
Hexachloroethane	999		ug/kg dry	2138.8	352 U	47	35-110	7	40
Indeno[1,2,3-cd]pyrene	1350		ug/kg dry	2138.8	352 U	63	45-130	15	40
Isophorone	958		ug/kg dry	2138.8	352 U	45	40-110	5	40
Naphthalene	1080		ug/kg dry	2138.8	352 U	51	40-110	3	40
Nitrobenzene	951		ug/kg dry	2138.8	352 U	44	40-105	5	40
N-Nitrosodi-n-propylamine	1090		ug/kg dry	2138.8	352 U	51	30-130	7	40
N-Nitrosodiphenylamine	1240		ug/kg dry	2138.8	352 U	58	50-120	2	40
Pentachlorophenol	980		ug/kg dry	2138.8	1760 U	46	25-120	65*	40
Phenanthrene	1310		ug/kg dry	2138.8	352 U	61	50-120	4	40
Phenol	1080		ug/kg dry	2138.8	352 U	51	40-115	9	40
Pyrene	1180		ug/kg dry	2138.8	352 U	55	45-125	3	40
Surrogate: 2-Fluorophenol	*1330*		*ug/kg dry*	*2673.5*		*50*	*25-121*		
Surrogate: Phenol-d5	*1310*		*ug/kg dry*	*2673.5*		*49*	*24-113*		
Surrogate: Nitrobenzene-d5	*770*		*ug/kg dry*	*1782.3*		*43*	*23-120*		
Surrogate: 2-Fluorobiphenyl	*952*		*ug/kg dry*	*1782.3*		*53*	*30-115*		
Surrogate: 2,4,6-Tribromophenol	*631*		*ug/kg dry*	*2673.5*		*24*	*19-122*		
Surrogate: p-Terphenyl-d14	*964*		*ug/kg dry*	*1782.3*		*54*	*18-137*		

PREPARATION BENCH SHEET

L301031

Lionville Laboratory

Printed: 1/18/2013 3:15:03PM

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1201561**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301006-01	8270C TCL SVOC	01/06/2013 13:10	31.3	1				500	WC-Hanford, Inc.	
1301006-02	8270C TCL SVOC	01/06/2013 13:10	30.93	1				500	WC-Hanford, Inc.	
1301006-03	8270C TCL SVOC	01/06/2013 13:10	30.13	1				500	WC-Hanford, Inc.	
1301006-04	8270C TCL SVOC	01/06/2013 13:10	30.44	1				500	WC-Hanford, Inc.	
1301006-05	8270C TCL SVOC	01/06/2013 13:10	30.4	1				500	WC-Hanford, Inc.	
1301006-06	8270C TCL SVOC	01/06/2013 13:10	30.17	1				500	WC-Hanford, Inc.	
1301006-07	8270C TCL SVOC	01/06/2013 13:10	30.63	1				500	WC-Hanford, Inc.	
1301006-08	8270C TCL SVOC	01/06/2013 13:10	30.53	1				500	WC-Hanford, Inc.	
1301006-09	8270C TCL SVOC	01/06/2013 13:10	30.38	1				500	WC-Hanford, Inc.	
1301006-10	8270C TCL SVOC	01/06/2013 13:10	30.35	1				500	WC-Hanford, Inc.	
1301006-11	8270C TCL SVOC	01/06/2013 13:10	30.53	1				500	WC-Hanford, Inc.	
1301006-12	8270C TCL SVOC	01/06/2013 13:10	30.82	1				500	WC-Hanford, Inc.	
1301006-13	8270C TCL SVOC	01/06/2013 13:10	30.61	1				500	WC-Hanford, Inc.	
1301006-14	8270C TCL SVOC	01/06/2013 13:10	30.07	1				500	WC-Hanford, Inc.	
1301006-15	8270C TCL SVOC	01/06/2013 13:10	30.3	1				500	WC-Hanford, Inc.	
1301006-16	8270C TCL SVOC	01/06/2013 13:10	30.76	1				500	WC-Hanford, Inc.	
1301006-17	8270C TCL SVOC	01/06/2013 13:10	30.47	1				500	WC-Hanford, Inc.	
L301031-BLK1	QC	01/06/2013 13:10	30	1				500		
L301031-BS1	QC	01/06/2013 13:10	30	1	1201565		600	500		
L301031-MS1	QC	01/06/2013 13:10	30.17	1	1201565	1301006-03	600	500		

Revision for prepared time, IV 1301006-07 Rec 1/18/13

Extracts Relinquished By Date Extracts Received By Date

PREPARATION BENCH SHEET

L301031

Lionville Laboratory

Printed: 1/18/2013 3:15:03PM

00000084

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1201561**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301031-MSD1	QC	01/06/2013 13:10	30.04	1	1201565	1301006-03	600	500		

Revision for prepared time, IV 1301006-07 Rec 1/18/13

Extracts Relinquished By Date Extracts Received By Date

PREPARATION BENCH SHEET

L301031

Lionville Laboratory

Printed: 1/7/2013 1:59:35PM

000000085

Matrix: Solid **Prepared using: SVOCGCMS - SW 3540C** **Surrogate used: 1201561**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301006-01	8270C TCL SVOC	01/06/2013 12:39	31.3	1				500	WC-Hanford, Inc.	
1301006-02	8270C TCL SVOC	01/06/2013 12:39	30.93	1				500	WC-Hanford, Inc.	
1301006-03	8270C TCL SVOC	01/06/2013 12:39	30.13	1				500	WC-Hanford, Inc.	
1301006-04	8270C TCL SVOC	01/06/2013 12:39	30.44	1				500	WC-Hanford, Inc.	
1301006-05	8270C TCL SVOC	01/06/2013 12:39	30.4	1				500	WC-Hanford, Inc.	
1301006-06	8270C TCL SVOC	01/06/2013 12:39	30.17	1				500	WC-Hanford, Inc.	
1301006-07	8270C TCL SVOC	01/06/2013 12:39	3.63	1				500	WC-Hanford, Inc.	
1301006-08	8270C TCL SVOC	01/06/2013 12:39	30.53	1				500	WC-Hanford, Inc.	
1301006-09	8270C TCL SVOC	01/06/2013 12:39	30.38	1				500	WC-Hanford, Inc.	
1301006-10	8270C TCL SVOC	01/06/2013 12:39	30.35	1				500	WC-Hanford, Inc.	
1301006-11	8270C TCL SVOC	01/06/2013 12:39	30.53	1				500	WC-Hanford, Inc.	
1301006-12	8270C TCL SVOC	01/06/2013 12:39	30.82	1				500	WC-Hanford, Inc.	
1301006-13	8270C TCL SVOC	01/06/2013 12:39	30.61	1				500	WC-Hanford, Inc.	
1301006-14	8270C TCL SVOC	01/06/2013 12:39	30.07	1				500	WC-Hanford, Inc.	
1301006-15	8270C TCL SVOC	01/06/2013 12:39	30.3	1				500	WC-Hanford, Inc.	
1301006-16	8270C TCL SVOC	01/06/2013 12:39	30.76	1				500	WC-Hanford, Inc.	
1301006-17	8270C TCL SVOC	01/06/2013 12:39	30.47	1				500	WC-Hanford, Inc.	
L301031-BLK1	QC	01/06/2013 12:39	30	1				500		
L301031-BS1	QC	01/06/2013 12:39	30	1	1201565		600	500		
L301031-MS1	QC	01/06/2013 12:39	30.17	1	1201565	1301006-03	600	500		

1/7/13 1405 — Extracts Relinquished By — Date

1/7/13 1410 — Extracts Received By — Date

PREPARATION BENCH SHEET

L301031

Lionville Laboratory

Printed: 1/7/2013 1:59:35PM

Matrix: Solid

Prepared using: SVOCGCMS - SW 3540C

Surrogate used: 1201561

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301031-MSD1	QC	01/06/2013 12:39	30.04	1	1201565	1301006-03	600	500		

00000086

1/7/13 1408

Extracts Relinquished By — Date

1/7/13 1410

Extracts Received By — Date

PESTICIDES

264 Welsh Pool Road
Exton, PA 19341
Phone: 610-280-3000
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:34

Analytical Report for Organochlorine Pesticides by SW846 8081A

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7X4	1301006-01	Soil	12/31/2012 12:12	01/03/2013 10:10
J1R7X5	1301006-02	Soil	12/31/2012 11:58	01/03/2013 10:10
J1R7X6	1301006-03	Soil	12/31/2012 12:02	01/03/2013 10:10
J1R7X7	1301006-04	Soil	12/31/2012 12:06	01/03/2013 10:10
J1R7X8	1301006-05	Soil	12/31/2012 11:53	01/03/2013 10:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Client: WC-HANFORD RC-190 K4044
LVL #: 1301006

W.O. #: 60049-001-001-0001-00
Date Received: 01-03-2013

CHLORINATED PESTICIDES

Five (5) soil samples were collected on 12-31-2012.

The sample and associated QC samples were extracted 01-08-2013 and analyzed 01-16,17-2013 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 8081A for client specified target compounds. The sample received Copper-Sulfur cleanup based on SW846 method 3660A.

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 with the 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 contract required reporting limits for all target compounds.

5. Two (2) of twenty (20) blank spike recoveries were outside QC acceptance criteria. All samples were associated with this LCS. A copy of the Sample Discrepancy Report (SDR# 13GC007) has been enclosed.

6. Four (4) of forty (40) matrix spike recoveries were outside QC acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 13GC007) has been enclosed.

7. All samples required a four-fold instrument dilution due to the nature of the matrix. Reporting limits have been adjusted to reflect the necessary dilutions.

8. The sample was 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.

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.

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.

Iain Daniels
LvL Laboratory Manager

1/23/13
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 136C007

Initiator: Catherine Carey
Date: 01/17/13
Client: WC Hanford

Batch: 1301006
Samples: BS1 + MS1
Method: SW846/MCAWW/CLP/

Parameter: Pest
Matrix: SOIL
Prep Batch: L301046

1. Reason for SDR

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

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

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

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

beta-BHC (73.4%) and Aldrin (69.1%) spike recoveries low in BS1

delta-BHC (59.6%), Aldrin (69.1%), Endosulfan I (69.4%), 4,4-DDE (69.6%) Spike recoveries are low in MS1. MSD1 OK

2. Known or Probable Causes(s)

3. Discussion and Proposed Action
__ Re-log
__ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:
LCS recoveries are only marginally low (69 to 70%) and (73 to 75%)
Narrate
JD

4. Project Manager Instructions...signature/date: 1/29/13
__ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: 1/29/13
__ Verified re-[log][leach][extract][digest][analysis] (circle)
__ Included in Case Narrative
__ Hard Copy COC Revised
__ Electronic COC Revised
__ EDD Corrections Completed

Other Explanation:

When Final Action has been recorded, forward original to QA for diposition.

Route
X Lab Manager: Daniels
X Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
X GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

8081A/B Pesticides
Analytes with %Difference or %Drift >15%, Where Mean is Used for Continuing Calibration

Analyte	CCV1 01.16.13 9:11:16 PM		CCV2 01.17.13 4:15:29 AM		CCV3		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)																
Decachlorobiphenyl (surrogate)				19.67 *												
alpha-BHC																
gamma-BHC																
beta-BHC																
delta-BHC				15.6												
Heptachlor																
Aldrin																
Heptachlor epoxide																
gamma chlordane																
alpha chlordane																
Endosulfan I																
4,4'-DDE																
Dieldrin																
Endrin																
4,4'-DDD				15.5												
Endosulfan II																
4,4'-DDT																
Endrin aldehyde																
Endosulfan sulfate																
Methoxychlor																
Endrin ketone																
Toxaphene																
Mean %D or %Drift	5.5	6.4	7.7	10.6												

Sample results reported from affected CCV:

CCV1: L 3010046-BIK1, BS1, MS1, MSD1, 1301006-01, 02, 03, 04, 05

CCV2:

CCV3:

CCV4:

CCV5:

CCV6:

CCV7:

CCV8:

* sz 01.17.13

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
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

J1R7X4
1301006-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Organochlorine Pesticides by SW846 8081A									
alpha-BHC	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
gamma-BHC	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
beta-BHC	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
delta-BHC	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Heptachlor	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Aldrin	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Heptachlor epoxide	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
gamma-Chlordane	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
alpha-Chlordane	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Endosulfan I	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
4,4'-DDE	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Dieldrin	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Endrin	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
4,4'-DDD	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Endosulfan II	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
4,4'-DDT	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Endrin aldehyde	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Endosulfan sulfate	**2.07**	D	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Methoxychlor	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Endrin ketone	1.44	U	1.44	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Toxaphene	14.4	U	14.4	ug/kg dry	4	L301046	01/08/2013	01/16/2013	8081A
Surrogate: Tetrachloro-meta-xylene	*90.8 %*		*28-166*			*L301046*	*01/08/2013*	*01/16/2013*	*8081A*
Surrogate: Decachlorobiphenyl	*91.2 %*		*37-153*			*L301046*	*01/08/2013*	*01/16/2013*	*8081A*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

J1R7X5

1301006-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Organochlorine Pesticides by SW846 8081A									
alpha-BHC	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-BHC	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
beta-BHC	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
delta-BHC	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Aldrin	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor epoxide	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-Chlordane	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
alpha-Chlordane	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan I	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDE	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Dieldrin	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDD	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan II	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDT	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin aldehyde	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan sulfate	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Methoxychlor	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin ketone	1.37	U	1.37	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Toxaphene	13.7	U	13.7	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Surrogate: Tetrachloro-meta-xylene	*85.8 %*		*28-166*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*
Surrogate: Decachlorobiphenyl	*86.7 %*		*37-153*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

J1R7X6
1301006-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Organochlorine Pesticides by SW846 8081A									
alpha-BHC	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-BHC	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
beta-BHC	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
delta-BHC	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Aldrin	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor epoxide	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-Chlordane	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
alpha-Chlordane	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan I	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDE	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Dieldrin	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDD	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan II	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDT	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin aldehyde	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan sulfate	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Methoxychlor	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin ketone	1.40	U	1.40	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Toxaphene	14.0	U	14.0	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Surrogate: Tetrachloro-meta-xylene	*101 %*		*28-166*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*
Surrogate: Decachlorobiphenyl	*98.3 %*		*37-153*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

J1R7X7
1301006-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Organochlorine Pesticides by SW846 8081A									
alpha-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
beta-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
delta-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Aldrin	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor epoxide	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-Chlordane	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
alpha-Chlordane	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan I	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDE	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Dieldrin	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDD	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan II	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDT	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin aldehyde	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan sulfate	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Methoxychlor	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin ketone	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Toxaphene	15.1	U	15.1	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Surrogate: Tetrachloro-meta-xylene	*73.1 %*		*28-166*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*
Surrogate: Decachlorobiphenyl	*80.9 %*		*37-153*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

J1R7X8
1301006-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Organochlorine Pesticides by SW846 8081A									
alpha-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
beta-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
delta-BHC	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Aldrin	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Heptachlor epoxide	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
gamma-Chlordane	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
alpha-Chlordane	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan I	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDE	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Dieldrin	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDD	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan II	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
4,4'-DDT	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin aldehyde	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endosulfan sulfate	**6.20**	D	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Methoxychlor	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Endrin ketone	1.51	U	1.51	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Toxaphene	15.1	U	15.1	ug/kg dry	4	L301046	01/08/2013	01/17/2013	8081A
Surrogate: Tetrachloro-meta-xylene	*85.3 %*		*28-166*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*
Surrogate: Decachlorobiphenyl	*118 %*		*37-153*			*L301046*	*01/08/2013*	*01/17/2013*	*8081A*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

Organochlorine Pesticides by SW846 8081A - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301046 - SW 3540C										
Blank (L301046-BLK1)				Prepared: 01/08/2013 Analyzed: 01/16/2013						
alpha-BHC	0.330	U	0.330	ug/kg wet						
gamma-BHC	0.330	U	0.330	ug/kg wet						
beta-BHC	0.330	U	0.330	ug/kg wet						
delta-BHC	0.330	U	0.330	ug/kg wet						
Heptachlor	0.330	U	0.330	ug/kg wet						
Aldrin	0.330	U	0.330	ug/kg wet						
Heptachlor epoxide	0.330	U	0.330	ug/kg wet						
gamma-Chlordane	0.330	U	0.330	ug/kg wet						
alpha-Chlordane	0.330	U	0.330	ug/kg wet						
Endosulfan I	0.330	U	0.330	ug/kg wet						
4,4'-DDE	0.330	U	0.330	ug/kg wet						
Dieldrin	0.330	U	0.330	ug/kg wet						
Endrin	0.330	U	0.330	ug/kg wet						
4,4'-DDD	0.330	U	0.330	ug/kg wet						
Endosulfan II	0.330	U	0.330	ug/kg wet						
4,4'-DDT	0.330	U	0.330	ug/kg wet						
Endrin aldehyde	0.330	U	0.330	ug/kg wet						
Endosulfan sulfate	0.330	U	0.330	ug/kg wet						
Methoxychlor	0.330	U	0.330	ug/kg wet						
Endrin ketone	0.330	U	0.330	ug/kg wet						
Toxaphene	3.30	U	3.30	ug/kg wet						
Surrogate: Tetrachloro-meta-xylene	*28.2*			*ug/kg wet*	*33.337*		*84.6*	*28-166*		
Surrogate: Decachlorobiphenyl	*27.9*			*ug/kg wet*	*33.333*		*83.7*	*37-153*		
LCS (L301046-BS1)				Prepared: 01/08/2013 Analyzed: 01/16/2013						
alpha-BHC	26.2		0.330	ug/kg wet	33.333		78.6	65-145		
gamma-BHC	25.7		0.330	ug/kg wet	33.333		77.0	70-143		
beta-BHC	24.5		0.330	ug/kg wet	33.333		73.4*	75-143		
delta-BHC	25.2		0.330	ug/kg wet	33.333		75.5	65-143		
Heptachlor	24.4		0.330	ug/kg wet	33.333		73.1	70-139		
Aldrin	23.0		0.330	ug/kg wet	33.333		69.1*	70-143		
Heptachlor epoxide	24.6		0.330	ug/kg wet	33.333		73.8	71-138		
gamma-Chlordane	24.7		0.330	ug/kg wet	33.333		74.0	71-137		
alpha-Chlordane	24.7		0.330	ug/kg wet	33.333		74.2	72-136		
Endosulfan I	24.8		0.330	ug/kg wet	33.333		74.3	72-139		
4,4'-DDE	25.5		0.330	ug/kg wet	33.333		76.5	70-154		
Dieldrin	25.5		0.330	ug/kg wet	33.333		76.4	73-143		

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:34

Organochlorine Pesticides by SW846 8081A - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301046 - SW 3540C										
LCS (L301046-BS1)				Prepared: 01/08/2013 Analyzed: 01/16/2013						
Endrin	26.3		0.330	ug/kg wet	33.333		79.0	74-137		
4,4'-DDD	31.0		0.330	ug/kg wet	33.333		93.0	52-153		
Endosulfan II	25.3		0.330	ug/kg wet	33.333		75.8	72-139		
4,4'-DDT	22.2		0.330	ug/kg wet	33.333		66.7	58-148		
Endrin aldehyde	19.6		0.330	ug/kg wet	33.333		58.7	49-129		
Endosulfan sulfate	24.8		0.330	ug/kg wet	33.333		74.4	66-139		
Methoxychlor	24.0		0.330	ug/kg wet	33.333		72.1	50-144		
Endrin ketone	25.0		0.330	ug/kg wet	33.333		75.0	70-139		
Surrogate: Tetrachloro-meta-xylene	*25.2*			*ug/kg wet*	*33.337*		*75.7*	*28-166*		
Surrogate: Decachlorobiphenyl	*24.7*			*ug/kg wet*	*33.333*		*74.0*	*37-153*		
Matrix Spike (L301046-MS1)		**Source: 1301006-01**		Prepared: 01/08/2013 Analyzed: 01/16/2013						
alpha-BHC	24.3	D	1.44	ug/kg dry	36.250	1.44 U	67.1	65-145		
gamma-BHC	25.6	D	1.44	ug/kg dry	36.250	1.44 U	70.6	70-143		
beta-BHC	27.4	D	1.44	ug/kg dry	36.250	1.44 U	75.5	75-143		
delta-BHC	21.6	D	1.44	ug/kg dry	36.250	1.44 U	59.6*	65-143		
Heptachlor	26.0	D	1.44	ug/kg dry	36.250	1.44 U	71.7	70-139		
Aldrin	25.0	D	1.44	ug/kg dry	36.250	1.44 U	69.1*	70-143		
Heptachlor epoxide	26.4	D	1.44	ug/kg dry	36.250	1.44 U	72.8	71-138		
gamma-Chlordane	26.1	D	1.44	ug/kg dry	36.250	1.44 U	72.1	71-137		
alpha-Chlordane	26.3	D	1.44	ug/kg dry	36.250	1.44 U	72.6	72-136		
Endosulfan I	25.2	D	1.44	ug/kg dry	36.250	1.44 U	69.4*	72-139		
4,4'-DDE	25.2	D	1.44	ug/kg dry	36.250	1.44 U	69.6*	70-154		
Dieldrin	26.5	D	1.44	ug/kg dry	36.250	1.44 U	73.0	73-143		
Endrin	28.1	D	1.44	ug/kg dry	36.250	1.44 U	77.4	74-137		
4,4'-DDD	27.8	D	1.44	ug/kg dry	36.250	1.44 U	76.7	52-153		
Endosulfan II	28.1	D	1.44	ug/kg dry	36.250	1.44 U	77.5	72-139		
4,4'-DDT	28.3	D	1.44	ug/kg dry	36.250	1.44 U	78.0	58-148		
Endrin aldehyde	25.0	D	1.44	ug/kg dry	36.250	1.44 U	69.0	49-129		
Endosulfan sulfate	27.4	D	1.44	ug/kg dry	36.250	2.07	69.8	66-139		
Methoxychlor	28.1	D	1.44	ug/kg dry	36.250	1.44 U	77.6	50-144		
Endrin ketone	26.6	D	1.44	ug/kg dry	36.250	1.44 U	73.3	70-139		
Surrogate: Tetrachloro-meta-xylene	*27.9*			*ug/kg dry*	*36.253*		*76.9*	*28-166*		
Surrogate: Decachlorobiphenyl	*28.7*			*ug/kg dry*	*36.250*		*79.1*	*37-153*		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:34

Organochlorine Pesticides by SW846 8081A - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301046 - SW 3540C										
Matrix Spike Dup (L301046-MSD1)		**Source: 1301006-01**		Prepared: 01/08/2013 Analyzed: 01/17/2013						
alpha-BHC	31.9	D	1.43	ug/kg dry	36.011	1.44 U	88.6	65-145	27.6	40
gamma-BHC	32.8	D	1.43	ug/kg dry	36.011	1.44 U	91.0	70-143	25.2	40
beta-BHC	34.8	D	1.43	ug/kg dry	36.011	1.44 U	96.6	75-143	24.5	40
delta-BHC	27.3	D	1.43	ug/kg dry	36.011	1.44 U	75.7	65-143	23.8	40
Heptachlor	32.9	D	1.43	ug/kg dry	36.011	1.44 U	91.4	70-139	24.2	40
Aldrin	31.7	D	1.43	ug/kg dry	36.011	1.44 U	88.1	70-143	24.2	40
Heptachlor epoxide	33.3	D	1.43	ug/kg dry	36.011	1.44 U	92.4	71-138	23.7	40
gamma-Chlordane	33.0	D	1.43	ug/kg dry	36.011	1.44 U	91.7	71-137	23.9	40
alpha-Chlordane	33.9	D	1.43	ug/kg dry	36.011	1.44 U	94.1	72-136	25.8	40
Endosulfan I	33.0	D	1.43	ug/kg dry	36.011	1.44 U	91.7	72-139	27.7	40
4,4'-DDE	30.1	D	1.43	ug/kg dry	36.011	1.44 U	83.5	70-154	18.2	40
Dieldrin	32.9	D	1.43	ug/kg dry	36.011	1.44 U	91.3	73-143	22.3	40
Endrin	35.0	D	1.43	ug/kg dry	36.011	1.44 U	97.3	74-137	22.8	40
4,4'-DDD	34.6	D	1.43	ug/kg dry	36.011	1.44 U	96.0	52-153	22.4	40
Endosulfan II	34.3	D	1.43	ug/kg dry	36.011	1.44 U	95.3	72-139	20.6	40
4,4'-DDT	32.9	D	1.43	ug/kg dry	36.011	1.44 U	91.3	58-148	15.7	40
Endrin aldehyde	28.1	D	1.43	ug/kg dry	36.011	1.44 U	77.9	49-129	12.1	40
Endosulfan sulfate	33.1	D	1.43	ug/kg dry	36.011	2.07	86.1	66-139	21.0	40
Methoxychlor	36.0	D	1.43	ug/kg dry	36.011	1.44 U	99.9	50-144	25.1	40
Endrin ketone	34.0	D	1.43	ug/kg dry	36.011	1.44 U	94.4	70-139	25.2	40
Surrogate: Tetrachloro-meta-xylene	*34.5*			*ug/kg dry*	*36.014*		*95.7*	*28-166*		
Surrogate: Decachlorobiphenyl	*33.3*			*ug/kg dry*	*36.011*		*92.4*	*37-153*		

PREPARATION BENCH SHEET

L301046

Lionville Laboratory

Printed: 1/15/2013 3:46:26PM

00000102

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
1301006-01	8081A TCL Pesticides	01/08/2013 10:41	30.06	10				250	WC-Hanford, Inc.	
1301006-01	8082 PCBs	01/08/2013 10:41	30.06	10				250	WC-Hanford, Inc.	
1301006-02	8081A TCL Pesticides	01/08/2013 10:41	30.93	10				250	WC-Hanford, Inc.	
1301006-02	8082 PCBs	01/08/2013 10:41	30.93	10				250	WC-Hanford, Inc.	
1301006-03	8081A TCL Pesticides	01/08/2013 10:41	30.22	10				250	WC-Hanford, Inc.	
1301006-03	8082 PCBs	01/08/2013 10:41	30.22	10				250	WC-Hanford, Inc.	
1301006-04	8081A TCL Pesticides	01/08/2013 10:41	30.16	10				250	WC-Hanford, Inc.	
1301006-04	8082 PCBs	01/08/2013 10:41	30.16	10				250	WC-Hanford, Inc.	
1301006-05	8081A TCL Pesticides	01/08/2013 10:41	30.45	10				250	WC-Hanford, Inc.	
1301006-05	8082 PCBs	01/08/2013 10:41	30.45	10				250	WC-Hanford, Inc.	
L301046-BLK1	QC	01/08/2013 10:41	30	10				250		pest
L301046-BLK2	QC	01/08/2013 10:41	30	10				250		pcb
L301046-BS1	QC	01/08/2013 10:41	30	10	1201358		250	250		pest
L301046-BS2	QC	01/08/2013 10:41	30	10	1200902		250	250		pcb
L301046-MS1	QC	01/08/2013 10:41	30.14	10	1201358	1301006-01	250	250		pest
L301046-MS2	QC	01/08/2013 10:41	30.04	10	1200902	1301006-01	250	250		pcb
L301046-MSD1	QC	01/08/2013 10:41	30.34	10	1201358	1301006-01	250	250		pest
L301046-MSD2	QC	01/08/2013 10:41	30.76	10	1200902	1301006-01	250	250		pcb

S cleaned 01.15.13
Cu lot # B10X036

1/15/13 1540
Extracts Relinquished By — Date

S Shah 01.15.13 15:50
Extracts Received By — Date

PCBs

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Client: WC-HANFORD RC-148 K4044
LVL #: 1301006

W.O. #: 60049-001-001-0001-00
Received: 01-03-2013

PCBs

Five (5) soil samples were collected on 12-31-2012.

The samples and associated QC samples were extracted 01-08-2013 and analyzed 01-16-2013 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 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. The samples are 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. 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 Aroclors 1242, 1254, and 1260 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.

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.

Iain Daniels
LvL Laboratory Manager

1/23/12
Date

8082/A PCBs
Analytes with %Difference or %Drift >15%, Where Mean is Used for Continuing Calibration

Analyte	CCV1 01.16.13 11.01.52 AM.		CCV2 01.16.13 7:43:50 PM		CCV3		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)	22.2	22.2	19.6	18.1	20.8	19.5										
Decachlorobiphenyl (surrogate)																
Aroclor 1016-1		15.9														
Aroclor 1016-2																
Aroclor 1016-3																
Aroclor 1016-4																
Aroclor 1016-5																
Aroclor 1260-1																
Aroclor 1260-2																
Aroclor 1260-3																
Aroclor 1260-4																
Aroclor 1260-5																
Mean %D or %Drift	3.7	-1.2	4.6	-1.1	5.5	-0.4										

Sample results reported from affected CCV:

CCV1: L301046-BLK2, BS2, MS2, MSD2, 1301006-01,02,03,04,05, 1301024-15

CCV2: L301092-BLK1, BS1, MS1, MSD1, 1301018-01,02,03

CCV3:

CCV4:

CCV5:

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.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:52

J1R7X4
1301006-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1221	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1232	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1242	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1248	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1254	**28.0**		14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1260	**6.25**	J	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1262	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1268	14.5	U	14.5	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Surrogate: Decachlorobiphenyl	*85 %*		*43-144*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*106 %*		*52-141*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:52

J1R7X5
1301006-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	13.8	U	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1221	13.8	U	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1232	13.8	U	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1242	**4.14**	J	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1248	13.8	U	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1254	**37.9**		13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1260	**27.8**		13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1262	13.8	U	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1268	13.8	U	13.8	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Surrogate: Decachlorobiphenyl	*87 %*		*43-144*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*102 %*		*52-141*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:52

J1R7X6
1301006-03 (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	L301046	01/08/2013	01/16/2013	8082
Aroclor 1221	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1232	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1242	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1248	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1254	**5.35**	J	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1260	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1262	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1268	14.1	U	14.1	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Surrogate: Decachlorobiphenyl	*91 %*		*43-144*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*113 %*		*52-141*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*

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Phone: 610-280-3000
Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:52

J1R7X7
1301006-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1221	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1232	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1242	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1248	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1254	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1260	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1262	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1268	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Surrogate: Decachlorobiphenyl	*81 %*		*43-144*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*92 %*		*52-141*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*

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Fax: 610-280-3041

WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 19:52

J1R7X8
1301006-05 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polychlorinated Biphenyls by SW846 8082									
Aroclor 1016	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1221	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1232	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1242	**9.13**	J	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1248	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1254	**49.6**		15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1260	**35.9**		15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1262	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Aroclor 1268	15.2	U	15.2	ug/kg dry	1	L301046	01/08/2013	01/16/2013	8082
Surrogate: Decachlorobiphenyl	*80 %*		*43-144*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*
Surrogate: Tetrachloro-meta-xylene	*92 %*		*52-141*			*L301046*	*01/08/2013*	*01/16/2013*	*8082*

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Phone: 610-280-3000
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 19:52

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 L301046 - SW 3540C										
Blank (L301046-BLK2)				Prepared: 01/08/2013 Analyzed: 01/16/2013						
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	*30.6*			*ug/kg wet*	*33.333*		*92*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*39.1*			*ug/kg wet*	*33.337*		*117*	*52-141*		
LCS (L301046-BS2)				Prepared: 01/08/2013 Analyzed: 01/16/2013						
Aroclor 1016	119		13.3	ug/kg wet	166.67		71	50-138		
Aroclor 1260	122		13.3	ug/kg wet	166.67		73	50-148		
Surrogate: Decachlorobiphenyl	*28.3*			*ug/kg wet*	*33.333*		*85*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*33.6*			*ug/kg wet*	*33.337*		*101*	*52-141*		
Matrix Spike (L301046-MS2)		**Source: 1301006-01**		Prepared: 01/08/2013 Analyzed: 01/16/2013						
Aroclor 1016	147		14.5	ug/kg dry	181.85	14.5 U	81	50-138		
Aroclor 1260	147		14.5	ug/kg dry	181.85	6.25	78	50-148		
Surrogate: Decachlorobiphenyl	*32.5*			*ug/kg dry*	*36.370*		*89*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*42.2*			*ug/kg dry*	*36.374*		*116*	*52-141*		
Matrix Spike Dup (L301046-MSD2)		**Source: 1301006-01**		Prepared: 01/08/2013 Analyzed: 01/16/2013						
Aroclor 1016	128		14.2	ug/kg dry	177.60	14.5 U	72	50-138	12	40
Aroclor 1260	130		14.2	ug/kg dry	177.60	6.25	70	50-148	11	40
Surrogate: Decachlorobiphenyl	*28.6*			*ug/kg dry*	*35.519*		*81*	*43-144*		
Surrogate: Tetrachloro-meta-xylene	*34.7*			*ug/kg dry*	*35.523*		*98*	*52-141*		

PREPARATION BENCH SHEET

L301046

Lionville Laboratory

Printed: 1/15/2013 3:46:26PM

00000114

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
1301006-01	8081A TCL Pesticides	01/08/2013 10:41	30.06	10				250	WC-Hanford, Inc.	
1301006-01	8082 PCBs	01/08/2013 10:41	30.06	10				250	WC-Hanford, Inc.	
1301006-02	8081A TCL Pesticides	01/08/2013 10:41	30.93	10				250	WC-Hanford, Inc.	
1301006-02	8082 PCBs	01/08/2013 10:41	30.93	10				250	WC-Hanford, Inc.	
1301006-03	8081A TCL Pesticides	01/08/2013 10:41	30.22	10				250	WC-Hanford, Inc.	
1301006-03	8082 PCBs	01/08/2013 10:41	30.22	10				250	WC-Hanford, Inc.	
1301006-04	8081A TCL Pesticides	01/08/2013 10:41	30.16	10				250	WC-Hanford, Inc.	
1301006-04	8082 PCBs	01/08/2013 10:41	30.16	10				250	WC-Hanford, Inc.	
1301006-05	8081A TCL Pesticides	01/08/2013 10:41	30.45	10				250	WC-Hanford, Inc.	
1301006-05	8082 PCBs	01/08/2013 10:41	30.45	10				250	WC-Hanford, Inc.	
L301046-BLK1	QC	01/08/2013 10:41	30	10				250		pest
L301046-BLK2	QC	01/08/2013 10:41	30	10				250		pcb
L301046-BS1	QC	01/08/2013 10:41	30	10	1201358		250	250		pest
L301046-BS2	QC	01/08/2013 10:41	30	10	1200902		250	250		pcb
L301046-MS1	QC	01/08/2013 10:41	30.14	10	1201358	1301006-01	250	250		pest
L301046-MS2	QC	01/08/2013 10:41	30.04	10	1200902	1301006-01	250	250		pcb
L301046-MSD1	QC	01/08/2013 10:41	30.34	10	1201358	1301006-01	250	250		pest
L301046-MSD2	QC	01/08/2013 10:41	30.76	10	1200902	1301006-01	250	250		pcb

S cleaned 01.15.13
Cu lot # B10X036

1/15/13 1540
Extracts Relinquished By Date

S Lak 01.15.13 15:50
Extracts Received By Date

DRO/MO

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.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 15:25

Analytical Report for Extractable Petroleum Hydrocarbons by SW846 8015

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7X4	1301006-01	Soil	12/31/2012 12:12	01/03/2013 10:10
J1R7X5	1301006-02	Soil	12/31/2012 11:58	01/03/2013 10:10
J1R7X6	1301006-03	Soil	12/31/2012 12:02	01/03/2013 10:10
J1R7X7	1301006-04	Soil	12/31/2012 12:06	01/03/2013 10:10
J1R7X8	1301006-05	Soil	12/31/2012 11:53	01/03/2013 10:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Case Narrative

Client: WC-HANFORD RC-190 K4044
LVL #: 1301006

W.O. #: 60049-001-001-0001-00
Date Received: 01-03-2013

DIESEL RANGE ORGANICS

Five (5) soil samples were collected on 12-31-2012.

The samples and associated QC samples were extracted 01-03-2013 and analyzed 01-07,08-2013 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 samples 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. The samples were reported on a dry weight basis.
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.

Iain Daniels
LvL Laboratory Manager

1/22/13
Date

r:\group\data\2012\dro\wc hanford\1301006rgc.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.

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, PADEP Lab ID# 15-00009
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 15:25

Extractable Petroleum Hydrocarbons by SW846 8015
Lionville Laboratory

Analyte	Result and Qualifier	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
J1R7X4 (1301006-01) Soil								
Surrogate: p-Terphenyl	*92 %*	*39-129*			*L301023*	*01/03/2013 16:20*	*01/07/2013 22:14*	*8015M*
Diesel Range Organics	10200	3640	ug/kg dry	1	L301023	01/03/2013 16:20	01/07/2013 22:14	8015M
Motor Oil	19200	10900	ug/kg dry	1	L301023	01/03/2013 16:20	01/07/2013 22:14	8015M
J1R7X5 (1301006-02) Soil								
Surrogate: p-Terphenyl	*83 %*	*39-129*			*L301023*	*01/03/2013 16:20*	*01/07/2013 23:11*	*8015M*
Diesel Range Organics	3560 U	3560	ug/kg dry	1	L301023	01/03/2013 16:20	01/07/2013 23:11	8015M
Motor Oil	3840 J	10700	ug/kg dry	1	L301023	01/03/2013 16:20	01/07/2013 23:11	8015M
J1R7X6 (1301006-03) Soil								
Surrogate: p-Terphenyl	*86 %*	*39-129*			*L301023*	*01/03/2013 16:20*	*01/08/2013 02:05*	*8015M*
Diesel Range Organics	1070 J	3550	ug/kg dry	1	L301023	01/03/2013 16:20	01/08/2013 02:05	8015M
Motor Oil	10600 U	10600	ug/kg dry	1	L301023	01/03/2013 16:20	01/08/2013 02:05	8015M
J1R7X7 (1301006-04) Soil								
Surrogate: p-Terphenyl	*92 %*	*39-129*			*L301023*	*01/03/2013 16:20*	*01/07/2013 21:16*	*8015M*
Diesel Range Organics	3820 U	3820	ug/kg dry	1	L301023	01/03/2013 16:20	01/07/2013 21:16	8015M
Motor Oil	11400 U	11400	ug/kg dry	1	L301023	01/03/2013 16:20	01/07/2013 21:16	8015M
J1R7X8 (1301006-05) Soil								
Surrogate: p-Terphenyl	*95 %*	*39-129*			*L301023*	*01/03/2013 16:20*	*01/08/2013 03:02*	*8015M*
Diesel Range Organics	3770 U	3770	ug/kg dry	1	L301023	01/03/2013 16:20	01/08/2013 03:02	8015M
Motor Oil	145000	11300	ug/kg dry	1	L301023	01/03/2013 16:20	01/08/2013 03:02	8015M

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 15:25

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 L301023 - SW 3540C									
Blank (L301023-BLK1)			Prepared: 01/03/2013 16:20 Analyzed: 01/07/2013 19:20						
Diesel Range Organics	3330 U	3330	ug/kg wet						
Motor Oil	10000 U	10000	ug/kg wet						
Surrogate: p-Terphenyl	*6380*		*ug/kg wet*	*6666.7*		*96*	*39-129*		
LCS (L301023-BS1)			Prepared: 01/03/2013 16:20 Analyzed: 01/07/2013 20:18						
Diesel Range Organics	60900	3330	ug/kg wet	66667		91	42-133		
Surrogate: p-Terphenyl	*6840*		*ug/kg wet*	*6666.7*		*103*	*39-129*		
Matrix Spike (L301023-MS1)	**Source: 1301006-02**		Prepared: 01/03/2013 16:20 Analyzed: 01/08/2013 00:09						
Diesel Range Organics	55700	3550	ug/kg dry	70929	3560 U	79	42-133		
Surrogate: p-Terphenyl	*6030*		*ug/kg dry*	*7092.9*		*85*	*39-129*		
Matrix Spike Dup (L301023-MSD1)	**Source: 1301006-02**		Prepared: 01/03/2013 16:20 Analyzed: 01/08/2013 01:07						
Diesel Range Organics	56000	3550	ug/kg dry	71023	3560 U	79	42-133	0.4	40
Surrogate: p-Terphenyl	*6230*		*ug/kg dry*	*7102.3*		*88*	*39-129*		

PREPARATION BENCH SHEET

L301023

Lionville Laboratory

Printed: 1/4/2013 1:42:34PM

00000121

Matrix: Solid **Prepared using: Extraction - SW 3540C** **Surrogate used: 1201463**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301006-01	8015M DRO	01/03/2013 16:20	30.01	1				1000	WC-Hanford, Inc.	
1301006-02	8015M DRO	01/03/2013 16:20	30	1				1000	WC-Hanford, Inc.	
1301006-03	8015M DRO	01/03/2013 16:20	30.18	1				1000	WC-Hanford, Inc.	
1301006-04	8015M DRO	01/03/2013 16:20	30.11	1				1000	WC-Hanford, Inc.	
1301006-05	8015M DRO	01/03/2013 16:20	30.74	1				1000	WC-Hanford, Inc.	
L301023-BLK1	QC	01/03/2013 16:20	30	1				1000		
L301023-BS1	QC	01/03/2013 16:20	30	1	1201538		1000	1000		
L301023-MS1	QC	01/03/2013 16:20	30.08	1	1201538	1301006-02	1000	1000		
L301023-MSD1	QC	01/03/2013 16:20	30.04	1	1201538	1301006-02	1000	1000		

1/4/13 1345

Extracts Relinquished By Date

Extracts Received By Date

PAHs

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

Analytical Report for Polynuclear Aromatic Compounds by SW846 8310

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7X4	1301006-01	Soil	12/31/2012 12:12	01/03/2013 10:10
J1R7X5	1301006-02	Soil	12/31/2012 11:58	01/03/2013 10:10
J1R7X6	1301006-03	Soil	12/31/2012 12:02	01/03/2013 10:10
J1R7X7	1301006-04	Soil	12/31/2012 12:06	01/03/2013 10:10
J1R7X8	1301006-05	Soil	12/31/2012 11:53	01/03/2013 10:10
J1R7X9	1301006-06	Soil	12/31/2012 12:45	01/03/2013 10:10
J1R800	1301006-07	Soil	12/31/2012 12:48	01/03/2013 10:10
J1R801	1301006-08	Soil	12/31/2012 12:54	01/03/2013 10:10
J1R802	1301006-09	Soil	12/31/2012 12:58	01/03/2013 10:10
J1R803	1301006-10	Soil	12/31/2012 13:16	01/03/2013 10:10
J1R804	1301006-11	Soil	12/31/2012 13:19	01/03/2013 10:10
J1R805	1301006-12	Soil	12/31/2012 13:22	01/03/2013 10:10
J1R806	1301006-13	Soil	12/31/2012 13:25	01/03/2013 10:10
J1R807	1301006-14	Soil	12/31/2012 13:28	01/03/2013 10:10
J1R808	1301006-15	Soil	12/31/2012 13:31	01/03/2013 10:10
J1R809	1301006-16	Soil	12/31/2012 13:37	01/03/2013 10:10
J1R810	1301006-17	Soil	12/31/2012 13:40	01/03/2013 10:10

LIONVILLE LABORATORY
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Case Narrative

Client: WC-HANFORD RC-190 K4044
LVL #: 1301006

W.O. #: 60049-001-001-0001-00
Date Received: 01-03-2013

POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

Seventeen (17) soil samples were collected on 12-31-2012.

The samples and associated QC samples were extracted 01-03-2013 and analyzed 01-08,10-2013 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 8310.

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1. The results presented in this report are derived from samples 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. Four (4) of twenty-one (21) surrogate recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR# 13GC005) has been enclosed.

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. Samples J1R7X4, J1R7X9, J1R807, and J1R810 required 4-fold instrument dilution, samples J1R7X8 and J1R801 required a 25-fold instrument dilution, and samples J1R804, J1R805, J1R806, JIR808, and J1R809 required 50-fold instrument dilution due to high concentrations target analytes. Reporting limits have been adjusted to reflect these necessary dilutions.

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

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.

11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory manager or a designee as verified by the following signature.

Iain Daniels
LvL Laboratory Manager

1/22/13
Date

Lionville Laboratory Sample Discrepancy Report (SDR)

SDR #: 13GC005

Initiator: Catherine Corey
Date: 01/15/2013
Client: WC Hanford

Batch: 1301006
Samples: 08, 11, 13, 14
Method: SW846/MCAWW/CLP/

Parameter: PAH
Matrix: SOIL
Prep Batch: L301022

1. Reason for SDR

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

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

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

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

high surrogate recoveries

2. Known or Probable Causes(s)

high dilution factor for target compounds

3. Discussion and Proposed Action Other Description:

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

4. Project Manager Instructions...signature/date: 1/22/13

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

5. Final Action...signature/date: 1/22/13 Other Explanation:

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

When Final Action has been recorded, forward original to QA for diposition.

Route
__ Lab Manager: Daniels
__ Project Mgr (circle): Johnson / Stone
__ Sample Prep (circle): Ford
__ Log-in: King

Route
__ Metals: Welsh / _____
__ Inorganic: Perrone / _____
__ GC/LC: Carey / _____
__ MS VOA: Rubino / _____
__ MS BNA: Carden / _____
__ Other: _____

QA-139-A-0208

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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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R7X4
1301006-01 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**59.7**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	14.5	U	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	**235**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluorene	**4.58**	J, D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**62.0**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Anthracene	**14.7**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**180**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**66.4**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Pyrene	**173**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**173**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Chrysene	**135**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**146**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**86.3**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**177**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**16.4**	D	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	14.5	U	14.5	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*112 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R7X5
1301006-02 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**11.1**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthylene	3.48	U	3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthene	**36.5**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluorene	**1.88**	J	3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Phenanthrene	**15.9**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Anthracene	**1.13**	J	3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluoranthene	**29.1**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Indeno[1,2,3-cd]pyrene	**5.10**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Pyrene	**25.9**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benz[a]anthracene	**14.0**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Chrysene	**15.7**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[b] fluoranthene	**8.78**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[k] fluoranthene	**5.05**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[a] pyrene	**11.2**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Dibenz[a,h]anthracene	**1.05**	J	3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[g,h,i] perylene	**10.5**		3.48	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Surrogate: Triphenylene	*89 %*		*68-129*			*L301022*	*01/03/2013*	*01/08/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R7X6
1301006-03 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**168**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthylene	3.52	U	3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthene	3.52	U	3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluorene	**4.18**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Phenanthrene	**134**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Anthracene	**28.6**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluoranthene	**232**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Indeno[1,2,3-cd]pyrene	**26.9**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Pyrene	**184**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benz[a]anthracene	**103**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Chrysene	**72.1**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[b] fluoranthene	**51.4**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[k] fluoranthene	**30.5**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[a] pyrene	**73.0**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Dibenz[a,h]anthracene	**5.31**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[g,h,i] perylene	**61.1**		3.52	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Surrogate: Triphenylene	*120 %*		*68-129*			*L301022*	*01/03/2013*	*01/08/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R7X7
1301006-04 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthylene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluorene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Phenanthrene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Anthracene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluoranthene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Indeno[1,2,3-cd]pyrene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Pyrene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benz[a]anthracene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Chrysene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[b] fluoranthene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[k] fluoranthene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[a] pyrene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Dibenz[a,h]anthracene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[g,h,i] perylene	3.77	U	3.77	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Surrogate: Triphenylene	*95 %*		*68-129*			*L301022*	*01/03/2013*	*01/08/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R7X8
1301006-05 (Soil)

Lionville Laboratory

Polynuclear Aromatic Compounds by SW846 8310

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Naphthalene	**331**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	96.3	U	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	96.3	U	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Fluorene	**28.5**	J, D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**381**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Anthracene	**27.4**	J, D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**762**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**114**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Pyrene	**568**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**345**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Chrysene	**201**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**168**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**115**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**243**	D	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	96.3	U	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	96.3	U	96.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*121 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R7X9
1301006-06 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**95.5**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	14.4	U	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	**759**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluorene	**5.67**	J, D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**95.4**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Anthracene	**13.3**	J, D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**216**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**49.4**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Pyrene	**213**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**101**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Chrysene	**99.6**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**65.9**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**49.6**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**130**	D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**10.4**	J, D	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	14.4	U	14.4	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*116 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R800

1301006-07 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**16.1**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthylene	3.67	U	3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthene	**78.8**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluorene	**3.48**	J	3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Phenanthrene	**20.0**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Anthracene	**3.42**	J	3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluoranthene	**52.0**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Indeno[1,2,3-cd]pyrene	**18.5**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Pyrene	**51.1**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benz[a]anthracene	**38.4**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Chrysene	**28.0**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[b] fluoranthene	**20.9**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[k] fluoranthene	**15.0**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[a] pyrene	**43.8**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Dibenz[a,h]anthracene	**3.27**	J	3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[g,h,i] perylene	**34.6**		3.67	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Surrogate: Triphenylene	*102 %*		*68-129*			*L301022*	*01/03/2013*	*01/08/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R801
1301006-08 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Fluorene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**121**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Anthracene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**542**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Pyrene	**539**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**378**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Chrysene	**328**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**270**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**160**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**377**	D	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	94.3	U	94.3	ug/kg dry	25	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*134 % **		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R802
1301006-09 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**27.8**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthylene	**1.26**	J	3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthene	**140**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluorene	**2.52**	J	3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Phenanthrene	**24.9**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Anthracene	**8.93**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluoranthene	**84.1**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Indeno[1,2,3-cd]pyrene	**21.7**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Pyrene	**91.3**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benz[a]anthracene	**61.4**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Chrysene	**61.9**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[b] fluoranthene	**35.1**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[k] fluoranthene	**23.5**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[a] pyrene	**69.1**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Dibenz[a,h]anthracene	**4.36**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[g,h,i] perylene	**39.9**		3.60	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Surrogate: Triphenylene	*114 %*		*68-129*			*L301022*	*01/03/2013*	*01/08/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R803
1301006-10 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**73.3**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthylene	3.56	U	3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Acenaphthene	3.56	U	3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluorene	**3.73**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Phenanthrene	**65.7**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Anthracene	**25.7**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Fluoranthene	**231**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Indeno[1,2,3-cd]pyrene	**44.2**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Pyrene	**247**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benz[a]anthracene	**145**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Chrysene	**139**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[b] fluoranthene	**91.7**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[k] fluoranthene	**48.2**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[a] pyrene	**122**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Dibenz[a,h]anthracene	**7.05**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Benzo[g,h,i] perylene	**119**		3.56	ug/kg dry	1	L301022	01/03/2013	01/08/2013	8310
Surrogate: Triphenylene	*119 %*		*68-129*			*L301022*	*01/03/2013*	*01/08/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R804
1301006-11 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluorene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**76.5**	J, D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Anthracene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**506**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**141**	J, D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Pyrene	**601**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**380**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Chrysene	**526**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**384**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**198**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**403**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**52.0**	J, D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*132 % **		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R805
1301006-12 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**1620**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	**215**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	182	U	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluorene	**168**	J, D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**1720**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Anthracene	**292**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**2870**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**354**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Pyrene	**2260**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**967**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Chrysene	**995**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**596**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**341**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**863**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**71.4**	J, D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	**637**	D	182	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*94 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R806
1301006-13 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	185	U	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	185	U	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	185	U	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluorene	185	U	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**153**	J, D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Anthracene	185	U	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**493**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**427**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Pyrene	**445**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**603**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Chrysene	**536**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**635**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**379**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**973**	D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**78.7**	J, D	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	185	U	185	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*178 % **		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R807
1301006-14 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**51.0**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	14.6	U	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	14.6	U	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluorene	**3.70**	J, D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**43.8**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Anthracene	14.6	U	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**110**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**33.2**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Pyrene	**136**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**64.6**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Chrysene	**71.4**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**48.1**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**34.5**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**88.3**	D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**7.08**	J, D	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	14.6	U	14.6	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*118 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

J1R808

1301006-15 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluorene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**89.4**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Anthracene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**243**	D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**47.1**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Pyrene	**163**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**94.7**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Chrysene	**115**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**94.8**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**108**	J, D	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	184	U	184	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*100 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/15/2013 21:43

J1R809

1301006-16 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**583**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluorene	**64.9**	J, D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**987**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Anthracene	**186**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**2180**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**251**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Pyrene	**1730**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**829**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Chrysene	**866**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**404**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**292**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**756**	D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**58.9**	J, D	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	179	U	179	ug/kg dry	50	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*135 % **		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/18/2013 12:04

J1R810
1301006-17 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Polynuclear Aromatic Compounds by SW846 8310									
Naphthalene	**102**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthylene	14.1	U	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Acenaphthene	14.1	U	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluorene	**5.58**	J, D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Phenanthrene	**120**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Anthracene	**29.1**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Fluoranthene	**309**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Indeno[1,2,3-cd]pyrene	**72.4**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Pyrene	**307**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benz[a]anthracene	**154**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Chrysene	**159**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[b] fluoranthene	**86.8**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[k] fluoranthene	**68.7**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[a] pyrene	**155**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Dibenz[a,h]anthracene	**14.1**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Benzo[g,h,i] perylene	**123**	D	14.1	ug/kg dry	4	L301022	01/03/2013	01/10/2013	8310
Surrogate: Triphenylene	*114 %*		*68-129*			*L301022*	*01/03/2013*	*01/10/2013*	*8310*

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	Reported:
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 21:43

Polynuclear Aromatic Compounds by SW846 8310 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301022 - SW 3540C										
Blank (L301022-BLK1)				Prepared: 01/03/2013 Analyzed: 01/08/2013						
Naphthalene	3.33	U	3.33	ug/kg wet						
Acenaphthylene	3.33	U	3.33	ug/kg wet						
Acenaphthene	3.33	U	3.33	ug/kg wet						
Fluorene	3.33	U	3.33	ug/kg wet						
Phenanthrene	3.33	U	3.33	ug/kg wet						
Anthracene	3.33	U	3.33	ug/kg wet						
Fluoranthene	3.33	U	3.33	ug/kg wet						
Indeno[1,2,3-cd]pyrene	3.33	U	3.33	ug/kg wet						
Pyrene	3.33	U	3.33	ug/kg wet						
Benz[a]anthracene	3.33	U	3.33	ug/kg wet						
Chrysene	3.33	U	3.33	ug/kg wet						
Benzo[b] fluoranthene	3.33	U	3.33	ug/kg wet						
Benzo[k] fluoranthene	3.33	U	3.33	ug/kg wet						
Benzo[a] pyrene	3.33	U	3.33	ug/kg wet						
Dibenz[a,h]anthracene	3.33	U	3.33	ug/kg wet						
Benzo[g,h,i] perylene	3.33	U	3.33	ug/kg wet						
Surrogate: Triphenylene	*140*			*ug/kg wet*	*166.67*		*84*	*68-129*		
LCS (L301022-BS1)				Prepared: 01/03/2013 Analyzed: 01/08/2013						
Naphthalene	130		3.33	ug/kg wet	166.67		78	0-127		
Acenaphthylene	151		3.33	ug/kg wet	166.67		91	50-140		
Acenaphthene	139		3.33	ug/kg wet	166.67		83	17-139		
Fluorene	148		3.33	ug/kg wet	166.67		89	28-145		
Phenanthrene	152		3.33	ug/kg wet	166.67		91	30-152		
Anthracene	153		3.33	ug/kg wet	166.67		92	19-171		
Fluoranthene	157		3.33	ug/kg wet	166.67		94	34-159		
Indeno[1,2,3-cd]pyrene	159		3.33	ug/kg wet	166.67		95	31-156		
Pyrene	162		3.33	ug/kg wet	166.67		97	33-152		
Benz[a]anthracene	166		3.33	ug/kg wet	166.67		100	32-157		
Chrysene	156		3.33	ug/kg wet	166.67		93	31-159		
Benzo[b] fluoranthene	166		3.33	ug/kg wet	166.67		100	33-164		
Benzo[k] fluoranthene	163		3.33	ug/kg wet	166.67		98	28-161		
Benzo[a] pyrene	171		3.33	ug/kg wet	166.67		102	29-149		
Dibenz[a,h]anthracene	167		3.33	ug/kg wet	166.67		100	27-153		
Benzo[g,h,i] perylene	174		3.33	ug/kg wet	166.67		104	32-157		
Surrogate: Triphenylene	*149*			*ug/kg wet*	*166.67*		*89*	*68-129*		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/15/2013 21:43

Polynuclear Aromatic Compounds by SW846 8310 - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301022 - SW 3540C									
Matrix Spike (L301022-MS1)		**Source: 1301006-09**	Prepared: 01/03/2013 Analyzed: 01/08/2013						
Naphthalene	175	3.62	ug/kg dry	181.31	27.8	81	0-127		
Acenaphthylene	172	3.62	ug/kg dry	181.31	1.26	94	50-140		
Acenaphthene	237	3.62	ug/kg dry	181.31	140	53	17-139		
Fluorene	169	3.62	ug/kg dry	181.31	2.52	92	28-145		
Phenanthrene	190	3.62	ug/kg dry	181.31	24.9	91	30-152		
Anthracene	180	3.62	ug/kg dry	181.31	8.93	94	19-171		
Fluoranthene	241	3.62	ug/kg dry	181.31	84.1	87	34-159		
Indeno[1,2,3-cd]pyrene	196	3.62	ug/kg dry	181.31	21.7	96	31-156		
Pyrene	257	3.62	ug/kg dry	181.31	91.3	91	33-152		
Benz[a]anthracene	243	3.62	ug/kg dry	181.31	61.4	100	32-157		
Chrysene	277	3.62	ug/kg dry	181.31	61.9	119	31-159		
Benzo[b] fluoranthene	257	3.62	ug/kg dry	181.31	35.1	123	33-164		
Benzo[k] fluoranthene	198	3.62	ug/kg dry	181.31	23.5	96	28-161		
Benzo[a] pyrene	237	3.62	ug/kg dry	181.31	69.1	93	29-149		
Dibenz[a,h]anthracene	180	3.62	ug/kg dry	181.31	4.36	97	27-153		
Benzo[g,h,i] perylene	247	3.62	ug/kg dry	181.31	39.9	114	32-157		
Surrogate: Triphenylene	*199*		*ug/kg dry*	*181.31*		*110*	*68-129*		
Matrix Spike Dup (L301022-MSD1)		**Source: 1301006-09**	Prepared: 01/03/2013 Analyzed: 01/08/2013						
Naphthalene	190	3.60	ug/kg dry	180.35	27.8	90	0-127	10	40
Acenaphthylene	170	3.60	ug/kg dry	180.35	1.26	94	50-140	0.5	40
Acenaphthene	300	3.60	ug/kg dry	180.35	140	89	17-139	50*	40
Fluorene	176	3.60	ug/kg dry	180.35	2.52	96	28-145	5	40
Phenanthrene	197	3.60	ug/kg dry	180.35	24.9	95	30-152	5	40
Anthracene	189	3.60	ug/kg dry	180.35	8.93	100	19-171	5	40
Fluoranthene	249	3.60	ug/kg dry	180.35	84.1	91	34-159	5	40
Indeno[1,2,3-cd]pyrene	204	3.60	ug/kg dry	180.35	21.7	101	31-156	5	40
Pyrene	258	3.60	ug/kg dry	180.35	91.3	92	33-152	1	40
Benz[a]anthracene	262	3.60	ug/kg dry	180.35	61.4	111	32-157	10	40
Chrysene	280	3.60	ug/kg dry	180.35	61.9	121	31-159	2	40
Benzo[b] fluoranthene	224	3.60	ug/kg dry	180.35	35.1	105	33-164	16	40
Benzo[k] fluoranthene	203	3.60	ug/kg dry	180.35	23.5	100	28-161	4	40
Benzo[a] pyrene	253	3.60	ug/kg dry	180.35	69.1	102	29-149	10	40
Dibenz[a,h]anthracene	190	3.60	ug/kg dry	180.35	4.36	103	27-153	6	40
Benzo[g,h,i] perylene	270	3.60	ug/kg dry	180.35	39.9	127	32-157	11	40
Surrogate: Triphenylene	*218*		*ug/kg dry*	*180.35*		*121*	*68-129*		

PREPARATION BENCH SHEET

L301022

Lionville Laboratory

Printed: 1/5/2013 2:05:47PM

Matrix: Solid **Prepared using: Extraction - SW 3540C** **Surrogate used: 120061**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301006-01	8310 PAH	01/03/2013 14:56	30.18	5				50	WC-Hanford, Inc.	
1301006-02	8310 PAH	01/03/2013 14:56	30.62	5				50	WC-Hanford, Inc.	
1301006-03	8310 PAH	01/03/2013 14:56	30.35	5				50	WC-Hanford, Inc.	
1301006-04	8310 PAH	01/03/2013 14:56	30.46	5				50	WC-Hanford, Inc.	
1301006-05	8310 PAH	01/03/2013 14:56	30.04	5				50	WC-Hanford, Inc.	
1301006-06	8310 PAH	01/03/2013 14:56	30.33	5				50	WC-Hanford, Inc.	
1301006-07	8310 PAH	01/03/2013 14:56	30	5				50	WC-Hanford, Inc.	
1301006-08	8310 PAH	01/03/2013 14:56	30.15	5				50	WC-Hanford, Inc.	
1301006-09	8310 PAH	01/03/2013 14:56	30.24	5				50	WC-Hanford, Inc.	
1301006-10	8310 PAH	01/03/2013 14:56	30.3	5				50	WC-Hanford, Inc.	
1301006-11	8310 PAH	01/03/2013 14:56	30.38	5				50	WC-Hanford, Inc.	
1301006-12	8310 PAH	01/03/2013 14:56	30.51	5				50	WC-Hanford, Inc.	
1301006-13	8310 PAH	01/03/2013 14:56	30.13	5				50	WC-Hanford, Inc.	
1301006-14	8310 PAH	01/03/2013 14:56	30.76	5				50	WC-Hanford, Inc.	
1301006-15	8310 PAH	01/03/2013 14:56	30.11	5				50	WC-Hanford, Inc.	
1301006-16	8310 PAH	01/03/2013 14:56	30.38	5				50	WC-Hanford, Inc.	
1301006-17	8310 PAH	01/03/2013 14:56	30.54	5				50	WC-Hanford, Inc.	
L301022-BLK1	QC	01/03/2013 14:56	30	5				50		
L301022-BS1	QC	01/03/2013 14:56	30	5	1200963		50	50		
L301022-MS1	QC	01/03/2013 14:56	30.02	5	1200963	1301006-09	50	50		

1/5/13 1405

Extracts Relinquished By Date

LK 1-7-13

Extracts Received By Date

PREPARATION BENCH SHEET

L301022

Lionville Laboratory

Printed: 1/5/2013 2:05:47PM

Matrix: Solid **Prepared using: Extraction - SW 3540C** **Surrogate used: 1200612**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301022-MSD1	QC	01/03/2013 14:56	30.18	5	1200963	1301006-09	50	50		

Extracts Relinquished By 1/5/13 1405 Date

UK 1-7-13 Extracts Received By Date

METALS

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-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

Analytical Report for Metals by SW846 6000/7000 series

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7X4	1301006-01	Soil	12/31/2012 12:12	01/03/2013 10:10
J1R7X5	1301006-02	Soil	12/31/2012 11:58	01/03/2013 10:10
J1R7X6	1301006-03	Soil	12/31/2012 12:02	01/03/2013 10:10
J1R7X7	1301006-04	Soil	12/31/2012 12:06	01/03/2013 10:10
J1R7X8	1301006-05	Soil	12/31/2012 11:53	01/03/2013 10:10
J1R7X9	1301006-06	Soil	12/31/2012 12:45	01/03/2013 10:10
J1R800	1301006-07	Soil	12/31/2012 12:48	01/03/2013 10:10
J1R801	1301006-08	Soil	12/31/2012 12:54	01/03/2013 10:10
J1R802	1301006-09	Soil	12/31/2012 12:58	01/03/2013 10:10
J1R803	1301006-10	Soil	12/31/2012 13:16	01/03/2013 10:10
J1R804	1301006-11	Soil	12/31/2012 13:19	01/03/2013 10:10
J1R805	1301006-12	Soil	12/31/2012 13:22	01/03/2013 10:10
J1R806	1301006-13	Soil	12/31/2012 13:25	01/03/2013 10:10
J1R807	1301006-14	Soil	12/31/2012 13:28	01/03/2013 10:10
J1R808	1301006-15	Soil	12/31/2012 13:31	01/03/2013 10:10
J1R809	1301006-16	Soil	12/31/2012 13:37	01/03/2013 10:10
J1R810	1301006-17	Soil	12/31/2012 13:40	01/03/2013 10:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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

Client: WC-HANFORD RC-190
LVL#: 1301006
SDG/SAF#: K4044/RC-190

W.O.#: 60049-001-001-0001-00
Date Received: 01-03-13

METALS

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.

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

1. This narrative covers the analyses of 17 soil samples.

2. The samples were prepared and analyzed in accordance with methods listed on the data report forms.

   All samples were analyzed and reported with 3-fold dilutions for ICP metals due to sample matrix.

   Sample J1R802 was reanalyzed and reported from file ICP011613B for ICP metals due to possible instrument malfunction in file ICP011513B.

   Samples J1R808, J1R809, J1R810 were reanalyzed and reported from file ICP011613B for ICP metals due to the ending CCV was outside method criteria for several analytes in file ICP011513B. All samples reported were surrounded by in control QC samples.

3. All analyses were performed within the required holding times.

4. Please refer to the Sample Receipt Check List for any sample discrepancies in LvL's sample acceptance policy.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.

7. All preparation/method blanks (MB) were within method criteria {less than the Limit of Quantitation, samples were greater than 20X MB value}.

8. All ICP Interference Check Standards were within control limits.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

9. All Standard Reference Material (SRM) analytes were within the Prediction Interval control limits supplied by the manufacturer.

10. The matrix spike (MS) recoveries for 5 analytes were outside the 75-125% control limits.

11. For analytes where the MS is out of control, a post-digestion MS (PDS) is performed. A PDS was prepared at meaningful concentration levels for the following analytes: Aluminum, Iron, Antimony, Manganese, and Silicon.

12. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limit critieria. The ± 20% RPD control limit applies to sample results greater than ten times the MDL.

13. For the purposes of this report, the data have been reported to the Limit of Detection (LOD). Values between the LOD and the Limit of Quantitation (LOQ) are acquired in a region of less-certain quantification.

14. 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.

15. 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

1/17/13
Date

alm/01-006

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-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag)
*	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

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

J1R7X4
1301006-01 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**6030**		12.8	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.54	U	1.54	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.06**	B	2.56	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**45.2**		1.28	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.228**	B	0.512	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.12	U	5.12	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.512	U	0.512	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**7250**		256	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**9.09**		0.512	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**6.35**		5.12	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**13.2**		2.56	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**20700**		51.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**3.30**		1.28	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4220**		192	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**286**		12.8	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.12	U	5.12	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**8.98**	B	10.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**876**	B	1020	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.768	U	0.768	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**691**		5.12	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.512	U	0.512	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**250**		128	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**59.4**		6.40	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**40.6**		25.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0266	U	0.0266	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

264 Welsh Pool Road
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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R7X5
1301006-02 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**5290**		14.8	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.78	U	1.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**1.87**	B	2.96	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**60.7**		1.48	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.235**	B	0.593	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.93	U	5.93	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.593	U	0.593	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**7530**		296	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**5.29**		0.593	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**9.52**		5.93	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**14.6**		2.96	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**29200**		59.3	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**2.28**		1.48	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4630**		222	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**312**		14.8	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	**0.682**	B	5.93	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**6.42**	B	11.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**982**	B	1190	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.889	U	0.889	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**479**		5.93	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.593	U	0.593	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**431**		148	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**83.7**		7.41	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**48.3**		29.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0259	U	0.0259	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

J1R7X6
1301006-03 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**5640**		14.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.78	U	1.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.14**	B	2.97	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**58.4**		1.49	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.228**	B	0.595	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.95	U	5.95	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.595	U	0.595	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**5150**		297	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**10.9**		0.595	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**7.37**		5.95	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**14.7**		2.97	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**23500**		59.5	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**3.06**		1.49	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4680**		223	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**313**		14.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.95	U	5.95	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**13.5**		11.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**733**	B	1190	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.892	U	0.892	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**761**		5.95	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.595	U	0.595	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**267**		149	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**65.9**		7.44	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**41.9**		29.7	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0275	U	0.0275	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

J1R7X7
1301006-04 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**11300**		14.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.78	U	1.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**3.01**		2.97	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**88.6**		1.49	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.371**	B	0.594	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	**2.04**	B	5.94	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.594	U	0.594	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**4030**		297	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**15.7**		0.594	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**7.78**		5.94	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**13.8**		2.97	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**23400**		59.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**4.55**		1.49	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4630**		223	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**382**		14.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.94	U	5.94	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**13.1**		11.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**2230**		1190	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.891	U	0.891	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**1530**		5.94	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.594	U	0.594	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**249**		149	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**53.2**		7.43	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**45.9**		29.7	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0272	U	0.0272	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

J1R7X8
1301006-05 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**7450**		15.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.83	U	1.83	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.54**	B	3.05	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**65.9**		1.52	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.260**	B	0.609	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	6.09	U	6.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.609	U	0.609	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**6810**		305	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**12.4**		0.609	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**7.05**		6.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**15.0**		3.05	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**22600**		60.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**5.63**		1.52	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4560**		229	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**301**		15.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	6.09	U	6.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**11.0**	B	12.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**1230**		1220	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.914	U	0.914	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**927**		6.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.609	U	0.609	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**338**		152	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**56.6**		7.62	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**53.0**		30.5	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	**0.0376**		0.0298	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R7X9

1301006-06 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**6080**		14.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.75	U	1.75	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**1.99**	B	2.92	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**50.7**		1.46	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.265**	B	0.584	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.84	U	5.84	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.584	U	0.584	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**7000**		292	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**14.2**		0.584	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**10.2**		5.84	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**15.7**		2.92	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**25100**		58.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**4.30**		1.46	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4600**		219	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**332**		14.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.84	U	5.84	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**8.85**	B	11.7	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**921**	B	1170	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.875	U	0.875	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**813**		5.84	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.584	U	0.584	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**330**		146	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**68.1**		7.29	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**49.0**		29.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0258	U	0.0258	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R800

1301006-07 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
			Lionville Laboratory						
Metals by SW846 6000/7000 series									
Aluminum	**6820**		12.7	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.53	U	1.53	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.37**	B	2.55	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**65.3**		1.27	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.282**	B	0.509	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.09	U	5.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	**0.144**	B	0.509	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**6620**		255	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**9.79**		0.509	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**8.22**		5.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**15.8**		2.55	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**25300**		50.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**14.9**		1.27	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4260**		191	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**322**		12.7	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.09	U	5.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**9.16**	B	10.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**1190**		1020	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.764	U	0.764	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**665**		5.09	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.509	U	0.509	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**295**		127	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**74.5**		6.37	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**51.5**		25.5	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0292	U	0.0292	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R801
1301006-08 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6900**		14.5	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.74	U	1.74	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.19**	B	2.89	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**60.4**		1.45	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.261**	B	0.579	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.79	U	5.79	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.579	U	0.579	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**6350**		289	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**10.9**		0.579	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**7.91**		5.79	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**13.9**		2.89	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**23900**		57.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**3.29**		1.45	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4820**		217	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**326**		14.5	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.79	U	5.79	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**10.5**	B	11.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**1230**		1160	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.868	U	0.868	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**938**		5.79	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.579	U	0.579	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**305**		145	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**63.5**		7.24	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**43.7**		28.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0285	U	0.0285	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R802

1301006-09 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6410**		13.2	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Antimony	1.58	U	1.58	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Arsenic	**2.84**		2.63	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Barium	**74.5**		1.32	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Beryllium	**0.288**	B	0.527	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Boron	5.27	U	5.27	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cadmium	0.527	U	0.527	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Calcium	**7140**		263	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Chromium	**7.59**		0.527	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cobalt	**8.56**		5.27	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Copper	**24.6**		2.63	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Iron	**25900**		52.7	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Lead	**6.05**		1.32	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Magnesium	**4420**		198	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Manganese	**311**		13.2	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Molybdenum	**1.71**	B	5.27	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Nickel	**8.93**	B	10.5	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Potassium	**893**	B	1050	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Selenium	0.790	U	0.790	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silicon	**413**		5.27	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silver	0.527	U	0.527	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Sodium	**363**		132	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Vanadium	**70.6**		6.58	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Zinc	**56.5**		26.3	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Mercury	0.0280	U	0.0280	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

J1R803
1301006-10 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**7910**		15.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.87	U	1.87	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.28**	B	3.12	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**59.1**		1.56	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.273**	B	0.624	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	6.24	U	6.24	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.624	U	0.624	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**7190**		312	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**10.9**		0.624	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**8.02**		6.24	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**15.2**		3.12	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**24300**		62.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**3.55**		1.56	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4780**		234	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**334**		15.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	6.24	U	6.24	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**10.7**	B	12.5	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**1170**	B	1250	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.936	U	0.936	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**1060**		6.24	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.624	U	0.624	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**414**		156	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**63.4**		7.80	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**46.3**		31.2	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0295	U	0.0295	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R804
1301006-11 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6710**		13.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.56	U	1.56	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**1.96**	B	2.60	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**65.6**		1.30	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.259**	B	0.519	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	5.19	U	5.19	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.519	U	0.519	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**6950**		260	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**8.64**		0.519	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**8.60**		5.19	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**15.5**		2.60	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**24400**		51.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**3.18**		1.30	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4440**		195	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**369**		13.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.19	U	5.19	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**9.45**	B	10.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**915**	B	1040	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.779	U	0.779	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**788**		5.19	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.519	U	0.519	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**366**		130	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**70.7**		6.49	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**46.3**		26.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0297	U	0.0297	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R805

1301006-12 (Soil)

Lionville Laboratory

Metals by SW846 6000/7000 series

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Aluminum	**7600**		16.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.92	U	1.92	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.33**	B	3.20	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**65.6**		1.60	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.296**	B	0.640	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	6.40	U	6.40	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.640	U	0.640	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**7960**		320	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**10.8**		0.640	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**7.95**		6.40	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**17.0**		3.20	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**24200**		64.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**4.30**		1.60	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4500**		240	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**331**		16.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	6.40	U	6.40	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**13.8**		12.8	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**1060**	B	1280	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.960	U	0.960	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**884**		6.40	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.640	U	0.640	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**403**		160	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**63.7**		8.00	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**46.8**		32.0	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	**0.0524**		0.0263	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R806

1301006-13 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**7820**		14.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.73	U	1.73	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**3.81**		2.89	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**69.7**		1.44	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.276**	B	0.578	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	**1.45**	B	5.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.578	U	0.578	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**8620**		289	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**13.9**		0.578	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**7.12**		5.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**14.5**		2.89	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**21000**		57.8	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**4.78**		1.44	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**4990**		217	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**328**		14.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	5.78	U	5.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**12.8**		11.6	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**1310**		1160	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.867	U	0.867	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**902**		5.78	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.578	U	0.578	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**272**		144	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**52.3**		7.22	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**43.4**		28.9	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	**0.0423**		0.0287	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

J1R807
1301006-14 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**5660**		15.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Antimony	1.84	U	1.84	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Arsenic	**2.08**	B	3.07	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Barium	**58.2**		1.54	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Beryllium	**0.227**	B	0.614	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Boron	6.14	U	6.14	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cadmium	0.614	U	0.614	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Calcium	**7000**		307	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Chromium	**8.67**		0.614	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Cobalt	**10.0**		6.14	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Copper	**16.2**		3.07	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Iron	**27500**		61.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Lead	**3.46**		1.54	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Magnesium	**5000**		230	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Manganese	**352**		15.4	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Molybdenum	6.14	U	6.14	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Nickel	**9.24**	B	12.3	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Potassium	**922**	B	1230	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Selenium	0.921	U	0.921	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silicon	**795**		6.14	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Silver	0.614	U	0.614	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Sodium	**457**		154	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Vanadium	**68.6**		7.68	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Zinc	**58.4**		30.7	mg/kg dry	3	L301088	01/14/2013	01/15/2013	6010B
Mercury	0.0317	U	0.0317	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R808
1301006-15 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**7380**		14.1	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Antimony	1.69	U	1.69	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Arsenic	**2.90**		2.82	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Barium	**59.7**		1.41	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Beryllium	**0.273**	B	0.563	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Boron	5.63	U	5.63	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cadmium	0.563	U	0.563	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Calcium	**6120**		282	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Chromium	**10.2**		0.563	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cobalt	**8.20**		5.63	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Copper	**15.4**		2.82	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Iron	**24100**		56.3	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Lead	**6.50**		1.41	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Magnesium	**5060**		211	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Manganese	**323**		14.1	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Molybdenum	5.63	U	5.63	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Nickel	**11.8**		11.3	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Potassium	**1120**	B	1130	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Selenium	0.845	U	0.845	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silicon	**561**		5.63	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silver	0.563	U	0.563	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Sodium	**459**		141	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Vanadium	**60.2**		7.04	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Zinc	**61.5**		28.2	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Mercury	**0.0271**	B	0.0285	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R809

1301006-16 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**5730**		13.4	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Antimony	1.60	U	1.60	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Arsenic	**2.37**	B	2.67	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Barium	**51.3**		1.34	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Beryllium	**0.252**	B	0.534	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Boron	5.34	U	5.34	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cadmium	0.534	U	0.534	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Calcium	**6600**		267	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Chromium	**8.21**		0.534	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cobalt	**7.69**		5.34	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Copper	**17.4**		2.67	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Iron	**23700**		53.4	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Lead	**7.25**		1.34	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Magnesium	**4380**		200	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Manganese	**309**		13.4	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Molybdenum	5.34	U	5.34	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Nickel	**11.4**		10.7	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Potassium	**883**	B	1070	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Selenium	0.801	U	0.801	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silicon	**418**		5.34	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silver	0.534	U	0.534	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Sodium	**335**		134	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Vanadium	**66.8**		6.68	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Zinc	**46.1**		26.7	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Mercury	0.0279	U	0.0279	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

J1R810

1301006-17 (Soil)

Analyte	Result and Qualifier		Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Lionville Laboratory									
Metals by SW846 6000/7000 series									
Aluminum	**6220**		12.4	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Antimony	1.49	U	1.49	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Arsenic	**2.30**	B	2.48	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Barium	**58.5**		1.24	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Beryllium	**0.284**	B	0.496	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Boron	4.96	U	4.96	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cadmium	**0.130**	B	0.496	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Calcium	**6850**		248	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Chromium	**7.77**		0.496	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Cobalt	**8.42**		4.96	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Copper	**16.7**		2.48	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Iron	**26800**		49.6	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Lead	**11.3**		1.24	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Magnesium	**4790**		186	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Manganese	**342**		12.4	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Molybdenum	4.96	U	4.96	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Nickel	**10.8**		9.92	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Potassium	**944**	B	992	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Selenium	0.744	U	0.744	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silicon	**399**		4.96	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Silver	0.496	U	0.496	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Sodium	**357**		124	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Vanadium	**75.9**		6.20	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Zinc	**52.0**		24.8	mg/kg dry	3	L301088	01/14/2013	01/16/2013	6010B
Mercury	0.0254	U	0.0254	mg/kg dry	1	L301089	01/15/2013	01/16/2013	7471A

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301088 - SW 3050B										
Blank (L301088-BLK1)				Prepared: 01/14/2013 Analyzed: 01/15/2013						
Aluminum	4.81	U	4.81	mg/kg wet						
Antimony	0.577	U	0.577	mg/kg wet						
Arsenic	0.962	U	0.962	mg/kg wet						
Barium	0.481	U	0.481	mg/kg wet						
Beryllium	0.192	U	0.192	mg/kg wet						
Boron	1.92	U	1.92	mg/kg wet						
Cadmium	0.192	U	0.192	mg/kg wet						
Calcium	5.95	B	96.2	mg/kg wet						
Chromium	0.192	U	0.192	mg/kg wet						
Cobalt	1.92	U	1.92	mg/kg wet						
Copper	0.962	U	0.962	mg/kg wet						
Iron	19.2	U	19.2	mg/kg wet						
Lead	0.481	U	0.481	mg/kg wet						
Magnesium	2.15	B	72.1	mg/kg wet						
Manganese	4.81	U	4.81	mg/kg wet						
Molybdenum	1.92	U	1.92	mg/kg wet						
Nickel	3.85	U	3.85	mg/kg wet						
Potassium	385	U	385	mg/kg wet						
Selenium	0.288	U	0.288	mg/kg wet						
Silicon	1.92	U	1.92	mg/kg wet						
Silver	0.192	U	0.192	mg/kg wet						
Sodium	48.1	U	48.1	mg/kg wet						
Vanadium	2.40	U	2.40	mg/kg wet						
Zinc	9.62	U	9.62	mg/kg wet						
Duplicate (L301088-DUP1)		**Source: 1301006-01**		Prepared: 01/14/2013 Analyzed: 01/15/2013						
Aluminum	5970		12.6	mg/kg dry		6030			1.08	20
Antimony	1.51	U	1.51	mg/kg dry		1.54 U				20
Arsenic	2.38	B	2.52	mg/kg dry		2.06			14.4	20
Barium	46.0		1.26	mg/kg dry		45.2			1.68	20
Beryllium	0.225	B	0.504	mg/kg dry		0.228			1.48	20
Boron	5.04	U	5.04	mg/kg dry		5.12 U				20
Cadmium	0.504	U	0.504	mg/kg dry		0.512 U				20
Calcium	6760		252	mg/kg dry		7250			6.96	20
Chromium	9.24		0.504	mg/kg dry		9.09			1.67	20
Cobalt	5.84		5.04	mg/kg dry		6.35			8.26	20
Copper	15.2		2.52	mg/kg dry		13.2			14.3	20

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Fax: 610-280-3041

WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301088 - SW 3050B										
Duplicate (L301088-DUP1)		**Source: 1301006-01**		Prepared: 01/14/2013 Analyzed: 01/15/2013						
Iron	19900		50.4	mg/kg dry		20700			4.01	20
Lead	3.51		1.26	mg/kg dry		3.30			6.14	20
Magnesium	4080		189	mg/kg dry		4220			3.45	20
Manganese	268		12.6	mg/kg dry		286			6.50	20
Molybdenum	5.04	U	5.04	mg/kg dry		5.12 U				20
Nickel	8.79	B	10.1	mg/kg dry		8.98			2.12	20
Potassium	864	B	1010	mg/kg dry		876			1.46	20
Selenium	0.756	U	0.756	mg/kg dry		0.768 U				20
Silicon	626		5.04	mg/kg dry		691			9.89	20
Silver	0.504	U	0.504	mg/kg dry		0.512 U				20
Sodium	284		126	mg/kg dry		250			12.7	20
Vanadium	54.5		6.30	mg/kg dry		59.4			8.55	20
Zinc	41.2		25.2	mg/kg dry		40.6			1.49	20
Matrix Spike (L301088-MS1)		**Source: 1301006-01**		Prepared: 01/14/2013 Analyzed: 01/15/2013						
Aluminum	7030		12.2	mg/kg dry	163.07	6030	613*	75-125		
Antimony	15.9		1.47	mg/kg dry	40.767	1.54 U	38.9*	75-125		
Arsenic	146		2.45	mg/kg dry	163.07	2.06	88.3	75-125		
Barium	194		1.22	mg/kg dry	163.07	45.2	91.1	75-125		
Beryllium	3.88		0.489	mg/kg dry	4.0767	0.228	89.6	75-125		
Boron	70.4		4.89	mg/kg dry	81.535	5.12 U	86.4	75-125		
Cadmium	3.34		0.489	mg/kg dry	4.0767	0.512 U	82.0	75-125		
Calcium	9210		245	mg/kg dry	2038.4	7250	96.2	75-125		
Chromium	25.2		0.489	mg/kg dry	16.307	9.09	98.8	75-125		
Cobalt	42.4		4.89	mg/kg dry	40.767	6.35	88.5	75-125		
Copper	30.8		2.45	mg/kg dry	20.384	13.2	86.7	75-125		
Iron	20500		48.9	mg/kg dry	81.535	20700	-230*	75-125		
Lead	39.5		1.22	mg/kg dry	40.767	3.30	88.9	75-125		
Magnesium	6330		183	mg/kg dry	2038.4	4220	103	75-125		
Manganese	315		12.2	mg/kg dry	40.767	286	69.4*	75-125		
Molybdenum	70.9		4.89	mg/kg dry	81.535	5.12 U	86.9	75-125		
Nickel	45.8		9.78	mg/kg dry	40.767	8.98	90.4	75-125		
Potassium	2770		978	mg/kg dry	2038.4	876	92.7	75-125		
Selenium	144		0.734	mg/kg dry	163.07	0.768 U	88.1	75-125		
Silicon	722		4.89	mg/kg dry	81.535	691	38.6*	75-125		
Silver	3.50		0.489	mg/kg dry	4.0767	0.512 U	85.9	75-125		
Sodium	2220		122	mg/kg dry	2038.4	250	96.5	75-125		

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/17/2013 08:45

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301088 - SW 3050B									
Matrix Spike (L301088-MS1)		**Source: 1301006-01**	Prepared: 01/14/2013 Analyzed: 01/15/2013						
Vanadium	94.3	6.12	mg/kg dry	40.767	59.4	85.5	75-125		
Zinc	76.9	24.5	mg/kg dry	40.767	40.6	89.0	75-125		
Post Spike (L301088-PS1)		**Source: 1301006-01**	Prepared: 01/14/2013 Analyzed: 01/15/2013						
Aluminum	128000		ug/L	66000	70700	86.5	75-125		
Antimony	294		ug/L	300.00	2.28	97.4	75-125		
Iron	348000		ug/L	126000	242000	83.9	75-125		
Manganese	6020		ug/L	3000.0	3350	88.8	75-125		
Silicon	13700		ug/L	6300.0	8090	88.6	75-125		
Reference (L301088-SRM1)			Prepared: 01/14/2013 Analyzed: 01/15/2013						
Aluminum	11500	14.4	mg/kg wet	6670.0		173	0-200.89		
Antimony	46.2	1.73	mg/kg wet	53.000		87.1	0-235.8		
Arsenic	115	2.88	mg/kg wet	114.00		101	82.8-117.54		
Barium	299	1.44	mg/kg wet	307.00		97.4	79.8-120.2		
Beryllium	106	0.577	mg/kg wet	108.00		98.3	82.8-117.6		
Boron	78.9	5.77	mg/kg wet	85.100		92.7	67.5-132.8		
Cadmium	225	0.577	mg/kg wet	225.00		99.9	83.6-116.4		
Calcium	3350	288	mg/kg wet	3360.0		99.7	83.3-116.9		
Chromium	84.7	0.577	mg/kg wet	77.200		110	73.3-126.4		
Cobalt	163	5.77	mg/kg wet	166.00		98.3	80.7-118.7		
Copper	263	2.88	mg/kg wet	271.00		97.2	80.8-119.2		
Iron	8690	57.7	mg/kg wet	8420.0		103	78.6-121.1		
Lead	185	1.44	mg/kg wet	190.00		97.4	81.6-118.4		
Magnesium	8320	216	mg/kg wet	8570.0		97.1	83.2-116.7		
Manganese	980	14.4	mg/kg wet	965.00		102	69.3-130.5		
Molybdenum	233	5.77	mg/kg wet	235.00		99.1	76.2-123.8		
Nickel	222	11.5	mg/kg wet	221.00		100	79.6-120.8		
Potassium	14700	1150	mg/kg wet	14400		102	81.9-118.1		
Selenium	189	0.865	mg/kg wet	187.00		101	75.9-124.6		
Silicon	1520	5.77	mg/kg wet	807.00		189	0-219.3		
Silver	83.5	0.577	mg/kg wet	83.500		99.9	82.7-117.1		
Sodium	10100	144	mg/kg wet	9730.0		103	82.5-117.2		
Vanadium	108	7.21	mg/kg wet	98.700		109	75.9-123.6		
Zinc	200	28.8	mg/kg wet	199.00		100	78.4-121.6		

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/17/2013 08:45

Metals by SW846 6000/7000 series - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301089 - SW 7471A Prep										
Blank (L301089-BLK1)				Prepared: 01/15/2013 Analyzed: 01/16/2013						
Mercury	0.0290	U	0.0290	mg/kg wet						
Duplicate (L301089-DUP1)		**Source: 1301006-01**		Prepared: 01/15/2013 Analyzed: 01/16/2013						
Mercury	0.0281	U	0.0281	mg/kg dry		0.0266 U				20
Matrix Spike (L301089-MS1)		**Source: 1301006-01**		Prepared: 01/15/2013 Analyzed: 01/16/2013						
Mercury	0.170		0.0273	mg/kg dry	0.15175	0.0266 U	112	75-125		20
Reference (L301089-SRM1)				Prepared: 01/15/2013 Analyzed: 01/16/2013						
Mercury	1.20		0.0281	mg/kg wet	1.2900		93.0	62.6-138		

Lionville Laboratory

Logbook #: 1194

SAMPLE DIGESTION RECORD

Digestion Batch #: L301088
Date/Time Initiated: 1/14/13 1310
Date/Time Completed: 1/15/13 1320
Analyst: MW
Matrix (circle): Soil Water Other
Method (circle one): 3005A 3010A 3050 200.7 (1994)
pH/Turbidity: N/A for Solids.

Digested / Undigested (circle one)
Balance #: B14
Balance Cal Verification: Y NA
Temp: 94°
BLOCK 1 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures

Work Order #	Spike Vol (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <2	Type: To/Sol/ TC	Texture	Color / Appearance	Artifact	Turb
1301006-01		0.64	50		TO	not fine	brown tan, sandy	rocks	
L301088-DU1		0.65	50						
MS1	0.5	0.67	50						
1301006-02		0.54	50			not fine	dark brown, sandy	rocks	
03		0.54	50			not fine	brown tan, sandy	rocks	
04		0.58	50			fine	brown soil, forms clumps	n/a	
05		0.57	50			fine	brown, muddy	rocks	
06		0.56	50			coarse	brown, muddy	rocks	
07		0.65	50			not fine	brown, soil	rocks	
08		0.59	50			not fine	brown, sandy sed.	rocks, H_2O	
09		0.62	50			coarse	brown, sandy	rocks	
10		0.52	50			fine	brown, soil	rocks	
11		0.63	50			not fine	brown, sandy	rocks	
12		0.52	50			not fine	brown, sandy soil	rocks	
13		0.58	50			fine	brown soil	rocks	
14		0.55	50			coarse	brown gravelly sed	rocks, H_2O	
15		0.59	50			not fine	brown soil	rocks	
16		0.61	50			not fine	brown, sandy sed	rocks, H_2O	
17		0.65	50			coarse	brown, gravelly, sed	rocks, H_2O	
L301088-BU1		0.52	50			coarse	bottom chips		
SRM1		0.52	50			fine	pink, sandy		

MW 1/14/13

Spiking IDs / Expiration Date:
MS#: 1201581

LCS#: 1201014

Reagent IDs:
HNO_3 0000003390
HCl 0000018301
H_2O_2 L11A03
1:1 HNO_3 637-076-07
1:1 HCl

File ID#:

Data Review By/Date: 1/16/13

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Page #:

PREPARATION BENCH SHEET

L301088

Lionville Laboratory

Printed: 1/15/2013 2:12:19PM

00000176

Matrix: Solid **Prepared using: METALS - SW 3050B** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301006-01	6010B HSL Metals	01/14/2013 13:10	0.64	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-02	6010B HSL Metals	01/14/2013 13:10	0.54	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-03	6010B HSL Metals	01/14/2013 13:10	0.54	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-04	6010B HSL Metals	01/14/2013 13:10	0.58	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-05	6010B HSL Metals	01/14/2013 13:10	0.57	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-06	6010B HSL Metals	01/14/2013 13:10	0.56	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-07	6010B HSL Metals	01/14/2013 13:10	0.65	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-08	6010B HSL Metals	01/14/2013 13:10	0.59	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-09	6010B HSL Metals	01/14/2013 13:10	0.62	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-10	6010B HSL Metals	01/14/2013 13:10	0.52	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-11	6010B HSL Metals	01/14/2013 13:10	0.63	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-12	6010B HSL Metals	01/14/2013 13:10	0.52	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-13	6010B HSL Metals	01/14/2013 13:10	0.58	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-14	6010B HSL Metals	01/14/2013 13:10	0.55	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-15	6010B HSL Metals	01/14/2013 13:10	0.59	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-16	6010B HSL Metals	01/14/2013 13:10	0.61	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
1301006-17	6010B HSL Metals	01/14/2013 13:10	0.65	50					WC-Hanford, Inc.	HSL + B, Mo, Si (No TL)
L301088-BLK1	QC	01/14/2013 13:10	0.52	50						
L301088-DUP1	QC	01/14/2013 13:10	0.65	50		1301006-01				
L301088-MS1	QC	01/14/2013 13:10	0.67	50	1201581	1301006-01	500			

Extracts Relinquished By — 1/15/13 Date

Extracts Received By — 01/15/13 Date

PREPARATION BENCH SHEET

L301088

Lionville Laboratory

Printed: 1/15/2013 2:12:19PM

00000177

Matrix: Solid **Prepared using: METALS - SW 3050B** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301088-PS1	QC	01/14/2013 13:10	0.64	50	1201582	1301006-01	100			
L301088-SRM1	QC	01/14/2013 13:10	0.52	50	1201014		520			

Extracts Relinquished By — Date: 1/15/13

Extracts Received By — Date: 01/15/13

Lionville Laboratory

MERCURY PREPARATION

Logbook # 1198

Analyst: MLell
Date 1/14/13 - 1/15/13
Start Time/Temp: 1755/95°
End Time/Temp: 1825/95°

Instrument ID: HG3.1
Balance # B14 /NA
Pipette Calibration (Daily) (Y) ____

Prep Batch: L301089
Worksheet: HG011601
SOP No. ME-HgCVAA
BLOCK (1) 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
Blank				10ml	50	
0.2ug/l		0.100		10ml	50	
1.0ug/l		0.500		10ml	50	
2.0ug/l		1.000		10ml	50	
5.0ug/l		2.500		10ml	50	
10.0ug/l		5.000		10ml	50	
ICV		0.125	2.5	10ml	50	
CCV		0.250	5.0	10ml	50	
ICB/CCB				10ml	50	
L301089-BLK1				0.31	50	
SRM1		(*)	(*)	0.32	50	
1301006-01			WE MW 1/21/13	~~0.35~~ 0.37	50	
L301089-DUP1				~~0.35~~ 0.35	50	
MS1		0.500	1.0	~~0.36~~ 0.36	50	
1301006-02				0.37	50	
03				0.35	50	
04				0.38	50	
05				0.35	50	
06				0.38	50	
07				0.34	50	
08				0.36	50	
09				0.35	50	
10				0.33	50	
11				0.33	50	
12				0.38	50	
13				0.35	50	
14				0.32	50	

Standard:	ID	Prep Date/Time
ICAL/MS	RI 1201235	1/15/13 1136
ICV/CCV/LCS	(I.V. 1201411)	N/A

Reviewed By/Date: CLM 1/17/13

se book # 1198 for std traceability information

Soil LCS True Value = 1.25 mg/Kg
Standard # 1201014 (*)

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
Soil LCS Spiking Concentration: 1.0 µg/ml

4

ME-HgCVAA-Prep0910

Page #:

000000178

Lionville Laboratory

MERCURY PREPARATION

Logbook # 1198

Analyst: [illegible]
Date 1/14/13 – 1/15/13
Start Time/Temp: see pg 014
End Time/Temp: see pg

Instrument ID: HG3.1
Balance # 514 /NA
Pipette Calibration (Daily) (Y)

Prep Batch: L301089
Worksheet: HG011601
SOP No. ME-HgCVAA
BLOCK (1) 2 (circle one)

NOTE: All temperatures are recorded as corrected temperatures.

LvL Work Order#	pH < 2 (Liq)	Spike Vol (mL)	Spike Conc. (µg/L)	Initial Wt. or Vol (g or mL)	Final Sample Vol (mL)	Comments, % Solids, etc.
1301006-15				0.35	50	
16				0.35	50	
17				0.38	50	
1301019-01				0.35	50	
L301089-DUP2				0.35	50	
MS2		0.500	1.0	0.36	50	

KW 1/14/13

Standard:	ID	Prep Date/Time
ICAL/MS	see page 014	
ICV/CCV/LCS		

Reviewed By/Date: [illegible] 1/17/13

se book # 1198 for std traceability information

Soil LCS True Value = see page 014 mg/Kg
Standard # _____

Water Matrix Spiking Solution Concentration = 0.1 µg/ml
ater LCS Spiking Concentration: 1.0 µg/ml

ME-HgCVAA-Prep0910

Page #:

000000179
00000015

PREPARATION BENCH SHEET

L301089

Lionville Laboratory

Printed: 1/17/2013 10:26:30AM

00000180

Matrix: Solid **Prepared using: METALS - SW 7471A Prep** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
1301006-01	7471A Total Mercury	01/15/2013 17:55	0.37	50					WC-Hanford, Inc.	
1301006-02	7471A Total Mercury	01/15/2013 17:55	0.37	50					WC-Hanford, Inc.	
1301006-03	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
1301006-04	7471A Total Mercury	01/15/2013 17:55	0.38	50					WC-Hanford, Inc.	
1301006-05	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
1301006-06	7471A Total Mercury	01/15/2013 17:55	0.38	50					WC-Hanford, Inc.	
1301006-07	7471A Total Mercury	01/15/2013 17:55	0.34	50					WC-Hanford, Inc.	
1301006-08	7471A Total Mercury	01/15/2013 17:55	0.36	50					WC-Hanford, Inc.	
1301006-09	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
1301006-10	7471A Total Mercury	01/15/2013 17:55	0.33	50					WC-Hanford, Inc.	incorrect initial weight according to hard copy alm 01/17/2013
1301006-11	7471A Total Mercury	01/15/2013 17:55	0.33	50					WC-Hanford, Inc.	
1301006-12	7471A Total Mercury	01/15/2013 17:55	0.38	50					WC-Hanford, Inc.	
1301006-13	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
1301006-14	7471A Total Mercury	01/15/2013 17:55	0.32	50					WC-Hanford, Inc.	
1301006-15	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
1301006-16	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
1301006-17	7471A Total Mercury	01/15/2013 17:55	0.38	50					WC-Hanford, Inc.	
1301019-01	7471A Total Mercury	01/15/2013 17:55	0.35	50					WC-Hanford, Inc.	
L301089-BLK1	QC	01/15/2013 17:55	0.31	50						
L301089-DUP1	QC	01/15/2013 17:55	0.35	50		1301006-01				

Revision Initial weight sample 1301006-10

Extracts Relinquished By Date Extracts Received By Date

WEM 1/17/13

PREPARATION BENCH SHEET

L301089

Lionville Laboratory

Printed: 1/17/2013 10:26:30AM

00000181

Matrix: Solid **Prepared using: METALS - SW 7471A Prep** **(No Surrogate)**

Lab Number	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Client	Extraction Comments
L301089-DUP2	QC	01/15/2013 17:55	0.35	50		1301019-01				
L301089-MS1	QC	01/15/2013 17:55	0.36	50	1201250	1301006-01	500			
L301089-MS2	QC	01/15/2013 17:55	0.36	50	1201250	1301019-01	500			
L301089-SRM1	QC	01/15/2013 17:55	0.32	50	1201014		320			

revision

Extracts Relinquished By Date

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-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/15/2013 17:06

Analytical Report for Wet Chemistry

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J1R7X4	1301006-01	Soil	12/31/2012 12:12	01/03/2013 10:10
J1R7X5	1301006-02	Soil	12/31/2012 11:58	01/03/2013 10:10
J1R7X6	1301006-03	Soil	12/31/2012 12:02	01/03/2013 10:10
J1R7X7	1301006-04	Soil	12/31/2012 12:06	01/03/2013 10:10
J1R7X8	1301006-05	Soil	12/31/2012 11:53	01/03/2013 10:10
J1R7X9	1301006-06	Soil	12/31/2012 12:45	01/03/2013 10:10
J1R800	1301006-07	Soil	12/31/2012 12:48	01/03/2013 10:10
J1R801	1301006-08	Soil	12/31/2012 12:54	01/03/2013 10:10
J1R802	1301006-09	Soil	12/31/2012 12:58	01/03/2013 10:10
J1R803	1301006-10	Soil	12/31/2012 13:16	01/03/2013 10:10
J1R804	1301006-11	Soil	12/31/2012 13:19	01/03/2013 10:10
J1R805	1301006-12	Soil	12/31/2012 13:22	01/03/2013 10:10
J1R806	1301006-13	Soil	12/31/2012 13:25	01/03/2013 10:10
J1R807	1301006-14	Soil	12/31/2012 13:28	01/03/2013 10:10
J1R808	1301006-15	Soil	12/31/2012 13:31	01/03/2013 10:10
J1R809	1301006-16	Soil	12/31/2012 13:37	01/03/2013 10:10
J1R810	1301006-17	Soil	12/31/2012 13:40	01/03/2013 10:10

LIONVILLE LABORATORY
A division of Eberline Analytical Corporation

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Case Narrative

Client: WC-HANFORD RC-190 K4044
LVL#: 1301006 **Date Received:** 01-03-13

INORGANIC NARRATIVE

1. This narrative covers the analyses of 17 soil samples.

2. The samples were prepared and analyzed in accordance with the methods indicated on the data summary report. Results for soil or solid pH are measured in water at 25°C unless otherwise specified.

   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 times as required by the method and/or contract were met with the exceptions of Nitrate, Nitrite and Orthophosphate that were received past hold.

4. The results presented in this report are derived from samples that met LvL's sample acceptance policy with exceptions noted on the Sample Receipt Checklist.

5. The method blanks were within the method criteria.

6. The Laboratory Control Samples (LCS) were within the laboratory control limits and method criteria.

7. The matrix spike recoveries were within the 75-125% control limits.

8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.

9. Results for soil samples are reported on a dry weight basis.

10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels
Laboratory Manager
Lionville Laboratory

1/30/13
Date

njp\i01-006

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 17 pages.

Lionville Laboratory, PADEP Lab ID# 15-00009
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Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Results reported from a dilution; related reporting limits are elevated due to the presence of an interference or a high target value.
B	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
*	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
LOD	Limit of Detection (LOD): the minimum estimated concentration of a target analyte that can be detected reliably. Concentrations at the LOD or between the LOD and LOQ are flagged estimated with either a 'J' qualifier or client-specific qualifier.
LOQ	Limit of Quantitation (LOQ): the minimum concentration of a target analyte that can be quantified reliably

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/15/2013 17:06

Wet Chemistry
Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1R7X4 (1301006-01) Soil										
%Solids	**91.5**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
Bromide	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Chloride	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Fluoride	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrite	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Orthophosphate	2.1	U	2.1	10.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Sulfate	**4.4**	B	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate/Nitrite as N	0.11	U	0.11	0.53	mg/kg dry	1	L301058	01/08/2013 07:10	01/09/2013 14:39	EPA 353.2
Hexavalent Chromium	0.22	U	0.22	0.55	mg/kg dry	1	L301024	01/04/2013 13:40	01/08/2013 14:30	SW846 7196A
pH	**8.92**			0.10	pH Units	1	L301106	01/15/2013 11:15	01/15/2013 12:25	SW846 9045D
J1R7X5 (1301006-02) Soil										
%Solids	**93.7**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
Bromide	1.0	U	1.0	5.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Chloride	1.0	U	1.0	5.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Fluoride	1.0	U	1.0	5.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate	1.0	U	1.0	5.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrite	1.0	U	1.0	5.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Orthophosphate	2.0	U	2.0	10.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Sulfate	**1.8**	B	1.0	5.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate/Nitrite as N	0.10	U	0.10	0.51	mg/kg dry	1	L301058	01/08/2013 07:10	01/09/2013 14:42	EPA 353.2
Hexavalent Chromium	**0.30**	B	0.21	0.53	mg/kg dry	1	L301024	01/04/2013 13:40	01/08/2013 14:30	SW846 7196A
pH	**9.00**			0.10	pH Units	1	L301106	01/15/2013 11:15	01/15/2013 12:30	SW846 9045D

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 17:06

Wet Chemistry

Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1R7X6 (1301006-03) Soil										
%Solids	**93.4**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
Bromide	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Chloride	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Fluoride	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrite	1.1	U	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Orthophosphate	**2.4**	B	2.1	10.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Sulfate	**2.0**	B	1.1	5.3	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate/Nitrite as N	0.11	U	0.11	0.53	mg/kg dry	1	L301058	01/08/2013 07:10	01/09/2013 14:44	EPA 353.2
Hexavalent Chromium	0.21	U	0.21	0.54	mg/kg dry	1	L301024	01/04/2013 13:40	01/08/2013 14:30	SW846 7196A
pH	**8.85**			0.10	pH Units	1	L301106	01/15/2013 11:15	01/15/2013 12:32	SW846 9045D
J1R7X7 (1301006-04) Soil										
%Solids	**87.0**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
Bromide	1.1	U	1.1	5.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Chloride	1.1	U	1.1	5.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Fluoride	**1.1**	B	1.1	5.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate	1.1	U	1.1	5.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrite	1.1	U	1.1	5.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Orthophosphate	**5.1**	B	2.2	11.1	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Sulfate	**1.3**	B	1.1	5.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate/Nitrite as N	**0.13**	B	0.11	0.56	mg/kg dry	1	L301058	01/08/2013 07:10	01/09/2013 14:45	EPA 353.2
Hexavalent Chromium	0.23	U	0.23	0.57	mg/kg dry	1	L301024	01/04/2013 13:40	01/08/2013 14:30	SW846 7196A
pH	**8.34**			0.10	pH Units	1	L301106	01/15/2013 11:15	01/15/2013 12:34	SW846 9045D

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WC-Hanford, Inc. 2620 Fermi Avenue Richland WA, 99354	Project: RC-190 Project Number: K4044 Project Manager: Joan Kessner	**Reported:** 01/15/2013 17:06

Wet Chemistry

Lionville Laboratory

Analyte	Result and Qualifier		LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1R7X8 (1301006-05) Soil										
%Solids	**86.4**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
Bromide	1.2	U	1.2	5.8	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Chloride	1.2	U	1.2	5.8	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Fluoride	1.2	U	1.2	5.8	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate	1.2	U	1.2	5.8	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrite	1.2	U	1.2	5.8	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Orthophosphate	**3.4**	B	2.3	11.6	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Sulfate	**7.9**		1.2	5.8	mg/kg dry	1	L301055	01/08/2013 07:10	01/08/2013 18:54	EPA 300.0 (1993)
Nitrate/Nitrite as N	0.12	U	0.12	0.58	mg/kg dry	1	L301058	01/08/2013 07:10	01/09/2013 14:46	EPA 353.2
Hexavalent Chromium	0.23	U	0.23	0.58	mg/kg dry	1	L301024	01/04/2013 13:40	01/08/2013 14:30	SW846 7196A
pH	**8.98**			0.10	pH Units	1	L301106	01/15/2013 11:45	01/15/2013 12:36	SW846 9045D
J1R7X9 (1301006-06) Soil										
%Solids	**91.8**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R800 (1301006-07) Soil										
%Solids	**90.6**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R801 (1301006-08) Soil										
%Solids	**87.8**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R802 (1301006-09) Soil										
%Solids	**91.9**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R803 (1301006-10) Soil										
%Solids	**92.5**			0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G

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Wet Chemistry

Lionville Laboratory

Analyte	Result and Qualifier	LOD	LOQ	Units	Dilution	Batch	Prepared	Analyzed	Method
J1R804 (1301006-11) Soil									
%Solids	**91.7**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R805 (1301006-12) Soil									
%Solids	**90.1**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R806 (1301006-13) Soil									
%Solids	**89.5**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R807 (1301006-14) Soil									
%Solids	**88.8**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R808 (1301006-15) Soil									
%Solids	**90.3**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R809 (1301006-16) Soil									
%Solids	**92.1**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G
J1R810 (1301006-17) Soil									
%Solids	**93.1**		0.1	% by Weight	1	L301038	01/07/2013 20:05	01/07/2013 20:05	SM2540G

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Wet Chemistry - Quality Control
Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301024 - Default Prep GenChem										
Blank (L301024-BLK1)				Prepared: 01/04/2013 12:25 Analyzed: 01/08/2013 14:30						
Hexavalent Chromium	0.20 U	0.20	0.50	mg/kg wet						
LCS (L301024-BS1)				Prepared: 01/04/2013 12:25 Analyzed: 01/08/2013 14:30						
Hexavalent Chromium	4.17	0.20	0.50	mg/kg wet	4.0000		104	80-120		
LCS (L301024-BS2)				Prepared: 01/04/2013 12:25 Analyzed: 01/08/2013 14:30						
Hexavalent Chromium	1020 D	20.0	50.0	mg/kg wet	1191.4		86	80-120		
Duplicate (L301024-DUP2)	**Source: 1301006-01**			Prepared: 01/04/2013 13:40 Analyzed: 01/08/2013 14:30						
Hexavalent Chromium	0.26 B	0.22	0.55	mg/kg dry		0.22 U				20
Matrix Spike (L301024-MS3)	**Source: 1301006-01**			Prepared: 01/04/2013 13:40 Analyzed: 01/08/2013 14:30						
Hexavalent Chromium	4.14	0.22	0.55	mg/kg dry	4.3703	0.22 U	95	75-125		
Matrix Spike (L301024-MS4)	**Source: 1301006-01**			Prepared: 01/04/2013 13:40 Analyzed: 01/08/2013 14:30						
Hexavalent Chromium	1080 D	21.9	54.6	mg/kg dry	1322.8	0.22 U	82	75-125		
Batch L301038 - % Solids										
Duplicate (L301038-DUP1)	**Source: 1301006-01**			Prepared & Analyzed: 01/07/2013 20:05						
%Solids	92.8		0.1	% by Weight		91.5			1	20
Batch L301055 - Default Prep GenChem										
Blank (L301055-BLK1)				Prepared: 01/08/2013 07:10 Analyzed: 01/08/2013 18:54						
Fluoride	1.0 U	1.0	5.0	mg/kg wet						
Chloride	1.0 U	1.0	5.0	mg/kg wet						
Bromide	1.0 U	1.0	5.0	mg/kg wet						
Orthophosphate	2.0 U	2.0	10.0	mg/kg wet						
Sulfate	1.0 U	1.0	5.0	mg/kg wet						
Nitrate	1.0 U	1.0	5.0	mg/kg wet						
Nitrite	1.0 U	1.0	5.0	mg/kg wet						

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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 17:06

Wet Chemistry - Quality Control
Lionville Laboratory

Analyte	Result and Qualifiers	LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301055 - Default Prep GenChem										
LCS (L301055-BS1)				Prepared: 01/08/2013 07:10 Analyzed: 01/08/2013 18:54						
Fluoride	48.8	1.0	5.0	mg/kg wet	50.000		97.6	80-120		
Chloride	46.5	1.0	5.0	mg/kg wet	50.000		93.0	80-120		
Bromide	47.2	1.0	5.0	mg/kg wet	50.000		94.4	80-120		
Orthophosphate	46.3	2.0	10.0	mg/kg wet	50.000		92.6	80-120		
Sulfate	47.9	1.0	5.0	mg/kg wet	50.000		95.8	80-120		
Nitrate	46.9	1.0	5.0	mg/kg wet	50.000		93.8	80-120		
Nitrite	47.7	1.0	5.0	mg/kg wet	50.000		95.4	80-120		
Duplicate (L301055-DUP1)	**Source: 1301006-01**			Prepared: 01/08/2013 07:10 Analyzed: 01/08/2013 18:54						
Fluoride	1.1 U	1.1	5.4	mg/kg dry		1.1 U				20
Chloride	1.1 U	1.1	5.4	mg/kg dry		1.1 U				20
Bromide	1.1 U	1.1	5.4	mg/kg dry		1.1 U				20
Orthophosphate	2.2 U	2.2	10.8	mg/kg dry		2.1 U				20
Sulfate	4.3 B	1.1	5.4	mg/kg dry		4.4			3.22	20
Nitrate	1.1 U	1.1	5.4	mg/kg dry		1.1 U				20
Nitrite	1.1 U	1.1	5.4	mg/kg dry		1.1 U				20
Matrix Spike (L301055-MS1)	**Source: 1301006-01**			Prepared: 01/08/2013 07:10 Analyzed: 01/08/2013 18:54						
Fluoride	52.8	1.1	5.4	mg/kg dry	54.016	1.1 U	97.8	75-125		
Chloride	51.0	1.1	5.4	mg/kg dry	54.016	1.1 U	94.4	75-125		
Bromide	52.1	1.1	5.4	mg/kg dry	54.016	1.1 U	96.4	75-125		
Orthophosphate	52.3	2.2	10.8	mg/kg dry	54.016	2.1 U	96.8	75-125		
Sulfate	56.9	1.1	5.4	mg/kg dry	54.016	4.4	97.2	75-125		
Nitrate	51.7	1.1	5.4	mg/kg dry	54.016	1.1 U	95.8	75-125		
Nitrite	52.4	1.1	5.4	mg/kg dry	54.016	1.1 U	97.0	75-125		
Batch L301058 - Default Prep GenChem										
Blank (L301058-BLK1)				Prepared: 01/08/2013 07:10 Analyzed: 01/09/2013 14:38						
Nitrate/Nitrite as N	0.10 U	0.10	0.50	mg/kg wet						

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264 Welsh Pool Road
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WC-Hanford, Inc.	Project: RC-190	
2620 Fermi Avenue	Project Number: K4044	**Reported:**
Richland WA, 99354	Project Manager: Joan Kessner	01/15/2013 17:06

Wet Chemistry - Quality Control

Lionville Laboratory

Analyte	Result and Qualifiers		LOD	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch L301058 - Default Prep GenChem											
LCS (L301058-BS1)					Prepared: 01/08/2013 07:10 Analyzed: 01/09/2013 14:36						
Nitrate/Nitrite as N	5.20		0.10	0.50	mg/kg wet	5.0000		104	90-110		
Duplicate (L301058-DUP1)		**Source: 1301006-01**			Prepared: 01/08/2013 07:10 Analyzed: 01/09/2013 14:40						
Nitrate/Nitrite as N	0.11	U	0.11	0.54	mg/kg dry		0.11 U				20
Matrix Spike (L301058-MS1)		**Source: 1301006-01**			Prepared: 01/08/2013 07:10 Analyzed: 01/09/2013 14:41						
Nitrate/Nitrite as N	5.74		0.11	0.54	mg/kg dry	5.4016	0.11 U	106	75-125		
Batch L301106 - Default Prep GenChem											
Duplicate (L301106-DUP1)		**Source: 1301006-01**			Prepared: 01/15/2013 11:41 Analyzed: 01/15/2013 12:27						
pH	8.97			0.10	pH Units		8.92			0.559	20
Reference (L301106-SRM1)					Prepared & Analyzed: 01/15/2013 12:50						
pH	9.99			0.10	pH Units	10.000		99.9	99-101		