OK V

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

28-May-09

[redacted]

Re: Dioxin-Trbutylin Samples

Work Order : 0905403

Dear [redacted]

ALS Laboratory Group received 5 samples on 5/19/2009 10:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 42.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

JayLynn F Thibault

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: T104704231-08-TX

ALS Group USA, Corp.
Part of the ALS Laboratory Group
10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338
Phone: (281) 530-5656 Fax: (281) 530-5887
www.alsglobal.com www.elabl.com
A Campbell Brothers Limited Company

90028349

ALS Laboratory Group

Date: 28-May-09

Client: [redacted]
Project: Dioxin-Trbutylin Samples
Work Order: 0905403

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0905403-01	#1 GPS Coord. 29° 47.123-095° 05.509	Sediment		5/18/2009 12:05	5/19/2009 10:30	☐
0905403-02	#2 GPS Coord. 29° 47.120-095° 05.540	Sediment		5/18/2009 12:25	5/19/2009 10:30	☐
0905403-03	#3 GPS Coord. 29.47.133-095° 05.572	Sediment		5/18/2009 12:50	5/19/2009 10:30	☐
0905403-04	#4 GPS Coord. 29° 47.128-095° 05.688	Sediment		5/18/2009 13:15	5/19/2009 10:30	☐
0905403-05	#5 GPS Coord. 29° 47.156-095° 05.526	Sediment		5/18/2009 13:40	5/19/2009 10:30	☐

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	Client Sample ID:	#1 GPS Coord. 29° 47.123-095°
Work Order:	0905403	Tag Number:	
Project:	Dioxin-Trbutylin Samples	Collection Date:	5/18/2009 12:05:00 PM
Lab ID:	0905403-01A	Matrix:	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: HN
Miscellaneous Analysis	See Attached				1	5/24/2009

Qualifiers:
- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- P - Dual Column results percent difference > 40%
- E - Value above quantitation range
- H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	**Client Sample ID:**	#1 GPS Coord. 29° 47.123-095°
Work Order:	0905403	**Tag Number:**	
Project:	Dioxin-Trbutylin Samples	**Collection Date:**	5/18/2009 12:05:00 PM
Lab ID:	0905403-01B	**Matrix:**	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS		NA				Analyst: CAS
Miscellaneous Analysis	See Attached				1	5/21/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	Client Sample ID:	#2 GPS Coord. 29° 47.120-095°
Work Order:	0905403	Tag Number:	
Project:	Dioxin-Trbutylin Samples	Collection Date:	5/18/2009 12:25:00 PM
Lab ID:	0905403-02A	Matrix:	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: HN
Miscellaneous Analysis	See Attached				1	5/24/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	Client Sample ID:	#2 GPS Coord. 29° 47.120-095°
Work Order:	0905403	Tag Number:	
Project:	Dioxin-Trbutylin Samples	Collection Date:	5/18/2009 12:25:00 PM
Lab ID:	0905403-02B	Matrix:	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: CAS
Miscellaneous Analysis	See Attached				1	5/21/2009

Qualifiers:		
	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	P - Dual Column results percent difference > 40%
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	Client Sample ID:	#3 GPS Coord. 29.47.133-095° 0
Work Order:	0905403	Tag Number:	
Project:	Dioxin-Trbutylin Samples	Collection Date:	5/18/2009 12:50:00 PM
Lab ID:	0905403-03A	Matrix:	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: HN
Miscellaneous Analysis	See Attached				1	5/24/2009

Qualifiers:		
	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	P - Dual Column results percent difference > 40%
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	**Client Sample ID:**	#3 GPS Coord. 29.47.133-095° 0
Work Order:	0905403	**Tag Number:**	
Project:	Dioxin-Trbutylin Samples	**Collection Date:**	5/18/2009 12:50:00 PM
Lab ID:	0905403-03B	**Matrix:**	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: CAS
Miscellaneous Analysis	See Attached				1	5/21/2009

Qualifiers:		
	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	P - Dual Column results percent difference > 40%
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	Client Sample ID:	#4 GPS Coord. 29° 47.128-095°
Work Order:	0905403	Tag Number:	
Project:	Dioxin-Trbutylin Samples	Collection Date:	5/18/2009 1:15:00 PM.
Lab ID:	0905403-04A	Matrix:	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS				NA		Analyst: HN
Miscellaneous Analysis	See Attached				1	5/24/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	Client Sample ID:	#4 GPS Coord. 29° 47.128-095°
Work Order:	0905403	Tag Number:	
Project:	Dioxin-Trbutylin Samples	Collection Date:	5/18/2009 1:15:00 PM
Lab ID:	0905403-04B	Matrix:	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: CAS
Miscellaneous Analysis	See Attached				1	5/21/2009

Qualifiers:		
	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	P - Dual Column results percent difference > 40%
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	**Client Sample ID:**	#5 GPS Coord. 29° 47.156-095°
Work Order:	0905403	**Tag Number:**	
Project:	Dioxin-Tributylin Samples	**Collection Date:**	5/18/2009 1:40:00 PM
Lab ID:	0905403-05A	**Matrix:**	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS				NA		Analyst: HN
Miscellaneous Analysis	See Attached				1	5/24/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Group USA, Corp.

Date: *28-May-09*

CLIENT:	[redacted]	**Client Sample ID:**	#5 GPS Coord. 29° 47.156-095°
Work Order:	0905403	**Tag Number:**	
Project:	Dioxin-Trbutylin Samples	**Collection Date:**	5/18/2009 1:40:00 PM
Lab ID:	0905403-05B	**Matrix:**	SEDIMENT

Analyses	Result	Report Limit	Qual	Units	Dilution Factor	Date Analyzed
MISCELLANEOUS ANALYSIS			NA			Analyst: CAS
Miscellaneous Analysis	See Attached				1	5/21/2009

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
P - Dual Column results percent difference > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time

ALS Laboratory Group

Date: 28-May-09

Client: [redacted]
Project: Dioxin-Tributylin Samples
WorkOrder: 0905403

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description

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Chain of Custody Form

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: DX05100

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name		A	Dioxin
Work Order		Project Number		B	Tributyltin
Company Name	[redacted]	Bill to Company	[redacted]	C	
Send Report To	[redacted]	Invoice Attn	[redacted]	D	
Address	[redacted]	Address	[redacted]	E	
				F	
City/State/Zip	[redacted]	City/State/Zip	[redacted]	G	
Phone	[redacted]	Phone	[redacted]	H	
Fax	[redacted]	Fax	[redacted]	I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Preserv.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~SKIP GPS Coord~~	~~5/18/09~~				~~2~~	~~4~~	~~4~~									
2																	
3																	
4	#1 GPS Coord.	5/18/09	12:05			2	✓	✓									
5	29° 47.123 095° 05.509																
6																	
7	#2 GPS Coord.	5/18/09	12:25			2	✓	✓									
8	29° 47.120 095° 05.540																
9																	
10																	

Sampler(s) Please Print & Sign: [redacted]

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☑ Other

Results Due Date:

Notes: 3 Work Day TAT.

Relinquished by: [redacted]	Date: 5/18/09	Time: 1630	Received by:	
Relinquished by:	Date:	Time:	Received by (Laboratory):	5.19.09 1630
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Cooler ID: | Cooler Temp.:

QC Package: (Check One Box Below)
☑ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other _____
☐ TRRP CheckList
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

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Chain of Custody Form

☐ ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 905403

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order		Project Name		A: Dioxin
Work Order		Project Number		B: Tributyltin
Company Name	[redacted]	Bill to Company	[redacted]	C:
Send Report To	[redacted]	Invoice Attn	[redacted]	D:
Address	[redacted]	Address	[redacted]	E:
				F:
City/State/Zip	[redacted]	City/State/Zip	[redacted]	G:
Phone	[redacted]	Phone	[redacted]	H:
Fax	[redacted]	Fax	[redacted]	I:
e-Mail Address		e-Mail Address		J:

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	#3 GPS Coord.	5/18/09	12:50			2	✓	✓									
2	29.47.133 095°05.572																
3																	
4	#4 GPS Coord	5/18/09	13:25			2	✓	✓									
5	29°47.128 095°05.688																
6																	
7	#5 GPS (COORD.(SLIP)	5/18/09	13:40			2	✓	✓									
8	29°47.156 095°05.526																
9																	
10																	

Sampler(s) Please Print & Sign: [redacted]

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Std 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☑ Other

Results Due Date:

Relinquished by: [redacted] Date: 5/18/09 Time: 1030

Relinquished by: Date: Time:

Received by: Received by (Laboratory): 5/19/09 1030

Notes: 3 Work Day TAT.

Cooler ID: Cooler Temp:

QC Package: (Check One Box Below)
☑ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other _____
☐ TRRP Checklist
☐ TRRP Level IV

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

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ALS Laboratory Group

Sample Receipt Checklist

Client Name: [redacted]

Date/Time Received: 19-May-09 10:30

Work Order: 0905403

Received by: RSZ

Checklist completed by Robert D. Harris (eSignature) 19-May-09 (Date)

Reviewed by: Jay Lynn F. Thibault (eSignature) 20-May-09 (Date)

Matrices: soils

Carrier name: ALS.HS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.6c	002	
Cooler(s)/Kit(s):	1819		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Sample Ids and times on sample bottles don't Ids and times on COC; logged in per COC.

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ALS Laboratory Group
5420 Mainway Drive, Unit 5, Burlington ON, L7L 6A4
Phone: 905-331-3111, FAX: 905-331-4567
CALA (ISO 17025:2005) Accreditation #: A3508
SCC (ISO 17025:2005) Accreditation Lab ID: 1003-15/779 Ont DW License #: 2285
NELAC Primary Accreditation, NJ DEP ID# CANA003: Secondary Accreditation, TX Cert# T104704433-08-TX

Certificate of Analysis

ALS Project Contact:	Ron McLeod	Client Name:	ALS Group USA, Corp.
ALS Project ID:	ALS800	Client Address:	10450 Stancliff Road, Suite 210
ALS WO#:	L765291		Houston, Tx, 77099-4338
Date of Report	25-May-09		281-530-5656
Date of Sample Receipt	20-May-09	Client Contact:	Jaylynn Thibault
		Client Project ID:	0905403

COMMENTS: PCDD/F via EPA Method 1613B

The quantification of native 1,2,3,6,7,8-HxCDF in the laboratory control sample (81%) is marginally below method control limits due in part to a slight negative trend in the calibration verification standard. No negative impact to overall data quality is anticipated.

Certified by: Steve Kennedy
Organic Laboratory Manager

Results in this certificate relate only to the samples as submitted to the laboratory.
This report shall not be reproduced, except in full, without the written permission of ALS Canada Ltd.
The test results herein meet all of the requirements of ISO 17025:2005 and NELAC (2003) standards unless stated otherwise in the comments above.

ALS Laboratory Group

Sample Analysis Summary Report

Sample Name	Method Blank	0905403-01A (#1 GPS COORD. 29DEG 47.1	0905403-02A (#2 GPS COORD. 29DEG 47.1	0905403-03A (#3 GPS COORD. 29DEG 47.13	0905403-04A (#4 GPS COORD. 29DEG 47.1	0905403-05A (#5 GPS COORD. 29DEG 47.1
ALS Sample ID	WG946034-1	L765291-1	L765291-2	L765291-3	L765291-4	L765291-5
Sample Size	16	5.99	5.82	11.41	7.43	5.54
Sample units	grams	grams	grams	grams	grams	grams
Lipid Content	n/a	n/a	n/a	n/a	n/a	n/a
Matrix	QC	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sampling Date	n/a	18-May-09	18-May-09	18-May-09	18-May-09	18-May-09
Extraction Date	20-May-09	20-May-09	20-May-09	20-May-09	20-May-09	20-May-09
Target Analytes	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
2,3,7,8-TCDD	<0.016	25.6	27.6	10.3	22.8	21.8
1,2,3,7,8-PeCDD	<0.023	1.51	1.41	0.650	1.31	1.02
1,2,3,4,7,8-HxCDD	0.0486	2.02	2.10	0.908	<1.5	1.57
1,2,3,6,7,8-HxCDD	0.0578	5.11	5.71	2.68	4.49	4.34
1,2,3,7,8,9-HxCDD	<0.045	7.33	7.84	2.65	5.20	5.08
1,2,3,4,6,7,8-HpCDD	<0.096	173	193	91.9	126	142
OCDD	<0.30	4600	4760	2060	3200	3580
2,3,7,8-TCDF	<0.042	64.2	62.9	24.2	48.6	48.4
1,2,3,7,8-PeCDF	<0.029	2.77	2.62	1.22	2.19	2.03
2,3,4,7,8-PeCDF	0.0422	2.80	2.73	1.26	2.38	2.25
1,2,3,4,7,8-HxCDF	0.0411	4.68	4.44	2.26	4.07	3.75
1,2,3,6,7,8-HxCDF	0.0519	2.10	2.08	1.06	1.83	1.75
2,3,4,6,7,8-HxCDF	<0.037	1.73	1.81	0.994	1.55	1.43
1,2,3,7,8,9-HxCDF	0.0573	0.893	<0.79	<0.35	0.771	0.823
1,2,3,4,6,7,8-HpCDF	0.0530	30.1	30.4	14.5	26.4	23.2
1,2,3,4,7,8,9-HpCDF	<0.073	<4.2	<3.0	1.35	3.36	2.73
OCDF	0.139	310	399	142	389	310
Extraction Standards	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec
13C12-2,3,7,8-TCDD	77	81	80	85	75	72
13C12-1,2,3,7,8-PeCDD	75	75	83	84	75	74
13C12-1,2,3,4,7,8-HxCDD	75	83	76	84	76	71
13C12-1,2,3,6,7,8-HxCDD	91	79	80	87	72	79
13C12-1,2,3,4,6,7,8-HpCDD	67	32	49	37	57	38
13C12-OCDD	55	45	45	42	40	41
13C12-2,3,7,8-TCDF	74	78	77	81	71	69
13C12-1,2,3,7,8-PeCDF	72	72	76	76	70	68
13C12-2,3,4,7,8-PeCDF	72	73	81	79	73	71
13C12-1,2,3,4,7,8-HxCDF	83	84	76	87	76	76
13C12-1,2,3,6,7,8-HxCDF	85	81	76	89	75	76
13C12-2,3,4,6,7,8-HxCDF	82	82	78	88	75	75
13C12-1,2,3,7,8,9-HxCDF	78	73	71	78	69	69
13C12-1,2,3,4,6,7,8-HpCDF	72	40	59	50	46	50
13C12-1,2,3,4,7,8,9-HpCDF	60	26	43	33	45	35
Cleanup Standard						
37Cl4-2,3,7,8-TCDD	84	82	85	84	76	70
Homologue Group Totals	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
Total-TCDD	<0.016	39.9	47.2	16.5	33.7	32.8
Total-PeCDD	<0.023	20.5	20.5	4.25	11.0	6.76
Total-HxCDD	0.106	57.8	61.8	25.7	42.2	39.9
Total-HpCDD	<0.038	706	671	322	328	504
Total-TCDF	<0.018	135	136	49.6	102	101
Total-PeCDF	0.0422	18.5	17.0	7.54	13.6	12.5
Total-HxCDF	0.150	27.6	28.5	14.8	24.7	20.6
Total-HpCDF	0.0530	70.8	63.7	35.5	55.0	51.6
Toxic Equivalency NATO						
Lower Bound PCDD/F TEQ	0.0474	43.6	45.9	18.1	36.6	35.8
Upper Bound PCDD/F TEQ	0.0908	43.7	46.0	18.1	36.7	35.8

ALS Laboratory Group

Laboratory Method Blank Analysis Report

Sample Name	Method Blank	Sampling Date	n/a	
ALS Sample ID	WG946034-1	Extraction Date	20-May-09	Approved:
Analysis Method	EPA 1613B	Sample Size	16 grams	C. de Haan
Analysis Type	Blank	Percent Lipid	n/a	--e-signature--
Sample Matrix	QC	Split Ratio	1	25-May-2009

Run Information	Run 1
Filename	1-090523A-07
Run Date	24-May-09 03:05
Final Volume	20 ul
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	Conc. pg/g	EDL pg/g	Flags	TEF NATO
2,3,7,8-TCDD	NotFnd	<0.016	0.016	U	1
1,2,3,7,8-PeCDD	NotFnd	<0.023	0.023	U	0.5
1,2,3,4,7,8-HxCDD	33:27	0.0486	0.016	M J	0.1
1,2,3,6,7,8-HxCDD	33:31	0.0578	0.016	M J	0.1
1,2,3,7,8,9-HxCDD	33:40	<0.045	0.016	J R	0.1
1,2,3,4,6,7,8-HpCDD	35:16	<0.096	0.038	M J R	0.01
OCDD	36:52	<0.30	0.12	M J R	0.001
2,3,7,8-TCDF	23:57	<0.042	0.018	J R	0.1
1,2,3,7,8-PeCDF	29:51	<0.029	0.022	M J R	0.05
2,3,4,7,8-PeCDF	30:46	0.0422	0.020	M J	0.5
1,2,3,4,7,8-HxCDF	32:59	0.0411	0.0076	M J	0.1
1,2,3,6,7,8-HxCDF	33:03	0.0519	0.0076	J	0.1
2,3,4,6,7,8-HxCDF	33:22	<0.037	0.0074	M J R	0.1
1,2,3,7,8,9-HxCDF	33:52	0.0573	0.0094	M J	0.1
1,2,3,4,6,7,8-HpCDF	34:41	0.0530	0.016	M J	0.01
1,2,3,4,7,8,9-HpCDF	35:34	<0.073	0.024	M J R	0.01
OCDF	36:59	0.139	0.056	J	0.001

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:04	77	25-164
13C12-1,2,3,7,8-PeCDD	31:03	75	25-181
13C12-1,2,3,4,7,8-HxCDD	33:27	75	32-141
13C12-1,2,3,6,7,8-HxCDD	33:31	91	28-130
13C12-1,2,3,4,6,7,8-HpCDD	35:16	67	23-140
13C12-OCDD	36:52	55	17-157
13C12-2,3,7,8-TCDF	23:57	74	24-169
13C12-1,2,3,7,8-PeCDF	29:51	72	24-185
13C12-2,3,4,7,8-PeCDF	30:46	72	21-178
13C12-1,2,3,4,7,8-HxCDF	32:58	83	26-152
13C12-1,2,3,6,7,8-HxCDF	33:02	86	26-123
13C12-2,3,4,6,7,8-HxCDF	33:22	82	29-147
13C12-1,2,3,7,8,9-HxCDF	33:52	78	28-136
13C12-1,2,3,4,6,7,8-HpCDF	34:41	72	28-143
13C12-1,2,3,4,7,8,9-HpCDF	35:34	60	26-138

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:06	84	35-197

Homologue Group Totals	# peaks	Conc pg/g	EDL pg/g
Total-TCDD	0	<0.016	0.016
Total-PeCDD	0	<0.023	0.023
Total-HxCDD	2	0.106	0.016
Total-HpCDD	0	<0.038	0.038
Total-TCDF	0	<0.018	0.018
Total-PeCDF	1	0.0422	0.022
Total-HxCDF	3	0.150	0.0094
Total-HpCDF	1	0.0530	0.024

Toxic Equivalency NATO	pg/g
Lower Bound PCDD/F TEQ	0.0474
Upper Bound PCDD/F TEQ	0.0908

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
TEQ	Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
J	Indicates that a target analyte was detected below the LQL.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Laboratory Group

Sample Analysis Report

Sample Name	0905403-01A (#1 GPS COORD. 29DEG 47.1	Sampling Date	18-May-09	Approved:
ALS Sample ID	L765291-1	Extraction Date	20-May-09	C. de Haan
Analysis Method	EPA 1613B	Sample Size	5.99 grams	--e-signature--
Analysis Type	Sample	Percent Lipid	n/a	25-May-2009
Sample Matrix	SEDIMENT	Split Ratio	1	

Run Information	Run 1
Filename	1-090524A-06
Run Date	25-May-09 01:12
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	Conc. pg/g	EDL pg/g	Flags	TEF NATO
2,3,7,8-TCDD	25:03	25.6	0.13		1
1,2,3,7,8-PeCDD	31:03	1.51	0.17	M J	0.5
1,2,3,4,7,8-HxCDD	33:27	2.02	0.85		0.1
1,2,3,6,7,8-HxCDD	33:30	5.11	0.82		0.1
1,2,3,7,8,9-HxCDD	33:40	7.33	0.84		0.1
1,2,3,4,6,7,8-HpCDD	35:16	173	3.7	M	0.01
OCDD	36:51	4600	1.1		0.001
2,3,7,8-TCDF	23:55	64.2	0.33	M	0.1
1,2,3,7,8-PeCDF	29:50	2.77	0.40	M	0.05
2,3,4,7,8-PeCDF	30:47	2.80	0.36	M	0.5
1,2,3,4,7,8-HxCDF	32:58	4.68	0.17		0.1
1,2,3,6,7,8-HxCDF	33:02	2.10	0.17		0.1
2,3,4,6,7,8-HxCDF	33:23	1.73	0.17		0.1
1,2,3,7,8,9-HxCDF	33:52	0.893	0.22	M J	0.1
1,2,3,4,6,7,8-HpCDF	34:41	30.1	2.3	M	0.01
1,2,3,4,7,8,9-HpCDF	35:33	<4.2	4.2	M U	0.01
OCDF	36:59	310	0.57		0.001

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:01	81	25-164
13C12-1,2,3,7,8-PeCDD	31:02	75	25-181
13C12-1,2,3,4,7,8-HxCDD	33:27	83	32-141
13C12-1,2,3,6,7,8-HxCDD	33:30	79	28-130
13C12-1,2,3,4,6,7,8-HpCDD	35:15	32	23-140
13C12-OCDD	36:51	45	17-157
13C12-2,3,7,8-TCDF	23:55	78	24-169
13C12-1,2,3,7,8-PeCDF	29:49	72	24-185
13C12-2,3,4,7,8-PeCDF	30:45	73	21-178
13C12-1,2,3,4,7,8-HxCDF	32:58	84	26-152
13C12-1,2,3,6,7,8-HxCDF	33:02	81	26-123
13C12-2,3,4,6,7,8-HxCDF	33:22	82	29-147
13C12-1,2,3,7,8,9-HxCDF	33:51	73	26-136
13C12-1,2,3,4,6,7,8-HpCDF	34:40	40	28-143
13C12-1,2,3,4,7,8,9-HpCDF	35:33	26	26-138

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:03	82	35-197

Homologue Group Totals	# peaks	Conc pg/g	EDL pg/g
Total-TCDD	8	39.9	0.13
Total-PeCDD	8	20.5	0.17
Total-HxCDD	6	57.8	0.85
Total-HpCDD	2	706	3.7
Total-TCDF	18	135	0.33
Total-PeCDF	9	18.5	0.40
Total-HxCDF	9	27.6	0.22
Total-HpCDF	4	70.8	4.2

Toxic Equivalency NATO	pg/g
Lower Bound PCDD/F TEQ	43.6
Upper Bound PCDD/F TEQ	43.7

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
TEQ	Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
J	Indicates that a target analyte was detected below the LQL.

ALS Laboratory Group

Sample Analysis Report

Sample Name	0905403-02A (#2 GPS COORD, 29DEG 47.1	Sampling Date	18-May-09	Approved:
ALS Sample ID	L765291-2	Extraction Date	20-May-09	C. de Haan
Analysis Method	EPA 1613B	Sample Size	5.82 grams	--e-signature--
Analysis Type	Sample	Percent Lipid	n/a	25-May-2009
Sample Matrix	SEDIMENT	Split Ratio	1	

Run Information	Run 1
Filename	1-090523A-10
Run Date	24-May-09 05:13
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	Conc. pg/g	EDL pg/g	Flags	TEF NATO
2,3,7,8-TCDD	25:04	27.6	0.12	M	1
1,2,3,7,8-PeCDD	31:03	1.41	0.14	M J	0.5
1,2,3,4,7,8-HxCDD	33:28	2.10	0.51	M	0.1
1,2,3,6,7,8-HxCDD	33:31	5.71	0.52	M	0.1
1,2,3,7,8,9-HxCDD	33:40	7.84	0.51	M	0.1
1,2,3,4,6,7,8-HpCDD	35:16	193	3.1		0.01
OCDD	36:52	4760	1.5		0.001
2,3,7,8-TCDF	23:57	62.9	0.39		0.1
1,2,3,7,8-PeCDF	29:51	2.62	0.32		0.05
2,3,4,7,8-PeCDF	30:47	2.73	0.28	M	0.5
1,2,3,4,7,8-HxCDF	32:59	4.44	0.22	M	0.1
1,2,3,6,7,8-HxCDF	33:03	2.08	0.21	M	0.1
2,3,4,6,7,8-HxCDF	33:23	1.81	0.21	M	0.1
1,2,3,7,8,9-HxCDF	33:53	<0.79	0.27	M J R	0.1
1,2,3,4,6,7,8-HpCDF	34:41	30.4	0.53		0.01
1,2,3,4,7,8,9-HpCDF	35:34	<3.0	0.95	M R	0.01
OCDF	36:59	399	0.48		0.001

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:03	80	25-164
13C12-1,2,3,7,8-PeCDD	31:03	83	25-181
13C12-1,2,3,4,7,8-HxCDD	33:27	76	32-141
13C12-1,2,3,6,7,8-HxCDD	33:31	80	28-130
13C12-1,2,3,4,6,7,8-HpCDD	35:16	49	23-140
13C12-OCDD	36:51	45	17-157
13C12-2,3,7,8-TCDF	23:57	77	24-169
13C12-1,2,3,7,8-PeCDF	29:50	76	24-185
13C12-2,3,4,7,8-PeCDF	30:46	81	21-178
13C12-1,2,3,4,7,8-HxCDF	32:58	76	26-152
13C12-1,2,3,6,7,8-HxCDF	33:03	76	26-123
13C12-2,3,4,6,7,8-HxCDF	33:22	78	29-147
13C12-1,2,3,7,8,9-HxCDF	33:51	71	28-136
13C12-1,2,3,4,6,7,8-HpCDF	34:41	59	28-143
13C12-1,2,3,4,7,8,9-HpCDF	35:33	43	26-138

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:04	85	35-197

Homologue Group Totals	# peaks	Conc pg/g	EDL pg/g
Total-TCDD	10	47.2	0.12
Total-PeCDD	7	20.5	0.14
Total-HxCDD	7	61.8	0.52
Total-HpCDD	2	671	3.1
Total-TCDF	21	136	0.39
Total-PeCDF	11	17.0	0.32
Total-HxCDF	11	28.5	0.27
Total-HpCDF	3	63.7	0.95

Toxic Equivalency NATO	pg/g
Lower Bound PCDD/F TEQ	45.9
Upper Bound PCDD/F TEQ	46.0

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF Indicates the Toxic Equivalency Factor
TEQ Indicates the Toxic Equivalency
M Indicates that a peak has been manually integrated.

J Indicates that a target analyte was detected below the LQL.
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Laboratory Group

Sample Analysis Report

Sample Name	0905403-03A (#3 GPS COORD. 29DEG 47.13	Sampling Date	18-May-09
ALS Sample ID	L765291-3	Extraction Date	20-May-09
Analysis Method	EPA 1613B	Sample Size	11.41 grams
Analysis Type	Sample	Percent Lipid	n/a
Sample Matrix	SEDIMENT	Split Ratio	1

Approved:
C. de Haan
--e-signature--
25-May-2009

Run Information	Run 1
Filename	1-090523A-11
Run Date	24-May-09 05:56
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	Conc. pg/g	EDL pg/g	Flags	TEF NATO
2,3,7,8-TCDD	25:05	10.3	0.060		1
1,2,3,7,8-PeCDD	31:03	0.650	0.078	J	0.5
1,2,3,4,7,8-HxCDD	33:28	0.908	0.33		0.1
1,2,3,6,7,8-HxCDD	33:31	2.68	0.34		0.1
1,2,3,7,8,9-HxCDD	33:40	2.65	0.33		0.1
1,2,3,4,6,7,8-HpCDD	35:16	91.9	1.8		0.01
OCDD	36:51	2060	0.85	M	0.001
2,3,7,8-TCDF	23:57	24.2	0.21	M	0.1
1,2,3,7,8-PeCDF	29:51	1.22	0.14		0.05
2,3,4,7,8-PeCDF	30:48	1.26	0.13		0.5
1,2,3,4,7,8-HxCDF	32:58	2.26	0.10	M	0.1
1,2,3,6,7,8-HxCDF	33:03	1.06	0.095		0.1
2,3,4,6,7,8-HxCDF	33:23	0.994	0.098		0.1
1,2,3,7,8,9-HxCDF	33:53	<0.35	0.13	M J R	0.1
1,2,3,4,6,7,8-HpCDF	34:41	14.5	0.23		0.01
1,2,3,4,7,8,9-HpCDF	35:34	1.35	0.45		0.01
OCDF	36:59	142	0.23		0.001

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:03	85	25-164
13C12-1,2,3,7,8-PeCDD	31:03	84	25-181
13C12-1,2,3,4,7,8-HxCDD	33:28	84	32-141
13C12-1,2,3,6,7,8-HxCDD	33:31	87	28-130
13C12-1,2,3,4,6,7,8-HpCDD	35:16	37	23-140
13C12-OCDD	36:51	42	17-157
13C12-2,3,7,8-TCDF	23:57	81	24-169
13C12-1,2,3,7,8-PeCDF	29:50	76	24-185
13C12-2,3,4,7,8-PeCDF	30:47	79	21-178
13C12-1,2,3,4,7,8-HxCDF	32:58	87	26-152
13C12-1,2,3,6,7,8-HxCDF	33:03	89	26-123
13C12-2,3,4,6,7,8-HxCDF	33:23	88	29-147
13C12-1,2,3,7,8,9-HxCDF	33:51	78	28-136
13C12-1,2,3,4,6,7,8-HpCDF	34:41	50	28-143
13C12-1,2,3,4,7,8,9-HpCDF	35:34	33	26-138

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:05	84	35-197

Homologue Group Totals	# peaks	Conc pg/g	EDL pg/g
Total-TCDD	10	16.5	0.060
Total-PeCDD	4	4.25	0.078
Total-HxCDD	7	25.7	0.34
Total-HpCDD	2	322	1.8
Total-TCDF	15	49.6	0.21
Total-PeCDF	7	7.54	0.14
Total-HxCDF	8	14.8	0.13
Total-HpCDF	4	35.5	0.45

Toxic Equivalency NATO	pg/g
Lower Bound PCDD/F TEQ	18.1
Upper Bound PCDD/F TEQ	18.1

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
M Indicates that a peak has been manually integrated.

J Indicates that a target analyte was detected below the LQL.
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Laboratory Group

Sample Analysis Report

Sample Name	0905403-04A (#4 GPS COORD, 29DEG 47.1	Sampling Date	18-May-09	Approved:
ALS Sample ID	L765291-4	Extraction Date	20-May-09	C. de Haan
Analysis Method	EPA 1613B	Sample Size	7.43 grams	--e-signature--
Analysis Type	Sample	Percent Lipid	n/a	25-May-2009
Sample Matrix	SEDIMENT	Split Ratio	1	

Run Information	Run 1
Filename	1-090523A-12
Run Date	24-May-09 06:38
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	Conc. pg/g	EDL pg/g	Flags	TEF NATO
2,3,7,8-TCDD	25:04	22.8	0.12	M	1
1,2,3,7,8-PeCDD	31:03	1.31	0.14	J	0.5
1,2,3,4,7,8-HxCDD	33:27	<1.5	0.43	R	0.1
1,2,3,6,7,8-HxCDD	33:31	4.49	0.41		0.1
1,2,3,7,8,9-HxCDD	33:40	5.20	0.42	M	0.1
1,2,3,4,6,7,8-HpCDD	35:16	126	2.2		0.01
OCDD	36:52	3200	1.1		0.001
2,3,7,8-TCDF	23:57	48.6	0.22	M	0.1
1,2,3,7,8-PeCDF	29:50	2.19	0.27		0.05
2,3,4,7,8-PeCDF	30:47	2.38	0.23		0.5
1,2,3,4,7,8-HxCDF	32:59	4.07	0.16		0.1
1,2,3,6,7,8-HxCDF	33:03	1.83	0.15		0.1
2,3,4,6,7,8-HxCDF	33:23	1.55	0.15		0.1
1,2,3,7,8,9-HxCDF	33:53	0.771	0.19	M J	0.1
1,2,3,4,6,7,8-HpCDF	34:41	26.4	0.62		0.01
1,2,3,4,7,8,9-HpCDF	35:34	3.36	0.79		0.01
OCDF	36:59	389	0.47		0.001

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:02	75	25-164
13C12-1,2,3,7,8-PeCDD	31:02	75	25-181
13C12-1,2,3,4,7,8-HxCDD	33:28	76	32-141
13C12-1,2,3,6,7,8-HxCDD	33:31	72	28-130
13C12-1,2,3,4,6,7,8-HpCDD	35:15	57	23-140
13C12-OCDD	36:52	40	17-157
13C12-2,3,7,8-TCDF	23:56	71	24-169
13C12-1,2,3,7,8-PeCDF	29:50	70	24-185
13C12-2,3,4,7,8-PeCDF	30:46	73	21-178
13C12-1,2,3,4,7,8-HxCDF	32:58	76	26-152
13C12-1,2,3,6,7,8-HxCDF	33:03	75	26-123
13C12-2,3,4,6,7,8-HxCDF	33:22	75	29-147
13C12-1,2,3,7,8,9-HxCDF	33:51	69	28-136
13C12-1,2,3,4,6,7,8-HpCDF	34:41	46	28-143
13C12-1,2,3,4,7,8,9-HpCDF	35:33	45	26-138

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:04	76	35-197

Homologue Group Totals	# peaks	Conc pg/g	EDL pg/g
Total-TCDD	10	33.7	0.12
Total-PeCDD	5	11.0	0.14
Total-HxCDD	6	42.2	0.43
Total-HpCDD	2	328	2.2
Total-TCDF	17	102	0.22
Total-PeCDF	7	13.6	0.27
Total-HxCDF	12	24.7	0.19
Total-HpCDF	4	55.0	0.79

Toxic Equivalency NATO	pg/g
Lower Bound PCDD/F TEQ	36.6
Upper Bound PCDD/F TEQ	36.7

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
M Indicates that a peak has been manually integrated.

J Indicates that a target analyte was detected below the LQL.
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Laboratory Group

Sample Analysis Report

Sample Name	0905403-05A (#5 GPS COORD, 29DEG 47.1	Sampling Date	18-May-09	
ALS Sample ID	L765291-5	Extraction Date	20-May-09	Approved:
Analysis Method	EPA 1613B	Sample Size	5.54 grams	C. de Haan
Analysis Type	Sample	Percent Lipid	n/a	--e-signature--
Sample Matrix	SEDIMENT	Split Ratio	1	25-May-2009

Run Information Run 1

Filename	1-090523A-13
Run Date	24-May-09 07:21
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	Conc. pg/g	EDL pg/g	Flags	TEF NATO
2,3,7,8-TCDD	25:04	21.8	0.13		1
1,2,3,7,8-PeCDD	31:03	1.02	0.13	M J	0.5
1,2,3,4,7,8-HxCDD	33:27	1.57	0.39	M J	0.1
1,2,3,6,7,8-HxCDD	33:31	4.34	0.39	M	0.1
1,2,3,7,8,9-HxCDD	33:40	5.08	0.39	M	0.1
1,2,3,4,6,7,8-HpCDD	35:16	142	2.7		0.01
OCDD	36:51	3580	1.2		0.001
2,3,7,8-TCDF	23:56	48.4	0.49	M	0.1
1,2,3,7,8-PeCDF	29:50	2.03	0.19		0.05
2,3,4,7,8-PeCDF	30:47	2.25	0.16		0.5
1,2,3,4,7,8-HxCDF	32:58	3.75	0.19		0.1
1,2,3,6,7,8-HxCDF	33:03	1.75	0.19	J	0.1
2,3,4,6,7,8-HxCDF	33:22	1.43	0.19	M J	0.1
1,2,3,7,8,9-HxCDF	33:52	0.823	0.25	M J	0.1
1,2,3,4,6,7,8-HpCDF	34:41	23.2	0.44		0.01
1,2,3,4,7,8,9-HpCDF	35:33	2.73	0.82		0.01
OCDF	36:59	310	0.42		0.001

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:02	72	25-164
13C12-1,2,3,7,8-PeCDD	31:02	74	25-181
13C12-1,2,3,4,7,8-HxCDD	33:27	71	32-141
13C12-1,2,3,6,7,8-HxCDD	33:30	79	28-130
13C12-1,2,3,4,6,7,8-HpCDD	35:15	38	23-140
13C12-OCDD	36:51	41	17-157
13C12-2,3,7,8-TCDF	23:56	69	24-169
13C12-1,2,3,7,8-PeCDF	29:49	68	24-185
13C12-2,3,4,7,8-PeCDF	30:46	71	21-178
13C12-1,2,3,4,7,8-HxCDF	32:58	76	26-152
13C12-1,2,3,6,7,8-HxCDF	33:02	76	26-123
13C12-2,3,4,6,7,8-HxCDF	33:22	75	29-147
13C12-1,2,3,7,8,9-HxCDF	33:51	69	28-136
13C12-1,2,3,4,6,7,8-HpCDF	34:41	50	28-143
13C12-1,2,3,4,7,8,9-HpCDF	35:33	35	26-138

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:04	70	35-197

Homologue Group Totals	# peaks	Conc pg/g	EDL pg/g
Total-TCDD	8	32.8	0.13
Total-PeCDD	4	6.76	0.13
Total-HxCDD	6	39.9	0.39
Total-HpCDD	2	504	2.7
Total-TCDF	16	101	0.49
Total-PeCDF	7	12.5	0.19
Total-HxCDF	8	20.6	0.25
Total-HpCDF	3	51.6	0.82

Toxic Equivalency NATO	pg/g
Lower Bound PCDD/F TEQ	35.8
Upper Bound PCDD/F TEQ	35.8

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
M	Indicates that a peak has been manually integrated.
J	Indicates that a target analyte was detected below the LQL.

Flags

Sample Name	LCS	Sampling Date	
ALS Sample ID	WG946034-2	Extraction Date	
Analysis Method	EPA 1613B	Sample Size	n/a
Analysis Type	LCS	Percent Lipid	
Sample Matrix	QC	Split Ratio	

Run Information	Run 1
Filename	1-090523A-04
Run Date	
Final Volume	20 uL
Dilution Factor	1
Analysis Units	n/a
Instrument - Column	HRMS-1 DB5 #ALSDB560#1

Target Analytes	Ret. Time	% Rec	Limits
2,3,7,8-TCDD	25:06	80	67-158
1,2,3,7,8-PeCDD	31:04	84	70-142
1,2,3,4,7,8-HxCDD	33:28	86	70-164
1,2,3,6,7,8-HxCDD	33:32	91	76-134
1,2,3,7,8,9-HxCDD	33:41	86	64-162
1,2,3,4,6,7,8-HpCDD	35:16	87	70-140
OCDD	36:52	82	78-144
2,3,7,8-TCDF	23:60	80	75-158
1,2,3,7,8-PeCDF	29:52	83	80-134
2,3,4,7,8-PeCDF	30:48	83	68-160
1,2,3,4,7,8-HxCDF	32:59	85	72-134
1,2,3,6,7,8-HxCDF	33:04	81	84-130
2,3,4,6,7,8-HxCDF	33:23	85	78-130
1,2,3,7,8,9-HxCDF	33:52	84	70-156
1,2,3,4,6,7,8-HpCDF	34:41	88	82-122
1,2,3,4,7,8,9-HpCDF	35:34	88	78-138
OCDF	36:60	76	63-170

Extraction Standards		% Rec	Limits
13C12-2,3,7,8-TCDD	25:04	67	20-175
13C12-1,2,3,7,8-PeCDD	31:03	69	21-227
13C12-1,2,3,4,7,8-HxCDD	33:28	77	21-193
13C12-1,2,3,6,7,8-HxCDD	33:31	78	25-163
13C12-1,2,3,4,6,7,8-HpCDD	35:16	64	26-166
13C12-OCDD	36:52	56	13-138
13C12-2,3,7,8-TCDF	23:57	64	22-152
13C12-1,2,3,7,8-PeCDF	29:51	65	21-192
13C12-2,3,4,7,8-PeCDF	30:47	67	13-328
13C12-1,2,3,4,7,8-HxCDF	32:59	74	19-202
13C12-1,2,3,6,7,8-HxCDF	33:03	76	21-159
13C12-2,3,4,6,7,8-HxCDF	33:23	75	17-205
13C12-1,2,3,7,8,9-HxCDF	33:52	71	22-176
13C12-1,2,3,4,6,7,8-HpCDF	34:41	67	21-158
13C12-1,2,3,4,7,8,9-HpCDF	35:34	59	20-186

Cleanup Standard		% Rec	
37Cl4-2,3,7,8-TCDD	25:06	77	31-191