

SAF-RC-233
100-IU-2 & 100-IU-6 Remaining
Waste Sites – Soil In-Process
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt

H4-21

KW 2/24/15
INITIAL/DATE

COMMENTS:

SDG XP0205

SAF-RC-233

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location: 100-B-35:1, Node A20 Plume Chase



February 20, 2015

Joan Kessner
WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354

Re: RC-233 Soil
Work Order: 367128
SDG: XP0205

Dear Joan Kessner:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 13, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

Heather Shaffer
Project Manager

Purchase Order: 1510
Chain of Custody: RC-233-081
Enclosures



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Case Narrative

**Receipt Narrative
for
Eberline
SDG: XP0205
Work Order: 367128**

February 20, 2015

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary:

Sample receipt: The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on February 13, 2015 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Sample Identification: The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
367128001	J1V4H4
367128002	J1V4H5
367128003	J1V4H6
367128004	J1V4H7

Case Narrative:

Sample analyses were conducted using methodology as outlined in GEL's Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Diesel Range Organics and GC Semivolatile PCB.

Heather Shaffer

Heather Shaffer
Project Manager

Chain of Custody and Supporting Documentation

Washington Closure Hanford **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST** RC-233-081 Page 1 of 1

Collector: STOWE, QG Telephone No. 375-4688 Project Coordinator: KESSNER, JH Price Code: 8B

Project Designation: 100-IU-2 & 100-IU-6 Remaining Waste Sites Sampling Location: 100-B-35.1 Node A20 Plume Chase SAF No. RC-233 Method of Shipment: Fed Ex

Ice Chest No. WCH-08-063 Field Logbook No. EL-1667-02 COA: 010B352600 Bill of Lading/Air Bill No. See OSRC

Shipped To: **GEL Laboratories Charleston** Offsite Property No. A131376

Other Labs Shipped To: N/A

Sample No.	Matrix	Sample Date	Sample Time	Preservation	Cool 4C	Cool 4C
J1V4H4	SOIL	02/11/15	1212	aG	1	125mL
J1V4H5	SOIL	02/11/15	1215	aG	1	125mL
J1V4H6	SOIL	02/11/15	1218	aG	1	125mL
J1V4H7	SOIL	02/11/15	1221	aG	1	125mL
J1V4H8	SOIL					

POSSIBLE SAMPLE HAZARDS/REMARKS

N/A

Special Handling and/or Storage

Cool 4C

Sample Analysis: PCBs - 8082 TPH-Diesel Range - WTPH-D +

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stow	2-11-15 1230	C. Bingham	2-11-15 1230
Matt Wells	02/11/15 1405	C. Bingham	2-11-15 1605
C. Bingham	02/11/15 1415	1060 Battelle Fridge	2-11-15 1415
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
David St. John	02/12/15 1145	David St. John	02/12/15 1145
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
David St. John	02/12/15 1145	Fed Ex	02/12/15 0915
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Fed Ex	02/12/15 0915	M. Kowalski	2-13-15 0915
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

FINAL SAMPLE DISPOSITION

Relinquished By/Removed From: M. Kowalski Date/Time: 2-13-15 0915

Disposed By: _____ Date/Time: _____

Disposal Method: _____

WCH-EE-011

307128



Custodian unavailable to remove samples from controlled storage. Shipper removed samples, taking custody for shipment to lab.

XP0205

SAMPLE RECEIPT & REVIEW FORM

Client: <u>WCHN</u>		SDG/AR/COC/Work Order: <u>367128</u>
Received By: <u>MK</u>		Date Received: <u>2-13-15</u>
Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>920</u>
Classified Radioactive II or III by RSO?	<input checked="" type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input checked="" type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input checked="" type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?	<input checked="" type="checkbox"/>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Ice bags</u> <input checked="" type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> None <input type="checkbox"/> Other (describe) <u>2c</u> *all temperatures are recorded in Celsius
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>130532776</u> Secondary Temperature Device Serial # (if Applicable):
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
7 Are Encore containers present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
12 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14 Carrier and tracking number.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: <input checked="" type="checkbox"/> FedEx Air <input type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <u>7729 0297 8420</u>

Comments (Use Continuation Form if needed):

Laboratory Certifications

List of current GEL Certifications as of 20 February 2015

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-12-00283, P330-12-00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122014-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68-00485
Plant Material Permit	PDEP-12-00260
South Carolina Chemistry	10120001
South Carolina GVL	23611001
South Carolina Radiochemi	10120002
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122014-16
Vermont	VT87156
Virginia NELAP	460202
Washington	C780-12

FID Diesel Range Organics Analysis

Case Narrative

**Diesel Range Organics
Technical Case Narrative
Eberline (WCHN)
SDG #: XP0205
Work Order #: 367128**

Method/Analysis Information

Procedure: Analysis of Diesel Range Organics by Flame Ionization Detector

Analytical Method: NWTPH-Dx in Soil

Prep Method: SW846 3541

Analytical Batch Number: 1458202

Prep Batch Number: 1458201

Sample Analysis

The following samples were analyzed using the analytical protocol as established in NWTPH-Dx in Soil:

Sample ID	Client ID
367128001	J1V4H4
367128002	J1V4H5
367128003	J1V4H6
367128004	J1V4H7
1203265860	MB for batch 1458201
1203265861	Laboratory Control Sample (LCS)
1203265862	367128004(J1V4H7) Matrix Spike (MS)
1203265863	367128004(J1V4H7) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-003 REV# 25.

Raw data reports are processed and reviewed by the analyst using the Chemstation software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP).

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria. Analyte peaks

eluted within the established retention time windows for this method.

Quality Control (QC) Information

Method Blank (MB) Statement

The MB analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS/LCSD) Recovery

The LCS/LCSD spike recoveries met the acceptance limits.

QC Sample Designation

Sample 367128004 (J1V4H7) was selected for the MS and MSD analyses.

Matrix Spike (MS/MSD) Recovery Statement

The MS/MSD recovery was within the established acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement

The RPD between the MS and MSD met the acceptance limits.

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP. Analyte peaks eluted within the established retention time windows for this method.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Electronic Package Comment

This package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative.

Data Exception (DER) Documentation

Data exception report (DER) is generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A DER was not required for this SDG in this batch.

Manual Integrations

Samples required manual integration for surrogates.

Additional Comments

The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The additional comments were not required.

System Configuration

The Diesel Range Organics analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
FID7.I	Agilent Gas Chromatograph	Agilent 6890N GC/FID	DB-5MS	30m x 0.25mm, 0.25um(J&W)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report for

WCHN001 Eberline

Client SDG: XP0205 GEL Work Order: 367128 Project: RC-233 Soil

The Qualifiers in this report are defined as follows:

J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

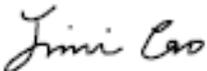
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Jimin Cao

Date: 19 FEB 2015

Title: Data Validator

Sample Data Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 18, 2015

Company : WC-Hanford, Inc.
Address : 2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354
Contact: Joan Kessner
Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H4
Sample ID: 367128001
Matrix: SOIL
Collect Date: 11-FEB-15 12:12
Receive Date: 13-FEB-15
Collector: Client
Moisture: 7.18%

Project: WCHN00313
Client ID: WCHN001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Diesel Range Organics											
SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"											
Diesel Range Organics (C10-C20)		64600	2330	7180	ug/kg	1	BYT1	02/17/15	1659	1458202	1
Motor Oil (C20-C36)		39500	2330	7180	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	3541 DRO IN SOIL PREP	VXS1	02/16/15	1830	1458201

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	NWTPH-Dx in Soil	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
o-Terphenyl	SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"	669 ug/kg	718	93.1	(50%-150%)

Notes:

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 18, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H5	Project: WCHN00313
Sample ID: 367128002	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:15	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 6.08%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Diesel Range Organics											
SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"											
Diesel Range Organics (C10-C20)		51300	2310	7100	ug/kg	1	BYT1	02/17/15	1737	1458202	1
Motor Oil (C20-C36)		27600	2310	7100	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	3541 DRO IN SOIL PREP	VXS1	02/16/15	1830	1458201

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	NWTPH-Dx in Soil	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
o-Terphenyl	SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"	684 ug/kg	710	96.3	(50%-150%)

Notes:

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 18, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H6	Project: WCHN00313
Sample ID: 367128003	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:18	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 11.3%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Diesel Range Organics											
SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"											
Diesel Range Organics (C10-C20)		18200	2440	7510	ug/kg	1	BYT1	02/17/15	1816	1458202	1
Motor Oil (C20-C36)		12000	2440	7510	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	3541 DRO IN SOIL PREP	VXS1	02/16/15	1830	1458201

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	NWTPH-Dx in Soil	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
o-Terphenyl	SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"	623 ug/kg	751	83.0	(50%-150%)

Notes:

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 18, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H7	Project: WCHN00313
Sample ID: 367128004	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:21	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 10%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Diesel Range Organics											
SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"											
Diesel Range Organics (C10-C20)	J	3830	2410	7400	ug/kg	1	BYT1	02/17/15	1855	1458202	1
Motor Oil (C20-C36)	J	3270	2410	7400	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	3541 DRO IN SOIL PREP	VXS1	02/16/15	1830	1458201

The following Analytical Methods were performed:

Method	Description	Analyst Comments			
1	NWTPH-Dx in Soil				

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
o-Terphenyl	SW 3541/NWTPH-Dx in Soil "Dry Weight Corrected"	574 ug/kg	740	77.5	(50%-150%)

Notes:

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: February 18, 2015

Page 1 of 2

WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H4-21
Richland, Washington

Contact: Joan Kessner

Workorder: 367128

Client SDG: XP0205

Project Description: RC-233 Soil

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Diesel Range Organics											
Batch	1458202										
QC1203265861	LCS										
Diesel Range Organics (C10-C20)	66600			58200	ug/kg		87.4	(70%-130%)	BYT1	02/17/15	16:20
Motor Oil (C20-C36)	66600			61800	ug/kg		92.9	(70%-130%)			
**o-Terphenyl	666			593	ug/kg		89.1	(50%-150%)			
QC1203265860	MB										
Diesel Range Organics (C10-C20)			U	2170	ug/kg					02/17/15	15:41
Motor Oil (C20-C36)			U	2170	ug/kg						
**o-Terphenyl	666			506	ug/kg		75.9	(50%-150%)			
QC1203265862	367128004 MS										
Diesel Range Organics (C10-C20)	74100	J	3830	68300	ug/kg		87.1	(70%-130%)		02/17/15	19:34
Motor Oil (C20-C36)	74100	J	3270	72500	ug/kg		93.4	(70%-130%)			
**o-Terphenyl	741		574	661	ug/kg		89.2	(50%-150%)			
QC1203265863	367128004 MSD										
Diesel Range Organics (C10-C20)	74100	J	3830	66600	ug/kg	2.51	84.7	(0%-20%)		02/17/15	20:13
Motor Oil (C20-C36)	74100	J	3270	72300	ug/kg	0.224	93.1	(0%-20%)			
**o-Terphenyl	741		574	640	ug/kg		86.3	(50%-150%)			

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated

GEL LABORATORIES LLC

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QC Summary

Workorder: 367128

Client SDG: XP0205

Project Description: RC-233 Soil

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
P	Aroclor target analyte with greater than 25% difference between column analyses.										
T	Spike and/or spike duplicate sample recovery is outside control limits.										
U	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Z	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
o	Analyte failed to recover within LCS limits (Organics only)										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Miscellaneous

Prep Logbook

Extraction of Semivolatile and Nonvolatile Organic Compounds from Soil, Sludge, and Other Miscellaneous Solid Samples

Batch ID: 1458201 Verified by: _____
 Analyst: Vince Sandifer
 Method: SW846 3541

Lab SOP: GL-OA-E-010 REV# 24
 Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1203265860 MB	16-FEB-2015 18:30:00	30.02	1	0.03331
1203265861 LCS	16-FEB-2015 18:30:00	30.04	1	0.03329
367128001	16-FEB-2015 18:30:00	30	1	0.03333
367128002	16-FEB-2015 18:30:00	30	1	0.03333
367128003	16-FEB-2015 18:30:00	30.02	1	0.03331
367128004	16-FEB-2015 18:30:00	30.03	1	0.0333
1203265862 MS (367128004)	16-FEB-2015 18:30:00	30.02	1	0.03331
1203265863 MSD (367128004)	16-FEB-2015 18:30:00	30	1	0.03333

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1203265861	AZDRO SPIKE LCS STD,4000ug/ml	WFI150212-62	1	mL	final solvent CH2Cl2
MS	1203265862	AZDRO SPIKE LCS STD,4000ug/ml	WFI150212-62	1	mL	verified by AW
MSD	1203265863	AZDRO SPIKE LCS STD,4000ug/ml	WFI150212-62	1	mL	
SURR	All	20 ppm surrogate	WE150212-04	1	mL	
REGNT	All	Methylene Chloride	2211177-D	120	mL	
SOURC	All	SODIUM SULFATE	2193342	30	g	

PCB Analysis

Case Narrative

**GC Semivolatile PCB
Technical Case Narrative
Eberline (WCHN)
SDG #: XP0205
Work Order #: 367128**

Method/Analysis Information

Procedure: Analysis of Polychlorinated Biphenyls by ECD
Analytical Method: SW846 3541/8082A
Prep Method: SW846 3541
Analytical Batch Number: 1458356
Prep Batch Number: 1458354

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 3541/8082A:

Sample ID	Client ID
367128001	J1V4H4
367128002	J1V4H5
367128003	J1V4H6
367128004	J1V4H7
1203266300	MB for batch 1458354
1203266301	Laboratory Control Sample (LCS)
1203266302	367128003(J1V4H6) Matrix Spike (MS)
1203266303	367128003(J1V4H6) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 20.

Raw data reports are processed and reviewed by the analyst using the Chemstation software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP).

Calibration Information

A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standards (ICV or CCV) met the acceptance criteria. All analytes were within the established retention time windows for this method.

Quality Control (QC) Information

Method Blank (MB) Statement

The MB analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

All surrogate recoveries were within the established acceptance criteria for the samples in this SDG in this batch.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Sample 367128003 (J1V4H6) was selected for the matrix spike and matrix spike duplicate analysis.

Matrix Spike (MS/MSD) Recovery Statement

The MS/MSD recoveries were within the established acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement

The RPD between the MS and MSD did not meet the acceptance limits due to relatively lower spike recovery in the MSD. As the spike recoveries were within the acceptance limits in the MS and MSD, the data results were not adversely impacted.

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP. All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

Sample Dilutions

The samples in this SDG in this batch did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG in this batch.

Miscellaneous Information

Electronic Package Comment

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Data Exception (DER) Documentation

Data exception report (DER) is generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. DER #1383728 was generated for this SDG.

Manual Integrations

Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this PCB fraction.

Additional Comments

The higher results from either column have been chosen and reported in the data package for the client samples, MB and LCS. The data reported for the MS and MSD are from the same analytical column as the parent sample.

Due to software issue, the surrogate recovery range was not indicated or possibly indicated incorrectly in Quantitation Report. Please see Surrogate Recovery Report for correct surrogate acceptance limits.

Due to rounding differences in the calculation between the forms, the data reported in Sample Summary (form 1) and Spike Recovery Report (form 3) may differ slightly from the data reported in Identification Summary (form 10).

Aroclors quantitated on the raw data report by ChemStation data system do not necessarily represent positive Aroclor identification. In order for positive identification to be made, the Aroclor must match in pattern and retention time; as well as quantitate relatively close between the primary and confirmation columns, as specified in SW846 method 8000. When these conditions are not met, the Aroclor is reported as a non-detect on the data report.

System Configuration

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
ECD9A.I_1	Agilent 7890A Gas Chromatograph/Dual ECD w/ 7693 Autosampler	7890A GC/ECD	Restek Rtx-CLPest 1	30m x 0.25mm, 0.25um
ECD9A.I_2	Agilent 7890A Gas Chromatograph/Dual ECD w/ 7693 Autosampler	7890A GC/ECD	Restek Rtx-CLPest 2	30m x 0.25mm, 0.20um

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

DATA EXCEPTION REPORT

Mo.Day Yr. 19-FEB-15	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: GC/ECD	Test / Method: SW846 3541/8082A	Matrix Type: Solid	Client Code: WCHN
Batch ID: 1458356	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 367128(XP0205)			
Application Issues: Failed RPD for MS/MSD, or PS/PSD			
Specification and Requirements Exception Description:		DER Disposition:	
1. The RPD between the MS and MSD did not meet the acceptance criteria.		1. The relative percent difference (RPD) between the MS and MSD was not within the required acceptance limits due to relatively lower spike recovery in the MSD. As the spike recoveries were within the acceptance limits in both MS and MSD, the data results were not adversely impacted.	

Originator's Name:

Yiping Shi 19-FEB-15

Data Validator/Group Leader:

Jimin Cao 20-FEB-15

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Qualifier Definition Report for

WCHN001 Eberline

Client SDG: XP0205 GEL Work Order: 367128 Project: RC-233 Soil

The Qualifiers in this report are defined as follows:

J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

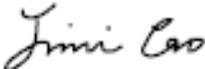
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Jimin Cao

Date: 20 FEB 2015

Title: Data Validator

Sample Data Summary

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 20, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H4	Project: WCHN00313
Sample ID: 367128001	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:12	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 7.18%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"											
Aroclor-1016	U	1.19	1.19	3.58	ug/kg	1	YS1	02/19/15	0945	1458356	1
Aroclor-1221	U	1.19	1.19	3.58	ug/kg	1					
Aroclor-1232	U	1.19	1.19	3.58	ug/kg	1					
Aroclor-1242	U	1.19	1.19	3.58	ug/kg	1					
Aroclor-1248	U	1.19	1.19	3.58	ug/kg	1					
Aroclor-1254	U	1.19	1.19	3.58	ug/kg	1					
Aroclor-1260		6.20	1.19	3.58	ug/kg	1					
Aroclor-1262	U	1.19	1.19	3.58	ug/kg	1					
Aroclor-1268	U	1.19	1.19	3.58	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	Prep Method 3541 PCB Prep Soil	VSG1	02/18/15	0845	1458354

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3541/8082A	
2	SW846 3541/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	4.79 ug/kg	7.16	67.0	(29%-106%)
Decachlorobiphenyl	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	5.72 ug/kg	7.16	79.9	(25%-131%)

Notes:

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 20, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H5	Project: WCHN00313
Sample ID: 367128002	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:15	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 6.08%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"											
Aroclor-1016	U	1.17	1.17	3.52	ug/kg	1	YS1	02/19/15	0957	1458356	1
Aroclor-1221	U	1.17	1.17	3.52	ug/kg	1					
Aroclor-1232	U	1.17	1.17	3.52	ug/kg	1					
Aroclor-1242	U	1.17	1.17	3.52	ug/kg	1					
Aroclor-1248	U	1.17	1.17	3.52	ug/kg	1					
Aroclor-1254	U	1.17	1.17	3.52	ug/kg	1					
Aroclor-1260		3.84	1.17	3.52	ug/kg	1					
Aroclor-1262	U	1.17	1.17	3.52	ug/kg	1					
Aroclor-1268	U	1.17	1.17	3.52	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	Prep Method 3541 PCB Prep Soil	VSG1	02/18/15	0845	1458354

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3541/8082A	
2	SW846 3541/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	5.11 ug/kg	7.04	72.7	(29%-106%)
Decachlorobiphenyl	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	6.17 ug/kg	7.04	87.7	(25%-131%)

Notes:

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Certificate of Analysis

Report Date: February 20, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H6	Project: WCHN00313
Sample ID: 367128003	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:18	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 11.3%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"											
Aroclor-1016	U	1.24	1.24	3.73	ug/kg	1	YS1	02/19/15	1008	1458356	1
Aroclor-1221	U	1.24	1.24	3.73	ug/kg	1					
Aroclor-1232	U	1.24	1.24	3.73	ug/kg	1					
Aroclor-1242	U	1.24	1.24	3.73	ug/kg	1					
Aroclor-1248	U	1.24	1.24	3.73	ug/kg	1					
Aroclor-1254	U	1.24	1.24	3.73	ug/kg	1					
Aroclor-1260	J	2.18	1.24	3.73	ug/kg	1					
Aroclor-1262	U	1.24	1.24	3.73	ug/kg	1					
Aroclor-1268	U	1.24	1.24	3.73	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	Prep Method 3541 PCB Prep Soil	VSG1	02/18/15	0845	1458354

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3541/8082A	
2	SW846 3541/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	4.50 ug/kg	7.46	60.3	(29%-106%)
Decachlorobiphenyl	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	5.19 ug/kg	7.46	69.6	(25%-131%)

Notes:

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 20, 2015

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-233 Soil

Client SDG: XP0205

Client Sample ID: J1V4H7	Project: WCHN00313
Sample ID: 367128004	Client ID: WCHN001
Matrix: SOIL	
Collect Date: 11-FEB-15 12:21	
Receive Date: 13-FEB-15	
Collector: Client	
Moisture: 10%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"											
Aroclor-1016	U	1.22	1.22	3.67	ug/kg	1	YS1	02/19/15	1042	1458356	1
Aroclor-1221	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1232	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1242	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1248	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1254	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1260	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1262	U	1.22	1.22	3.67	ug/kg	1					
Aroclor-1268	U	1.22	1.22	3.67	ug/kg	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3541	Prep Method 3541 PCB Prep Soil	VSG1	02/18/15	0845	1458354

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3541/8082A	
2	SW846 3541/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	5.54 ug/kg	7.34	75.4	(29%-106%)
Decachlorobiphenyl	SW846 3541/8082A PCB Solid Automated Soxhlet "Dry Weight Corrected"	6.29 ug/kg	7.34	85.7	(25%-131%)

Notes:

Quality Control Summary

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: February 20, 2015

Page 1 of 2

WC-Hanford, Inc.
2620 Fermi Avenue
MSIN H4-21
Richland, Washington
Contact: Joan Kessner

Workorder: 367128

Client SDG: XP0205

Project Description: RC-233 Soil

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	1458356										
QC1203266301	LCS										
Aroclor-1016	32.9			27.1	ug/kg		82.3	(44%-97%)	YS1	02/19/15	09:34
Aroclor-1260	32.9			30.2	ug/kg		91.6	(49%-109%)			
**4cmx	6.59			6.82	ug/kg		104	(29%-106%)			
**Decachlorobiphenyl	6.59			7.25	ug/kg		110	(25%-131%)			
QC1203266300	MB										
Aroclor-1016			U	1.11	ug/kg					02/19/15	09:23
Aroclor-1221			U	1.11	ug/kg						
Aroclor-1232			U	1.11	ug/kg						
Aroclor-1242			U	1.11	ug/kg						
Aroclor-1248			U	1.11	ug/kg						
Aroclor-1254			U	1.11	ug/kg						
Aroclor-1260			U	1.11	ug/kg						
Aroclor-1262			U	1.11	ug/kg						
Aroclor-1268			U	1.11	ug/kg						
**4cmx	6.67			5.41	ug/kg		81.1	(29%-106%)			
**Decachlorobiphenyl	6.67			5.47	ug/kg		82.1	(25%-131%)			
QC1203266302	367128003	MS									
Aroclor-1016	37.5	U	1.24	20.9	ug/kg		55.7	(22%-127%)		02/19/15	10:19
Aroclor-1260	37.5	J	2.18	32.1	ug/kg		79.8	(18%-130%)			
**4cmx	7.51		4.50	5.74	ug/kg		76.4	(29%-106%)			
**Decachlorobiphenyl	7.51		5.19	7.65	ug/kg		102	(25%-131%)			

GEL LABORATORIES LLC

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QC Summary

Workorder: 367128

Client SDG: XP0205

Project Description: RC-233 Soil

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	1458356										
QC1203266303 367128003 MSD											
Aroclor-1016	37.0	U	1.24	13.2	ug/kg	45.4*	35.6	(0%-30%)	YS1	02/19/15	10:31
Aroclor-1260	37.0	J	2.18	18.6	ug/kg	53.1*	44.4	(0%-30%)			
**4cmx	7.41			4.50	3.75	ug/kg	50.7	(29%-106%)			
**Decachlorobiphenyl	7.41			5.19	4.50	ug/kg	60.8	(25%-131%)			

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Miscellaneous

Prep Logbook

Automated Soxhlet Extraction

Batch ID: 1458354
Analyst: Stacey Grant
Method: SW846 3541

Verified by: _____

Lab SOP: GL-OA-E-066 REV# 5
Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Clean Up 1 Amount 1 (mL)	Clean Up Post Clean Up Amount 1 (mL)	Final Volume (mL)	Prepped Factor (mL/g)
1203266300 MB	18-FEB-2015 08:45:00	30	H2SO4/KM 2 NO4	9	1	0.03333
1203266301 LCS	18-FEB-2015 08:45:00	30.35	H2SO4/KM 2 NO4	9	1	0.03295
367128001	18-FEB-2015 08:45:00	30.1	H2SO4/KM 2 NO4	9	1	0.03322
367128002	18-FEB-2015 08:45:00	30.26	H2SO4/KM 2 NO4	9	1	0.03305
367128003	18-FEB-2015 08:45:00	30.19	H2SO4/KM 2 NO4	9	1	0.03312
1203266302 MS (367128003)	18-FEB-2015 08:45:00	30.01	H2SO4/KM 2 NO4	9	1	0.03332
1203266303 MSD (367128003)	18-FEB-2015 08:45:00	30.43	H2SO4/KM 2 NO4	9	1	0.03286
367128004	18-FEB-2015 08:45:00	30.28	H2SO4/KM 2 NO4	9	1	0.03303

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1203266301	PCB Laboratory Control	WE150126-06	1	mL	Clean up:H2SO4/KMNO4
MS	1203266302	PCB Laboratory Control	WE150126-06	1	mL	Prior to clean up:2ml
MSD	1203266303	PCB Laboratory Control	WE150126-06	1	mL	Clean up Initials:AAW Clean up SOP:GL-OA-E-037
SURR	All	PEST LOW LEVEL SURROGATE 200 UG/L	WE150114-01	1	mL	Clean up date:2-18-15 Hexane:150218-B10
REGNT	All	5% Potassium Permanganate	2176611	5	mL	
REGNT	All	1:1 sulfuric acid	2197162	5	mL	Final Solvent:Hexane
SOURC	All	SODIUM SULFATE	2193342	30	g	Verified By:MD