

SAF-RC-150
300 Area D4 Waste Sites – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No distribution required

KW 2/29/16
INITIAL/DATE

COMMENTS:

SDG X0113

SAF-RC-150

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location/Waste Site: 300 Area Waste Pad



February 25, 2016

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

Re: RC-150 Other
Work Order: 391333
SDG: X0113

Dear Joan Kessner:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 12, 2016. 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,

B Luthman
Brielle Luthman for
Heather Shaffer
Project Manager

Chain of Custody: RC-150-084
Enclosures



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Case Narrative

**Receipt Narrative
for
Eberline
SDG: X0113
Work Order: 391333**

February 25, 2016

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 12, 2016 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>
391333001	J1V8C7
391333002	J1V8C8
391333003	J1V8C9
391333004	J1V8D0
391333005	J1V8D1

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: GC Semivolatile PCB and General Chemistry.


Brielle Luthman for
Heather Shaffer
Project Manager

Chain of Custody and Supporting Documentation

RC-150-084
Price Code
9C

Project Coordinator
KESSNER, JH
SAF No.
RC-150

Method of Shipment
Commercial Carrier
Bill of Lading/Air Bill No.
SEE OSPC

Telephone No.
375-4688

Company Contact
Joan Kessner
Sampling Location
300 Area Waste Pad

Field Logbook No.
EL-1656-01
COA
R32FX5J300

Offsite Property No.
A131178
T.E.E. 2-10-16

Washington Closure Hanford
Collector
STRICKLAND, RL
Project Designation
300 Area D4 Waste Sites
Ice Chest No.
WCS-EMU
Shipped To
GEL Laboratories Charleston
Other Labs Shipped To
N/A T.E.E. 2-8-16

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST
Project Coordinator
KESSNER, JH
SAF No.
RC-150
Method of Shipment
Commercial Carrier
Bill of Lading/Air Bill No.
SEE OSPC

Company Contact
Joan Kessner
Sampling Location
300 Area Waste Pad
Field Logbook No.
EL-1656-01
COA
R32FX5J300
Offsite Property No.
A131178
T.E.E. 2-10-16

Sample No.	Matrix	Sample Date	Sample Time	Preservation	Cool 4C	Cool 4C	Type of Container	No. of Container(s)	Volume	Sample Analysis
J1V8C7	OTHER	2-10-16	1235	✓	✓	Cool 4C	aG	1	250mL	TOX - 9020; PCBs - 8082
J1V8C8	OTHER	2-10-16	1240	✓	✓	Cool 4C	G/P	1	120mL	Glycols - 9015
J1V8C9	OTHER	2-10-16	1244	✓	✓					
J1V8D0	OTHER	2-10-16	1250	✓	✓					
J1V8D1	OTHER	2-10-16	1300	✓	✓					

Special Handling and/or Storage
Cool as required for preservation

CHAIN OF POSSESSION

Received By/Removed From	Date/Time	Received By/Stored In	Date/Time	Sign/Print Names	Date/Time
RECEIVED BY K. Strickland	2/10/16 1330	CC-0837 FRIDGE	2/10/16 1330		
Relinquished By/Removed From		RECEIVED BY K. Strickland	2/10/16 0830		
Relinquished By/Removed From		RECEIVED BY K. Strickland	2/10/16 0830		
Relinquished By/Removed From		FED EX	2/10/16 1500		
Relinquished By/Removed From		RECEIVED BY John Fisher	2-10-16 0915		
Relinquished By/Removed From		Received By/Stored In	Date/Time		
Relinquished By/Removed From		Received By/Stored In	Date/Time		
Relinquished By/Removed From		Received By/Stored In	Date/Time		
Relinquished By/Removed From		Disposed By	Date/Time		

FINAL SAMPLE DISPOSITION
Disposal Method

391333
XD113



SPECIAL INSTRUCTIONS

SAMPLE RECEIPT & REVIEW FORM

Client: <u>WCHH</u>		SDG/AR/COC/Work Order: <u>391333</u>
Received By: <u>[Signature]</u>		Date Received: <u>2-12-16</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>[Signature]</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 checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius <u>3C</u>
2a	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temperature Device Serial #: <u>(3046296)</u> Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	Do Low Level Perchlorate samples have headspace as required?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's and containers affected:
7	VOA vials contain acid preservation?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(If unknown, select No)
8	VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's and containers affected:
9	Are Encore containers present?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
10	Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ID's and tests affected:
11	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's and containers affected:
12	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's affected:
13	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's affected:
14	Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
15	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
16	Carrier and tracking number.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other <u>7756 2768 3460</u>

Comments (Use Continuation Form if needed):

Laboratory Certifications

List of current GEL Certifications as of 25 February 2016

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	P330-15-00283, P330-15-00253
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	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-16-11
Utah NELAP	SC000122016-20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

PCB Analysis

Case Narrative

**GC Semivolatile PCB
Technical Case Narrative
Eberline (WCHN)
SDG #: X0113
Work Order #: 391333**

Method/Analysis Information

Procedure: Analysis of Polychlorinated Biphenyls by ECD
Analytical Method: SW846 3580A/8082A
Prep Method: SW846 3580A
Analytical Batch Number: 1545871
Prep Batch Number: 1545870

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 3580A/8082A:

Sample ID	Client ID
391333001	J1V8C7
391333002	J1V8C8
391333003	J1V8C9
391333004	J1V8D0
391333005	J1V8D1
1203492026	Method Blank (MB)
1203492027	Laboratory Control Sample (LCS)
1203492028	391333001(J1V8C7) Matrix Spike (MS)
1203492029	391333001(J1V8C7) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" 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.

Laboratory Control Sample (LCS/LCSD) Recovery

The LCS/LCSD spike recoveries met the acceptance limits.

QC Sample Designation

Sample 391333001 (J1V8C7) was selected for the matrix spike and matrix spike duplicate analysis.

Matrix Spike (MS/MSD) Recovery Statement

The MS and/or MSD (See Below) did not meet spike recovery acceptance limits due to sample matrix interference as the MS and MSD displayed similar spike recovery.

Sample	Analyte	Value
1203492028 (J1V8C7MS)	Aroclor-1016	278* (33%-130%)
1203492029 (J1V8C7MSD)	Aroclor-1016	367* (33%-130%)

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent difference (RPD) between the MS and MSD (See Below) was not within the required acceptance limits due to sample matrix interference.

Sample	Analyte	Value
1203492028MS and 1203492029MSD (J1V8C7)	Aroclor-1016	33* (0%-30%)

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 samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. 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

Samples 1203492028 (J1V8C7MS), 1203492029 (J1V8C7MSD), 391333001 (J1V8C7), 391333002 (J1V8C8), 391333003 (J1V8C9), 391333004 (J1V8D0) and 391333005 (J1V8D1) were diluted prior to analysis due to the oily matrix of the extracts. And also most of the sample extracts were like muddy water.

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

A data exception report (DER) 1494347 was generated for this batch of the samples.

Manual integrations

Samples 1203492028 (J1V8C7MS), 1203492029 (J1V8C7MSD), 391333001 (J1V8C7), 391333002 (J1V8C8), 391333003 (J1V8C9) and 391333005 (J1V8D1) required manual integration to correctly position the baseline as set in the calibration standard injections.

Additional Comments

The lower 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/MSD are from the same analytical column as the parent sample.

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-16	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: GC/ECD	Test / Method: SW846 3580A/8082A	Matrix Type: Solid	Client Code: WCHN
Batch ID: 1545871	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 391333(X0113)

Application Issues:

- Failed Recovery for MS/MSD, or PS/PSD
- Failed RPD for MS/MSD, or PS/PSD
- Failed Yield for Surrogates
- Manual Integration

Specification and Requirements Exception Description:

DER Disposition:

1. The relative percent difference (RPD) between the MS and MSD was not within the required acceptance limits.
2. The MS and MSD did not meet spike recovery acceptance limits.
3. Sample 391333001 and matrix QC sample 1203492028(MS) and 1203492029(MSD) failed to meet acceptance criteria for surrogate recovery.

1. The relative percent difference (RPD) between the MS and MSD (See Below) was not within the required acceptance limits due to sample matrix interference.
1203492028MS and 1203492029MSD (J1V8C7) Aroclor-1016 [33* (0%-30%)].
2. The MS and/or MSD (See Below) did not meet spike recovery acceptance limits due to sample matrix interference as the MS and MSD displayed similar spike recovery.
1203492028 (J1V8C7MS) Aroclor-1016 [278* (33%-130%)].
1203492029 (J1V8C7MSD) Aroclor-1016 [367* (33%-130%)].
3. Samples (See Below) failed to meet acceptance criteria for surrogate recovery. Since the the sample and the associated MS/MSD displayed similar surrogate recovery, the failures were attributed to sample matrix interference.
1203492028 (J1V8C7MS) Decachlorobiphenyl [237* (30%-140%)].
1203492029 (J1V8C7MSD) Decachlorobiphenyl [313* (30%-140%)].
391333001 (J1V8C7) Decachlorobiphenyl [219* (30%-140%)].

Originator's Name:

Yiping Shi 19-FEB-16

Data Validator/Group Leader:

Jimin Cao 19-FEB-16

GEL LABORATORIES LLC

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

Qualifier Definition Report for

WCHN001 Eberline

Client SDG: X0113 GEL Work Order: 391333 Project: RC-150 Other

The Qualifiers in this report are defined as follows:

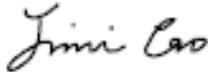
- D Results are reported from a diluted aliquot of sample.
- P Aroclor target analyte with greater than 40% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- 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: 26 FEB 2016

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 19, 2016

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8C7	Project: WCHN00614
Sample ID: 391333001	Client ID: WCHN001
Matrix: OTHERSOLID	
Collect Date: 10-FEB-16 12:35	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 8082A/3580A PCB Waste Dilution "As Received"											
Aroclor-1016	DTU	634	634	1900	ug/kg	2	YS1	02/18/16	1328	1545871	1
Aroclor-1221	DU	634	634	1900	ug/kg	2					
Aroclor-1232	DU	634	634	1900	ug/kg	2					
Aroclor-1242	DU	634	634	1900	ug/kg	2					
Aroclor-1248	DU	634	634	1900	ug/kg	2					
Aroclor-1254	DU	634	634	1900	ug/kg	2					
Aroclor-1260	DU	634	634	1900	ug/kg	2					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3580A	3580A PCB Prep for Oil	SXS3	02/18/16	0521	1545870

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3580A/8082A	
2	SW846 3580A/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 8082A/3580A PCB Waste Dilution "As Received"	1330 ug/kg	1900	70	(29%-127%)
Decachlorobiphenyl	SW846 8082A/3580A PCB Waste Dilution "As Received"	1330 ug/kg	1900	70	(30%-140%)

Notes:

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: February 19, 2016

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8C9	Project: WCHN00614
Sample ID: 391333003	Client ID: WCHN001
Matrix: OTHERSOLID	
Collect Date: 10-FEB-16 12:44	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 8082A/3580A PCB Waste Dilution "As Received"											
Aroclor-1016	DTU	622	622	1870	ug/kg	2	YS1	02/18/16	1429	1545871	1
Aroclor-1221	DU	622	622	1870	ug/kg	2					
Aroclor-1232	DU	622	622	1870	ug/kg	2					
Aroclor-1242	DU	622	622	1870	ug/kg	2					
Aroclor-1248	DU	622	622	1870	ug/kg	2					
Aroclor-1254	DU	622	622	1870	ug/kg	2					
Aroclor-1260	DU	622	622	1870	ug/kg	2					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3580A	3580A PCB Prep for Oil	SXS3	02/18/16	0521	1545870

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3580A/8082A	
2	SW846 3580A/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 8082A/3580A PCB Waste Dilution "As Received"	1250 ug/kg	1870	67	(29%-127%)
Decachlorobiphenyl	SW846 8082A/3580A PCB Waste Dilution "As Received"	1150 ug/kg	1870	61	(30%-140%)

Notes:

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: February 19, 2016

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8D0	Project: WCHN00614
Sample ID: 391333004	Client ID: WCHN001
Matrix: OTHERSOLID	
Collect Date: 10-FEB-16 12:50	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 8082A/3580A PCB Waste Dilution "As Received"											
Aroclor-1016	DTU	628	628	1890	ug/kg	2	YS1	02/18/16	1445	1545871	1
Aroclor-1221	DU	628	628	1890	ug/kg	2					
Aroclor-1232	DU	628	628	1890	ug/kg	2					
Aroclor-1242	DU	628	628	1890	ug/kg	2					
Aroclor-1248	DU	628	628	1890	ug/kg	2					
Aroclor-1254	DU	628	628	1890	ug/kg	2					
Aroclor-1260	DU	628	628	1890	ug/kg	2					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3580A	3580A PCB Prep for Oil	SXS3	02/18/16	0521	1545870

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3580A/8082A	
2	SW846 3580A/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 8082A/3580A PCB Waste Dilution "As Received"	1280 ug/kg	1890	68	(29%-127%)
Decachlorobiphenyl	SW846 8082A/3580A PCB Waste Dilution "As Received"	1560 ug/kg	1890	83	(30%-140%)

Notes:

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: February 19, 2016

Company : WC-Hanford, Inc.
 Address : 2620 Fermi Avenue
 MSIN H4-21
 Richland, Washington 99354
 Contact: Joan Kessner
 Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8D1 Project: WCHN00614
 Sample ID: 391333005 Client ID: WCHN001
 Matrix: OTHERSOLID
 Collect Date: 10-FEB-16 13:00
 Receive Date: 12-FEB-16
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Semi-Volatiles-PCB											
SW846 8082A/3580A PCB Waste Dilution "As Received"											
Aroclor-1016	DTU	647	647	1940	ug/kg	2	YS1	02/18/16	1500	1545871	1
Aroclor-1221	DU	647	647	1940	ug/kg	2					
Aroclor-1232	DU	647	647	1940	ug/kg	2					
Aroclor-1242	DU	647	647	1940	ug/kg	2					
Aroclor-1248	DU	647	647	1940	ug/kg	2					
Aroclor-1254	DU	647	647	1940	ug/kg	2					
Aroclor-1260	DU	647	647	1940	ug/kg	2					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3580A	3580A PCB Prep for Oil	SXS3	02/18/16	0521	1545870

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 3580A/8082A	
2	SW846 3580A/8082A	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
4cmx	SW846 8082A/3580A PCB Waste Dilution "As Received"	1530 ug/kg	1940	79	(29%-127%)
Decachlorobiphenyl	SW846 8082A/3580A PCB Waste Dilution "As Received"	1500 ug/kg	1940	77	(30%-140%)

Notes:

Quality Control Summary

GEL LABORATORIES LLC

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

QC Summary

Report Date: February 19, 2016

Page 1 of 2

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

Workorder: 391333

Client SDG: X0113

Project Description: RC-150 Other

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	1545871										
QC1203492027	LCS										
Aroclor-1016	10000			9910	ug/kg		99	(46%-134%)	YS1	02/18/16	13:16
Aroclor-1260	10000			9320	ug/kg		93	(54%-146%)			
**4cmx	2000			2350	ug/kg		117	(29%-127%)			
**Decachlorobiphenyl	2000			2230	ug/kg		112	(30%-140%)			
QC1203492026	MB										
Aroclor-1016			U	333	ug/kg					02/18/16	13:05
Aroclor-1221			U	333	ug/kg						
Aroclor-1232			U	333	ug/kg						
Aroclor-1242			U	333	ug/kg						
Aroclor-1248			U	333	ug/kg						
Aroclor-1254			U	333	ug/kg						
Aroclor-1260			U	333	ug/kg						
**4cmx	2000			2260	ug/kg		113	(29%-127%)			
**Decachlorobiphenyl	2000			2120	ug/kg		106	(30%-140%)			
QC1203492028	391333001	MS									
Aroclor-1016	9170	DTU	634 DPT	25500	ug/kg		278*	(33%-130%)		02/18/16	13:43
Aroclor-1260	9170	DU	634 D	9450	ug/kg		103	(32%-137%)			
**4cmx	1830		1330	1380	ug/kg		75	(29%-127%)			
**Decachlorobiphenyl	1830		1330	1260	ug/kg		69	(30%-140%)			
QC1203492029	391333001	MSD									
Aroclor-1016	9710	DTU	634 DPT	35600	ug/kg	33*	367*	(0%-30%)		02/18/16	13:58

GEL LABORATORIES LLC

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QC Summary

Workorder: 391333

Client SDG: X0113

Project Description: RC-150 Other

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatiles-PCB											
Batch	1545871										
Aroclor-1260	9710	DU	634 DP	11200	ug/kg	17	116	(0%-30%)			
**4cmx	1940		1330	1530	ug/kg		79	(29%-127%)	YS1	02/18/16	13:58
**Decachlorobiphenyl	1940		1330	1260	ug/kg		65	(30%-140%)			

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 40% 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

The Extraction of Semivolatile and Nonvolatile Organic Compounds from Oil

Batch ID: 1545870 Verified by: _____
 Analyst: Sequan Smalls
 Method: SW846 3580A

Lab SOP: GL-OA-E-050 REV# 8
 Instrument: Semi-Volatiles Manual

Sample ID	Run Date	Aliquot (g)	Clean Up	Prior to Clean up (mL)	Amount Cleaned (mL)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1203492026 MB	18-FEB-2016 05:21:00	1	H2SO4/KM 2		2	10	10
1203492027 LCS	18-FEB-2016 05:21:00	1	nO4				
391333001	18-FEB-2016 05:21:00	1.05	H2SO4/KM 2		2	10	9.52381
1203492028 MS (391333001)	18-FEB-2016 05:21:00	1.09	nO4				
1203492029 MSD (391333001)	18-FEB-2016 05:21:00	1.03	H2SO4/KM 2		2	10	9.70874
391333002	18-FEB-2016 05:21:00	1.04	nO4				
391333003	18-FEB-2016 05:21:00	1.07	H2SO4/KM 2		2	10	9.34579
391333004	18-FEB-2016 05:21:00	1.06	nO4				
391333005	18-FEB-2016 05:21:00	1.03	H2SO4/KM 2		2	10	9.70874
			nO4				

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1203492027	1016/1260 SOLUTION AT 200 MG/L	UE160209-24.01	.05	mL	PCBOIL SURR:UE160209-24.04
MS	1203492028	1016/1260 SOLUTION AT 200 MG/L	UE160209-24.01	.05	mL	Clean up Date: 18-FEB-2016 00:00:00
MSD	1203492029	1016/1260 SOLUTION AT 200 MG/L	UE160209-24.01	.05	mL	Clean up Initials: SSS
SURR	All	Pesticide Surrogate Solution, 20mg/L	UE160209-13.01	.1	mL	Verified By: DPF
REGNT	All	Hexane	160105	10	mL	Final Solvent: Hexane
REGNT	All	5% Potassium Permanganate	2344880	5	mL	Clean Up SOP: GL-OA-E-037
REGNT	All	1:1 sulfuric acid	2366084	5	mL	

General Chem Analysis

Case Narrative

**General Chemistry
Technical Case Narrative
Eberline (WCHN)
SDG #: X0113
Work Order #: 391333**

Method/Analysis Information

Product:	Extractable Organic Halogens (EOX)		
Analytical Batch:	1545602	Method:	SW9023 TOX (Extract. Halogen)
Prep Batch :	1545591	Method:	SW846 9023 Prep

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9023:

Sample ID	Client ID
391333001	J1V8C7
391333002	J1V8C8
391333003	J1V8C9
391333004	J1V8D0
391333005	J1V8D1
1203491176	Method Blank (MB)
1203491177	Laboratory Control Sample (LCS)
1203491178	391333001(J1V8C7) Sample Duplicate (DUP)
1203491179	391333001(J1V8C7) Matrix Spike (MS)

The samples in this SDG were analyzed on an "as received" basis.

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-GC-E-074 REV# 12.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Halogen analysis was performed on a Mitsubishi TOX-10sigma.

Initial Calibration

All initial calibration requirements have been met for this SDG.

Continuing Calibration Blanks

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Quality Control (QC) Information**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery

The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation

Sample 391333001 (J1V8C7) was selected for QC analysis.

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The MS/PS recovery for this sample set was within the required acceptance limits where applicable.

Duplicate Relative Percent Difference (RPD) Statement

The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times

All samples in this SDG met the specified holding time.

Sample Preservation/Integrity

All the samples from this sample group met the preservation and integrity requirements of the method.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-analysis

The samples in this SDG did not require re-analysis.

Miscellaneous Information**Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to 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.

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

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Qualifier Definition Report for

WCHN001 Eberline

Client SDG: X0113 GEL Work Order: 391333 Project: RC-150 Other

The Qualifiers in this report are defined as follows:

B 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).

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

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: Thomas Lewis

Date: 25 FEB 2016

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 25, 2016

Company : WC-Hanford, Inc.
Address : 2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354
Contact: Joan Kessner
Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8C7
Sample ID: 391333001
Matrix: OTHERSOLID
Collect Date: 10-FEB-16 12:35
Receive Date: 12-FEB-16
Collector: Client

Project: WCHN00614
Client ID: WCHN001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis											
SW9023 TOX (Extract. Halogen) "As Received"											
Extractable Organic Halogens	B	22.7	4.95	24.7	mg/kg	1	RMJ	02/24/16	1659	1545602	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9023 Prep	SW 9023 Halogen, Extractable(TOX) Prep	RMJ	02/23/16	1832	1545591

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9023	

Notes:

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 25, 2016

Company : WC-Hanford, Inc.
Address : 2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354
Contact: Joan Kessner
Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8C8
Sample ID: 391333002
Matrix: OTHERSOLID
Collect Date: 10-FEB-16 12:40
Receive Date: 12-FEB-16
Collector: Client

Project: WCHN00614
Client ID: WCHN001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis											
SW9023 TOX (Extract. Halogen) "As Received"											
Extractable Organic Halogens	U	4.90	4.90	24.5	mg/kg	1	RMJ	02/24/16	1722	1545602	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9023 Prep	SW 9023 Halogen, Extractable(TOX) Prep	RMJ	02/23/16	1832	1545591

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9023	

Notes:

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: February 25, 2016

Company : WC-Hanford, Inc.
Address : 2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354
Contact: Joan Kessner
Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8C9
Sample ID: 391333003
Matrix: OTHERSOLID
Collect Date: 10-FEB-16 12:44
Receive Date: 12-FEB-16
Collector: Client

Project: WCHN00614
Client ID: WCHN001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis											
SW9023 TOX (Extract. Halogen) "As Received"											
Extractable Organic Halogens	U	4.86	4.86	24.3	mg/kg	1	RMJ	02/24/16	1728	1545602	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9023 Prep	SW 9023 Halogen, Extractable(TOX) Prep	RMJ	02/23/16	1832	1545591

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9023	

Notes:

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: February 25, 2016

Company : WC-Hanford, Inc.
Address : 2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354
Contact: Joan Kessner
Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8D0
Sample ID: 391333004
Matrix: OTHERSOLID
Collect Date: 10-FEB-16 12:50
Receive Date: 12-FEB-16
Collector: Client

Project: WCHN00614
Client ID: WCHN001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis											
SW9023 TOX (Extract. Halogen) "As Received"											
Extractable Organic Halogens	U	4.99	4.99	25.0	mg/kg	1	RMJ	02/24/16	1735	1545602	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9023 Prep	SW 9023 Halogen, Extractable(TOX) Prep	RMJ	02/23/16	1832	1545591

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9023	

Notes:

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: February 25, 2016

Company : WC-Hanford, Inc.
Address : 2620 Fermi Avenue
MSIN H4-21
Richland, Washington 99354
Contact: Joan Kessner
Project: RC-150 Other

Client SDG: X0113

Client Sample ID: J1V8D1
Sample ID: 391333005
Matrix: OTHERSOLID
Collect Date: 10-FEB-16 13:00
Receive Date: 12-FEB-16
Collector: Client

Project: WCHN00614
Client ID: WCHN001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Halogen Analysis											
SW9023 TOX (Extract. Halogen) "As Received"											
Extractable Organic Halogens	B	6.18	4.99	24.9	mg/kg	1	RMJ	02/24/16	1740	1545602	1

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9023 Prep	SW 9023 Halogen, Extractable(TOX) Prep	RMJ	02/23/16	1832	1545591

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9023	

Notes:

Quality Control Summary

GEL LABORATORIES LLC

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

QC Summary

Report Date: February 25, 2016

Page 1 of 1

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

Workorder: 391333 **Client SDG: X0113** **Project Description: RC-150 Other**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Halogen Analysis											
Batch	1545602										
QC1203491178	391333001	DUP									
Extractable Organic Halogens		B	22.7	B	21.6	mg/kg	4.96	^	(+/-24.4)	RMJ	02/24/16 17:07
QC1203491177	LCS										
Extractable Organic Halogens	125				108	mg/kg			(73%-110%)		02/24/16 16:51
QC1203491176	MB										
Extractable Organic Halogens				U	5.00	mg/kg					02/24/16 16:43
QC1203491179	391333001	MS									
Extractable Organic Halogens	123	B	22.7		116	mg/kg			(42%-124%)		02/24/16 17:17

Notes:

The Qualifiers in this report are defined as follows:

- < Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide
- > Result greater than quantifiable range or greater than upper limit of the analysis range
- B 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).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.
- 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

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

Extractable Organic Halides (EOX)

Batch ID: 1545591
Analyst: Rose Jenkins
Method: SW846 9023 Prep
Lab SOP: GL-GC-E-074 REV# 12
Instrument: OHAUS Balance BAL-032

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1203491177	EOXSPIKE	UTX2317249-02	.25	mL
MS	1203491179	EOXSPIKE	UTX2317249-02	.25	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)
1203491176 MB	23-FEB-2016 18:32:00	Oil	1.001	5	4.995
1203491177 LCS	23-FEB-2016 18:32:00	Oil	1.002	5	4.99002
391333001	23-FEB-2016 18:32:00	Oil	1.0106	5	4.94756
1203491178 DUP (391333001)	23-FEB-2016 18:32:00	Oil	1.025	5	4.87805
1203491179 MS (391333001)	23-FEB-2016 18:32:00	Oil	1.013	5	4.93583
391333002	23-FEB-2016 18:32:00	Oil	1.0213	5	4.89572
391333003	23-FEB-2016 18:32:00	Oil	1.0284	5	4.86192
391333004	23-FEB-2016 18:32:00	Oil	1.0011	5	4.99451
391333005	23-FEB-2016 18:32:00	Oil	1.0028	5	4.98604

Reagent/Solvent Lot ID	Description	Amount	Comments:
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