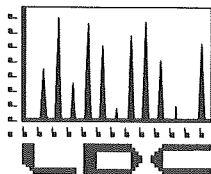


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**APPENDIX E**  
**DATA VALIDATION REPORT**

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**LABORATORY DATA CONSULTANTS, INC.**

7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Anchor Environmental, LLC  
1423 3<sup>rd</sup> Avenue, Suite 300  
Seattle, WA 98101-2226  
ATTN: Ms. Lisa Allen

March 14, 2007

**SUBJECT: Lower Duwamish Waterway, Data Validation**

Dear Ms. Allen,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 23, 2007. Attachment 1 is a summary of the samples that were reviewed for each analysis.

**LDC Project # 16319:**

**SDG #**

**Fraction**

KB04/KK80

Phthalates, Polychlorinated Biphenyls, Wet  
Chemistry

The data validation was performed under EPA Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan: Fish Tissue Sampling and Chemical Analysis in the Lower Duwamish Waterway, September 2006.
- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998

Please feel free to contact us if you have any questions.

Sincerely,

Stella S. Cuenco  
Project Manager/Senior Chemist

## Project #NA

[illegible]

**Lower Duwamish Waterway  
Data Validation Reports  
LDC# 16319**

Phthalates

*LDC*

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Lower Duwamish Waterway  
**Collection Date:** September 30, 2006  
**LDC Report Date:** March 12, 2007  
**Matrix:** Tissue  
**Parameters:** Phthalates  
**Validation Level:** EPA Level III  
**Laboratory:** Analytical Resources, Inc.  
**Sample Delivery Group (SDG):** KB04/KK80

### Sample Identification

LDW-06-T1-A-TR003-SSP-C	LDWG-06-T1-ES-COMP6
LDW-06-T1-B-TR001-SSP-C	LDW-06-T1-A-TR004-ES-2
LDW-06-T1-C-TR005-SSP-C	LDW-06-T1-B-TR001-ES-2
LDW-06-T1-D-TR023-SSP-C1	LDW-06-T1-B-TR001-ES-3
LDW-06-T1-D-TR023-SSP-C1DL	LDW-06-T1-B-TR001-ES-4
LDW-06-T1-E-TR009-SSP-C	LDW-06-T1-B-TR001-ES-5
LDW-06-T1-E-TR009-SSP-CDL	LDW-06-T1-B-TR001-ES-5DL
LDW-06-T1-F-TR011-SSP-C	LDW-06-T1-C-TR019-ES-8
LDW-06-T1-F-TR011-SSP-CDL	LDW-06-T1-D-TR023-ES-5
LDW-06-T1-C-TR021-SSP-C	LDW-06-T1-E-TR009-ES-4
LDW-06-T1-C-TR021-SSP-CDL	LDW-06-T1-F-TR011-ES-3
LDWG-06-T1-ES-COMP1	LDW-06-T1-D-TR023-SSP-C1MS
LDWG-06-T1-ES-COMP1DL	LDW-06-T1-D-TR023-SSP-C1MSD
LDWG-06-T1-ES-COMP2	LDWG-06-T1-ES-COMP5MS
LDWG-06-T1-ES-COMP2DL	LDWG-06-T1-ES-COMP5MSD
LDWG-06-T1-ES-COMP3	
LDWG-06-T1-ES-COMP3DL	
LDWG-06-T1-ES-COMP4	
LDWG-06-T1-ES-COMP4DL	
LDWG-06-T1-ES-COMP5	

## Introduction

This data review covers 35 tissue samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Phthalates.

The review follows the Quality Assurance Project Plan: Fish Tissue Sampling and Chemical Analysis in the Lower Duwamish Waterway (September 2006) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## **I. Technical Holding Times**

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## **II. GC/MS Instrument Performance Check**

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

## **III. Initial Calibration**

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all target compounds and system performance check compounds (SPCCs) were greater than or equal to 0.05 as required.

## **IV. Continuing Calibration**

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds.

All of the continuing calibration RRF values were greater than or equal to 0.05 .

## V. Blanks

Method blanks were reviewed for each matrix as applicable. No phthalate contaminants were found in the method blanks.

## VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
LDW-06-T1-D-TR023-SSP-C1MS/MSD (LDW-06-T1-D-TR023-SSP-C1)	Dimethylphthalate	-	5.0 (30-160)	168 ( $\leq 30$ )	J (all detects) UJ (all non-detects)	A
	Diethylphthalate	-	12.4 (30-160)	133 ( $\leq 30$ )		
	Di-n-butylphthalate	-	-	30.7 ( $\leq 30$ )		
	Butylbenzylphthalate	-	-	30.8 ( $\leq 30$ )		
	Bis(2-ethylhexyl)phthalate	-	-	31.3 ( $\leq 30$ )		
LDWG-06-T1-ES-COMP5MS/MSD (LDWG-06-T1-ES-COMP5)	Bis(2-ethylhexyl)phthalate	-	-	36.0 ( $\leq 30$ )	J (all detects) UJ (all non-detects)	A
	Dimethylphthalate	-	-	200 ( $\leq 30$ )		
	Diethylphthalate	-	-	200 ( $\leq 30$ )		

## VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

## IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:



Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
LDW-06-T1-E-TR009-SSP-C	Chrysene-d12 Di-n-octylphthalate-d4	73952 (197520-790078) 119684 (296984-1187938)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-F-TR011-SSP-C	Chrysene-d12 Di-n-octylphthalate-d4	57576 (197520-790078) 106539 (296984-1187938)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-C-TR021-SSP-C	Chrysene-d12 Di-n-octylphthalate-d4	50863 (197520-790078) 95080 (296984-1187938)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP1	Phenanthrene-d10 Chrysene-d12 Di-n-octylphthalate-d4	169038 (231589-926356) 48121 (197520-790078) 83790 (296984-1187938)	Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP2	Chrysene-d12	184438 (197520-790078)	Butylbenzylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP3	Chrysene-d12 Di-n-octylphthalate-d4	72736 (197520-790078) 127715 (296984-1187938)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP4	Phenanthrene-d10 Chrysene-d12 Di-n-octylphthalate-d4	185482 (231589-926356) 69328 (197520-790078) 121959 (296984-1187938)	Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-D-TR023-SSP-C1	Phenanthrene-d10 Chrysene-d12 Di-n-octylphthalate-d4	105838 (231589-926356) 38566 (197520-790078) 67143 (296984-1187938)	Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-B-TR001-ES-5	Chrysene-d12 Di-n-octylphthalate-d4	189660 (189745-758980) 269454 (276462-1105850)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-E-TR009-SSP-CDL	Chrysene-d12 Di-n-octylphthalate-d4	225287 (240190-960758) 303375 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-F-TR011-SSP-CDL	Chrysene-d12 Di-n-octylphthalate-d4	147669 (240190-960758) 232563 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-C-TR021-SSP-CDL	Chrysene-d12 Di-n-octylphthalate-d4	128326 (240190-960758) 207908 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP1DL	Chrysene-d12 Di-n-octylphthalate-d4	119523 (240190-960758) 201857 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP2DL	Chrysene-d12 Di-n-octylphthalate-d4	129119 (240190-960758) 209272 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
LDWG-06-T1-ES-COMP3DL	Chrysene-d12 Di-n-octylphthalate-d4	127788 (240190-960758) 216603 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDWG-06-T1-ES-COMP4DL	Chrysene-d12 Di-n-octylphthalate-d4	126647 (240190-960758) 216930 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-B-TR001-ES-5DL	Chrysene-d12 Di-n-octylphthalate-d4	135256 (240190-960758) 226431 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A
LDW-06-T1-D-TR023-SSP-C1DL	Chrysene-d12 Di-n-octylphthalate-d4	137027 (240190-960758) 244238 (391038-1564154)	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A

## **XI. Target Compound Identifications**

Raw data were not reviewed for this SDG.

## **XII. Compound Quantitation and CRQLs**

Raw data were not reviewed for this SDG.

## **XIII. Tentatively Identified Compounds (TICs)**

Raw data were not reviewed for this SDG.

## **XIV. System Performance**

Raw data were not reviewed for this SDG.

## **XV. Overall Assessment**

Data flags have been summarized at the end of the report if data has been qualified.

## **XVI. Field Duplicates**

No field duplicates were identified in this SDG.

## **XVII. Field Blanks**

No field blanks were identified in this SDG.

**Lower Duwamish Waterway  
Phthalates - Data Qualification Summary - SDG KB04/KK80**

SDG	Sample	Compound	Flag	A or P	Reason
KB04/KK80	LDW-06-T1-D-TR023-SSP-C1	Dimethylphthalate Diethylphthalate	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)
KB04/KK80	LDW-06-T1-D-TR023-SSP-C1	Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)
KB04/KK80	LDWG-06-T1-ES-COMP5	Bis(2-ethylhexyl)phthalate Dimethylphthalate Diethylphthalate	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)
KB04/KK80	LDW-06-T1-E-TR009-SSP-C LDW-06-T1-F-TR011-SSP-C LDW-06-T1-C-TR021-SSP-C LDWG-06-T1-ES-COMP3 LDW-06-T1-B-TR001-ES-5 LDW-06-T1-E-TR009-SSP-CDL LDW-06-T1-F-TR011-SSP-CDL LDW-06-T1-C-TR021-SSP-CDL LDWG-06-T1-ES-COMP1DL LDWG-06-T1-ES-COMP2DL LDWG-06-T1-ES-COMP3DL LDWG-06-T1-ES-COMP4DL LDW-06-T1-B-TR001-ES-5DL LDW-06-T1-D-TR023-SSP-C1DL	Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A	Internal standards (area)
KB04/KK80	LDWG-06-T1-ES-COMP1 LDWG-06-T1-ES-COMP4 LDW-06-T1-D-TR023-SSP-C1	Di-n-butylphthalate Butylbenzylphthalate Bis(2-ethylhexyl)phthalate Di-n-octylphthalate	J (all detects) UJ (all non-detects)	A	Internal standards (area)
KB04/KK80	LDWG-06-T1-ES-COMP2	Butylbenzylphthalate	J (all detects) UJ (all non-detects)	A	Internal standards (area)

**Lower Duwamish Waterway  
Phthalates - Laboratory Blank Data Qualification Summary - SDG KB04/KK80**

No Sample Data Qualified in this SDG

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED



Sample ID: LDW-06-T1-A-TR003-SSP-C  
SAMPLE

Lab Sample ID: KK80A

LIMS ID: 07-319

Matrix: Tissue

Data Release Authorized:

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING

NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/24/07 11:02

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 3.80 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	71.7%
2-Fluorobiphenyl	70.1%
d14-p-Terphenyl	82.4%
d4-1,2-Dichlorobenzene	66.4%

6/2/07



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

Sample ID: LDW-06-T1-B-TR001-SSP-C  
SAMPLE

Lab Sample ID: KK80B  
LIMS ID: 07-320  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 11:35  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 5.27 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	81.8%
2-Fluorobiphenyl	78.7%
d14-p-Terphenyl	95.0%
d4-1,2-Dichlorobenzene	76.3%

1/24/07



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

Sample ID: LDW-06-T1-C-TR005-SSP-C  
SAMPLE

Lab Sample ID: KK80C  
LIMS ID: 07-321  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 12:08  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 5.27 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.1%
2-Fluorobiphenyl	67.4%
d14-p-Terphenyl	152%
d4-1,2-Dichlorobenzene	62.4%

03/207



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

Sample ID: LDW-06-T1-D-TR023-SSP-C1  
SAMPLE

Lab Sample ID: KK80D  
LIMS ID: 07-322  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/17/07  
Date Analyzed: 01/22/07 18:57  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: NA  
Lipids: 2.79 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U 4J
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U
117-81-7	bis(2-Ethylhexyl)phthalate	50	< 50 U
117-84-0	Di-n-Octyl phthalate	50	< 50 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	58.8%
2-Fluorobiphenyl	78.8%
d14-p-Terphenyl	78.8%
d4-1,2-Dichlorobenzene	56.8%

K3/207

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-D-TR023-SSP-C1  
DILUTION

Lab Sample ID: KK80D

QC Report No: KK80-Anchor Environmental

LIMS ID: 07-322

Project: DUWAMISH DIAGONAL FISH SAMPLING

Matrix: Tissue

NA

Data Release Authorized:

Date Sampled: 09/30/06

Reported: 02/01/07

Date Received: 10/02/06

Date Extracted: 01/17/07

Sample Amount: 10.0 g-as-rec

Date Analyzed: 01/24/07 17:32

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT6/LJR

Dilution Factor: 4.00

GPC Cleanup: No

Percent Moisture: NA

Lipids: 2.79 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	53.1%
2-Fluorobiphenyl	57.0%
d14-p-Terphenyl	98.2%
d4-1,2-Dichlorobenzene	50.4%

6/2/2007



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED

Sample ID: LDW-06-T1-E-TR009-SSP-C  
SAMPLE

Lab Sample ID: KK80E  
LIMS ID: 07-323  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/17/07  
Date Analyzed: 01/22/07 15:11  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: NA  
Lipids: 7.32 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U
117-81-7	bis(2-Ethylhexyl)phthalate	50	< 50 U
117-84-0	Di-n-Octyl phthalate	50	< 50 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	67.6%
2-Fluorobiphenyl	74.4%
d14-p-Terphenyl	126%
d4-1,2-Dichlorobenzene	68.8%

6/2/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-E-TR009-SSP-C  
DILUTIONLab Sample ID: KK80E  
LIMS ID: 07-323  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 12:40  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 7.32 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U UJ
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U ↓
117-84-0	Di-n-Octyl phthalate	200	< 200 U ✓

Reported in µg/kg (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	71.2%
2-Fluorobiphenyl	68.8%
d14-p-Terphenyl	206%
d4-1,2-Dichlorobenzene	70.9%

K03/2007

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-F-TR011-SSP-C  
SAMPLELab Sample ID: KK80F  
LIMS ID: 07-324  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/22/07 15:43  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.1 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: NA  
Lipids: 5.86 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U
117-81-7	bis(2-Ethylhexyl)phthalate	50	< 50 U
117-84-0	Di-n-Octyl phthalate	50	< 50 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	70.0%
2-Fluorobiphenyl	80.8%
d14-p-Terphenyl	115%
d4-1,2-Dichlorobenzene	73.2%

1/23/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED



Sample ID: LDW-06-T1-F-TR011-SSP-C  
DILUTION

Lab Sample ID: KK80F  
LIMS ID: 07-324  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 13:13  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 5.86 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	77.1%
2-Fluorobiphenyl	74.2%
d14-p-Terphenyl	246%
d4-1,2-Dichlorobenzene	75.7%

6/2/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-C-TR021-SSP-C  
SAMPLE

Lab Sample ID: KK80G

LIMS ID: 07-325

Matrix: Tissue

Data Release Authorized:

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING

NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/22/07 16:15

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

Lipids: 5.86 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U
117-81-7	bis(2-Ethylhexyl)phthalate	50	< 50 U
117-84-0	Di-n-Octyl phthalate	50	< 50 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	66.4%
2-Fluorobiphenyl	81.6%
d14-p-Terphenyl	121%
d4-1,2-Dichlorobenzene	71.2%

02/2007

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1



Sample ID: LDW-06-T1-C-TR021-SSP-C  
DILUTION

Lab Sample ID: KK80G

LIMS ID: 07-325

Matrix: Tissue

Data Release Authorized:

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING

NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/24/07 13:45

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-aş-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 5.86 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	350	< 350 Y
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	71.7%
2-Fluorobiphenyl	71.7%
d14-p-Terphenyl	235%
d4-1,2-Dichlorobenzene	70.7%

11/23/07

0043

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMPL  
SAMPLELab Sample ID: KK80H  
LIMS ID: 07-326  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/22/07 16:47  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: NA  
Lipids: 3.29 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U
117-81-7	bis(2-Ethylhexyl)phthalate	58	< 58 Y
117-84-0	Di-n-Octyl phthalate	50	< 50 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	74.0%
2-Fluorobiphenyl	94.0%
d14-p-Terphenyl	119%
d4-1,2-Dichlorobenzene	74.4%

6/2/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP1  
DILUTION

Lab Sample ID: KK80H

LIMS ID: 07-326

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING

NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/24/07 14:18

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 3.29 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U <i>UJ</i>
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U ↓

Reported in µg/kg (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	83.2%
2-Fluorobiphenyl	84.6%
d14-p-Terphenyl	251%
d4-1,2-Dichlorobenzene	80.3%

*6/2/2007*



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP2  
SAMPLELab Sample ID: KK80I  
LIMS ID: 07-327  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/22/07 17:20  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 1.00  
Percent Moisture: NA  
Lipids: 3.68 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U U
117-81-7	bis(2-Ethylhexyl)phthalate	62	< 62 Y
117-84-0	Di-n-Octyl phthalate	50	< 50 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	71.6%
2-Fluorobiphenyl	86.0%
d14-p-Terphenyl	122%
d4-1,2-Dichlorobenzene	74.8%

02/207

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP2  
DILUTION

Lab Sample ID: KK80I


QC Report No: KK80-Anchor Environmental

LIMS ID: 07-327

Project: DUWAMISH DIAGONAL FISH SAMPLING

Matrix: Tissue

NA

Data Release Authorized: 

Date Sampled: 09/30/06

Reported: 02/01/07

Date Received: 10/02/06

Date Extracted: 01/17/07

Sample Amount: 10.0 g-as-rec

Date Analyzed: 01/24/07 14:50

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT6/LJR

Dilution Factor: 4.00

GPC Cleanup: No

Percent Moisture: NA

Lipids: 3.68 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	76.0%
2-Fluorobiphenyl	75.7%
d14-p-Terphenyl	205%
d4-1,2-Dichlorobenzene	77.0%

10/2/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP3  
SAMPLE

Lab Sample ID: KK80J

LIMS ID: 07-328

Matrix: Tissue

Data Release Authorized:

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING

NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/22/07 17:52

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

Lipids: 3.27 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U
85-68-7	Butylbenzylphthalate	50	< 50 U U
117-81-7	bis(2-Ethylhexyl)phthalate	50	< 50 U ↓
117-84-0	Di-n-Octyl phthalate	50	< 50 U ↓

Reported in µg/kg (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	76.4%
2-Fluorobiphenyl	93.6%
d14-p-Terphenyl	124%
d4-1,2-Dichlorobenzene	78.0%

02/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP3  
DILUTIONLab Sample ID: KK80J  
LIMS ID: 07-328  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 15:22  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 3.27 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	77.6%
2-Fluorobiphenyl	81.1%
d14-p-Terphenyl	206%
d4-1,2-Dichlorobenzene	77.4%

02/03/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED

Sample ID: LDWG-06-T1-ES-COMP4  
SAMPLE

Lab Sample ID: KK80K

LIMS ID: 07-329

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/22/07 18:24

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 1.00

Percent Moisture: NA

Lipids: 4.23 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	50	< 50 U
84-66-2	Diethylphthalate	50	< 50 U
84-74-2	Di-n-Butylphthalate	50	< 50 U <i>UJ</i>
85-68-7	Butylbenzylphthalate	50	< 50 U <i>UJ</i>
117-81-7	bis(2-Ethylhexyl)phthalate	50	170 M <i>J</i>
117-84-0	Di-n-Octyl phthalate	50	< 50 U <i>UJ</i>

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.2%
2-Fluorobiphenyl	87.2%
d14-p-Terphenyl	100%
d4-1,2-Dichlorobenzene	68.8%

*1/22/07*

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP4  
DILUTIONLab Sample ID: KK80K  
LIMS ID: 07-329  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 15:55  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 4.23 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U UJ
117-81-7	bis(2-Ethylhexyl)phthalate	200	220 M J
117-84-0	Di-n-Octyl phthalate	200	< 200 U UJ

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	73.1%
2-Fluorobiphenyl	74.6%
d14-p-Terphenyl	174%
d4-1,2-Dichlorobenzene	70.7%

2/2/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP5  
SAMPLE

Lab Sample ID: KK80L

QC Report No: KK80-Anchor Environmental

LIMS ID: 07-330

Project: DUWAMISH DIAGONAL FISH SAMPLING

Matrix: Tissue

NA

Data Release Authorized:

Date Sampled: 09/30/06

Reported: 02/01/07

Date Received: 10/02/06

Date Extracted: 01/17/07

Sample Amount: 10.0 g-as-rec

Date Analyzed: 01/23/07 14:16

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT6/LJR

Dilution Factor: 4.00

GPC Cleanup: No

Percent Moisture: NA

Lipids: 5.06 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U UJ
84-66-2	Diethylphthalate	200	< 200 U ↓
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U UJ
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in µg/kg (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	77.9%
2-Fluorobiphenyl	79.5%
d14-p-Terphenyl	87.7%
d4-1,2-Dichlorobenzene	72.2%

12/3/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP6  
SAMPLELab Sample ID: KK80M  
LIMS ID: 07-331  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/23/07 15:54  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 2.46 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	79.2%
2-Fluorobiphenyl	75.8%
d14-p-Terphenyl	181%
d4-1,2-Dichlorobenzene	77.1%

02/01/07



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-A-TR004-ES-2  
SAMPLE

Lab Sample ID: KK80N

LIMS ID: 07-332

Matrix: Tissue

Data Release Authorized:

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/23/07 16:26

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 1.90 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	89.3%
2-Fluorobiphenyl	85.1%
d14-p-Terphenyl	173%
d4-1,2-Dichlorobenzene	85.0%

02/2007

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1



Sample ID: LDW-06-T1-B-TR001-ES-2  
SAMPLE

Lab Sample ID: KK800  
LIMS ID: 07-333  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/17/07  
Date Analyzed: 01/23/07 16:58  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 2.46 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	65.3%
2-Fluorobiphenyl	65.8%
d14-p-Terphenyl	141%
d4-1,2-Dichlorobenzene	61.0%

2/03/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1



Sample ID: LDW-06-T1-B-TR001-ES-3  
SAMPLE

Lab Sample ID: KK80P

QC Report No: KK80-Anchor Environmental

LIMS ID: 07-334

Project: DUWAMISH DIAGONAL FISH SAMPLING

Matrix: Tissue

NA

Data Release Authorized:

Date Sampled: 09/30/06

Reported: 02/01/07

Date Received: 10/02/06

Date Extracted: 01/17/07

Sample Amount: 10.0 g-as-rec

Date Analyzed: 01/23/07 17:31

Final Extract Volume: 0.5 mL

Instrument/Analyst: NT6/LJR

Dilution Factor: 4.00

GPC Cleanup: No

Percent Moisture: NA

Lipids: 4.20 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	75.0%
2-Fluorobiphenyl	73.0%
d14-p-Terphenyl	162%
d4-1,2-Dichlorobenzene	74.2%

01/23/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

Sample ID: LDW-06-T1-B-TR001-ES-4  
SAMPLE

Lab Sample ID: KK80Q

LIMS ID: 07-335

Matrix: Tissue

Data Release Authorized:

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/23/07 18:03

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 3.49 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	61.0%
2-Fluorobiphenyl	64.3%
d14-p-Terphenyl	153%
d4-1,2-Dichlorobenzene	55.2%

6/3/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-B-TR001-ES-5  
SAMPLE

Lab Sample ID: KK80R

LIMS ID: 07-336

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/23/07 18:35

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 4.17 %


CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U <i>UJ</i>
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U <i>↓</i>
117-84-0	Di-n-Octyl phthalate	200	< 200 U <i>↓</i>

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	66.9%
2-Fluorobiphenyl	68.0%
d14-p-Terphenyl	170%
d4-1,2-Dichlorobenzene	65.4%

*6/3/07*

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-B-TR001-ES-5  
DILUTIONLab Sample ID: KK80R  
LIMS ID: 07-336  
Matrix: Tissue  
Data Release Authorized:   
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/24/07 16:27  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 10.0  
Percent Moisture: NA  
Lipids: 4.17 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	500	< 500 U
84-66-2	Diethylphthalate	500	< 500 U
84-74-2	Di-n-Butylphthalate	500	< 500 U
85-68-7	Butylbenzylphthalate	500	< 500 U
117-81-7	bis(2-Ethylhexyl)phthalate	500	< 500 U
117-84-0	Di-n-Octyl phthalate	500	< 500 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	73.6%
2-Fluorobiphenyl	76.4%
d14-p-Terphenyl	156%
d4-1,2-Dichlorobenzene	72.0%

KJ3/207


ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

Sample ID: LDW-06-T1-C-TR019-ES-8  
SAMPLE

Lab Sample ID: KK80S

LIMS ID: 07-337

Matrix: Tissue

Data Release Authorized: 

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/23/07 19:08

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.1 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 1.21 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	80.8%
2-Fluorobiphenyl	80.5%
d14-p-Terphenyl	186%
d4-1,2-Dichlorobenzene	76.5%

11/02/07

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1Sample ID: LDW-06-T1-D-TR023-ES-5  
SAMPLELab Sample ID: KK80T  
LIMS ID: 07-338  
Matrix: Tissue  
Data Release Authorized:  
Reported: 02/01/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA  
Date Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/17/07  
Date Analyzed: 01/23/07 19:40  
Instrument/Analyst: NT6/LJR  
GPC Cleanup: NoSample Amount: 10.1 g-as-rec  
Final Extract Volume: 0.5 mL  
Dilution Factor: 4.00  
Percent Moisture: NA  
Lipids: 4.67 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

## Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.8%
2-Fluorobiphenyl	69.1%
d14-p-Terphenyl	170%
d4-1,2-Dichlorobenzene	65.1%

11/21/07



ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED



Sample ID: LDW-06-T1-E-TR009-ES-4  
SAMPLE

Lab Sample ID: KK80U

LIMS ID: 07-339

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/23/07 20:12

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.1 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 0.669 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	62.9%
2-Fluorobiphenyl	68.3%
d14-p-Terphenyl	160%
d4-1,2-Dichlorobenzene	57.8%

*10/3/2007*

ORGANICS ANALYSIS DATA SHEET  
Semivolatiles by SW8270D GC/MS  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED

Sample ID: LDW-06-T1-F-TR011-ES-3  
SAMPLE

Lab Sample ID: KK80V

LIMS ID: 07-340

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 02/01/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING  
NA

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/17/07

Date Analyzed: 01/23/07 20:45

Instrument/Analyst: NT6/LJR

GPC Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 0.5 mL

Dilution Factor: 4.00

Percent Moisture: NA

Lipids: 2.47 %

CAS Number	Analyte	RL	Result
131-11-3	Dimethylphthalate	200	< 200 U
84-66-2	Diethylphthalate	200	< 200 U
84-74-2	Di-n-Butylphthalate	200	< 200 U
85-68-7	Butylbenzylphthalate	200	< 200 U
117-81-7	bis(2-Ethylhexyl)phthalate	200	< 200 U
117-84-0	Di-n-Octyl phthalate	200	< 200 U

Reported in  $\mu\text{g/kg}$  (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	77.1%
2-Fluorobiphenyl	76.3%
d14-p-Terphenyl	176%
d4-1,2-Dichlorobenzene	75.7%

*163/207*

0063

**METHOD:** GC/MS Phthalates (EPA SW 846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/30/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	
IV.	Continuing calibration / icv	A	
V.	Blanks	A	
VI.	Surrogate spikes	W	
VII.	Matrix spike/Matrix spike duplicates	W	
VIII.	Laboratory control samples	A	LES
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	W	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate  
N = Not provided/applicable R = Rinsate TB = Trip blank  
SW = See worksheet FB = Field blank EB = Equipment blank

Validated Samples:

*All Tissues*

1	LDW-06-T1-A-TR003-SSP-C	A	11	LDW-06-T1-C-TR021-SSP-CDL	21	LDWG-06-T1-ES-COMP6	4
2	LDW-06-T1-B-TR001-SSP-C	B	12	LDWG-06-T1-ES-COMP1	22	LDW-06-T1-A-TR004-ES-2	1
3	LDW-06-T1-C-TR005-SSP-C	C	13	LDWG-06-T1-ES-COMP1DL	23	LDW-06-T1-B-TR001-ES-2	0
4	LDW-06-T1-D-TR023-SSP-C1	D	14	LDWG-06-T1-ES-COMP2	24	LDW-06-T1-B-TR001-ES-3	7
5	LDW-06-T1-D-TR023-SSP-C1DL	15	15	LDWG-06-T1-ES-COMP2DL	25	LDW-06-T1-B-TR001-ES-4	2
6	LDW-06-T1-E-TR009-SSP-C	E	16	LDWG-06-T1-ES-COMP3	26	LDW-06-T1-B-TR001-ES-5	8
7	LDW-06-T1-E-TR009-SSP-CDL	17	17	LDWG-06-T1-ES-COMP3DL	27	LDW-06-T1-B-TR001-ES-5DL	
8	LDW-06-T1-F-TR011-SSP-C	F	18	LDWG-06-T1-ES-COMP4	28	LDW-06-T1-C-TR019-ES-8	5
9	LDW-06-T1-F-TR011-SSP-CDL	19	19	LDWG-06-T1-ES-COMP4DL	29	LDW-06-T1-D-TR023-ES-5	T
10	LDW-06-T1-C-TR021-SSP-C	G	20	LDWG-06-T1-ES-COMP5	30	LDW-06-T1-E-TR009-ES-4	4

**METHOD:** GC/MS Phthalates (EPA SW 846 Method 8270C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times		Sampling dates:
II.	GC/MS Instrument performance check		
III.	Initial calibration		
IV.	Continuing calibration		
V.	Blanks		
VI.	Surrogate spikes		
VII.	Matrix spike/Matrix spike duplicates		
VIII.	Laboratory control samples		
IX.	Regional Quality Assurance and Quality Control	N	st poly
X.	Internal standards		
XI.	Target compound identification	N	see
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data		
XVI.	Field duplicates		
XVII.	Field blanks		

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

Validated Samples:

31	LDW-06-T1-F-TR011-ES-3	41	MB-011707(1)	51	
32	LDW-06-T1-D-TR023-SSP-C1MS	42	MB-011707(2)	52	
33	LDW-06-T1-D-TR023-SSP-C1MSD	43		53	
34	LDWG-06-T1-ES-COMP5MS	44		54	
35	LDWG-06-T1-ES-COMP5MSD	45		55	
36		46		56	
37		47		57	
38		48		58	
39		49		59	
40		50		60	

# VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

A. Phenol**	P. Bis(2-chloroethoxy)methane	EE. 2,6-Dinitrotoluene	TT. Pentachlorophenol**	III. Benzo(a)pyrene**
B. Bis (2-chloroethyl) ether	Q. 2,4-Dichlorophenol**	FF. 3-Nitroaniline	UU. Phenanthrene	JJJ. Indeno(1,2,3-cd)pyrene
C. 2-Chlorophenol	R. 1,2,4-Trichlorobenzene	GG. Acenaphthene**	VV. Anthracene	KKK. Dibenz(a,h)anthracene
D. 1,3-Dichlorobenzene	S. Naphthalene	HH. 2,4-Dinitrophenol*	WW. Carbazole	LLL. Benzo(g,h,i)perylene
E. 1,4-Dichlorobenzene**	T. 4-Chloroaniline	II. 4-Nitrophenol*	XX. Di-n-butylphthalate	MMM. Bis(2-Chloroisopropyl)ether
F. 1,2-Dichlorobenzene	U. Hexachlorobutadiene**	JJ. Dibenzofuran	YY. Fluoranthene**	NNN. Aniline
G. 2-Methylphenol	V. 4-Chloro-3-methylphenol**	KK. 2,4-Dinitrotoluene	ZZ. Pyrene	OOO. N-Nitrosodimethylamine
H. 2,2'-Oxybis(1-chloropropane)	W. 2-Methylnaphthalene	LL. Diethylphthalate	AAA. Butylbenzylphthalate	PPP. Benzoic Acid
I. 4-Methylphenol	X. Hexachlorocyclopentadiene*	MM. 4-Chlorophenyl-phenyl ether	BBB. 3,3'-Dichlorobenzidine	QQQ. Benzyl alcohol
J. N-Nitroso-di-n-propylamine*	Y. 2,4,6-Trichlorophenol**	NN. Fluorene	CCC. Benzo(a)anthracene	RRR. Pyridine
K. Hexachloroethane	Z. 2,4,5-Trichlorophenol	OO. 4-Nitroaniline	DDD. Chrysene	SSS. Benzidine
L. Nitrobenzene	AA. 2-Chloronaphthalene	PP. 4,6-Dinitro-2-methylphenol	EEE. Bis(2-ethylhexyl)phthalate	TTT.
M. Isophorone	BB. 2-Nitroaniline	QQ. N-Nitrosodiphenylamine (1)**	FFF. Di-n-octylphthalate**	UUU.
N. 2-Nitrophenol**	CC. Dimethylphthalate	RR. 4-Bromophenyl-phenylether	GGG. Benzo(b)fluoranthene	VVV.
O. 2,4-Dimethylphenol	DD. Acenaphthylene	SS. Hexachlorobenzene	HHH. Benzo(k)fluoranthene	WWW.

**VALIDATION FINDINGS WORKSHEET**  
**Surrogate Recovery**

LDC #: 163194  
 SDG #: 1804/KK80  
 METHOD: GC/MS BNA (EPA SW 846 Method 8270)  
 Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".  
 Were percent recoveries (%R) for surrogates within QC limits?  
 Y N N/A  
 If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?  
 Y N N/A  
 If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		3	TPH	152 (30-160)	No Qual
		7	TPH	206 (30-160)	No Qual
		9		242 ( )	
		11		235 ( )	
		13		251 ( )	
		15		205 ( )	
		17		206 ( )	
		19		174 ( )	
		21		181 ( )	
		22		173 ( )	
		24		162 ( )	
		26		170 ( )	

\* QC limits are advisory

S1 (NBZ) = Nitrobenzene-d5	QC Limits (Soil)	QC Limits (Water)	QC Limits (Water)
S2 (FBP) = 2-Fluorobiphenyl	23-120	35-114	21-100
S3 (TPH) = Terphenyl-d14	30-115	43-116	10-123
S4 (PHL) = Phenol-d5	18-137	33-141	33-110*
	24-113	10-94	16-110*

S5 (2FP) = 2-Fluorophenol  
 S6 (TBP) = 2,4,6-Tribromophenol  
 S7 (2CP) = 2-Chlorophenol-d4  
 S8 (DCB) = 1,2-Dichlorobenzene-d4



LDC #: 16319A2  
SDG #: B04/K-80

# VALIDATION FINDINGS WORKSHEET

## Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1  
Reviewer: 9  
2nd Reviewer: 2

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

☒ N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

☒ N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

☒ N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		<u>32/33</u>	<u>CC</u>	( )	( )	<u>5.0 (30-160)</u>	<u>168 (≤30)</u>	<u>4</u>
			<u>LL</u>	( )	( )	<u>12.4 ( )</u>	<u>133 ( )</u>	<u>✓ N/A</u>
			<u>XX</u>	( )	( )	( )	<u>30.7 ( )</u>	
			<u>AAA</u>	( )	( )	( )	<u>30.8 ( )</u>	
			<u>EEE</u>	( )	( )	( )	<u>31.3 ( )</u>	<u>✓</u>
				( )	( )	( )	( )	
				( )	( )	( )	( )	
		<u>34/35</u>	<u>EEE</u>	( )	( )	( )	<u>36.0 (≤30)</u>	<u>✓ N/A</u>
			<u>CC</u>	( )	( )	( )	<u>200 ( )</u>	<u>✓</u>
			<u>LL</u>	( )	( )	( )	<u>200 ( )</u>	
			<u>to R not blue to 4x dilution</u>	( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	
				( )	( )	( )	( )	

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
A.	Phenol	26-90%	≤ 35%	12-110%	≤ 42%	Acenaphthene	31-137%	≤ 19%	46-118%	≤ 31%
C.	2-Chlorophenol	25-102%	≤ 50%	27-123%	≤ 40%	4-Nitrophenol	11-114%	≤ 50%	10-80%	≤ 50%
E.	1,4-Dichlorobenzene	28-104%	≤ 27%	36-97%	≤ 28%	2,4-Dinitrotoluene	28-89%	≤ 47%	24-96%	≤ 38%
J.	N-Nitroso-di-n-propylamine	41-128%	≤ 38%	41-116%	≤ 38%	Pentachlorophenol	17-109%	≤ 47%	9-103%	≤ 50%
R.	1,2,4-Trichlorobenzene	38-107%	≤ 23%	39-98%	≤ 28%	Pyrene	35-142%	≤ 36%	26-127%	≤ 31%
V.	4-Chloro-3-methylphenol	26-103%	≤ 33%	23-97%	≤ 42%					



# VALIDATION FINDINGS WORKSHEET Internal Standards

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all internal standard area counts within -50 to +100 of the associated calibration standard?

Y N N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		6	CRY	73952 (197520-790078)		N/A
			DOP	119684 (296984-1187938)		
		8	CRY	57576		
			DOP	106539		
		10	CRY	50863		
			DOP	95080		
		12	PHN	169038 (231589-926356)		
			CRY	48121		
			DOP	83790		
		14	CRY	184438		
		16	CRY	72736		
			DOP	127715		
		18	PHN	185482		
			CRY	69328		
			DOP	121959		
		4	PHN	105838		
			CRY	38566		
			DOP	67143		

\* QC limits are advisory

IS1 (DCB) = 1,4-Dichlorobenzene-d4  
 IS2 (NPT) = Naphthalene-d8  
 IS3 (ANT) = Acenaphthene-d10

IS4 (PHN) = Phenanthrene-d10  
 IS5 (CRY) = Chrysene-d12  
 IS6 (PRY) = Perylene-d12

DOP = Din-octylphthalate-d4

# VALIDATION FINDINGS WORKSHEET Internal Standards

LDC #: 16319A2  
 SDG #: 15044580

METHOD: GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".  
 Were all internal standard area counts within -50 to +100 of the associated calibration standard?  
 Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		32 (MS)	PHN	216273		No Qual
			CRY	72009		
			DOP	127875		
		33 (MSD)	PHN	210735		
			CRY	75410		
			DOP	135211		
		36	CRY	189660 (189745-758980)		
			DOP	269454 (276462-1105850)		✓
		7	CRY	225287 (240190-960758)		✓
			DOP	303375 (391038-1564154)		✓
		9	CRY	147669		
			DOP	232563		
		11	CRY	128326		
			DOP	207908		
		13	CRY	119523		
			DOP	201857		
		15	CRY	129119		
			DOP	209272		

\* QC limits are advisory  
 IS1 (DCB) = 1,4-Dichlorobenzene-d4  
 IS2 (NPT) = Naphthalene-d8  
 IS3 (ANT) = Acenaphthene-d10  
 IS4 (PHN) = Phenanthrene-d10  
 IS5 (CRY) = Chrysene-d12  
 IS6 (PRY) = Perylene-d12

## VALIDATION FINDINGS WORKSHEET

### Internal Standards

LDC #: 16319A2  
SDG #: KB04/KK80

**METHOD:** GC/MS BNA (EPA SW 846 Method 8270)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

~~Y/N~~ N/A

Were the retention times of the internal standards within  $\pm 30$  seconds of the retention times of the associated calibration standard?

Y ☒ N/A

[illegible]

\* QC limits are advisory

S1 (DCB) = 1,4-Dichlorobenzene-d4  
 S2 (NPT) = Naphthalene-d8  
 S3 (ANT) = Acenaphthene-d10

IS4 (PHN) = Phenanthrene-d10  
IS5 (CRY) = Chrysene-d12  
IS6 (PRY) = Perylene-d12

**Lower Duwamish Waterway  
Data Validation Reports  
LDC# 16319**

Polychlorinated Biphenyls

*LDC*

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Lower Duwamish Waterway

**Collection Date:** September 30, 2006

**LDC Report Date:** March 12, 2007

**Matrix:** Tissue

**Parameters:** Polychlorinated Biphenyls

**Validation Level:** EPA Level III

**Laboratory:** Analytical Resources, Inc.

**Sample Delivery Group (SDG):** KB04/KK80

### Sample Identification

LDW-06-T1-A-TR003-SSP-C	LDW-06-T1-B-TR001-ES-3
LDW-06-T1-B-TR001-SSP-C	LDW-06-T1-B-TR001-ES-4
LDW-06-T1-B-TR001-SSP-CDL	LDW-06-T1-B-TR001-ES-5
LDW-06-T1-C-TR005-SSP-C	LDW-06-T1-C-TR019-ES-8
LDW-06-T1-D-TR023-SSP-C1	LDW-06-T1-D-TR023-ES-5
LDW-06-T1-E-TR009-SSP-C	LDW-06-T1-D-TR023-ES-5DL
LDW-06-T1-F-TR011-SSP-C	LDW-06-T1-E-TR009-ES-4
LDW-06-T1-C-TR021-SSP-C	LDW-06-T1-F-TR011-ES-3
LDWG-06-T1-ES-COMP1	LDW-06-T1-A-TR003-SSP-CMS
LDWG-06-T1-ES-COMP1DL	LDW-06-T1-A-TR003-SSP-CMSD
LDWG-06-T1-ES-COMP2	LDWG-06-T1-ES-COMP5MS
LDWG-06-T1-ES-COMP2DL	LDWG-06-T1-ES-COMP5MSD
LDWG-06-T1-ES-COMP3	
LDWG-06-T1-ES-COMP3DL	
LDWG-06-T1-ES-COMP4	
LDWG-06-T1-ES-COMP4DL	
LDWG-06-T1-ES-COMP5	
LDWG-06-T1-ES-COMP6	
LDW-06-T1-A-TR004-ES-2	
LDW-06-T1-B-TR001-ES-2	

## Introduction

This data review covers 32 tissue samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

The review follows the Quality Assurance Project Plan: Fish Tissue Sampling and Chemical Analysis in the Lower Duwamish Waterway (September 2006) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

## III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

## IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Affected Compound	Flag	A or P
1/20/07	CCV (17:57)	DB-5	Aroclor-1016	15.2	LDWG-06-T1-ES-COMP2 LDWG-06-T1-ES-COMP3 LDWG-06-T1-ES-COMP4 LDW-06-T1-A-TR004-ES-2 LDW-06-T1-B-TR001-ES-2 LDW-06-T1-B-TR001-ES-3 LDW-06-T1-B-TR001-ES-4 LDW-06-T1-B-TR001-ES-5 LDW-06-T1-C-TR019-ES-8 LDW-06-T1-D-TR023-ES-5 LDW-06-T1-E-TR009-ES-4 LDW-06-T1-F-TR011-ES-3	Aroclor-1016 Aroclor-1221 Aroclor-1232	J (all detects) UJ (all non-detects)	A

The percent differences (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

## V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

## VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

## VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

## IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Pesticide Cleanup Checks

### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

## XI. Target Compound Identification

Raw data were not reviewed for this SDG.

## XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
LDW-06-T1-B-TR001-SSP-C LDWG-06-T1-ES-COMP3 LDWG-06-T1-ES-COMP4	Aroclor-1260	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects)	A
LDWG-06-T1-ES-COMP1 LDWG-06-T1-ES-COMP2 LDW-06-T1-D-TR023-ES-5	Aroclor-1260 Aroclor-1254	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects)	A



Raw data were not reviewed for this SDG.

### **XIII. Overall Assessment of Data**

Data flags are summarized at the end of this report if data has been qualified.

### **XIV. Field Duplicates**

No field duplicates were identified in this SDG.

### **XV. Field Blanks**

No field blanks were identified in this SDG.

**Lower Duwamish Waterway  
Polychlorinated Biphenyls - Data Qualification Summary - SDG KB04/KK80**

SDG	Sample	Compound	Flag	A or P	Reason
KB04/KK80	LDWG-06-T1-ES-COMP2 LDWG-06-T1-ES-COMP3 LDWG-06-T1-ES-COMP4 LDW-06-T1-A-TR004-ES-2 LDW-06-T1-B-TR001-ES-2 LDW-06-T1-B-TR001-ES-3 LDW-06-T1-B-TR001-ES-4 LDW-06-T1-B-TR001-ES-5 LDW-06-T1-C-TR019-ES-8 LDW-06-T1-D-TR023-ES-5 LDW-06-T1-E-TR009-ES-4 LDW-06-T1-F-TR011-ES-3	Aroclor-1016 Aroclor-1221 Aroclor-1232	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
KB04/KK80	LDW-06-T1-B-TR001-SSP-C LDWG-06-T1-ES-COMP3 LDWG-06-T1-ES-COMP4	Aroclor-1260	J (all detects)	A	Compound quantitation and CRQLs
KB04/KK80	LDWG-06-T1-ES-COMP1 LDWG-06-T1-ES-COMP2 LDW-06-T1-D-TR023-ES-5	Aroclor-1260 Aroclor-1254	J (all detects) J (all detects)	A	Compound quantitation and CRQLs

**Lower Duwamish Waterway  
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG KB04/KK80**

No Sample Data Qualified in this SDG

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-A-TR003-SSP-C  
SAMPLE

Lab Sample ID: KK80A  
LIMS ID: 07-319  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING  
Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 14:01  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U
11097-69-1	Aroclor 1254	40	180
11096-82-5	Aroclor 1260	40	270
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	90.5%
Tetrachlorometaxylene	95.5%

6/3/2007

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-B-TR001-SSP-C  
SAMPLE

Lab Sample ID: KK80B  
LIMS ID: 07-320  
Matrix: Tissue  
Data Release Authorized:  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 14:56  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U
11097-69-1	Aroclor 1254	40	240
11096-82-5	Aroclor 1260	40	410 E J
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	79.5%
Tetrachlorometaxylene	91.5%

1/23/07

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDW-06-T1-B-TR001-SSP-C  
DILUTIONLab Sample ID: KK80B  
LIMS ID: 07-320  
Matrix: Tissue  
Data Release Authorized: *AB*  
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 13:44  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 5.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	99	< 99 U
53469-21-9	Aroclor 1242	99	< 99 U
12672-29-6	Aroclor 1248	99	< 99 U
11097-69-1	Aroclor 1254	99	290
11096-82-5	Aroclor 1260	99	490
11104-28-2	Aroclor 1221	99	< 99 U
11141-16-5	Aroclor 1232	99	< 99 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	103%
Tetrachlorometaxylene	108%

*12/2007*



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: LDW-06-T1-C-TR005-SSP-C  
SAMPLE

Lab Sample ID: KK80C

LIMS ID: 07-321

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/16/07

Date Analyzed: 01/20/07 15:14

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 2.0 mL

Dilution Factor: 2.00

Silica Gel: No

pH: NA

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U
11097-69-1	Aroclor 1254	40	120
11096-82-5	Aroclor 1260	40	130
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	74.5%
Tetrachlorometaxylene	85.0%

*01/23/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED



Sample ID: LDW-06-T1-D-TR023-SSP-C1  
SAMPLE

Lab Sample ID: KK80D  
LIMS ID: 07-322  
Matrix: Tissue  
Data Release Authorized: *AB*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 15:32  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U
11097-69-1	Aroclor 1254	40	140
11096-82-5	Aroclor 1260	40	150
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	86.0%
Tetrachlorometaxylene	100%

*1/23/07*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-E-TR009-SSP-C  
SAMPLE

Lab Sample ID: KK80E  
LIMS ID: 07-323  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 15:50  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	80	< 80 Y
11097-69-1	Aroclor 1254	40	260
11096-82-5	Aroclor 1260	40	300
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.5%
Tetrachlorometaxylene	112%

*1/23/07*



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDW-06-T1-F-TR011-SSP-C  
SAMPLELab Sample ID: KK80F  
LIMS ID: 07-324  
Matrix: Tissue  
Data Release Authorized:  
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 16:08  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	100	< 100 Y
11097-69-1	Aroclor 1254	40	200
11096-82-5	Aroclor 1260	40	210
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	88.0%
Tetrachlorometaxylene	104%

4/03/2007

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-C-TR021-SSP-C  
SAMPLE

Lab Sample ID: KK80G  
LIMS ID: 07-325  
Matrix: Tissue  
Data Release Authorized:  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 16:27  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U
11097-69-1	Aroclor 1254	40	210
11096-82-5	Aroclor 1260	40	300
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.0%
Tetrachlorometaxylene	91.5%

10/2/07

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED

Sample ID: LDWG-06-T1-ES-COMP1  
SAMPLE

Lab Sample ID: KK80H  
LIMS ID: 07-326  
Matrix: Tissue  
Data Release Authorized:  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 16:45  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	160	< 160 Y
11097-69-1	Aroclor 1254	40	470 E
11096-82-5	Aroclor 1260	40	440 E
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	104%
Tetrachlorometaxylene	100%

10/23/07

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDWG-06-T1-ES-COMP1  
DILUTION

Lab Sample ID: KK80H  
LIMS ID: 07-326  
Matrix: Tissue  
Data Release Authorized: *AB*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 14:02  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 5.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	100	< 100 U
53469-21-9	Aroclor 1242	100	< 100 U
12672-29-6	Aroclor 1248	150	< 150 Y
11097-69-1	Aroclor 1254	100	480
11096-82-5	Aroclor 1260	100	470
11104-28-2	Aroclor 1221	100	< 100 U
11141-16-5	Aroclor 1232	100	< 100 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	114%
Tetrachlorometaxylene	109%

*02/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

ANALYTICAL  
RESOURCES  
INCORPORATED

Sample ID: LDWG-06-T1-ES-COMP2

SAMPLE

Lab Sample ID: KK80I

LIMS ID: 07-327

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 01/23/07

QC Report No: KK80-Anchor Environmental

Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/16/07

Date Analyzed: 01/20/07 18:16

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec

Final Extract Volume: 2.0 mL

Dilution Factor: 2.00

Silica Gel: No

pH: NA

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>UJ</i>
53469-21-9	Aroclor 1242	40	< 40 U <i>↓</i>
12672-29-6	Aroclor 1248	120	< 120 Y <i>↓</i>
11097-69-1	Aroclor 1254	40	780 E <i>UJ</i>
11096-82-5	Aroclor 1260	40	730 E <i>↓</i>
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	88.5%

*12/207*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP2  
DILUTIONLab Sample ID: KK80I  
LIMS ID: 07-327  
Matrix: Tissue  
Data Release Authorized: *MB*  
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 14:20  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 5.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	99	< 99 U
53469-21-9	Aroclor 1242	99	< 99 U
12672-29-6	Aroclor 1248	150	< 150 Y
11097-69-1	Aroclor 1254	99	700
11096-82-5	Aroclor 1260	99	770
11104-28-2	Aroclor 1221	99	< 99 U
11141-16-5	Aroclor 1232	99	< 99 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	102%
Tetrachlorometaxylene	94.8%

*1/23/07*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP3  
SAMPLE

Lab Sample ID: KK80J

LIMS ID: 07-328

Matrix: Tissue

Data Release Authorized: *[Signature]*

Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/16/07

Date Analyzed: 01/20/07 18:34

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec

Final Extract Volume: 2.0 mL

Dilution Factor: 2.00

Silica Gel: No

pH: NA

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>45</i>
53469-21-9	Aroclor 1242	40	< 40 U <i>1</i>
12672-29-6	Aroclor 1248	79	< 79 Y <i>1</i>
11097-69-1	Aroclor 1254	40	390
11096-82-5	Aroclor 1260	40	420 E <i>J</i>
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	95.0%
Tetrachlorometaxylene	92.5%

*6/23/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDWG-06-T1-ES-COMP3  
DILUTION

Lab Sample ID: KK80J  
LIMS ID: 07-328  
Matrix: Tissue  
Data Release Authorized: *AB*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 14:39  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 5.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	99	< 99 U
53469-21-9	Aroclor 1242	99	< 99 U
12672-29-6	Aroclor 1248	99	< 99 U
11097-69-1	Aroclor 1254	99	370
11096-82-5	Aroclor 1260	99	410
11104-28-2	Aroclor 1221	99	< 99 U
11141-16-5	Aroclor 1232	99	< 99 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	101%
Tetrachlorometaxylene	96.5%

*1/23/07*



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDWG-06-T1-ES-COMP4  
SAMPLE

Lab Sample ID: KK80K  
LIMS ID: 07-329  
Matrix: Tissue  
Data Release Authorized: *AB*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 18:52  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA


CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>W</i>
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	120	< 120 Y <i>↓</i>
11097-69-1	Aroclor 1254	40	390
11096-82-5	Aroclor 1260	40	420 E <i>J</i>
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	95.0%
Tetrachlorometaxylene	93.0%

*1/23/07*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDWG-06-T1-ES-COMP4  
DILUTIONLab Sample ID: KK80K  
LIMS ID: 07-329  
Matrix: Tissue  
Data Release Authorized:   
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 14:57  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 5.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	99	< 99 U
53469-21-9	Aroclor 1242	99	< 99 U
12672-29-6	Aroclor 1248	99	< 99 U
11097-69-1	Aroclor 1254	99	400
11096-82-5	Aroclor 1260	99	430
11104-28-2	Aroclor 1221	99	< 99 U
11141-16-5	Aroclor 1232	99	< 99 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	102%
Tetrachlorometaxylene	98.0%

03/207

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDWG-06-T1-ES-COMP5  
SAMPLE

Lab Sample ID: KK80L  
LIMS ID: 07-330  
Matrix: Tissue  
Data Release Authorized: *AB*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 12:31  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 3.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	59	< 59 U
53469-21-9	Aroclor 1242	59	< 59 U
12672-29-6	Aroclor 1248	120	< 120 Y
11097-69-1	Aroclor 1254	59	410
11096-82-5	Aroclor 1260	59	460
11104-28-2	Aroclor 1221	59	< 59 U
11141-16-5	Aroclor 1232	59	< 59 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.5%
Tetrachlorometaxylene	87.0%

*10/2/07*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDWG-06-T1-ES-COMP6  
SAMPLE

Lab Sample ID: KK80M  
LIMS ID: 07-331  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 13:26  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.2 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 3.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	59	< 59 U
53469-21-9	Aroclor 1242	59	< 59 U
12672-29-6	Aroclor 1248	88	< 88 Y
11097-69-1	Aroclor 1254	59	300
11096-82-5	Aroclor 1260	59	330
11104-28-2	Aroclor 1221	59	< 59 U
11141-16-5	Aroclor 1232	59	< 59 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.2%
Tetrachlorometaxylene	79.5%

*02/207*



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: LDW-06-T1-A-TR004-ES-2  
SAMPLE

Lab Sample ID: KK80N  
LIMS ID: 07-332  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 19:10  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>UJ</i>
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U <i>↓</i>
11097-69-1	Aroclor 1254	40	200
11096-82-5	Aroclor 1260	40	330
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.5%
Tetrachlorometaxylene	80.0%

*10/23/07*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-B-TR001-ES-2  
SAMPLE

Lab Sample ID: KK800  
LIMS ID: 07-333  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 19:28  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>43</i>
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	40	< 40 U <i>↓</i>
11097-69-1	Aroclor 1254	40	190
11096-82-5	Aroclor 1260	40	240
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.0%
Tetrachlorometaxylene	84.5%

*10/2/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDW-06-T1-B-TR001-ES-3  
SAMPLELab Sample ID: KK80P  
LIMS ID: 07-334  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 19:46  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.0 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	120	< 120 Y
11097-69-1	Aroclor 1254	40	330
11096-82-5	Aroclor 1260	40	240
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	94.0%
Tetrachlorometaxylene	91.5%

11/3/2007

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDW-06-T1-B-TR001-ES-4  
SAMPLELab Sample ID: KK80Q  
LIMS ID: 07-335  
Matrix: Tissue  
Data Release Authorized: *MB*  
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 20:04  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>UJ</i>
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	99	< 99 Y <i>↓</i>
11097-69-1	Aroclor 1254	40	280
11096-82-5	Aroclor 1260	40	250
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	92.0%
Tetrachlorometaxylene	90.5%

*01/23/07*



ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDW-06-T1-B-TR001-ES-5  
SAMPLELab Sample ID: KK80R  
LIMS ID: 07-336  
Matrix: Tissue  
Data Release Authorized: *MS*  
Reported: 01/23/07QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLINGDate Sampled: 09/30/06  
Date Received: 10/02/06Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 20:23  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: NoSample Amount: 10.2 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	39	< 39 U <i>45</i>
53469-21-9	Aroclor 1242	39	< 39 U <i>↓</i>
12672-29-6	Aroclor 1248	120	< 120 Y
11097-69-1	Aroclor 1254	39	240
11096-82-5	Aroclor 1260	39	180
11104-28-2	Aroclor 1221	39	< 39 U
11141-16-5	Aroclor 1232	39	< 39 U

Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	93.5%
Tetrachlorometaxylene	79.5%

*11/02/2007*

## ORGANICS ANALYSIS DATA SHEET

PCB by GC/ECD Method SW8082

Page 1 of 1

Sample ID: LDW-06-T1-C-TR019-ES-8  
SAMPLE

Lab Sample ID: KK80S

LIMS ID: 07-337

Matrix: Tissue

Data Release Authorized: *AB*

Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/16/07

Date Analyzed: 01/20/07 20:41

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 10.0 g-as-rec

Final Extract Volume: 2.0 mL

Dilution Factor: 2.00

Silica Gel: No

pH: NA

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U <i>45</i>
53469-21-9	Aroclor 1242	40	< 40 U <i>↓</i>
12672-29-6	Aroclor 1248	40	< 40 U
11097-69-1	Aroclor 1254	40	120
11096-82-5	Aroclor 1260	40	120
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

Reported in µg/kg (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	82.5%
Tetrachlorometaxylene	69.0%

*9/23/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1

Sample ID: LDW-06-T1-D-TR023-ES-5  
SAMPLE

Lab Sample ID: KK80T  
LIMS ID: 07-338  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/20/07 20:59  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.2 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	39	< 39 U <i>W</i>
53469-21-9	Aroclor 1242	39	< 39 U <i>↓</i>
12672-29-6	Aroclor 1248	200	< 200 Y <i>↓</i>
11097-69-1	Aroclor 1254	39	600 E <i>J</i>
11096-82-5	Aroclor 1260	39	570 E <i>↓</i>
11104-28-2	Aroclor 1221	39	< 39 U
11141-16-5	Aroclor 1232	39	< 39 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.0%
Tetrachlorometaxylene	89.0%

*01/23/07*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-D-TR023-ES-5  
DILUTION

Lab Sample ID: KK80T  
LIMS ID: 07-338  
Matrix: Tissue  
Data Release Authorized: *[Signature]*  
Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06  
Date Received: 10/02/06

Date Extracted: 01/16/07  
Date Analyzed: 01/22/07 15:15  
Instrument/Analyst: ECD5/PK  
GPC Cleanup: No  
Sulfur Cleanup: Yes  
Acid Cleanup: Yes  
Florisil Cleanup: No

Sample Amount: 10.2 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 5.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	98	< 98 U
53469-21-9	Aroclor 1242	98	< 98 U
12672-29-6	Aroclor 1248	200	< 200 Y
11097-69-1	Aroclor 1254	98	620
11096-82-5	Aroclor 1260	98	590
11104-28-2	Aroclor 1221	98	< 98 U
11141-16-5	Aroclor 1232	98	< 98 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	98.4%
Tetrachlorometaxylene	95.8%

*6/2/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1



Sample ID: LDW-06-T1-E-TR009-ES-4  
SAMPLE

Lab Sample ID: KK80U

LIMS ID: 07-339

Matrix: Tissue

Data Release Authorized: *MS*

Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/16/07

Date Analyzed: 01/20/07 21:17

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 10.2 g-as-rec

Final Extract Volume: 2.0 mL

Dilution Factor: 2.00

Silica Gel: No

pH: NA

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	39	< 39 U <i>UJ</i>
53469-21-9	Aroclor 1242	39	< 39 U
12672-29-6	Aroclor 1248	39	< 39 U <i>↓</i>
11097-69-1	Aroclor 1254	39	250
11096-82-5	Aroclor 1260	39	260
11104-28-2	Aroclor 1221	39	< 39 U
11141-16-5	Aroclor 1232	39	< 39 U

Reported in  $\mu\text{g/kg}$  (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.5%
Tetrachlorometaxylene	68.5%

*11/6/2007*

ORGANICS ANALYSIS DATA SHEET  
PCB by GC/ECD Method SW8082  
Page 1 of 1Sample ID: LDW-06-T1-F-TR011-ES-3  
SAMPLE

Lab Sample ID: KK80V

LIMS ID: 07-340

Matrix: Tissue

Data Release Authorized: *AD*

Reported: 01/23/07

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Date Sampled: 09/30/06

Date Received: 10/02/06

Date Extracted: 01/16/07

Date Analyzed: 01/20/07 21:35

Instrument/Analyst: ECD5/PK

GPC Cleanup: No

Sulfur Cleanup: Yes

Acid Cleanup: Yes

Florisil Cleanup: No

Sample Amount: 10.1 g-as-rec  
Final Extract Volume: 2.0 mL  
Dilution Factor: 2.00  
Silica Gel: No  
pH: NA  
Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	40	< 40 U
53469-21-9	Aroclor 1242	40	< 40 U
12672-29-6	Aroclor 1248	99	< 99 Y
11097-69-1	Aroclor 1254	40	240
11096-82-5	Aroclor 1260	40	230
11104-28-2	Aroclor 1221	40	< 40 U
11141-16-5	Aroclor 1232	40	< 40 U

*45*  
↓Reported in  $\mu\text{g/kg}$  (ppb)

## PCB Surrogate Recovery

Decachlorobiphenyl	91.5%
Tetrachlorometaxylene	81.0%

*01/23/07*

LDC #: 16319A3

**VALIDATION COMPLETENESS WORKSHEET**

SDG #: KBB04/KK80

Level III

Laboratory: Analytical Resources, Inc.

Date: 3/8/07

Page: 1 of 2

Reviewer: Q

2nd Reviewer: n

**METHOD:** GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/30/06
II.	GC/ECD Instrument Performance Check	N	
III.	Initial calibration	A	
IV.	Continuing calibration	W	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	W	
VIII.	Laboratory control samples	A	LCS
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	SW	
XIII.	Overall assessment of data	A	
XIV.	Field duplicates	N	
XV.	Field blanks	N	

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

Validated Samples:

M TISSUES

1	LDW-06-T1-A-TR003-SSP-C	11	LDWG-06-T1-ES-COMP2	21	LDW-06-T1-B-TR001-ES-3
2	LDW-06-T1-B-TR001-SSP-C	12	LDWG-06-T1-ES-COMP2DL	22	LDW-06-T1-B-TR001-ES-4
3	LDW-06-T1-B-TR001-SSP-CDL	13	LDWG-06-T1-ES-COMP3	23	LDW-06-T1-B-TR001-ES-5
4	LDW-06-T1-C-TR005-SSP-C	14	LDWG-06-T1-ES-COMP3DL	24	LDW-06-T1-C-TR019-ES-8
5	LDW-06-T1-D-TR023-SSP-C1	15	LDWG-06-T1-ES-COMP4	25	LDW-06-T1-D-TR023-ES-5
6	LDW-06-T1-E-TR009-SSP-C	16	LDWG-06-T1-ES-COMP4DL	26	LDW-06-T1-D-TR023-ES-5DL
7	LDW-06-T1-F-TR011-SSP-C	17	LDWG-06-T1-ES-COMP5	27	LDW-06-T1-E-TR009-ES-4
8	LDW-06-T1-C-TR021-SSP-C	18	LDWG-06-T1-ES-COMP6	28	LDW-06-T1-F-TR011-ES-3
9	LDWG-06-T1-ES-COMP1	19	LDW-06-T1-A-TR004-ES-2	29	LDW-06-T1-A-TR003-SSP-CMS
10	LDWG-06-T1-ES-COMP1DL	20	LDW-06-T1-B-TR001-ES-2	30	LDW-06-T1-A-TR003-SSP-CMSD

LDC #: 16319A3

**VALIDATION COMPLETENESS WORKSHEET**

SDG #: BB04/KK80

Level III

Laboratory: Analytical Resources, Inc.

Date: 3/8/17

Page: 2 of 2

Reviewer: [Signature]

2nd Reviewer: [Signature]

**METHOD:** GC Polychlorinated Biphenyls (EPA SW 846 Method 8082)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times		Sampling dates:
II.	GC/ECD Instrument Performance Check	-	
III.	Initial calibration		
IV.	Continuing calibration		
V.	Blanks		
VI.	Surrogate spikes		
VII.	Matrix spike/Matrix spike duplicates		
VIII.	Laboratory control samples		
IX.	Regional quality assurance and quality control	N	
Xa.	Florisil cartridge check	N	
Xb.	GPC Calibration	N	
XI.	Target compound identification	N	
XII.	Compound quantitation and reported CRQLs	N	
XIII.	Overall assessment of data		
XIV.	Field duplicates		
XV.	Field blanks		

Note: A = Acceptable  
N = Not provided/applicable  
SW = See worksheet

ND = No compounds detected  
R = Rinsate  
FB = Field blank

D = Duplicate  
TB = Trip blank  
EB = Equipment blank

Validated Samples:

31	LDWG-06-T1-ES-COMP5MS	41	MB-011607(1)	51	
32	LDWG-06-T1-ES-COMP5MSD	42	MB-011607(2)	52	
33		43		53	
34		44		54	
35		45		55	
36		46		56	
37		47		57	
38		48		58	
39		49		59	
40		50		60	



# VALIDATION FINDINGS WORKSHEET

METHOD: Pesticide/PCBs (EPASW 846 Method 8081/8082)

A. alpha-BHC	I. Dieldrin	Q. Endrin ketone	Y. Aroclor-1242	GG.
B. beta-BHC	J. 4,4'-DDE	R. Endrin aldehyde	Z. Aroclor-1248	HH.
C. delta-BHC	K. Endrin	S. alpha-Chlordane	AA. Aroclor-1254	II.
D. gamma-BHC	L. Endosulfan II	T. gamma-Chlordane	BB. Aroclor-1260	JJ.
E. Heptachlor	M. 4,4'-DDD	U. Toxaphene	CC. DB 608	KK.
F. Aldrin	N. Endosulfan sulfate	V. Aroclor-1016	DD. DB 1701	LL.
G. Heptachlor epoxide	O. 4,4'-DDT	W. Aroclor-1221	EE.	MM.
H. Endosulfan I	P. Methoxychlor	X. Aroclor-1232	FF.	NN.

Notes:



Case	QC	Quantification	Below 1st cut	QC	Quantification	Below 1st cut
1	✓	N	N/A	✓	N	N/A
2	✓	N	N/A	✓	N	N/A
3	✓	N	N/A	✓	N	N/A
4	✓	N	N/A	✓	N	N/A
5	✓	N	N/A	✓	N	N/A
6	✓	N	N/A	✓	N	N/A
7	✓	N	N/A	✓	N	N/A
8	✓	N	N/A	✓	N	N/A
9	✓	N	N/A	✓	N	N/A
10	✓	N	N/A	✓	N	N/A
11	✓	N	N/A	✓	N	N/A
12	✓	N	N/A	✓	N	N/A
13	✓	N	N/A	✓	N	N/A
14	✓	N	N/A	✓	N	N/A
15	✓	N	N/A	✓	N	N/A
16	✓	N	N/A	✓	N	N/A
17	✓	N	N/A	✓	N	N/A
18	✓	N	N/A	✓	N	N/A
19	✓	N	N/A	✓	N	N/A
20	✓	N	N/A	✓	N	N/A
21	✓	N	N/A	✓	N	N/A
22	✓	N	N/A	✓	N	N/A
23	✓	N	N/A	✓	N	N/A
24	✓	N	N/A	✓	N	N/A
25	✓	N	N/A	✓	N	N/A
26	✓	N	N/A	✓	N	N/A
27	✓	N	N/A	✓	N	N/A
28	✓	N	N/A	✓	N	N/A
29	✓	N	N/A	✓	N	N/A
30	✓	N	N/A	✓	N	N/A
31	✓	N	N/A	✓	N	N/A
32	✓	N	N/A	✓	N	N/A
33	✓	N	N/A	✓	N	N/A
34	✓	N	N/A	✓	N	N/A
35	✓	N	N/A	✓	N	N/A
36	✓	N	N/A	✓	N	N/A
37	✓	N	N/A	✓	N	N/A
38	✓	N	N/A	✓	N	N/A
39	✓	N	N/A	✓	N	N/A
40	✓	N	N/A	✓	N	N/A
41	✓	N	N/A	✓	N	N/A
42	✓	N	N/A	✓	N	N/A
43	✓	N	N/A	✓	N	N/A
44	✓	N	N/A	✓	N	N/A
45	✓	N	N/A	✓	N	N/A
46	✓	N	N/A	✓	N	N/A
47	✓	N	N/A	✓	N	N/A
48	✓	N	N/A	✓	N	N/A
49	✓	N	N/A	✓	N	N/A
50	✓	N	N/A	✓	N	N/A
51	✓	N	N/A	✓	N	N/A
52	✓	N	N/A	✓	N	N/A
53	✓	N	N/A	✓	N	N/A
54	✓	N	N/A	✓	N	N/A
55	✓	N	N/A	✓	N	N/A
56	✓	N	N/A	✓	N	N/A
57	✓	N	N/A	✓	N	N/A
58	✓	N	N/A	✓	N	N/A
59	✓	N	N/A	✓	N	N/A
60	✓	N	N/A	✓	N	N/A
61	✓	N	N/A	✓	N	N/A
62	✓	N	N/A	✓	N	N/A
63	✓	N	N/A	✓	N	N/A
64	✓	N	N/A	✓	N	N/A
65	✓	N	N/A	✓	N	N/A
66	✓	N	N/A	✓	N	N/A
67	✓	N	N/A	✓	N	N/A
68	✓	N	N/A	✓	N	N/A
69	✓	N	N/A	✓	N	N/A
70	✓	N	N/A	✓	N	N/A
71	✓	N	N/A	✓	N	N/A
72	✓	N	N/A	✓	N	N/A
73	✓	N	N/A	✓	N	N/A
74</						

MSDNew.wpd

## VALIDATION FINDINGS WORKSHEET

LDC #: 16319A3  
SDG #: BB04/KK80

METHOD: ☒ GC ☐ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

~~Level IV/D Only~~

Y N/N/A)

Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

Y N N/A

[illegible]

Comments: See sample calculation verification worksheet for recalculations

**Lower Duwamish Waterway  
Data Validation Reports  
LDC# 16319**

Wet Chemistry

*LDC*

## Laboratory Data Consultants, Inc. Data Validation Report

**Project/Site Name:** Lower Duwamish Waterway  
**Collection Date:** September 30, 2006  
**LDC Report Date:** March 12, 2007  
**Matrix:** Tissue  
**Parameters:** Wet Chemistry  
**Validation Level:** EPA Level III  
**Laboratory:** Analytical Resources, Inc.  
**Sample Delivery Group (SDG):** KB04/KK80

### Sample Identification

LDW-06-T1-A-TR003-SSP-C	LDW-06-T1-E-TR009-ES-4
LDW-06-T1-B-TR001-SSP-C	LDW-06-T1-F-TR011-ES-3
LDW-06-T1-C-TR005-SSP-C	LDW-06-T1-A-TR003-SSP-CDUP
LDW-06-T1-D-TR023-SSP-C1	LDW-06-T1-A-TR003-SSP-CTRP
LDW-06-T1-E-TR009-SSP-C	LDWG-06-T1-ES-COMP5DUP
LDW-06-T1-F-TR011-SSP-C	LDWG-06-T1-ES-COMP5TRP
LDW-06-T1-C-TR021-SSP-C	
LDWG-06-T1-ES-COMP1	
LDWG-06-T1-ES-COMP2	
LDWG-06-T1-ES-COMP3	
LDWG-06-T1-ES-COMP4	
LDWG-06-T1-ES-COMP5	
LDWG-06-T1-ES-COMP6	
LDW-06-T1-A-TR004-ES-2	
LDW-06-T1-B-TR001-ES-2	
LDW-06-T1-B-TR001-ES-3	
LDW-06-T1-B-TR001-ES-4	
LDW-06-T1-B-TR001-ES-5	
LDW-06-T1-C-TR019-ES-8	
LDW-06-T1-D-TR023-ES-5	

## Introduction

This data review covers 26 tissue samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 160.3 for Total Solids and Blight & Dyer Method for Percent Lipids.

The review follows the Quality Assurance Project Plan: Fish Tissue Sampling and Chemical Analysis in the Lower Duwamish Waterway (September 2006) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. Calibration

### a. Initial Calibration

All criteria for the initial calibration of each method were met.

### b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

## III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
MB	%Lipid	0.0200 %	LDW-06-T1-A-TR003-SSP-C LDW-06-T1-B-TR001-SSP-C LDW-06-T1-C-TR005-SSP-C LDW-06-T1-D-TR023-SSP-C1 LDW-06-T1-E-TR009-SSP-C LDW-06-T1-F-TR011-SSP-C LDW-06-T1-C-TR021-SSP-C LDWG-06-T1-ES-COMP1 LDWG-06-T1-ES-COMP2 LDWG-06-T1-ES-COMP3 LDWG-06-T1-ES-COMP4 LDW-06-T1-A-TR004-ES-2 LDW-06-T1-B-TR001-ES-2 LDW-06-T1-B-TR001-ES-3 LDW-06-T1-B-TR001-ES-4 LDW-06-T1-B-TR001-ES-5 LDW-06-T1-C-TR019-ES-8 LDW-06-T1-D-TR023-ES-5 LDW-06-T1-E-TR009-ES-4 LDW-06-T1-F-TR011-ES-3

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.



#### **IV. Matrix Spike/Matrix Spike Duplicates**

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the methods.

#### **V. Duplicates/Triplicates**

Duplicate (DUP) and triplicate (TRP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

#### **VI. Laboratory Control Samples**

Laboratory control sample analyses were not required by the methods.

#### **VII. Sample Result Verification**

Raw data were not reviewed for this SDG.

#### **VIII. Overall Assessment of Data**

Data flags are summarized at the end of this report if data has been qualified.

#### **IX. Field Duplicates**

No field duplicates were identified in this SDG.

#### **X. Field Blanks**

No field blanks were identified in this SDG.

**Lower Duwamish Waterway  
Wet Chemistry - Data Qualification Summary - SDG KB04/KK80**

No Sample Data Qualified in this SDG

**Lower Duwamish Waterway  
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG KB04/KK80**

No Sample Data Qualified in this SDG

**INORGANICS ANALYSIS DATA SHEET**  
Total Solids by Method EPA 160.3



Data Release Authorized: *[Signature]*  
Reported: 01/19/07  
Date Received: 10/02/06  
Page 1 of 2

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
LDW-06-T1-A-TR003-SSP-C KK80A 07-319	09/30/06	Tissue	01/17/07	0.01	23.13
LDW-06-T1-B-TR001-SSP-C KK80B 07-320	09/30/06	Tissue	01/17/07	0.01	24.80
LDW-06-T1-C-TR005-SSP-C KK80C 07-321	09/30/06	Tissue	01/17/07	0.01	25.16
LDW-06-T1-D-TR023-SSP-C1 KK80D 07-322	09/30/06	Tissue	01/17/07	0.01	25.57
LDW-06-T1-E-TR009-SSP-C KK80E 07-323	09/30/06	Tissue	01/17/07	0.01	25.59
LDW-06-T1-F-TR011-SSP-C KK80F 07-324	09/30/06	Tissue	01/17/07	0.01	24.07
LDW-06-T1-C-TR021-SSP-C KK80G 07-325	09/30/06	Tissue	01/17/07	0.01	27.32
LDWG-06-T1-ES-COMP1 KK80H 07-326	09/30/06	Tissue	01/17/07	0.01	23.40
LDWG-06-T1-ES-COMP2 KK80I 07-327	09/30/06	Tissue	01/17/07	0.01	23.05
LDWG-06-T1-ES-COMP3 KK80J 07-328	09/30/06	Tissue	01/17/07	0.01	20.70
LDWG-06-T1-ES-COMP4 KK80K 07-329	09/30/06	Tissue	01/17/07	0.01	23.32
LDWG-06-T1-ES-COMP5 KK80L 07-330	09/30/06	Tissue	01/17/07	0.01	24.46
LDWG-06-T1-ES-COMP6 KK80M 07-331	09/30/06	Tissue	01/17/07	0.01	21.14
LDW-06-T1-A-TR004-ES-2 KK80N 07-332	09/30/06	Tissue	01/17/07	0.01	21.57
LDW-06-T1-B-TR001-ES-2 KK80O 07-333	09/30/06	Tissue	01/17/07	0.01	23.90

*6/13/2017*

INORGANICS ANALYSIS DATA SHEET  
Total Solids by Method EPA 160.3



Data Release Authorized: *[Signature]*  
Reported: 01/19/07  
Date Received: 10/02/06  
Page 2 of 2

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
LDW-06-T1-B-TR001-ES-3 KK80P 07-334	09/30/06	Tissue	01/17/07	0.01	21.52
LDW-06-T1-B-TR001-ES-4 KK80Q 07-335	09/30/06	Tissue	01/19/07		ISQ
LDW-06-T1-B-TR001-ES-5 KK80R 07-336	09/30/06	Tissue	01/17/07	0.01	23.87
LDW-06-T1-C-TR019-ES-8 KK80S 07-337	09/30/06	Tissue	01/17/07	0.01	18.89
LDW-06-T1-D-TR023-ES-5 KK80T 07-338	09/30/06	Tissue	01/17/07	0.01	25.35
LDW-06-T1-E-TR009-ES-4 KK80U 07-339	09/30/06	Tissue	01/17/07	0.01	17.18
LDW-06-T1-F-TR011-ES-3 KK80V 07-340	09/30/06	Tissue	01/17/07	0.01	21.61

Reported in Percent

RL-Analytical reporting limit  
U-Undetected at reported detection limit  
ISQ-Insufficient sample quantity for analysis

*10/31/07*

**LIPIDS ANALYSIS DATA SHEET**  
Percent Lipids by Method Bligh&Dyer



Data Release Authorized: *AB*  
Reported: 01/22/07  
Date Received: 10/02/06  
Page 1 of 2

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
LDW-06-T1-A-TR003-SSP-C KK80A 07-319	09/30/06	Tissue	01/16/07	0.0020	3.80 %
LDW-06-T1-B-TR001-SSP-C KK80B 07-320	09/30/06	Tissue	01/16/07	0.0020	5.27 %
LDW-06-T1-C-TR005-SSP-C KK80C 07-321	09/30/06	Tissue	01/16/07	0.0020	5.27 %
LDW-06-T1-D-TR023-SSP-C1 KK80D 07-322	09/30/06	Tissue	01/16/07	0.0020	2.79 %
LDW-06-T1-E-TR009-SSP-C KK80E 07-323	09/30/06	Tissue	01/16/07	0.0020	7.32 %
LDW-06-T1-F-TR011-SSP-C KK80F 07-324	09/30/06	Tissue	01/16/07	0.0020	5.86 %
LDW-06-T1-C-TR021-SSP-C KK80G 07-325	09/30/06	Tissue	01/16/07	0.0020	5.86 %
LDWG-06-T1-ES-COMP1 KK80H 07-326	09/30/06	Tissue	01/16/07	0.0020	3.29 %
LDWG-06-T1-ES-COMP2 KK80I 07-327	09/30/06	Tissue	01/16/07	0.0020	3.68 %
LDWG-06-T1-ES-COMP3 KK80J 07-328	09/30/06	Tissue	01/16/07	0.0020	3.27 %
LDWG-06-T1-ES-COMP4 KK80K 07-329	09/30/06	Tissue	01/16/07	0.0020	4.23 %
LDW-06-T1-A-TR004-ES-2 KK80N 07-332	09/30/06	Tissue	01/16/07	0.0020	1.90 %
LDW-06-T1-B-TR001-ES-2 KK80O 07-333	09/30/06	Tissue	01/16/07	0.0020	2.46 %
LDW-06-T1-B-TR001-ES-3 KK80P 07-334	09/30/06	Tissue	01/16/07	0.0020	4.20 %
LDW-06-T1-B-TR001-ES-4 KK80Q 07-335	09/30/06	Tissue	01/16/07	0.0020	3.49 %

*1/23/2007*

LIPIDS ANALYSIS DATA SHEET  
Percent Lipids by Method Bligh&Dyer



Data Release Authorized: *MB*  
Reported: 01/22/07  
Date Received: 10/02/06  
Page 2 of 2

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
LDW-06-T1-B-TR001-ES-5 KK80R 07-336	09/30/06	Tissue	01/16/07	0.0020	4.17 %
LDW-06-T1-C-TR019-ES-8 KK80S 07-337	09/30/06	Tissue	01/16/07	0.0020	1.21 %
LDW-06-T1-D-TR023-ES-5 KK80T 07-338	09/30/06	Tissue	01/16/07	0.0020	4.67 %
LDW-06-T1-E-TR009-ES-4 KK80U 07-339	09/30/06	Tissue	01/16/07	0.0020	0.669 %
LDW-06-T1-F-TR011-ES-3 KK80V 07-340	09/30/06	Tissue	01/16/07	0.0020	2.47 %
Method Blank			01/16/07	0.0020	0.0200 %
Method Blank			01/16/07	0.0020	< 0.0020 % U
LDW-06-T1-A-TR003-SSP-C DUP KK80ADUP 07-319	09/30/06	Tissue	01/16/07	0.0020	4.21 % RPD: 10.2 %
LDW-06-T1-A-TR003-SSP-C TRP KK80ATRP 07-319	09/30/06	Tissue	01/16/07	0.0020	3.96 % RPD: 4.1 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit  
U-Undetected at reported detection limit

*1/24/07*

LIPIDS ANALYSIS DATA SHEET  
Percent Lipids by Method Bligh&Dyer



Data Release Authorized: *MS*  
Reported: 01/22/07  
Date Received: 10/02/06  
Page 1 of 1

QC Report No: KK80-Anchor Environmental  
Project: DUWAMISH DIAGONAL FISH SAMPLING

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
LDWG-06-T1-ES-COMP5 KK80L 07-330	09/30/06	Tissue	01/16/07	0.0020	5.06 %
LDWG-06-T1-ES-COMP6 KK80M 07-331	09/30/06	Tissue	01/16/07	0.0020	2.46 %
Method Blank			01/16/07	0.0020	< 0.0020 % U
Method Blank			01/16/07	0.0020	< 0.0020 % U
LDWG-06-T1-ES-COMP5 DUP KK80LDUP 07-330	09/30/06	Tissue	01/16/07	0.0020	5.18 % RPD: 2.3 %
LDWG-06-T1-ES-COMP5 TRP KK80LTRP 07-330	09/30/06	Tissue	01/16/07	0.0020	5.04 % RPD: 0.4 %

Results Are On A Wet Weight Basis

RL-Analytical reporting limit  
U-Undetected at reported detection limit

*1/21/07*

LDC #: 16319A6 **VALIDATION COMPLETENESS WORKSHEET**  
 SDG #: KB04/KK80 Level III  
 Laboratory: Analytical Resources, Inc.

Date: 2/26/07  
 Page: (of 1)  
 Reviewer:             
 2nd Reviewer:           

**METHOD:** Percent Lipids (Blight & Dyer), Total Solids (EPA Method 160.3)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/30/66
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	SW	
IV.	Matrix Spike/Matrix Spike Duplicates	N	MT required
V.	Duplicates	A	
VI.	Laboratory control samples	N	MT required
VII.	Sample result verification	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable  
 N = Not provided/applicable  
 SW = See worksheet

ND = No compounds detected  
 R = Rinsate  
 FB = Field blank

D = Duplicate  
 TB = Trip blank  
 EB = Equipment blank

Validated Samples:

*Tissue*

1	LDW-06-T1-A-TR003-SSP-C	11	LDWG-06-T1-ES-COMP4	21	LDW-06-T1-E-TR009-ES-4
2	LDW-06-T1-B-TR001-SSP-C	12	LDWG-06-T1-ES-COMP5	22	LDW-06-T1-F-TR011-ES-3
3	LDW-06-T1-C-TR005-SSP-C	13	LDWG-06-T1-ES-COMP6	23	LDW-06-T1-A-TR003-SSP-CDUP
4	LDW-06-T1-D-TR023-SSP-C1	14	LDW-06-T1-A-TR004-ES-2	24	LDW-06-T1-A-TR003-SSP-CTRP
5	LDW-06-T1-E-TR009-SSP-C	15	LDW-06-T1-B-TR001-ES-2	25	LDWG-06-T1-ES-COMP5DUP
6	LDW-06-T1-F-TR011-SSP-C	16	LDW-06-T1-B-TR001-ES-3	26	LDWG-06-T1-ES-COMP5TRP
7	LDW-06-T1-C-TR021-SSP-C	17	LDW-06-T1-B-TR001-ES-4	27	MB
8	LDWG-06-T1-ES-COMP1	18	LDW-06-T1-B-TR001-ES-5	28	
9	LDWG-06-T1-ES-COMP2	19	LDW-06-T1-C-TR019-ES-8	29	
10	LDWG-06-T1-ES-COMP3	20	LDW-06-T1-D-TR023-ES-5	30	

Notes: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



LDC #: 16319AB  
SDG #: See work

**VALIDATION FINDINGS WORKSHEET**  
**Sample Specific Analysis Reference**

Page: 1 of 1  
Reviewer: in  
2nd reviewer: al

All circled methods are applicable to each sample.

Sample ID	Parameter
1-16, 18-22	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup> <u>(TS)</u>
1-22	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
<del>1-11, 14-22</del>	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup> <u>(2.4pH)</u>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
m 23-26	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup> <u>(2.4pH)</u>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>
	pH TDS Cl F NO <sub>3</sub> NO <sub>2</sub> SO <sub>4</sub> PO <sub>4</sub> ALK CN' NH <sub>3</sub> TKN TOC CR <sup>6+</sup>

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## VALIDATION FINDINGS WORKSHEET

### Blanks

Page: 1 of 1  
Reviewer: WY  
2nd Reviewer: A

17 17 were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

Conc. units:            /            Associated Samples: 1-11, 4-22 (722)

[illegible]

CIRCLED RESULTS WERE NOT QUALIFIED, ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:  
All contaminants within five times the method blank concentration were qualified as not detected, "U".

BLANKS.6