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## **APPENDICES**

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**Appendix A1**

**Dioxin and Furan Data from  
AXYS Analytical Services,  
Samples Collected  
November 2010**

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**A1.1**

**Soil and Sediment -  
Laboratory Analytical Results  
Including QA/QC**

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Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH200  
Sample Collection:  
02-Nov-2010 10:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-1

Matrix: SOLID

Sample Size: 9.48 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 17-Dec-2010 Time: 23:09:52

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 56

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg/g (dry weight basis)

% Moisture: 5.20

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		10.8	0.0527	0.79	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.259	0.0527	0.57	1.002
1,2,3,4,7,8-HXCDD		0.239	0.0527	1.25	1.000
1,2,3,6,7,8-HXCDD		0.855	0.0527	1.11	1.000
1,2,3,7,8,9-HXCDD		1.09	0.0527	1.25	1.000
1,2,3,4,6,7,8-HPCDD		12.0	0.0527	0.96	1.000
OCDD		146	0.0527	0.87	1.000
2,3,7,8-TCDF		0.759	0.0527	0.81	1.001
1,2,3,7,8-PECDF	NDR	0.122	0.0527	1.28	1.001
2,3,4,7,8-PECDF	NDR	0.198	0.0527	1.23	1.001
1,2,3,4,7,8-HXCDF	NDR	0.354	0.0527	1.00	1.001
1,2,3,6,7,8-HXCDF		0.270	0.0527	1.23	1.001
1,2,3,7,8,9-HXCDF	NDR	0.0879	0.0527	2.22	1.000
2,3,4,6,7,8-HXCDF		0.253	0.0527	1.06	1.001
1,2,3,4,6,7,8-HPCDF		2.17	0.0527	1.08	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.137	0.0527	0.62	1.001
OCDF		4.00	0.0527	0.81	1.002
TOTAL TETRA-DIOXINS		11.4	0.0527		
TOTAL PENTA-DIOXINS		1.13	0.0527		
TOTAL HEXA-DIOXINS		7.33	0.0527		
TOTAL HEPTA-DIOXINS		24.4	0.0527		
TOTAL TETRA-FURANS		2.46	0.0527		
TOTAL PENTA-FURANS		1.67	0.0527		
TOTAL HEXA-FURANS		2.14	0.0527		
TOTAL HEPTA-FURANS		4.05	0.0527		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-1\_Form1A\_DX0M\_169S56\_SJ1236065.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH200  
Sample Collection:  
02-Nov-2010 10:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 09-Dec-2010 Time: 11:41:44  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-1  
  
Sample Size: 9.48 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_159 S: 6  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_159 S: 2  
  
% Moisture: 5.20

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.373	0.0527	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-1\_Form1A\_DB03\_159S6\_SJ1236177.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.  
10VNBH200  
Sample Collection:  
02-Nov-2010 10:40**

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15772-1

**Matrix:** SOLID

**Sample Size:** 9.48 g (dry)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 09-Nov-2010

**Extraction Date:** 29-Nov-2010

**Instrument ID:** HR GC/MS

**Analysis Date:** 17-Dec-2010 **Time:** 23:09:52

**GC Column ID:** DB5

**Extract Volume (uL):** 20

**Sample Data Filename:** DX0M\_169 S: 56

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX0M\_169 S: 55

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX0M\_169 S: 51

**Concentration Units:** pg absolute

**% Moisture:** 5.20

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1540	77.1	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	2220	111	0.64	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1770	88.6	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	85.8	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1890	94.3	0.95	1.094
13C-OCDD		4000	3420	85.5	0.87	1.178
13C-2,3,7,8-TCDF		2000	1720	86.1	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1930	96.7	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	1990	99.7	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1800	90.0	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1740	87.2	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1900	95.0	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1880	93.9	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1970	98.5	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2080	104	0.44	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		200	185	92.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-1\_Form2\_DX0M\_169S56\_SJ1236065.html; Workgroup: WG34733; Design ID: 1505 ]

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 10:40  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-1  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_159 S: 6  
DX0M\_169 S: 56

Contract No.: 2607

Matrix: SOLID

Sample Size: 9.48 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		10.8	0.0527	1	1.08e+01	1.08e+01	
1,2,3,7,8-PECDD		0.259	0.0527	1	2.59e-01	2.59e-01	
1,2,3,4,7,8-HXCDD		0.239	0.0527	0.1	2.39e-02	2.39e-02	
1,2,3,6,7,8-HXCDD		0.855	0.0527	0.1	8.55e-02	8.55e-02	
1,2,3,7,8,9-HXCDD		1.09	0.0527	0.1	1.09e-01	1.09e-01	
1,2,3,4,6,7,8-HPCDD		12.0	0.0527	0.01	1.20e-01	1.20e-01	
OCDD		146	0.0527	0.0001	1.46e-02	1.46e-02	
2,3,7,8-TCDF		0.373	0.0527	0.1	3.73e-02	3.73e-02	
1,2,3,7,8-PECDF	ND		0.0527	0.05	0.00e+00	1.32e-03	
2,3,4,7,8-PECDF	ND		0.0527	0.5	0.00e+00	1.32e-02	
1,2,3,4,7,8-HXCDF	ND		0.0527	0.1	0.00e+00	2.64e-03	
1,2,3,6,7,8-HXCDF		0.270	0.0527	0.1	2.70e-02	2.70e-02	
1,2,3,7,8,9-HXCDF	ND		0.0527	0.1	0.00e+00	2.64e-03	
2,3,4,6,7,8-HXCDF		0.253	0.0527	0.1	2.53e-02	2.53e-02	
1,2,3,4,6,7,8-HPCDF		2.17	0.0527	0.01	2.17e-02	2.17e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0527	0.01	0.00e+00	2.64e-04	
OCDF		4.00	0.0527	0.0001	4.00e-04	4.00e-04	
<b>TOTAL TEQ</b>					11.5	11.5	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		10.8	0.0527	1	1.08e+01	1.08e+01	
1,2,3,7,8-PECDD		0.259	0.0527	1	2.59e-01	2.59e-01	
1,2,3,4,7,8-HXCDD		0.239	0.0527	0.1	2.39e-02	2.39e-02	
1,2,3,6,7,8-HXCDD		0.855	0.0527	0.1	8.55e-02	8.55e-02	
1,2,3,7,8,9-HXCDD		1.09	0.0527	0.1	1.09e-01	1.09e-01	
1,2,3,4,6,7,8-HPCDD		12.0	0.0527	0.01	1.20e-01	1.20e-01	
OCDD		146	0.0527	0.0003	4.38e-02	4.38e-02	
2,3,7,8-TCDF		0.373	0.0527	0.1	3.73e-02	3.73e-02	
1,2,3,7,8-PECDF	ND		0.0527	0.03	0.00e+00	7.91e-04	
2,3,4,7,8-PECDF	ND		0.0527	0.3	0.00e+00	7.91e-03	
1,2,3,4,7,8-HXCDF	ND		0.0527	0.1	0.00e+00	2.64e-03	
1,2,3,6,7,8-HXCDF		0.270	0.0527	0.1	2.70e-02	2.70e-02	
1,2,3,7,8,9-HXCDF	ND		0.0527	0.1	0.00e+00	2.64e-03	
2,3,4,6,7,8-HXCDF		0.253	0.0527	0.1	2.53e-02	2.53e-02	
1,2,3,4,6,7,8-HPCDF		2.17	0.0527	0.01	2.17e-02	2.17e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0527	0.01	0.00e+00	2.64e-04	
OCDF		4.00	0.0527	0.0003	1.20e-03	1.20e-03	
<b>TOTAL TEQ</b>					<b>11.6</b>	<b>11.6</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-1\_TEQ\_SJ1236177.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH201  
Sample Collection:  
02-Nov-2010 10:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-2

Matrix: SOLID

Sample Size: 9.82 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 00:05:05

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 57

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg/g (dry weight basis)

% Moisture: 5.97

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		5.33	0.0509	0.81	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.918	0.0509	0.53	1.001
1,2,3,4,7,8-HXCDD		1.29	0.0509	1.29	1.000
1,2,3,6,7,8-HXCDD		3.53	0.0509	1.16	1.000
1,2,3,7,8,9-HXCDD		3.50	0.0509	1.15	1.000
1,2,3,4,6,7,8-HPCDD		67.7	0.102	0.96	1.000
OCDD		654	0.0509	0.87	1.000
2,3,7,8-TCDF		1.31	0.0509	0.73	1.001
1,2,3,7,8-PECDF	NDR	0.370	0.0509	1.07	1.001
2,3,4,7,8-PECDF		0.459	0.0509	1.38	1.001
1,2,3,4,7,8-HXCDF		1.12	0.0509	1.14	1.000
1,2,3,6,7,8-HXCDF		0.610	0.0509	1.06	1.000
1,2,3,7,8,9-HXCDF		0.142	0.0509	1.06	1.000
2,3,4,6,7,8-HXCDF		0.557	0.0509	1.31	1.001
1,2,3,4,6,7,8-HPCDF		7.61	0.0509	0.99	1.001
1,2,3,4,7,8,9-HPCDF		0.485	0.0509	0.93	1.000
OCDF		14.4	0.0528	0.85	1.002
TOTAL TETRA-DIOXINS		8.13	0.0509		
TOTAL PENTA-DIOXINS		5.72	0.0509		
TOTAL HEXA-DIOXINS		26.7	0.0509		
TOTAL HEPTA-DIOXINS		126	0.102		
TOTAL TETRA-FURANS		6.02	0.0509		
TOTAL PENTA-FURANS		6.54	0.0509		
TOTAL HEXA-FURANS		12.9	0.0509		
TOTAL HEPTA-FURANS		16.2	0.0509		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-2\_Form1A\_DX0M\_169S57\_SJ1236066.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH201  
Sample Collection:  
02-Nov-2010 10:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 09-Dec-2010 Time: 12:18:38  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-2  
  
Sample Size: 9.82 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_159 S: 7  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_159 S: 2  
  
% Moisture: 5.97

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.513	0.0623	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-2\_Form1A\_DB03\_159S7\_SJ1236178.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH201  
Sample Collection:  
02-Nov-2010 10:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-2

Matrix: SOLID

Sample Size: 9.82 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 00:05:05

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 57

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg absolute

% Moisture: 5.97

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1610	80.4	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	2140	107	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1800	90.1	1.17	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1760	87.8	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1980	98.9	0.98	1.094
13C-OCDD		4000	3480	86.9	0.85	1.178
13C-2,3,7,8-TCDF		2000	1710	85.6	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1840	91.8	1.55	1.286
13C-2,3,4,7,8-PECDF		2000	1860	93.2	1.51	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1880	94.0	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1860	92.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1880	93.8	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1940	96.8	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1960	98.0	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2060	103	0.46	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	174	86.9		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-2\_Form2\_DX0M\_169S57\_SJ1236066.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 9.82 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 10:55

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-2

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_159 S: 7  
DX0M\_169 S: 57

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.33	0.0509	1	5.33e+00	5.33e+00	
1,2,3,7,8-PECDD		0.918	0.0509	1	9.18e-01	9.18e-01	
1,2,3,4,7,8-HXCDD		1.29	0.0509	0.1	1.29e-01	1.29e-01	
1,2,3,6,7,8-HXCDD		3.53	0.0509	0.1	3.53e-01	3.53e-01	
1,2,3,7,8,9-HXCDD		3.50	0.0509	0.1	3.50e-01	3.50e-01	
1,2,3,4,6,7,8-HPCDD		67.7	0.102	0.01	6.77e-01	6.77e-01	
OCDD		654	0.0509	0.0001	6.54e-02	6.54e-02	
2,3,7,8-TCDF		0.513	0.0623	0.1	5.13e-02	5.13e-02	
1,2,3,7,8-PECDF	ND		0.0509	0.05	0.00e+00	1.27e-03	
2,3,4,7,8-PECDF		0.459	0.0509	0.5	2.30e-01	2.30e-01	
1,2,3,4,7,8-HXCDF		1.12	0.0509	0.1	1.12e-01	1.12e-01	
1,2,3,6,7,8-HXCDF		0.610	0.0509	0.1	6.10e-02	6.10e-02	
1,2,3,7,8,9-HXCDF		0.142	0.0509	0.1	1.42e-02	1.42e-02	
2,3,4,6,7,8-HXCDF		0.557	0.0509	0.1	5.57e-02	5.57e-02	
1,2,3,4,6,7,8-HPCDF		7.61	0.0509	0.01	7.61e-02	7.61e-02	
1,2,3,4,7,8,9-HPCDF		0.485	0.0509	0.01	4.85e-03	4.85e-03	
OCDF		14.4	0.0528	0.0001	1.44e-03	1.44e-03	
<b>TOTAL TEQ</b>					<b>8.43</b>	<b>8.43</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.33	0.0509	1	5.33e+00	5.33e+00	
1,2,3,7,8-PECDD		0.918	0.0509	1	9.18e-01	9.18e-01	
1,2,3,4,7,8-HXCDD		1.29	0.0509	0.1	1.29e-01	1.29e-01	
1,2,3,6,7,8-HXCDD		3.53	0.0509	0.1	3.53e-01	3.53e-01	
1,2,3,7,8,9-HXCDD		3.50	0.0509	0.1	3.50e-01	3.50e-01	
1,2,3,4,6,7,8-HPCDD		67.7	0.102	0.01	6.77e-01	6.77e-01	
OCDD		654	0.0509	0.0003	1.96e-01	1.96e-01	
2,3,7,8-TCDF		0.513	0.0623	0.1	5.13e-02	5.13e-02	
1,2,3,7,8-PECDF	ND		0.0509	0.03	0.00e+00	7.64e-04	
2,3,4,7,8-PECDF		0.459	0.0509	0.3	1.38e-01	1.38e-01	
1,2,3,4,7,8-HXCDF		1.12	0.0509	0.1	1.12e-01	1.12e-01	
1,2,3,6,7,8-HXCDF		0.610	0.0509	0.1	6.10e-02	6.10e-02	
1,2,3,7,8,9-HXCDF		0.142	0.0509	0.1	1.42e-02	1.42e-02	
2,3,4,6,7,8-HXCDF		0.557	0.0509	0.1	5.57e-02	5.57e-02	
1,2,3,4,6,7,8-HPCDF		7.61	0.0509	0.01	7.61e-02	7.61e-02	
1,2,3,4,7,8,9-HPCDF		0.485	0.0509	0.01	4.85e-03	4.85e-03	
OCDF		14.4	0.0528	0.0003	4.32e-03	4.32e-03	
<b>TOTAL TEQ</b>					8.47	8.47	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-2\_TEQ\_SJ1236178.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH202  
Sample Collection:  
02-Nov-2010 11:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-3

Matrix: SOLID

Sample Size: 9.74 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 01:00:19

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 58

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg/g (dry weight basis)

% Moisture: 7.73

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD <sup>3</sup>		26.7	0.0551	0.60	1.001
1,2,3,4,7,8-HXCDD		4.66	0.0971	1.17	1.000
1,2,3,6,7,8-HXCDD		9.07	0.0971	1.27	1.000
1,2,3,7,8,9-HXCDD		7.62	0.0971	1.27	1.000
1,2,3,4,6,7,8-HPCDD		118	0.130	1.01	1.000
OCDD		933	0.0513	0.87	1.000
2,3,7,8-TCDF		48.4	0.0513	0.75	1.001
1,2,3,7,8-PECDF		1.90	0.145	1.35	1.001
2,3,4,7,8-PECDF		2.32	0.145	1.56	1.001
1,2,3,4,7,8-HXCDF		2.55	0.0996	1.28	1.000
1,2,3,6,7,8-HXCDF		0.978	0.0996	1.07	1.001
1,2,3,7,8,9-HXCDF		0.229	0.0996	1.17	1.000
2,3,4,6,7,8-HXCDF		1.13	0.0996	1.20	1.000
1,2,3,4,6,7,8-HPCDF		15.5	0.0765	1.00	1.000
1,2,3,4,7,8,9-HPCDF		0.753	0.0765	1.00	1.000
OCDF		27.4	0.0823	0.86	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		293	0.0551		
TOTAL HEXA-DIOXINS		346	0.0971		
TOTAL HEPTA-DIOXINS		286	0.130		
TOTAL TETRA-FURANS		220	0.0513		
TOTAL PENTA-FURANS		202	0.145		
TOTAL HEXA-FURANS		57.0	0.0996		
TOTAL HEPTA-FURANS		38.3	0.0765		

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-3\_Form1A\_DX0M\_169S58\_SJ1236067.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH202  
Sample Collection:  
02-Nov-2010 11:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-3 Wi

Matrix: SOLID

Sample Size: 9.74 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 18:31:34

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 5

Cal. Ver. Data Filename: DX1M\_007B S: 5

Concentration Units: pg/g (dry weight basis)

% Moisture: 7.73

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	D	425	0.589	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	645	0.589		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH202  
Sample Collection:  
02-Nov-2010 11:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 09-Dec-2010 Time: 12:55:32  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-3  
  
Sample Size: 9.74 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_159 S: 8  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_159 S: 2  
  
% Moisture: 7.73

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		26.2	0.164	0.78	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH202  
Sample Collection:  
02-Nov-2010 11:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-3

Matrix: SOLID

Sample Size: 9.74 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 01:00:19

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 58

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg absolute

% Moisture: 7.73

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1530	76.4	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	2090	104	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1740	86.9	1.18	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1700	85.0	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1920	96.0	0.94	1.094
13C-OCDD		4000	3530	88.3	0.90	1.179
13C-2,3,7,8-TCDF		2000	1590	79.5	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1790	89.7	1.54	1.285
13C-2,3,4,7,8-PECDF		2000	1850	92.5	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1810	90.7	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1760	87.9	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1730	86.4	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1880	94.1	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1920	96.1	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2030	102	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	199	99.6		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-3\_Form2\_DX0M\_169S58\_SJ1236067.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH202  
Sample Collection:  
02-Nov-2010 11:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-3 Wi

Matrix: SOLID

Sample Size: 9.74 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 18:31:34

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 5

Cal. Ver. Data Filename: DX1M\_007B S: 5

Concentration Units: pg absolute

% Moisture: 7.73

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1540	77.0	0.76	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					

CLEANUP STANDARD

37CL-2,3,7,8-TCDD X

- (1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
- (2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
- (4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-3\_Form2\_DX1M\_007BS11\_SJ1241116.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH202

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 11:10  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-3  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_159 S: 8  
DX0M\_169 S: 58  
DX1M\_007B S: 11

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 9.74 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		425	0.589	1	4.25e+02	4.25e+02	
1,2,3,7,8-PECDD		26.7	0.0551	1	2.67e+01	2.67e+01	
1,2,3,4,7,8-HXCDD		4.66	0.0971	0.1	4.66e-01	4.66e-01	
1,2,3,6,7,8-HXCDD		9.07	0.0971	0.1	9.07e-01	9.07e-01	
1,2,3,7,8,9-HXCDD		7.62	0.0971	0.1	7.62e-01	7.62e-01	
1,2,3,4,6,7,8-HPCDD		118	0.130	0.01	1.18e+00	1.18e+00	
OCDD		933	0.0513	0.0001	9.33e-02	9.33e-02	
2,3,7,8-TCDF		26.2	0.164	0.1	2.62e+00	2.62e+00	
1,2,3,7,8-PECDF		1.90	0.145	0.05	9.50e-02	9.50e-02	
2,3,4,7,8-PECDF		2.32	0.145	0.5	1.16e+00	1.16e+00	
1,2,3,4,7,8-HXCDF		2.55	0.0996	0.1	2.55e-01	2.55e-01	
1,2,3,6,7,8-HXCDF		0.978	0.0996	0.1	9.78e-02	9.78e-02	
1,2,3,7,8,9-HXCDF		0.229	0.0996	0.1	2.29e-02	2.29e-02	
2,3,4,6,7,8-HXCDF		1.13	0.0996	0.1	1.13e-01	1.13e-01	
1,2,3,4,6,7,8-HPCDF		15.5	0.0765	0.01	1.55e-01	1.55e-01	
1,2,3,4,7,8,9-HPCDF		0.753	0.0765	0.01	7.53e-03	7.53e-03	
OCDF		27.4	0.0823	0.0001	2.74e-03	2.74e-03	
<b>TOTAL TEQ</b>					<b>460</b>	<b>460</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		425	0.589	1	4.25e+02	4.25e+02	
1,2,3,7,8-PECDD		26.7	0.0551	1	2.67e+01	2.67e+01	
1,2,3,4,7,8-HXCDD		4.66	0.0971	0.1	4.66e-01	4.66e-01	
1,2,3,6,7,8-HXCDD		9.07	0.0971	0.1	9.07e-01	9.07e-01	
1,2,3,7,8,9-HXCDD		7.62	0.0971	0.1	7.62e-01	7.62e-01	
1,2,3,4,6,7,8-HPCDD		118	0.130	0.01	1.18e+00	1.18e+00	
OCDD		933	0.0513	0.0003	2.80e-01	2.80e-01	
2,3,7,8-TCDF		26.2	0.164	0.1	2.62e+00	2.62e+00	
1,2,3,7,8-PECDF		1.90	0.145	0.03	5.70e-02	5.70e-02	
2,3,4,7,8-PECDF		2.32	0.145	0.3	6.96e-01	6.96e-01	
1,2,3,4,7,8-HXCDF		2.55	0.0996	0.1	2.55e-01	2.55e-01	
1,2,3,6,7,8-HXCDF		0.978	0.0996	0.1	9.78e-02	9.78e-02	
1,2,3,7,8,9-HXCDF		0.229	0.0996	0.1	2.29e-02	2.29e-02	
2,3,4,6,7,8-HXCDF		1.13	0.0996	0.1	1.13e-01	1.13e-01	
1,2,3,4,6,7,8-HPCDF		15.5	0.0765	0.01	1.55e-01	1.55e-01	
1,2,3,4,7,8,9-HPCDF		0.753	0.0765	0.01	7.53e-03	7.53e-03	
OCDF		27.4	0.0823	0.0003	8.22e-03	8.22e-03	
<b>TOTAL TEQ</b>					459	459	

- (1) Where applicable, custom lab flags have been used on this report; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-3\_TEQ\_SJ1236179.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH203  
Sample Collection:  
02-Nov-2010 15:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-4

Matrix: SOLID

Sample Size: 9.03 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 01:55:33

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 59

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg/g (dry weight basis)

% Moisture: 9.75

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		15.4	0.0554	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.19	0.0712	0.69	1.001
1,2,3,4,7,8-HXCDD		0.343	0.0554	1.15	1.001
1,2,3,6,7,8-HXCDD		0.920	0.0554	1.37	1.001
1,2,3,7,8,9-HXCDD		1.05	0.0554	1.38	1.000
1,2,3,4,6,7,8-HPCDD		8.24	0.104	0.92	1.000
OCDD		86.2	0.271	0.88	1.000
2,3,7,8-TCDF		1.68	0.0813	0.78	1.001
1,2,3,7,8-PECDF	NDR	0.150	0.0580	0.92	1.001
2,3,4,7,8-PECDF	NDR	0.219	0.0580	0.78	1.001
1,2,3,4,7,8-HXCDF	NDR	0.156	0.0679	1.01	1.000
1,2,3,6,7,8-HXCDF		0.137	0.0679	1.41	1.000
1,2,3,7,8,9-HXCDF	NDR	0.142	0.0679	1.49	1.001
2,3,4,6,7,8-HXCDF		0.165	0.0679	1.24	1.000
1,2,3,4,6,7,8-HPCDF		1.26	0.0554	0.91	1.000
1,2,3,4,7,8,9-HPCDF		0.109	0.0554	1.16	1.000
OCDF		2.71	0.0778	1.01	1.002
TOTAL TETRA-DIOXINS		17.1	0.0554		
TOTAL PENTA-DIOXINS		4.55	0.0712		
TOTAL HEXA-DIOXINS		10.9	0.0554		
TOTAL HEPTA-DIOXINS		18.0	0.104		
TOTAL TETRA-FURANS		3.99	0.0813		
TOTAL PENTA-FURANS		5.44	0.0580		
TOTAL HEXA-FURANS		1.63	0.0679		
TOTAL HEPTA-FURANS		1.47	0.0554		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-4\_Form1A\_DX0M\_169S59\_SJ1236068.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH203  
Sample Collection:  
02-Nov-2010 15:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-4

Matrix: SOLID

Sample Size: 9.03 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Dec-2010 Time: 13:32:22

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_159 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_159 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 9.75

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.24	0.174	0.83	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-4\_Form1A\_DB03\_159S9\_SJ1236180.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH203  
Sample Collection:  
02-Nov-2010 15:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-4

Matrix: SOLID

Sample Size: 9.03 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 01:55:33

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 59

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg absolute

% Moisture: 9.75

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	553	27.6	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	826	41.3	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	744	37.2	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	712	35.6	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	794	39.7	0.96	1.094
13C-OCDD		4000	1410	35.3	0.87	1.179
13C-2,3,7,8-TCDF		2000	610	30.5	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	690	34.5	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	715	35.7	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	753	37.7	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	727	36.4	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	774	38.7	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	792	39.6	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	802	40.1	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	844	42.2	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	152	76.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-4\_Form2\_DX0M\_169S59\_SJ1236068.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Sample Collection:** 02-Nov-2010 15:55  
**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15772-4  
**GC Column ID(s):** DB225  
DB5  
**Sample Data Filenames:** DB03\_159 S: 9  
DX0M\_169 S: 59

**Contract No.:** 2607

**Matrix:** SOLID

**Sample Size:** 9.03 g (dry)

**Concentration Units:** pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		15.4	0.0554	1	1.54e+01	1.54e+01	
1,2,3,7,8-PECDD		1.19	0.0712	1	1.19e+00	1.19e+00	
1,2,3,4,7,8-HXCDD		0.343	0.0554	0.1	3.43e-02	3.43e-02	
1,2,3,6,7,8-HXCDD		0.920	0.0554	0.1	9.20e-02	9.20e-02	
1,2,3,7,8,9-HXCDD		1.05	0.0554	0.1	1.05e-01	1.05e-01	
1,2,3,4,6,7,8-HPCDD		8.24	0.104	0.01	8.24e-02	8.24e-02	
OCDD		86.2	0.271	0.0001	8.62e-03	8.62e-03	
2,3,7,8-TCDF		1.24	0.174	0.1	1.24e-01	1.24e-01	
1,2,3,7,8-PECDF	ND		0.0580	0.05	0.00e+00	1.45e-03	
2,3,4,7,8-PECDF	ND		0.0580	0.5	0.00e+00	1.45e-02	
1,2,3,4,7,8-HXCDF	ND		0.0679	0.1	0.00e+00	3.40e-03	
1,2,3,6,7,8-HXCDF		0.137	0.0679	0.1	1.37e-02	1.37e-02	
1,2,3,7,8,9-HXCDF	ND		0.0679	0.1	0.00e+00	3.40e-03	
2,3,4,6,7,8-HXCDF		0.165	0.0679	0.1	1.65e-02	1.65e-02	
1,2,3,4,6,7,8-HPCDF		1.26	0.0554	0.01	1.26e-02	1.26e-02	
1,2,3,4,7,8,9-HPCDF		0.109	0.0554	0.01	1.09e-03	1.09e-03	
OCDF		2.71	0.0778	0.0001	2.71e-04	2.71e-04	
<b>TOTAL TEQ</b>					17.1	17.1	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		15.4	0.0554	1	1.54e+01	1.54e+01	
1,2,3,7,8-PECDD		1.19	0.0712	1	1.19e+00	1.19e+00	
1,2,3,4,7,8-HXCDD		0.343	0.0554	0.1	3.43e-02	3.43e-02	
1,2,3,6,7,8-HXCDD		0.920	0.0554	0.1	9.20e-02	9.20e-02	
1,2,3,7,8,9-HXCDD		1.05	0.0554	0.1	1.05e-01	1.05e-01	
1,2,3,4,6,7,8-HPCDD		8.24	0.104	0.01	8.24e-02	8.24e-02	
OCDD		86.2	0.271	0.0003	2.59e-02	2.59e-02	
2,3,7,8-TCDF		1.24	0.174	0.1	1.24e-01	1.24e-01	
1,2,3,7,8-PECDF	ND		0.0580	0.03	0.00e+00	8.70e-04	
2,3,4,7,8-PECDF	ND		0.0580	0.3	0.00e+00	8.70e-03	
1,2,3,4,7,8-HXCDF	ND		0.0679	0.1	0.00e+00	3.40e-03	
1,2,3,6,7,8-HXCDF		0.137	0.0679	0.1	1.37e-02	1.37e-02	
1,2,3,7,8,9-HXCDF	ND		0.0679	0.1	0.00e+00	3.40e-03	
2,3,4,6,7,8-HXCDF		0.165	0.0679	0.1	1.65e-02	1.65e-02	
1,2,3,4,6,7,8-HPCDF		1.26	0.0554	0.01	1.26e-02	1.26e-02	
1,2,3,4,7,8,9-HPCDF		0.109	0.0554	0.01	1.09e-03	1.09e-03	
OCDF		2.71	0.0778	0.0003	8.13e-04	8.13e-04	
<b>TOTAL TEQ</b>					<b>17.1</b>	<b>17.1</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-4\_TEQ\_SJ1236180.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH204  
Sample Collection:  
02-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-5

Matrix: SOLID

Sample Size: 8.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 02:50:46

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 60

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 51

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD <sup>3</sup>		6.87	0.0674	0.60	1.001
1,2,3,4,7,8-HXCDD		2.31	0.0814	1.39	1.001
1,2,3,6,7,8-HXCDD		6.87	0.0814	1.19	1.000
1,2,3,7,8,9-HXCDD		6.36	0.0814	1.23	1.000
1,2,3,4,6,7,8-HPCDD		178	0.185	1.00	1.000
OCDD	OLR				
2,3,7,8-TCDF		25.0	0.0615	0.75	1.001
1,2,3,7,8-PECDF		1.49	0.0840	1.60	1.002
2,3,4,7,8-PECDF		1.86	0.0840	1.40	1.001
1,2,3,4,7,8-HXCDF		3.01	0.139	1.22	1.001
1,2,3,6,7,8-HXCDF		1.83	0.139	1.30	1.001
1,2,3,7,8,9-HXCDF	NDR	0.442	0.139	1.03	1.000
2,3,4,6,7,8-HXCDF		1.25	0.139	1.23	1.001
1,2,3,4,6,7,8-HPCDF		22.2	0.0684	0.95	1.000
1,2,3,4,7,8,9-HPCDF		1.82	0.0684	1.03	1.000
OCDF		91.4	0.167	0.84	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		38.1	0.0674		
TOTAL HEXA-DIOXINS		69.0	0.0814		
TOTAL HEPTA-DIOXINS		360	0.185		
TOTAL TETRA-FURANS		109	0.0615		
TOTAL PENTA-FURANS		107	0.0840		
TOTAL HEXA-FURANS		43.2	0.139		
TOTAL HEPTA-FURANS		63.0	0.0684		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH204  
Sample Collection:  
02-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-5 W

Matrix: SOLID

Sample Size: 8.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 05-Jan-2011 Time: 11:29:15

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_003 S: 18

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 5

Cal. Ver. Data Filename: DX1M\_003 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	D	333	0.637	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	D	2600	0.694	0.84	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	376	0.637		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-5\_Form1A\_DX1M\_003S18\_SJ1239299.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH204  
Sample Collection:  
02-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-5

Matrix: SOLID

Sample Size: 8.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Dec-2010 Time: 14:09:16

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_159 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_159 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		13.8	0.106	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH204  
Sample Collection:  
02-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 18-Dec-2010 Time: 02:50:46  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-5  
  
Sample Size: 8.13 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX0M\_169 S: 60  
  
Blank Data Filename: DX0M\_169 S: 55  
  
Cal. Ver. Data Filename: DX0M\_169 S: 51  
  
% Moisture: 19.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1500	75.2	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1930	96.7	0.61	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1620	81.1	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1470	73.7	1.29	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1730	86.7	0.96	1.094
13C-OCDD		4000	3290	82.2	0.88	1.179
13C-2,3,7,8-TCDF		2000	1580	78.9	0.73	0.966
13C-1,2,3,7,8-PECDF		2000	1670	83.6	1.54	1.285
13C-2,3,4,7,8-PECDF		2000	1720	86.0	1.52	1.353
13C-1,2,3,4,7,8-HXCDF		2000	1550	77.3	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1510	75.4	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1610	80.6	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1670	83.3	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1690	84.6	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1860	92.8	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	180	90.2		1.014
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- (1) Where applicable, custom lab flags have been used on this report.
- (2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
- (4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-5\_Form2\_DX0M\_169S60\_SJ1236069.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-5 W

Matrix: SOLID

Sample Size: 8.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 05-Jan-2011 Time: 11:29:15

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_003 S: 18

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 5

Cal. Ver. Data Filename: DX1M\_003 S: 10

Concentration Units: pg absolute

% Moisture: 19.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1540	76.8	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	D	4000	3580	89.6	0.83	1.178
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					

CLEANUP STANDARD

37CL-2,3,7,8-TCDD X

- (1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.
- (2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
- (4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-5\_Form2\_DX1M\_003S18\_SJ1239299.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH204

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 16:10

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15772-5

Sample Size: 8.13 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_159 S: 10  
DX0M\_169 S: 60  
DX1M\_003 S: 18

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		333	0.637	1	3.33e+02	3.33e+02	
1,2,3,7,8-PECDD		6.87	0.0674	1	6.87e+00	6.87e+00	
1,2,3,4,7,8-HXCDD		2.31	0.0814	0.1	2.31e-01	2.31e-01	
1,2,3,6,7,8-HXCDD		6.87	0.0814	0.1	6.87e-01	6.87e-01	
1,2,3,7,8,9-HXCDD		6.36	0.0814	0.1	6.36e-01	6.36e-01	
1,2,3,4,6,7,8-HPCDD		178	0.185	0.01	1.78e+00	1.78e+00	
OCDD		2600	0.694	0.0001	2.60e-01	2.60e-01	
2,3,7,8-TCDF		13.8	0.106	0.1	1.38e+00	1.38e+00	
1,2,3,7,8-PECDF		1.49	0.0840	0.05	7.45e-02	7.45e-02	
2,3,4,7,8-PECDF		1.86	0.0840	0.5	9.30e-01	9.30e-01	
1,2,3,4,7,8-HXCDF		3.01	0.139	0.1	3.01e-01	3.01e-01	
1,2,3,6,7,8-HXCDF		1.83	0.139	0.1	1.83e-01	1.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.139	0.1	0.00e+00	6.95e-03	
2,3,4,6,7,8-HXCDF		1.25	0.139	0.1	1.25e-01	1.25e-01	
1,2,3,4,6,7,8-HPCDF		22.2	0.0684	0.01	2.22e-01	2.22e-01	
1,2,3,4,7,8,9-HPCDF		1.82	0.0684	0.01	1.82e-02	1.82e-02	
OCDF		91.4	0.167	0.0001	9.14e-03	9.14e-03	
<b>TOTAL TEQ</b>					<b>347</b>	<b>347</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		333	0.637	1	3.33e+02	3.33e+02	
1,2,3,7,8-PECDD		6.87	0.0674	1	6.87e+00	6.87e+00	
1,2,3,4,7,8-HXCDD		2.31	0.0814	0.1	2.31e-01	2.31e-01	
1,2,3,6,7,8-HXCDD		6.87	0.0814	0.1	6.87e-01	6.87e-01	
1,2,3,7,8,9-HXCDD		6.36	0.0814	0.1	6.36e-01	6.36e-01	
1,2,3,4,6,7,8-HPCDD		178	0.185	0.01	1.78e+00	1.78e+00	
OCDD		2600	0.694	0.0003	7.80e-01	7.80e-01	
2,3,7,8-TCDF		13.8	0.106	0.1	1.38e+00	1.38e+00	
1,2,3,7,8-PECDF		1.49	0.0840	0.03	4.47e-02	4.47e-02	
2,3,4,7,8-PECDF		1.86	0.0840	0.3	5.58e-01	5.58e-01	
1,2,3,4,7,8-HXCDF		3.01	0.139	0.1	3.01e-01	3.01e-01	
1,2,3,6,7,8-HXCDF		1.83	0.139	0.1	1.83e-01	1.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.139	0.1	0.00e+00	6.95e-03	
2,3,4,6,7,8-HXCDF		1.25	0.139	0.1	1.25e-01	1.25e-01	
1,2,3,4,6,7,8-HPCDF		22.2	0.0684	0.01	2.22e-01	2.22e-01	
1,2,3,4,7,8,9-HPCDF		1.82	0.0684	0.01	1.82e-02	1.82e-02	
OCDF		91.4	0.167	0.0003	2.74e-02	2.74e-02	
<b>TOTAL TEQ</b>					347	347	

- (1) Where applicable, custom lab flags have been used on this report; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-5\_TEQ\_SJ1236181.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH205  
Sample Collection:  
02-Nov-2010 17:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-6

Matrix: SOLID

Sample Size: 8.00 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 11:59:31

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 65

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		39.2	0.0625	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		3.17	0.0625	0.64	1.001
1,2,3,4,7,8-HXCDD		2.73	0.0625	1.20	1.000
1,2,3,6,7,8-HXCDD		8.10	0.0625	1.26	1.001
1,2,3,7,8,9-HXCDD		9.28	0.0625	1.29	1.000
1,2,3,4,6,7,8-HPCDD		170	0.128	1.00	1.000
OCDD		1500	0.0908	0.87	1.000
2,3,7,8-TCDF		5.91	0.0625	0.74	1.001
1,2,3,7,8-PECDF		1.87	0.0625	1.57	1.001
2,3,4,7,8-PECDF		1.21	0.0625	1.66	1.001
1,2,3,4,7,8-HXCDF		3.89	0.0677	1.19	1.000
1,2,3,6,7,8-HXCDF		1.97	0.0677	1.14	1.000
1,2,3,7,8,9-HXCDF		1.82	0.0677	1.22	1.000
2,3,4,6,7,8-HXCDF		1.38	0.0677	1.26	1.000
1,2,3,4,6,7,8-HPCDF		29.2	0.0734	1.02	1.000
1,2,3,4,7,8,9-HPCDF		2.11	0.0734	1.00	1.000
OCDF		56.2	0.139	0.87	1.002
TOTAL TETRA-DIOXINS		71.6	0.0625		
TOTAL PENTA-DIOXINS		23.2	0.0625		
TOTAL HEXA-DIOXINS		64.1	0.0625		
TOTAL HEPTA-DIOXINS		286	0.128		
TOTAL TETRA-FURANS		43.5	0.0625		
TOTAL PENTA-FURANS		39.0	0.0625		
TOTAL HEXA-FURANS		49.7	0.0677		
TOTAL HEPTA-FURANS		55.0	0.0734		

(1) Where applicable, custom lab flags have been used on this report.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH205  
Sample Collection:  
02-Nov-2010 17:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 09-Dec-2010 Time: 14:46:11  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-6  
  
Sample Size: 8.00 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_159 S: 11  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_159 S: 2  
  
% Moisture: 22.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.71	0.0810	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-6\_Form1A\_DB03\_159S11\_SJ1236182.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH205  
Sample Collection:  
02-Nov-2010 17:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-6

Matrix: SOLID

Sample Size: 8.00 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 11:59:31

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 65

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 22.0

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1530	76.3	0.83	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1700	84.9	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1430	71.6	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1550	77.5	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1630	81.6	0.98	1.094
13C-OCDD		4000	2850	71.2	0.88	1.178
13C-2,3,7,8-TCDF		2000	1530	76.7	0.72	0.967
13C-1,2,3,7,8-PECDF		2000	1600	79.8	1.52	1.286
13C-2,3,4,7,8-PECDF		2000	1610	80.4	1.54	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1600	80.0	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1550	77.7	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1610	80.3	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1600	79.8	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1590	79.7	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1690	84.4	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	194	96.8		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-6\_Form2\_DX0M\_169S65\_SJ1236142.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Matrix:** SOLID

**Sample Size:** 8.00 g (dry)

**Concentration Units:** pg/g (dry weight basis)

**Sample Collection:** 02-Nov-2010 17:00

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15772-6

**GC Column ID(s):** DB225  
DB5

**Sample Data Filenames:** DB03\_159 S: 11  
DX0M\_169 S: 65

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		39.2	0.0625	1	3.92e+01	3.92e+01	
1,2,3,7,8-PECDD		3.17	0.0625	1	3.17e+00	3.17e+00	
1,2,3,4,7,8-HXCDD		2.73	0.0625	0.1	2.73e-01	2.73e-01	
1,2,3,6,7,8-HXCDD		8.10	0.0625	0.1	8.10e-01	8.10e-01	
1,2,3,7,8,9-HXCDD		9.28	0.0625	0.1	9.28e-01	9.28e-01	
1,2,3,4,6,7,8-HPCDD		170	0.128	0.01	1.70e+00	1.70e+00	
OCDD		1500	0.0908	0.0001	1.50e-01	1.50e-01	
2,3,7,8-TCDF		2.71	0.0810	0.1	2.71e-01	2.71e-01	
1,2,3,7,8-PECDF		1.87	0.0625	0.05	9.35e-02	9.35e-02	
2,3,4,7,8-PECDF		1.21	0.0625	0.5	6.05e-01	6.05e-01	
1,2,3,4,7,8-HXCDF		3.89	0.0677	0.1	3.89e-01	3.89e-01	
1,2,3,6,7,8-HXCDF		1.97	0.0677	0.1	1.97e-01	1.97e-01	
1,2,3,7,8,9-HXCDF		1.82	0.0677	0.1	1.82e-01	1.82e-01	
2,3,4,6,7,8-HXCDF		1.38	0.0677	0.1	1.38e-01	1.38e-01	
1,2,3,4,6,7,8-HPCDF		29.2	0.0734	0.01	2.92e-01	2.92e-01	
1,2,3,4,7,8,9-HPCDF		2.11	0.0734	0.01	2.11e-02	2.11e-02	
OCDF		56.2	0.139	0.0001	5.62e-03	5.62e-03	
<b>TOTAL TEQ</b>					<b>48.4</b>	<b>48.4</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		39.2	0.0625	1	3.92e+01	3.92e+01	
1,2,3,7,8-PECDD		3.17	0.0625	1	3.17e+00	3.17e+00	
1,2,3,4,7,8-HXCDD		2.73	0.0625	0.1	2.73e-01	2.73e-01	
1,2,3,6,7,8-HXCDD		8.10	0.0625	0.1	8.10e-01	8.10e-01	
1,2,3,7,8,9-HXCDD		9.28	0.0625	0.1	9.28e-01	9.28e-01	
1,2,3,4,6,7,8-HPCDD		170	0.128	0.01	1.70e+00	1.70e+00	
OCDD		1500	0.0908	0.0003	4.50e-01	4.50e-01	
2,3,7,8-TCDF		2.71	0.0810	0.1	2.71e-01	2.71e-01	
1,2,3,7,8-PECDF		1.87	0.0625	0.03	5.61e-02	5.61e-02	
2,3,4,7,8-PECDF		1.21	0.0625	0.3	3.63e-01	3.63e-01	
1,2,3,4,7,8-HXCDF		3.89	0.0677	0.1	3.89e-01	3.89e-01	
1,2,3,6,7,8-HXCDF		1.97	0.0677	0.1	1.97e-01	1.97e-01	
1,2,3,7,8,9-HXCDF		1.82	0.0677	0.1	1.82e-01	1.82e-01	
2,3,4,6,7,8-HXCDF		1.38	0.0677	0.1	1.38e-01	1.38e-01	
1,2,3,4,6,7,8-HPCDF		29.2	0.0734	0.01	2.92e-01	2.92e-01	
1,2,3,4,7,8,9-HPCDF		2.11	0.0734	0.01	2.11e-02	2.11e-02	
OCDF		56.2	0.139	0.0003	1.69e-02	1.69e-02	
<b>TOTAL TEQ</b>					<b>48.5</b>	<b>48.5</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-6\_TEQ\_SJ1236182.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH206  
Sample Collection:  
03-Nov-2010 08:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-7

Matrix: SOLID

Sample Size: 8.68 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 12:54:47

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 66

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 14.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		32.7	0.0660	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	1.63	0.0576	0.73	1.001
1,2,3,4,7,8-HXCDD		1.92	0.0857	1.28	1.000
1,2,3,6,7,8-HXCDD		5.64	0.0857	1.25	1.000
1,2,3,7,8,9-HXCDD		6.34	0.0857	1.15	1.000
1,2,3,4,6,7,8-HPCDD		113	0.123	0.98	1.000
OCDD		926	0.125	0.88	1.000
2,3,7,8-TCDF		2.97	0.0576	0.72	1.002
1,2,3,7,8-PECDF		0.922	0.0576	1.59	1.001
2,3,4,7,8-PECDF		0.683	0.0576	1.54	1.001
1,2,3,4,7,8-HXCDF		1.97	0.0965	1.15	1.001
1,2,3,6,7,8-HXCDF		0.948	0.0965	1.06	1.001
1,2,3,7,8,9-HXCDF		1.25	0.0965	1.22	1.001
2,3,4,6,7,8-HXCDF		0.825	0.0965	1.11	1.000
1,2,3,4,6,7,8-HPCDF		19.5	0.137	1.00	1.000
1,2,3,4,7,8,9-HPCDF		1.25	0.137	0.88	1.000
OCDF		37.2	0.0576	0.85	1.002
TOTAL TETRA-DIOXINS		40.3	0.0660		
TOTAL PENTA-DIOXINS		11.9	0.0576		
TOTAL HEXA-DIOXINS		48.3	0.0857		
TOTAL HEPTA-DIOXINS		219	0.123		
TOTAL TETRA-FURANS		14.8	0.0576		
TOTAL PENTA-FURANS		17.7	0.0576		
TOTAL HEXA-FURANS		30.3	0.0965		
TOTAL HEPTA-FURANS		46.8	0.137		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-7\_Form1A\_DX0M\_169S66\_SJ1236143.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH206  
Sample Collection:  
03-Nov-2010 08:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 09-Dec-2010 Time: 15:23:04  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-7  
  
Sample Size: 8.68 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_159 S: 12  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_159 S: 2  
  
% Moisture: 14.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.59	0.0670	0.82	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-7\_Form1A\_DB03\_159S12\_SJ1236183.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH206  
Sample Collection:  
03-Nov-2010 08:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-7

Matrix: SOLID

Sample Size: 8.68 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 12:54:47

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 66

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 14.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1310	65.5	0.85	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1730	86.5	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1520	76.0	1.18	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1440	71.8	1.28	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1500	75.0	0.93	1.094
13C-OCDD		4000	2570	64.2	0.88	1.179
13C-2,3,7,8-TCDF		2000	1510	75.4	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1660	83.0	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1660	82.9	1.54	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1530	76.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1520	76.0	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1520	76.2	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1590	79.6	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1590	79.4	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1560	78.2	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	173	86.4		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-7\_Form2\_DX0M\_169S66\_SJ1236143.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 08:40  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-7  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_159 S: 12  
DX0M\_169 S: 66

Contract No.: 2607

Matrix: SOLID

Sample Size: 8.68 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		32.7	0.0660	1	3.27e+01	3.27e+01	
1,2,3,7,8-PECDD	ND		0.0576	1	0.00e+00	2.88e-02	
1,2,3,4,7,8-HXCDD		1.92	0.0857	0.1	1.92e-01	1.92e-01	
1,2,3,6,7,8-HXCDD		5.64	0.0857	0.1	5.64e-01	5.64e-01	
1,2,3,7,8,9-HXCDD		6.34	0.0857	0.1	6.34e-01	6.34e-01	
1,2,3,4,6,7,8-HPCDD		113	0.123	0.01	1.13e+00	1.13e+00	
OCDD		926	0.125	0.0001	9.26e-02	9.26e-02	
2,3,7,8-TCDF		1.59	0.0670	0.1	1.59e-01	1.59e-01	
1,2,3,7,8-PECDF		0.922	0.0576	0.05	4.61e-02	4.61e-02	
2,3,4,7,8-PECDF		0.683	0.0576	0.5	3.42e-01	3.42e-01	
1,2,3,4,7,8-HXCDF		1.97	0.0965	0.1	1.97e-01	1.97e-01	
1,2,3,6,7,8-HXCDF		0.948	0.0965	0.1	9.48e-02	9.48e-02	
1,2,3,7,8,9-HXCDF		1.25	0.0965	0.1	1.25e-01	1.25e-01	
2,3,4,6,7,8-HXCDF		0.825	0.0965	0.1	8.25e-02	8.25e-02	
1,2,3,4,6,7,8-HPCDF		19.5	0.137	0.01	1.95e-01	1.95e-01	
1,2,3,4,7,8,9-HPCDF		1.25	0.137	0.01	1.25e-02	1.25e-02	
OCDF		37.2	0.0576	0.0001	3.72e-03	3.72e-03	
<b>TOTAL TEQ</b>					<b>36.6</b>	<b>36.6</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		32.7	0.0660	1	3.27e+01	3.27e+01	
1,2,3,7,8-PECDD	ND		0.0576	1	0.00e+00	2.88e-02	
1,2,3,4,7,8-HXCDD		1.92	0.0857	0.1	1.92e-01	1.92e-01	
1,2,3,6,7,8-HXCDD		5.64	0.0857	0.1	5.64e-01	5.64e-01	
1,2,3,7,8,9-HXCDD		6.34	0.0857	0.1	6.34e-01	6.34e-01	
1,2,3,4,6,7,8-HPCDD		113	0.123	0.01	1.13e+00	1.13e+00	
OCDD		926	0.125	0.0003	2.78e-01	2.78e-01	
2,3,7,8-TCDF		1.59	0.0670	0.1	1.59e-01	1.59e-01	
1,2,3,7,8-PECDF		0.922	0.0576	0.03	2.77e-02	2.77e-02	
2,3,4,7,8-PECDF		0.683	0.0576	0.3	2.05e-01	2.05e-01	
1,2,3,4,7,8-HXCDF		1.97	0.0965	0.1	1.97e-01	1.97e-01	
1,2,3,6,7,8-HXCDF		0.948	0.0965	0.1	9.48e-02	9.48e-02	
1,2,3,7,8,9-HXCDF		1.25	0.0965	0.1	1.25e-01	1.25e-01	
2,3,4,6,7,8-HXCDF		0.825	0.0965	0.1	8.25e-02	8.25e-02	
1,2,3,4,6,7,8-HPCDF		19.5	0.137	0.01	1.95e-01	1.95e-01	
1,2,3,4,7,8,9-HPCDF		1.25	0.137	0.01	1.25e-02	1.25e-02	
OCDF		37.2	0.0576	0.0003	1.12e-02	1.12e-02	
<b>TOTAL TEQ</b>					<b>36.6</b>	<b>36.6</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-7\_TEQ\_SJ1236183.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-8 (A)

Matrix: SOLID

Sample Size: 8.60 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 13:50:00

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 67

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD <sup>3</sup>		25.6	0.0581	0.61	1.001
1,2,3,4,7,8-HXCDD		3.47	0.0711	1.24	1.000
1,2,3,6,7,8-HXCDD		11.3	0.0711	1.23	1.000
1,2,3,7,8,9-HXCDD		8.86	0.0711	1.23	1.000
1,2,3,4,6,7,8-HPCDD		131	0.157	1.01	1.000
OCDD		1010	0.0581	0.87	1.000
2,3,7,8-TCDF		130	0.0817	0.74	1.001
1,2,3,7,8-PECDF		3.27	0.118	1.51	1.001
2,3,4,7,8-PECDF		3.86	0.118	1.55	1.001
1,2,3,4,7,8-HXCDF		4.00	0.0892	1.24	1.001
1,2,3,6,7,8-HXCDF		1.87	0.0892	1.27	1.000
1,2,3,7,8,9-HXCDF		0.512	0.0892	1.18	1.000
2,3,4,6,7,8-HXCDF		1.43	0.0892	1.27	1.000
1,2,3,4,6,7,8-HPCDF		29.4	0.104	1.03	1.000
1,2,3,4,7,8,9-HPCDF		1.90	0.104	1.01	1.000
OCDF		48.3	0.0591	0.84	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		136	0.0581		
TOTAL HEXA-DIOXINS		132	0.0711		
TOTAL HEPTA-DIOXINS		256	0.157		
TOTAL TETRA-FURANS		481	0.0817		
TOTAL PENTA-FURANS		474	0.118		
TOTAL HEXA-FURANS		111	0.0892		
TOTAL HEPTA-FURANS		65.5	0.104		

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-8\_Form1A\_DX0M\_169S67\_SJ1236144.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-8 W (A)

Matrix: SOLID

Sample Size: 8.60 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 05-Jan-2011 Time: 12:24:28

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_003 S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 10

Cal. Ver. Data Filename: DX1M\_003 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	D	996	1.89	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	1190	1.89		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 29-Nov-2010  
**Analysis Date:** 09-Dec-2010 **Time:** 15:59:59  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15772-8 (A)  
**Sample Size:** 8.60 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB03\_159 S: 13  
**Blank Data Filename:** DB03\_159 S: 5  
**Cal. Ver. Data Filename:** DB03\_159 S: 2  
**% Moisture:** 15.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		85.3	0.254	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-8\_Form1A\_DB03\_159S13\_SJ1236184.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-8 (A)

Matrix: SOLID

Sample Size: 8.60 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 13:50:00

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 67

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 15.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1590	79.3	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1970	98.4	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1650	82.5	1.18	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1620	81.2	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1780	89.1	0.95	1.094
13C-OCDD		4000	2950	73.7	0.87	1.179
13C-2,3,7,8-TCDF		2000	1600	80.2	0.73	0.967
13C-1,2,3,7,8-PECDF		2000	1730	86.6	1.55	1.286
13C-2,3,4,7,8-PECDF		2000	1780	89.1	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1690	84.5	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1640	81.9	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1710	85.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1730	86.7	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1740	86.9	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1890	94.4	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	229	115		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-8\_Form2\_DX0M\_169S67\_SJ1236144.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-8 W (A)

Matrix: SOLID

Sample Size: 8.60 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 05-Jan-2011 Time: 12:24:28

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_003 S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 10

Cal. Ver. Data Filename: DX1M\_003 S: 10

Concentration Units: pg absolute

% Moisture: 15.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1700	84.9	0.82	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					

CLEANUP STANDARD

37CL-2,3,7,8-TCDD X

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-8\_Form2\_DX1M\_003S19\_SJ1239300.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH208

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 09:10  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-8 (A)  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_159 S: 13  
DX0M\_169 S: 67  
DX1M\_003 S: 19

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 8.60 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		996	1.89	1	9.96e+02	9.96e+02	
1,2,3,7,8-PECDD		25.6	0.0581	1	2.56e+01	2.56e+01	
1,2,3,4,7,8-HXCDD		3.47	0.0711	0.1	3.47e-01	3.47e-01	
1,2,3,6,7,8-HXCDD		11.3	0.0711	0.1	1.13e+00	1.13e+00	
1,2,3,7,8,9-HXCDD		8.86	0.0711	0.1	8.86e-01	8.86e-01	
1,2,3,4,6,7,8-HPCDD		131	0.157	0.01	1.31e+00	1.31e+00	
OCDD		1010	0.0581	0.0001	1.01e-01	1.01e-01	
2,3,7,8-TCDF		85.3	0.254	0.1	8.53e+00	8.53e+00	
1,2,3,7,8-PECDF		3.27	0.118	0.05	1.64e-01	1.64e-01	
2,3,4,7,8-PECDF		3.86	0.118	0.5	1.93e+00	1.93e+00	
1,2,3,4,7,8-HXCDF		4.00	0.0892	0.1	4.00e-01	4.00e-01	
1,2,3,6,7,8-HXCDF		1.87	0.0892	0.1	1.87e-01	1.87e-01	
1,2,3,7,8,9-HXCDF		0.512	0.0892	0.1	5.12e-02	5.12e-02	
2,3,4,6,7,8-HXCDF		1.43	0.0892	0.1	1.43e-01	1.43e-01	
1,2,3,4,6,7,8-HPCDF		29.4	0.104	0.01	2.94e-01	2.94e-01	
1,2,3,4,7,8,9-HPCDF		1.90	0.104	0.01	1.90e-02	1.90e-02	
OCDF		48.3	0.0591	0.0001	4.83e-03	4.83e-03	
<b>TOTAL TEQ</b>					<b>1040</b>	<b>1040</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		996	1.89	1	9.96e+02	9.96e+02	
1,2,3,7,8-PECDD		25.6	0.0581	1	2.56e+01	2.56e+01	
1,2,3,4,7,8-HXCDD		3.47	0.0711	0.1	3.47e-01	3.47e-01	
1,2,3,6,7,8-HXCDD		11.3	0.0711	0.1	1.13e+00	1.13e+00	
1,2,3,7,8,9-HXCDD		8.86	0.0711	0.1	8.86e-01	8.86e-01	
1,2,3,4,6,7,8-HPCDD		131	0.157	0.01	1.31e+00	1.31e+00	
OCDD		1010	0.0581	0.0003	3.03e-01	3.03e-01	
2,3,7,8-TCDF		85.3	0.254	0.1	8.53e+00	8.53e+00	
1,2,3,7,8-PECDF		3.27	0.118	0.03	9.81e-02	9.81e-02	
2,3,4,7,8-PECDF		3.86	0.118	0.3	1.16e+00	1.16e+00	
1,2,3,4,7,8-HXCDF		4.00	0.0892	0.1	4.00e-01	4.00e-01	
1,2,3,6,7,8-HXCDF		1.87	0.0892	0.1	1.87e-01	1.87e-01	
1,2,3,7,8,9-HXCDF		0.512	0.0892	0.1	5.12e-02	5.12e-02	
2,3,4,6,7,8-HXCDF		1.43	0.0892	0.1	1.43e-01	1.43e-01	
1,2,3,4,6,7,8-HPCDF		29.4	0.104	0.01	2.94e-01	2.94e-01	
1,2,3,4,7,8,9-HPCDF		1.90	0.104	0.01	1.90e-02	1.90e-02	
OCDF		48.3	0.0591	0.0003	1.45e-02	1.45e-02	
<b>TOTAL TEQ</b>					1040	1040	

- (1) Where applicable, custom lab flags have been used on this report; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-8\_TEQ\_SJ1236184.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208 (Duplicate)  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34733-103 (DUP L15772-8)

Matrix: SOLID

Sample Size: 10.1 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 14:45:14

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 68

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD <sup>3</sup>		27.9	0.0642	0.61	1.001
1,2,3,4,7,8-HXCDD		3.94	0.108	1.11	1.001
1,2,3,6,7,8-HXCDD		12.6	0.108	1.11	1.000
1,2,3,7,8,9-HXCDD		10.5	0.108	1.21	1.000
1,2,3,4,6,7,8-HPCDD		151	0.279	1.00	1.000
OCDD		1170	0.146	0.86	1.000
2,3,7,8-TCDF		145	0.0771	0.74	1.001
1,2,3,7,8-PECDF		3.61	0.147	1.45	1.001
2,3,4,7,8-PECDF		4.44	0.147	1.46	1.001
1,2,3,4,7,8-HXCDF		4.72	0.111	1.28	1.000
1,2,3,6,7,8-HXCDF		2.08	0.111	1.39	1.000
1,2,3,7,8,9-HXCDF		0.511	0.111	1.07	1.000
2,3,4,6,7,8-HXCDF		1.79	0.111	1.15	1.000
1,2,3,4,6,7,8-HPCDF		36.0	0.144	0.99	1.000
1,2,3,4,7,8,9-HPCDF		1.98	0.144	0.92	1.000
OCDF		61.8	0.121	0.84	1.002
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS		158	0.0642		
TOTAL HEXA-DIOXINS		150	0.108		
TOTAL HEPTA-DIOXINS		292	0.279		
TOTAL TETRA-FURANS		530	0.0771		
TOTAL PENTA-FURANS		517	0.147		
TOTAL HEXA-FURANS		129	0.111		
TOTAL HEPTA-FURANS		79.6	0.144		

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately; OLR = exceeds calibrated linear range, see dilution data.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208 (Duplicate)  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34733-103 W (DUP L15772-8)

Matrix: SOLID

Sample Size: 10.1 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 05-Jan-2011 Time: 13:19:41

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_003 S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 10

Cal. Ver. Data Filename: DX1M\_003 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	D	1110	1.98	0.75	1.002
1,2,3,7,8-PECDD <sup>3</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	1330	1.98		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208 (Duplicate)  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34733-103 (DUP L15772-8)

Matrix: SOLID

Sample Size: 10.1 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Dec-2010 Time: 16:36:53

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_159 S: 14

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_159 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		99.7	0.201	0.78	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_WG34733-103\_Form1A\_DB03\_159S14\_SJ1236185.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208 (Duplicate)  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34733-103 (DUP L15772-8)

Matrix: SOLID

Sample Size: 10.1 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 14:45:14

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 68

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 16.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1570	78.7	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1790	89.4	0.59	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1600	80.1	1.30	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1500	75.0	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1580	78.8	0.94	1.094
13C-OCDD		4000	2650	66.3	0.88	1.179
13C-2,3,7,8-TCDF		2000	1530	76.5	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1660	83.1	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1660	83.1	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1580	79.0	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1560	77.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1580	79.2	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1680	83.8	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1580	78.8	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1590	79.4	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	221	111		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG34733-103\_Form2\_DX0M\_169S68\_SJ1236145.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH208 (Duplicate)  
Sample Collection:  
03-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34733-103 W (DUP L15772-8)

Matrix: SOLID

Sample Size: 10.1 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 05-Jan-2011 Time: 13:19:41

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_003 S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: 10

Cal. Ver. Data Filename: DX1M\_003 S: 10

Concentration Units: pg absolute

% Moisture: 16.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1470	73.3	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					

CLEANUP STANDARD

37CL-2,3,7,8-TCDD X

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG34733-103\_Form2\_DX1M\_003S20\_SJ1239301.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH208 (Duplicate)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:

03-Nov-2010 09:10

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.:

WG34733-103 (DUP L15772-8)

Sample Size: 10.1 g (dry)

GC Column ID(s):

DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames:

DB03\_159 S: 14  
DX0M\_169 S: 68  
DX1M\_003 S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1110	1.98	1	1.11e+03	1.11e+03	
1,2,3,7,8-PECDD		27.9	0.0642	1	2.79e+01	2.79e+01	
1,2,3,4,7,8-HXCDD		3.94	0.108	0.1	3.94e-01	3.94e-01	
1,2,3,6,7,8-HXCDD		12.6	0.108	0.1	1.26e+00	1.26e+00	
1,2,3,7,8,9-HXCDD		10.5	0.108	0.1	1.05e+00	1.05e+00	
1,2,3,4,6,7,8-HPCDD		151	0.279	0.01	1.51e+00	1.51e+00	
OCDD		1170	0.146	0.0001	1.17e-01	1.17e-01	
2,3,7,8-TCDF		99.7	0.201	0.1	9.97e+00	9.97e+00	
1,2,3,7,8-PECDF		3.61	0.147	0.05	1.81e-01	1.81e-01	
2,3,4,7,8-PECDF		4.44	0.147	0.5	2.22e+00	2.22e+00	
1,2,3,4,7,8-HXCDF		4.72	0.111	0.1	4.72e-01	4.72e-01	
1,2,3,6,7,8-HXCDF		2.08	0.111	0.1	2.08e-01	2.08e-01	
1,2,3,7,8,9-HXCDF		0.511	0.111	0.1	5.11e-02	5.11e-02	
2,3,4,6,7,8-HXCDF		1.79	0.111	0.1	1.79e-01	1.79e-01	
1,2,3,4,6,7,8-HPCDF		36.0	0.144	0.01	3.60e-01	3.60e-01	
1,2,3,4,7,8,9-HPCDF		1.98	0.144	0.01	1.98e-02	1.98e-02	
OCDF		61.8	0.121	0.0001	6.18e-03	6.18e-03	
<b>TOTAL TEQ</b>					<b>1160</b>	<b>1160</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1110	1.98	1	1.11e+03	1.11e+03	
1,2,3,7,8-PECDD		27.9	0.0642	1	2.79e+01	2.79e+01	
1,2,3,4,7,8-HXCDD		3.94	0.108	0.1	3.94e-01	3.94e-01	
1,2,3,6,7,8-HXCDD		12.6	0.108	0.1	1.26e+00	1.26e+00	
1,2,3,7,8,9-HXCDD		10.5	0.108	0.1	1.05e+00	1.05e+00	
1,2,3,4,6,7,8-HPCDD		151	0.279	0.01	1.51e+00	1.51e+00	
OCDD		1170	0.146	0.0003	3.51e-01	3.51e-01	
2,3,7,8-TCDF		99.7	0.201	0.1	9.97e+00	9.97e+00	
1,2,3,7,8-PECDF		3.61	0.147	0.03	1.08e-01	1.08e-01	
2,3,4,7,8-PECDF		4.44	0.147	0.3	1.33e+00	1.33e+00	
1,2,3,4,7,8-HXCDF		4.72	0.111	0.1	4.72e-01	4.72e-01	
1,2,3,6,7,8-HXCDF		2.08	0.111	0.1	2.08e-01	2.08e-01	
1,2,3,7,8,9-HXCDF		0.511	0.111	0.1	5.11e-02	5.11e-02	
2,3,4,6,7,8-HXCDF		1.79	0.111	0.1	1.79e-01	1.79e-01	
1,2,3,4,6,7,8-HPCDF		36.0	0.144	0.01	3.60e-01	3.60e-01	
1,2,3,4,7,8,9-HPCDF		1.98	0.144	0.01	1.98e-02	1.98e-02	
OCDF		61.8	0.121	0.0003	1.85e-02	1.85e-02	
<b>TOTAL TEQ</b>					1160	1160	

- (1) Where applicable, custom lab flags have been used on this report; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_WG34733-103\_TEQ\_SJ1236185.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH209  
Sample Collection:  
03-Nov-2010 10:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-9

Matrix: SOLID

Sample Size: 8.31 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 15:40:28

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 69

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 17.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		17.0	0.0602	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.630	0.0602	0.69	1.001
1,2,3,4,7,8-HXCDD	NDR	0.919	0.0602	0.97	1.001
1,2,3,6,7,8-HXCDD		2.69	0.0602	1.24	1.000
1,2,3,7,8,9-HXCDD		2.96	0.0602	1.27	1.000
1,2,3,4,6,7,8-HPCDD		48.2	0.111	1.00	1.000
OCDD		600	0.0602	0.87	1.000
2,3,7,8-TCDF		1.56	0.0602	0.82	1.001
1,2,3,7,8-PECDF		0.377	0.0602	1.44	1.001
2,3,4,7,8-PECDF	NDR	0.380	0.0602	2.16	1.002
1,2,3,4,7,8-HXCDF	NDR	1.09	0.0602	0.94	1.000
1,2,3,6,7,8-HXCDF	NDR	0.574	0.0602	0.96	1.001
1,2,3,7,8,9-HXCDF	NDR	0.115	0.0602	1.58	1.000
2,3,4,6,7,8-HXCDF		0.507	0.0602	1.08	1.000
1,2,3,4,6,7,8-HPCDF		6.89	0.0684	0.96	1.000
1,2,3,4,7,8,9-HPCDF		0.489	0.0684	1.09	1.000
OCDF		12.4	0.0837	0.88	1.002
TOTAL TETRA-DIOXINS		17.8	0.0602		
TOTAL PENTA-DIOXINS		3.71	0.0602		
TOTAL HEXA-DIOXINS		21.9	0.0602		
TOTAL HEPTA-DIOXINS		101	0.111		
TOTAL TETRA-FURANS		7.27	0.0602		
TOTAL PENTA-FURANS		8.13	0.0602		
TOTAL HEXA-FURANS		10.3	0.0602		
TOTAL HEPTA-FURANS		14.5	0.0684		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-9\_Form1A\_DX0M\_169S69\_SJ1236146.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH209  
Sample Collection:  
03-Nov-2010 10:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 09-Dec-2010 Time: 17:13:46  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-9  
  
Sample Size: 8.31 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_159 S: 15  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_159 S: 2  
  
% Moisture: 17.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.668	0.0602	0.75	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-9\_Form1A\_DB03\_159S15\_SJ1236186.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH209  
Sample Collection:  
03-Nov-2010 10:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-9

Matrix: SOLID

Sample Size: 8.31 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 15:40:28

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 69

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 17.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1390	69.7	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1830	91.4	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1740	87.2	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1570	78.3	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1740	87.1	0.95	1.094
13C-OCDD		4000	2870	71.7	0.88	1.178
13C-2,3,7,8-TCDF		2000	1510	75.5	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1650	82.4	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1690	84.5	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1690	84.5	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1650	82.5	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1660	83.1	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1780	89.2	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1740	87.1	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1810	90.5	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	169	84.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-9\_Form2\_DX0M\_169S69\_SJ1236146.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH209

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 10:15  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-9  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_159 S: 15  
DX0M\_169 S: 69

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 8.31 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		17.0	0.0602	1	1.70e+01	1.70e+01	
1,2,3,7,8-PECDD		0.630	0.0602	1	6.30e-01	6.30e-01	
1,2,3,4,7,8-HXCDD	ND		0.0602	0.1	0.00e+00	3.01e-03	
1,2,3,6,7,8-HXCDD		2.69	0.0602	0.1	2.69e-01	2.69e-01	
1,2,3,7,8,9-HXCDD		2.96	0.0602	0.1	2.96e-01	2.96e-01	
1,2,3,4,6,7,8-HPCDD		48.2	0.111	0.01	4.82e-01	4.82e-01	
OCDD		600	0.0602	0.0001	6.00e-02	6.00e-02	
2,3,7,8-TCDF		0.668	0.0602	0.1	6.68e-02	6.68e-02	
1,2,3,7,8-PECDF		0.377	0.0602	0.05	1.89e-02	1.89e-02	
2,3,4,7,8-PECDF	ND		0.0602	0.5	0.00e+00	1.51e-02	
1,2,3,4,7,8-HXCDF	ND		0.0602	0.1	0.00e+00	3.01e-03	
1,2,3,6,7,8-HXCDF	ND		0.0602	0.1	0.00e+00	3.01e-03	
1,2,3,7,8,9-HXCDF	ND		0.0602	0.1	0.00e+00	3.01e-03	
2,3,4,6,7,8-HXCDF		0.507	0.0602	0.1	5.07e-02	5.07e-02	
1,2,3,4,6,7,8-HPCDF		6.89	0.0684	0.01	6.89e-02	6.89e-02	
1,2,3,4,7,8,9-HPCDF		0.489	0.0684	0.01	4.89e-03	4.89e-03	
OCDF		12.4	0.0837	0.0001	1.24e-03	1.24e-03	
<b>TOTAL TEQ</b>					<b>18.9</b>	<b>19.0</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		17.0	0.0602	1	1.70e+01	1.70e+01	
1,2,3,7,8-PECDD		0.630	0.0602	1	6.30e-01	6.30e-01	
1,2,3,4,7,8-HXCDD	ND		0.0602	0.1	0.00e+00	3.01e-03	
1,2,3,6,7,8-HXCDD		2.69	0.0602	0.1	2.69e-01	2.69e-01	
1,2,3,7,8,9-HXCDD		2.96	0.0602	0.1	2.96e-01	2.96e-01	
1,2,3,4,6,7,8-HPCDD		48.2	0.111	0.01	4.82e-01	4.82e-01	
OCDD		600	0.0602	0.0003	1.80e-01	1.80e-01	
2,3,7,8-TCDF		0.668	0.0602	0.1	6.68e-02	6.68e-02	
1,2,3,7,8-PECDF		0.377	0.0602	0.03	1.13e-02	1.13e-02	
2,3,4,7,8-PECDF	ND		0.0602	0.3	0.00e+00	9.03e-03	
1,2,3,4,7,8-HXCDF	ND		0.0602	0.1	0.00e+00	3.01e-03	
1,2,3,6,7,8-HXCDF	ND		0.0602	0.1	0.00e+00	3.01e-03	
1,2,3,7,8,9-HXCDF	ND		0.0602	0.1	0.00e+00	3.01e-03	
2,3,4,6,7,8-HXCDF		0.507	0.0602	0.1	5.07e-02	5.07e-02	
1,2,3,4,6,7,8-HPCDF		6.89	0.0684	0.01	6.89e-02	6.89e-02	
1,2,3,4,7,8,9-HPCDF		0.489	0.0684	0.01	4.89e-03	4.89e-03	
OCDF		12.4	0.0837	0.0003	3.72e-03	3.72e-03	
<b>TOTAL TEQ</b>					19.1	19.1	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-9\_TEQ\_SJ1236186.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH210  
Sample Collection:  
03-Nov-2010 10:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-10

Matrix: SOLID

Sample Size: 10.2 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 16:35:41

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 70

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.8

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3.40	0.0737	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.26	0.0775	0.52	1.001
1,2,3,4,7,8-HXCDD		3.64	0.0632	1.24	1.000
1,2,3,6,7,8-HXCDD		9.75	0.0632	1.19	1.000
1,2,3,7,8,9-HXCDD		9.42	0.0632	1.30	1.000
1,2,3,4,6,7,8-HPCDD		204	0.121	1.01	1.000
OCDD		2340	0.260	0.87	1.000
2,3,7,8-TCDF		1.72	0.0492	0.76	1.002
1,2,3,7,8-PECDF		1.12	0.0843	1.51	1.001
2,3,4,7,8-PECDF	NDR	1.19	0.0843	1.27	1.001
1,2,3,4,7,8-HXCDF		3.54	0.0642	1.19	1.000
1,2,3,6,7,8-HXCDF		3.51	0.0642	1.09	1.001
1,2,3,7,8,9-HXCDF	NDR	0.201	0.0642	1.70	1.000
2,3,4,6,7,8-HXCDF		2.04	0.0642	1.11	1.001
1,2,3,4,6,7,8-HPCDF		32.7	0.109	1.00	1.000
1,2,3,4,7,8,9-HPCDF		2.35	0.109	0.97	1.000
OCDF		55.7	0.0681	0.85	1.002
TOTAL TETRA-DIOXINS		10.2	0.0737		
TOTAL PENTA-DIOXINS		11.6	0.0775		
TOTAL HEXA-DIOXINS		73.6	0.0632		
TOTAL HEPTA-DIOXINS		403	0.121		
TOTAL TETRA-FURANS		13.6	0.0492		
TOTAL PENTA-FURANS		29.4	0.0843		
TOTAL HEXA-FURANS		95.8	0.0642		
TOTAL HEPTA-FURANS		75.6	0.109		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-10\_Form1A\_DX0M\_169S70\_SJ1236147.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH210  
Sample Collection:  
03-Nov-2010 10:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-10

Matrix: SOLID

Sample Size: 10.2 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Dec-2010 Time: 17:50:41

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_159 S: 16

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_159 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.8

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.558	0.0722	0.86	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-10\_Form1A\_DB03\_159S16\_SJ1236187.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH210  
Sample Collection:  
03-Nov-2010 10:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-10

Matrix: SOLID

Sample Size: 10.2 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 16:35:41

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 70

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 13.8

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1610	80.7	0.76	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1960	98.0	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1780	89.2	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1690	84.5	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1860	93.2	0.96	1.094
13C-OCDD		4000	3340	83.6	0.89	1.178
13C-2,3,7,8-TCDF		2000	1720	86.0	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1750	87.7	1.57	1.286
13C-2,3,4,7,8-PECDF		2000	1740	87.0	1.55	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1760	88.1	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1750	87.6	0.48	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1830	91.5	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1860	93.1	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1810	90.3	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1930	96.4	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	183	91.6		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-10\_Form2\_DX0M\_169S70\_SJ1236147.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.2 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 03-Nov-2010 10:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-10

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_159 S: 16  
DX0M\_169 S: 70

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.40	0.0737	1	3.40e+00	3.40e+00	
1,2,3,7,8-PECDD		2.26	0.0775	1	2.26e+00	2.26e+00	
1,2,3,4,7,8-HXCDD		3.64	0.0632	0.1	3.64e-01	3.64e-01	
1,2,3,6,7,8-HXCDD		9.75	0.0632	0.1	9.75e-01	9.75e-01	
1,2,3,7,8,9-HXCDD		9.42	0.0632	0.1	9.42e-01	9.42e-01	
1,2,3,4,6,7,8-HPCDD		204	0.121	0.01	2.04e+00	2.04e+00	
OCDD		2340	0.260	0.0001	2.34e-01	2.34e-01	
2,3,7,8-TCDF		0.558	0.0722	0.1	5.58e-02	5.58e-02	
1,2,3,7,8-PECDF		1.12	0.0843	0.05	5.60e-02	5.60e-02	
2,3,4,7,8-PECDF	ND		0.0843	0.5	0.00e+00	2.11e-02	
1,2,3,4,7,8-HXCDF		3.54	0.0642	0.1	3.54e-01	3.54e-01	
1,2,3,6,7,8-HXCDF		3.51	0.0642	0.1	3.51e-01	3.51e-01	
1,2,3,7,8,9-HXCDF	ND		0.0642	0.1	0.00e+00	3.21e-03	
2,3,4,6,7,8-HXCDF		2.04	0.0642	0.1	2.04e-01	2.04e-01	
1,2,3,4,6,7,8-HPCDF		32.7	0.109	0.01	3.27e-01	3.27e-01	
1,2,3,4,7,8,9-HPCDF		2.35	0.109	0.01	2.35e-02	2.35e-02	
OCDF		55.7	0.0681	0.0001	5.57e-03	5.57e-03	
<b>TOTAL TEQ</b>					11.6	11.6	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.40	0.0737	1	3.40e+00	3.40e+00	
1,2,3,7,8-PECDD		2.26	0.0775	1	2.26e+00	2.26e+00	
1,2,3,4,7,8-HXCDD		3.64	0.0632	0.1	3.64e-01	3.64e-01	
1,2,3,6,7,8-HXCDD		9.75	0.0632	0.1	9.75e-01	9.75e-01	
1,2,3,7,8,9-HXCDD		9.42	0.0632	0.1	9.42e-01	9.42e-01	
1,2,3,4,6,7,8-HPCDD		204	0.121	0.01	2.04e+00	2.04e+00	
OCDD		2340	0.260	0.0003	7.02e-01	7.02e-01	
2,3,7,8-TCDF		0.558	0.0722	0.1	5.58e-02	5.58e-02	
1,2,3,7,8-PECDF		1.12	0.0843	0.03	3.36e-02	3.36e-02	
2,3,4,7,8-PECDF	ND		0.0843	0.3	0.00e+00	1.26e-02	
1,2,3,4,7,8-HXCDF		3.54	0.0642	0.1	3.54e-01	3.54e-01	
1,2,3,6,7,8-HXCDF		3.51	0.0642	0.1	3.51e-01	3.51e-01	
1,2,3,7,8,9-HXCDF	ND		0.0642	0.1	0.00e+00	3.21e-03	
2,3,4,6,7,8-HXCDF		2.04	0.0642	0.1	2.04e-01	2.04e-01	
1,2,3,4,6,7,8-HPCDF		32.7	0.109	0.01	3.27e-01	3.27e-01	
1,2,3,4,7,8,9-HPCDF		2.35	0.109	0.01	2.35e-02	2.35e-02	
OCDF		55.7	0.0681	0.0003	1.67e-02	1.67e-02	
<b>TOTAL TEQ</b>					<b>12.0</b>	<b>12.1</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-10\_TEQ\_SJ1236187.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH212  
Sample Collection:  
03-Nov-2010 11:17

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-11

Matrix: SOLID

Sample Size: 11.0 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 19-Dec-2010 Time: 01:57:09

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 80

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.1

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		47.9	0.0594	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.45	0.0455	0.52	1.001
1,2,3,4,7,8-HXCDD		2.59	0.0785	1.21	1.001
1,2,3,6,7,8-HXCDD		8.08	0.0785	1.23	1.000
1,2,3,7,8,9-HXCDD		7.42	0.0785	1.25	1.000
1,2,3,4,6,7,8-HPCDD		147	0.205	1.05	1.000
OCDD		1240	0.112	0.88	1.000
2,3,7,8-TCDF		13.2	0.0455	0.75	1.001
1,2,3,7,8-PECDF		1.06	0.0656	1.40	1.002
2,3,4,7,8-PECDF		1.17	0.0656	1.65	1.001
1,2,3,4,7,8-HXCDF		2.79	0.0579	1.22	1.001
1,2,3,6,7,8-HXCDF		1.41	0.0579	1.07	1.000
1,2,3,7,8,9-HXCDF	NDR	0.159	0.0579	1.73	1.000
2,3,4,6,7,8-HXCDF		1.24	0.0579	1.17	1.000
1,2,3,4,6,7,8-HPCDF		20.6	0.116	1.01	1.000
1,2,3,4,7,8,9-HPCDF		1.19	0.116	1.02	1.000
OCDF		44.4	0.0568	0.87	1.002
TOTAL TETRA-DIOXINS		56.5	0.0594		
TOTAL PENTA-DIOXINS		19.2	0.0455		
TOTAL HEXA-DIOXINS		68.7	0.0785		
TOTAL HEPTA-DIOXINS		294	0.205		
TOTAL TETRA-FURANS		33.3	0.0455		
TOTAL PENTA-FURANS		34.1	0.0656		
TOTAL HEXA-FURANS		35.8	0.0579		
TOTAL HEPTA-FURANS		54.0	0.116		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-11\_Form1A\_DX0M\_169S80\_SJ1236168.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH212  
Sample Collection:  
03-Nov-2010 11:17

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-11

Matrix: SOLID

Sample Size: 11.0 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Dec-2010 Time: 22:18:11

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_160 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_160 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.1

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		9.49	0.0607	0.80	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-11\_Form1A\_DB03\_160S5\_SJ1236193.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH212  
Sample Collection:  
03-Nov-2010 11:17

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-11

Matrix: SOLID

Sample Size: 11.0 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 19-Dec-2010 Time: 01:57:09

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 80

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg absolute

% Moisture: 16.1

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1160	58.1	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1610	80.6	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1420	70.8	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1330	66.6	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1380	69.2	0.96	1.094
13C-OCDD		4000	2380	59.4	0.87	1.179
13C-2,3,7,8-TCDF		2000	1270	63.3	0.73	0.967
13C-1,2,3,7,8-PECDF		2000	1380	69.2	1.55	1.285
13C-2,3,4,7,8-PECDF		2000	1440	71.9	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1410	70.7	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1400	70.1	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1430	71.5	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1480	73.8	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1420	70.9	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1450	72.7	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	174	86.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-11\_Form2\_DX0M\_169S80\_SJ1236168.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 11:17

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15772-11

Sample Size: 11.0 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_160 S: 5  
DX0M\_169 S: 80

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		47.9	0.0594	1	4.79e+01	4.79e+01	
1,2,3,7,8-PECDD		2.45	0.0455	1	2.45e+00	2.45e+00	
1,2,3,4,7,8-HXCDD		2.59	0.0785	0.1	2.59e-01	2.59e-01	
1,2,3,6,7,8-HXCDD		8.08	0.0785	0.1	8.08e-01	8.08e-01	
1,2,3,7,8,9-HXCDD		7.42	0.0785	0.1	7.42e-01	7.42e-01	
1,2,3,4,6,7,8-HPCDD		147	0.205	0.01	1.47e+00	1.47e+00	
OCDD		1240	0.112	0.0001	1.24e-01	1.24e-01	
2,3,7,8-TCDF		9.49	0.0607	0.1	9.49e-01	9.49e-01	
1,2,3,7,8-PECDF		1.06	0.0656	0.05	5.30e-02	5.30e-02	
2,3,4,7,8-PECDF		1.17	0.0656	0.5	5.85e-01	5.85e-01	
1,2,3,4,7,8-HXCDF		2.79	0.0579	0.1	2.79e-01	2.79e-01	
1,2,3,6,7,8-HXCDF		1.41	0.0579	0.1	1.41e-01	1.41e-01	
1,2,3,7,8,9-HXCDF	ND		0.0579	0.1	0.00e+00	2.90e-03	
2,3,4,6,7,8-HXCDF		1.24	0.0579	0.1	1.24e-01	1.24e-01	
1,2,3,4,6,7,8-HPCDF		20.6	0.116	0.01	2.06e-01	2.06e-01	
1,2,3,4,7,8,9-HPCDF		1.19	0.116	0.01	1.19e-02	1.19e-02	
OCDF		44.4	0.0568	0.0001	4.44e-03	4.44e-03	
<b>TOTAL TEQ</b>					56.1	56.1	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		47.9	0.0594	1	4.79e+01	4.79e+01	
1,2,3,7,8-PECDD		2.45	0.0455	1	2.45e+00	2.45e+00	
1,2,3,4,7,8-HXCDD		2.59	0.0785	0.1	2.59e-01	2.59e-01	
1,2,3,6,7,8-HXCDD		8.08	0.0785	0.1	8.08e-01	8.08e-01	
1,2,3,7,8,9-HXCDD		7.42	0.0785	0.1	7.42e-01	7.42e-01	
1,2,3,4,6,7,8-HPCDD		147	0.205	0.01	1.47e+00	1.47e+00	
OCDD		1240	0.112	0.0003	3.72e-01	3.72e-01	
2,3,7,8-TCDF		9.49	0.0607	0.1	9.49e-01	9.49e-01	
1,2,3,7,8-PECDF		1.06	0.0656	0.03	3.18e-02	3.18e-02	
2,3,4,7,8-PECDF		1.17	0.0656	0.3	3.51e-01	3.51e-01	
1,2,3,4,7,8-HXCDF		2.79	0.0579	0.1	2.79e-01	2.79e-01	
1,2,3,6,7,8-HXCDF		1.41	0.0579	0.1	1.41e-01	1.41e-01	
1,2,3,7,8,9-HXCDF	ND		0.0579	0.1	0.00e+00	2.90e-03	
2,3,4,6,7,8-HXCDF		1.24	0.0579	0.1	1.24e-01	1.24e-01	
1,2,3,4,6,7,8-HPCDF		20.6	0.116	0.01	2.06e-01	2.06e-01	
1,2,3,4,7,8,9-HPCDF		1.19	0.116	0.01	1.19e-02	1.19e-02	
OCDF		44.4	0.0568	0.0003	1.33e-02	1.33e-02	
<b>TOTAL TEQ</b>					<b>56.1</b>	<b>56.1</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-11\_TEQ\_SJ1236193.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH213  
Sample Collection:  
03-Nov-2010 11:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-12

Matrix: SOLID

Sample Size: 9.99 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 17:30:55

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 71

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 23.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		17.8	0.0503	0.78	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.486	0.0501	0.63	1.001
1,2,3,4,7,8-HXCDD	NDR	0.313	0.0503	1.48	1.000
1,2,3,6,7,8-HXCDD	NDR	0.925	0.0503	1.51	1.000
1,2,3,7,8,9-HXCDD	NDR	1.49	0.0503	1.03	1.000
1,2,3,4,6,7,8-HPCDD		10.7	0.0541	1.02	1.000
OCDD		112	0.174	0.88	1.000
2,3,7,8-TCDF		1.97	0.0501	0.81	1.001
1,2,3,7,8-PECDF	NDR	0.420	0.0501	1.19	1.001
2,3,4,7,8-PECDF	NDR	0.175	0.0501	2.13	1.000
1,2,3,4,7,8-HXCDF		0.229	0.0537	1.17	1.000
1,2,3,6,7,8-HXCDF	NDR	0.147	0.0537	1.94	1.001
1,2,3,7,8,9-HXCDF		0.851	0.0537	1.07	1.000
2,3,4,6,7,8-HXCDF	NDR	0.154	0.0537	1.54	1.001
1,2,3,4,6,7,8-HPCDF		1.56	0.0501	0.94	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.0885	0.0501	1.26	1.001
OCDF		2.75	0.0501	0.88	1.002
TOTAL TETRA-DIOXINS		20.6	0.0503		
TOTAL PENTA-DIOXINS		3.74	0.0501		
TOTAL HEXA-DIOXINS		7.73	0.0503		
TOTAL HEPTA-DIOXINS		21.6	0.0541		
TOTAL TETRA-FURANS		10.5	0.0501		
TOTAL PENTA-FURANS		5.28	0.0501		
TOTAL HEXA-FURANS		2.64	0.0537		
TOTAL HEPTA-FURANS		2.80	0.0501		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-12\_Form1A\_DX0M\_169S71\_SJ1236148.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH213  
Sample Collection:  
03-Nov-2010 11:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-12

Matrix: SOLID

Sample Size: 9.99 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Dec-2010 Time: 22:55:02

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_160 S: 6

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_160 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 23.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.10	0.0580	0.84	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-12\_Form1A\_DB03\_160S6\_SJ1236194.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH213  
Sample Collection:  
03-Nov-2010 11:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-12

Matrix: SOLID

Sample Size: 9.99 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 17:30:55

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX0M\_169 S: 71

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 23.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1330	66.5	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1920	96.2	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1640	82.1	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1550	77.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2240	112	0.90	1.094
13C-OCDD		4000	3030	75.7	0.88	1.178
13C-2,3,7,8-TCDF		2000	1370	68.6	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1610	80.7	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1650	82.5	1.52	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1590	79.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1610	80.6	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1550	77.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1710	85.4	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1790	89.4	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2080	104	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	174	86.9		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-12\_Form2\_DX0M\_169S71\_SJ1236148.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 11:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-12  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_160 S: 6  
DX0M\_169 S: 71

Contract No.: 2607

Matrix: SOLID

Sample Size: 9.99 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		17.8	0.0503	1	1.78e+01	1.78e+01	
1,2,3,7,8-PECDD		0.486	0.0501	1	4.86e-01	4.86e-01	
1,2,3,4,7,8-HXCDD	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,6,7,8-HXCDD	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,7,8,9-HXCDD	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,4,6,7,8-HPCDD		10.7	0.0541	0.01	1.07e-01	1.07e-01	
OCDD		112	0.174	0.0001	1.12e-02	1.12e-02	
2,3,7,8-TCDF		1.10	0.0580	0.1	1.10e-01	1.10e-01	
1,2,3,7,8-PECDF	ND		0.0501	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0501	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF		0.229	0.0537	0.1	2.29e-02	2.29e-02	
1,2,3,6,7,8-HXCDF	ND		0.0537	0.1	0.00e+00	2.69e-03	
1,2,3,7,8,9-HXCDF		0.851	0.0537	0.1	8.51e-02	8.51e-02	
2,3,4,6,7,8-HXCDF	ND		0.0537	0.1	0.00e+00	2.69e-03	
1,2,3,4,6,7,8-HPCDF		1.56	0.0501	0.01	1.56e-02	1.56e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDF		2.75	0.0501	0.0001	2.75e-04	2.75e-04	
<b>TOTAL TEQ</b>					<b>18.6</b>	<b>18.7</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		17.8	0.0503	1	1.78e+01	1.78e+01	
1,2,3,7,8-PECDD		0.486	0.0501	1	4.86e-01	4.86e-01	
1,2,3,4,7,8-HXCDD	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,6,7,8-HXCDD	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,7,8,9-HXCDD	ND		0.0503	0.1	0.00e+00	2.52e-03	
1,2,3,4,6,7,8-HPCDD		10.7	0.0541	0.01	1.07e-01	1.07e-01	
OCDD		112	0.174	0.0003	3.36e-02	3.36e-02	
2,3,7,8-TCDF		1.10	0.0580	0.1	1.10e-01	1.10e-01	
1,2,3,7,8-PECDF	ND		0.0501	0.03	0.00e+00	7.52e-04	
2,3,4,7,8-PECDF	ND		0.0501	0.3	0.00e+00	7.52e-03	
1,2,3,4,7,8-HXCDF		0.229	0.0537	0.1	2.29e-02	2.29e-02	
1,2,3,6,7,8-HXCDF	ND		0.0537	0.1	0.00e+00	2.69e-03	
1,2,3,7,8,9-HXCDF		0.851	0.0537	0.1	8.51e-02	8.51e-02	
2,3,4,6,7,8-HXCDF	ND		0.0537	0.1	0.00e+00	2.69e-03	
1,2,3,4,6,7,8-HPCDF		1.56	0.0501	0.01	1.56e-02	1.56e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDF		2.75	0.0501	0.0003	8.25e-04	8.25e-04	
<b>TOTAL TEQ</b>					<b>18.7</b>	<b>18.7</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-12\_TEQ\_SJ1236194.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH214  
Sample Collection:  
03-Nov-2010 15:22

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-13

Matrix: SOLID

Sample Size: 5.05 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 19-Dec-2010 Time: 02:52:22

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 81

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg/g (dry weight basis)

% Moisture: 14.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		62.7	0.615	0.79	1.001
1,2,3,7,8-PECDD <sup>3</sup>		8.00	0.810	0.59	1.002
1,2,3,4,7,8-HXCDD		13.7	0.814	1.25	1.000
1,2,3,6,7,8-HXCDD		45.8	0.814	1.24	1.000
1,2,3,7,8,9-HXCDD		46.9	0.814	1.20	1.000
1,2,3,4,6,7,8-HPCDD		2160	2.19	1.01	1.000
OCDD		12500	1.97	0.88	1.000
2,3,7,8-TCDF		14.9	0.856	0.74	1.001
1,2,3,7,8-PECDF		2.90	0.820	1.60	1.002
2,3,4,7,8-PECDF	NDR	3.36	0.820	1.26	1.001
1,2,3,4,7,8-HXCDF	NDR	9.35	0.488	0.99	1.000
1,2,3,6,7,8-HXCDF		4.66	0.488	1.25	1.001
1,2,3,7,8,9-HXCDF	ND		0.488		
2,3,4,6,7,8-HXCDF		5.06	0.488	1.07	1.001
1,2,3,4,6,7,8-HPCDF		93.0	0.997	1.10	1.000
1,2,3,4,7,8,9-HPCDF		6.35	0.997	0.91	1.000
OCDF		212	0.277	0.84	1.002
TOTAL TETRA-DIOXINS		87.6	0.615		
TOTAL PENTA-DIOXINS		66.2	0.810		
TOTAL HEXA-DIOXINS		412	0.814		
TOTAL HEPTA-DIOXINS		3790	2.19		
TOTAL TETRA-FURANS		76.3	0.856		
TOTAL PENTA-FURANS		50.1	0.820		
TOTAL HEXA-FURANS		102	0.488		
TOTAL HEPTA-FURANS		256	0.997		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-13\_Form1A\_DX0M\_169S81\_SJ1236169.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH214  
Sample Collection:  
03-Nov-2010 15:22

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15772-13

Matrix: SOLID

Sample Size:

5.05 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date:

09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID:

HR GC/MS

Analysis Date: 09-Dec-2010 Time: 23:31:52

GC Column ID:

DB225

Extract Volume (uL): 100

Sample Data Filename:

DB03\_160 S: 7

Injection Volume (uL): 2.0

Blank Data Filename:

DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

DB03\_160 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture:

14.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		5.58	0.482	0.81	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-13\_Form1A\_DB03\_160S7\_SJ1236195.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH214  
Sample Collection:  
03-Nov-2010 15:22

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-13

Matrix: SOLID

Sample Size: 5.05 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 19-Dec-2010 Time: 02:52:22

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 81

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg absolute

% Moisture: 14.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2720	68.0	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3510	87.7	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3390	84.8	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3340	83.4	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3770	94.3	0.97	1.094
13C-OCDD		8000	6670	83.4	0.88	1.178
13C-2,3,7,8-TCDF		4000	3100	77.6	0.70	0.967
13C-1,2,3,7,8-PECDF		4000	3440	86.0	1.44	1.285
13C-2,3,4,7,8-PECDF		4000	3410	85.2	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3450	86.1	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3510	87.8	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3380	84.6	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3540	88.5	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	3710	92.8	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3840	95.9	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	150	74.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-13\_Form2\_DX0M\_169S81\_SJ1236169.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH214

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 15:22

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15772-13

Sample Size: 5.05 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_160 S: 7  
DX0M\_169 S: 81

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		62.7	0.615	1	6.27e+01	6.27e+01	
1,2,3,7,8-PECDD		8.00	0.810	1	8.00e+00	8.00e+00	
1,2,3,4,7,8-HXCDD		13.7	0.814	0.1	1.37e+00	1.37e+00	
1,2,3,6,7,8-HXCDD		45.8	0.814	0.1	4.58e+00	4.58e+00	
1,2,3,7,8,9-HXCDD		46.9	0.814	0.1	4.69e+00	4.69e+00	
1,2,3,4,6,7,8-HPCDD		2160	2.19	0.01	2.16e+01	2.16e+01	
OCDD		12500	1.97	0.0001	1.25e+00	1.25e+00	
2,3,7,8-TCDF		5.58	0.482	0.1	5.58e-01	5.58e-01	
1,2,3,7,8-PECDF		2.90	0.820	0.05	1.45e-01	1.45e-01	
2,3,4,7,8-PECDF	ND		0.820	0.5	0.00e+00	2.05e-01	
1,2,3,4,7,8-HXCDF	ND		0.488	0.1	0.00e+00	2.44e-02	
1,2,3,6,7,8-HXCDF		4.66	0.488	0.1	4.66e-01	4.66e-01	
1,2,3,7,8,9-HXCDF	ND		0.488	0.1	0.00e+00	2.44e-02	
2,3,4,6,7,8-HXCDF		5.06	0.488	0.1	5.06e-01	5.06e-01	
1,2,3,4,6,7,8-HPCDF		93.0	0.997	0.01	9.30e-01	9.30e-01	
1,2,3,4,7,8,9-HPCDF		6.35	0.997	0.01	6.35e-02	6.35e-02	
OCDF		212	0.277	0.0001	2.12e-02	2.12e-02	
<b>TOTAL TEQ</b>					107	107	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		62.7	0.615	1	6.27e+01	6.27e+01	
1,2,3,7,8-PECDD		8.00	0.810	1	8.00e+00	8.00e+00	
1,2,3,4,7,8-HXCDD		13.7	0.814	0.1	1.37e+00	1.37e+00	
1,2,3,6,7,8-HXCDD		45.8	0.814	0.1	4.58e+00	4.58e+00	
1,2,3,7,8,9-HXCDD		46.9	0.814	0.1	4.69e+00	4.69e+00	
1,2,3,4,6,7,8-HPCDD		2160	2.19	0.01	2.16e+01	2.16e+01	
OCDD		12500	1.97	0.0003	3.75e+00	3.75e+00	
2,3,7,8-TCDF		5.58	0.482	0.1	5.58e-01	5.58e-01	
1,2,3,7,8-PECDF		2.90	0.820	0.03	8.70e-02	8.70e-02	
2,3,4,7,8-PECDF	ND		0.820	0.3	0.00e+00	1.23e-01	
1,2,3,4,7,8-HXCDF	ND		0.488	0.1	0.00e+00	2.44e-02	
1,2,3,6,7,8-HXCDF		4.66	0.488	0.1	4.66e-01	4.66e-01	
1,2,3,7,8,9-HXCDF	ND		0.488	0.1	0.00e+00	2.44e-02	
2,3,4,6,7,8-HXCDF		5.06	0.488	0.1	5.06e-01	5.06e-01	
1,2,3,4,6,7,8-HPCDF		93.0	0.997	0.01	9.30e-01	9.30e-01	
1,2,3,4,7,8,9-HPCDF		6.35	0.997	0.01	6.35e-02	6.35e-02	
OCDF		212	0.277	0.0003	6.36e-02	6.36e-02	
<b>TOTAL TEQ</b>					109	110	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-13\_TEQ\_SJ1236195.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH215  
Sample Collection:  
03-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-14

Matrix: SOLID

Sample Size: 4.99 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 18:26:08

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 72

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg/g (dry weight basis)

% Moisture: 11.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		7.84	0.503	0.88	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	0.776	0.297	0.19	0.999
1,2,3,4,7,8-HXCDD		1.29	0.331	1.32	1.000
1,2,3,6,7,8-HXCDD	NDR	3.72	0.331	0.81	1.001
1,2,3,7,8,9-HXCDD	NDR	2.66	0.331	0.88	1.000
1,2,3,4,6,7,8-HPCDD		48.7	0.420	0.97	1.000
OCDD		443	0.899	0.87	1.000
2,3,7,8-TCDF		2.00	0.529	0.75	1.001
1,2,3,7,8-PECDF	ND		0.666		
2,3,4,7,8-PECDF	NDR	1.02	0.666	1.94	1.001
1,2,3,4,7,8-HXCDF	NDR	1.38	0.793	0.88	1.001
1,2,3,6,7,8-HXCDF	NDR	1.32	0.793	0.79	1.000
1,2,3,7,8,9-HXCDF	ND		0.793		
2,3,4,6,7,8-HXCDF	NDR	1.64	0.793	0.99	1.001
1,2,3,4,6,7,8-HPCDF		10.7	0.361	1.18	1.000
1,2,3,4,7,8,9-HPCDF		0.650	0.361	1.04	1.000
OCDF	NDR	12.1	0.481	0.69	1.002
TOTAL TETRA-DIOXINS		13.1	0.503		
TOTAL PENTA-DIOXINS		0.376	0.297		
TOTAL HEXA-DIOXINS		12.9	0.331		
TOTAL HEPTA-DIOXINS		102	0.420		
TOTAL TETRA-FURANS		12.5	0.529		
TOTAL PENTA-FURANS		49.5	0.666		
TOTAL HEXA-FURANS		36.3	0.793		
TOTAL HEPTA-FURANS		21.2	0.361		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-14\_Form1A\_DX0M\_169S72\_SJ1236149.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH215  
Sample Collection:  
03-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-14

Matrix: SOLID

Sample Size: 4.99 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Dec-2010 Time: 00:08:45

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_160 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_160 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 11.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.682	0.626	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-14\_Form1A\_DB03\_160S8\_SJ1236196.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH215  
Sample Collection:  
03-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-14

Matrix: SOLID

Sample Size: 4.99 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 18:26:08

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 72

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 62

Concentration Units: pg absolute

% Moisture: 11.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2490	62.3	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3130	78.1	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3050	76.2	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3030	75.8	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3290	82.3	0.93	1.094
13C-OCDD		8000	5270	65.9	0.89	1.178
13C-2,3,7,8-TCDF		4000	2940	73.5	0.72	0.967
13C-1,2,3,7,8-PECDF		4000	3090	77.3	1.49	1.285
13C-2,3,4,7,8-PECDF		4000	3120	78.0	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3190	79.7	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3050	76.2	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3080	76.9	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3230	80.7	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3320	83.0	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3390	84.8	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	138	69.2		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-14\_Form2\_DX0M\_169S72\_SJ1236149.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 4.99 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 03-Nov-2010 15:45

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-14

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_160 S: 8  
DX0M\_169 S: 72

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7.84	0.503	1	7.84e+00	7.84e+00	
1,2,3,7,8-PECDD	ND		0.297	1	0.00e+00	1.49e-01	
1,2,3,4,7,8-HXCDD		1.29	0.331	0.1	1.29e-01	1.29e-01	
1,2,3,6,7,8-HXCDD	ND		0.331	0.1	0.00e+00	1.66e-02	
1,2,3,7,8,9-HXCDD	ND		0.331	0.1	0.00e+00	1.66e-02	
1,2,3,4,6,7,8-HPCDD		48.7	0.420	0.01	4.87e-01	4.87e-01	
OCDD		443	0.899	0.0001	4.43e-02	4.43e-02	
2,3,7,8-TCDF		0.682	0.626	0.1	6.82e-02	6.82e-02	
1,2,3,7,8-PECDF	ND		0.666	0.05	0.00e+00	1.67e-02	
2,3,4,7,8-PECDF	ND		0.666	0.5	0.00e+00	1.67e-01	
1,2,3,4,7,8-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
1,2,3,6,7,8-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
1,2,3,7,8,9-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
2,3,4,6,7,8-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
1,2,3,4,6,7,8-HPCDF		10.7	0.361	0.01	1.07e-01	1.07e-01	
1,2,3,4,7,8,9-HPCDF		0.650	0.361	0.01	6.50e-03	6.50e-03	
OCDF	ND		0.481	0.0001	0.00e+00	2.41e-05	
<b>TOTAL TEQ</b>					<b>8.68</b>	<b>9.21</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7.84	0.503	1	7.84e+00	7.84e+00	
1,2,3,7,8-PECDD	ND		0.297	1	0.00e+00	1.49e-01	
1,2,3,4,7,8-HXCDD		1.29	0.331	0.1	1.29e-01	1.29e-01	
1,2,3,6,7,8-HXCDD	ND		0.331	0.1	0.00e+00	1.66e-02	
1,2,3,7,8,9-HXCDD	ND		0.331	0.1	0.00e+00	1.66e-02	
1,2,3,4,6,7,8-HPCDD		48.7	0.420	0.01	4.87e-01	4.87e-01	
OCDD		443	0.899	0.0003	1.33e-01	1.33e-01	
2,3,7,8-TCDF		0.682	0.626	0.1	6.82e-02	6.82e-02	
1,2,3,7,8-PECDF	ND		0.666	0.03	0.00e+00	9.99e-03	
2,3,4,7,8-PECDF	ND		0.666	0.3	0.00e+00	9.99e-02	
1,2,3,4,7,8-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
1,2,3,6,7,8-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
1,2,3,7,8,9-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
2,3,4,6,7,8-HXCDF	ND		0.793	0.1	0.00e+00	3.97e-02	
1,2,3,4,6,7,8-HPCDF		10.7	0.361	0.01	1.07e-01	1.07e-01	
1,2,3,4,7,8,9-HPCDF		0.650	0.361	0.01	6.50e-03	6.50e-03	
OCDF	ND		0.481	0.0003	0.00e+00	7.22e-05	
<b>TOTAL TEQ</b>					<b>8.77</b>	<b>9.22</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-14\_TEQ\_SJ1236196.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH216  
Sample Collection:  
03-Nov-2010 16:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-15

Matrix: SOLID

Sample Size: 5.06 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 22:16:03

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 76

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		124	0.843	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	5.32	0.872	0.47	
1,2,3,4,7,8-HXCDD	NDR	2.05	0.934	1.56	1.001
1,2,3,6,7,8-HXCDD		7.51	0.934	1.24	1.000
1,2,3,7,8,9-HXCDD		8.37	0.934	1.09	1.000
1,2,3,4,6,7,8-HPCDD		279	1.30	1.03	1.000
OCDD		2760	1.25	0.88	1.000
2,3,7,8-TCDF		5.29	0.922	0.68	1.002
1,2,3,7,8-PECDF	ND		0.607		
2,3,4,7,8-PECDF	ND		0.607		
1,2,3,4,7,8-HXCDF		1.83	0.653	1.24	1.000
1,2,3,6,7,8-HXCDF	NDR	0.845	0.653	1.54	1.000
1,2,3,7,8,9-HXCDF	ND		0.653		
2,3,4,6,7,8-HXCDF	NDR	0.985	0.653	1.68	1.000
1,2,3,4,6,7,8-HPCDF		22.7	0.569	0.90	1.000
1,2,3,4,7,8,9-HPCDF		2.31	0.569	1.02	1.001
OCDF		56.5	0.870	0.92	1.002
TOTAL TETRA-DIOXINS		136	0.843		
TOTAL PENTA-DIOXINS		14.7	0.872		
TOTAL HEXA-DIOXINS		70.6	0.934		
TOTAL HEPTA-DIOXINS		515	1.30		
TOTAL TETRA-FURANS		18.2	0.922		
TOTAL PENTA-FURANS		20.5	0.607		
TOTAL HEXA-FURANS		22.8	0.653		
TOTAL HEPTA-FURANS		60.9	0.569		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-15\_Form1A\_DX0M\_169S76\_SJ1236164.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH216  
Sample Collection:  
03-Nov-2010 16:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 29-Nov-2010  
  
Analysis Date: 10-Dec-2010 Time: 00:45:40  
  
Extract Volume (uL): 100  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-15  
  
Sample Size: 5.06 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_160 S: 9  
  
Blank Data Filename: DB03\_159 S: 5  
  
Cal. Ver. Data Filename: DB03\_160 S: 2  
  
% Moisture: 15.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.40	0.534	0.85	1.000

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-15\_Form1A\_DB03\_160S9\_SJ1236197.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH216  
Sample Collection:  
03-Nov-2010 16:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-15

Matrix: SOLID

Sample Size: 5.06 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 22:16:03

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 76

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg absolute

% Moisture: 15.0

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2740	68.6	0.84	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3180	79.4	0.65	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3390	84.8	1.30	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3290	82.3	1.17	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3740	93.4	1.00	1.094
13C-OCDD		8000	6360	79.5	0.91	1.178
13C-2,3,7,8-TCDF		4000	2970	74.3	0.74	0.967
13C-1,2,3,7,8-PECDF		4000	3240	80.9	1.53	1.286
13C-2,3,4,7,8-PECDF		4000	3240	81.1	1.46	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3390	84.7	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3550	88.8	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3380	84.4	0.47	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3570	89.2	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	3790	94.6	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3980	99.4	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	162	80.8		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-15\_Form2\_DX0M\_169S76\_SJ1236164.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 16:05  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-15  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_160 S: 9  
DX0M\_169 S: 76

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.06 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		124	0.843	1	1.24e+02	1.24e+02	
1,2,3,7,8-PECDD	ND		0.872	1	0.00e+00	4.36e-01	
1,2,3,4,7,8-HXCDD	ND		0.934	0.1	0.00e+00	4.67e-02	
1,2,3,6,7,8-HXCDD		7.51	0.934	0.1	7.51e-01	7.51e-01	
1,2,3,7,8,9-HXCDD		8.37	0.934	0.1	8.37e-01	8.37e-01	
1,2,3,4,6,7,8-HPCDD		279	1.30	0.01	2.79e+00	2.79e+00	
OCDD		2760	1.25	0.0001	2.76e-01	2.76e-01	
2,3,7,8-TCDF		2.40	0.534	0.1	2.40e-01	2.40e-01	
1,2,3,7,8-PECDF	ND		0.607	0.05	0.00e+00	1.52e-02	
2,3,4,7,8-PECDF	ND		0.607	0.5	0.00e+00	1.52e-01	
1,2,3,4,7,8-HXCDF		1.83	0.653	0.1	1.83e-01	1.83e-01	
1,2,3,6,7,8-HXCDF	ND		0.653	0.1	0.00e+00	3.27e-02	
1,2,3,7,8,9-HXCDF	ND		0.653	0.1	0.00e+00	3.27e-02	
2,3,4,6,7,8-HXCDF	ND		0.653	0.1	0.00e+00	3.27e-02	
1,2,3,4,6,7,8-HPCDF		22.7	0.569	0.01	2.27e-01	2.27e-01	
1,2,3,4,7,8,9-HPCDF		2.31	0.569	0.01	2.31e-02	2.31e-02	
OCDF		56.5	0.870	0.0001	5.65e-03	5.65e-03	
<b>TOTAL TEQ</b>					129	130	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		124	0.843	1	1.24e+02	1.24e+02	
1,2,3,7,8-PECDD	ND		0.872	1	0.00e+00	4.36e-01	
1,2,3,4,7,8-HXCDD	ND		0.934	0.1	0.00e+00	4.67e-02	
1,2,3,6,7,8-HXCDD		7.51	0.934	0.1	7.51e-01	7.51e-01	
1,2,3,7,8,9-HXCDD		8.37	0.934	0.1	8.37e-01	8.37e-01	
1,2,3,4,6,7,8-HPCDD		279	1.30	0.01	2.79e+00	2.79e+00	
OCDD		2760	1.25	0.0003	8.28e-01	8.28e-01	
2,3,7,8-TCDF		2.40	0.534	0.1	2.40e-01	2.40e-01	
1,2,3,7,8-PECDF	ND		0.607	0.03	0.00e+00	9.11e-03	
2,3,4,7,8-PECDF	ND		0.607	0.3	0.00e+00	9.11e-02	
1,2,3,4,7,8-HXCDF		1.83	0.653	0.1	1.83e-01	1.83e-01	
1,2,3,6,7,8-HXCDF	ND		0.653	0.1	0.00e+00	3.27e-02	
1,2,3,7,8,9-HXCDF	ND		0.653	0.1	0.00e+00	3.27e-02	
2,3,4,6,7,8-HXCDF	ND		0.653	0.1	0.00e+00	3.27e-02	
1,2,3,4,6,7,8-HPCDF		22.7	0.569	0.01	2.27e-01	2.27e-01	
1,2,3,4,7,8,9-HPCDF		2.31	0.569	0.01	2.31e-02	2.31e-02	
OCDF		56.5	0.870	0.0003	1.70e-02	1.70e-02	
<b>TOTAL TEQ</b>					<b>130</b>	<b>131</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-15\_TEQ\_SJ1236197.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH217  
Sample Collection:  
03-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-16

Matrix: SOLID

Sample Size: 5.04 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 23:11:22

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 77

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg/g (dry weight basis)

% Moisture: 14.3

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		33.8	0.689	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.37	0.768	0.54	1.001
1,2,3,4,7,8-HXCDD	NDR	2.32	0.812	0.90	1.000
1,2,3,6,7,8-HXCDD		7.56	0.812	1.26	1.000
1,2,3,7,8,9-HXCDD		7.52	0.812	1.34	1.000
1,2,3,4,6,7,8-HPCDD		193	1.20	0.99	1.000
OCDD		1370	1.20	0.88	1.000
2,3,7,8-TCDF		5.57	0.621	0.76	1.001
1,2,3,7,8-PECDF		0.769	0.716	1.57	1.000
2,3,4,7,8-PECDF	NDR	1.73	0.716	2.16	1.001
1,2,3,4,7,8-HXCDF	NDR	2.33	0.866	1.46	1.000
1,2,3,6,7,8-HXCDF		2.27	0.866	1.10	1.001
1,2,3,7,8,9-HXCDF	ND		0.866		
2,3,4,6,7,8-HXCDF	NDR	2.23	0.866	1.60	1.000
1,2,3,4,6,7,8-HPCDF		30.1	0.530	1.11	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.86	0.530	1.46	1.001
OCDF		80.9	0.356	0.90	1.002
TOTAL TETRA-DIOXINS		41.6	0.689		
TOTAL PENTA-DIOXINS		12.6	0.768		
TOTAL HEXA-DIOXINS		39.6	0.812		
TOTAL HEPTA-DIOXINS		351	1.20		
TOTAL TETRA-FURANS		15.3	0.621		
TOTAL PENTA-FURANS		20.4	0.716		
TOTAL HEXA-FURANS		30.9	0.866		
TOTAL HEPTA-FURANS		75.5	0.530		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-16\_Form1A\_DX0M\_169S77\_SJ1236165.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH217  
Sample Collection:  
03-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-16

Matrix: SOLID

Sample Size: 5.04 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Dec-2010 Time: 01:22:29

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_160 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_160 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 14.3

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.23	0.432	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-16\_Form1A\_DB03\_160S10\_SJ1236198.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH217  
Sample Collection:  
03-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-16

Matrix: SOLID

Sample Size: 5.04 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 18-Dec-2010 Time: 23:11:22

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 77

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg absolute

% Moisture: 14.3

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2670	66.7	0.82	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	2980	74.6	0.64	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3210	80.2	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3190	79.8	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3430	85.7	0.97	1.094
13C-OCDD		8000	5760	72.0	0.91	1.178
13C-2,3,7,8-TCDF		4000	2880	71.9	0.78	0.967
13C-1,2,3,7,8-PECDF		4000	3120	77.9	1.50	1.286
13C-2,3,4,7,8-PECDF		4000	3020	75.4	1.47	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3330	83.3	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3470	86.7	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3100	77.6	0.47	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3380	84.5	0.47	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3630	90.8	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3370	84.3	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	147	73.7		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-16\_Form2\_DX0M\_169S77\_SJ1236165.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 16:15

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15772-16

Sample Size: 5.04 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_160 S: 10  
DX0M\_169 S: 77

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		33.8	0.689	1	3.38e+01	3.38e+01	
1,2,3,7,8-PECDD		2.37	0.768	1	2.37e+00	2.37e+00	
1,2,3,4,7,8-HXCDD	ND		0.812	0.1	0.00e+00	4.06e-02	
1,2,3,6,7,8-HXCDD		7.56	0.812	0.1	7.56e-01	7.56e-01	
1,2,3,7,8,9-HXCDD		7.52	0.812	0.1	7.52e-01	7.52e-01	
1,2,3,4,6,7,8-HPCDD		193	1.20	0.01	1.93e+00	1.93e+00	
OCDD		1370	1.20	0.0001	1.37e-01	1.37e-01	
2,3,7,8-TCDF		2.23	0.432	0.1	2.23e-01	2.23e-01	
1,2,3,7,8-PECDF		0.769	0.716	0.05	3.85e-02	3.85e-02	
2,3,4,7,8-PECDF	ND		0.716	0.5	0.00e+00	1.79e-01	
1,2,3,4,7,8-HXCDF	ND		0.866	0.1	0.00e+00	4.33e-02	
1,2,3,6,7,8-HXCDF		2.27	0.866	0.1	2.27e-01	2.27e-01	
1,2,3,7,8,9-HXCDF	ND		0.866	0.1	0.00e+00	4.33e-02	
2,3,4,6,7,8-HXCDF	ND		0.866	0.1	0.00e+00	4.33e-02	
1,2,3,4,6,7,8-HPCDF		30.1	0.530	0.01	3.01e-01	3.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.530	0.01	0.00e+00	2.65e-03	
OCDF		80.9	0.356	0.0001	8.09e-03	8.09e-03	
<b>TOTAL TEQ</b>					<b>40.5</b>	<b>40.9</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		33.8	0.689	1	3.38e+01	3.38e+01	
1,2,3,7,8-PECDD		2.37	0.768	1	2.37e+00	2.37e+00	
1,2,3,4,7,8-HXCDD	ND		0.812	0.1	0.00e+00	4.06e-02	
1,2,3,6,7,8-HXCDD		7.56	0.812	0.1	7.56e-01	7.56e-01	
1,2,3,7,8,9-HXCDD		7.52	0.812	0.1	7.52e-01	7.52e-01	
1,2,3,4,6,7,8-HPCDD		193	1.20	0.01	1.93e+00	1.93e+00	
OCDD		1370	1.20	0.0003	4.11e-01	4.11e-01	
2,3,7,8-TCDF		2.23	0.432	0.1	2.23e-01	2.23e-01	
1,2,3,7,8-PECDF		0.769	0.716	0.03	2.31e-02	2.31e-02	
2,3,4,7,8-PECDF	ND		0.716	0.3	0.00e+00	1.07e-01	
1,2,3,4,7,8-HXCDF	ND		0.866	0.1	0.00e+00	4.33e-02	
1,2,3,6,7,8-HXCDF		2.27	0.866	0.1	2.27e-01	2.27e-01	
1,2,3,7,8,9-HXCDF	ND		0.866	0.1	0.00e+00	4.33e-02	
2,3,4,6,7,8-HXCDF	ND		0.866	0.1	0.00e+00	4.33e-02	
1,2,3,4,6,7,8-HPCDF		30.1	0.530	0.01	3.01e-01	3.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.530	0.01	0.00e+00	2.65e-03	
OCDF		80.9	0.356	0.0003	2.43e-02	2.43e-02	
<b>TOTAL TEQ</b>					<b>40.8</b>	<b>41.1</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-16\_TEQ\_SJ1236198.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH218  
Sample Collection:  
03-Nov-2010 16:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-17

Matrix: SOLID

Sample Size: 4.98 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 19-Dec-2010 Time: 00:06:35

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 78

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg/g (dry weight basis)

% Moisture: 12.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		25.8	0.441	0.80	1.000
1,2,3,7,8-PECDD <sup>3</sup>		1.47	0.532	0.60	1.001
1,2,3,4,7,8-HXCDD		2.06	0.423	1.35	1.000
1,2,3,6,7,8-HXCDD		4.29	0.423	1.40	1.000
1,2,3,7,8,9-HXCDD		3.93	0.423	1.38	1.000
1,2,3,4,6,7,8-HPCDD		63.2	0.660	1.06	1.000
OCDD		489	0.489	0.88	1.000
2,3,7,8-TCDF		5.28	0.794	0.67	1.002
1,2,3,7,8-PECDF	NDR	1.10	0.650	1.02	1.000
2,3,4,7,8-PECDF		1.02	0.650	1.36	1.001
1,2,3,4,7,8-HXCDF		2.55	0.661	1.24	1.001
1,2,3,6,7,8-HXCDF	NDR	1.55	0.661	2.63	1.000
1,2,3,7,8,9-HXCDF	ND		0.661		
2,3,4,6,7,8-HXCDF	NDR	2.00	0.661	1.45	1.001
1,2,3,4,6,7,8-HPCDF		9.91	0.781	1.11	1.000
1,2,3,4,7,8,9-HPCDF		1.04	0.781	0.94	1.000
OCDF		13.7	0.427	0.76	1.002
TOTAL TETRA-DIOXINS		32.4	0.441		
TOTAL PENTA-DIOXINS		3.52	0.532		
TOTAL HEXA-DIOXINS		35.1	0.423		
TOTAL HEPTA-DIOXINS		120	0.660		
TOTAL TETRA-FURANS		25.3	0.794		
TOTAL PENTA-FURANS		17.0	0.650		
TOTAL HEXA-FURANS		9.39	0.661		
TOTAL HEPTA-FURANS		19.6	0.781		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-17\_Form1A\_DX0M\_169S78\_SJ1236166.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH218  
Sample Collection:  
03-Nov-2010 16:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-17

Matrix: SOLID

Sample Size: 4.98 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Dec-2010 Time: 01:59:24

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_160 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_159 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_160 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 12.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.86	0.624	0.65	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Celine Vaillant\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 14-Jan-2011 11:56:24; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-17\_Form1A\_DB03\_160S11\_SJ1236199.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH218  
Sample Collection:  
03-Nov-2010 16:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-17

Matrix: SOLID

Sample Size: 4.98 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 29-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 19-Dec-2010 Time: 00:06:35

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_169 S: 78

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_169 S: 55

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_169 S: 73

Concentration Units: pg absolute

% Moisture: 12.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2650	66.2	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3400	84.9	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		4000	3460	86.4	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3330	83.3	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3540	88.6	1.00	1.094
13C-OCDD		8000	5880	73.5	0.89	1.179
13C-2,3,7,8-TCDF		4000	3150	78.7	0.73	0.967
13C-1,2,3,7,8-PECDF		4000	3370	84.2	1.53	1.285
13C-2,3,4,7,8-PECDF		4000	3300	82.4	1.54	1.353
13C-1,2,3,4,7,8-HXCDF		4000	3530	88.3	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3640	90.9	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3380	84.6	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3630	90.8	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3850	96.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3630	90.7	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	135	67.7		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 14-Jan-2011 11:55:30; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-17\_Form2\_DX0M\_169S78\_SJ1236166.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 16:45  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-17  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_160 S: 11  
DX0M\_169 S: 78

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 4.98 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		25.8	0.441	1	2.58e+01	2.58e+01	
1,2,3,7,8-PECDD		1.47	0.532	1	1.47e+00	1.47e+00	
1,2,3,4,7,8-HXCDD		2.06	0.423	0.1	2.06e-01	2.06e-01	
1,2,3,6,7,8-HXCDD		4.29	0.423	0.1	4.29e-01	4.29e-01	
1,2,3,7,8,9-HXCDD		3.93	0.423	0.1	3.93e-01	3.93e-01	
1,2,3,4,6,7,8-HPCDD		63.2	0.660	0.01	6.32e-01	6.32e-01	
OCDD		489	0.489	0.0001	4.89e-02	4.89e-02	
2,3,7,8-TCDF		1.86	0.624	0.1	1.86e-01	1.86e-01	
1,2,3,7,8-PECDF	ND		0.650	0.05	0.00e+00	1.63e-02	
2,3,4,7,8-PECDF		1.02	0.650	0.5	5.10e-01	5.10e-01	
1,2,3,4,7,8-HXCDF		2.55	0.661	0.1	2.55e-01	2.55e-01	
1,2,3,6,7,8-HXCDF	ND		0.661	0.1	0.00e+00	3.31e-02	
1,2,3,7,8,9-HXCDF	ND		0.661	0.1	0.00e+00	3.31e-02	
2,3,4,6,7,8-HXCDF	ND		0.661	0.1	0.00e+00	3.31e-02	
1,2,3,4,6,7,8-HPCDF		9.91	0.781	0.01	9.91e-02	9.91e-02	
1,2,3,4,7,8,9-HPCDF		1.04	0.781	0.01	1.04e-02	1.04e-02	
OCDF		13.7	0.427	0.0001	1.37e-03	1.37e-03	
<b>TOTAL TEQ</b>					30.0	30.2	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		25.8	0.441	1	2.58e+01	2.58e+01	
1,2,3,7,8-PECDD		1.47	0.532	1	1.47e+00	1.47e+00	
1,2,3,4,7,8-HXCDD		2.06	0.423	0.1	2.06e-01	2.06e-01	
1,2,3,6,7,8-HXCDD		4.29	0.423	0.1	4.29e-01	4.29e-01	
1,2,3,7,8,9-HXCDD		3.93	0.423	0.1	3.93e-01	3.93e-01	
1,2,3,4,6,7,8-HPCDD		63.2	0.660	0.01	6.32e-01	6.32e-01	
OCDD		489	0.489	0.0003	1.47e-01	1.47e-01	
2,3,7,8-TCDF		1.86	0.624	0.1	1.86e-01	1.86e-01	
1,2,3,7,8-PECDF	ND		0.650	0.03	0.00e+00	9.75e-03	
2,3,4,7,8-PECDF		1.02	0.650	0.3	3.06e-01	3.06e-01	
1,2,3,4,7,8-HXCDF		2.55	0.661	0.1	2.55e-01	2.55e-01	
1,2,3,6,7,8-HXCDF	ND		0.661	0.1	0.00e+00	3.31e-02	
1,2,3,7,8,9-HXCDF	ND		0.661	0.1	0.00e+00	3.31e-02	
2,3,4,6,7,8-HXCDF	ND		0.661	0.1	0.00e+00	3.31e-02	
1,2,3,4,6,7,8-HPCDF		9.91	0.781	0.01	9.91e-02	9.91e-02	
1,2,3,4,7,8,9-HPCDF		1.04	0.781	0.01	1.04e-02	1.04e-02	
OCDF		13.7	0.427	0.0003	4.11e-03	4.11e-03	
<b>TOTAL TEQ</b>					29.9	30.0	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Celine Vaillant \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 14-Jan-2011 11:57:09; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-17\_TEQ\_SJ1236199.html; Workgroup: WG34733; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH219  
Sample Collection:  
03-Nov-2010 17:05

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15772-18 R
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	5.07 g (dry)
<b>Extraction Date:</b>	05-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	16-Jan-2011 Time: 11:21:14	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	100	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	<b>DX1M_008A S: 73</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_008A S: 50
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_008A S: 70
		<b>% Moisture:</b>	12.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		21.5	0.747 (S)	0.70	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	7.42	1.10 (S)	0.45	1.001
1,2,3,4,7,8-HXCDD		12.4	0.644 (S)	1.05	1.000
1,2,3,6,7,8-HXCDD		40.0	0.644 (S)	1.08	1.000
1,2,3,7,8,9-HXCDD		29.8	0.644 (S)	1.27	1.001
1,2,3,4,6,7,8-HPCDD		1010	1.98 (S)	0.99	1.000
OCDD		8150	1.40 (S)	0.87	1.000
2,3,7,8-TCDF		6.92	0.842 (S)	0.79	1.003
1,2,3,7,8-PECDF		4.22	0.693 (S)	1.32	1.001
2,3,4,7,8-PECDF	NDR	4.85	0.693 (S)	2.06	1.000
1,2,3,4,7,8-HXCDF	NDR	16.3	0.666 (S)	1.46	1.000
1,2,3,6,7,8-HXCDF		11.0	0.666 (S)	1.13	1.000
1,2,3,7,8,9-HXCDF	NDR	3.24	0.666 (S)	0.80	1.001
2,3,4,6,7,8-HXCDF		10.2	0.666 (S)	1.18	1.001
1,2,3,4,6,7,8-HPCDF		166	1.38 (S)	0.98	1.001
1,2,3,4,7,8,9-HPCDF		14.1	1.38 (S)	1.07	1.000
OCDF		341	0.822 (S)	0.84	1.002
TOTAL TETRA-DIOXINS		22.6	0.747 (S)		
TOTAL PENTA-DIOXINS		15.9	1.10 (S)		
TOTAL HEXA-DIOXINS		208	0.644 (S)		
TOTAL HEPTA-DIOXINS		1520	1.98 (S)		
TOTAL TETRA-FURANS		20.5	0.842 (S)		
TOTAL PENTA-FURANS		46.1	0.693 (S)		
TOTAL HEXA-FURANS		175	0.666 (S)		
TOTAL HEPTA-FURANS		356	1.38 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH219  
Sample Collection:  
03-Nov-2010 17:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 05-Jan-2011  
Analysis Date: 14-Jan-2011 Time: 23:41:42  
Extract Volume (uL): 100  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15772-18 Ri  
Sample Size: 5.07 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB13\_011 S: 6  
Blank Data Filename: DX1M\_008A S: 50  
Cal. Ver. Data Filename: DB13\_011 S: 3  
% Moisture: 12.6

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		2.31	0.687 (S)	0.82	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Shelley Facchin\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Feb-2011 08:04:24; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-18\_Form1A\_DB13\_011S6\_SJ1245311.html; Workgroup: WG35099; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 20

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH219  
Sample Collection:  
03-Nov-2010 17:05

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 05-Jan-2011

Analysis Date: 16-Jan-2011 Time: 11:21:14

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-18 R

Sample Size: 5.07 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_008A S: 73

Blank Data Filename: DX1M\_008A S: 50

Cal. Ver. Data Filename: DX1M\_008A S: 70

% Moisture: 12.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	1690	42.2	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	1890	47.2	0.61	1.383
13C-1,2,3,4,7,8-HXCDD		4000	1790	44.8	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	1850	46.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	1710	42.6	1.02	1.094
13C-OCDD		8000	2950	36.9	0.89	1.178
13C-2,3,7,8-TCDF		4000	1580	39.6	0.72	0.967
13C-1,2,3,7,8-PECDF		4000	1740	43.4	1.51	1.285
13C-2,3,4,7,8-PECDF		4000	1750	43.8	1.50	1.353
13C-1,2,3,4,7,8-HXCDF		4000	2060	51.5	0.49	0.955
13C-1,2,3,6,7,8-HXCDF		4000	2090	52.3	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	1810	45.3	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	1940	48.4	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	1760	44.1	0.45	1.061
13C-1,2,3,4,7,8,9-HPCDF		4000	1680	41.9	0.46	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	151	75.7		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37C14-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_





## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH219

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.07 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 03-Nov-2010 17:05

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-18 Ri

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB13\_011 S: 6  
DX1M\_008A S: 73

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		21.5	0.747	1	2.15e+01	2.15e+01	
1,2,3,7,8-PECDD	ND		1.10	1	0.00e+00	5.50e-01	
1,2,3,4,7,8-HXCDD		12.4	0.644	0.1	1.24e+00	1.24e+00	
1,2,3,6,7,8-HXCDD		40.0	0.644	0.1	4.00e+00	4.00e+00	
1,2,3,7,8,9-HXCDD		29.8	0.644	0.1	2.98e+00	2.98e+00	
1,2,3,4,6,7,8-HPCDD		1010	1.98	0.01	1.01e+01	1.01e+01	
OCDD		8150	1.40	0.0001	8.15e-01	8.15e-01	
2,3,7,8-TCDF		2.31	0.687	0.1	2.31e-01	2.31e-01	
1,2,3,7,8-PECDF		4.22	0.693	0.05	2.11e-01	2.11e-01	
2,3,4,7,8-PECDF	ND		0.693	0.5	0.00e+00	1.73e-01	
1,2,3,4,7,8-HXCDF	ND		0.666	0.1	0.00e+00	3.33e-02	
1,2,3,6,7,8-HXCDF		11.0	0.666	0.1	1.10e+00	1.10e+00	
1,2,3,7,8,9-HXCDF	ND		0.666	0.1	0.00e+00	3.33e-02	
2,3,4,6,7,8-HXCDF		10.2	0.666	0.1	1.02e+00	1.02e+00	
1,2,3,4,6,7,8-HPCDF		166	1.38	0.01	1.66e+00	1.66e+00	
1,2,3,4,7,8,9-HPCDF		14.1	1.38	0.01	1.41e-01	1.41e-01	
OCDF		341	0.822	0.0001	3.41e-02	3.41e-02	
<b>TOTAL TEQ</b>					45.0	45.8	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		21.5	0.747	1	2.15e+01	2.15e+01	
1,2,3,7,8-PECDD	ND		1.10	1	0.00e+00	5.50e-01	
1,2,3,4,7,8-HXCDD		12.4	0.644	0.1	1.24e+00	1.24e+00	
1,2,3,6,7,8-HXCDD		40.0	0.644	0.1	4.00e+00	4.00e+00	
1,2,3,7,8,9-HXCDD		29.8	0.644	0.1	2.98e+00	2.98e+00	
1,2,3,4,6,7,8-HPCDD		1010	1.98	0.01	1.01e+01	1.01e+01	
OCDD		8150	1.40	0.0003	2.45e+00	2.45e+00	
2,3,7,8-TCDF		2.31	0.687	0.1	2.31e-01	2.31e-01	
1,2,3,7,8-PECDF		4.22	0.693	0.03	1.27e-01	1.27e-01	
2,3,4,7,8-PECDF	ND		0.693	0.3	0.00e+00	1.04e-01	
1,2,3,4,7,8-HXCDF	ND		0.666	0.1	0.00e+00	3.33e-02	
1,2,3,6,7,8-HXCDF		11.0	0.666	0.1	1.10e+00	1.10e+00	
1,2,3,7,8,9-HXCDF	ND		0.666	0.1	0.00e+00	3.33e-02	
2,3,4,6,7,8-HXCDF		10.2	0.666	0.1	1.02e+00	1.02e+00	
1,2,3,4,6,7,8-HPCDF		166	1.38	0.01	1.66e+00	1.66e+00	
1,2,3,4,7,8,9-HPCDF		14.1	1.38	0.01	1.41e-01	1.41e-01	
OCDF		341	0.822	0.0003	1.02e-01	1.02e-01	
<b>TOTAL TEQ</b>					46.6	47.4	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Feb-2011 08:21:57; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-18\_TEQ\_SJ1245311.html; Workgroup: WG35099; Design ID: 1505 ]

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH220  
Sample Collection:  
04-Nov-2010 08:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-19

Matrix: SOLID

Sample Size: 5.97 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 03:46:57

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 13

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		7530	4.88	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	41.1	4.19	0.78	1.000
1,2,3,4,7,8-HXCDD		4.70	4.19	1.14	1.000
1,2,3,6,7,8-HXCDD		36.6	4.19	1.15	1.000
1,2,3,7,8,9-HXCDD		15.7	4.19	1.06	1.001
1,2,3,4,6,7,8-HPCDD		141	4.19	1.03	1.000
OCDD		829	4.19	0.87	1.000
2,3,7,8-TCDF		162	4.19	0.72	1.002
1,2,3,7,8-PECDF		4.78	4.19	1.41	1.001
2,3,4,7,8-PECDF	ND		4.19		
1,2,3,4,7,8-HXCDF	ND		4.19		
1,2,3,6,7,8-HXCDF	ND		4.19		
1,2,3,7,8,9-HXCDF	ND		4.19		
2,3,4,6,7,8-HXCDF	ND		4.19		
1,2,3,4,6,7,8-HPCDF	NDR	23.6	4.19	0.61	1.000
1,2,3,4,7,8,9-HPCDF	ND		4.19		
OCDF		28.7	4.19	0.80	1.002
TOTAL TETRA-DIOXINS		7900	4.88		
TOTAL PENTA-DIOXINS		150	4.19		
TOTAL HEXA-DIOXINS		363	4.19		
TOTAL HEPTA-DIOXINS		270	4.19		
TOTAL TETRA-FURANS		863	4.19		
TOTAL PENTA-FURANS		865	4.19		
TOTAL HEXA-FURANS		119	4.19		
TOTAL HEPTA-FURANS		22.8	4.19		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-19\_Form1A\_DX1M\_004S13\_SJ1238495.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH220  
Sample Collection:  
04-Nov-2010 08:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-19

Matrix: SOLID

Sample Size: 5.97 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 18:22:29

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_171A S: 14

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_171A S: 3

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		78.1	1.64	0.79	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15772-19\_Form1A\_DB03\_171AS14\_SJ1240328.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH220  
Sample Collection:  
04-Nov-2010 08:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-19

Matrix: SOLID

Sample Size: 5.97 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 03:46:57

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 13

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg absolute

% Moisture: 18.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7650	76.5	0.82	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8140	81.4	0.58	1.385
13C-1,2,3,4,7,8-HXCDD		10000	8700	87.0	1.13	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8730	87.3	1.31	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9110	91.1	1.01	1.094
13C-OCDD		20000	16300	81.7	0.94	1.178
13C-2,3,7,8-TCDF		10000	7380	73.8	0.71	0.967
13C-1,2,3,7,8-PECDF		10000	7620	76.2	1.59	1.286
13C-2,3,4,7,8-PECDF		10000	7650	76.5	1.49	1.355
13C-1,2,3,4,7,8-HXCDF		10000	9360	93.6	0.52	0.955
13C-1,2,3,6,7,8-HXCDF		10000	9230	92.3	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8470	84.7	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9020	90.2	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8720	87.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8840	88.4	0.47	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	1010	101		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-19\_Form2\_DX1M\_004S13\_SJ1238495.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH220

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 08:30

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15772-19

Sample Size: 5.97 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_171A S: 14  
DX1M\_004 S: 13

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7530	4.88	1	7.53e+03	7.53e+03	
1,2,3,7,8-PECDD	ND		4.19	1	0.00e+00	2.10e+00	
1,2,3,4,7,8-HXCDD		4.70	4.19	0.1	4.70e-01	4.70e-01	
1,2,3,6,7,8-HXCDD		36.6	4.19	0.1	3.66e+00	3.66e+00	
1,2,3,7,8,9-HXCDD		15.7	4.19	0.1	1.57e+00	1.57e+00	
1,2,3,4,6,7,8-HPCDD		141	4.19	0.01	1.41e+00	1.41e+00	
OCDD		829	4.19	0.0001	8.29e-02	8.29e-02	
2,3,7,8-TCDF		78.1	1.64	0.1	7.81e+00	7.81e+00	
1,2,3,7,8-PECDF		4.78	4.19	0.05	2.39e-01	2.39e-01	
2,3,4,7,8-PECDF	ND		4.19	0.5	0.00e+00	1.05e+00	
1,2,3,4,7,8-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
1,2,3,6,7,8-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
1,2,3,7,8,9-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
2,3,4,6,7,8-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
1,2,3,4,6,7,8-HPCDF	ND		4.19	0.01	0.00e+00	2.10e-02	
1,2,3,4,7,8,9-HPCDF	ND		4.19	0.01	0.00e+00	2.10e-02	
OCDF		28.7	4.19	0.0001	2.87e-03	2.87e-03	
<b>TOTAL TEQ</b>					7550	7550	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7530	4.88	1	7.53e+03	7.53e+03	
1,2,3,7,8-PECDD	ND		4.19	1	0.00e+00	2.10e+00	
1,2,3,4,7,8-HXCDD		4.70	4.19	0.1	4.70e-01	4.70e-01	
1,2,3,6,7,8-HXCDD		36.6	4.19	0.1	3.66e+00	3.66e+00	
1,2,3,7,8,9-HXCDD		15.7	4.19	0.1	1.57e+00	1.57e+00	
1,2,3,4,6,7,8-HPCDD		141	4.19	0.01	1.41e+00	1.41e+00	
OCDD		829	4.19	0.0003	2.49e-01	2.49e-01	
2,3,7,8-TCDF		78.1	1.64	0.1	7.81e+00	7.81e+00	
1,2,3,7,8-PECDF		4.78	4.19	0.03	1.43e-01	1.43e-01	
2,3,4,7,8-PECDF	ND		4.19	0.3	0.00e+00	6.29e-01	
1,2,3,4,7,8-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
1,2,3,6,7,8-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
1,2,3,7,8,9-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
2,3,4,6,7,8-HXCDF	ND		4.19	0.1	0.00e+00	2.10e-01	
1,2,3,4,6,7,8-HPCDF	ND		4.19	0.01	0.00e+00	2.10e-02	
1,2,3,4,7,8,9-HPCDF	ND		4.19	0.01	0.00e+00	2.10e-02	
OCDF		28.7	4.19	0.0003	8.61e-03	8.61e-03	
<b>TOTAL TEQ</b>					7550	7550	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-19\_TEQ\_SJ1240328.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH221  
Sample Collection:  
04-Nov-2010 08:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-20

Matrix: SOLID

Sample Size: 5.66 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 04:42:11

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 14

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.5

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3940	4.42	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		21.6	4.42	0.66	1.001
1,2,3,4,7,8-HXCDD	ND		4.42		
1,2,3,6,7,8-HXCDD		22.3	4.42	1.07	1.000
1,2,3,7,8,9-HXCDD		13.0	4.42	1.13	1.000
1,2,3,4,6,7,8-HPCDD		194	4.42	1.16	1.000
OCDD		1830	4.85	0.86	1.000
2,3,7,8-TCDF		246	4.42	0.78	1.001
1,2,3,7,8-PECDF	ND		5.08		
2,3,4,7,8-PECDF	ND		5.08		
1,2,3,4,7,8-HXCDF	ND		4.42		
1,2,3,6,7,8-HXCDF	ND		4.42		
1,2,3,7,8,9-HXCDF	ND		4.42		
2,3,4,6,7,8-HXCDF	ND		4.42		
1,2,3,4,6,7,8-HPCDF		23.3	4.42	0.93	1.001
1,2,3,4,7,8,9-HPCDF	ND		4.42		
OCDF		30.7	4.42	0.95	1.002
TOTAL TETRA-DIOXINS		4180	4.42		
TOTAL PENTA-DIOXINS		172	4.42		
TOTAL HEXA-DIOXINS		250	4.42		
TOTAL HEPTA-DIOXINS		373	4.42		
TOTAL TETRA-FURANS		950	4.42		
TOTAL PENTA-FURANS		757	5.08		
TOTAL HEXA-FURANS		85.4	4.42		
TOTAL HEPTA-FURANS		42.3	4.42		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH221  
Sample Collection:  
04-Nov-2010 08:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15772-20

Matrix: SOLID

Sample Size: 5.66 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 18:59:19

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_171A S: 15

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_171A S: 3

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.5

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		211	1.20	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.**  
10VNBH221  
**Sample Collection:**  
04-Nov-2010 08:40

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15772-20

**Matrix:** SOLID

**Sample Size:** 5.66 g (dry)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 04-Jan-2011

**Extraction Date:** 09-Dec-2010

**Instrument ID:** HR GC/MS

**Analysis Date:** 06-Jan-2011 **Time:** 04:42:11

**GC Column ID:** DB5

**Extract Volume (uL):** 100

**Sample Data Filename:** DX1M\_004 S: 14

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX1M\_004 S: 5

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX1M\_004 S: 10

**Concentration Units:** pg absolute

**% Moisture:** 19.5

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	6390	63.9	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	6540	65.4	0.64	1.385
13C-1,2,3,4,7,8-HXCDD		10000	7180	71.8	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		10000	7140	71.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	6910	69.1	1.02	1.094
13C-OCDD		20000	12800	64.1	0.89	1.178
13C-2,3,7,8-TCDF		10000	6280	62.8	0.74	0.968
13C-1,2,3,7,8-PECDF		10000	6390	63.9	1.59	1.286
13C-2,3,4,7,8-PECDF		10000	6100	61.0	1.51	1.355
13C-1,2,3,4,7,8-HXCDF		10000	7650	76.5	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		10000	7530	75.3	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	6900	69.0	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		10000	7220	72.2	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	7280	72.8	0.44	1.061
13C-1,2,3,4,7,8,9-HPCDF		10000	6870	68.7	0.45	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		1000	792	79.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15772-20\_Form2\_DX1M\_004S14\_SJ1238496.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH221

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 08:40

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15772-20

Sample Size: 5.66 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_171A S: 15  
DX1M\_004 S: 14

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3940	4.42	1	3.94e+03	3.94e+03	
1,2,3,7,8-PECDD		21.6	4.42	1	2.16e+01	2.16e+01	
1,2,3,4,7,8-HXCDD	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,6,7,8-HXCDD		22.3	4.42	0.1	2.23e+00	2.23e+00	
1,2,3,7,8,9-HXCDD		13.0	4.42	0.1	1.30e+00	1.30e+00	
1,2,3,4,6,7,8-HPCDD		194	4.42	0.01	1.94e+00	1.94e+00	
OCDD		1830	4.85	0.0001	1.83e-01	1.83e-01	
2,3,7,8-TCDF		211	1.20	0.1	2.11e+01	2.11e+01	
1,2,3,7,8-PECDF	ND		5.08	0.05	0.00e+00	1.27e-01	
2,3,4,7,8-PECDF	ND		5.08	0.5	0.00e+00	1.27e+00	
1,2,3,4,7,8-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,6,7,8-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,7,8,9-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
2,3,4,6,7,8-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,4,6,7,8-HPCDF		23.3	4.42	0.01	2.33e-01	2.33e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.42	0.01	0.00e+00	2.21e-02	
OCDF		30.7	4.42	0.0001	3.07e-03	3.07e-03	
<b>TOTAL TEQ</b>					3990	3990	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3940	4.42	1	3.94e+03	3.94e+03	
1,2,3,7,8-PECDD		21.6	4.42	1	2.16e+01	2.16e+01	
1,2,3,4,7,8-HXCDD	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,6,7,8-HXCDD		22.3	4.42	0.1	2.23e+00	2.23e+00	
1,2,3,7,8,9-HXCDD		13.0	4.42	0.1	1.30e+00	1.30e+00	
1,2,3,4,6,7,8-HPCDD		194	4.42	0.01	1.94e+00	1.94e+00	
OCDD		1830	4.85	0.0003	5.49e-01	5.49e-01	
2,3,7,8-TCDF		211	1.20	0.1	2.11e+01	2.11e+01	
1,2,3,7,8-PECDF	ND		5.08	0.03	0.00e+00	7.62e-02	
2,3,4,7,8-PECDF	ND		5.08	0.3	0.00e+00	7.62e-01	
1,2,3,4,7,8-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,6,7,8-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,7,8,9-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
2,3,4,6,7,8-HXCDF	ND		4.42	0.1	0.00e+00	2.21e-01	
1,2,3,4,6,7,8-HPCDF		23.3	4.42	0.01	2.33e-01	2.33e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.42	0.01	0.00e+00	2.21e-02	
OCDF		30.7	4.42	0.0003	9.21e-03	9.21e-03	
<b>TOTAL TEQ</b>					3990	3990	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15772-20\_TEQ\_SJ1240329.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH222  
Sample Collection:  
04-Nov-2010 08:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-1

Matrix: SOLID

Sample Size: 5.16 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 05:37:24

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 15

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 21.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2620	4.84	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		53.3	4.84	0.54	1.002
1,2,3,4,7,8-HXCDD	NDR	9.59	4.84	0.67	1.001
1,2,3,6,7,8-HXCDD		35.2	4.84	1.08	1.000
1,2,3,7,8,9-HXCDD		20.2	4.84	1.29	1.000
1,2,3,4,6,7,8-HPCDD		255	4.84	0.99	1.000
OCDD		1870	4.84	0.88	1.000
2,3,7,8-TCDF		212	4.84	0.75	1.001
1,2,3,7,8-PECDF	ND		4.84		
2,3,4,7,8-PECDF	ND		4.84		
1,2,3,4,7,8-HXCDF		5.76	4.84	1.12	1.000
1,2,3,6,7,8-HXCDF	ND		4.84		
1,2,3,7,8,9-HXCDF	ND		4.84		
2,3,4,6,7,8-HXCDF	ND		4.84		
1,2,3,4,6,7,8-HPCDF		27.4	4.84	1.01	1.000
1,2,3,4,7,8,9-HPCDF	ND		4.84		
OCDF		35.0	4.84	0.76	1.002
TOTAL TETRA-DIOXINS		2870	4.84		
TOTAL PENTA-DIOXINS		259	4.84		
TOTAL HEXA-DIOXINS		291	4.84		
TOTAL HEPTA-DIOXINS		467	4.84		
TOTAL TETRA-FURANS		1090	4.84		
TOTAL PENTA-FURANS		1200	4.84		
TOTAL HEXA-FURANS		87.6	4.84		
TOTAL HEPTA-FURANS		55.1	4.84		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-1\_Form1A\_DX1M\_004S15\_SJ1238497.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH222  
Sample Collection:  
04-Nov-2010 08:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-1

Matrix: SOLID

Sample Size: 5.16 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Dec-2010 Time: 22:36:46

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 6

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 21.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		153	4.08	0.78	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-1\_Form1A\_DB03\_170S6\_SJ1240309.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH222  
Sample Collection:  
04-Nov-2010 08:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-1

Matrix: SOLID

Sample Size: 5.16 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 05:37:24

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 15

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg absolute

% Moisture: 21.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7950	79.5	0.76	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8670	86.7	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		10000	9690	96.9	1.17	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9600	96.0	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	9230	92.3	1.03	1.094
13C-OCDD		20000	16100	80.5	0.84	1.178
13C-2,3,7,8-TCDF		10000	7640	76.4	0.78	0.968
13C-1,2,3,7,8-PECDF		10000	7740	77.4	1.50	1.286
13C-2,3,4,7,8-PECDF		10000	7710	77.1	1.69	1.355
13C-1,2,3,4,7,8-HXCDF		10000	9780	97.8	0.47	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9810	98.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9060	90.6	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9370	93.7	0.46	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	9470	94.7	0.40	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	9100	91.0	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	833	83.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-1\_Form2\_DX1M\_004S15\_SJ1238497.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.16 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 08:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-1

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_170 S: 6  
DX1M\_004 S: 15

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2620	4.84	1	2.62e+03	2.62e+03	
1,2,3,7,8-PECDD		53.3	4.84	1	5.33e+01	5.33e+01	
1,2,3,4,7,8-HXCDD	ND		4.84	0.1	0.00e+00	2.42e-01	
1,2,3,6,7,8-HXCDD		35.2	4.84	0.1	3.52e+00	3.52e+00	
1,2,3,7,8,9-HXCDD		20.2	4.84	0.1	2.02e+00	2.02e+00	
1,2,3,4,6,7,8-HPCDD		255	4.84	0.01	2.55e+00	2.55e+00	
OCDD		1870	4.84	0.0001	1.87e-01	1.87e-01	
2,3,7,8-TCDF		153	4.08	0.1	1.53e+01	1.53e+01	
1,2,3,7,8-PECDF	ND		4.84	0.05	0.00e+00	1.21e-01	
2,3,4,7,8-PECDF	ND		4.84	0.5	0.00e+00	1.21e+00	
1,2,3,4,7,8-HXCDF		5.76	4.84	0.1	5.76e-01	5.76e-01	
1,2,3,6,7,8-HXCDF	ND		4.84	0.1	0.00e+00	2.42e-01	
1,2,3,7,8,9-HXCDF	ND		4.84	0.1	0.00e+00	2.42e-01	
2,3,4,6,7,8-HXCDF	ND		4.84	0.1	0.00e+00	2.42e-01	
1,2,3,4,6,7,8-HPCDF		27.4	4.84	0.01	2.74e-01	2.74e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.84	0.01	0.00e+00	2.42e-02	
OCDF		35.0	4.84	0.0001	3.50e-03	3.50e-03	
<b>TOTAL TEQ</b>					2700	2700	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2620	4.84	1	2.62e+03	2.62e+03	
1,2,3,7,8-PECDD		53.3	4.84	1	5.33e+01	5.33e+01	
1,2,3,4,7,8-HXCDD	ND		4.84	0.1	0.00e+00	2.42e-01	
1,2,3,6,7,8-HXCDD		35.2	4.84	0.1	3.52e+00	3.52e+00	
1,2,3,7,8,9-HXCDD		20.2	4.84	0.1	2.02e+00	2.02e+00	
1,2,3,4,6,7,8-HPCDD		255	4.84	0.01	2.55e+00	2.55e+00	
OCDD		1870	4.84	0.0003	5.61e-01	5.61e-01	
2,3,7,8-TCDF		153	4.08	0.1	1.53e+01	1.53e+01	
1,2,3,7,8-PECDF	ND		4.84	0.03	0.00e+00	7.26e-02	
2,3,4,7,8-PECDF	ND		4.84	0.3	0.00e+00	7.26e-01	
1,2,3,4,7,8-HXCDF		5.76	4.84	0.1	5.76e-01	5.76e-01	
1,2,3,6,7,8-HXCDF	ND		4.84	0.1	0.00e+00	2.42e-01	
1,2,3,7,8,9-HXCDF	ND		4.84	0.1	0.00e+00	2.42e-01	
2,3,4,6,7,8-HXCDF	ND		4.84	0.1	0.00e+00	2.42e-01	
1,2,3,4,6,7,8-HPCDF		27.4	4.84	0.01	2.74e-01	2.74e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.84	0.01	0.00e+00	2.42e-02	
OCDF		35.0	4.84	0.0003	1.05e-02	1.05e-02	
<b>TOTAL TEQ</b>					<b>2700</b>	<b>2700</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-1\_TEQ\_SJ1240309.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH224  
Sample Collection:  
04-Nov-2010 09:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-2

Matrix: SOLID

Sample Size: 5.32 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 06:32:38

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 16

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1090	4.70	0.74	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	29.3	4.70	0.86	1.002
1,2,3,4,7,8-HXCDD		8.13	4.70	1.29	1.000
1,2,3,6,7,8-HXCDD		51.4	4.70	1.21	1.001
1,2,3,7,8,9-HXCDD	NDR	29.8	4.70	1.55	1.000
1,2,3,4,6,7,8-HPCDD		304	4.70	0.93	1.000
OCDD		1930	4.70	0.78	1.000
2,3,7,8-TCDF		148	6.37	0.76	1.001
1,2,3,7,8-PECDF		5.03	4.70	1.65	1.001
2,3,4,7,8-PECDF	ND		4.70		
1,2,3,4,7,8-HXCDF	NDR	4.77	4.70	0.86	1.001
1,2,3,6,7,8-HXCDF	ND		4.70		
1,2,3,7,8,9-HXCDF	ND		4.70		
2,3,4,6,7,8-HXCDF	ND		4.70		
1,2,3,4,6,7,8-HPCDF		24.5	4.70	1.10	1.000
1,2,3,4,7,8,9-HPCDF	ND		4.70		
OCDF		58.0	4.70	0.79	1.002
TOTAL TETRA-DIOXINS		1220	4.70		
TOTAL PENTA-DIOXINS		247	4.70		
TOTAL HEXA-DIOXINS		412	4.70		
TOTAL HEPTA-DIOXINS		542	4.70		
TOTAL TETRA-FURANS		389	6.37		
TOTAL PENTA-FURANS		419	4.70		
TOTAL HEXA-FURANS		13.2	4.70		
TOTAL HEPTA-FURANS		24.5	4.70		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-2\_Form1A\_DX1M\_004S16\_SJ1238498.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH224  
Sample Collection:  
04-Nov-2010 09:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-2

Matrix: SOLID

Sample Size: 5.32 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Dec-2010 Time: 23:13:36

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 7

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		112	1.82	0.82	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-2\_Form1A\_DB03\_170S7\_SJ1240310.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH224  
Sample Collection:  
04-Nov-2010 09:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-2

Matrix: SOLID

Sample Size: 5.32 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 06-Jan-2011 Time: 06:32:38

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_004 S: 16

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_004 S: 10

Concentration Units: pg absolute

% Moisture: 18.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7210	72.1	0.77	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8290	82.9	0.59	1.385
13C-1,2,3,4,7,8-HXCDD		10000	9390	93.9	1.17	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9010	90.1	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8540	85.4	1.16	1.094
13C-OCDD		20000	15900	79.4	0.89	1.178
13C-2,3,7,8-TCDF		10000	6590	65.9	0.72	0.967
13C-1,2,3,7,8-PECDF		10000	7540	75.4	1.43	1.286
13C-2,3,4,7,8-PECDF		10000	7360	73.6	1.59	1.355
13C-1,2,3,4,7,8-HXCDF		10000	9000	90.0	0.46	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9080	90.8	0.48	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8860	88.6	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9000	90.0	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8710	87.1	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		10000	8580	85.8	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	738	73.8		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-2\_Form2\_DX1M\_004S16\_SJ1238498.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.32 g (dry)  
Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 09:15  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-2  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_170 S: 7  
DX1M\_004 S: 16

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1090	4.70	1	1.09e+03	1.09e+03	
1,2,3,7,8-PECDD	ND		4.70	1	0.00e+00	2.35e+00	
1,2,3,4,7,8-HXCDD		8.13	4.70	0.1	8.13e-01	8.13e-01	
1,2,3,6,7,8-HXCDD		51.4	4.70	0.1	5.14e+00	5.14e+00	
1,2,3,7,8,9-HXCDD	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,4,6,7,8-HPCDD		304	4.70	0.01	3.04e+00	3.04e+00	
OCDD		1930	4.70	0.0001	1.93e-01	1.93e-01	
2,3,7,8-TCDF		112	1.82	0.1	1.12e+01	1.12e+01	
1,2,3,7,8-PECDF		5.03	4.70	0.05	2.52e-01	2.52e-01	
2,3,4,7,8-PECDF	ND		4.70	0.5	0.00e+00	1.18e+00	
1,2,3,4,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,7,8,9-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
2,3,4,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,4,6,7,8-HPCDF		24.5	4.70	0.01	2.45e-01	2.45e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.70	0.01	0.00e+00	2.35e-02	
OCDF		58.0	4.70	0.0001	5.80e-03	5.80e-03	
<b>TOTAL TEQ</b>					1110	1120	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1090	4.70	1	1.09e+03	1.09e+03	
1,2,3,7,8-PECDD	ND		4.70	1	0.00e+00	2.35e+00	
1,2,3,4,7,8-HXCDD		8.13	4.70	0.1	8.13e-01	8.13e-01	
1,2,3,6,7,8-HXCDD		51.4	4.70	0.1	5.14e+00	5.14e+00	
1,2,3,7,8,9-HXCDD	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,4,6,7,8-HPCDD		304	4.70	0.01	3.04e+00	3.04e+00	
OCDD		1930	4.70	0.0003	5.79e-01	5.79e-01	
2,3,7,8-TCDF		112	1.82	0.1	1.12e+01	1.12e+01	
1,2,3,7,8-PECDF		5.03	4.70	0.03	1.51e-01	1.51e-01	
2,3,4,7,8-PECDF	ND		4.70	0.3	0.00e+00	7.05e-01	
1,2,3,4,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,7,8,9-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
2,3,4,6,7,8-HXCDF	ND		4.70	0.1	0.00e+00	2.35e-01	
1,2,3,4,6,7,8-HPCDF		24.5	4.70	0.01	2.45e-01	2.45e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.70	0.01	0.00e+00	2.35e-02	
OCDF		58.0	4.70	0.0003	1.74e-02	1.74e-02	
<b>TOTAL TEQ</b>					1110	1120	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-2\_TEQ\_SJ1240310.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH225  
Sample Collection:  
04-Nov-2010 09:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-3 M

Matrix: SOLID

Sample Size: 5.37 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 11:04:42

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 22

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 17.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		99.1	0.931	0.73	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.48	0.931	0.67	1.001
1,2,3,4,7,8-HXCDD	ND		0.931		
1,2,3,6,7,8-HXCDD		4.28	0.931	1.06	1.000
1,2,3,7,8,9-HXCDD	NDR	3.01	0.931	1.78	1.001
1,2,3,4,6,7,8-HPCDD		30.1	0.931	1.05	1.000
OCDD		274	0.977	0.88	1.000
2,3,7,8-TCDF		10.8	0.931	0.83	1.001
1,2,3,7,8-PECDF	ND		0.931		
2,3,4,7,8-PECDF	ND		0.931		
1,2,3,4,7,8-HXCDF	ND		0.931		
1,2,3,6,7,8-HXCDF	ND		0.931		
1,2,3,7,8,9-HXCDF	ND		0.931		
2,3,4,6,7,8-HXCDF	ND		0.931		
1,2,3,4,6,7,8-HPCDF		4.08	0.931	1.15	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.931		
OCDF	NDR	7.37	0.931	1.05	1.002
TOTAL TETRA-DIOXINS		106	0.931		
TOTAL PENTA-DIOXINS		6.56	0.931		
TOTAL HEXA-DIOXINS		21.8	0.931		
TOTAL HEPTA-DIOXINS		64.0	0.931		
TOTAL TETRA-FURANS		41.0	0.931		
TOTAL PENTA-FURANS		46.1	0.931		
TOTAL HEXA-FURANS		8.25	0.931		
TOTAL HEPTA-FURANS		4.08	0.931		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-3\_Form1A\_DX1M\_008AS22\_SJ1243106.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH225  
Sample Collection:  
04-Nov-2010 09:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-3

Matrix: SOLID

Sample Size: 5.37 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Dec-2010 Time: 23:50:26

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 17.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		8.66	0.954	0.88	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-3\_Form1A\_DB03\_170S8\_SJ1240311.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.**  
10VNBH225  
**Sample Collection:**  
04-Nov-2010 09:20

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15773-3 M

**Matrix:** SOLID

**Sample Size:** 5.37 g (dry)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 04-Jan-2011

**Extraction Date:** 09-Dec-2010

**Instrument ID:** HR GC/MS

**Analysis Date:** 14-Jan-2011 Time: 11:04:42

**GC Column ID:** DB5

**Extract Volume (uL):** 20

**Sample Data Filename:** DX1M\_008A S: 22

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX1M\_004 S: 5

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX1M\_008A S: 12

**Concentration Units:** pg absolute

**% Moisture:** 17.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7600	76.0	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	9340	93.4	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		10000	8040	80.4	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		10000	7720	77.2	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	5960	59.6	0.99	1.094
13C-OCDD		20000	8590	43.0	0.86	1.178
13C-2,3,7,8-TCDF		10000	7440	74.4	0.75	0.967
13C-1,2,3,7,8-PECDF		10000	8570	85.7	1.52	1.285
13C-2,3,4,7,8-PECDF		10000	7300	73.0	1.54	1.354
13C-1,2,3,4,7,8-HXCDF		10000	8980	89.8	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	8800	88.0	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7500	75.0	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		10000	7780	77.8	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	6920	69.2	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6500	65.0	0.45	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		1000	875	87.5		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-3\_Form2\_DX1M\_008AS22\_SJ1243106.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH225

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 09:20

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15773-3

Sample Size: 5.37 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_170 S: 8  
DX1M\_008A S: 22

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		99.1	0.931	1	9.91e+01	9.91e+01	
1,2,3,7,8-PECDD		2.48	0.931	1	2.48e+00	2.48e+00	
1,2,3,4,7,8-HXCDD	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,6,7,8-HXCDD		4.28	0.931	0.1	4.28e-01	4.28e-01	
1,2,3,7,8,9-HXCDD	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,4,6,7,8-HPCDD		30.1	0.931	0.01	3.01e-01	3.01e-01	
OCDD		274	0.977	0.0001	2.74e-02	2.74e-02	
2,3,7,8-TCDF		8.66	0.954	0.1	8.66e-01	8.66e-01	
1,2,3,7,8-PECDF	ND		0.931	0.05	0.00e+00	2.33e-02	
2,3,4,7,8-PECDF	ND		0.931	0.5	0.00e+00	2.33e-01	
1,2,3,4,7,8-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,6,7,8-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,7,8,9-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
2,3,4,6,7,8-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,4,6,7,8-HPCDF		4.08	0.931	0.01	4.08e-02	4.08e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.931	0.01	0.00e+00	4.66e-03	
OCDF	ND		0.931	0.0001	0.00e+00	4.66e-05	
<b>TOTAL TEQ</b>					103	104	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		99.1	0.931	1	9.91e+01	9.91e+01	
1,2,3,7,8-PECDD		2.48	0.931	1	2.48e+00	2.48e+00	
1,2,3,4,7,8-HXCDD	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,6,7,8-HXCDD		4.28	0.931	0.1	4.28e-01	4.28e-01	
1,2,3,7,8,9-HXCDD	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,4,6,7,8-HPCDD		30.1	0.931	0.01	3.01e-01	3.01e-01	
OCDD		274	0.977	0.0003	8.22e-02	8.22e-02	
2,3,7,8-TCDF		8.66	0.954	0.1	8.66e-01	8.66e-01	
1,2,3,7,8-PECDF	ND		0.931	0.03	0.00e+00	1.40e-02	
2,3,4,7,8-PECDF	ND		0.931	0.3	0.00e+00	1.40e-01	
1,2,3,4,7,8-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,6,7,8-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,7,8,9-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
2,3,4,6,7,8-HXCDF	ND		0.931	0.1	0.00e+00	4.66e-02	
1,2,3,4,6,7,8-HPCDF		4.08	0.931	0.01	4.08e-02	4.08e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.931	0.01	0.00e+00	4.66e-03	
OCDF	ND		0.931	0.0003	0.00e+00	1.40e-04	
<b>TOTAL TEQ</b>					<b>103</b>	<b>104</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-3\_TEQ\_SJ1240311.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH226  
Sample Collection:  
04-Nov-2010 09:48

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-4 M

Matrix: SOLID

Sample Size: 5.39 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 06:28:33

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 17

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		5.81	0.928	0.73	1.002
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.928		
1,2,3,4,7,8-HXCDD	ND		0.928		
1,2,3,6,7,8-HXCDD		1.09	0.928	1.12	1.000
1,2,3,7,8,9-HXCDD	NDR	1.35	0.928	1.70	1.000
1,2,3,4,6,7,8-HPCDD		12.0	0.928	1.01	1.000
OCDD		170	1.26	0.85	1.000
2,3,7,8-TCDF		1.69	0.928	0.67	1.002
1,2,3,7,8-PECDF	ND		0.928		
2,3,4,7,8-PECDF	ND		0.928		
1,2,3,4,7,8-HXCDF	ND		0.928		
1,2,3,6,7,8-HXCDF	ND		0.928		
1,2,3,7,8,9-HXCDF	ND		0.928		
2,3,4,6,7,8-HXCDF	ND		0.928		
1,2,3,4,6,7,8-HPCDF	NDR	1.90	0.928	0.76	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.928		
OCDF	NDR	5.85	0.928	0.56	1.002
TOTAL TETRA-DIOXINS		5.81	0.928		
TOTAL PENTA-DIOXINS	ND		0.928		
TOTAL HEXA-DIOXINS		3.77	0.928		
TOTAL HEPTA-DIOXINS		28.3	0.928		
TOTAL TETRA-FURANS		1.69	0.928		
TOTAL PENTA-FURANS		2.41	0.928		
TOTAL HEXA-FURANS	ND		0.928		
TOTAL HEPTA-FURANS	ND		0.928		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-4\_Form1A\_DX1M\_008AS17\_SJ1243101.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH226  
Sample Collection:  
04-Nov-2010 09:48

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15773-4

Matrix: SOLID

Sample Size: 5.39 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 00:27:16

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.39	1.25	0.76	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-4\_Form1A\_DB03\_170S9\_SJ1240312.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH226  
Sample Collection:  
04-Nov-2010 09:48

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-4 M

Matrix: SOLID

Sample Size: 5.39 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 06:28:33

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 17

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg absolute

% Moisture: 13.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7110	71.1	0.76	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	9030	90.3	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		10000	8200	82.0	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		10000	7870	78.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	6500	65.0	0.97	1.094
13C-OCDD		20000	9910	49.6	0.88	1.178
13C-2,3,7,8-TCDF		10000	6890	68.9	0.79	0.967
13C-1,2,3,7,8-PECDF		10000	7150	71.5	1.53	1.285
13C-2,3,4,7,8-PECDF		10000	6810	68.1	1.55	1.354
13C-1,2,3,4,7,8-HXCDF		10000	9080	90.8	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	8940	89.4	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8190	81.9	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8430	84.3	0.46	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	7130	71.3	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6720	67.2	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	734	73.4		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-4\_Form2\_DX1M\_008AS17\_SJ1243101.html; Workgroup: WG34896; Design ID: 1505 ]

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.39 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 09:48

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-4

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_170 S: 9  
DX1M\_008A S: 17

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.81	0.928	1	5.81e+00	5.81e+00	
1,2,3,7,8-PECDD	ND		0.928	1	0.00e+00	4.64e-01	
1,2,3,4,7,8-HXCDD	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,6,7,8-HXCDD		1.09	0.928	0.1	1.09e-01	1.09e-01	
1,2,3,7,8,9-HXCDD	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,4,6,7,8-HPCDD		12.0	0.928	0.01	1.20e-01	1.20e-01	
OCDD		170	1.26	0.0001	1.70e-02	1.70e-02	
2,3,7,8-TCDF		1.39	1.25	0.1	1.39e-01	1.39e-01	
1,2,3,7,8-PECDF	ND		0.928	0.05	0.00e+00	2.32e-02	
2,3,4,7,8-PECDF	ND		0.928	0.5	0.00e+00	2.32e-01	
1,2,3,4,7,8-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,6,7,8-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,7,8,9-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
2,3,4,6,7,8-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.928	0.01	0.00e+00	4.64e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.928	0.01	0.00e+00	4.64e-03	
OCDF	ND		0.928	0.0001	0.00e+00	4.64e-05	
<b>TOTAL TEQ</b>					6.20	7.20	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.81	0.928	1	5.81e+00	5.81e+00	
1,2,3,7,8-PECDD	ND		0.928	1	0.00e+00	4.64e-01	
1,2,3,4,7,8-HXCDD	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,6,7,8-HXCDD		1.09	0.928	0.1	1.09e-01	1.09e-01	
1,2,3,7,8,9-HXCDD	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,4,6,7,8-HPCDD		12.0	0.928	0.01	1.20e-01	1.20e-01	
OCDD		170	1.26	0.0003	5.10e-02	5.10e-02	
2,3,7,8-TCDF		1.39	1.25	0.1	1.39e-01	1.39e-01	
1,2,3,7,8-PECDF	ND		0.928	0.03	0.00e+00	1.39e-02	
2,3,4,7,8-PECDF	ND		0.928	0.3	0.00e+00	1.39e-01	
1,2,3,4,7,8-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,6,7,8-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,7,8,9-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
2,3,4,6,7,8-HXCDF	ND		0.928	0.1	0.00e+00	4.64e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.928	0.01	0.00e+00	4.64e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.928	0.01	0.00e+00	4.64e-03	
OCDF	ND		0.928	0.0003	0.00e+00	1.39e-04	
<b>TOTAL TEQ</b>					<b>6.23</b>	<b>7.13</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-4\_TEQ\_SJ1240312.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH227  
Sample Collection:  
04-Nov-2010 10:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-5 M

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 05:33:25

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 16

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		5.50	0.975	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.975		
1,2,3,4,7,8-HXCDD	ND		0.975		
1,2,3,6,7,8-HXCDD	ND		0.975		
1,2,3,7,8,9-HXCDD	ND		0.975		
1,2,3,4,6,7,8-HPCDD		13.2	0.975	1.10	1.000
OCDD		145	0.975	0.83	1.000
2,3,7,8-TCDF	ND		0.975		
1,2,3,7,8-PECDF	ND		0.975		
2,3,4,7,8-PECDF	ND		0.975		
1,2,3,4,7,8-HXCDF	ND		0.975		
1,2,3,6,7,8-HXCDF	ND		0.975		
1,2,3,7,8,9-HXCDF	ND		0.975		
2,3,4,6,7,8-HXCDF	ND		0.975		
1,2,3,4,6,7,8-HPCDF	NDR	1.73	0.975	0.42	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.975		
OCDF	NDR	4.63	0.975	0.51	1.002
TOTAL TETRA-DIOXINS		5.50	0.975		
TOTAL PENTA-DIOXINS	ND		0.975		
TOTAL HEXA-DIOXINS	ND		0.975		
TOTAL HEPTA-DIOXINS		26.8	0.975		
TOTAL TETRA-FURANS	ND		0.975		
TOTAL PENTA-FURANS	ND		0.975		
TOTAL HEXA-FURANS	ND		0.975		
TOTAL HEPTA-FURANS	ND		0.975		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-5\_Form1A\_DX1M\_008AS16\_SJ1243100.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH227  
Sample Collection:  
04-Nov-2010 10:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-5

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 01:04:10

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		1.02		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-5\_Form1A\_DB03\_170S10\_SJ1240313.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH227  
Sample Collection:  
04-Nov-2010 10:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-5 M

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 05:33:25

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 16

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg absolute

% Moisture: 15.0

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7760	77.6	0.75	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	10000	100	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		10000	8810	88.1	1.23	0.986
13C-1,2,3,6,7,8-HXCDD		10000	8410	84.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	6670	66.7	1.04	1.094
13C-OCDD		20000	9050	45.2	0.83	1.178
13C-2,3,7,8-TCDF		10000	7720	77.2	0.76	0.967
13C-1,2,3,7,8-PECDF		10000	7680	76.8	1.59	1.286
13C-2,3,4,7,8-PECDF		10000	7790	77.9	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		10000	9740	97.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9770	97.7	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8280	82.8	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8950	89.5	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7590	75.9	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6960	69.6	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	853	85.3		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-5\_Form2\_DX1M\_008AS16\_SJ1243100.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH227

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 10:00  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-5  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_170 S: 10  
DX1M\_008A S: 16

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.13 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.50	0.975	1	5.50e+00	5.50e+00	
1,2,3,7,8-PECDD	ND		0.975	1	0.00e+00	4.88e-01	
1,2,3,4,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDD		13.2	0.975	0.01	1.32e-01	1.32e-01	
OCDD		145	0.975	0.0001	1.45e-02	1.45e-02	
2,3,7,8-TCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,7,8-PECDF	ND		0.975	0.05	0.00e+00	2.44e-02	
2,3,4,7,8-PECDF	ND		0.975	0.5	0.00e+00	2.44e-01	
1,2,3,4,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
OCDF	ND		0.975	0.0001	0.00e+00	4.88e-05	
<b>TOTAL TEQ</b>					5.65	6.80	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.50	0.975	1	5.50e+00	5.50e+00	
1,2,3,7,8-PECDD	ND		0.975	1	0.00e+00	4.88e-01	
1,2,3,4,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDD		13.2	0.975	0.01	1.32e-01	1.32e-01	
OCDD		145	0.975	0.0003	4.35e-02	4.35e-02	
2,3,7,8-TCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,7,8-PECDF	ND		0.975	0.03	0.00e+00	1.46e-02	
2,3,4,7,8-PECDF	ND		0.975	0.3	0.00e+00	1.46e-01	
1,2,3,4,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
OCDF	ND		0.975	0.0003	0.00e+00	1.46e-04	
<b>TOTAL TEQ</b>					<b>5.68</b>	<b>6.73</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-5\_TEQ\_SJ1240313.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH228  
Sample Collection:  
04-Nov-2010 10:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-6 M

Matrix: SOLID

Sample Size: 5.80 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 10:09:28

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.5

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		49.4	0.862	0.74	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	3.38	0.862	0.83	1.001
1,2,3,4,7,8-HXCDD		5.08	0.862	1.09	1.001
1,2,3,6,7,8-HXCDD		11.0	0.862	1.27	1.000
1,2,3,7,8,9-HXCDD	NDR	11.4	0.862	1.02	1.000
1,2,3,4,6,7,8-HPCDD		247	0.862	1.00	1.000
OCDD		2690	0.862	0.88	1.000
2,3,7,8-TCDF		10.6	0.862	0.76	1.001
1,2,3,7,8-PECDF	NDR	0.960	0.862	1.14	1.001
2,3,4,7,8-PECDF		0.996	0.862	1.42	1.001
1,2,3,4,7,8-HXCDF	NDR	1.94	0.862	0.95	1.000
1,2,3,6,7,8-HXCDF		1.14	0.862	1.13	1.001
1,2,3,7,8,9-HXCDF	ND		0.862		
2,3,4,6,7,8-HXCDF		1.55	0.862	1.24	1.000
1,2,3,4,6,7,8-HPCDF		17.2	0.862	1.10	1.000
1,2,3,4,7,8,9-HPCDF		1.35	0.862	1.19	1.000
OCDF		43.2	0.862	0.87	1.002
TOTAL TETRA-DIOXINS		49.4	0.862		
TOTAL PENTA-DIOXINS		10.4	0.862		
TOTAL HEXA-DIOXINS		94.7	0.862		
TOTAL HEPTA-DIOXINS		517	0.862		
TOTAL TETRA-FURANS		23.0	0.862		
TOTAL PENTA-FURANS		6.76	0.862		
TOTAL HEXA-FURANS		18.9	0.862		
TOTAL HEPTA-FURANS		39.2	0.862		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-6\_Form1A\_DX1M\_008AS21\_SJ1243105.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH228  
Sample Collection:  
04-Nov-2010 10:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-6

Matrix: SOLID

Sample Size: 5.80 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 01:41:00

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.5

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		8.09	1.63	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-6\_Form1A\_DB03\_170S11\_SJ1240314.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH228  
Sample Collection:  
04-Nov-2010 10:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-6 M

Matrix: SOLID

Sample Size: 5.80 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 10:09:28

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg absolute

% Moisture: 22.5

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7240	72.4	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	10100	101	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		10000	9220	92.2	1.26	0.986
13C-1,2,3,6,7,8-HXCDD		10000	8990	89.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7510	75.1	1.03	1.094
13C-OCDD		20000	11800	58.8	0.88	1.178
13C-2,3,7,8-TCDF		10000	7160	71.6	0.74	0.967
13C-1,2,3,7,8-PECDF		10000	7780	77.8	1.49	1.286
13C-2,3,4,7,8-PECDF		10000	7340	73.4	1.50	1.354
13C-1,2,3,4,7,8-HXCDF		10000	10100	101	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9960	99.6	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9020	90.2	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9650	96.5	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	8480	84.8	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7740	77.4	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	818	81.8		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-6\_Form2\_DX1M\_008AS21\_SJ1243105.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH228

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 10:15  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-6  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_170 S: 11  
DX1M\_008A S: 21

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.80 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		49.4	0.862	1	4.94e+01	4.94e+01	
1,2,3,7,8-PECDD	ND		0.862	1	0.00e+00	4.31e-01	
1,2,3,4,7,8-HXCDD		5.08	0.862	0.1	5.08e-01	5.08e-01	
1,2,3,6,7,8-HXCDD		11.0	0.862	0.1	1.10e+00	1.10e+00	
1,2,3,7,8,9-HXCDD	ND		0.862	0.1	0.00e+00	4.31e-02	
1,2,3,4,6,7,8-HPCDD		247	0.862	0.01	2.47e+00	2.47e+00	
OCDD		2690	0.862	0.0001	2.69e-01	2.69e-01	
2,3,7,8-TCDF		8.09	1.63	0.1	8.09e-01	8.09e-01	
1,2,3,7,8-PECDF	ND		0.862	0.05	0.00e+00	2.16e-02	
2,3,4,7,8-PECDF		0.996	0.862	0.5	4.98e-01	4.98e-01	
1,2,3,4,7,8-HXCDF	ND		0.862	0.1	0.00e+00	4.31e-02	
1,2,3,6,7,8-HXCDF		1.14	0.862	0.1	1.14e-01	1.14e-01	
1,2,3,7,8,9-HXCDF	ND		0.862	0.1	0.00e+00	4.31e-02	
2,3,4,6,7,8-HXCDF		1.55	0.862	0.1	1.55e-01	1.55e-01	
1,2,3,4,6,7,8-HPCDF		17.2	0.862	0.01	1.72e-01	1.72e-01	
1,2,3,4,7,8,9-HPCDF		1.35	0.862	0.01	1.35e-02	1.35e-02	
OCDF		43.2	0.862	0.0001	4.32e-03	4.32e-03	
<b>TOTAL TEQ</b>					<b>55.5</b>	<b>56.1</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		49.4	0.862	1	4.94e+01	4.94e+01	
1,2,3,7,8-PECDD	ND		0.862	1	0.00e+00	4.31e-01	
1,2,3,4,7,8-HXCDD		5.08	0.862	0.1	5.08e-01	5.08e-01	
1,2,3,6,7,8-HXCDD		11.0	0.862	0.1	1.10e+00	1.10e+00	
1,2,3,7,8,9-HXCDD	ND		0.862	0.1	0.00e+00	4.31e-02	
1,2,3,4,6,7,8-HPCDD		247	0.862	0.01	2.47e+00	2.47e+00	
OCDD		2690	0.862	0.0003	8.07e-01	8.07e-01	
2,3,7,8-TCDF		8.09	1.63	0.1	8.09e-01	8.09e-01	
1,2,3,7,8-PECDF	ND		0.862	0.03	0.00e+00	1.29e-02	
2,3,4,7,8-PECDF		0.996	0.862	0.3	2.99e-01	2.99e-01	
1,2,3,4,7,8-HXCDF	ND		0.862	0.1	0.00e+00	4.31e-02	
1,2,3,6,7,8-HXCDF		1.14	0.862	0.1	1.14e-01	1.14e-01	
1,2,3,7,8,9-HXCDF	ND		0.862	0.1	0.00e+00	4.31e-02	
2,3,4,6,7,8-HXCDF		1.55	0.862	0.1	1.55e-01	1.55e-01	
1,2,3,4,6,7,8-HPCDF		17.2	0.862	0.01	1.72e-01	1.72e-01	
1,2,3,4,7,8,9-HPCDF		1.35	0.862	0.01	1.35e-02	1.35e-02	
OCDF		43.2	0.862	0.0003	1.30e-02	1.30e-02	
<b>TOTAL TEQ</b>					<b>55.9</b>	<b>56.4</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-6\_TEQ\_SJ1240314.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH229  
Sample Collection:  
04-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-7 M (A)

Matrix: SOLID

Sample Size: 6.30 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 07:23:47

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 18

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		7.97	0.794	0.71	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.794		
1,2,3,4,7,8-HXCDD	NDR	1.52	0.794	2.17	1.000
1,2,3,6,7,8-HXCDD	NDR	2.82	0.794	2.12	1.001
1,2,3,7,8,9-HXCDD	NDR	3.01	0.794	1.90	1.001
1,2,3,4,6,7,8-HPCDD		57.8	0.794	1.05	1.000
OCDD		513	1.18	0.86	1.000
2,3,7,8-TCDF		1.41	0.794	0.83	1.001
1,2,3,7,8-PECDF	ND		0.794		
2,3,4,7,8-PECDF	ND		0.794		
1,2,3,4,7,8-HXCDF	ND		0.794		
1,2,3,6,7,8-HXCDF	ND		0.794		
1,2,3,7,8,9-HXCDF	ND		0.794		
2,3,4,6,7,8-HXCDF	ND		0.794		
1,2,3,4,6,7,8-HPCDF		4.52	0.794	1.15	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.794		
OCDF		14.2	0.794	0.77	1.002
TOTAL TETRA-DIOXINS		7.97	0.794		
TOTAL PENTA-DIOXINS	ND		0.794		
TOTAL HEXA-DIOXINS		19.6	0.794		
TOTAL HEPTA-DIOXINS		112	0.794		
TOTAL TETRA-FURANS		2.27	0.794		
TOTAL PENTA-FURANS		0.938	0.794		
TOTAL HEXA-FURANS		1.51	0.794		
TOTAL HEPTA-FURANS		10.6	0.794		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-7\_Form1A\_DX1M\_008AS18\_SJ1243102.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH229  
Sample Collection:  
04-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-7 (A)

Matrix: SOLID

Sample Size: 6.30 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 02:17:54

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.27	0.794	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-7\_Form1A\_DB03\_170S12\_SJ1240315.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.  
10VNBH229  
Sample Collection:  
04-Nov-2010 10:30**

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15773-7 M (A)

**Matrix:** SOLID

**Sample Size:** 6.30 g (dry)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 04-Jan-2011

**Extraction Date:** 09-Dec-2010

**Instrument ID:** HR GC/MS

**Analysis Date:** 14-Jan-2011 **Time:** 07:23:47

**GC Column ID:** DB5

**Extract Volume (uL):** 20

**Sample Data Filename:** DX1M\_008A S: 18

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX1M\_004 S: 5

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX1M\_008A S: 12

**Concentration Units:** pg absolute

**% Moisture:** 18.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7320	73.2	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	9750	97.5	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		10000	8880	88.8	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8680	86.8	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7230	72.3	1.04	1.094
13C-OCDD		20000	11000	55.1	0.87	1.178
13C-2,3,7,8-TCDF		10000	7530	75.3	0.77	0.967
13C-1,2,3,7,8-PECDF		10000	7660	76.6	1.52	1.285
13C-2,3,4,7,8-PECDF		10000	7700	77.0	1.55	1.354
13C-1,2,3,4,7,8-HXCDF		10000	9830	98.3	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9680	96.8	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8730	87.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9410	94.1	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8210	82.1	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7450	74.5	0.43	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		1000	875	87.5		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-7\_Form2\_DX1M\_008AS18\_SJ1243102.html; Workgroup: WG34896; Design ID: 1505 ]

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**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Matrix:** SOLID

**Sample Size:** 6.30 g (dry)

**Concentration Units:** pg/g (dry weight basis)

**Sample Collection:** 04-Nov-2010 10:30

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15773-7 (A)

**GC Column ID(s):** DB225  
DB5

**Sample Data Filenames:** DB03\_170 S: 12  
DX1M\_008A S: 18

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7.97	0.794	1	7.97e+00	7.97e+00	
1,2,3,7,8-PECDD	ND		0.794	1	0.00e+00	3.97e-01	
1,2,3,4,7,8-HXCDD	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,6,7,8-HXCDD	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,7,8,9-HXCDD	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,4,6,7,8-HPCDD		57.8	0.794	0.01	5.78e-01	5.78e-01	
OCDD		513	1.18	0.0001	5.13e-02	5.13e-02	
2,3,7,8-TCDF		1.27	0.794	0.1	1.27e-01	1.27e-01	
1,2,3,7,8-PECDF	ND		0.794	0.05	0.00e+00	1.99e-02	
2,3,4,7,8-PECDF	ND		0.794	0.5	0.00e+00	1.99e-01	
1,2,3,4,7,8-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,6,7,8-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,7,8,9-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
2,3,4,6,7,8-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,4,6,7,8-HPCDF		4.52	0.794	0.01	4.52e-02	4.52e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.794	0.01	0.00e+00	3.97e-03	
OCDF		14.2	0.794	0.0001	1.42e-03	1.42e-03	
<b>TOTAL TEQ</b>					<b>8.77</b>	<b>9.67</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7.97	0.794	1	7.97e+00	7.97e+00	
1,2,3,7,8-PECDD	ND		0.794	1	0.00e+00	3.97e-01	
1,2,3,4,7,8-HXCDD	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,6,7,8-HXCDD	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,7,8,9-HXCDD	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,4,6,7,8-HPCDD		57.8	0.794	0.01	5.78e-01	5.78e-01	
OCDD		513	1.18	0.0003	1.54e-01	1.54e-01	
2,3,7,8-TCDF		1.27	0.794	0.1	1.27e-01	1.27e-01	
1,2,3,7,8-PECDF	ND		0.794	0.03	0.00e+00	1.19e-02	
2,3,4,7,8-PECDF	ND		0.794	0.3	0.00e+00	1.19e-01	
1,2,3,4,7,8-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,6,7,8-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,7,8,9-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
2,3,4,6,7,8-HXCDF	ND		0.794	0.1	0.00e+00	3.97e-02	
1,2,3,4,6,7,8-HPCDF		4.52	0.794	0.01	4.52e-02	4.52e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.794	0.01	0.00e+00	3.97e-03	
OCDF		14.2	0.794	0.0003	4.26e-03	4.26e-03	
<b>TOTAL TEQ</b>					<b>8.88</b>	<b>9.69</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-7\_TEQ\_SJ1240315.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH229 (Duplicate)  
Sample Collection:  
04-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34896-103 M (DUP L15773-7)

Matrix: SOLID

Sample Size: 5.73 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 08:19:02

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.8

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	NDR	5.16	1.00	0.64	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.873		
1,2,3,4,7,8-HXCDD	NDR	1.33	0.897	2.91	1.000
1,2,3,6,7,8-HXCDD		2.47	0.897	1.07	1.001
1,2,3,7,8,9-HXCDD	ND		0.897		
1,2,3,4,6,7,8-HPCDD		55.3	3.07	1.10	1.000
OCDD		469	2.09	0.85	1.000
2,3,7,8-TCDF	ND		3.12		
1,2,3,7,8-PECDF	ND		4.01		
2,3,4,7,8-PECDF	ND		4.01		
1,2,3,4,7,8-HXCDF	ND		1.40		
1,2,3,6,7,8-HXCDF	ND		1.40		
1,2,3,7,8,9-HXCDF	ND		1.40		
2,3,4,6,7,8-HXCDF	ND		1.40		
1,2,3,4,6,7,8-HPCDF	ND		4.86		
1,2,3,4,7,8,9-HPCDF	ND		4.86		
OCDF	NDR	6.20	1.59	0.50	1.002

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG34896-103\_Form1A\_DX1M\_008AS19\_SJ1243103.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH229 (Duplicate)  
Sample Collection:  
04-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: WG34896-103 (DUP L15773-7)

Matrix: SOLID

Sample Size: 5.73 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 02:54:48

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 13

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.8

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		14.4		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_WG34896-103\_Form1A\_DB03\_170S13\_SJ1240316.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH229 (Duplicate)  
Sample Collection:  
04-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG34896-103 M (DUP L15773-7)

Matrix: SOLID

Sample Size: 5.73 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 08:19:02

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg absolute

% Moisture: 18.8

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	2550	25.5	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	4200	42.0	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		10000	4810	48.1	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		10000	4040	40.4	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD	V	10000	645	6.45	1.03	1.094
13C-OCDD	V	20000	2690	13.4	0.88	1.178
13C-2,3,7,8-TCDF	V	10000	603	6.03	0.77	0.967
13C-1,2,3,7,8-PECDF	V	10000	945	9.45	1.59	1.285
13C-2,3,4,7,8-PECDF		10000	5380	53.8	1.50	1.354
13C-1,2,3,4,7,8-HXCDF		10000	4770	47.7	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		10000	3850	38.5	0.49	0.958
13C-1,2,3,7,8,9-HXCDF	V	10000	2220	22.2	0.50	1.005
13C-2,3,4,6,7,8-HXCDF	V	10000	2060	20.6	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF	V	10000	1410	14.1	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF	V	10000	557	5.57	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD	V	1000	275	27.5		1.015
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- (1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
- (2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
- (4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG34896-103\_Form2\_DX1M\_008AS19\_SJ1243103.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH229 (Duplicate)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 10:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: WG34896-103 (DUP L15773-7)  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_170 S: 13  
DX1M\_008A S: 19

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.73 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		1.00	1	0.00e+00	5.00e-01	
1,2,3,7,8-PECDD	ND		0.873	1	0.00e+00	4.37e-01	
1,2,3,4,7,8-HXCDD	ND		0.897	0.1	0.00e+00	4.49e-02	
1,2,3,6,7,8-HXCDD		2.47	0.897	0.1	2.47e-01	2.47e-01	
1,2,3,7,8,9-HXCDD	ND		0.897	0.1	0.00e+00	4.49e-02	
1,2,3,4,6,7,8-HPCDD		55.3	3.07	0.01	5.53e-01	5.53e-01	
OCDD		469	2.09	0.0001	4.69e-02	4.69e-02	
2,3,7,8-TCDF	ND		14.4	0.1	0.00e+00	7.20e-01	
1,2,3,7,8-PECDF	ND		4.01	0.05	0.00e+00	1.00e-01	
2,3,4,7,8-PECDF	ND		4.01	0.5	0.00e+00	1.00e+00	
1,2,3,4,7,8-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
1,2,3,6,7,8-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
1,2,3,7,8,9-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
2,3,4,6,7,8-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
1,2,3,4,6,7,8-HPCDF	ND		4.86	0.01	0.00e+00	2.43e-02	
1,2,3,4,7,8,9-HPCDF	ND		4.86	0.01	0.00e+00	2.43e-02	
OCDF	ND		1.59	0.0001	0.00e+00	7.95e-05	
<b>TOTAL TEQ</b>					<b>0.847</b>	<b>4.02</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		1.00	1	0.00e+00	5.00e-01	
1,2,3,7,8-PECDD	ND		0.873	1	0.00e+00	4.37e-01	
1,2,3,4,7,8-HXCDD	ND		0.897	0.1	0.00e+00	4.49e-02	
1,2,3,6,7,8-HXCDD		2.47	0.897	0.1	2.47e-01	2.47e-01	
1,2,3,7,8,9-HXCDD	ND		0.897	0.1	0.00e+00	4.49e-02	
1,2,3,4,6,7,8-HPCDD		55.3	3.07	0.01	5.53e-01	5.53e-01	
OCDD		469	2.09	0.0003	1.41e-01	1.41e-01	
2,3,7,8-TCDF	ND		14.4	0.1	0.00e+00	7.20e-01	
1,2,3,7,8-PECDF	ND		4.01	0.03	0.00e+00	6.02e-02	
2,3,4,7,8-PECDF	ND		4.01	0.3	0.00e+00	6.02e-01	
1,2,3,4,7,8-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
1,2,3,6,7,8-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
1,2,3,7,8,9-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
2,3,4,6,7,8-HXCDF	ND		1.40	0.1	0.00e+00	7.00e-02	
1,2,3,4,6,7,8-HPCDF	ND		4.86	0.01	0.00e+00	2.43e-02	
1,2,3,4,7,8,9-HPCDF	ND		4.86	0.01	0.00e+00	2.43e-02	
OCDF	ND		1.59	0.0003	0.00e+00	2.39e-04	
<b>TOTAL TEQ</b>					<b>0.941</b>	<b>3.68</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH230  
Sample Collection:  
04-Nov-2010 11:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-8 M

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 09:14:13

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 20.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		83.9	0.975	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	1.99	0.975	1.18	1.000
1,2,3,4,7,8-HXCDD	NDR	1.71	0.975	0.81	1.000
1,2,3,6,7,8-HXCDD	NDR	3.74	0.975	0.70	1.001
1,2,3,7,8,9-HXCDD	NDR	3.09	0.975	1.53	1.000
1,2,3,4,6,7,8-HPCDD		34.0	0.975	0.96	1.000
OCDD		326	0.975	0.88	1.000
2,3,7,8-TCDF		13.4	0.975	0.67	1.001
1,2,3,7,8-PECDF	ND		0.975		
2,3,4,7,8-PECDF		1.17	0.975	1.77	1.000
1,2,3,4,7,8-HXCDF	ND		0.975		
1,2,3,6,7,8-HXCDF	ND		0.975		
1,2,3,7,8,9-HXCDF	ND		0.975		
2,3,4,6,7,8-HXCDF	ND		0.975		
1,2,3,4,6,7,8-HPCDF	NDR	7.78	0.975	1.36	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.975		
OCDF	NDR	23.7	0.975	0.74	1.002
TOTAL TETRA-DIOXINS		83.9	0.975		
TOTAL PENTA-DIOXINS		1.53	0.975		
TOTAL HEXA-DIOXINS		31.9	0.975		
TOTAL HEPTA-DIOXINS		70.2	0.975		
TOTAL TETRA-FURANS		26.8	0.975		
TOTAL PENTA-FURANS		26.8	0.975		
TOTAL HEXA-FURANS		3.68	0.975		
TOTAL HEPTA-FURANS	ND		0.975		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-8\_Form1A\_DX1M\_008AS20\_SJ1243104.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH230  
Sample Collection:  
04-Nov-2010 11:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-8

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 03:31:42

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB03\_170 S: 14

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_170 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_170 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 20.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		11.7	1.87	0.88	1.000

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 19-Jan-2011 14:08:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-8\_Form1A\_DB03\_170S14\_SJ1240317.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH230  
Sample Collection:  
04-Nov-2010 11:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-8 M

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 09-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 09:14:13

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 12

Concentration Units: pg absolute

% Moisture: 20.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7490	74.9	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	9980	99.8	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		10000	9020	90.2	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8830	88.3	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7760	77.6	1.01	1.094
13C-OCDD		20000	11500	57.5	0.86	1.178
13C-2,3,7,8-TCDF		10000	7460	74.6	0.76	0.967
13C-1,2,3,7,8-PECDF		10000	8120	81.2	1.55	1.285
13C-2,3,4,7,8-PECDF		10000	7950	79.5	1.55	1.354
13C-1,2,3,4,7,8-HXCDF		10000	10400	104	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10000	100	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		10000	9170	91.7	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9630	96.3	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8680	86.8	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7970	79.7	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		1000	780	78.0		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 19-Jan-2011 14:07:02; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-8\_Form2\_DX1M\_008AS20\_SJ1243104.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.13 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 11:05

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-8

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_170 S: 14  
DX1M\_008A S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		83.9	0.975	1	8.39e+01	8.39e+01	
1,2,3,7,8-PECDD	ND		0.975	1	0.00e+00	4.88e-01	
1,2,3,4,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDD		34.0	0.975	0.01	3.40e-01	3.40e-01	
OCDD		326	0.975	0.0001	3.26e-02	3.26e-02	
2,3,7,8-TCDF		11.7	1.87	0.1	1.17e+00	1.17e+00	
1,2,3,7,8-PECDF	ND		0.975	0.05	0.00e+00	2.44e-02	
2,3,4,7,8-PECDF		1.17	0.975	0.5	5.85e-01	5.85e-01	
1,2,3,4,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
OCDF	ND		0.975	0.0001	0.00e+00	4.88e-05	
<b>TOTAL TEQ</b>					86.0	86.9	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		83.9	0.975	1	8.39e+01	8.39e+01	
1,2,3,7,8-PECDD	ND		0.975	1	0.00e+00	4.88e-01	
1,2,3,4,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDD	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDD		34.0	0.975	0.01	3.40e-01	3.40e-01	
OCDD		326	0.975	0.0003	9.78e-02	9.78e-02	
2,3,7,8-TCDF		11.7	1.87	0.1	1.17e+00	1.17e+00	
1,2,3,7,8-PECDF	ND		0.975	0.03	0.00e+00	1.46e-02	
2,3,4,7,8-PECDF		1.17	0.975	0.3	3.51e-01	3.51e-01	
1,2,3,4,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
OCDF	ND		0.975	0.0003	0.00e+00	1.46e-04	
<b>TOTAL TEQ</b>					<b>85.9</b>	<b>86.7</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 19-Jan-2011 14:08:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-8\_TEQ\_SJ1240317.html; Workgroup: WG34896; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH231  
Sample Collection:  
04-Nov-2010 11:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-9 R

Matrix: SOLID

Sample Size: 5.54 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 24-Jan-2011 Time: 18:49:18

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_013A S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 1

Concentration Units: pg/g (dry weight basis)

% Moisture: 17.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1300	1.42	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		4.13	1.13	0.53	1.001
1,2,3,4,7,8-HXCDD	ND		0.962		
1,2,3,6,7,8-HXCDD	NDR	3.07	0.962	0.71	1.000
1,2,3,7,8,9-HXCDD	NDR	1.13	0.962	1.82	1.001
1,2,3,4,6,7,8-HPCDD		16.3	0.903	0.92	1.000
OCDD		141	0.903	0.87	1.000
2,3,7,8-TCDF		62.9	0.903	0.70	1.001
1,2,3,7,8-PECDF	ND		1.03		
2,3,4,7,8-PECDF	NDR	1.05	1.03	1.94	1.001
1,2,3,4,7,8-HXCDF	ND		0.903		
1,2,3,6,7,8-HXCDF	ND		0.903		
1,2,3,7,8,9-HXCDF	ND		0.903		
2,3,4,6,7,8-HXCDF	ND		0.903		
1,2,3,4,6,7,8-HPCDF	NDR	2.97	0.903	1.49	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.903		
OCDF		2.68	1.31	0.79	1.002
TOTAL TETRA-DIOXINS		1440	1.42		
TOTAL PENTA-DIOXINS		41.2	1.13		
TOTAL HEXA-DIOXINS		41.1	0.962		
TOTAL HEPTA-DIOXINS		33.0	0.903		
TOTAL TETRA-FURANS		307	0.903		
TOTAL PENTA-FURANS		178	1.03		
TOTAL HEXA-FURANS		23.9	0.903		
TOTAL HEPTA-FURANS		3.51	0.903		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-9\_Form1A\_DX1M\_013AS11\_SJ1248370.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH231  
Sample Collection:  
04-Nov-2010 11:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 12-Jan-2011  
  
Analysis Date: 20-Jan-2011 Time: 02:59:01  
  
Extract Volume (uL): 200  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-9 R  
  
Sample Size: 5.54 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB13\_014 S: 13  
  
Blank Data Filename: N/A  
  
Cal. Ver. Data Filename: DB13\_014 S: 2  
  
% Moisture: 17.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		44.7	1.96	0.82	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:58; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-9\_Form1A\_DB13\_014S13\_SJ1249236.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH231  
Sample Collection:  
04-Nov-2010 11:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-9 R

Matrix: SOLID

Sample Size: 5.54 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 24-Jan-2011 Time: 18:49:18

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_013A S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 1

Concentration Units: pg absolute

% Moisture: 17.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	3150	78.8	0.75	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3340	83.5	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3160	79.0	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3420	85.6	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3060	76.6	1.05	1.094
13C-OCDD		8000	4530	56.7	0.88	1.178
13C-2,3,7,8-TCDF		4000	2750	68.7	0.77	0.967
13C-1,2,3,7,8-PECDF		4000	2980	74.5	1.47	1.286
13C-2,3,4,7,8-PECDF		4000	2880	71.9	1.46	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3300	82.6	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3400	84.9	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2850	71.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3200	80.0	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	2870	71.6	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	2580	64.6	0.41	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		400	306	76.6		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-9\_Form2\_DX1M\_013AS11\_SJ1248370.html; Workgroup: WG35181; Design ID: 1505 ]

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.54 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 11:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-9 R

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_014 S: 13  
DX1M\_013A S: 11

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1300	1.42	1	1.30e+03	1.30e+03	
1,2,3,7,8-PECDD		4.13	1.13	1	4.13e+00	4.13e+00	
1,2,3,4,7,8-HXCDD	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,6,7,8-HXCDD	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,7,8,9-HXCDD	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,4,6,7,8-HPCDD		16.3	0.903	0.01	1.63e-01	1.63e-01	
OCDD		141	0.903	0.0001	1.41e-02	1.41e-02	
2,3,7,8-TCDF		44.7	1.96	0.1	4.47e+00	4.47e+00	
1,2,3,7,8-PECDF	ND		1.03	0.05	0.00e+00	2.58e-02	
2,3,4,7,8-PECDF	ND		1.03	0.5	0.00e+00	2.58e-01	
1,2,3,4,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,6,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,7,8,9-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
2,3,4,6,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.903	0.01	0.00e+00	4.52e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.903	0.01	0.00e+00	4.52e-03	
OCDF		2.68	1.31	0.0001	2.68e-04	2.68e-04	
<b>TOTAL TEQ</b>					1310	1310	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1300	1.42	1	1.30e+03	1.30e+03	
1,2,3,7,8-PECDD		4.13	1.13	1	4.13e+00	4.13e+00	
1,2,3,4,7,8-HXCDD	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,6,7,8-HXCDD	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,7,8,9-HXCDD	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,4,6,7,8-HPCDD		16.3	0.903	0.01	1.63e-01	1.63e-01	
OCDD		141	0.903	0.0003	4.23e-02	4.23e-02	
2,3,7,8-TCDF		44.7	1.96	0.1	4.47e+00	4.47e+00	
1,2,3,7,8-PECDF	ND		1.03	0.03	0.00e+00	1.55e-02	
2,3,4,7,8-PECDF	ND		1.03	0.3	0.00e+00	1.55e-01	
1,2,3,4,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,6,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,7,8,9-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
2,3,4,6,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.903	0.01	0.00e+00	4.52e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.903	0.01	0.00e+00	4.52e-03	
OCDF		2.68	1.31	0.0003	8.04e-04	8.04e-04	
<b>TOTAL TEQ</b>					<b>1310</b>	<b>1310</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 27-Jan-2011 13:26:08; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-9\_TEQ\_SJ1249236.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH232  
Sample Collection:  
04-Nov-2010 11:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-10 R

Matrix: SOLID

Sample Size: 6.05 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 02:20:02

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_013A S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 21.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		62.4	0.0826	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.48	0.0826	0.60	1.000
1,2,3,4,7,8-HXCDD		0.442	0.0826	1.35	1.000
1,2,3,6,7,8-HXCDD		1.20	0.0826	1.08	1.000
1,2,3,7,8,9-HXCDD		1.22	0.0826	1.36	1.000
1,2,3,4,6,7,8-HPCDD		12.2	0.0826	0.97	1.000
OCDD		196	0.0826	0.87	1.000
2,3,7,8-TCDF		4.00	0.0826	0.72	1.001
1,2,3,7,8-PECDF		0.259	0.0826	1.45	1.001
2,3,4,7,8-PECDF		0.255	0.0826	1.69	1.001
1,2,3,4,7,8-HXCDF		0.238	0.0826	1.34	1.001
1,2,3,6,7,8-HXCDF		0.165	0.0826	1.09	1.001
1,2,3,7,8,9-HXCDF	ND		0.0826		
2,3,4,6,7,8-HXCDF		0.181	0.0826	1.20	1.001
1,2,3,4,6,7,8-HPCDF		1.60	0.0826	0.99	1.000
1,2,3,4,7,8,9-HPCDF		0.119	0.0826	0.89	1.000
OCDF		4.22	0.0826	0.86	1.002
TOTAL TETRA-DIOXINS		80.9	0.0826		
TOTAL PENTA-DIOXINS		16.3	0.0826		
TOTAL HEXA-DIOXINS		22.3	0.0826		
TOTAL HEPTA-DIOXINS		28.7	0.0826		
TOTAL TETRA-FURANS		15.9	0.0826		
TOTAL PENTA-FURANS		15.7	0.0826		
TOTAL HEXA-FURANS		3.70	0.0826		
TOTAL HEPTA-FURANS		3.32	0.0826		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH232  
Sample Collection:  
04-Nov-2010 11:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-10 R

Matrix: SOLID

Sample Size: 6.05 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 20-Jan-2011 Time: 00:31:33

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_014 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: N/A

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_014 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 21.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.48	0.0826	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:58; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-10\_Form1A\_DB13\_014S9\_SJ1249232.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.**  
10VNBH232  
**Sample Collection:**  
04-Nov-2010 11:35

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15773-10 R

**Matrix:** SOLID

**Sample Size:** 6.05 g (dry)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 04-Jan-2011

**Extraction Date:** 12-Jan-2011

**Instrument ID:** HR GC/MS

**Analysis Date:** 25-Jan-2011 **Time:** 02:20:02

**GC Column ID:** DB5

**Extract Volume (uL):** 20

**Sample Data Filename:** DX1M\_013A S: 19

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX1M\_013A S: 7

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX1M\_013A S: 12

**Concentration Units:** pg absolute

**% Moisture:** 21.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1600	80.0	0.76	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	2220	111	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1780	89.2	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.2	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1390	69.4	1.06	1.094
13C-OCDD		4000	2170	54.4	0.88	1.179
13C-2,3,7,8-TCDF		2000	1320	65.8	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1540	77.0	1.54	1.285
13C-2,3,4,7,8-PECDF		2000	1490	74.3	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1760	88.0	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1780	89.0	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1560	78.1	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1660	82.9	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1460	73.1	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1320	65.8	0.43	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		200	152	75.8		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-10\_Form2\_DX1M\_013AS19\_SJ1248384.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 11:35  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-10 R  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_014 S: 9  
DX1M\_013A S: 19

Contract No.: 2607

Matrix: SOLID

Sample Size: 6.05 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		62.4	0.0826	1	6.24e+01	6.24e+01	
1,2,3,7,8-PECDD		2.48	0.0826	1	2.48e+00	2.48e+00	
1,2,3,4,7,8-HXCDD		0.442	0.0826	0.1	4.42e-02	4.42e-02	
1,2,3,6,7,8-HXCDD		1.20	0.0826	0.1	1.20e-01	1.20e-01	
1,2,3,7,8,9-HXCDD		1.22	0.0826	0.1	1.22e-01	1.22e-01	
1,2,3,4,6,7,8-HPCDD		12.2	0.0826	0.01	1.22e-01	1.22e-01	
OCDD		196	0.0826	0.0001	1.96e-02	1.96e-02	
2,3,7,8-TCDF		2.48	0.0826	0.1	2.48e-01	2.48e-01	
1,2,3,7,8-PECDF		0.259	0.0826	0.05	1.30e-02	1.30e-02	
2,3,4,7,8-PECDF		0.255	0.0826	0.5	1.28e-01	1.28e-01	
1,2,3,4,7,8-HXCDF		0.238	0.0826	0.1	2.38e-02	2.38e-02	
1,2,3,6,7,8-HXCDF		0.165	0.0826	0.1	1.65e-02	1.65e-02	
1,2,3,7,8,9-HXCDF	ND		0.0826	0.1	0.00e+00	4.13e-03	
2,3,4,6,7,8-HXCDF		0.181	0.0826	0.1	1.81e-02	1.81e-02	
1,2,3,4,6,7,8-HPCDF		1.60	0.0826	0.01	1.60e-02	1.60e-02	
1,2,3,4,7,8,9-HPCDF		0.119	0.0826	0.01	1.19e-03	1.19e-03	
OCDF		4.22	0.0826	0.0001	4.22e-04	4.22e-04	
<b>TOTAL TEQ</b>					<b>65.8</b>	<b>65.8</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		62.4	0.0826	1	6.24e+01	6.24e+01	
1,2,3,7,8-PECDD		2.48	0.0826	1	2.48e+00	2.48e+00	
1,2,3,4,7,8-HXCDD		0.442	0.0826	0.1	4.42e-02	4.42e-02	
1,2,3,6,7,8-HXCDD		1.20	0.0826	0.1	1.20e-01	1.20e-01	
1,2,3,7,8,9-HXCDD		1.22	0.0826	0.1	1.22e-01	1.22e-01	
1,2,3,4,6,7,8-HPCDD		12.2	0.0826	0.01	1.22e-01	1.22e-01	
OCDD		196	0.0826	0.0003	5.88e-02	5.88e-02	
2,3,7,8-TCDF		2.48	0.0826	0.1	2.48e-01	2.48e-01	
1,2,3,7,8-PECDF		0.259	0.0826	0.03	7.77e-03	7.77e-03	
2,3,4,7,8-PECDF		0.255	0.0826	0.3	7.65e-02	7.65e-02	
1,2,3,4,7,8-HXCDF		0.238	0.0826	0.1	2.38e-02	2.38e-02	
1,2,3,6,7,8-HXCDF		0.165	0.0826	0.1	1.65e-02	1.65e-02	
1,2,3,7,8,9-HXCDF	ND		0.0826	0.1	0.00e+00	4.13e-03	
2,3,4,6,7,8-HXCDF		0.181	0.0826	0.1	1.81e-02	1.81e-02	
1,2,3,4,6,7,8-HPCDF		1.60	0.0826	0.01	1.60e-02	1.60e-02	
1,2,3,4,7,8,9-HPCDF		0.119	0.0826	0.01	1.19e-03	1.19e-03	
OCDF		4.22	0.0826	0.0003	1.27e-03	1.27e-03	
<b>TOTAL TEQ</b>					<b>65.8</b>	<b>65.8</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

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Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-10\_TEQ\_SJ1249232.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH233  
Sample Collection:  
04-Nov-2010 15:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-11 R

Matrix: SOLID

Sample Size: 5.11 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 03:15:08

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_013A S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 55.3

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3000	2.93	0.74	1.001
1,2,3,7,8-PECDD <sup>3</sup>		35.8	1.67	0.55	1.002
1,2,3,4,7,8-HXCDD		6.12	1.50	1.15	1.001
1,2,3,6,7,8-HXCDD		16.0	1.50	1.11	1.000
1,2,3,7,8,9-HXCDD		12.9	1.50	1.15	1.000
1,2,3,4,6,7,8-HPCDD		126	1.23	1.00	1.000
OCDD		1170	1.63	0.85	1.000
2,3,7,8-TCDF		219	1.22	0.73	1.001
1,2,3,7,8-PECDF		11.0	2.66	1.63	1.001
2,3,4,7,8-PECDF	NDR	7.99	2.66	1.21	1.001
1,2,3,4,7,8-HXCDF	NDR	9.36	1.15	0.99	1.000
1,2,3,6,7,8-HXCDF		6.37	1.15	1.23	1.001
1,2,3,7,8,9-HXCDF	ND		1.15		
2,3,4,6,7,8-HXCDF		12.7	1.15	1.13	1.001
1,2,3,4,6,7,8-HPCDF		49.5	0.978	0.90	1.000
1,2,3,4,7,8,9-HPCDF		4.06	0.978	1.16	1.000
OCDF		60.4	0.572	0.82	1.002
TOTAL TETRA-DIOXINS		3250	2.93		
TOTAL PENTA-DIOXINS		200	1.67		
TOTAL HEXA-DIOXINS		243	1.50		
TOTAL HEPTA-DIOXINS		242	1.23		
TOTAL TETRA-FURANS		646	1.22		
TOTAL PENTA-FURANS		642	2.66		
TOTAL HEXA-FURANS		115	1.15		
TOTAL HEPTA-FURANS		78.2	0.978		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-11\_Form1A\_DX1M\_013AS20\_SJ1248385.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH233  
Sample Collection:  
04-Nov-2010 15:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-11 R

Matrix: SOLID

Sample Size: 5.11 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 20-Jan-2011 Time: 03:35:55

GC Column ID: DB225

Extract Volume (uL): 200

Sample Data Filename: DB13\_014 S: 14

Injection Volume (uL): 2.0

Blank Data Filename: N/A

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_014 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 55.3

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		213	4.15	0.78	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH233  
Sample Collection:  
04-Nov-2010 15:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-11 R

Matrix: SOLID

Sample Size: 5.11 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 03:15:08

GC Column ID: DB5

Extract Volume (uL): 200

Sample Data Filename: DX1M\_013A S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg absolute

% Moisture: 55.3

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2960	74.1	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	2970	74.3	0.64	1.385
13C-1,2,3,4,7,8-HXCDD		4000	2950	73.8	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3210	80.2	1.17	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	2740	68.4	1.05	1.094
13C-OCDD		8000	4470	55.9	0.88	1.178
13C-2,3,7,8-TCDF		4000	2610	65.3	0.78	0.967
13C-1,2,3,7,8-PECDF		4000	2520	63.0	1.44	1.285
13C-2,3,4,7,8-PECDF		4000	2500	62.5	1.49	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3160	79.1	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3210	80.3	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2580	64.4	0.45	1.005
13C-2,3,4,6,7,8-HXCDF		4000	2930	73.1	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	2800	70.1	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	2450	61.4	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		400	340	85.1		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-11\_Form2\_DX1M\_013AS20\_SJ1248385.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.11 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 15:35

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-11 R

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_014 S: 14  
DX1M\_013A S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3000	2.93	1	3.00e+03	3.00e+03	
1,2,3,7,8-PECDD		35.8	1.67	1	3.58e+01	3.58e+01	
1,2,3,4,7,8-HXCDD		6.12	1.50	0.1	6.12e-01	6.12e-01	
1,2,3,6,7,8-HXCDD		16.0	1.50	0.1	1.60e+00	1.60e+00	
1,2,3,7,8,9-HXCDD		12.9	1.50	0.1	1.29e+00	1.29e+00	
1,2,3,4,6,7,8-HPCDD		126	1.23	0.01	1.26e+00	1.26e+00	
OCDD		1170	1.63	0.0001	1.17e-01	1.17e-01	
2,3,7,8-TCDF		213	4.15	0.1	2.13e+01	2.13e+01	
1,2,3,7,8-PECDF		11.0	2.66	0.05	5.50e-01	5.50e-01	
2,3,4,7,8-PECDF	ND		2.66	0.5	0.00e+00	6.65e-01	
1,2,3,4,7,8-HXCDF	ND		1.15	0.1	0.00e+00	5.75e-02	
1,2,3,6,7,8-HXCDF		6.37	1.15	0.1	6.37e-01	6.37e-01	
1,2,3,7,8,9-HXCDF	ND		1.15	0.1	0.00e+00	5.75e-02	
2,3,4,6,7,8-HXCDF		12.7	1.15	0.1	1.27e+00	1.27e+00	
1,2,3,4,6,7,8-HPCDF		49.5	0.978	0.01	4.95e-01	4.95e-01	
1,2,3,4,7,8,9-HPCDF		4.06	0.978	0.01	4.06e-02	4.06e-02	
OCDF		60.4	0.572	0.0001	6.04e-03	6.04e-03	
<b>TOTAL TEQ</b>					<b>3060</b>	<b>3070</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3000	2.93	1	3.00e+03	3.00e+03	
1,2,3,7,8-PECDD		35.8	1.67	1	3.58e+01	3.58e+01	
1,2,3,4,7,8-HXCDD		6.12	1.50	0.1	6.12e-01	6.12e-01	
1,2,3,6,7,8-HXCDD		16.0	1.50	0.1	1.60e+00	1.60e+00	
1,2,3,7,8,9-HXCDD		12.9	1.50	0.1	1.29e+00	1.29e+00	
1,2,3,4,6,7,8-HPCDD		126	1.23	0.01	1.26e+00	1.26e+00	
OCDD		1170	1.63	0.0003	3.51e-01	3.51e-01	
2,3,7,8-TCDF		213	4.15	0.1	2.13e+01	2.13e+01	
1,2,3,7,8-PECDF		11.0	2.66	0.03	3.30e-01	3.30e-01	
2,3,4,7,8-PECDF	ND		2.66	0.3	0.00e+00	3.99e-01	
1,2,3,4,7,8-HXCDF	ND		1.15	0.1	0.00e+00	5.75e-02	
1,2,3,6,7,8-HXCDF		6.37	1.15	0.1	6.37e-01	6.37e-01	
1,2,3,7,8,9-HXCDF	ND		1.15	0.1	0.00e+00	5.75e-02	
2,3,4,6,7,8-HXCDF		12.7	1.15	0.1	1.27e+00	1.27e+00	
1,2,3,4,6,7,8-HPCDF		49.5	0.978	0.01	4.95e-01	4.95e-01	
1,2,3,4,7,8,9-HPCDF		4.06	0.978	0.01	4.06e-02	4.06e-02	
OCDF		60.4	0.572	0.0003	1.81e-02	1.81e-02	
<b>TOTAL TEQ</b>					<b>3070</b>	<b>3070</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 27-Jan-2011 13:26:08; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-11\_TEQ\_SJ1249237.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH234  
Sample Collection:  
04-Nov-2010 15:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-12 R

Matrix: SOLID

Sample Size: 7.53 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 04:10:23

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_013A S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1.87	0.0664	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.261	0.0664	0.57	1.001
1,2,3,4,7,8-HXCDD		0.190	0.0664	1.33	1.000
1,2,3,6,7,8-HXCDD		0.562	0.0664	1.12	1.000
1,2,3,7,8,9-HXCDD		1.36	0.0664	1.23	1.000
1,2,3,4,6,7,8-HPCDD		33.1	0.0664	0.98	1.000
OCDD		255	0.0664	0.87	1.000
2,3,7,8-TCDF		0.290	0.0664	0.80	1.001
1,2,3,7,8-PECDF	ND		0.0664		
2,3,4,7,8-PECDF	NDR	0.0706	0.0664	1.86	1.001
1,2,3,4,7,8-HXCDF		0.0812	0.0664	1.10	1.000
1,2,3,6,7,8-HXCDF	ND		0.0664		
1,2,3,7,8,9-HXCDF	ND		0.0664		
2,3,4,6,7,8-HXCDF	ND		0.0664		
1,2,3,4,6,7,8-HPCDF		1.01	0.0664	1.02	1.001
1,2,3,4,7,8,9-HPCDF		0.0697	0.0664	0.89	1.000
OCDF		2.12	0.0664	0.85	1.002
TOTAL TETRA-DIOXINS		2.63	0.0664		
TOTAL PENTA-DIOXINS		1.43	0.0664		
TOTAL HEXA-DIOXINS		7.45	0.0664		
TOTAL HEPTA-DIOXINS		57.4	0.0664		
TOTAL TETRA-FURANS		1.86	0.0664		
TOTAL PENTA-FURANS		1.09	0.0664		
TOTAL HEXA-FURANS		0.154	0.0664		
TOTAL HEPTA-FURANS		2.70	0.0664		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-12\_Form1A\_DX1M\_013AS21\_SJ1248386.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH234  
Sample Collection:  
04-Nov-2010 15:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-12 R

Matrix: SOLID

Sample Size: 7.53 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 20-Jan-2011 Time: 01:08:22

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_014 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: N/A

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_014 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 19.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.157	0.0664	1.05	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH234  
Sample Collection:  
04-Nov-2010 15:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-12 R

Matrix: SOLID

Sample Size: 7.53 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 04:10:23

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_013A S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg absolute

% Moisture: 19.9

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1410	70.4	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1820	91.2	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1640	82.2	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1590	79.4	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1410	70.5	1.02	1.095
13C-OCDD		4000	2040	51.1	0.88	1.179
13C-2,3,7,8-TCDF		2000	1180	59.0	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1260	63.2	1.52	1.286
13C-2,3,4,7,8-PECDF		2000	1250	62.6	1.51	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1640	82.2	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1640	81.9	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1440	72.0	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1550	77.6	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1330	66.5	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1250	62.3	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	148	74.2		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-12\_Form2\_DX1M\_013AS21\_SJ1248386.html; Workgroup: WG35181; Design ID: 1505 ]

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 7.53 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 15:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-12 R

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_014 S: 10  
DX1M\_013A S: 21

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.87	0.0664	1	1.87e+00	1.87e+00	
1,2,3,7,8-PECDD		0.261	0.0664	1	2.61e-01	2.61e-01	
1,2,3,4,7,8-HXCDD		0.190	0.0664	0.1	1.90e-02	1.90e-02	
1,2,3,6,7,8-HXCDD		0.562	0.0664	0.1	5.62e-02	5.62e-02	
1,2,3,7,8,9-HXCDD		1.36	0.0664	0.1	1.36e-01	1.36e-01	
1,2,3,4,6,7,8-HPCDD		33.1	0.0664	0.01	3.31e-01	3.31e-01	
OCDD		255	0.0664	0.0001	2.55e-02	2.55e-02	
2,3,7,8-TCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
1,2,3,7,8-PECDF	ND		0.0664	0.05	0.00e+00	1.66e-03	
2,3,4,7,8-PECDF	ND		0.0664	0.5	0.00e+00	1.66e-02	
1,2,3,4,7,8-HXCDF		0.0812	0.0664	0.1	8.12e-03	8.12e-03	
1,2,3,6,7,8-HXCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
1,2,3,7,8,9-HXCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
2,3,4,6,7,8-HXCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
1,2,3,4,6,7,8-HPCDF		1.01	0.0664	0.01	1.01e-02	1.01e-02	
1,2,3,4,7,8,9-HPCDF		0.0697	0.0664	0.01	6.97e-04	6.97e-04	
OCDF		2.12	0.0664	0.0001	2.12e-04	2.12e-04	
<b>TOTAL TEQ</b>					<b>2.72</b>	<b>2.75</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.87	0.0664	1	1.87e+00	1.87e+00	
1,2,3,7,8-PECDD		0.261	0.0664	1	2.61e-01	2.61e-01	
1,2,3,4,7,8-HXCDD		0.190	0.0664	0.1	1.90e-02	1.90e-02	
1,2,3,6,7,8-HXCDD		0.562	0.0664	0.1	5.62e-02	5.62e-02	
1,2,3,7,8,9-HXCDD		1.36	0.0664	0.1	1.36e-01	1.36e-01	
1,2,3,4,6,7,8-HPCDD		33.1	0.0664	0.01	3.31e-01	3.31e-01	
OCDD		255	0.0664	0.0003	7.65e-02	7.65e-02	
2,3,7,8-TCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
1,2,3,7,8-PECDF	ND		0.0664	0.03	0.00e+00	9.96e-04	
2,3,4,7,8-PECDF	ND		0.0664	0.3	0.00e+00	9.96e-03	
1,2,3,4,7,8-HXCDF		0.0812	0.0664	0.1	8.12e-03	8.12e-03	
1,2,3,6,7,8-HXCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
1,2,3,7,8,9-HXCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
2,3,4,6,7,8-HXCDF	ND		0.0664	0.1	0.00e+00	3.32e-03	
1,2,3,4,6,7,8-HPCDF		1.01	0.0664	0.01	1.01e-02	1.01e-02	
1,2,3,4,7,8,9-HPCDF		0.0697	0.0664	0.01	6.97e-04	6.97e-04	
OCDF		2.12	0.0664	0.0003	6.36e-04	6.36e-04	
<b>TOTAL TEQ</b>					<b>2.77</b>	<b>2.79</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 27-Jan-2011 13:26:08; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-12\_TEQ\_SJ1249233.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH235  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-13 R (A)

Matrix: SOLID

Sample Size: 6.78 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 05:05:31

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_013A S: 22

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.76	0.0737	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.382	0.0737	0.54	1.001
1,2,3,4,7,8-HXCDD	NDR	0.559	0.0737	1.45	1.000
1,2,3,6,7,8-HXCDD		0.971	0.0737	1.25	1.000
1,2,3,7,8,9-HXCDD		1.25	0.0737	1.36	1.000
1,2,3,4,6,7,8-HPCDD		20.7	0.0822	0.97	1.000
OCDD		247	0.0737	0.87	1.000
2,3,7,8-TCDF		0.677	0.0737	0.65	1.001
1,2,3,7,8-PECDF		0.192	0.0737	1.60	1.001
2,3,4,7,8-PECDF		0.233	0.0737	1.40	1.001
1,2,3,4,7,8-HXCDF		0.384	0.0737	1.31	1.000
1,2,3,6,7,8-HXCDF	NDR	0.212	0.0737	0.88	1.001
1,2,3,7,8,9-HXCDF		0.138	0.0737	1.16	1.001
2,3,4,6,7,8-HXCDF		0.212	0.0737	1.35	1.000
1,2,3,4,6,7,8-HPCDF		2.41	0.0737	0.91	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.189	0.0737	0.73	1.000
OCDF		6.76	0.0737	0.77	1.002
TOTAL TETRA-DIOXINS		4.16	0.0737		
TOTAL PENTA-DIOXINS		1.78	0.0737		
TOTAL HEXA-DIOXINS		10.5	0.0737		
TOTAL HEPTA-DIOXINS		42.7	0.0822		
TOTAL TETRA-FURANS		12.7	0.0737		
TOTAL PENTA-FURANS		2.82	0.0737		
TOTAL HEXA-FURANS		3.20	0.0737		
TOTAL HEPTA-FURANS		5.20	0.0737		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-13\_Form1A\_DX1M\_013AS22\_SJ1248387.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH235  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15773-13 R (A)

Matrix: SOLID

Sample Size: 6.78 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 20-Jan-2011 Time: 01:45:13

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_014 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: N/A

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_014 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.334	0.0737	0.88	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 27-Jan-2011 13:24:58; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-13\_Form1A\_DB13\_014S11\_SJ1249234.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.  
10VNBH235  
Sample Collection:  
04-Nov-2010 16:10**

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15773-13 R (A)

**Matrix:** SOLID

**Sample Size:** 6.78 g (dry)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 04-Jan-2011

**Extraction Date:** 12-Jan-2011

**Instrument ID:** HR GC/MS

**Analysis Date:** 25-Jan-2011 **Time:** 05:05:31

**GC Column ID:** DB5

**Extract Volume (uL):** 20

**Sample Data Filename:** DX1M\_013A S: 22

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX1M\_013A S: 7

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX1M\_013A S: 12

**Concentration Units:** pg absolute

**% Moisture:** 13.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1510	75.3	0.75	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	2130	106	0.60	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1610	80.7	1.25	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1630	81.5	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1270	63.5	1.00	1.094
13C-OCDD		4000	1890	47.4	0.88	1.179
13C-2,3,7,8-TCDF		2000	1320	66.2	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1340	66.8	1.51	1.286
13C-2,3,4,7,8-PECDF		2000	1300	65.1	1.51	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1630	81.3	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1590	79.5	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1460	73.0	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1540	76.9	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1300	64.9	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1150	57.5	0.44	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		200	143	71.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-13\_Form2\_DX1M\_013AS22\_SJ1248387.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 6.78 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 16:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-13 R (A)

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_014 S: 11  
DX1M\_013A S: 22

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.76	0.0737	1	2.76e+00	2.76e+00	
1,2,3,7,8-PECDD		0.382	0.0737	1	3.82e-01	3.82e-01	
1,2,3,4,7,8-HXCDD	ND		0.0737	0.1	0.00e+00	3.69e-03	
1,2,3,6,7,8-HXCDD		0.971	0.0737	0.1	9.71e-02	9.71e-02	
1,2,3,7,8,9-HXCDD		1.25	0.0737	0.1	1.25e-01	1.25e-01	
1,2,3,4,6,7,8-HPCDD		20.7	0.0822	0.01	2.07e-01	2.07e-01	
OCDD		247	0.0737	0.0001	2.47e-02	2.47e-02	
2,3,7,8-TCDF		0.334	0.0737	0.1	3.34e-02	3.34e-02	
1,2,3,7,8-PECDF		0.192	0.0737	0.05	9.60e-03	9.60e-03	
2,3,4,7,8-PECDF		0.233	0.0737	0.5	1.17e-01	1.17e-01	
1,2,3,4,7,8-HXCDF		0.384	0.0737	0.1	3.84e-02	3.84e-02	
1,2,3,6,7,8-HXCDF	ND		0.0737	0.1	0.00e+00	3.69e-03	
1,2,3,7,8,9-HXCDF		0.138	0.0737	0.1	1.38e-02	1.38e-02	
2,3,4,6,7,8-HXCDF		0.212	0.0737	0.1	2.12e-02	2.12e-02	
1,2,3,4,6,7,8-HPCDF		2.41	0.0737	0.01	2.41e-02	2.41e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0737	0.01	0.00e+00	3.69e-04	
OCDF		6.76	0.0737	0.0001	6.76e-04	6.76e-04	
<b>TOTAL TEQ</b>					<b>3.85</b>	<b>3.86</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.76	0.0737	1	2.76e+00	2.76e+00	
1,2,3,7,8-PECDD		0.382	0.0737	1	3.82e-01	3.82e-01	
1,2,3,4,7,8-HXCDD	ND		0.0737	0.1	0.00e+00	3.69e-03	
1,2,3,6,7,8-HXCDD		0.971	0.0737	0.1	9.71e-02	9.71e-02	
1,2,3,7,8,9-HXCDD		1.25	0.0737	0.1	1.25e-01	1.25e-01	
1,2,3,4,6,7,8-HPCDD		20.7	0.0822	0.01	2.07e-01	2.07e-01	
OCDD		247	0.0737	0.0003	7.41e-02	7.41e-02	
2,3,7,8-TCDF		0.334	0.0737	0.1	3.34e-02	3.34e-02	
1,2,3,7,8-PECDF		0.192	0.0737	0.03	5.76e-03	5.76e-03	
2,3,4,7,8-PECDF		0.233	0.0737	0.3	6.99e-02	6.99e-02	
1,2,3,4,7,8-HXCDF		0.384	0.0737	0.1	3.84e-02	3.84e-02	
1,2,3,6,7,8-HXCDF	ND		0.0737	0.1	0.00e+00	3.69e-03	
1,2,3,7,8,9-HXCDF		0.138	0.0737	0.1	1.38e-02	1.38e-02	
2,3,4,6,7,8-HXCDF		0.212	0.0737	0.1	2.12e-02	2.12e-02	
1,2,3,4,6,7,8-HPCDF		2.41	0.0737	0.01	2.41e-02	2.41e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0737	0.01	0.00e+00	3.69e-04	
OCDF		6.76	0.0737	0.0003	2.03e-03	2.03e-03	
<b>TOTAL TEQ</b>					<b>3.85</b>	<b>3.86</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH235 (Duplicate)  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: WG35181-103 (DUP L15773-13)

Matrix: SOLID

Sample Size: 5.73 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 06:00:45

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_013A S: 23

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.98	0.0873	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.425	0.0873	0.56	1.002
1,2,3,4,7,8-HXCDD		0.471	0.0873	1.18	1.000
1,2,3,6,7,8-HXCDD		1.10	0.0873	1.21	1.000
1,2,3,7,8,9-HXCDD		1.45	0.0873	1.31	1.000
1,2,3,4,6,7,8-HPCDD		20.1	0.0873	0.98	1.000
OCDD		261	0.115	0.87	1.000
2,3,7,8-TCDF		0.827	0.0873	0.78	1.002
1,2,3,7,8-PECDF		0.186	0.0873	1.47	1.001
2,3,4,7,8-PECDF		0.267	0.0873	1.60	1.001
1,2,3,4,7,8-HXCDF		0.339	0.0873	1.22	1.000
1,2,3,6,7,8-HXCDF		0.315	0.0873	1.31	1.001
1,2,3,7,8,9-HXCDF	ND		0.0873		
2,3,4,6,7,8-HPCDF	NDR	0.355	0.0873	0.94	1.000
1,2,3,4,6,7,8-HPCDF		2.81	0.0873	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.234	0.0873	1.17	1.000
OCDF		7.58	0.0873	0.88	1.002
TOTAL TETRA-DIOXINS		4.61	0.0873		
TOTAL PENTA-DIOXINS		2.18	0.0873		
TOTAL HEXA-DIOXINS		12.1	0.0873		
TOTAL HEPTA-DIOXINS		40.6	0.0873		
TOTAL TETRA-FURANS		14.2	0.0873		
TOTAL PENTA-FURANS		3.75	0.0873		
TOTAL HEXA-FURANS		2.37	0.0873		
TOTAL HEPTA-FURANS		5.98	0.0873		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH235 (Duplicate)  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG35181-103 (DUP L15773-13)

Matrix: SOLID

Sample Size: 5.73 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 20-Jan-2011 Time: 02:22:06

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_014 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: N/A

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_014 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.352	0.0873	0.75	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH235 (Duplicate)  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG35181-103 (DUP L15773-13)

Matrix: SOLID

Sample Size: 5.73 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 12-Jan-2011

Instrument ID: HR GC/MS

Analysis Date: 25-Jan-2011 Time: 06:00:45

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_013A S: 23

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_013A S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_013A S: 12

Concentration Units: pg absolute

% Moisture: 18.0

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1230	61.6	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1720	86.1	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1330	66.3	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1310	65.7	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1110	55.6	1.04	1.095
13C-OCDD		4000	1640	40.9	0.88	1.179
13C-2,3,7,8-TCDF		2000	1060	52.8	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1080	54.1	1.47	1.286
13C-2,3,4,7,8-PECDF		2000	1090	54.4	1.55	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1320	66.0	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1330	66.3	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1160	58.0	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1230	61.7	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1100	54.8	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1000	50.1	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	123	61.6		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 27-Jan-2011 13:24:19; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG35181-103\_Form2\_DX1M\_013AS23\_SJ1248388.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.73 g (dry)  
Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 16:10  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: WG35181-103 (DUP L15773-13)  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_014 S: 12  
DX1M\_013A S: 23

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.98	0.0873	1	2.98e+00	2.98e+00	
1,2,3,7,8-PECDD		0.425	0.0873	1	4.25e-01	4.25e-01	
1,2,3,4,7,8-HXCDD		0.471	0.0873	0.1	4.71e-02	4.71e-02	
1,2,3,6,7,8-HXCDD		1.10	0.0873	0.1	1.10e-01	1.10e-01	
1,2,3,7,8,9-HXCDD		1.45	0.0873	0.1	1.45e-01	1.45e-01	
1,2,3,4,6,7,8-HPCDD		20.1	0.0873	0.01	2.01e-01	2.01e-01	
OCDD		261	0.115	0.0001	2.61e-02	2.61e-02	
2,3,7,8-TCDF		0.352	0.0873	0.1	3.52e-02	3.52e-02	
1,2,3,7,8-PECDF		0.186	0.0873	0.05	9.30e-03	9.30e-03	
2,3,4,7,8-PECDF		0.267	0.0873	0.5	1.34e-01	1.34e-01	
1,2,3,4,7,8-HXCDF		0.339	0.0873	0.1	3.39e-02	3.39e-02	
1,2,3,6,7,8-HXCDF		0.315	0.0873	0.1	3.15e-02	3.15e-02	
1,2,3,7,8,9-HXCDF	ND		0.0873	0.1	0.00e+00	4.37e-03	
2,3,4,6,7,8-HXCDF	ND		0.0873	0.1	0.00e+00	4.37e-03	
1,2,3,4,6,7,8-HPCDF		2.81	0.0873	0.01	2.81e-02	2.81e-02	
1,2,3,4,7,8,9-HPCDF		0.234	0.0873	0.01	2.34e-03	2.34e-03	
OCDF		7.58	0.0873	0.0001	7.58e-04	7.58e-04	
<b>TOTAL TEQ</b>					<b>4.21</b>	<b>4.22</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.98	0.0873	1	2.98e+00	2.98e+00	
1,2,3,7,8-PECDD		0.425	0.0873	1	4.25e-01	4.25e-01	
1,2,3,4,7,8-HXCDD		0.471	0.0873	0.1	4.71e-02	4.71e-02	
1,2,3,6,7,8-HXCDD		1.10	0.0873	0.1	1.10e-01	1.10e-01	
1,2,3,7,8,9-HXCDD		1.45	0.0873	0.1	1.45e-01	1.45e-01	
1,2,3,4,6,7,8-HPCDD		20.1	0.0873	0.01	2.01e-01	2.01e-01	
OCDD		261	0.115	0.0003	7.83e-02	7.83e-02	
2,3,7,8-TCDF		0.352	0.0873	0.1	3.52e-02	3.52e-02	
1,2,3,7,8-PECDF		0.186	0.0873	0.03	5.58e-03	5.58e-03	
2,3,4,7,8-PECDF		0.267	0.0873	0.3	8.01e-02	8.01e-02	
1,2,3,4,7,8-HXCDF		0.339	0.0873	0.1	3.39e-02	3.39e-02	
1,2,3,6,7,8-HXCDF		0.315	0.0873	0.1	3.15e-02	3.15e-02	
1,2,3,7,8,9-HXCDF	ND		0.0873	0.1	0.00e+00	4.37e-03	
2,3,4,6,7,8-HXCDF	ND		0.0873	0.1	0.00e+00	4.37e-03	
1,2,3,4,6,7,8-HPCDF		2.81	0.0873	0.01	2.81e-02	2.81e-02	
1,2,3,4,7,8,9-HPCDF		0.234	0.0873	0.01	2.34e-03	2.34e-03	
OCDF		7.58	0.0873	0.0003	2.27e-03	2.27e-03	
<b>TOTAL TEQ</b>					<b>4.21</b>	<b>4.21</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 27-Jan-2011 13:26:08; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_WG35181-103\_TEQ\_SJ1249235.html; Workgroup: WG35181; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH236  
Sample Collection:  
04-Nov-2010 16:25

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-14 i

Matrix: SOLID

Sample Size: 5.54 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 03:06:49

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		336	7.53	0.71	1.002
1,2,3,7,8-PECDD <sup>3</sup>	NDR	14.3	6.23	0.71	1.000
1,2,3,4,7,8-HXCDD	ND		4.91		
1,2,3,6,7,8-HXCDD	ND		4.91		
1,2,3,7,8,9-HXCDD	NDR	11.2	4.91	2.64	1.000
1,2,3,4,6,7,8-HPCDD	NDR	68.5	5.16	0.87	1.000
OCDD		544	4.12	0.86	1.000
2,3,7,8-TCDF		26.1	6.46	0.88	1.002
1,2,3,7,8-PECDF	ND		8.29		
2,3,4,7,8-PECDF	ND		8.29		
1,2,3,4,7,8-HXCDF	ND		4.43		
1,2,3,6,7,8-HXCDF	ND		4.43		
1,2,3,7,8,9-HXCDF	ND		4.43		
2,3,4,6,7,8-HXCDF	ND		4.43		
1,2,3,4,6,7,8-HPCDF	NDR	11.9	3.75	1.38	1.000
1,2,3,4,7,8,9-HPCDF	ND		3.75		
OCDF	NDR	27.9	4.50	0.72	1.002
TOTAL TETRA-DIOXINS		349	7.53		
TOTAL PENTA-DIOXINS		78.8	6.23		
TOTAL HEXA-DIOXINS	ND		4.91		
TOTAL HEPTA-DIOXINS	ND		5.16		
TOTAL TETRA-FURANS		121	6.46		
TOTAL PENTA-FURANS		132	8.29		
TOTAL HEXA-FURANS		7.96	4.43		
TOTAL HEPTA-FURANS		12.2	3.75		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-14\_Form1A\_DX1M\_007BS20\_SJ1244705.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH236  
Sample Collection:  
04-Nov-2010 16:25

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 14-Dec-2010  
  
Analysis Date: 03-Jan-2011 Time: 17:28:12  
  
Extract Volume (uL): 100  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-14  
  
Sample Size: 5.54 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB13\_001 S: 14  
  
Blank Data Filename: DX1M\_007B S: 19  
  
Cal. Ver. Data Filename: DB13\_001 S: 1  
  
% Moisture: 22.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		32.7	9.44	0.69	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-14\_Form1A\_DB13\_001S14\_SJ1245297.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH236  
Sample Collection:  
04-Nov-2010 16:25

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-14 i

Matrix: SOLID

Sample Size: 5.54 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 03:06:49

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg absolute

% Moisture: 22.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	6350	63.5	0.71	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	7550	75.5	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		10000	8600	86.0	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8740	87.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7310	73.1	1.06	1.094
13C-OCDD		20000	10800	53.8	0.86	1.178
13C-2,3,7,8-TCDF		10000	7110	71.1	0.77	0.966
13C-1,2,3,7,8-PECDF		10000	7240	72.4	1.41	1.285
13C-2,3,4,7,8-PECDF		10000	7490	74.9	1.70	1.353
13C-1,2,3,4,7,8-HXCDF		10000	8910	89.1	0.52	0.955
13C-1,2,3,6,7,8-HXCDF		10000	9070	90.7	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7840	78.4	0.56	1.005
13C-2,3,4,6,7,8-HXCDF		10000	10400	104	0.46	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	7840	78.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7480	74.8	0.49	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	72.3	72.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-14\_Form2\_DX1M\_007BS20\_SJ1244705.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH236

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 16:25  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-14  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_001 S: 14  
DX1M\_007B S: 20

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.54 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		336	7.53	1	3.36e+02	3.36e+02	
1,2,3,7,8-PECDD	ND		6.23	1	0.00e+00	3.12e+00	
1,2,3,4,7,8-HXCDD	ND		4.91	0.1	0.00e+00	2.46e-01	
1,2,3,6,7,8-HXCDD	ND		4.91	0.1	0.00e+00	2.46e-01	
1,2,3,7,8,9-HXCDD	ND		4.91	0.1	0.00e+00	2.46e-01	
1,2,3,4,6,7,8-HPCDD	ND		5.16	0.01	0.00e+00	2.58e-02	
OCDD		544	4.12	0.0001	5.44e-02	5.44e-02	
2,3,7,8-TCDF		32.7	9.44	0.1	3.27e+00	3.27e+00	
1,2,3,7,8-PECDF	ND		8.29	0.05	0.00e+00	2.07e-01	
2,3,4,7,8-PECDF	ND		8.29	0.5	0.00e+00	2.07e+00	
1,2,3,4,7,8-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
1,2,3,6,7,8-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
1,2,3,7,8,9-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
2,3,4,6,7,8-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.75	0.01	0.00e+00	1.88e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.75	0.01	0.00e+00	1.88e-02	
OCDF	ND		4.50	0.0001	0.00e+00	2.25e-04	
<b>TOTAL TEQ</b>					<b>339</b>	<b>346</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		336	7.53	1	3.36e+02	3.36e+02	
1,2,3,7,8-PECDD	ND		6.23	1	0.00e+00	3.12e+00	
1,2,3,4,7,8-HXCDD	ND		4.91	0.1	0.00e+00	2.46e-01	
1,2,3,6,7,8-HXCDD	ND		4.91	0.1	0.00e+00	2.46e-01	
1,2,3,7,8,9-HXCDD	ND		4.91	0.1	0.00e+00	2.46e-01	
1,2,3,4,6,7,8-HPCDD	ND		5.16	0.01	0.00e+00	2.58e-02	
OCDD		544	4.12	0.0003	1.63e-01	1.63e-01	
2,3,7,8-TCDF		32.7	9.44	0.1	3.27e+00	3.27e+00	
1,2,3,7,8-PECDF	ND		8.29	0.03	0.00e+00	1.24e-01	
2,3,4,7,8-PECDF	ND		8.29	0.3	0.00e+00	1.24e+00	
1,2,3,4,7,8-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
1,2,3,6,7,8-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
1,2,3,7,8,9-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
2,3,4,6,7,8-HXCDF	ND		4.43	0.1	0.00e+00	2.22e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.75	0.01	0.00e+00	1.88e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.75	0.01	0.00e+00	1.88e-02	
OCDF	ND		4.50	0.0003	0.00e+00	6.75e-04	
<b>TOTAL TEQ</b>					339	346	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-14\_TEQ\_SJ1245297.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-2  
Sample Collection:  
04-Nov-2010 17:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-15 i

Matrix: SOLID

Sample Size: 5.22 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 04:02:01

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.8

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		61400	13.2	0.76	1.002
1,2,3,7,8-PECDD <sup>3</sup>		252	17.2	0.58	1.002
1,2,3,4,7,8-HXCDD	NDR	21.8	7.57	1.69	1.000
1,2,3,6,7,8-HXCDD		176	7.57	1.21	1.000
1,2,3,7,8,9-HXCDD		92.0	7.57	1.15	1.000
1,2,3,4,6,7,8-HPCDD		557	4.31	0.91	1.000
OCDD		1910	7.85	0.91	1.000
2,3,7,8-TCDF		1530	5.03	0.74	1.001
1,2,3,7,8-PECDF	NDR	22.7	11.4	1.27	1.002
2,3,4,7,8-PECDF	NDR	21.6	11.4	1.24	1.001
1,2,3,4,7,8-HXCDF	NDR	18.0	5.30	0.97	1.000
1,2,3,6,7,8-HXCDF		7.88	5.30	1.29	1.001
1,2,3,7,8,9-HXCDF	ND		5.30		
2,3,4,6,7,8-HXCDF		6.46	5.30	1.20	1.000
1,2,3,4,6,7,8-HPCDF		77.5	4.79	1.10	1.000
1,2,3,4,7,8,9-HPCDF	ND		4.79		
OCDF		53.7	4.00	0.86	1.002
TOTAL TETRA-DIOXINS		64800	13.2		
TOTAL PENTA-DIOXINS		1730	17.2		
TOTAL HEXA-DIOXINS		1840	7.57		
TOTAL HEPTA-DIOXINS		1030	4.31		
TOTAL TETRA-FURANS		8300	5.03		
TOTAL PENTA-FURANS		6000	11.4		
TOTAL HEXA-FURANS		962	5.30		
TOTAL HEPTA-FURANS		157	4.79		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-15\_Form1A\_DX1M\_007BS21\_SJ1244706.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-2  
Sample Collection:  
04-Nov-2010 17:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-15

Matrix: SOLID

Sample Size: 5.22 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 03-Jan-2011 Time: 18:05:02

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB13\_001 S: 15

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_001 S: 1

Concentration Units: pg/g (dry weight basis)

% Moisture: 13.8

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		798	56.5	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-15\_Form1A\_DB13\_001S15\_SJ1245298.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-2  
Sample Collection:  
04-Nov-2010 17:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-15 i

Matrix: SOLID

Sample Size: 5.22 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 04:02:01

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg absolute

% Moisture: 13.8

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	8430	84.3	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	7890	78.9	0.64	1.383
13C-1,2,3,4,7,8-HXCDD		10000	8710	87.1	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9120	91.2	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7820	78.2	1.08	1.094
13C-OCDD		20000	12500	62.3	0.86	1.178
13C-2,3,7,8-TCDF		10000	8280	82.8	0.73	0.967
13C-1,2,3,7,8-PECDF		10000	8420	84.2	1.55	1.286
13C-2,3,4,7,8-PECDF		10000	7960	79.6	1.48	1.354
13C-1,2,3,4,7,8-HXCDF		10000	10200	102	0.47	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10700	107	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8710	87.1	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9560	95.6	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8750	87.5	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		10000	8000	80.0	0.38	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	190	190		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-15\_Form2\_DX1M\_007BS21\_SJ1244706.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.22 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 17:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-15

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_001 S: 15  
DX1M\_007B S: 21

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		61400	13.2	1	6.14e+04	6.14e+04	
1,2,3,7,8-PECDD		252	17.2	1	2.52e+02	2.52e+02	
1,2,3,4,7,8-HXCDD	ND		7.57	0.1	0.00e+00	3.79e-01	
1,2,3,6,7,8-HXCDD		176	7.57	0.1	1.76e+01	1.76e+01	
1,2,3,7,8,9-HXCDD		92.0	7.57	0.1	9.20e+00	9.20e+00	
1,2,3,4,6,7,8-HPCDD		557	4.31	0.01	5.57e+00	5.57e+00	
OCDD		1910	7.85	0.0001	1.91e-01	1.91e-01	
2,3,7,8-TCDF		798	56.5	0.1	7.98e+01	7.98e+01	
1,2,3,7,8-PECDF	ND		11.4	0.05	0.00e+00	2.85e-01	
2,3,4,7,8-PECDF	ND		11.4	0.5	0.00e+00	2.85e+00	
1,2,3,4,7,8-HXCDF	ND		5.30	0.1	0.00e+00	2.65e-01	
1,2,3,6,7,8-HXCDF		7.88	5.30	0.1	7.88e-01	7.88e-01	
1,2,3,7,8,9-HXCDF	ND		5.30	0.1	0.00e+00	2.65e-01	
2,3,4,6,7,8-HXCDF		6.46	5.30	0.1	6.46e-01	6.46e-01	
1,2,3,4,6,7,8-HPCDF		77.5	4.79	0.01	7.75e-01	7.75e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.79	0.01	0.00e+00	2.40e-02	
OCDF		53.7	4.00	0.0001	5.37e-03	5.37e-03	
<b>TOTAL TEQ</b>					61800	61800	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		61400	13.2	1	6.14e+04	6.14e+04	
1,2,3,7,8-PECDD		252	17.2	1	2.52e+02	2.52e+02	
1,2,3,4,7,8-HXCDD	ND		7.57	0.1	0.00e+00	3.79e-01	
1,2,3,6,7,8-HXCDD		176	7.57	0.1	1.76e+01	1.76e+01	
1,2,3,7,8,9-HXCDD		92.0	7.57	0.1	9.20e+00	9.20e+00	
1,2,3,4,6,7,8-HPCDD		557	4.31	0.01	5.57e+00	5.57e+00	
OCDD		1910	7.85	0.0003	5.73e-01	5.73e-01	
2,3,7,8-TCDF		798	56.5	0.1	7.98e+01	7.98e+01	
1,2,3,7,8-PECDF	ND		11.4	0.03	0.00e+00	1.71e-01	
2,3,4,7,8-PECDF	ND		11.4	0.3	0.00e+00	1.71e+00	
1,2,3,4,7,8-HXCDF	ND		5.30	0.1	0.00e+00	2.65e-01	
1,2,3,6,7,8-HXCDF		7.88	5.30	0.1	7.88e-01	7.88e-01	
1,2,3,7,8,9-HXCDF	ND		5.30	0.1	0.00e+00	2.65e-01	
2,3,4,6,7,8-HXCDF		6.46	5.30	0.1	6.46e-01	6.46e-01	
1,2,3,4,6,7,8-HPCDF		77.5	4.79	0.01	7.75e-01	7.75e-01	
1,2,3,4,7,8,9-HPCDF	ND		4.79	0.01	0.00e+00	2.40e-02	
OCDF		53.7	4.00	0.0003	1.61e-02	1.61e-02	
<b>TOTAL TEQ</b>					61800	61800	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-15\_TEQ\_SJ1245298.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-4  
Sample Collection:  
05-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-16 i3

Matrix: SOLID

Sample Size: 5.33 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Jan-2011 Time: 15:17:47

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_011C S: 8

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_011C S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		30.9	2.81	0.70	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		3.03		
1,2,3,4,7,8-HXCDD	ND		2.32		
1,2,3,6,7,8-HXCDD	ND		2.32		
1,2,3,7,8,9-HXCDD	ND		2.32		
1,2,3,4,6,7,8-HPCDD	ND		2.30		
OCDD	NDR	23.4	2.66	0.65	1.001
2,3,7,8-TCDF	ND		2.59		
1,2,3,7,8-PECDF	ND		2.88		
2,3,4,7,8-PECDF	ND		2.88		
1,2,3,4,7,8-HXCDF	ND		3.78		
1,2,3,6,7,8-HXCDF	ND		3.78		
1,2,3,7,8,9-HXCDF	ND		3.78		
2,3,4,6,7,8-HXCDF	ND		3.78		
1,2,3,4,6,7,8-HPCDF	ND		3.31		
1,2,3,4,7,8,9-HPCDF	ND		3.31		
OCDF	ND		4.26		
TOTAL TETRA-DIOXINS		30.9	2.81		
TOTAL PENTA-DIOXINS	ND		3.03		
TOTAL HEXA-DIOXINS	ND		2.32		
TOTAL HEPTA-DIOXINS	ND		2.30		
TOTAL TETRA-FURANS		2.82	2.59		
TOTAL PENTA-FURANS	ND		2.88		
TOTAL HEXA-FURANS	ND		3.78		
TOTAL HEPTA-FURANS	ND		3.31		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-16\_Form1A\_DX1M\_011CS8\_SJ1246537.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-4  
Sample Collection:  
05-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-16 i3

Matrix: SOLID

Sample Size: 5.33 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Jan-2011 Time: 15:17:47

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_011C S: 8

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_011C S: 2

Concentration Units: pg absolute

% Moisture: 16.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7380	73.8	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8040	80.4	0.60	1.384
13C-1,2,3,4,7,8-HXCDD		10000	9180	91.8	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8860	88.6	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7830	78.3	1.00	1.094
13C-OCDD		20000	11800	58.8	0.91	1.179
13C-2,3,7,8-TCDF		10000	5810	58.1	0.78	0.967
13C-1,2,3,7,8-PECDF		10000	6690	66.9	1.46	1.285
13C-2,3,4,7,8-PECDF		10000	6840	68.4	1.58	1.354
13C-1,2,3,4,7,8-HXCDF		10000	8250	82.5	0.45	0.954
13C-1,2,3,6,7,8-HXCDF		10000	8460	84.6	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7430	74.3	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8050	80.5	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	7500	75.0	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6340	63.4	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	61.6	61.6		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-16\_Form2\_DX1M\_011CS8\_SJ1246537.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 12:00  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-16 i3  
GC Column ID: DB5  
Sample Data Filename: DX1M\_011C S: 8

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.33 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		30.9	2.81	1	3.09e+01	3.09e+01	
1,2,3,7,8-PECDD	ND		3.03	1	0.00e+00	1.52e+00	
1,2,3,4,7,8-HXCDD	ND		2.32	0.1	0.00e+00	1.16e-01	
1,2,3,6,7,8-HXCDD	ND		2.32	0.1	0.00e+00	1.16e-01	
1,2,3,7,8,9-HXCDD	ND		2.32	0.1	0.00e+00	1.16e-01	
1,2,3,4,6,7,8-HPCDD	ND		2.30	0.01	0.00e+00	1.15e-02	
OCDD	ND		2.66	0.0001	0.00e+00	1.33e-04	
2,3,7,8-TCDF	ND		2.59	0.1	0.00e+00	1.30e-01	
1,2,3,7,8-PECDF	ND		2.88	0.05	0.00e+00	7.20e-02	
2,3,4,7,8-PECDF	ND		2.88	0.5	0.00e+00	7.20e-01	
1,2,3,4,7,8-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
1,2,3,6,7,8-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
1,2,3,7,8,9-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
2,3,4,6,7,8-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.31	0.01	0.00e+00	1.66e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.31	0.01	0.00e+00	1.66e-02	
OCDF	ND		4.26	0.0001	0.00e+00	2.13e-04	
<b>TOTAL TEQ</b>					30.9	34.5	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		30.9	2.81	1	3.09e+01	3.09e+01	
1,2,3,7,8-PECDD	ND		3.03	1	0.00e+00	1.52e+00	
1,2,3,4,7,8-HXCDD	ND		2.32	0.1	0.00e+00	1.16e-01	
1,2,3,6,7,8-HXCDD	ND		2.32	0.1	0.00e+00	1.16e-01	
1,2,3,7,8,9-HXCDD	ND		2.32	0.1	0.00e+00	1.16e-01	
1,2,3,4,6,7,8-HPCDD	ND		2.30	0.01	0.00e+00	1.15e-02	
OCDD	ND		2.66	0.0003	0.00e+00	3.99e-04	
2,3,7,8-TCDF	ND		2.59	0.1	0.00e+00	1.30e-01	
1,2,3,7,8-PECDF	ND		2.88	0.03	0.00e+00	4.32e-02	
2,3,4,7,8-PECDF	ND		2.88	0.3	0.00e+00	4.32e-01	
1,2,3,4,7,8-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
1,2,3,6,7,8-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
1,2,3,7,8,9-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
2,3,4,6,7,8-HXCDF	ND		3.78	0.1	0.00e+00	1.89e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.31	0.01	0.00e+00	1.66e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.31	0.01	0.00e+00	1.66e-02	
OCDF	ND		4.26	0.0003	0.00e+00	6.39e-04	
<b>TOTAL TEQ</b>					<b>30.9</b>	<b>34.2</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-16\_TEQ\_SJ1246537.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-6  
Sample Collection:  
05-Nov-2010 12:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-17 i

Matrix: SOLID

Sample Size: 5.58 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 05:52:29

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 23

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.0

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		48.6	4.96	0.83	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		4.13		
1,2,3,4,7,8-HXCDD	ND		4.18		
1,2,3,6,7,8-HXCDD	ND		4.18		
1,2,3,7,8,9-HXCDD	ND		4.18		
1,2,3,4,6,7,8-HPCDD	NDR	3.13	2.86	4.34	1.000
OCDD	NDR	22.1	4.87	1.08	1.000
2,3,7,8-TCDF	ND		3.16		
1,2,3,7,8-PECDF	ND		3.69		
2,3,4,7,8-PECDF	ND		3.69		
1,2,3,4,7,8-HXCDF	ND		4.14		
1,2,3,6,7,8-HXCDF	ND		4.14		
1,2,3,7,8,9-HXCDF	ND		4.14		
2,3,4,6,7,8-HXCDF	ND		4.14		
1,2,3,4,6,7,8-HPCDF	ND		2.91		
1,2,3,4,7,8,9-HPCDF	ND		2.91		
OCDF	NDR	5.67	3.80	1.58	1.002
TOTAL TETRA-DIOXINS		48.6	4.96		
TOTAL PENTA-DIOXINS	ND		4.13		
TOTAL HEXA-DIOXINS	ND		4.18		
TOTAL HEPTA-DIOXINS	ND		2.86		
TOTAL TETRA-FURANS	ND		3.16		
TOTAL PENTA-FURANS	ND		3.69		
TOTAL HEXA-FURANS	ND		4.14		
TOTAL HEPTA-FURANS	ND		2.91		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-17\_Form1A\_DX1M\_007BS23\_SJ1244708.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH237-6  
Sample Collection:  
05-Nov-2010 12:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-17 i

Matrix: SOLID

Sample Size: 5.58 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 05:52:29

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 23

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg absolute

% Moisture: 15.0

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	6360	63.6	0.84	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	6890	68.9	0.60	1.383
13C-1,2,3,4,7,8-HXCDD		10000	8180	81.8	1.19	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8170	81.7	1.12	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7610	76.1	0.95	1.094
13C-OCDD		20000	11400	57.1	0.87	1.177
13C-2,3,7,8-TCDF		10000	6610	66.1	0.76	0.967
13C-1,2,3,7,8-PECDF		10000	6610	66.1	1.54	1.285
13C-2,3,4,7,8-PECDF		10000	6690	66.9	1.48	1.354
13C-1,2,3,4,7,8-HXCDF		10000	9610	96.1	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		10000	10100	101	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8110	81.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8730	87.3	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8400	84.0	0.45	1.061
13C-1,2,3,4,7,8,9-HPCDF		10000	7080	70.8	0.40	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	70.9	70.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-17\_Form2\_DX1M\_007BS23\_SJ1244708.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 12:05  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15773-17 i  
GC Column ID: DB5  
Sample Data Filename: DX1M\_007B S: 23

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.58 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		48.6	4.96	1	4.86e+01	4.86e+01	
1,2,3,7,8-PECDD	ND		4.13	1	0.00e+00	2.07e+00	
1,2,3,4,7,8-HXCDD	ND		4.18	0.1	0.00e+00	2.09e-01	
1,2,3,6,7,8-HXCDD	ND		4.18	0.1	0.00e+00	2.09e-01	
1,2,3,7,8,9-HXCDD	ND		4.18	0.1	0.00e+00	2.09e-01	
1,2,3,4,6,7,8-HPCDD	ND		2.86	0.01	0.00e+00	1.43e-02	
OCDD	ND		4.87	0.0001	0.00e+00	2.44e-04	
2,3,7,8-TCDF	ND		3.16	0.1	0.00e+00	1.58e-01	
1,2,3,7,8-PECDF	ND		3.69	0.05	0.00e+00	9.23e-02	
2,3,4,7,8-PECDF	ND		3.69	0.5	0.00e+00	9.23e-01	
1,2,3,4,7,8-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
1,2,3,6,7,8-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
1,2,3,7,8,9-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
2,3,4,6,7,8-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
1,2,3,4,6,7,8-HPCDF	ND		2.91	0.01	0.00e+00	1.46e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.91	0.01	0.00e+00	1.46e-02	
OCDF	ND		3.80	0.0001	0.00e+00	1.90e-04	
<b>TOTAL TEQ</b>					48.6	53.3	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		48.6	4.96	1	4.86e+01	4.86e+01	
1,2,3,7,8-PECDD	ND		4.13	1	0.00e+00	2.07e+00	
1,2,3,4,7,8-HXCDD	ND		4.18	0.1	0.00e+00	2.09e-01	
1,2,3,6,7,8-HXCDD	ND		4.18	0.1	0.00e+00	2.09e-01	
1,2,3,7,8,9-HXCDD	ND		4.18	0.1	0.00e+00	2.09e-01	
1,2,3,4,6,7,8-HPCDD	ND		2.86	0.01	0.00e+00	1.43e-02	
OCDD	ND		4.87	0.0003	0.00e+00	7.31e-04	
2,3,7,8-TCDF	ND		3.16	0.1	0.00e+00	1.58e-01	
1,2,3,7,8-PECDF	ND		3.69	0.03	0.00e+00	5.54e-02	
2,3,4,7,8-PECDF	ND		3.69	0.3	0.00e+00	5.54e-01	
1,2,3,4,7,8-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
1,2,3,6,7,8-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
1,2,3,7,8,9-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
2,3,4,6,7,8-HXCDF	ND		4.14	0.1	0.00e+00	2.07e-01	
1,2,3,4,6,7,8-HPCDF	ND		2.91	0.01	0.00e+00	1.46e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.91	0.01	0.00e+00	1.46e-02	
OCDF	ND		3.80	0.0003	0.00e+00	5.70e-04	
<b>TOTAL TEQ</b>					48.6	52.9	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-17\_TEQ\_SJ1244708.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH238  
Sample Collection:  
05-Nov-2010 10:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15773-18 i
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	10.8 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	03-Feb-2011 Time: 04:17:33	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	<b>DX1M_019 S: 8</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_019 S: 1
		<b>% Moisture:</b>	15.1

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		0.264	0.0536 (S)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	0.216	0.106 (S)	0.34	1.001
1,2,3,4,7,8-HXCDD	NDR	0.363	0.0833 (S)	0.96	1.000
1,2,3,6,7,8-HXCDD		0.791	0.0833 (S)	1.15	1.000
1,2,3,7,8,9-HXCDD	NDR	1.18	0.0833 (S)	1.73	1.000
1,2,3,4,6,7,8-HPCDD		11.7	0.0594 (S)	1.07	1.000
OCDD		172	0.0616 (S)	0.86	1.000
2,3,7,8-TCDF		1.15	0.0491 (S)	0.66	1.002
1,2,3,7,8-PECDF	NDR	0.301	0.0981 (S)	0.94	1.002
2,3,4,7,8-PECDF		0.359	0.0981 (S)	1.49	1.001
1,2,3,4,7,8-HXCDF	NDR	0.483	0.0994 (S)	1.51	1.000
1,2,3,6,7,8-HXCDF		0.512	0.0994 (S)	1.14	1.000
1,2,3,7,8,9-HXCDF	ND		0.0994 (S)		
2,3,4,6,7,8-HXCDF		0.454	0.0994 (S)	1.39	1.000
1,2,3,4,6,7,8-HPCDF		2.66	0.0620 (S)	1.04	1.000
1,2,3,4,7,8,9-HPCDF		0.270	0.0620 (S)	0.93	1.001
OCDF		4.14	0.0464 (Q)	0.78	1.002
TOTAL TETRA-DIOXINS		0.536	0.0536 (S)		
TOTAL PENTA-DIOXINS		0.343	0.106 (S)		
TOTAL HEXA-DIOXINS		6.12	0.0833 (S)		
TOTAL HEPTA-DIOXINS		25.0	0.0594 (S)		
TOTAL TETRA-FURANS		4.63	0.0491 (S)		
TOTAL PENTA-FURANS		2.58	0.0981 (S)		
TOTAL HEXA-FURANS		2.98	0.0994 (S)		
TOTAL HEPTA-FURANS		4.36	0.0620 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH238  
Sample Collection:  
05-Nov-2010 10:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 00:04:14

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (dry weight basis)

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15773-18

Sample Size:

10.8 g (dry)

Initial Calibration Date:

09-Nov-2010

Instrument ID:

HR GC/MS

GC Column ID:

DB225

Sample Data Filename:

DB03\_167 S: 8

Blank Data Filename:

N/A

Cal. Ver. Data Filename:

DB03\_167 S: 2

% Moisture:

15.1

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		0.168	0.0464 (Q)	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-18\_Form1A\_DB03\_167S8\_SJ1235954.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH238  
Sample Collection:  
05-Nov-2010 10:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 03-Feb-2011 Time: 04:17:33

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-18 i

Sample Size: 10.8 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_019 S: 8

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX1M\_019 S: 1

% Moisture: 15.1

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1330	66.3	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1840	92.0	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1640	81.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1580	78.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1540	77.2	1.04	1.095
13C-OCDD		4000	2450	61.2	0.86	1.179
13C-2,3,7,8-TCDF		2000	1270	63.6	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1520	76.1	1.55	1.286
13C-2,3,4,7,8-PECDF		2000	1470	73.3	1.55	1.353
13C-1,2,3,4,7,8-HXCDF		2000	1570	78.3	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1690	84.5	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1410	70.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1470	73.5	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1360	67.8	0.41	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1310	65.7	0.43	1.104
<b>CLEANUP STANDARD</b>						
37CL-2,3,7,8-TCDD		200	129	64.6		1.015

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 10-Feb-2011 14:15:13; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-18\_Form2\_DX1M\_019S8\_SJ1254863.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH238

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.8 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 10:00

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-18

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 8  
DX1M\_019 S: 8

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		0.264	0.0536	1	2.64e-01	2.64e-01	
1,2,3,7,8-PECDD	ND		0.106	1	0.00e+00	5.30e-02	
1,2,3,4,7,8-HXCDD	ND		0.0833	0.1	0.00e+00	4.17e-03	
1,2,3,6,7,8-HXCDD		0.791	0.0833	0.1	7.91e-02	7.91e-02	
1,2,3,7,8,9-HXCDD	ND		0.0833	0.1	0.00e+00	4.17e-03	
1,2,3,4,6,7,8-HPCDD		11.7	0.0594	0.01	1.17e-01	1.17e-01	
OCDD		172	0.0616	0.0001	1.72e-02	1.72e-02	
2,3,7,8-TCDF		0.168	0.0464	0.1	1.68e-02	1.68e-02	
1,2,3,7,8-PECDF	ND		0.0981	0.05	0.00e+00	2.45e-03	
2,3,4,7,8-PECDF		0.359	0.0981	0.5	1.80e-01	1.80e-01	
1,2,3,4,7,8-HXCDF	ND		0.0994	0.1	0.00e+00	4.97e-03	
1,2,3,6,7,8-HXCDF		0.512	0.0994	0.1	5.12e-02	5.12e-02	
1,2,3,7,8,9-HXCDF	ND		0.0994	0.1	0.00e+00	4.97e-03	
2,3,4,6,7,8-HXCDF		0.454	0.0994	0.1	4.54e-02	4.54e-02	
1,2,3,4,6,7,8-HPCDF		2.66	0.0620	0.01	2.66e-02	2.66e-02	
1,2,3,4,7,8,9-HPCDF		0.270	0.0620	0.01	2.70e-03	2.70e-03	
OCDF		4.14	0.0464	0.0001	4.14e-04	4.14e-04	
<b>TOTAL TEQ</b>					0.800	0.874	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		0.264	0.0536	1	2.64e-01	2.64e-01	
1,2,3,7,8-PECDD	ND		0.106	1	0.00e+00	5.30e-02	
1,2,3,4,7,8-HXCDD	ND		0.0833	0.1	0.00e+00	4.17e-03	
1,2,3,6,7,8-HXCDD		0.791	0.0833	0.1	7.91e-02	7.91e-02	
1,2,3,7,8,9-HXCDD	ND		0.0833	0.1	0.00e+00	4.17e-03	
1,2,3,4,6,7,8-HPCDD		11.7	0.0594	0.01	1.17e-01	1.17e-01	
OCDD		172	0.0616	0.0003	5.16e-02	5.16e-02	
2,3,7,8-TCDF		0.168	0.0464	0.1	1.68e-02	1.68e-02	
1,2,3,7,8-PECDF	ND		0.0981	0.03	0.00e+00	1.47e-03	
2,3,4,7,8-PECDF		0.359	0.0981	0.3	1.08e-01	1.08e-01	
1,2,3,4,7,8-HXCDF	ND		0.0994	0.1	0.00e+00	4.97e-03	
1,2,3,6,7,8-HXCDF		0.512	0.0994	0.1	5.12e-02	5.12e-02	
1,2,3,7,8,9-HXCDF	ND		0.0994	0.1	0.00e+00	4.97e-03	
2,3,4,6,7,8-HXCDF		0.454	0.0994	0.1	4.54e-02	4.54e-02	
1,2,3,4,6,7,8-HPCDF		2.66	0.0620	0.01	2.66e-02	2.66e-02	
1,2,3,4,7,8,9-HPCDF		0.270	0.0620	0.01	2.70e-03	2.70e-03	
OCDF		4.14	0.0464	0.0003	1.24e-03	1.24e-03	
<b>TOTAL TEQ</b>					<b>0.763</b>	<b>0.836</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-18\_TEQ\_SJ1235954.html; Workgroup: WG34860; Design ID: 1505 ]

AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH239  
Sample Collection:  
05-Nov-2010 10:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15773-19
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	10.4 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	17-Dec-2010 Time: 14:51:43	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 48
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 40
		<b>% Moisture:</b>	18.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		5.83	0.0662 (S)	0.78	1.001
1,2,3,7,8-PECDD <sup>4</sup>		0.987	0.0727 (S)	0.62	1.001
1,2,3,4,7,8-HXCDD		2.13	0.0964 (S)	1.12	1.000
1,2,3,6,7,8-HXCDD		5.24	0.0964 (S)	1.12	1.000
1,2,3,7,8,9-HXCDD		7.19	0.0964 (S)	1.16	1.000
1,2,3,4,6,7,8-HPCDD		168	0.197 (S)	1.00	1.000
OCDD		1980	0.273 (S)	0.88	1.000
2,3,7,8-TCDF		3.29	0.0837 (S)	0.74	1.002
1,2,3,7,8-PECDF		0.684	0.106 (S)	1.53	1.002
2,3,4,7,8-PECDF		1.10	0.106 (S)	1.38	1.001
1,2,3,4,7,8-HXCDF		2.14	0.0483 (Q)	1.27	1.000
1,2,3,6,7,8-HXCDF		1.50	0.0483 (Q)	1.30	1.001
1,2,3,7,8,9-HXCDF	NDR	0.257	0.0483 (Q)	0.90	1.001
2,3,4,6,7,8-HXCDF		1.42	0.0483 (Q)	1.21	1.000
1,2,3,4,6,7,8-HPCDF		15.3	0.0805 (S)	1.01	1.000
1,2,3,4,7,8,9-HPCDF		1.21	0.0805 (S)	0.91	1.000
OCDF		35.1	0.0648 (S)	0.86	1.002
TOTAL TETRA-DIOXINS		8.68	0.0662 (S)		
TOTAL PENTA-DIOXINS		7.99	0.0727 (S)		
TOTAL HEXA-DIOXINS		61.1	0.0964 (S)		
TOTAL HEPTA-DIOXINS		366	0.197 (S)		
TOTAL TETRA-FURANS		28.5	0.0837 (S)		
TOTAL PENTA-FURANS		17.8	0.106 (S)		
TOTAL HEXA-FURANS		27.2	0.0483 (Q)		
TOTAL HEPTA-FURANS		39.1	0.0805 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH239  
Sample Collection:  
05-Nov-2010 10:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 02-Feb-2011 Time: 11:12:52

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (dry weight basis)

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15773-19 i

Sample Size:

5.36 g (dry)

Initial Calibration Date:

09-Nov-2010

Instrument ID:

HR GC/MS

GC Column ID:

DB225

Sample Data Filename:

DB13\_027 S: 7

Blank Data Filename:

N/A

Cal. Ver. Data Filename:

DB13\_027 S: 2

% Moisture:

18.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		1.38	0.140 (S)	0.80	1.000

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-19\_Form1A\_DB13\_027S7\_SJ1255057.html; Workgroup: WG34860; Design ID: 1505 ]





## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH239  
Sample Collection:  
05-Nov-2010 10:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 14:51:43

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-19

Sample Size: 10.4 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 48

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 40

% Moisture: 18.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1300	64.8	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1670	83.5	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1490	74.6	1.19	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1410	70.4	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1610	80.4	0.96	1.094
13C-OCDD		4000	2880	72.0	0.87	1.178
13C-2,3,7,8-TCDF		2000	1360	68.2	0.73	0.967
13C-1,2,3,7,8-PECDF		2000	1390	69.6	1.50	1.285
13C-2,3,4,7,8-PECDF		2000	1420	71.2	1.51	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1490	74.5	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1420	70.8	0.48	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1430	71.7	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1470	73.7	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1490	74.6	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1590	79.5	0.44	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	144	72.1		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 10-Feb-2011 14:15:13; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-19\_Form2\_DX0M\_169S48\_SJ1235943.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH239

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.4 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 10:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-19

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB13\_027 S: 7  
DX0M\_169 S: 48

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.83	0.0662	1	5.83e+00	5.83e+00	
1,2,3,7,8-PECDD		0.987	0.0727	1	9.87e-01	9.87e-01	
1,2,3,4,7,8-HXCDD		2.13	0.0964	0.1	2.13e-01	2.13e-01	
1,2,3,6,7,8-HXCDD		5.24	0.0964	0.1	5.24e-01	5.24e-01	
1,2,3,7,8,9-HXCDD		7.19	0.0964	0.1	7.19e-01	7.19e-01	
1,2,3,4,6,7,8-HPCDD		168	0.197	0.01	1.68e+00	1.68e+00	
OCDD		1980	0.273	0.0001	1.98e-01	1.98e-01	
2,3,7,8-TCDF		1.38	0.140	0.1	1.38e-01	1.38e-01	
1,2,3,7,8-PECDF		0.684	0.106	0.05	3.42e-02	3.42e-02	
2,3,4,7,8-PECDF		1.10	0.106	0.5	5.50e-01	5.50e-01	
1,2,3,4,7,8-HXCDF		2.14	0.0483	0.1	2.14e-01	2.14e-01	
1,2,3,6,7,8-HXCDF		1.50	0.0483	0.1	1.50e-01	1.50e-01	
1,2,3,7,8,9-HXCDF	ND		0.0483	0.1	0.00e+00	2.42e-03	
2,3,4,6,7,8-HXCDF		1.42	0.0483	0.1	1.42e-01	1.42e-01	
1,2,3,4,6,7,8-HPCDF		15.3	0.0805	0.01	1.53e-01	1.53e-01	
1,2,3,4,7,8,9-HPCDF		1.21	0.0805	0.01	1.21e-02	1.21e-02	
OCDF		35.1	0.0648	0.0001	3.51e-03	3.51e-03	
<b>TOTAL TEQ</b>					<b>11.5</b>	<b>11.6</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.83	0.0662	1	5.83e+00	5.83e+00	
1,2,3,7,8-PECDD		0.987	0.0727	1	9.87e-01	9.87e-01	
1,2,3,4,7,8-HXCDD		2.13	0.0964	0.1	2.13e-01	2.13e-01	
1,2,3,6,7,8-HXCDD		5.24	0.0964	0.1	5.24e-01	5.24e-01	
1,2,3,7,8,9-HXCDD		7.19	0.0964	0.1	7.19e-01	7.19e-01	
1,2,3,4,6,7,8-HPCDD		168	0.197	0.01	1.68e+00	1.68e+00	
OCDD		1980	0.273	0.0003	5.94e-01	5.94e-01	
2,3,7,8-TCDF		1.38	0.140	0.1	1.38e-01	1.38e-01	
1,2,3,7,8-PECDF		0.684	0.106	0.03	2.05e-02	2.05e-02	
2,3,4,7,8-PECDF		1.10	0.106	0.3	3.30e-01	3.30e-01	
1,2,3,4,7,8-HXCDF		2.14	0.0483	0.1	2.14e-01	2.14e-01	
1,2,3,6,7,8-HXCDF		1.50	0.0483	0.1	1.50e-01	1.50e-01	
1,2,3,7,8,9-HXCDF	ND		0.0483	0.1	0.00e+00	2.42e-03	
2,3,4,6,7,8-HXCDF		1.42	0.0483	0.1	1.42e-01	1.42e-01	
1,2,3,4,6,7,8-HPCDF		15.3	0.0805	0.01	1.53e-01	1.53e-01	
1,2,3,4,7,8,9-HPCDF		1.21	0.0805	0.01	1.21e-02	1.21e-02	
OCDF		35.1	0.0648	0.0003	1.05e-02	1.05e-02	
<b>TOTAL TEQ</b>					<b>11.7</b>	<b>11.7</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-19\_TEQ\_SJ1235943.html; Workgroup: WG34860; Design ID: 1505 ]

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH240-1  
Sample Collection:  
05-Nov-2010 11:11

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-20 i

Matrix: SOLID

Sample Size: 5.80 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 06:47:41

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 24

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2310	7.11	0.78	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	23.5	8.00	0.33	1.001
1,2,3,4,7,8-HXCDD	NDR	12.7	5.44	1.04	1.000
1,2,3,6,7,8-HXCDD		32.8	5.44	1.19	1.001
1,2,3,7,8,9-HXCDD	NDR	19.8	5.44	1.52	1.000
1,2,3,4,6,7,8-HPCDD		156	6.16	1.10	1.000
OCDD		533	3.58	0.91	1.000
2,3,7,8-TCDF		247	5.30	0.71	1.001
1,2,3,7,8-PECDF	ND		5.24		
2,3,4,7,8-PECDF	ND		5.24		
1,2,3,4,7,8-HXCDF	ND		7.16		
1,2,3,6,7,8-HXCDF	ND		7.16		
1,2,3,7,8,9-HXCDF	ND		7.16		
2,3,4,6,7,8-HXCDF	ND		7.16		
1,2,3,4,6,7,8-HPCDF	NDR	11.8	3.44	1.42	1.000
1,2,3,4,7,8,9-HPCDF	ND		3.44		
OCDF	NDR	12.0	4.10	1.48	1.002
TOTAL TETRA-DIOXINS		2440	7.11		
TOTAL PENTA-DIOXINS		128	8.00		
TOTAL HEXA-DIOXINS		202	5.44		
TOTAL HEPTA-DIOXINS		307	6.16		
TOTAL TETRA-FURANS		508	5.30		
TOTAL PENTA-FURANS		486	5.24		
TOTAL HEXA-FURANS		33.4	7.16		
TOTAL HEPTA-FURANS	ND		3.44		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-20\_Form1A\_DX1M\_007BS24\_SJ1244709.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH240-1  
Sample Collection:  
05-Nov-2010 11:11

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 14-Dec-2010  
**Analysis Date:** 04-Jan-2011 **Time:** 04:15:33  
**Extract Volume (uL):** 100  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15773-20  
**Sample Size:** 5.80 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB13\_002A S: 8  
**Blank Data Filename:** DX1M\_007B S: 19  
**Cal. Ver. Data Filename:** DB13\_002A S: 2  
**% Moisture:** 15.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		206	9.85	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15773-20\_Form1A\_DB13\_002AS8\_SJ1245332.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH240-1  
Sample Collection:  
05-Nov-2010 11:11

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15773-20 i

Matrix: SOLID

Sample Size: 5.80 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 06:47:41

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_007B S: 24

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 15

Concentration Units: pg absolute

% Moisture: 15.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	8180	81.8	0.77	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8230	82.3	0.60	1.383
13C-1,2,3,4,7,8-HXCDD		10000	8340	83.4	1.19	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9170	91.7	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7840	78.4	0.94	1.094
13C-OCDD		20000	12000	59.9	0.86	1.178
13C-2,3,7,8-TCDF		10000	8670	86.7	0.83	0.967
13C-1,2,3,7,8-PECDF		10000	8580	85.8	1.49	1.285
13C-2,3,4,7,8-PECDF		10000	8420	84.2	1.67	1.353
13C-1,2,3,4,7,8-HXCDF		10000	10300	103	0.51	0.955
13C-1,2,3,6,7,8-HXCDF		10000	10300	103	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8560	85.6	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9980	99.8	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	9000	90.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	8040	80.4	0.47	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	82.2	82.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15773-20\_Form2\_DX1M\_007BS24\_SJ1244709.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Matrix:** SOLID

**Sample Size:** 5.80 g (dry)

**Concentration Units:** pg/g (dry weight basis)

**Sample Collection:** 05-Nov-2010 11:11

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15773-20

**GC Column ID(s):** DB225  
DB5

**Sample Data Filenames:** DB13\_002A S: 8  
DX1M\_007B S: 24

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2310	7.11	1	2.31e+03	2.31e+03	
1,2,3,7,8-PECDD	ND		8.00	1	0.00e+00	4.00e+00	
1,2,3,4,7,8-HXCDD	ND		5.44	0.1	0.00e+00	2.72e-01	
1,2,3,6,7,8-HXCDD		32.8	5.44	0.1	3.28e+00	3.28e+00	
1,2,3,7,8,9-HXCDD	ND		5.44	0.1	0.00e+00	2.72e-01	
1,2,3,4,6,7,8-HPCDD		156	6.16	0.01	1.56e+00	1.56e+00	
OCDD		533	3.58	0.0001	5.33e-02	5.33e-02	
2,3,7,8-TCDF		206	9.85	0.1	2.06e+01	2.06e+01	
1,2,3,7,8-PECDF	ND		5.24	0.05	0.00e+00	1.31e-01	
2,3,4,7,8-PECDF	ND		5.24	0.5	0.00e+00	1.31e+00	
1,2,3,4,7,8-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
1,2,3,6,7,8-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
1,2,3,7,8,9-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
2,3,4,6,7,8-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.44	0.01	0.00e+00	1.72e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.44	0.01	0.00e+00	1.72e-02	
OCDF	ND		4.10	0.0001	0.00e+00	2.05e-04	
<b>TOTAL TEQ</b>					2340	2340	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2310	7.11	1	2.31e+03	2.31e+03	
1,2,3,7,8-PECDD	ND		8.00	1	0.00e+00	4.00e+00	
1,2,3,4,7,8-HXCDD	ND		5.44	0.1	0.00e+00	2.72e-01	
1,2,3,6,7,8-HXCDD		32.8	5.44	0.1	3.28e+00	3.28e+00	
1,2,3,7,8,9-HXCDD	ND		5.44	0.1	0.00e+00	2.72e-01	
1,2,3,4,6,7,8-HPCDD		156	6.16	0.01	1.56e+00	1.56e+00	
OCDD		533	3.58	0.0003	1.60e-01	1.60e-01	
2,3,7,8-TCDF		206	9.85	0.1	2.06e+01	2.06e+01	
1,2,3,7,8-PECDF	ND		5.24	0.03	0.00e+00	7.86e-02	
2,3,4,7,8-PECDF	ND		5.24	0.3	0.00e+00	7.86e-01	
1,2,3,4,7,8-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
1,2,3,6,7,8-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
1,2,3,7,8,9-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
2,3,4,6,7,8-HXCDF	ND		7.16	0.1	0.00e+00	3.58e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.44	0.01	0.00e+00	1.72e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.44	0.01	0.00e+00	1.72e-02	
OCDF	ND		4.10	0.0003	0.00e+00	6.15e-04	
<b>TOTAL TEQ</b>					2340	2340	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15773-20\_TEQ\_SJ1245332.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH240-3  
Sample Collection:  
05-Nov-2010 11:11

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-1 i2

Matrix: SOLID

Sample Size: 5.61 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Jan-2011 Time: 16:12:57

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_011C S: 9

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_011C S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 15.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	ND		2.20		
1,2,3,7,8-PECDD <sup>3</sup>	ND		2.96		
1,2,3,4,7,8-HXCDD	ND		2.30		
1,2,3,6,7,8-HXCDD	ND		2.30		
1,2,3,7,8,9-HXCDD	ND		2.30		
1,2,3,4,6,7,8-HPCDD	ND		3.27		
OCDD	NDR	9.17	3.01	1.52	1.001
2,3,7,8-TCDF	ND		2.18		
1,2,3,7,8-PECDF	ND		3.06		
2,3,4,7,8-PECDF	ND		3.06		
1,2,3,4,7,8-HXCDF	ND		4.03		
1,2,3,6,7,8-HXCDF	ND		4.03		
1,2,3,7,8,9-HXCDF	ND		4.03		
2,3,4,6,7,8-HXCDF	ND		4.03		
1,2,3,4,6,7,8-HPCDF	ND		3.71		
1,2,3,4,7,8,9-HPCDF	ND		3.71		
OCDF	ND		3.14		
TOTAL TETRA-DIOXINS	ND		2.20		
TOTAL PENTA-DIOXINS	ND		2.96		
TOTAL HEXA-DIOXINS	ND		2.30		
TOTAL HEPTA-DIOXINS	ND		3.27		
TOTAL TETRA-FURANS	ND		2.18		
TOTAL PENTA-FURANS	ND		3.06		
TOTAL HEXA-FURANS	ND		4.03		
TOTAL HEPTA-FURANS	ND		3.71		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-1\_Form1A\_DX1M\_011CS9\_SJ1246538.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH240-3  
Sample Collection:  
05-Nov-2010 11:11

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-1 i2

Matrix: SOLID

Sample Size: 5.61 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 21-Jan-2011 Time: 16:12:57

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_011C S: 9

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_011C S: 2

Concentration Units: pg absolute

% Moisture: 15.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7550	75.5	0.74	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8480	84.8	0.65	1.384
13C-1,2,3,4,7,8-HXCDD		10000	8890	88.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	9540	95.4	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	8080	80.8	1.00	1.094
13C-OCDD		20000	12600	63.2	0.92	1.179
13C-2,3,7,8-TCDF		10000	6160	61.6	0.71	0.967
13C-1,2,3,7,8-PECDF		10000	6870	68.7	1.65	1.285
13C-2,3,4,7,8-PECDF		10000	7000	70.0	1.59	1.354
13C-1,2,3,4,7,8-HXCDF		10000	8670	86.7	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		10000	8320	83.2	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	6940	69.4	0.44	1.005
13C-2,3,4,6,7,8-HXCDF		10000	7620	76.2	0.48	0.980
13C-1,2,3,4,6,7,8-HPCDF		10000	7780	77.8	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6960	69.6	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	75.5	75.5		1.013
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-1\_Form2\_DX1M\_011CS9\_SJ1246538.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.61 g (dry)  
Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 11:11  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-1 i2  
GC Column ID: DB5  
Sample Data Filename: DX1M\_011C S: 9

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		2.20	1	0.00e+00	1.10e+00	
1,2,3,7,8-PECDD	ND		2.96	1	0.00e+00	1.48e+00	
1,2,3,4,7,8-HXCDD	ND		2.30	0.1	0.00e+00	1.15e-01	
1,2,3,6,7,8-HXCDD	ND		2.30	0.1	0.00e+00	1.15e-01	
1,2,3,7,8,9-HXCDD	ND		2.30	0.1	0.00e+00	1.15e-01	
1,2,3,4,6,7,8-HPCDD	ND		3.27	0.01	0.00e+00	1.64e-02	
OCDD	ND		3.01	0.0001	0.00e+00	1.51e-04	
2,3,7,8-TCDF	ND		2.18	0.1	0.00e+00	1.09e-01	
1,2,3,7,8-PECDF	ND		3.06	0.05	0.00e+00	7.65e-02	
2,3,4,7,8-PECDF	ND		3.06	0.5	0.00e+00	7.65e-01	
1,2,3,4,7,8-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
1,2,3,6,7,8-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
1,2,3,7,8,9-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
2,3,4,6,7,8-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.71	0.01	0.00e+00	1.86e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.71	0.01	0.00e+00	1.86e-02	
OCDF	ND		3.14	0.0001	0.00e+00	1.57e-04	
<b>TOTAL TEQ</b>					<b>0</b>	<b>4.74</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		2.20	1	0.00e+00	1.10e+00	
1,2,3,7,8-PECDD	ND		2.96	1	0.00e+00	1.48e+00	
1,2,3,4,7,8-HXCDD	ND		2.30	0.1	0.00e+00	1.15e-01	
1,2,3,6,7,8-HXCDD	ND		2.30	0.1	0.00e+00	1.15e-01	
1,2,3,7,8,9-HXCDD	ND		2.30	0.1	0.00e+00	1.15e-01	
1,2,3,4,6,7,8-HPCDD	ND		3.27	0.01	0.00e+00	1.64e-02	
OCDD	ND		3.01	0.0003	0.00e+00	4.52e-04	
2,3,7,8-TCDF	ND		2.18	0.1	0.00e+00	1.09e-01	
1,2,3,7,8-PECDF	ND		3.06	0.03	0.00e+00	4.59e-02	
2,3,4,7,8-PECDF	ND		3.06	0.3	0.00e+00	4.59e-01	
1,2,3,4,7,8-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
1,2,3,6,7,8-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
1,2,3,7,8,9-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
2,3,4,6,7,8-HXCDF	ND		4.03	0.1	0.00e+00	2.02e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.71	0.01	0.00e+00	1.86e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.71	0.01	0.00e+00	1.86e-02	
OCDF	ND		3.14	0.0003	0.00e+00	4.71e-04	
<b>TOTAL TEQ</b>					<b>0</b>	<b>4.40</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-1\_TEQ\_SJ1246538.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH241  
Sample Collection:  
05-Nov-2010 15:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-2 i

Matrix: SOLID

Sample Size: 5.40 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 00:03:42

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_170A S: 40

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_170A S: 35

Concentration Units: pg/g (dry weight basis)

% Moisture: 9.04

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		196	0.925	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		6.80	0.925	0.57	1.001
1,2,3,4,7,8-HXCDD		5.44	0.925	1.13	1.000
1,2,3,6,7,8-HXCDD		13.3	0.925	1.28	1.000
1,2,3,7,8,9-HXCDD		16.4	0.925	1.09	1.000
1,2,3,4,6,7,8-HPCDD		284	0.925	1.02	1.000
OCDD		2060	2.48	0.87	1.000
2,3,7,8-TCDF		15.0	0.925	0.73	1.001
1,2,3,7,8-PECDF		0.936	0.925	1.36	1.001
2,3,4,7,8-PECDF		1.57	0.925	1.42	1.002
1,2,3,4,7,8-HXCDF	NDR	6.53	0.925	1.01	1.000
1,2,3,6,7,8-HXCDF	NDR	2.58	0.925	0.90	1.001
1,2,3,7,8,9-HXCDF	ND		0.925		
2,3,4,6,7,8-HXCDF		2.59	0.925	1.09	1.000
1,2,3,4,6,7,8-HPCDF		37.0	0.925	1.08	1.000
1,2,3,4,7,8,9-HPCDF		3.30	0.925	0.89	1.000
OCDF		37.2	0.925	0.83	1.002
TOTAL TETRA-DIOXINS		221	0.490		
TOTAL PENTA-DIOXINS		37.1	0.537		
TOTAL HEXA-DIOXINS		135	0.426		
TOTAL HEPTA-DIOXINS		582	0.874		
TOTAL TETRA-FURANS		61.0	0.478		
TOTAL PENTA-FURANS		94.0	0.584		
TOTAL HEXA-FURANS		66.9	0.323		
TOTAL HEPTA-FURANS		75.3	0.901		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-2\_Form1A\_DX0M\_170AS40\_SJ1234788.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH241  
Sample Collection:  
05-Nov-2010 15:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-2

Matrix: SOLID

Sample Size: 5.40 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 14:24:13

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_162 S: 6

Injection Volume (uL): 2.0

Blank Data Filename: NOT REQUIRED

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_162 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 9.04

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		10.1	1.04	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-2\_Form1A\_DB03\_162S6\_SJ1233928.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH241  
Sample Collection:  
05-Nov-2010 15:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-2 i

Matrix: SOLID

Sample Size: 5.40 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 00:03:42

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_170A S: 40

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_170A S: 35

Concentration Units: pg absolute

% Moisture: 9.04

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2830	70.8	0.75	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3450	86.2	0.63	1.388
13C-1,2,3,4,7,8-HXCDD		4000	3460	86.4	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3140	78.5	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3970	99.3	0.91	1.094
13C-OCDD		8000	7030	87.8	0.88	1.178
13C-2,3,7,8-TCDF		4000	2720	67.9	0.73	0.969
13C-1,2,3,7,8-PECDF		4000	3080	77.0	1.45	1.288
13C-2,3,4,7,8-PECDF		4000	3200	80.0	1.50	1.359
13C-1,2,3,4,7,8-HXCDF		4000	3060	76.5	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2880	72.0	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3100	77.5	0.47	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3170	79.3	0.47	0.982
13C-1,2,3,4,6,7,8-HPCDF		4000	3330	83.2	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3560	89.0	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	148	73.9		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-2\_Form2\_DX0M\_170AS40\_SJ1234788.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 15:15  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-2  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_162 S: 6  
DX0M\_170A S: 40

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.40 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		196	0.925	1	1.96e+02	1.96e+02	
1,2,3,7,8-PECDD		6.80	0.925	1	6.80e+00	6.80e+00	
1,2,3,4,7,8-HXCDD		5.44	0.925	0.1	5.44e-01	5.44e-01	
1,2,3,6,7,8-HXCDD		13.3	0.925	0.1	1.33e+00	1.33e+00	
1,2,3,7,8,9-HXCDD		16.4	0.925	0.1	1.64e+00	1.64e+00	
1,2,3,4,6,7,8-HPCDD		284	0.925	0.01	2.84e+00	2.84e+00	
OCDD		2060	2.48	0.0001	2.06e-01	2.06e-01	
2,3,7,8-TCDF		10.1	1.04	0.1	1.01e+00	1.01e+00	
1,2,3,7,8-PECDF		0.936	0.925	0.05	4.68e-02	4.68e-02	
2,3,4,7,8-PECDF		1.57	0.925	0.5	7.85e-01	7.85e-01	
1,2,3,4,7,8-HXCDF	ND		0.925	0.1	0.00e+00	4.63e-02	
1,2,3,6,7,8-HXCDF	ND		0.925	0.1	0.00e+00	4.63e-02	
1,2,3,7,8,9-HXCDF	ND		0.925	0.1	0.00e+00	4.63e-02	
2,3,4,6,7,8-HXCDF		2.59	0.925	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDF		37.0	0.925	0.01	3.70e-01	3.70e-01	
1,2,3,4,7,8,9-HPCDF		3.30	0.925	0.01	3.30e-02	3.30e-02	
OCDF		37.2	0.925	0.0001	3.72e-03	3.72e-03	
<b>TOTAL TEQ</b>					<b>212</b>	<b>212</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		196	0.925	1	1.96e+02	1.96e+02	
1,2,3,7,8-PECDD		6.80	0.925	1	6.80e+00	6.80e+00	
1,2,3,4,7,8-HXCDD		5.44	0.925	0.1	5.44e-01	5.44e-01	
1,2,3,6,7,8-HXCDD		13.3	0.925	0.1	1.33e+00	1.33e+00	
1,2,3,7,8,9-HXCDD		16.4	0.925	0.1	1.64e+00	1.64e+00	
1,2,3,4,6,7,8-HPCDD		284	0.925	0.01	2.84e+00	2.84e+00	
OCDD		2060	2.48	0.0003	6.18e-01	6.18e-01	
2,3,7,8-TCDF		10.1	1.04	0.1	1.01e+00	1.01e+00	
1,2,3,7,8-PECDF		0.936	0.925	0.03	2.81e-02	2.81e-02	
2,3,4,7,8-PECDF		1.57	0.925	0.3	4.71e-01	4.71e-01	
1,2,3,4,7,8-HXCDF	ND		0.925	0.1	0.00e+00	4.63e-02	
1,2,3,6,7,8-HXCDF	ND		0.925	0.1	0.00e+00	4.63e-02	
1,2,3,7,8,9-HXCDF	ND		0.925	0.1	0.00e+00	4.63e-02	
2,3,4,6,7,8-HXCDF		2.59	0.925	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDF		37.0	0.925	0.01	3.70e-01	3.70e-01	
1,2,3,4,7,8,9-HPCDF		3.30	0.925	0.01	3.30e-02	3.30e-02	
OCDF		37.2	0.925	0.0003	1.12e-02	1.12e-02	
<b>TOTAL TEQ</b>					212	212	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-2\_TEQ\_SJ1233928.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH242  
Sample Collection:  
05-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-3

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 23:14:55

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 14

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 9.59

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3130	0.975	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		57.1	0.975	0.58	1.001
1,2,3,4,7,8-HXCDD		3.28	0.975	1.27	1.000
1,2,3,6,7,8-HXCDD		10.8	0.975	1.32	1.001
1,2,3,7,8,9-HXCDD		5.53	0.975	1.24	1.000
1,2,3,4,6,7,8-HPCDD		28.6	0.975	0.95	1.000
OCDD		215	0.975	0.87	1.000
2,3,7,8-TCDF		190	0.975	0.73	1.001
1,2,3,7,8-PECDF		6.79	0.975	1.44	1.001
2,3,4,7,8-PECDF		12.5	0.975	1.39	1.000
1,2,3,4,7,8-HXCDF		3.68	0.975	1.23	1.000
1,2,3,6,7,8-HXCDF		1.24	0.975	1.14	1.000
1,2,3,7,8,9-HXCDF	NDR	1.23	0.975	1.60	1.000
2,3,4,6,7,8-HXCDF	ND		0.975		
1,2,3,4,6,7,8-HPCDF		9.55	0.975	0.99	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.975		
OCDF	NDR	10.8	0.975	0.69	1.002
TOTAL TETRA-DIOXINS		3380	0.975		
TOTAL PENTA-DIOXINS		221	0.975		
TOTAL HEXA-DIOXINS		152	0.975		
TOTAL HEPTA-DIOXINS		62.0	0.975		
TOTAL TETRA-FURANS		765	0.975		
TOTAL PENTA-FURANS		758	0.975		
TOTAL HEXA-FURANS		78.3	0.975		
TOTAL HEPTA-FURANS		9.55	0.975		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-3\_Form1A\_DX0M\_167S14\_SJ1233853.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH242  
Sample Collection:  
05-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-3

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 15:01:04

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_162 S: 7

Injection Volume (uL): 2.0

Blank Data Filename: NOT REQUIRED

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_162 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 9.59

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		125	1.09	0.80	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-3\_Form1A\_DB03\_162S7\_SJ1233929.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH242  
Sample Collection:  
05-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-3

Matrix: SOLID

Sample Size: 5.13 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 23:14:55

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 14

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 9.59

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2880	72.0	0.83	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3750	93.8	0.62	1.386
13C-1,2,3,4,7,8-HXCDD		4000	3490	87.2	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3260	81.5	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3980	99.4	0.98	1.094
13C-OCDD		8000	6670	83.4	0.87	1.178
13C-2,3,7,8-TCDF		4000	2960	73.9	0.78	0.968
13C-1,2,3,7,8-PECDF		4000	3380	84.5	1.53	1.287
13C-2,3,4,7,8-PECDF		4000	3440	86.1	1.54	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3200	80.1	0.49	0.955
13C-1,2,3,6,7,8-HXCDF		4000	3020	75.5	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3290	82.2	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3410	85.2	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3660	91.5	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		4000	3940	98.4	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	243	121		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-3\_Form2\_DX0M\_167S14\_SJ1233853.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 16:15

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15774-3

Sample Size: 5.13 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_162 S: 7  
DX0M\_167 S: 14

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3130	0.975	1	3.13e+03	3.13e+03	
1,2,3,7,8-PECDD		57.1	0.975	1	5.71e+01	5.71e+01	
1,2,3,4,7,8-HXCDD		3.28	0.975	0.1	3.28e-01	3.28e-01	
1,2,3,6,7,8-HXCDD		10.8	0.975	0.1	1.08e+00	1.08e+00	
1,2,3,7,8,9-HXCDD		5.53	0.975	0.1	5.53e-01	5.53e-01	
1,2,3,4,6,7,8-HPCDD		28.6	0.975	0.01	2.86e-01	2.86e-01	
OCDD		215	0.975	0.0001	2.15e-02	2.15e-02	
2,3,7,8-TCDF		125	1.09	0.1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDF		6.79	0.975	0.05	3.40e-01	3.40e-01	
2,3,4,7,8-PECDF		12.5	0.975	0.5	6.25e+00	6.25e+00	
1,2,3,4,7,8-HXCDF		3.68	0.975	0.1	3.68e-01	3.68e-01	
1,2,3,6,7,8-HXCDF		1.24	0.975	0.1	1.24e-01	1.24e-01	
1,2,3,7,8,9-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDF		9.55	0.975	0.01	9.55e-02	9.55e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
OCDF	ND		0.975	0.0001	0.00e+00	4.88e-05	
<b>TOTAL TEQ</b>					3210	3210	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3130	0.975	1	3.13e+03	3.13e+03	
1,2,3,7,8-PECDD		57.1	0.975	1	5.71e+01	5.71e+01	
1,2,3,4,7,8-HXCDD		3.28	0.975	0.1	3.28e-01	3.28e-01	
1,2,3,6,7,8-HXCDD		10.8	0.975	0.1	1.08e+00	1.08e+00	
1,2,3,7,8,9-HXCDD		5.53	0.975	0.1	5.53e-01	5.53e-01	
1,2,3,4,6,7,8-HPCDD		28.6	0.975	0.01	2.86e-01	2.86e-01	
OCDD		215	0.975	0.0003	6.45e-02	6.45e-02	
2,3,7,8-TCDF		125	1.09	0.1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDF		6.79	0.975	0.03	2.04e-01	2.04e-01	
2,3,4,7,8-PECDF		12.5	0.975	0.3	3.75e+00	3.75e+00	
1,2,3,4,7,8-HXCDF		3.68	0.975	0.1	3.68e-01	3.68e-01	
1,2,3,6,7,8-HXCDF		1.24	0.975	0.1	1.24e-01	1.24e-01	
1,2,3,7,8,9-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.975	0.1	0.00e+00	4.88e-02	
1,2,3,4,6,7,8-HPCDF		9.55	0.975	0.01	9.55e-02	9.55e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.975	0.01	0.00e+00	4.88e-03	
OCDF	ND		0.975	0.0003	0.00e+00	1.46e-04	
<b>TOTAL TEQ</b>					3210	3210	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-3\_TEQ\_SJ1233929.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH243  
Sample Collection:  
05-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-4

Matrix: SOLID

Sample Size: 5.04 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 00:10:09

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 15

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 8.33

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2540	1.01	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		91.9	0.992	0.62	1.000
1,2,3,4,7,8-HXCDD		6.00	0.992	1.08	1.000
1,2,3,6,7,8-HXCDD		10.7	0.992	1.17	1.000
1,2,3,7,8,9-HXCDD		6.69	0.992	1.08	1.000
1,2,3,4,6,7,8-HPCDD		55.3	0.992	0.90	1.000
OCDD		450	0.992	0.87	1.000
2,3,7,8-TCDF		187	0.992	0.73	1.001
1,2,3,7,8-PECDF		7.66	0.992	1.67	1.002
2,3,4,7,8-PECDF		16.2	0.992	1.69	1.001
1,2,3,4,7,8-HXCDF	NDR	1.92	0.992	2.66	1.000
1,2,3,6,7,8-HXCDF	ND		0.992		
1,2,3,7,8,9-HXCDF	ND		0.992		
2,3,4,6,7,8-HXCDF	NDR	1.11	0.992	1.90	1.001
1,2,3,4,6,7,8-HPCDF		10.7	0.992	1.02	1.000
1,2,3,4,7,8,9-HPCDF		1.21	0.992	0.91	1.000
OCDF		19.0	0.992	0.81	1.002
TOTAL TETRA-DIOXINS		2870	1.01		
TOTAL PENTA-DIOXINS		298	0.992		
TOTAL HEXA-DIOXINS		188	0.992		
TOTAL HEPTA-DIOXINS		110	0.992		
TOTAL TETRA-FURANS		901	0.992		
TOTAL PENTA-FURANS		745	0.992		
TOTAL HEXA-FURANS		45.2	0.992		
TOTAL HEPTA-FURANS		25.4	0.992		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-4\_Form1A\_DX0M\_167S15\_SJ1233854.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH243  
Sample Collection:  
05-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 03-Dec-2010  
  
Analysis Date: 13-Dec-2010 Time: 15:37:57  
  
Extract Volume (uL): 100  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-4  
  
Sample Size: 5.04 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_162 S: 8  
  
Blank Data Filename: NOT REQUIRED  
  
Cal. Ver. Data Filename: DB03\_162 S: 2  
  
% Moisture: 8.33

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		133	1.69	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Shelley Facchin\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-4\_Form1A\_DB03\_162S8\_SJ1233930.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH243  
Sample Collection:  
05-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-4

Matrix: SOLID

Sample Size: 5.04 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 00:10:09

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 15

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 8.33

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2840	71.0	0.82	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3780	94.4	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		4000	3170	79.4	1.18	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3170	79.2	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3900	97.5	0.99	1.094
13C-OCDD		8000	6670	83.3	0.86	1.178
13C-2,3,7,8-TCDF		4000	2980	74.6	0.74	0.968
13C-1,2,3,7,8-PECDF		4000	3220	80.4	1.52	1.287
13C-2,3,4,7,8-PECDF		4000	3340	83.5	1.49	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3110	77.8	0.50	0.955
13C-1,2,3,6,7,8-HXCDF		4000	3010	75.1	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3140	78.4	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3280	81.9	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3500	87.4	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		4000	3800	95.1	0.44	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	220	110		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-4\_Form2\_DX0M\_167S15\_SJ1233854.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH243

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 16:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-4  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_162 S: 8  
DX0M\_167 S: 15

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.04 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2540	1.01	1	2.54e+03	2.54e+03	
1,2,3,7,8-PECDD		91.9	0.992	1	9.19e+01	9.19e+01	
1,2,3,4,7,8-HXCDD		6.00	0.992	0.1	6.00e-01	6.00e-01	
1,2,3,6,7,8-HXCDD		10.7	0.992	0.1	1.07e+00	1.07e+00	
1,2,3,7,8,9-HXCDD		6.69	0.992	0.1	6.69e-01	6.69e-01	
1,2,3,4,6,7,8-HPCDD		55.3	0.992	0.01	5.53e-01	5.53e-01	
OCDD		450	0.992	0.0001	4.50e-02	4.50e-02	
2,3,7,8-TCDF		133	1.69	0.1	1.33e+01	1.33e+01	
1,2,3,7,8-PECDF		7.66	0.992	0.05	3.83e-01	3.83e-01	
2,3,4,7,8-PECDF		16.2	0.992	0.5	8.10e+00	8.10e+00	
1,2,3,4,7,8-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
1,2,3,6,7,8-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
1,2,3,7,8,9-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
2,3,4,6,7,8-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
1,2,3,4,6,7,8-HPCDF		10.7	0.992	0.01	1.07e-01	1.07e-01	
1,2,3,4,7,8,9-HPCDF		1.21	0.992	0.01	1.21e-02	1.21e-02	
OCDF		19.0	0.992	0.0001	1.90e-03	1.90e-03	
<b>TOTAL TEQ</b>					2660	2660	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2540	1.01	1	2.54e+03	2.54e+03	
1,2,3,7,8-PECDD		91.9	0.992	1	9.19e+01	9.19e+01	
1,2,3,4,7,8-HXCDD		6.00	0.992	0.1	6.00e-01	6.00e-01	
1,2,3,6,7,8-HXCDD		10.7	0.992	0.1	1.07e+00	1.07e+00	
1,2,3,7,8,9-HXCDD		6.69	0.992	0.1	6.69e-01	6.69e-01	
1,2,3,4,6,7,8-HPCDD		55.3	0.992	0.01	5.53e-01	5.53e-01	
OCDD		450	0.992	0.0003	1.35e-01	1.35e-01	
2,3,7,8-TCDF		133	1.69	0.1	1.33e+01	1.33e+01	
1,2,3,7,8-PECDF		7.66	0.992	0.03	2.30e-01	2.30e-01	
2,3,4,7,8-PECDF		16.2	0.992	0.3	4.86e+00	4.86e+00	
1,2,3,4,7,8-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
1,2,3,6,7,8-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
1,2,3,7,8,9-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
2,3,4,6,7,8-HXCDF	ND		0.992	0.1	0.00e+00	4.96e-02	
1,2,3,4,6,7,8-HPCDF		10.7	0.992	0.01	1.07e-01	1.07e-01	
1,2,3,4,7,8,9-HPCDF		1.21	0.992	0.01	1.21e-02	1.21e-02	
OCDF		19.0	0.992	0.0003	5.70e-03	5.70e-03	
<b>TOTAL TEQ</b>					2650	2650	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-4\_TEQ\_SJ1233930.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH244  
Sample Collection:  
05-Nov-2010 17:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-5

Matrix: SOLID

Sample Size: 5.20 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 01:05:28

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 16

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 11.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		74.9	0.962	0.74	1.001
1,2,3,7,8-PECDD <sup>3</sup>		10.2	0.962	0.56	1.001
1,2,3,4,7,8-HXCDD		1.29	0.962	1.15	1.000
1,2,3,6,7,8-HXCDD		4.42	0.962	1.16	1.001
1,2,3,7,8,9-HXCDD		6.37	0.962	1.09	1.000
1,2,3,4,6,7,8-HPCDD		16.0	0.962	1.05	1.000
OCDD		133	0.962	0.86	1.000
2,3,7,8-TCDF		13.0	0.962	0.78	1.001
1,2,3,7,8-PECDF	NDR	1.08	0.962	0.63	1.001
2,3,4,7,8-PECDF	NDR	2.07	0.962	2.10	1.000
1,2,3,4,7,8-HXCDF	ND		0.962		
1,2,3,6,7,8-HXCDF	ND		0.962		
1,2,3,7,8,9-HXCDF		2.34	0.962	1.13	1.000
2,3,4,6,7,8-HXCDF	ND		0.962		
1,2,3,4,6,7,8-HPCDF	NDR	2.73	0.962	0.64	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.962		
OCDF		4.21	0.962	0.98	1.002
TOTAL TETRA-DIOXINS		100	0.962		
TOTAL PENTA-DIOXINS		29.2	0.962		
TOTAL HEXA-DIOXINS		36.7	0.962		
TOTAL HEPTA-DIOXINS		30.6	0.962		
TOTAL TETRA-FURANS		61.7	0.962		
TOTAL PENTA-FURANS		42.2	0.962		
TOTAL HEXA-FURANS		4.59	0.962		
TOTAL HEPTA-FURANS		2.34	0.962		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-5\_Form1A\_DX0M\_167S16\_SJ1233855.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH244  
Sample Collection:  
05-Nov-2010 17:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-5

Matrix: SOLID

Sample Size: 5.20 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 16:14:51

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_162 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: NOT REQUIRED

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_162 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 11.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		9.29	0.962	0.75	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-5\_Form1A\_DB03\_162S9\_SJ1233931.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH244  
Sample Collection:  
05-Nov-2010 17:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-5

Matrix: SOLID

Sample Size: 5.20 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 01:05:28

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 16

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 11.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2820	70.4	0.78	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3520	88.0	0.60	1.386
13C-1,2,3,4,7,8-HXCDD		4000	3500	87.5	1.20	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3220	80.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3720	93.1	0.97	1.094
13C-OCDD		8000	6820	85.3	0.88	1.178
13C-2,3,7,8-TCDF		4000	3070	76.8	0.72	0.968
13C-1,2,3,7,8-PECDF		4000	3270	81.7	1.66	1.288
13C-2,3,4,7,8-PECDF		4000	3210	80.2	1.47	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3260	81.6	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3190	79.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2990	74.7	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3350	83.8	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3370	84.4	0.44	1.061
13C-1,2,3,4,7,8,9-HPCDF		4000	3350	83.8	0.43	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	167	83.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-5\_Form2\_DX0M\_167S16\_SJ1233855.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH244

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 17:40

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15774-5

Sample Size: 5.20 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_162 S: 9  
DX0M\_167 S: 16

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		74.9	0.962	1	7.49e+01	7.49e+01	
1,2,3,7,8-PECDD		10.2	0.962	1	1.02e+01	1.02e+01	
1,2,3,4,7,8-HXCDD		1.29	0.962	0.1	1.29e-01	1.29e-01	
1,2,3,6,7,8-HXCDD		4.42	0.962	0.1	4.42e-01	4.42e-01	
1,2,3,7,8,9-HXCDD		6.37	0.962	0.1	6.37e-01	6.37e-01	
1,2,3,4,6,7,8-HPCDD		16.0	0.962	0.01	1.60e-01	1.60e-01	
OCDD		133	0.962	0.0001	1.33e-02	1.33e-02	
2,3,7,8-TCDF		9.29	0.962	0.1	9.29e-01	9.29e-01	
1,2,3,7,8-PECDF	ND		0.962	0.05	0.00e+00	2.41e-02	
2,3,4,7,8-PECDF	ND		0.962	0.5	0.00e+00	2.41e-01	
1,2,3,4,7,8-HXCDF	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,6,7,8-HXCDF	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,7,8,9-HXCDF		2.34	0.962	0.1	2.34e-01	2.34e-01	
2,3,4,6,7,8-HXCDF	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.962	0.01	0.00e+00	4.81e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.962	0.01	0.00e+00	4.81e-03	
OCDF		4.21	0.962	0.0001	4.21e-04	4.21e-04	
<b>TOTAL TEQ</b>					<b>87.6</b>	<b>88.1</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		74.9	0.962	1	7.49e+01	7.49e+01	
1,2,3,7,8-PECDD		10.2	0.962	1	1.02e+01	1.02e+01	
1,2,3,4,7,8-HXCDD		1.29	0.962	0.1	1.29e-01	1.29e-01	
1,2,3,6,7,8-HXCDD		4.42	0.962	0.1	4.42e-01	4.42e-01	
1,2,3,7,8,9-HXCDD		6.37	0.962	0.1	6.37e-01	6.37e-01	
1,2,3,4,6,7,8-HPCDD		16.0	0.962	0.01	1.60e-01	1.60e-01	
OCDD		133	0.962	0.0003	3.99e-02	3.99e-02	
2,3,7,8-TCDF		9.29	0.962	0.1	9.29e-01	9.29e-01	
1,2,3,7,8-PECDF	ND		0.962	0.03	0.00e+00	1.44e-02	
2,3,4,7,8-PECDF	ND		0.962	0.3	0.00e+00	1.44e-01	
1,2,3,4,7,8-HXCDF	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,6,7,8-HXCDF	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,7,8,9-HXCDF		2.34	0.962	0.1	2.34e-01	2.34e-01	
2,3,4,6,7,8-HXCDF	ND		0.962	0.1	0.00e+00	4.81e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.962	0.01	0.00e+00	4.81e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.962	0.01	0.00e+00	4.81e-03	
OCDF		4.21	0.962	0.0003	1.26e-03	1.26e-03	
<b>TOTAL TEQ</b>					87.7	88.0	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-5\_TEQ\_SJ1233931.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH245-1  
Sample Collection:  
05-Nov-2010 17:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-6

Matrix: SOLID

Sample Size: 5.38 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 02:00:46

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 17

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 12.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		7.66	0.929	0.71	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.12	0.929	0.53	1.002
1,2,3,4,7,8-HXCDD	ND		0.929		
1,2,3,6,7,8-HXCDD		3.62	0.929	1.11	1.000
1,2,3,7,8,9-HXCDD	NDR	4.18	0.929	0.83	1.000
1,2,3,4,6,7,8-HPCDD		8.62	0.929	1.12	1.000
OCDD		67.4	0.929	0.91	1.000
2,3,7,8-TCDF		1.51	0.929	0.66	1.001
1,2,3,7,8-PECDF	ND		0.929		
2,3,4,7,8-PECDF	ND		0.929		
1,2,3,4,7,8-HXCDF	ND		0.929		
1,2,3,6,7,8-HXCDF	ND		0.929		
1,2,3,7,8,9-HXCDF	NDR	2.00	0.929	1.52	1.000
2,3,4,6,7,8-HXCDF	ND		0.929		
1,2,3,4,6,7,8-HPCDF		1.45	0.929	1.11	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.929		
OCDF		1.96	0.929	0.78	1.002
TOTAL TETRA-DIOXINS		10.8	0.929		
TOTAL PENTA-DIOXINS		2.86	0.929		
TOTAL HEXA-DIOXINS		7.02	0.929		
TOTAL HEPTA-DIOXINS		18.3	0.929		
TOTAL TETRA-FURANS		7.75	0.929		
TOTAL PENTA-FURANS		3.69	0.929		
TOTAL HEXA-FURANS	ND		0.929		
TOTAL HEPTA-FURANS		1.45	0.929		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-6\_Form1A\_DX0M\_167S17\_SJ1233856.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH245-1  
Sample Collection:  
05-Nov-2010 17:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 03-Dec-2010  
  
Analysis Date: 13-Dec-2010 Time: 16:51:46  
  
Extract Volume (uL): 100  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-6  
  
Sample Size: 5.38 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_162 S: 10  
  
Blank Data Filename: NOT REQUIRED  
  
Cal. Ver. Data Filename: DB03\_162 S: 2  
  
% Moisture: 12.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		0.929		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-6\_Form1A\_DB03\_162S10\_SJ1233932.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH245-1  
Sample Collection:  
05-Nov-2010 17:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-6

Matrix: SOLID

Sample Size: 5.38 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 02:00:46

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 17

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 12.9

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2940	73.4	0.76	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3610	90.2	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		4000	3610	90.1	1.14	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3270	81.6	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3770	94.3	0.98	1.094
13C-OCDD		8000	7060	88.2	0.89	1.178
13C-2,3,7,8-TCDF		4000	2950	73.8	0.76	0.967
13C-1,2,3,7,8-PECDF		4000	3140	78.6	1.49	1.287
13C-2,3,4,7,8-PECDF		4000	3280	82.0	1.46	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3240	81.0	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3130	78.1	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3240	81.0	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3400	85.0	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3600	90.0	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3920	97.9	0.46	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	142	71.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-6\_Form2\_DX0M\_167S17\_SJ1233856.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 17:50  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-6  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_162 S: 10  
DX0M\_167 S: 17

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.38 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7.66	0.929	1	7.66e+00	7.66e+00	
1,2,3,7,8-PECDD		1.12	0.929	1	1.12e+00	1.12e+00	
1,2,3,4,7,8-HXCDD	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,6,7,8-HXCDD		3.62	0.929	0.1	3.62e-01	3.62e-01	
1,2,3,7,8,9-HXCDD	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,4,6,7,8-HPCDD		8.62	0.929	0.01	8.62e-02	8.62e-02	
OCDD		67.4	0.929	0.0001	6.74e-03	6.74e-03	
2,3,7,8-TCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,7,8-PECDF	ND		0.929	0.05	0.00e+00	2.32e-02	
2,3,4,7,8-PECDF	ND		0.929	0.5	0.00e+00	2.32e-01	
1,2,3,4,7,8-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,6,7,8-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,7,8,9-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
2,3,4,6,7,8-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,4,6,7,8-HPCDF		1.45	0.929	0.01	1.45e-02	1.45e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.929	0.01	0.00e+00	4.65e-03	
OCDF		1.96	0.929	0.0001	1.96e-04	1.96e-04	
<b>TOTAL TEQ</b>					9.25	9.83	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		7.66	0.929	1	7.66e+00	7.66e+00	
1,2,3,7,8-PECDD		1.12	0.929	1	1.12e+00	1.12e+00	
1,2,3,4,7,8-HXCDD	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,6,7,8-HXCDD		3.62	0.929	0.1	3.62e-01	3.62e-01	
1,2,3,7,8,9-HXCDD	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,4,6,7,8-HPCDD		8.62	0.929	0.01	8.62e-02	8.62e-02	
OCDD		67.4	0.929	0.0003	2.02e-02	2.02e-02	
2,3,7,8-TCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,7,8-PECDF	ND		0.929	0.03	0.00e+00	1.39e-02	
2,3,4,7,8-PECDF	ND		0.929	0.3	0.00e+00	1.39e-01	
1,2,3,4,7,8-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,6,7,8-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,7,8,9-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
2,3,4,6,7,8-HXCDF	ND		0.929	0.1	0.00e+00	4.65e-02	
1,2,3,4,6,7,8-HPCDF		1.45	0.929	0.01	1.45e-02	1.45e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.929	0.01	0.00e+00	4.65e-03	
OCDF		1.96	0.929	0.0003	5.88e-04	5.88e-04	
<b>TOTAL TEQ</b>					9.26	9.75	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-6\_TEQ\_SJ1233932.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH245-3  
Sample Collection:  
05-Nov-2010 17:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-7

Matrix: SOLID

Sample Size: 5.43 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 02:56:05

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 18

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 14.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	ND		0.921		
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.921		
1,2,3,4,7,8-HXCDD	ND		0.921		
1,2,3,6,7,8-HXCDD	ND		0.921		
1,2,3,7,8,9-HXCDD	ND		0.921		
1,2,3,4,6,7,8-HPCDD	ND		0.921		
OCDD		10.9	0.921	0.76	1.000
2,3,7,8-TCDF	ND		0.921		
1,2,3,7,8-PECDF	ND		0.921		
2,3,4,7,8-PECDF	ND		0.921		
1,2,3,4,7,8-HXCDF	ND		0.921		
1,2,3,6,7,8-HXCDF	ND		0.921		
1,2,3,7,8,9-HXCDF	ND		0.921		
2,3,4,6,7,8-HXCDF	ND		0.921		
1,2,3,4,6,7,8-HPCDF	ND		0.921		
1,2,3,4,7,8,9-HPCDF	ND		0.921		
OCDF	ND		0.921		
TOTAL TETRA-DIOXINS	ND		0.921		
TOTAL PENTA-DIOXINS	ND		0.921		
TOTAL HEXA-DIOXINS	ND		0.921		
TOTAL HEPTA-DIOXINS	ND		0.921		
TOTAL TETRA-FURANS	ND		0.921		
TOTAL PENTA-FURANS	ND		0.921		
TOTAL HEXA-FURANS	ND		0.921		
TOTAL HEPTA-FURANS	ND		0.921		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH245-3  
Sample Collection:  
05-Nov-2010 17:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-7

Matrix: SOLID

Sample Size: 5.43 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 02:56:05

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 18

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 14.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2740	68.6	0.82	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3420	85.4	0.64	1.387
13C-1,2,3,4,7,8-HXCDD		4000	3320	83.1	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3170	79.2	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3830	95.9	0.99	1.094
13C-OCDD		8000	6710	83.9	0.89	1.178
13C-2,3,7,8-TCDF		4000	2940	73.4	0.75	0.968
13C-1,2,3,7,8-PECDF		4000	3010	75.2	1.54	1.287
13C-2,3,4,7,8-PECDF		4000	3230	80.7	1.49	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3030	75.8	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2950	73.7	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3120	78.1	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3170	79.2	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3510	87.9	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		4000	3760	94.0	0.45	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	145	72.7		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-7\_Form2\_DX0M\_167S18\_SJ1233857.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010 17:50

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15774-7

Sample Size: 5.43 g (dry)

GC Column ID: DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filename: DX0M\_167 S: 18

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.921	1	0.00e+00	4.61e-01	
1,2,3,7,8-PECDD	ND		0.921	1	0.00e+00	4.61e-01	
1,2,3,4,7,8-HXCDD	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,6,7,8-HXCDD	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,7,8,9-HXCDD	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.921	0.01	0.00e+00	4.61e-03	
OCDD		10.9	0.921	0.0001	1.09e-03	1.09e-03	
2,3,7,8-TCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,7,8-PECDF	ND		0.921	0.05	0.00e+00	2.30e-02	
2,3,4,7,8-PECDF	ND		0.921	0.5	0.00e+00	2.30e-01	
1,2,3,4,7,8-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,6,7,8-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,7,8,9-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
2,3,4,6,7,8-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.921	0.01	0.00e+00	4.61e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.921	0.01	0.00e+00	4.61e-03	
OCDF	ND		0.921	0.0001	0.00e+00	4.61e-05	
<b>TOTAL TEQ</b>					0.00109	1.56	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.921	1	0.00e+00	4.61e-01	
1,2,3,7,8-PECDD	ND		0.921	1	0.00e+00	4.61e-01	
1,2,3,4,7,8-HXCDD	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,6,7,8-HXCDD	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,7,8,9-HXCDD	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.921	0.01	0.00e+00	4.61e-03	
OCDD		10.9	0.921	0.0003	3.27e-03	3.27e-03	
2,3,7,8-TCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,7,8-PECDF	ND		0.921	0.03	0.00e+00	1.38e-02	
2,3,4,7,8-PECDF	ND		0.921	0.3	0.00e+00	1.38e-01	
1,2,3,4,7,8-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,6,7,8-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,7,8,9-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
2,3,4,6,7,8-HXCDF	ND		0.921	0.1	0.00e+00	4.61e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.921	0.01	0.00e+00	4.61e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.921	0.01	0.00e+00	4.61e-03	
OCDF	ND		0.921	0.0003	0.00e+00	1.38e-04	
<b>TOTAL TEQ</b>					0.00327	1.46	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-7\_TEQ\_SJ1233857.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH246-3  
Sample Collection:  
06-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-8

Matrix: SOLID

Sample Size: 5.19 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 03:51:24

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 16.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	NDR	1.69	0.963	0.99	1.003
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.963		
1,2,3,4,7,8-HXCDD	ND		0.963		
1,2,3,6,7,8-HXCDD	ND		0.963		
1,2,3,7,8,9-HXCDD	ND		0.963		
1,2,3,4,6,7,8-HPCDD		1.02	0.963	1.08	1.001
OCDD		17.8	0.963	0.91	1.000
2,3,7,8-TCDF	ND		0.963		
1,2,3,7,8-PECDF	ND		0.963		
2,3,4,7,8-PECDF	ND		0.963		
1,2,3,4,7,8-HXCDF	ND		0.963		
1,2,3,6,7,8-HXCDF	ND		0.963		
1,2,3,7,8,9-HXCDF	ND		0.963		
2,3,4,6,7,8-HXCDF	ND		0.963		
1,2,3,4,6,7,8-HPCDF	ND		0.963		
1,2,3,4,7,8,9-HPCDF	ND		0.963		
OCDF	ND		0.963		
TOTAL TETRA-DIOXINS	ND		0.963		
TOTAL PENTA-DIOXINS	ND		0.963		
TOTAL HEXA-DIOXINS	ND		0.963		
TOTAL HEPTA-DIOXINS		2.38	0.963		
TOTAL TETRA-FURANS		3.28	0.963		
TOTAL PENTA-FURANS	ND		0.963		
TOTAL HEXA-FURANS	ND		0.963		
TOTAL HEPTA-FURANS	ND		0.963		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-8\_Form1A\_DX0M\_167S19\_SJ1233858.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH246-3  
Sample Collection:  
06-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-8

Matrix: SOLID

Sample Size: 5.19 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 03:51:24

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 19

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 16.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2540	63.5	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3300	82.6	0.62	1.387
13C-1,2,3,4,7,8-HXCDD		4000	3080	76.9	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2770	69.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3510	87.8	0.97	1.094
13C-OCDD		8000	6230	77.9	0.90	1.178
13C-2,3,7,8-TCDF		4000	2580	64.6	0.76	0.967
13C-1,2,3,7,8-PECDF		4000	2940	73.5	1.55	1.287
13C-2,3,4,7,8-PECDF		4000	2940	73.4	1.54	1.357
13C-1,2,3,4,7,8-HXCDF		4000	2850	71.2	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2680	66.9	0.48	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2810	70.3	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	2830	70.7	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3070	76.7	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		4000	3440	86.0	0.44	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	139	69.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-8\_Form2\_DX0M\_167S19\_SJ1233858.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 06-Nov-2010 09:40  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-8  
GC Column ID: DB5  
Sample Data Filename: DX0M\_167 S: 19

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.19 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.963	1	0.00e+00	4.82e-01	
1,2,3,7,8-PECDD	ND		0.963	1	0.00e+00	4.82e-01	
1,2,3,4,7,8-HXCDD	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,6,7,8-HXCDD	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,7,8,9-HXCDD	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,4,6,7,8-HPCDD		1.02	0.963	0.01	1.02e-02	1.02e-02	
OCDD		17.8	0.963	0.0001	1.78e-03	1.78e-03	
2,3,7,8-TCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,7,8-PECDF	ND		0.963	0.05	0.00e+00	2.41e-02	
2,3,4,7,8-PECDF	ND		0.963	0.5	0.00e+00	2.41e-01	
1,2,3,4,7,8-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,6,7,8-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,7,8,9-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
2,3,4,6,7,8-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.963	0.01	0.00e+00	4.82e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.963	0.01	0.00e+00	4.82e-03	
OCDF	ND		0.963	0.0001	0.00e+00	4.82e-05	
<b>TOTAL TEQ</b>					0.0120	1.63	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.963	1	0.00e+00	4.82e-01	
1,2,3,7,8-PECDD	ND		0.963	1	0.00e+00	4.82e-01	
1,2,3,4,7,8-HXCDD	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,6,7,8-HXCDD	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,7,8,9-HXCDD	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,4,6,7,8-HPCDD		1.02	0.963	0.01	1.02e-02	1.02e-02	
OCDD		17.8	0.963	0.0003	5.34e-03	5.34e-03	
2,3,7,8-TCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,7,8-PECDF	ND		0.963	0.03	0.00e+00	1.44e-02	
2,3,4,7,8-PECDF	ND		0.963	0.3	0.00e+00	1.44e-01	
1,2,3,4,7,8-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,6,7,8-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,7,8,9-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
2,3,4,6,7,8-HXCDF	ND		0.963	0.1	0.00e+00	4.82e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.963	0.01	0.00e+00	4.82e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.963	0.01	0.00e+00	4.82e-03	
OCDF	ND		0.963	0.0003	0.00e+00	1.44e-04	
<b>TOTAL TEQ</b>					0.0155	1.53	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-8\_TEQ\_SJ1233858.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH246-5  
Sample Collection:  
06-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-9

Matrix: SOLID

Sample Size: 5.07 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 04:46:38

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 17.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	ND		0.986		
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.986		
1,2,3,4,7,8-HXCDD	ND		0.986		
1,2,3,6,7,8-HXCDD	ND		0.986		
1,2,3,7,8,9-HXCDD	ND		0.986		
1,2,3,4,6,7,8-HPCDD	ND		0.986		
OCDD		14.9	0.986	0.82	1.000
2,3,7,8-TCDF	ND		0.986		
1,2,3,7,8-PECDF	ND		0.986		
2,3,4,7,8-PECDF	ND		0.986		
1,2,3,4,7,8-HXCDF	ND		0.986		
1,2,3,6,7,8-HXCDF	ND		0.986		
1,2,3,7,8,9-HXCDF	ND		0.986		
2,3,4,6,7,8-HXCDF	ND		0.986		
1,2,3,4,6,7,8-HPCDF	ND		0.986		
1,2,3,4,7,8,9-HPCDF	ND		0.986		
OCDF	ND		0.986		
TOTAL TETRA-DIOXINS	ND		0.986		
TOTAL PENTA-DIOXINS	ND		0.986		
TOTAL HEXA-DIOXINS	ND		0.986		
TOTAL HEPTA-DIOXINS	ND		0.986		
TOTAL TETRA-FURANS		3.80	0.986		
TOTAL PENTA-FURANS		2.23	0.986		
TOTAL HEXA-FURANS	ND		0.986		
TOTAL HEPTA-FURANS	ND		0.986		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH246-5  
Sample Collection:  
06-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-9

Matrix: SOLID

Sample Size: 5.07 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 04:46:38

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 20

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 17.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2780	69.4	0.88	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3500	87.6	0.65	1.387
13C-1,2,3,4,7,8-HXCDD		4000	3390	84.8	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3190	79.7	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3920	98.1	1.00	1.094
13C-OCDD		8000	7130	89.1	0.88	1.178
13C-2,3,7,8-TCDF		4000	2770	69.2	0.76	0.968
13C-1,2,3,7,8-PECDF		4000	3090	77.3	1.53	1.288
13C-2,3,4,7,8-PECDF		4000	3130	78.2	1.57	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3220	80.6	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3120	77.9	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3090	77.3	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3330	83.2	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3530	88.3	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3830	95.8	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	160	80.0		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-9\_Form2\_DX0M\_167S20\_SJ1233859.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 06-Nov-2010 09:40

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15774-9

Sample Size: 5.07 g (dry)

GC Column ID: DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filename: DX0M\_167 S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.986	1	0.00e+00	4.93e-01	
1,2,3,7,8-PECDD	ND		0.986	1	0.00e+00	4.93e-01	
1,2,3,4,7,8-HXCDD	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,6,7,8-HXCDD	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,7,8,9-HXCDD	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.986	0.01	0.00e+00	4.93e-03	
OCDD		14.9	0.986	0.0001	1.49e-03	1.49e-03	
2,3,7,8-TCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,7,8-PECDF	ND		0.986	0.05	0.00e+00	2.47e-02	
2,3,4,7,8-PECDF	ND		0.986	0.5	0.00e+00	2.47e-01	
1,2,3,4,7,8-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,6,7,8-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,7,8,9-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
2,3,4,6,7,8-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.986	0.01	0.00e+00	4.93e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.986	0.01	0.00e+00	4.93e-03	
OCDF	ND		0.986	0.0001	0.00e+00	4.93e-05	
<b>TOTAL TEQ</b>					0.00149	1.67	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.986	1	0.00e+00	4.93e-01	
1,2,3,7,8-PECDD	ND		0.986	1	0.00e+00	4.93e-01	
1,2,3,4,7,8-HXCDD	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,6,7,8-HXCDD	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,7,8,9-HXCDD	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,4,6,7,8-HPCDD	ND		0.986	0.01	0.00e+00	4.93e-03	
OCDD		14.9	0.986	0.0003	4.47e-03	4.47e-03	
2,3,7,8-TCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,7,8-PECDF	ND		0.986	0.03	0.00e+00	1.48e-02	
2,3,4,7,8-PECDF	ND		0.986	0.3	0.00e+00	1.48e-01	
1,2,3,4,7,8-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,6,7,8-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,7,8,9-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
2,3,4,6,7,8-HXCDF	ND		0.986	0.1	0.00e+00	4.93e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.986	0.01	0.00e+00	4.93e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.986	0.01	0.00e+00	4.93e-03	
OCDF	ND		0.986	0.0003	0.00e+00	1.48e-04	
<b>TOTAL TEQ</b>					<b>0.00447</b>	<b>1.56</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-9\_TEQ\_SJ1233859.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH247  
Sample Collection:  
06-Nov-2010 09:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-10

Matrix: SOLID

Sample Size: 5.01 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 05:41:58

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg/g (dry weight basis)

% Moisture: 5.05

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		93.7	0.998	0.80	1.001
1,2,3,7,8-PECDD <sup>3</sup>		6.19	0.998	0.58	1.001
1,2,3,4,7,8-HXCDD		7.71	0.998	1.20	1.001
1,2,3,6,7,8-HXCDD		23.1	0.998	1.18	1.000
1,2,3,7,8,9-HXCDD		17.4	0.998	1.20	1.000
1,2,3,4,6,7,8-HPCDD		506	1.46	0.97	1.000
OCDD		4340	0.998	0.86	1.000
2,3,7,8-TCDF		4.92	0.998	0.79	1.001
1,2,3,7,8-PECDF	NDR	1.02	0.998	0.72	1.001
2,3,4,7,8-PECDF	ND		0.998		
1,2,3,4,7,8-HXCDF	NDR	4.72	0.998	1.54	1.000
1,2,3,6,7,8-HXCDF	NDR	2.85	0.998	0.98	1.000
1,2,3,7,8,9-HXCDF	ND		0.998		
2,3,4,6,7,8-HXCDF	NDR	2.82	0.998	1.44	1.001
1,2,3,4,6,7,8-HPCDF		107	0.998	1.01	1.000
1,2,3,4,7,8,9-HPCDF		5.66	0.998	0.94	1.000
OCDF		247	0.998	0.82	1.002
TOTAL TETRA-DIOXINS		100	0.998		
TOTAL PENTA-DIOXINS		21.1	0.998		
TOTAL HEXA-DIOXINS		126	0.998		
TOTAL HEPTA-DIOXINS		858	1.46		
TOTAL TETRA-FURANS		18.9	0.998		
TOTAL PENTA-FURANS		34.4	0.998		
TOTAL HEXA-FURANS		93.3	0.998		
TOTAL HEPTA-FURANS		261	0.998		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-10\_Form1A\_DX0M\_167S21\_SJ1233860.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH247  
Sample Collection:  
06-Nov-2010 09:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-10

Matrix: SOLID

Sample Size: 5.01 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 23:03:33

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_163 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_162 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_163 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 5.05

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		3.25	0.998	0.74	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH247  
Sample Collection:  
06-Nov-2010 09:05

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-10

Matrix: SOLID

Sample Size: 5.01 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 05:41:58

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 21

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 11

Concentration Units: pg absolute

% Moisture: 5.05

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2660	66.6	0.80	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3710	92.8	0.62	1.387
13C-1,2,3,4,7,8-HXCDD		4000	3620	90.5	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3320	83.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	4170	104	0.97	1.094
13C-OCDD		8000	7340	91.7	0.88	1.178
13C-2,3,7,8-TCDF		4000	2990	74.6	0.79	0.968
13C-1,2,3,7,8-PECDF		4000	3340	83.6	1.53	1.288
13C-2,3,4,7,8-PECDF		4000	3410	85.3	1.49	1.357
13C-1,2,3,4,7,8-HXCDF		4000	3250	81.3	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3180	79.5	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3210	80.2	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3410	85.2	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3560	89.0	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3910	97.6	0.46	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	144	71.9		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-10\_Form2\_DX0M\_167S21\_SJ1233860.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.01 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 06-Nov-2010 09:05

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-10

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_163 S: 5  
DX0M\_167 S: 21

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		93.7	0.998	1	9.37e+01	9.37e+01	
1,2,3,7,8-PECDD		6.19	0.998	1	6.19e+00	6.19e+00	
1,2,3,4,7,8-HXCDD		7.71	0.998	0.1	7.71e-01	7.71e-01	
1,2,3,6,7,8-HXCDD		23.1	0.998	0.1	2.31e+00	2.31e+00	
1,2,3,7,8,9-HXCDD		17.4	0.998	0.1	1.74e+00	1.74e+00	
1,2,3,4,6,7,8-HPCDD		506	1.46	0.01	5.06e+00	5.06e+00	
OCDD		4340	0.998	0.0001	4.34e-01	4.34e-01	
2,3,7,8-TCDF		3.25	0.998	0.1	3.25e-01	3.25e-01	
1,2,3,7,8-PECDF	ND		0.998	0.05	0.00e+00	2.50e-02	
2,3,4,7,8-PECDF	ND		0.998	0.5	0.00e+00	2.50e-01	
1,2,3,4,7,8-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
1,2,3,6,7,8-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
1,2,3,7,8,9-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
2,3,4,6,7,8-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
1,2,3,4,6,7,8-HPCDF		107	0.998	0.01	1.07e+00	1.07e+00	
1,2,3,4,7,8,9-HPCDF		5.66	0.998	0.01	5.66e-02	5.66e-02	
OCDF		247	0.998	0.0001	2.47e-02	2.47e-02	
<b>TOTAL TEQ</b>					112	112	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		93.7	0.998	1	9.37e+01	9.37e+01	
1,2,3,7,8-PECDD		6.19	0.998	1	6.19e+00	6.19e+00	
1,2,3,4,7,8-HXCDD		7.71	0.998	0.1	7.71e-01	7.71e-01	
1,2,3,6,7,8-HXCDD		23.1	0.998	0.1	2.31e+00	2.31e+00	
1,2,3,7,8,9-HXCDD		17.4	0.998	0.1	1.74e+00	1.74e+00	
1,2,3,4,6,7,8-HPCDD		506	1.46	0.01	5.06e+00	5.06e+00	
OCDD		4340	0.998	0.0003	1.30e+00	1.30e+00	
2,3,7,8-TCDF		3.25	0.998	0.1	3.25e-01	3.25e-01	
1,2,3,7,8-PECDF	ND		0.998	0.03	0.00e+00	1.50e-02	
2,3,4,7,8-PECDF	ND		0.998	0.3	0.00e+00	1.50e-01	
1,2,3,4,7,8-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
1,2,3,6,7,8-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
1,2,3,7,8,9-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
2,3,4,6,7,8-HXCDF	ND		0.998	0.1	0.00e+00	4.99e-02	
1,2,3,4,6,7,8-HPCDF		107	0.998	0.01	1.07e+00	1.07e+00	
1,2,3,4,7,8,9-HPCDF		5.66	0.998	0.01	5.66e-02	5.66e-02	
OCDF		247	0.998	0.0003	7.41e-02	7.41e-02	
<b>TOTAL TEQ</b>					113	113	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-10\_TEQ\_SJ1233883.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH248  
Sample Collection:  
06-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-11

Matrix: SOLID

Sample Size: 5.42 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 12:33:33

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 28

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 22

Concentration Units: pg/g (dry weight basis)

% Moisture: 10.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		4.83	0.923	0.87	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.923		
1,2,3,4,7,8-HXCDD	ND		0.923		
1,2,3,6,7,8-HXCDD	NDR	2.56	0.923	1.00	1.001
1,2,3,7,8,9-HXCDD		2.67	0.923	1.21	1.000
1,2,3,4,6,7,8-HPCDD		15.1	0.923	1.01	1.000
OCDD		162	0.923	0.88	1.000
2,3,7,8-TCDF	NDR	0.976	0.923	0.28	1.001
1,2,3,7,8-PECDF	ND		0.923		
2,3,4,7,8-PECDF	ND		0.923		
1,2,3,4,7,8-HXCDF	ND		0.923		
1,2,3,6,7,8-HXCDF	ND		0.923		
1,2,3,7,8,9-HXCDF	ND		0.923		
2,3,4,6,7,8-HXCDF	ND		0.923		
1,2,3,4,6,7,8-HPCDF	NDR	2.75	0.923	0.79	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.923		
OCDF		6.17	0.923	0.80	1.002
TOTAL TETRA-DIOXINS		5.80	0.923		
TOTAL PENTA-DIOXINS	ND		0.923		
TOTAL HEXA-DIOXINS		2.67	0.923		
TOTAL HEPTA-DIOXINS		30.2	0.923		
TOTAL TETRA-FURANS	ND		0.923		
TOTAL PENTA-FURANS		1.86	0.923		
TOTAL HEXA-FURANS		1.14	0.923		
TOTAL HEPTA-FURANS	ND		0.923		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-11\_Form1A\_DX0M\_167S28\_SJ1233910.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH248  
Sample Collection:  
06-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-11

Matrix: SOLID

Sample Size: 5.42 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Dec-2010 Time: 23:40:28

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB03\_163 S: 6

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_162 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_163 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 10.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		0.923		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-11\_Form1A\_DB03\_163S6\_SJ1233884.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH248  
Sample Collection:  
06-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-11

Matrix: SOLID

Sample Size: 5.42 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 12:33:33

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 28

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 22

Concentration Units: pg absolute

% Moisture: 10.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2770	69.1	0.77	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3300	82.5	0.64	1.388
13C-1,2,3,4,7,8-HXCDD		4000	3290	82.2	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2920	72.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3540	88.5	0.99	1.094
13C-OCDD		8000	6270	78.3	0.87	1.178
13C-2,3,7,8-TCDF		4000	2980	74.6	0.74	0.968
13C-1,2,3,7,8-PECDF		4000	2950	73.7	1.52	1.288
13C-2,3,4,7,8-PECDF		4000	3190	79.9	1.46	1.358
13C-1,2,3,4,7,8-HXCDF		4000	2930	73.1	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2850	71.3	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3050	76.2	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3120	78.0	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3170	79.2	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3560	89.1	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	150	75.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-11\_Form2\_DX0M\_167S28\_SJ1233910.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 06-Nov-2010 09:55  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-11  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_163 S: 6  
DX0M\_167 S: 28

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.42 g (dry)

Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		4.83	0.923	1	4.83e+00	4.83e+00	
1,2,3,7,8-PECDD	ND		0.923	1	0.00e+00	4.62e-01	
1,2,3,4,7,8-HXCDD	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,6,7,8-HXCDD	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,7,8,9-HXCDD		2.67	0.923	0.1	2.67e-01	2.67e-01	
1,2,3,4,6,7,8-HPCDD		15.1	0.923	0.01	1.51e-01	1.51e-01	
OCDD		162	0.923	0.0001	1.62e-02	1.62e-02	
2,3,7,8-TCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,7,8-PECDF	ND		0.923	0.05	0.00e+00	2.31e-02	
2,3,4,7,8-PECDF	ND		0.923	0.5	0.00e+00	2.31e-01	
1,2,3,4,7,8-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,6,7,8-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,7,8,9-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
2,3,4,6,7,8-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.923	0.01	0.00e+00	4.62e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.923	0.01	0.00e+00	4.62e-03	
OCDF		6.17	0.923	0.0001	6.17e-04	6.17e-04	
<b>TOTAL TEQ</b>					<b>5.26</b>	<b>6.31</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		4.83	0.923	1	4.83e+00	4.83e+00	
1,2,3,7,8-PECDD	ND		0.923	1	0.00e+00	4.62e-01	
1,2,3,4,7,8-HXCDD	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,6,7,8-HXCDD	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,7,8,9-HXCDD		2.67	0.923	0.1	2.67e-01	2.67e-01	
1,2,3,4,6,7,8-HPCDD		15.1	0.923	0.01	1.51e-01	1.51e-01	
OCDD		162	0.923	0.0003	4.86e-02	4.86e-02	
2,3,7,8-TCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,7,8-PECDF	ND		0.923	0.03	0.00e+00	1.38e-02	
2,3,4,7,8-PECDF	ND		0.923	0.3	0.00e+00	1.38e-01	
1,2,3,4,7,8-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,6,7,8-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,7,8,9-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
2,3,4,6,7,8-HXCDF	ND		0.923	0.1	0.00e+00	4.62e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.923	0.01	0.00e+00	4.62e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.923	0.01	0.00e+00	4.62e-03	
OCDF		6.17	0.923	0.0003	1.85e-03	1.85e-03	
<b>TOTAL TEQ</b>					5.30	6.24	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-11\_TEQ\_SJ1233884.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH250  
Sample Collection:  
06-Nov-2010 10:59

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-12

Matrix: SOLID

Sample Size: 5.24 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 13:28:46

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 29

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 22

Concentration Units: pg/g (dry weight basis)

% Moisture: 7.98

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		28.3	0.954	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	4.33	0.954	0.71	1.001
1,2,3,4,7,8-HXCDD		5.14	0.954	1.06	1.001
1,2,3,6,7,8-HXCDD	NDR	9.75	0.954	0.90	1.000
1,2,3,7,8,9-HXCDD		11.4	0.954	1.33	1.000
1,2,3,4,6,7,8-HPCDD		152	1.01	0.98	1.000
OCDD		1490	0.954	0.86	1.000
2,3,7,8-TCDF		6.48	0.954	0.84	1.002
1,2,3,7,8-PECDF	NDR	1.19	1.11	2.23	1.001
2,3,4,7,8-PECDF		2.17	1.11	1.69	1.000
1,2,3,4,7,8-HXCDF		4.03	0.954	1.43	1.000
1,2,3,6,7,8-HXCDF		2.67	0.954	1.07	1.000
1,2,3,7,8,9-HXCDF		1.17	0.954	1.23	1.000
2,3,4,6,7,8-HXCDF		2.94	0.954	1.20	1.001
1,2,3,4,6,7,8-HPCDF		32.2	0.954	1.02	1.001
1,2,3,4,7,8,9-HPCDF	NDR	2.36	0.954	0.86	1.000
OCDF		50.1	0.954	0.85	1.002
TOTAL TETRA-DIOXINS		38.8	0.954		
TOTAL PENTA-DIOXINS		5.94	0.954		
TOTAL HEXA-DIOXINS		81.9	0.954		
TOTAL HEPTA-DIOXINS		306	1.01		
TOTAL TETRA-FURANS		40.9	0.954		
TOTAL PENTA-FURANS		30.5	1.11		
TOTAL HEXA-FURANS		45.8	0.954		
TOTAL HEPTA-FURANS		69.9	0.954		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-12\_Form1A\_DX0M\_167S29\_SJ1233911.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH250  
Sample Collection:  
06-Nov-2010 10:59

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15774-12

Matrix: SOLID

Sample Size:

5.24 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date:

09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID:

HR GC/MS

Analysis Date: 14-Dec-2010 Time: 00:17:22

GC Column ID:

DB225

Extract Volume (uL): 100

Sample Data Filename:

DB03\_163 S: 7

Injection Volume (uL): 2.0

Blank Data Filename:

DB03\_162 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

DB03\_163 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture:

7.98

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.22	0.954	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15774-12\_Form1A\_DB03\_163S7\_SJ1233885.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH250  
Sample Collection:  
06-Nov-2010 10:59

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-12

Matrix: SOLID

Sample Size: 5.24 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 13:28:46

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 29

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 22

Concentration Units: pg absolute

% Moisture: 7.98

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	3040	75.9	0.75	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3480	87.0	0.60	1.388
13C-1,2,3,4,7,8-HXCDD		4000	3210	80.3	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2930	73.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3650	91.2	0.96	1.094
13C-OCDD		8000	6180	77.2	0.89	1.178
13C-2,3,7,8-TCDF		4000	3130	78.3	0.80	0.967
13C-1,2,3,7,8-PECDF		4000	2910	72.8	1.48	1.288
13C-2,3,4,7,8-PECDF		4000	3090	77.3	1.50	1.357
13C-1,2,3,4,7,8-HXCDF		4000	2990	74.8	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2790	69.8	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2930	73.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3040	76.0	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3100	77.6	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3360	84.0	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	164	81.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-12\_Form2\_DX0M\_167S29\_SJ1233911.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.24 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 06-Nov-2010 10:59

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-12

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB03\_163 S: 7  
DX0M\_167 S: 29

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		28.3	0.954	1	2.83e+01	2.83e+01	
1,2,3,7,8-PECDD	ND		0.954	1	0.00e+00	4.77e-01	
1,2,3,4,7,8-HXCDD		5.14	0.954	0.1	5.14e-01	5.14e-01	
1,2,3,6,7,8-HXCDD	ND		0.954	0.1	0.00e+00	4.77e-02	
1,2,3,7,8,9-HXCDD		11.4	0.954	0.1	1.14e+00	1.14e+00	
1,2,3,4,6,7,8-HPCDD		152	1.01	0.01	1.52e+00	1.52e+00	
OCDD		1490	0.954	0.0001	1.49e-01	1.49e-01	
2,3,7,8-TCDF		2.22	0.954	0.1	2.22e-01	2.22e-01	
1,2,3,7,8-PECDF	ND		1.11	0.05	0.00e+00	2.78e-02	
2,3,4,7,8-PECDF		2.17	1.11	0.5	1.09e+00	1.09e+00	
1,2,3,4,7,8-HXCDF		4.03	0.954	0.1	4.03e-01	4.03e-01	
1,2,3,6,7,8-HXCDF		2.67	0.954	0.1	2.67e-01	2.67e-01	
1,2,3,7,8,9-HXCDF		1.17	0.954	0.1	1.17e-01	1.17e-01	
2,3,4,6,7,8-HXCDF		2.94	0.954	0.1	2.94e-01	2.94e-01	
1,2,3,4,6,7,8-HPCDF		32.2	0.954	0.01	3.22e-01	3.22e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.954	0.01	0.00e+00	4.77e-03	
OCDF		50.1	0.954	0.0001	5.01e-03	5.01e-03	
<b>TOTAL TEQ</b>					<b>34.3</b>	<b>34.9</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		28.3	0.954	1	2.83e+01	2.83e+01	
1,2,3,7,8-PECDD	ND		0.954	1	0.00e+00	4.77e-01	
1,2,3,4,7,8-HXCDD		5.14	0.954	0.1	5.14e-01	5.14e-01	
1,2,3,6,7,8-HXCDD	ND		0.954	0.1	0.00e+00	4.77e-02	
1,2,3,7,8,9-HXCDD		11.4	0.954	0.1	1.14e+00	1.14e+00	
1,2,3,4,6,7,8-HPCDD		152	1.01	0.01	1.52e+00	1.52e+00	
OCDD		1490	0.954	0.0003	4.47e-01	4.47e-01	
2,3,7,8-TCDF		2.22	0.954	0.1	2.22e-01	2.22e-01	
1,2,3,7,8-PECDF	ND		1.11	0.03	0.00e+00	1.67e-02	
2,3,4,7,8-PECDF		2.17	1.11	0.3	6.51e-01	6.51e-01	
1,2,3,4,7,8-HXCDF		4.03	0.954	0.1	4.03e-01	4.03e-01	
1,2,3,6,7,8-HXCDF		2.67	0.954	0.1	2.67e-01	2.67e-01	
1,2,3,7,8,9-HXCDF		1.17	0.954	0.1	1.17e-01	1.17e-01	
2,3,4,6,7,8-HXCDF		2.94	0.954	0.1	2.94e-01	2.94e-01	
1,2,3,4,6,7,8-HPCDF		32.2	0.954	0.01	3.22e-01	3.22e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.954	0.01	0.00e+00	4.77e-03	
OCDF		50.1	0.954	0.0003	1.50e-02	1.50e-02	
<b>TOTAL TEQ</b>					34.2	34.8	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-12\_TEQ\_SJ1233885.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH251  
Sample Collection:  
06-Nov-2010 11:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-13

Matrix: SOLID

Sample Size: 5.32 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 14:24:06

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 30

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 22

Concentration Units: pg/g (dry weight basis)

% Moisture: 11.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		225	0.940	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		4.58	0.940	0.54	1.000
1,2,3,4,7,8-HXCDD	NDR	3.94	0.940	0.95	1.000
1,2,3,6,7,8-HXCDD		10.1	0.940	1.16	1.000
1,2,3,7,8,9-HXCDD	NDR	12.5	0.940	1.04	1.000
1,2,3,4,6,7,8-HPCDD		264	1.05	1.03	1.000
OCDD		2010	1.22	0.87	1.000
2,3,7,8-TCDF		12.8	0.940	0.76	1.001
1,2,3,7,8-PECDF	NDR	2.27	0.940	1.85	1.001
2,3,4,7,8-PECDF		2.96	0.940	1.50	1.001
1,2,3,4,7,8-HXCDF		4.03	0.940	1.31	1.001
1,2,3,6,7,8-HXCDF		3.47	0.940	1.27	1.000
1,2,3,7,8,9-HXCDF	NDR	1.19	0.940	2.00	1.000
2,3,4,6,7,8-HXCDF	NDR	3.26	0.940	1.01	1.000
1,2,3,4,6,7,8-HPCDF		27.5	0.940	1.07	1.000
1,2,3,4,7,8,9-HPCDF		2.55	0.940	1.19	1.000
OCDF		42.2	0.940	0.84	1.002
TOTAL TETRA-DIOXINS		241	0.940		
TOTAL PENTA-DIOXINS		26.9	0.940		
TOTAL HEXA-DIOXINS		78.8	0.940		
TOTAL HEPTA-DIOXINS		482	1.05		
TOTAL TETRA-FURANS		48.9	0.940		
TOTAL PENTA-FURANS		33.6	0.940		
TOTAL HEXA-FURANS		45.5	0.940		
TOTAL HEPTA-FURANS		61.8	0.940		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-13\_Form1A\_DX0M\_167S30\_SJ1233912.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH251  
Sample Collection:  
06-Nov-2010 11:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
  
Matrix: SOLID  
  
Sample Receipt Date: 19-Nov-2010  
  
Extraction Date: 03-Dec-2010  
  
Analysis Date: 14-Dec-2010 Time: 00:54:16  
  
Extract Volume (uL): 100  
  
Injection Volume (uL): 2.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15774-13  
  
Sample Size: 5.32 g (dry)  
  
Initial Calibration Date: 09-Nov-2010  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB225  
  
Sample Data Filename: DB03\_163 S: 8  
  
Blank Data Filename: DB03\_162 S: 5  
  
Cal. Ver. Data Filename: DB03\_163 S: 2  
  
% Moisture: 11.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		5.51	0.940	0.86	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH251  
Sample Collection:  
06-Nov-2010 11:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15774-13

Matrix: SOLID

Sample Size: 5.32 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Dec-2010 Time: 14:24:06

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX0M\_167 S: 30

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_167 S: 22

Concentration Units: pg absolute

% Moisture: 11.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2750	68.7	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3330	83.1	0.62	1.388
13C-1,2,3,4,7,8-HXCDD		4000	3520	87.9	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3150	78.8	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	4140	103	0.98	1.094
13C-OCDD		8000	7140	89.3	0.85	1.178
13C-2,3,7,8-TCDF		4000	2960	73.9	0.77	0.967
13C-1,2,3,7,8-PECDF		4000	2990	74.7	1.50	1.287
13C-2,3,4,7,8-PECDF		4000	3150	78.8	1.48	1.358
13C-1,2,3,4,7,8-HXCDF		4000	3030	75.8	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3150	78.7	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3180	79.4	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3280	82.0	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	3700	92.4	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3870	96.8	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	168	84.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15774-13\_Form2\_DX0M\_167S30\_SJ1233912.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH251

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 06-Nov-2010 11:30

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15774-13

Sample Size: 5.32 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB03\_163 S: 8  
DX0M\_167 S: 30

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		225	0.940	1	2.25e+02	2.25e+02	
1,2,3,7,8-PECDD		4.58	0.940	1	4.58e+00	4.58e+00	
1,2,3,4,7,8-HXCDD	ND		0.940	0.1	0.00e+00	4.70e-02	
1,2,3,6,7,8-HXCDD		10.1	0.940	0.1	1.01e+00	1.01e+00	
1,2,3,7,8,9-HXCDD	ND		0.940	0.1	0.00e+00	4.70e-02	
1,2,3,4,6,7,8-HPCDD		264	1.05	0.01	2.64e+00	2.64e+00	
OCDD		2010	1.22	0.0001	2.01e-01	2.01e-01	
2,3,7,8-TCDF		5.51	0.940	0.1	5.51e-01	5.51e-01	
1,2,3,7,8-PECDF	ND		0.940	0.05	0.00e+00	2.35e-02	
2,3,4,7,8-PECDF		2.96	0.940	0.5	1.48e+00	1.48e+00	
1,2,3,4,7,8-HXCDF		4.03	0.940	0.1	4.03e-01	4.03e-01	
1,2,3,6,7,8-HXCDF		3.47	0.940	0.1	3.47e-01	3.47e-01	
1,2,3,7,8,9-HXCDF	ND		0.940	0.1	0.00e+00	4.70e-02	
2,3,4,6,7,8-HXCDF	ND		0.940	0.1	0.00e+00	4.70e-02	
1,2,3,4,6,7,8-HPCDF		27.5	0.940	0.01	2.75e-01	2.75e-01	
1,2,3,4,7,8,9-HPCDF		2.55	0.940	0.01	2.55e-02	2.55e-02	
OCDF		42.2	0.940	0.0001	4.22e-03	4.22e-03	
<b>TOTAL TEQ</b>					<b>237</b>	<b>237</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		225	0.940	1	2.25e+02	2.25e+02	
1,2,3,7,8-PECDD		4.58	0.940	1	4.58e+00	4.58e+00	
1,2,3,4,7,8-HXCDD	ND		0.940	0.1	0.00e+00	4.70e-02	
1,2,3,6,7,8-HXCDD		10.1	0.940	0.1	1.01e+00	1.01e+00	
1,2,3,7,8,9-HXCDD	ND		0.940	0.1	0.00e+00	4.70e-02	
1,2,3,4,6,7,8-HPCDD		264	1.05	0.01	2.64e+00	2.64e+00	
OCDD		2010	1.22	0.0003	6.03e-01	6.03e-01	
2,3,7,8-TCDF		5.51	0.940	0.1	5.51e-01	5.51e-01	
1,2,3,7,8-PECDF	ND		0.940	0.03	0.00e+00	1.41e-02	
2,3,4,7,8-PECDF		2.96	0.940	0.3	8.88e-01	8.88e-01	
1,2,3,4,7,8-HXCDF		4.03	0.940	0.1	4.03e-01	4.03e-01	
1,2,3,6,7,8-HXCDF		3.47	0.940	0.1	3.47e-01	3.47e-01	
1,2,3,7,8,9-HXCDF	ND		0.940	0.1	0.00e+00	4.70e-02	
2,3,4,6,7,8-HXCDF	ND		0.940	0.1	0.00e+00	4.70e-02	
1,2,3,4,6,7,8-HPCDF		27.5	0.940	0.01	2.75e-01	2.75e-01	
1,2,3,4,7,8,9-HPCDF		2.55	0.940	0.01	2.55e-02	2.55e-02	
OCDF		42.2	0.940	0.0003	1.27e-02	1.27e-02	
<b>TOTAL TEQ</b>					236	237	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15774-13\_TEQ\_SJ1233886.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH400  
Sample Collection:  
02-Nov-2010 08:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-7
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	10.5 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	17-Dec-2010 Time: 04:27:44	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 37
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 29
		<b>% Moisture:</b>	50.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		62.8	0.0531 (S)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		1.65	0.0476 (Q)	0.67	1.002
1,2,3,4,7,8-HXCDD		1.78	0.0713 (S)	1.12	1.000
1,2,3,6,7,8-HXCDD		5.61	0.0713 (S)	1.12	1.001
1,2,3,7,8,9-HXCDD		7.55	0.0713 (S)	1.16	1.000
1,2,3,4,6,7,8-HPCDD		141	0.185 (S)	1.00	1.000
OCDD		1430	0.0741 (S)	0.88	1.000
2,3,7,8-TCDF		4.79	0.0476 (Q)	0.69	1.001
1,2,3,7,8-PECDF		0.591	0.0882 (S)	1.61	1.001
2,3,4,7,8-PECDF	NDR	0.533	0.0882 (S)	1.02	1.001
1,2,3,4,7,8-HXCDF		1.04	0.0850 (S)	1.32	1.000
1,2,3,6,7,8-HXCDF		1.68	0.0850 (S)	1.25	1.001
1,2,3,7,8,9-HXCDF		0.310	0.0850 (S)	1.21	1.001
2,3,4,6,7,8-HXCDF		0.654	0.0850 (S)	1.19	1.000
1,2,3,4,6,7,8-HPCDF		7.84	0.0476 (Q)	0.96	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.895	0.0476 (Q)	0.84	1.000
OCDF		19.4	0.0476 (Q)	0.83	1.002
TOTAL TETRA-DIOXINS		77.1	0.0531 (S)		
TOTAL PENTA-DIOXINS		19.2	0.0476 (Q)		
TOTAL HEXA-DIOXINS		74.1	0.0713 (S)		
TOTAL HEPTA-DIOXINS		294	0.185 (S)		
TOTAL TETRA-FURANS		20.3	0.0476 (Q)		
TOTAL PENTA-FURANS		21.7	0.0882 (S)		
TOTAL HEXA-FURANS		18.1	0.0850 (S)		
TOTAL HEPTA-FURANS		18.6	0.0476 (Q)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH400  
Sample Collection:  
02-Nov-2010 08:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 07-Dec-2010  
**Analysis Date:** 16-Dec-2010 **Time:** 02:31:38  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15775-7  
**Sample Size:** 10.5 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB03\_167 S: 12  
**Blank Data Filename:** N/A  
**Cal. Ver. Data Filename:** DB03\_167 S: 2  
**% Moisture:** 50.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		2.73	0.0476 (Q)	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-7\_Form1A\_DB03\_167S12\_SJ1235958.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH400  
Sample Collection:  
02-Nov-2010 08:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 04:27:44

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-7

Sample Size: 10.5 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 37

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 29

% Moisture: 50.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1120	55.9	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1520	75.8	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1250	62.6	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1150	57.7	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1430	71.5	0.95	1.094
13C-OCDD		4000	2770	69.3	0.89	1.178
13C-2,3,7,8-TCDF		2000	1110	55.7	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1220	60.9	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1250	62.7	1.54	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1180	58.8	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1130	56.7	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1200	60.2	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1250	62.6	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1320	66.2	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1420	71.0	0.44	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	150	74.8		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_





## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH400

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.5 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 08:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-7

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 12  
DX0M\_169 S: 37

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		62.8	0.0531	1	6.28e+01	6.28e+01	
1,2,3,7,8-PECDD		1.65	0.0476	1	1.65e+00	1.65e+00	
1,2,3,4,7,8-HXCDD		1.78	0.0713	0.1	1.78e-01	1.78e-01	
1,2,3,6,7,8-HXCDD		5.61	0.0713	0.1	5.61e-01	5.61e-01	
1,2,3,7,8,9-HXCDD		7.55	0.0713	0.1	7.55e-01	7.55e-01	
1,2,3,4,6,7,8-HPCDD		141	0.185	0.01	1.41e+00	1.41e+00	
OCDD		1430	0.0741	0.0001	1.43e-01	1.43e-01	
2,3,7,8-TCDF		2.73	0.0476	0.1	2.73e-01	2.73e-01	
1,2,3,7,8-PECDF		0.591	0.0882	0.05	2.96e-02	2.96e-02	
2,3,4,7,8-PECDF	ND		0.0882	0.5	0.00e+00	2.21e-02	
1,2,3,4,7,8-HXCDF		1.04	0.0850	0.1	1.04e-01	1.04e-01	
1,2,3,6,7,8-HXCDF		1.68	0.0850	0.1	1.68e-01	1.68e-01	
1,2,3,7,8,9-HXCDF		0.310	0.0850	0.1	3.10e-02	3.10e-02	
2,3,4,6,7,8-HXCDF		0.654	0.0850	0.1	6.54e-02	6.54e-02	
1,2,3,4,6,7,8-HPCDF		7.84	0.0476	0.01	7.84e-02	7.84e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0476	0.01	0.00e+00	2.38e-04	
OCDF		19.4	0.0476	0.0001	1.94e-03	1.94e-03	
<b>TOTAL TEQ</b>					<b>68.2</b>	<b>68.3</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		62.8	0.0531	1	6.28e+01	6.28e+01	
1,2,3,7,8-PECDD		1.65	0.0476	1	1.65e+00	1.65e+00	
1,2,3,4,7,8-HXCDD		1.78	0.0713	0.1	1.78e-01	1.78e-01	
1,2,3,6,7,8-HXCDD		5.61	0.0713	0.1	5.61e-01	5.61e-01	
1,2,3,7,8,9-HXCDD		7.55	0.0713	0.1	7.55e-01	7.55e-01	
1,2,3,4,6,7,8-HPCDD		141	0.185	0.01	1.41e+00	1.41e+00	
OCDD		1430	0.0741	0.0003	4.29e-01	4.29e-01	
2,3,7,8-TCDF		2.73	0.0476	0.1	2.73e-01	2.73e-01	
1,2,3,7,8-PECDF		0.591	0.0882	0.03	1.77e-02	1.77e-02	
2,3,4,7,8-PECDF	ND		0.0882	0.3	0.00e+00	1.32e-02	
1,2,3,4,7,8-HXCDF		1.04	0.0850	0.1	1.04e-01	1.04e-01	
1,2,3,6,7,8-HXCDF		1.68	0.0850	0.1	1.68e-01	1.68e-01	
1,2,3,7,8,9-HXCDF		0.310	0.0850	0.1	3.10e-02	3.10e-02	
2,3,4,6,7,8-HXCDF		0.654	0.0850	0.1	6.54e-02	6.54e-02	
1,2,3,4,6,7,8-HPCDF		7.84	0.0476	0.01	7.84e-02	7.84e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0476	0.01	0.00e+00	2.38e-04	
OCDF		19.4	0.0476	0.0003	5.82e-03	5.82e-03	
<b>TOTAL TEQ</b>					<b>68.5</b>	<b>68.5</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-7\_TEQ\_SJ1235958.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH402  
Sample Collection:  
02-Nov-2010 08:48

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 05:22:57

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-8

Sample Size: 10.3 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 38

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 29

% Moisture: 27.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		362	0.144 (S)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		3.99	0.0941 (S)	0.63	1.001
1,2,3,4,7,8-HXCDD		1.32	0.100 (S)	1.22	1.000
1,2,3,6,7,8-HXCDD		4.96	0.100 (S)	1.25	1.000
1,2,3,7,8,9-HXCDD		4.45	0.100 (S)	1.22	1.000
1,2,3,4,6,7,8-HPCDD		55.7	0.213 (S)	1.03	1.000
OCDD		517	0.161 (S)	0.86	1.000
2,3,7,8-TCDF		44.7	0.0654 (S)	0.75	1.001
1,2,3,7,8-PECDF	NDR	0.943	0.108 (S)	1.31	1.001
2,3,4,7,8-PECDF	NDR	0.814	0.108 (S)	1.83	1.001
1,2,3,4,7,8-HXCDF		1.11	0.0697 (S)	1.19	1.000
1,2,3,6,7,8-HXCDF		0.747	0.0697 (S)	1.26	1.000
1,2,3,7,8,9-HXCDF	NDR	0.142	0.0697 (S)	0.79	1.000
2,3,4,6,7,8-HXCDF	NDR	0.565	0.0697 (S)	0.81	1.000
1,2,3,4,6,7,8-HPCDF		8.32	0.0709 (S)	0.92	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.569	0.0709 (S)	0.87	1.000
OCDF		11.8	0.0486 (Q)	0.88	1.002
TOTAL TETRA-DIOXINS		394	0.144 (S)		
TOTAL PENTA-DIOXINS		27.8	0.0941 (S)		
TOTAL HEXA-DIOXINS		63.0	0.100 (S)		
TOTAL HEPTA-DIOXINS		118	0.213 (S)		
TOTAL TETRA-FURANS		108	0.0654 (S)		
TOTAL PENTA-FURANS		92.4	0.108 (S)		
TOTAL HEXA-FURANS		30.4	0.0697 (S)		
TOTAL HEPTA-FURANS		18.3	0.0709 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH402  
Sample Collection:  
02-Nov-2010 08:48

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 03:08:33

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-8

Sample Size: 10.3 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB225

Sample Data Filename: DB03\_167 S: 13

Blank Data Filename: N/A

Cal. Ver. Data Filename: DB03\_167 S: 2

% Moisture: 27.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		38.1	0.117 (S)	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-8\_Form1A\_DB03\_167S13\_SJ1235959.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH402  
Sample Collection:  
02-Nov-2010 08:48

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 05:22:57  
Extract Volume (uL): 20  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-8  
Sample Size: 10.3 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 38  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 29  
% Moisture: 27.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	724	36.2	0.74	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	991	49.6	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		2000	854	42.7	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	777	38.8	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	968	48.4	0.93	1.094
13C-OCDD		4000	1860	46.5	0.87	1.178
13C-2,3,7,8-TCDF		2000	702	35.1	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	809	40.5	1.50	1.286
13C-2,3,4,7,8-PECDF		2000	809	40.4	1.54	1.355
13C-1,2,3,4,7,8-HXCDF		2000	863	43.1	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	809	40.5	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	812	40.6	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	806	40.3	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	929	46.5	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1010	50.6	0.44	1.104
<b>CLEANUP STANDARD</b>						
37CL-2,3,7,8-TCDD		200	94.9	47.5		1.015

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 10-Feb-2011 14:15:13; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15775-8\_Form2\_DX0M\_169S38\_SJ1235933.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH402

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.3 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 08:48

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-8

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 13  
DX0M\_169 S: 38

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		362	0.144	1	3.62e+02	3.62e+02	
1,2,3,7,8-PECDD		3.99	0.0941	1	3.99e+00	3.99e+00	
1,2,3,4,7,8-HXCDD		1.32	0.100	0.1	1.32e-01	1.32e-01	
1,2,3,6,7,8-HXCDD		4.96	0.100	0.1	4.96e-01	4.96e-01	
1,2,3,7,8,9-HXCDD		4.45	0.100	0.1	4.45e-01	4.45e-01	
1,2,3,4,6,7,8-HPCDD		55.7	0.213	0.01	5.57e-01	5.57e-01	
OCDD		517	0.161	0.0001	5.17e-02	5.17e-02	
2,3,7,8-TCDF		38.1	0.117	0.1	3.81e+00	3.81e+00	
1,2,3,7,8-PECDF	ND		0.108	0.05	0.00e+00	2.70e-03	
2,3,4,7,8-PECDF	ND		0.108	0.5	0.00e+00	2.70e-02	
1,2,3,4,7,8-HXCDF		1.11	0.0697	0.1	1.11e-01	1.11e-01	
1,2,3,6,7,8-HXCDF		0.747	0.0697	0.1	7.47e-02	7.47e-02	
1,2,3,7,8,9-HXCDF	ND		0.0697	0.1	0.00e+00	3.49e-03	
2,3,4,6,7,8-HXCDF	ND		0.0697	0.1	0.00e+00	3.49e-03	
1,2,3,4,6,7,8-HPCDF		8.32	0.0709	0.01	8.32e-02	8.32e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0709	0.01	0.00e+00	3.55e-04	
OCDF		11.8	0.0486	0.0001	1.18e-03	1.18e-03	
<b>TOTAL TEQ</b>					<b>372</b>	<b>372</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		362	0.144	1	3.62e+02	3.62e+02	
1,2,3,7,8-PECDD		3.99	0.0941	1	3.99e+00	3.99e+00	
1,2,3,4,7,8-HXCDD		1.32	0.100	0.1	1.32e-01	1.32e-01	
1,2,3,6,7,8-HXCDD		4.96	0.100	0.1	4.96e-01	4.96e-01	
1,2,3,7,8,9-HXCDD		4.45	0.100	0.1	4.45e-01	4.45e-01	
1,2,3,4,6,7,8-HPCDD		55.7	0.213	0.01	5.57e-01	5.57e-01	
OCDD		517	0.161	0.0003	1.55e-01	1.55e-01	
2,3,7,8-TCDF		38.1	0.117	0.1	3.81e+00	3.81e+00	
1,2,3,7,8-PECDF	ND		0.108	0.03	0.00e+00	1.62e-03	
2,3,4,7,8-PECDF	ND		0.108	0.3	0.00e+00	1.62e-02	
1,2,3,4,7,8-HXCDF		1.11	0.0697	0.1	1.11e-01	1.11e-01	
1,2,3,6,7,8-HXCDF		0.747	0.0697	0.1	7.47e-02	7.47e-02	
1,2,3,7,8,9-HXCDF	ND		0.0697	0.1	0.00e+00	3.49e-03	
2,3,4,6,7,8-HXCDF	ND		0.0697	0.1	0.00e+00	3.49e-03	
1,2,3,4,6,7,8-HPCDF		8.32	0.0709	0.01	8.32e-02	8.32e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0709	0.01	0.00e+00	3.55e-04	
OCDF		11.8	0.0486	0.0003	3.54e-03	3.54e-03	
<b>TOTAL TEQ</b>					<b>372</b>	<b>372</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-8\_TEQ\_SJ1235959.html; Workgroup: WG34860; Design ID: 1505 ]

AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH403  
Sample Collection:  
02-Nov-2010 14:55

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-9
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	10.6 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	17-Dec-2010 Time: 06:18:11	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 39
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 29
		<b>% Moisture:</b>	17.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		37.4	0.0549 (S)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	0.563	0.0597 (S)	0.52	1.001
1,2,3,4,7,8-HXCDD	NDR	0.364	0.0474 (Q)	1.86	1.000
1,2,3,6,7,8-HXCDD		1.12	0.0474 (Q)	1.23	1.001
1,2,3,7,8,9-HXCDD		1.15	0.0474 (Q)	1.25	1.000
1,2,3,4,6,7,8-HPCDD		21.3	0.0676 (S)	0.98	1.000
OCDD		216	0.156 (S)	0.88	1.000
2,3,7,8-TCDF		2.68	0.0474 (Q)	0.67	1.002
1,2,3,7,8-PECDF	NDR	0.156	0.0474 (Q)	2.51	1.000
2,3,4,7,8-PECDF	NDR	0.245	0.0474 (Q)	1.29	1.001
1,2,3,4,7,8-HXCDF		0.468	0.0647 (S)	1.13	1.000
1,2,3,6,7,8-HXCDF	NDR	0.293	0.0647 (S)	0.95	1.000
1,2,3,7,8,9-HXCDF	NDR	0.0903	0.0647 (S)	2.01	1.000
2,3,4,6,7,8-HXCDF		0.252	0.0647 (S)	1.23	1.000
1,2,3,4,6,7,8-HPCDF		3.72	0.0474 (Q)	1.02	1.000
1,2,3,4,7,8,9-HPCDF		0.260	0.0474 (Q)	0.98	1.000
OCDF		7.24	0.128 (S)	0.89	1.002
TOTAL TETRA-DIOXINS		42.2	0.0549 (S)		
TOTAL PENTA-DIOXINS		2.17	0.0597 (S)		
TOTAL HEXA-DIOXINS		9.95	0.0474 (Q)		
TOTAL HEPTA-DIOXINS		42.2	0.0676 (S)		
TOTAL TETRA-FURANS		10.4	0.0474 (Q)		
TOTAL PENTA-FURANS		8.00	0.0474 (Q)		
TOTAL HEXA-FURANS		5.97	0.0647 (S)		
TOTAL HEPTA-FURANS		8.95	0.0474 (Q)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_





AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH403  
Sample Collection:  
02-Nov-2010 14:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 16-Dec-2010 Time: 03:45:27  
Extract Volume (uL): 20  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-9  
Sample Size: 10.6 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_167 S: 14  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_167 S: 2  
% Moisture: 17.4

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		1.34	0.0474 (Q)	0.86	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

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## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH403  
Sample Collection:  
02-Nov-2010 14:55

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 06:18:11

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-9

Sample Size: 10.6 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 39

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 29

% Moisture: 17.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1340	66.9	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1950	97.5	0.62	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1640	81.8	1.20	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1500	75.1	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1810	90.4	0.96	1.094
13C-OCDD		4000	3300	82.5	0.89	1.178
13C-2,3,7,8-TCDF		2000	1350	67.5	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1570	78.5	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	1610	80.5	1.53	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1610	80.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1560	78.2	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1530	76.5	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1580	78.9	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1720	86.2	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1900	95.1	0.45	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	153	76.6		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH403

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.6 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 14:55

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-9

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 14  
DX0M\_169 S: 39

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		37.4	0.0549	1	3.74e+01	3.74e+01	
1,2,3,7,8-PECDD	ND		0.0597	1	0.00e+00	2.99e-02	
1,2,3,4,7,8-HXCDD	ND		0.0474	0.1	0.00e+00	2.37e-03	
1,2,3,6,7,8-HXCDD		1.12	0.0474	0.1	1.12e-01	1.12e-01	
1,2,3,7,8,9-HXCDD		1.15	0.0474	0.1	1.15e-01	1.15e-01	
1,2,3,4,6,7,8-HPCDD		21.3	0.0676	0.01	2.13e-01	2.13e-01	
OCDD		216	0.156	0.0001	2.16e-02	2.16e-02	
2,3,7,8-TCDF		1.34	0.0474	0.1	1.34e-01	1.34e-01	
1,2,3,7,8-PECDF	ND		0.0474	0.05	0.00e+00	1.19e-03	
2,3,4,7,8-PECDF	ND		0.0474	0.5	0.00e+00	1.19e-02	
1,2,3,4,7,8-HXCDF		0.468	0.0647	0.1	4.68e-02	4.68e-02	
1,2,3,6,7,8-HXCDF	ND		0.0647	0.1	0.00e+00	3.24e-03	
1,2,3,7,8,9-HXCDF	ND		0.0647	0.1	0.00e+00	3.24e-03	
2,3,4,6,7,8-HXCDF		0.252	0.0647	0.1	2.52e-02	2.52e-02	
1,2,3,4,6,7,8-HPCDF		3.72	0.0474	0.01	3.72e-02	3.72e-02	
1,2,3,4,7,8,9-HPCDF		0.260	0.0474	0.01	2.60e-03	2.60e-03	
OCDF		7.24	0.128	0.0001	7.24e-04	7.24e-04	
<b>TOTAL TEQ</b>					<b>38.1</b>	<b>38.2</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		37.4	0.0549	1	3.74e+01	3.74e+01	
1,2,3,7,8-PECDD	ND		0.0597	1	0.00e+00	2.99e-02	
1,2,3,4,7,8-HXCDD	ND		0.0474	0.1	0.00e+00	2.37e-03	
1,2,3,6,7,8-HXCDD		1.12	0.0474	0.1	1.12e-01	1.12e-01	
1,2,3,7,8,9-HXCDD		1.15	0.0474	0.1	1.15e-01	1.15e-01	
1,2,3,4,6,7,8-HPCDD		21.3	0.0676	0.01	2.13e-01	2.13e-01	
OCDD		216	0.156	0.0003	6.48e-02	6.48e-02	
2,3,7,8-TCDF		1.34	0.0474	0.1	1.34e-01	1.34e-01	
1,2,3,7,8-PECDF	ND		0.0474	0.03	0.00e+00	7.11e-04	
2,3,4,7,8-PECDF	ND		0.0474	0.3	0.00e+00	7.11e-03	
1,2,3,4,7,8-HXCDF		0.468	0.0647	0.1	4.68e-02	4.68e-02	
1,2,3,6,7,8-HXCDF	ND		0.0647	0.1	0.00e+00	3.24e-03	
1,2,3,7,8,9-HXCDF	ND		0.0647	0.1	0.00e+00	3.24e-03	
2,3,4,6,7,8-HXCDF		0.252	0.0647	0.1	2.52e-02	2.52e-02	
1,2,3,4,6,7,8-HPCDF		3.72	0.0474	0.01	3.72e-02	3.72e-02	
1,2,3,4,7,8,9-HPCDF		0.260	0.0474	0.01	2.60e-03	2.60e-03	
OCDF		7.24	0.128	0.0003	2.17e-03	2.17e-03	
<b>TOTAL TEQ</b>					<b>38.2</b>	<b>38.2</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-9\_TEQ\_SJ1235960.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH404  
Sample Collection:  
02-Nov-2010 09:17

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 10:15:41  
Extract Volume (uL): 20  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-10  
Sample Size: 10.0 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 43  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 40  
% Moisture: 23.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		4.90	0.0499 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		0.283	0.0499 (Q)	0.70	1.000
1,2,3,4,7,8-HXCDD	NDR	0.162	0.0499 (Q)	0.94	1.000
1,2,3,6,7,8-HXCDD		0.644	0.0499 (Q)	1.40	1.000
1,2,3,7,8,9-HXCDD		1.00	0.0499 (Q)	1.28	1.000
1,2,3,4,6,7,8-HPCDD		10.6	0.0711 (S)	0.96	1.000
OCDD		86.2	0.143 (S)	0.87	1.000
2,3,7,8-TCDF		0.848	0.0639 (S)	0.81	1.001
1,2,3,7,8-PECDF		0.263	0.0499 (Q)	1.64	1.000
2,3,4,7,8-PECDF		0.144	0.0499 (Q)	1.41	1.001
1,2,3,4,7,8-HXCDF		0.229	0.0499 (Q)	1.36	1.000
1,2,3,6,7,8-HXCDF	NDR	0.112	0.0499 (Q)	1.83	1.000
1,2,3,7,8,9-HXCDF		0.373	0.0499 (Q)	1.41	1.000
2,3,4,6,7,8-HXCDF	NDR	0.118	0.0499 (Q)	0.87	1.000
1,2,3,4,6,7,8-HPCDF		1.25	0.0511 (S)	0.98	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.138	0.0511 (S)	0.66	1.000
OCDF		3.40	0.0499 (Q)	0.77	1.002
TOTAL TETRA-DIOXINS		7.63	0.0499 (Q)		
TOTAL PENTA-DIOXINS		1.18	0.0499 (Q)		
TOTAL HEXA-DIOXINS		3.61	0.0499 (Q)		
TOTAL HEPTA-DIOXINS		19.9	0.0711 (S)		
TOTAL TETRA-FURANS		10.5	0.0639 (S)		
TOTAL PENTA-FURANS		0.625	0.0499 (Q)		
TOTAL HEXA-FURANS		1.77	0.0499 (Q)		
TOTAL HEPTA-FURANS		3.08	0.0511 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH404  
Sample Collection:  
02-Nov-2010 09:17

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 07-Dec-2010  
**Analysis Date:** 16-Dec-2010 **Time:** 04:22:21  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15775-10  
**Sample Size:** 10.0 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB03\_167 S: 15  
**Blank Data Filename:** N/A  
**Cal. Ver. Data Filename:** DB03\_167 S: 2  
**% Moisture:** 23.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		0.463	0.0738 (S)	0.83	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-10\_Form1A\_DB03\_167S15\_SJ1235961.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH404  
Sample Collection:  
02-Nov-2010 09:17

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 10:15:41

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-10

Sample Size: 10.0 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 43

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 40

% Moisture: 23.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1160	58.2	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1750	87.5	0.61	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1390	69.3	1.20	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1280	64.1	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1520	75.8	0.97	1.095
13C-OCDD		4000	2740	68.5	0.88	1.179
13C-2,3,7,8-TCDF		2000	1210	60.3	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1360	68.1	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	1430	71.4	1.52	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1360	67.8	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1290	64.5	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1400	70.0	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1430	71.5	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1440	72.0	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1550	77.7	0.44	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	133	66.7		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH404

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.0 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 09:17

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-10

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 15  
DX0M\_169 S: 43

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		4.90	0.0499	1	4.90e+00	4.90e+00	
1,2,3,7,8-PECDD		0.283	0.0499	1	2.83e-01	2.83e-01	
1,2,3,4,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD		0.644	0.0499	0.1	6.44e-02	6.44e-02	
1,2,3,7,8,9-HXCDD		1.00	0.0499	0.1	1.00e-01	1.00e-01	
1,2,3,4,6,7,8-HPCDD		10.6	0.0711	0.01	1.06e-01	1.06e-01	
OCDD		86.2	0.143	0.0001	8.62e-03	8.62e-03	
2,3,7,8-TCDF		0.463	0.0738	0.1	4.63e-02	4.63e-02	
1,2,3,7,8-PECDF		0.263	0.0499	0.05	1.32e-02	1.32e-02	
2,3,4,7,8-PECDF		0.144	0.0499	0.5	7.20e-02	7.20e-02	
1,2,3,4,7,8-HXCDF		0.229	0.0499	0.1	2.29e-02	2.29e-02	
1,2,3,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF		0.373	0.0499	0.1	3.73e-02	3.73e-02	
2,3,4,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF		1.25	0.0511	0.01	1.25e-02	1.25e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0511	0.01	0.00e+00	2.56e-04	
OCDF		3.40	0.0499	0.0001	3.40e-04	3.40e-04	
<b>TOTAL TEQ</b>					5.67	5.67	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		4.90	0.0499	1	4.90e+00	4.90e+00	
1,2,3,7,8-PECDD		0.283	0.0499	1	2.83e-01	2.83e-01	
1,2,3,4,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD		0.644	0.0499	0.1	6.44e-02	6.44e-02	
1,2,3,7,8,9-HXCDD		1.00	0.0499	0.1	1.00e-01	1.00e-01	
1,2,3,4,6,7,8-HPCDD		10.6	0.0711	0.01	1.06e-01	1.06e-01	
OCDD		86.2	0.143	0.0003	2.59e-02	2.59e-02	
2,3,7,8-TCDF		0.463	0.0738	0.1	4.63e-02	4.63e-02	
1,2,3,7,8-PECDF		0.263	0.0499	0.03	7.89e-03	7.89e-03	
2,3,4,7,8-PECDF		0.144	0.0499	0.3	4.32e-02	4.32e-02	
1,2,3,4,7,8-HXCDF		0.229	0.0499	0.1	2.29e-02	2.29e-02	
1,2,3,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF		0.373	0.0499	0.1	3.73e-02	3.73e-02	
2,3,4,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF		1.25	0.0511	0.01	1.25e-02	1.25e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0511	0.01	0.00e+00	2.56e-04	
OCDF		3.40	0.0499	0.0003	1.02e-03	1.02e-03	
<b>TOTAL TEQ</b>					<b>5.65</b>	<b>5.66</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-10\_TEQ\_SJ1235961.html; Workgroup: WG34860; Design ID: 1505 ]

AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH406  
Sample Collection:  
02-Nov-2010 15:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 11:10:55  
Extract Volume (uL): 20  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-11  
Sample Size: 12.0 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 44  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 40  
% Moisture: 46.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		257	0.0974 (S)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		5.51	0.0435 (S)	0.58	1.001
1,2,3,4,7,8-HXCDD		0.620	0.0417 (Q)	1.12	1.000
1,2,3,6,7,8-HXCDD		2.62	0.0417 (Q)	1.34	1.000
1,2,3,7,8,9-HXCDD	NDR	2.67	0.0417 (Q)	1.53	1.000
1,2,3,4,6,7,8-HPCDD		24.0	0.0915 (S)	1.03	1.000
OCDD		319	0.0631 (S)	0.87	1.000
2,3,7,8-TCDF		52.5	0.0719 (S)	0.72	1.001
1,2,3,7,8-PECDF		0.957	0.102 (S)	1.50	1.000
2,3,4,7,8-PECDF		1.36	0.102 (S)	1.42	1.000
1,2,3,4,7,8-HXCDF	NDR	0.783	0.0433 (S)	0.87	1.000
1,2,3,6,7,8-HXCDF		0.419	0.0433 (S)	1.20	1.000
1,2,3,7,8,9-HXCDF		0.567	0.0433 (S)	1.23	1.000
2,3,4,6,7,8-HXCDF		0.393	0.0433 (S)	1.15	1.001
1,2,3,4,6,7,8-HPCDF		3.59	0.0809 (S)	0.98	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.263	0.0809 (S)	1.39	1.000
OCDF		9.64	0.142 (S)	0.86	1.002
TOTAL TETRA-DIOXINS		316	0.0974 (S)		
TOTAL PENTA-DIOXINS		39.8	0.0435 (S)		
TOTAL HEXA-DIOXINS		34.8	0.0417 (Q)		
TOTAL HEPTA-DIOXINS		49.5	0.0915 (S)		
TOTAL TETRA-FURANS		152	0.0719 (S)		
TOTAL PENTA-FURANS		73.9	0.102 (S)		
TOTAL HEXA-FURANS		12.5	0.0433 (S)		
TOTAL HEPTA-FURANS		7.93	0.0809 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH406  
Sample Collection:  
02-Nov-2010 15:25

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 16-Dec-2010 Time: 04:59:16  
Extract Volume (uL): 20  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-11  
Sample Size: 12.0 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_167 S: 16  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_167 S: 2  
% Moisture: 46.4

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		38.1	0.131 (S)	0.77	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

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AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH406  
Sample Collection:  
02-Nov-2010 15:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 11:10:55  
Extract Volume (uL): 20  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-11  
Sample Size: 12.0 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 44  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 40  
% Moisture: 46.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1200	60.2	0.85	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1690	84.3	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1320	66.0	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1220	60.8	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1380	68.9	0.94	1.094
13C-OCDD		4000	2580	64.6	0.89	1.178
13C-2,3,7,8-TCDF		2000	1190	59.3	0.73	0.967
13C-1,2,3,7,8-PECDF		2000	1250	62.6	1.52	1.286
13C-2,3,4,7,8-PECDF		2000	1300	64.8	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1230	61.4	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1190	59.6	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1290	64.7	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1300	65.1	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1310	65.7	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1430	71.5	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	178	88.8		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form2.xsl; Created: 10-Feb-2011 14:15:13; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15775-11\_Form2\_DX0M\_169S44\_SJ1235939.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH406

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 12.0 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 15:25

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-11

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 16  
DX0M\_169 S: 44

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		257	0.0974	1	2.57e+02	2.57e+02	
1,2,3,7,8-PECDD		5.51	0.0435	1	5.51e+00	5.51e+00	
1,2,3,4,7,8-HXCDD		0.620	0.0417	0.1	6.20e-02	6.20e-02	
1,2,3,6,7,8-HXCDD		2.62	0.0417	0.1	2.62e-01	2.62e-01	
1,2,3,7,8,9-HXCDD	ND		0.0417	0.1	0.00e+00	2.09e-03	
1,2,3,4,6,7,8-HPCDD		24.0	0.0915	0.01	2.40e-01	2.40e-01	
OCDD		319	0.0631	0.0001	3.19e-02	3.19e-02	
2,3,7,8-TCDF		38.1	0.131	0.1	3.81e+00	3.81e+00	
1,2,3,7,8-PECDF		0.957	0.102	0.05	4.79e-02	4.79e-02	
2,3,4,7,8-PECDF		1.36	0.102	0.5	6.80e-01	6.80e-01	
1,2,3,4,7,8-HXCDF	ND		0.0433	0.1	0.00e+00	2.17e-03	
1,2,3,6,7,8-HXCDF		0.419	0.0433	0.1	4.19e-02	4.19e-02	
1,2,3,7,8,9-HXCDF		0.567	0.0433	0.1	5.67e-02	5.67e-02	
2,3,4,6,7,8-HXCDF		0.393	0.0433	0.1	3.93e-02	3.93e-02	
1,2,3,4,6,7,8-HPCDF		3.59	0.0809	0.01	3.59e-02	3.59e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0809	0.01	0.00e+00	4.05e-04	
OCDF		9.64	0.142	0.0001	9.64e-04	9.64e-04	
<b>TOTAL TEQ</b>					268	268	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		257	0.0974	1	2.57e+02	2.57e+02	
1,2,3,7,8-PECDD		5.51	0.0435	1	5.51e+00	5.51e+00	
1,2,3,4,7,8-HXCDD		0.620	0.0417	0.1	6.20e-02	6.20e-02	
1,2,3,6,7,8-HXCDD		2.62	0.0417	0.1	2.62e-01	2.62e-01	
1,2,3,7,8,9-HXCDD	ND		0.0417	0.1	0.00e+00	2.09e-03	
1,2,3,4,6,7,8-HPCDD		24.0	0.0915	0.01	2.40e-01	2.40e-01	
OCDD		319	0.0631	0.0003	9.57e-02	9.57e-02	
2,3,7,8-TCDF		38.1	0.131	0.1	3.81e+00	3.81e+00	
1,2,3,7,8-PECDF		0.957	0.102	0.03	2.87e-02	2.87e-02	
2,3,4,7,8-PECDF		1.36	0.102	0.3	4.08e-01	4.08e-01	
1,2,3,4,7,8-HXCDF	ND		0.0433	0.1	0.00e+00	2.17e-03	
1,2,3,6,7,8-HXCDF		0.419	0.0433	0.1	4.19e-02	4.19e-02	
1,2,3,7,8,9-HXCDF		0.567	0.0433	0.1	5.67e-02	5.67e-02	
2,3,4,6,7,8-HXCDF		0.393	0.0433	0.1	3.93e-02	3.93e-02	
1,2,3,4,6,7,8-HPCDF		3.59	0.0809	0.01	3.59e-02	3.59e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0809	0.01	0.00e+00	4.05e-04	
OCDF		9.64	0.142	0.0003	2.89e-03	2.89e-03	
<b>TOTAL TEQ</b>					<b>268</b>	<b>268</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

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Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-11\_TEQ\_SJ1235962.html; Workgroup: WG34860; Design ID: 1505 ]

AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH408  
Sample Collection:  
02-Nov-2010 16:30

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 12:06:09  
Extract Volume (uL): 20  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-12  
Sample Size: 9.95 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 45  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 40  
% Moisture: 17.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		11.6	0.0502 (Q)	0.78	1.001
1,2,3,7,8-PECDD <sup>4</sup>		0.514	0.0502 (Q)	0.62	1.001
1,2,3,4,7,8-HXCDD	NDR	0.0978	0.0502 (Q)	0.70	1.000
1,2,3,6,7,8-HXCDD	NDR	0.194	0.0502 (Q)	1.00	1.000
1,2,3,7,8,9-HXCDD		0.208	0.0502 (Q)	1.22	1.000
1,2,3,4,6,7,8-HPCDD		2.86	0.0502 (Q)	0.94	1.000
OCDD		34.4	0.0574 (S)	0.86	1.000
2,3,7,8-TCDF		1.82	0.0502 (Q)	0.69	1.001
1,2,3,7,8-PECDF		0.0658	0.0502 (Q)	1.55	1.001
2,3,4,7,8-PECDF	NDR	0.107	0.0502 (Q)	1.17	1.001
1,2,3,4,7,8-HXCDF	NDR	0.0909	0.0502 (Q)	2.90	1.001
1,2,3,6,7,8-HXCDF		0.0812	0.0502 (Q)	1.13	1.001
1,2,3,7,8,9-HXCDF	ND		0.0502 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0502 (Q)		
1,2,3,4,6,7,8-HPCDF	NDR	0.446	0.0502 (Q)	0.78	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0502 (Q)		
OCDF		0.989	0.0502 (Q)	0.87	1.002
TOTAL TETRA-DIOXINS		13.2	0.0502 (Q)		
TOTAL PENTA-DIOXINS		2.23	0.0502 (Q)		
TOTAL HEXA-DIOXINS		1.29	0.0502 (Q)		
TOTAL HEPTA-DIOXINS		5.65	0.0502 (Q)		
TOTAL TETRA-FURANS		6.71	0.0502 (Q)		
TOTAL PENTA-FURANS		3.91	0.0502 (Q)		
TOTAL HEXA-FURANS		1.12	0.0502 (Q)		
TOTAL HEPTA-FURANS		0.506	0.0502 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH408  
Sample Collection:  
02-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 16-Dec-2010 Time: 05:36:09  
Extract Volume (uL): 20  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-12  
Sample Size: 9.95 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_167 S: 17  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_167 S: 2  
% Moisture: 17.3

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		1.04	0.0602 (S)	0.79	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-12\_Form1A\_DB03\_167S17\_SJ1235963.html; Workgroup: WG34860; Design ID: 1505 ]





## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH408  
Sample Collection:  
02-Nov-2010 16:30

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 12:06:09

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-12

Sample Size: 9.95 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 45

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 40

% Moisture: 17.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1210	60.4	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1790	89.3	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1490	74.6	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1390	69.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1610	80.4	0.98	1.094
13C-OCDD		4000	2750	68.7	0.89	1.178
13C-2,3,7,8-TCDF		2000	1250	62.6	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1410	70.6	1.56	1.286
13C-2,3,4,7,8-PECDF		2000	1500	74.9	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1420	70.8	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1400	69.9	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1430	71.7	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1480	74.2	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1510	75.6	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1600	79.9	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	142	70.8		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH408

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 9.95 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 02-Nov-2010 16:30

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-12

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 17  
DX0M\_169 S: 45

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		11.6	0.0502	1	1.16e+01	1.16e+01	
1,2,3,7,8-PECDD		0.514	0.0502	1	5.14e-01	5.14e-01	
1,2,3,4,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD		0.208	0.0502	0.1	2.08e-02	2.08e-02	
1,2,3,4,6,7,8-HPCDD		2.86	0.0502	0.01	2.86e-02	2.86e-02	
OCDD		34.4	0.0574	0.0001	3.44e-03	3.44e-03	
2,3,7,8-TCDF		1.04	0.0602	0.1	1.04e-01	1.04e-01	
1,2,3,7,8-PECDF		0.0658	0.0502	0.05	3.29e-03	3.29e-03	
2,3,4,7,8-PECDF	ND		0.0502	0.5	0.00e+00	1.26e-02	
1,2,3,4,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF		0.0812	0.0502	0.1	8.12e-03	8.12e-03	
1,2,3,7,8,9-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
OCDF		0.989	0.0502	0.0001	9.89e-05	9.89e-05	
<b>TOTAL TEQ</b>					<b>12.3</b>	<b>12.3</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		11.6	0.0502	1	1.16e+01	1.16e+01	
1,2,3,7,8-PECDD		0.514	0.0502	1	5.14e-01	5.14e-01	
1,2,3,4,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD		0.208	0.0502	0.1	2.08e-02	2.08e-02	
1,2,3,4,6,7,8-HPCDD		2.86	0.0502	0.01	2.86e-02	2.86e-02	
OCDD		34.4	0.0574	0.0003	1.03e-02	1.03e-02	
2,3,7,8-TCDF		1.04	0.0602	0.1	1.04e-01	1.04e-01	
1,2,3,7,8-PECDF		0.0658	0.0502	0.03	1.97e-03	1.97e-03	
2,3,4,7,8-PECDF	ND		0.0502	0.3	0.00e+00	7.53e-03	
1,2,3,4,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF		0.0812	0.0502	0.1	8.12e-03	8.12e-03	
1,2,3,7,8,9-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0502	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0502	0.01	0.00e+00	2.51e-04	
OCDF		0.989	0.0502	0.0003	2.97e-04	2.97e-04	
<b>TOTAL TEQ</b>					<b>12.3</b>	<b>12.3</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

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AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH410  
Sample Collection:  
03-Nov-2010 09:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-13
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	9.58 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	17-Dec-2010 Time: 13:01:22	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 46
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 40
		<b>% Moisture:</b>	64.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD	OLR				
1,2,3,7,8-PECDD <sup>4</sup>		15.5	0.0522 (Q)	0.62	1.001
1,2,3,4,7,8-HXCDD		4.17	0.0829 (S)	1.27	1.000
1,2,3,6,7,8-HXCDD		12.7	0.0829 (S)	1.15	1.000
1,2,3,7,8,9-HXCDD		12.8	0.0829 (S)	1.25	1.000
1,2,3,4,6,7,8-HPCDD		203	0.187 (S)	0.99	1.000
OCDD		1930	0.0522 (Q)	0.88	1.000
2,3,7,8-TCDF		124	0.0748 (S)	0.75	1.001
1,2,3,7,8-PECDF		3.47	0.0748 (S)	1.71	1.000
2,3,4,7,8-PECDF		3.47	0.0748 (S)	1.50	1.000
1,2,3,4,7,8-HXCDF		4.02	0.0564 (S)	1.25	1.000
1,2,3,6,7,8-HXCDF		3.38	0.0564 (S)	1.28	1.000
1,2,3,7,8,9-HXCDF		0.889	0.0564 (S)	1.23	1.000
2,3,4,6,7,8-HXCDF		2.04	0.0564 (S)	1.24	1.001
1,2,3,4,6,7,8-HPCDF		28.6	0.0657 (S)	1.01	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.96	0.0657 (S)	0.86	1.000
OCDF		56.8	0.0522 (Q)	0.84	1.002
TOTAL TETRA-DIOXINS	OLR				
TOTAL PENTA-DIOXINS		92.1	0.0522 (Q)		
TOTAL HEXA-DIOXINS		147	0.0829 (S)		
TOTAL HEPTA-DIOXINS		411	0.187 (S)		
TOTAL TETRA-FURANS		357	0.0748 (S)		
TOTAL PENTA-FURANS		289	0.0748 (S)		
TOTAL HEXA-FURANS		83.0	0.0564 (S)		
TOTAL HEPTA-FURANS		64.8	0.0657 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH410  
Sample Collection:  
03-Nov-2010 09:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 07-Dec-2010  
**Analysis Date:** 07-Feb-2011 **Time:** 14:19:25  
**Extract Volume (uL):** 120  
**Injection Volume (uL):** 1.0  
**Dilution Factor:** 6  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15775-13 Wi  
**Sample Size:** 9.58 g (dry)  
**Initial Calibration Date:** 04-Jan-2011  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB5  
**Sample Data Filename:** DX1M\_021CC S: 5  
**Blank Data Filename:** DX0M\_169 S: 22  
**Cal. Ver. Data Filename:** DX1M\_021CC S: 1  
**% Moisture:** 64.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD	D	600	0.339 (S)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	D	709	0.339 (S)		
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH410  
Sample Collection:  
03-Nov-2010 09:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 07-Dec-2010  
**Analysis Date:** 16-Dec-2010 **Time:** 06:13:04  
**Extract Volume (uL):** 20  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15775-13  
**Sample Size:** 9.58 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB03\_167 S: 18  
**Blank Data Filename:** N/A  
**Cal. Ver. Data Filename:** DB03\_167 S: 2  
**% Moisture:** 64.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		96.6	0.256 (S)	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

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Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-13\_Form1A\_DB03\_167S18\_SJ1235964.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH410  
Sample Collection:  
03-Nov-2010 09:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 17-Dec-2010 Time: 13:01:22

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-13

Sample Size: 9.58 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 46

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 40

% Moisture: 64.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1260	62.9	0.83	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1550	77.3	0.64	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1400	69.9	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1260	63.2	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1470	73.3	0.95	1.094
13C-OCDD		4000	2580	64.6	0.88	1.178
13C-2,3,7,8-TCDF		2000	1240	61.8	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1280	63.9	1.52	1.285
13C-2,3,4,7,8-PECDF		2000	1320	66.0	1.56	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1340	66.9	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1260	63.2	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1300	64.9	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1340	66.9	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1320	65.9	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1470	73.4	0.44	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	175	87.6		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH410  
Sample Collection:  
03-Nov-2010 09:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 07-Feb-2011 Time: 14:19:25

Extract Volume (uL): 120

Injection Volume (uL): 1.0

Dilution Factor: 6

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-13 Wi

Sample Size: 9.58 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_021CC S: 5

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX1M\_021CC S: 1

% Moisture: 64.6

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1400	70.1	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD X

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 10-Feb-2011 14:15:13; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15775-13\_Form2\_DX1M\_021CCS5\_SJ1256802.html; Workgroup: WG34860; Design ID: 1505 ]





AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH410

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 9.58 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 03-Nov-2010 09:20

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-13

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_167 S: 18  
DX0M\_169 S: 46  
DX1M\_021CC S: 5

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		600	0.339	1	6.00e+02	6.00e+02	
1,2,3,7,8-PECDD		15.5	0.0522	1	1.55e+01	1.55e+01	
1,2,3,4,7,8-HXCDD		4.17	0.0829	0.1	4.17e-01	4.17e-01	
1,2,3,6,7,8-HXCDD		12.7	0.0829	0.1	1.27e+00	1.27e+00	
1,2,3,7,8,9-HXCDD		12.8	0.0829	0.1	1.28e+00	1.28e+00	
1,2,3,4,6,7,8-HPCDD		203	0.187	0.01	2.03e+00	2.03e+00	
OCDD		1930	0.0522	0.0001	1.93e-01	1.93e-01	
2,3,7,8-TCDF		96.6	0.256	0.1	9.66e+00	9.66e+00	
1,2,3,7,8-PECDF		3.47	0.0748	0.05	1.74e-01	1.74e-01	
2,3,4,7,8-PECDF		3.47	0.0748	0.5	1.74e+00	1.74e+00	
1,2,3,4,7,8-HXCDF		4.02	0.0564	0.1	4.02e-01	4.02e-01	
1,2,3,6,7,8-HXCDF		3.38	0.0564	0.1	3.38e-01	3.38e-01	
1,2,3,7,8,9-HXCDF		0.889	0.0564	0.1	8.89e-02	8.89e-02	
2,3,4,6,7,8-HXCDF		2.04	0.0564	0.1	2.04e-01	2.04e-01	
1,2,3,4,6,7,8-HPCDF		28.6	0.0657	0.01	2.86e-01	2.86e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.0657	0.01	0.00e+00	3.29e-04	
OCDF		56.8	0.0522	0.0001	5.68e-03	5.68e-03	
<b>TOTAL TEQ</b>					<b>634</b>	<b>634</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		600	0.339	1	6.00e+02	6.00e+02	
1,2,3,7,8-PECDD		15.5	0.0522	1	1.55e+01	1.55e+01	
1,2,3,4,7,8-HXCDD		4.17	0.0829	0.1	4.17e-01	4.17e-01	
1,2,3,6,7,8-HXCDD		12.7	0.0829	0.1	1.27e+00	1.27e+00	
1,2,3,7,8,9-HXCDD		12.8	0.0829	0.1	1.28e+00	1.28e+00	
1,2,3,4,6,7,8-HPCDD		203	0.187	0.01	2.03e+00	2.03e+00	
OCDD		1930	0.0522	0.0003	5.79e-01	5.79e-01	
2,3,7,8-TCDF		96.6	0.256	0.1	9.66e+00	9.66e+00	
1,2,3,7,8-PECDF		3.47	0.0748	0.03	1.04e-01	1.04e-01	
2,3,4,7,8-PECDF		3.47	0.0748	0.3	1.04e+00	1.04e+00	
1,2,3,4,7,8-HXCDF		4.02	0.0564	0.1	4.02e-01	4.02e-01	
1,2,3,6,7,8-HXCDF		3.38	0.0564	0.1	3.38e-01	3.38e-01	
1,2,3,7,8,9-HXCDF		0.889	0.0564	0.1	8.89e-02	8.89e-02	
2,3,4,6,7,8-HXCDF		2.04	0.0564	0.1	2.04e-01	2.04e-01	
1,2,3,4,6,7,8-HPCDF		28.6	0.0657	0.01	2.86e-01	2.86e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.0657	0.01	0.00e+00	3.29e-04	
OCDF		56.8	0.0522	0.0003	1.70e-02	1.70e-02	
<b>TOTAL TEQ</b>					633	633	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

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Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-13\_TEQ\_SJ1235964.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH412  
Sample Collection:  
03-Nov-2010 10:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-14
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	10.2 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	16-Dec-2010 Time: 15:16:40	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	20	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 23
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 18
		<b>% Moisture:</b>	16.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		5.11	0.0492 (Q)	0.78	1.001
1,2,3,7,8-PECDD <sup>4</sup>		0.256	0.0492 (Q)	0.56	1.001
1,2,3,4,7,8-HXCDD		0.457	0.0492 (Q)	1.20	1.000
1,2,3,6,7,8-HXCDD	NDR	1.21	0.0492 (Q)	1.49	1.000
1,2,3,7,8,9-HXCDD		1.18	0.0492 (Q)	1.37	1.000
1,2,3,4,6,7,8-HPCDD		24.9	0.0813 (S)	0.96	1.000
OCDD		315	0.486 (S)	0.87	1.000
2,3,7,8-TCDF		1.13	0.0492 (Q)	0.68	1.001
1,2,3,7,8-PECDF		0.148	0.0640 (S)	1.34	1.002
2,3,4,7,8-PECDF	NDR	0.271	0.0640 (S)	1.21	1.002
1,2,3,4,7,8-HXCDF	NDR	0.549	0.0520 (S)	0.99	1.000
1,2,3,6,7,8-HXCDF	NDR	0.536	0.0520 (S)	1.03	1.001
1,2,3,7,8,9-HXCDF	ND		0.0520 (S)		
2,3,4,6,7,8-HXCDF	NDR	0.291	0.0520 (S)	1.02	1.000
1,2,3,4,6,7,8-HPCDF		3.79	0.0780 (S)	1.02	1.001
1,2,3,4,7,8,9-HPCDF	NDR	0.322	0.0780 (S)	1.55	1.000
OCDF		6.64	0.165 (S)	0.90	1.002
TOTAL TETRA-DIOXINS		7.67	0.0492 (Q)		
TOTAL PENTA-DIOXINS		2.17	0.0492 (Q)		
TOTAL HEXA-DIOXINS		5.83	0.0492 (Q)		
TOTAL HEPTA-DIOXINS		49.8	0.0813 (S)		
TOTAL TETRA-FURANS		5.29	0.0492 (Q)		
TOTAL PENTA-FURANS		3.77	0.0640 (S)		
TOTAL HEXA-FURANS		5.32	0.0520 (S)		
TOTAL HEPTA-FURANS		8.94	0.0780 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH412  
Sample Collection:  
03-Nov-2010 10:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 12:30:45  
Extract Volume (uL): 20  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-14  
Sample Size: 10.2 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_168 S: 5  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_168 S: 2  
% Moisture: 16.0

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		0.558	0.0581 (S)	0.80	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-14\_Form1A\_DB03\_168S5\_SJ1235970.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH412  
Sample Collection:  
03-Nov-2010 10:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 15:16:40

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-14

Sample Size: 10.2 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 23

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 18

% Moisture: 16.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1140	56.9	0.76	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1450	72.4	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1260	63.0	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1140	56.9	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1390	69.3	0.95	1.094
13C-OCDD		4000	2520	63.1	0.88	1.178
13C-2,3,7,8-TCDF		2000	1110	55.7	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1180	58.9	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1200	59.9	1.57	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1230	61.5	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1170	58.4	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1200	60.0	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1230	61.7	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1310	65.7	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1370	68.6	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	119	59.5		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH412

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 10.2 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 03-Nov-2010 10:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-14

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 5  
DX0M\_169 S: 23

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.11	0.0492	1	5.11e+00	5.11e+00	
1,2,3,7,8-PECDD		0.256	0.0492	1	2.56e-01	2.56e-01	
1,2,3,4,7,8-HXCDD		0.457	0.0492	0.1	4.57e-02	4.57e-02	
1,2,3,6,7,8-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,7,8,9-HXCDD		1.18	0.0492	0.1	1.18e-01	1.18e-01	
1,2,3,4,6,7,8-HPCDD		24.9	0.0813	0.01	2.49e-01	2.49e-01	
OCDD		315	0.486	0.0001	3.15e-02	3.15e-02	
2,3,7,8-TCDF		0.558	0.0581	0.1	5.58e-02	5.58e-02	
1,2,3,7,8-PECDF		0.148	0.0640	0.05	7.40e-03	7.40e-03	
2,3,4,7,8-PECDF	ND		0.0640	0.5	0.00e+00	1.60e-02	
1,2,3,4,7,8-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
1,2,3,6,7,8-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
2,3,4,6,7,8-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
1,2,3,4,6,7,8-HPCDF		3.79	0.0780	0.01	3.79e-02	3.79e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0780	0.01	0.00e+00	3.90e-04	
OCDF		6.64	0.165	0.0001	6.64e-04	6.64e-04	
<b>TOTAL TEQ</b>					<b>5.91</b>	<b>5.94</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		5.11	0.0492	1	5.11e+00	5.11e+00	
1,2,3,7,8-PECDD		0.256	0.0492	1	2.56e-01	2.56e-01	
1,2,3,4,7,8-HXCDD		0.457	0.0492	0.1	4.57e-02	4.57e-02	
1,2,3,6,7,8-HXCDD	ND		0.0492	0.1	0.00e+00	2.46e-03	
1,2,3,7,8,9-HXCDD		1.18	0.0492	0.1	1.18e-01	1.18e-01	
1,2,3,4,6,7,8-HPCDD		24.9	0.0813	0.01	2.49e-01	2.49e-01	
OCDD		315	0.486	0.0003	9.45e-02	9.45e-02	
2,3,7,8-TCDF		0.558	0.0581	0.1	5.58e-02	5.58e-02	
1,2,3,7,8-PECDF		0.148	0.0640	0.03	4.44e-03	4.44e-03	
2,3,4,7,8-PECDF	ND		0.0640	0.3	0.00e+00	9.60e-03	
1,2,3,4,7,8-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
1,2,3,6,7,8-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
1,2,3,7,8,9-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
2,3,4,6,7,8-HXCDF	ND		0.0520	0.1	0.00e+00	2.60e-03	
1,2,3,4,6,7,8-HPCDF		3.79	0.0780	0.01	3.79e-02	3.79e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.0780	0.01	0.00e+00	3.90e-04	
OCDF		6.64	0.165	0.0003	1.99e-03	1.99e-03	
<b>TOTAL TEQ</b>					<b>5.97</b>	<b>6.00</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-14\_TEQ\_SJ1235918.html; Workgroup: WG34860; Design ID: 1505 ]

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH413  
Sample Collection:  
04-Nov-2010 09:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-15 i

Matrix: SOLID

Sample Size: 5.26 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 05:15:04

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_005 S: 46

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		665	0.951	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	8.13	0.951	0.47	1.001
1,2,3,4,7,8-HXCDD		4.54	0.951	1.07	1.001
1,2,3,6,7,8-HXCDD		19.3	0.951	1.09	1.001
1,2,3,7,8,9-HXCDD		13.6	0.951	1.12	1.000
1,2,3,4,6,7,8-HPCDD		150	0.951	0.96	1.000
OCDD		969	1.61	0.86	1.000
2,3,7,8-TCDF		34.0	0.951	0.72	1.001
1,2,3,7,8-PECDF	NDR	1.60	0.951	9.33	1.000
2,3,4,7,8-PECDF		1.85	0.951	1.55	1.001
1,2,3,4,7,8-HXCDF		3.76	0.951	1.30	1.000
1,2,3,6,7,8-HXCDF		1.68	0.951	1.38	1.000
1,2,3,7,8,9-HXCDF	ND		0.951		
2,3,4,6,7,8-HXCDF		1.76	0.951	1.27	1.000
1,2,3,4,6,7,8-HPCDF		17.4	0.951	1.05	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.951		
OCDF		20.7	0.951	0.85	1.002
TOTAL TETRA-DIOXINS		721	0.951		
TOTAL PENTA-DIOXINS		58.8	0.951		
TOTAL HEXA-DIOXINS		153	0.951		
TOTAL HEPTA-DIOXINS		297	0.951		
TOTAL TETRA-FURANS		123	0.951		
TOTAL PENTA-FURANS		126	0.951		
TOTAL HEXA-FURANS		40.9	0.951		
TOTAL HEPTA-FURANS		35.2	0.951		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15775-15\_Form1A\_DX1M\_005S46\_SJ1239255.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH413  
Sample Collection:  
04-Nov-2010 09:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-15 i

Matrix: SOLID

Sample Size: 5.26 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 15:30:42

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB13\_005 S: 13

Injection Volume (uL): 2.0

Blank Data Filename: DB03\_162 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_005 S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		29.3	0.951	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 13-Jan-2011 15:24:13; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-15\_Form1A\_DB13\_005S13\_SJ1239799.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH413  
Sample Collection:  
04-Nov-2010 09:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-15 i

Matrix: SOLID

Sample Size: 5.26 g (dry)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 03-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 05:15:04

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_005 S: 46

Injection Volume (uL): 1.0

Blank Data Filename: DX0M\_170A S: 39

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg absolute

% Moisture: 22.9

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2830	70.8	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	2740	68.6	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		4000	3200	80.1	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3060	76.5	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3060	76.6	1.01	1.094
13C-OCDD		8000	6870	85.8	0.89	1.178
13C-2,3,7,8-TCDF		4000	2620	65.6	0.74	0.967
13C-1,2,3,7,8-PECDF		4000	2640	65.9	1.45	1.287
13C-2,3,4,7,8-PECDF		4000	2540	63.6	1.44	1.355
13C-1,2,3,4,7,8-HXCDF		4000	3370	84.3	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3190	79.7	0.48	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3040	76.0	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3200	80.1	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	2950	73.9	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3020	75.5	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	155	77.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 13-Jan-2011 15:23:17; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15775-15\_Form2\_DX1M\_005S46\_SJ1239255.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH413

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 09:35

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SOLID

Lab Sample I.D.: L15775-15 i

Sample Size: 5.26 g (dry)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: DB13\_005 S: 13  
DX1M\_005 S: 46

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		665	0.951	1	6.65e+02	6.65e+02	
1,2,3,7,8-PECDD	ND		0.951	1	0.00e+00	4.76e-01	
1,2,3,4,7,8-HXCDD		4.54	0.951	0.1	4.54e-01	4.54e-01	
1,2,3,6,7,8-HXCDD		19.3	0.951	0.1	1.93e+00	1.93e+00	
1,2,3,7,8,9-HXCDD		13.6	0.951	0.1	1.36e+00	1.36e+00	
1,2,3,4,6,7,8-HPCDD		150	0.951	0.01	1.50e+00	1.50e+00	
OCDD		969	1.61	0.0001	9.69e-02	9.69e-02	
2,3,7,8-TCDF		29.3	0.951	0.1	2.93e+00	2.93e+00	
1,2,3,7,8-PECDF	ND		0.951	0.05	0.00e+00	2.38e-02	
2,3,4,7,8-PECDF		1.85	0.951	0.5	9.25e-01	9.25e-01	
1,2,3,4,7,8-HXCDF		3.76	0.951	0.1	3.76e-01	3.76e-01	
1,2,3,6,7,8-HXCDF		1.68	0.951	0.1	1.68e-01	1.68e-01	
1,2,3,7,8,9-HXCDF	ND		0.951	0.1	0.00e+00	4.76e-02	
2,3,4,6,7,8-HXCDF		1.76	0.951	0.1	1.76e-01	1.76e-01	
1,2,3,4,6,7,8-HPCDF		17.4	0.951	0.01	1.74e-01	1.74e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.951	0.01	0.00e+00	4.76e-03	
OCDF		20.7	0.951	0.0001	2.07e-03	2.07e-03	
<b>TOTAL TEQ</b>					675	676	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		665	0.951	1	6.65e+02	6.65e+02	
1,2,3,7,8-PECDD	ND		0.951	1	0.00e+00	4.76e-01	
1,2,3,4,7,8-HXCDD		4.54	0.951	0.1	4.54e-01	4.54e-01	
1,2,3,6,7,8-HXCDD		19.3	0.951	0.1	1.93e+00	1.93e+00	
1,2,3,7,8,9-HXCDD		13.6	0.951	0.1	1.36e+00	1.36e+00	
1,2,3,4,6,7,8-HPCDD		150	0.951	0.01	1.50e+00	1.50e+00	
OCDD		969	1.61	0.0003	2.91e-01	2.91e-01	
2,3,7,8-TCDF		29.3	0.951	0.1	2.93e+00	2.93e+00	
1,2,3,7,8-PECDF	ND		0.951	0.03	0.00e+00	1.43e-02	
2,3,4,7,8-PECDF		1.85	0.951	0.3	5.55e-01	5.55e-01	
1,2,3,4,7,8-HXCDF		3.76	0.951	0.1	3.76e-01	3.76e-01	
1,2,3,6,7,8-HXCDF		1.68	0.951	0.1	1.68e-01	1.68e-01	
1,2,3,7,8,9-HXCDF	ND		0.951	0.1	0.00e+00	4.76e-02	
2,3,4,6,7,8-HXCDF		1.76	0.951	0.1	1.76e-01	1.76e-01	
1,2,3,4,6,7,8-HPCDF		17.4	0.951	0.01	1.74e-01	1.74e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.951	0.01	0.00e+00	4.76e-03	
OCDF		20.7	0.951	0.0003	6.21e-03	6.21e-03	
<b>TOTAL TEQ</b>					675	675	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 13-Jan-2011 15:24:42; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-15\_TEQ\_SJ1239255.html; Workgroup: WG34799; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH416  
Sample Collection:  
04-Nov-2010 17:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-16 i
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	5.13 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	03-Feb-2011 Time: 05:12:42	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	100	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX1M_019 S: 9
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_019 S: 1
		<b>% Moisture:</b>	17.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		30.9	0.432 (S)	0.69	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	0.849	0.572 (S)	1.05	1.000
1,2,3,4,7,8-HXCDD	NDR	0.589	0.466 (S)	2.60	1.000
1,2,3,6,7,8-HXCDD		2.36	0.466 (S)	1.14	1.000
1,2,3,7,8,9-HXCDD		2.00	0.466 (S)	1.20	1.001
1,2,3,4,6,7,8-HPCDD		15.7	0.329 (S)	0.99	1.000
OCDD		73.8	0.675 (S)	0.89	1.000
2,3,7,8-TCDF		1.42	0.526 (S)	0.66	1.001
1,2,3,7,8-PECDF	ND		0.673 (S)		
2,3,4,7,8-PECDF	ND		0.673 (S)		
1,2,3,4,7,8-HXCDF	ND		0.401 (S)		
1,2,3,6,7,8-HXCDF	ND		0.401 (S)		
1,2,3,7,8,9-HXCDF	ND		0.401 (S)		
2,3,4,6,7,8-HXCDF	ND		0.401 (S)		
1,2,3,4,6,7,8-HPCDF	ND		1.48 (S)		
1,2,3,4,7,8,9-HPCDF	ND		1.48 (S)		
OCDF	NDR	2.59	0.369 (S)	1.48	1.002
TOTAL TETRA-DIOXINS		33.1	0.432 (S)		
TOTAL PENTA-DIOXINS		5.95	0.572 (S)		
TOTAL HEXA-DIOXINS		4.36	0.466 (S)		
TOTAL HEPTA-DIOXINS		26.5	0.329 (S)		
TOTAL TETRA-FURANS		1.97	0.526 (S)		
TOTAL PENTA-FURANS		6.38	0.673 (S)		
TOTAL HEXA-FURANS	ND		0.401 (S)		
TOTAL HEPTA-FURANS	ND		1.48 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH416  
Sample Collection:  
04-Nov-2010 17:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 19-Nov-2010  
**Extraction Date:** 07-Dec-2010  
**Analysis Date:** 17-Dec-2010 **Time:** 13:07:35  
**Extract Volume (uL):** 100  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15775-16  
**Sample Size:** 5.13 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB03\_168 S: 6  
**Blank Data Filename:** N/A  
**Cal. Ver. Data Filename:** DB03\_168 S: 2  
**% Moisture:** 17.4

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF	ND		1.23 (S)		

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-16\_Form1A\_DB03\_168S6\_SJ1235971.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH416  
Sample Collection:  
04-Nov-2010 17:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 03-Feb-2011 Time: 05:12:42

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-16 i

Sample Size: 5.13 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_019 S: 9

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX1M\_019 S: 1

% Moisture: 17.4

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2740	68.5	0.74	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3230	80.6	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3370	84.3	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3170	79.3	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3230	80.9	1.01	1.094
13C-OCDD		8000	5260	65.8	0.88	1.178
13C-2,3,7,8-TCDF		4000	2500	62.4	0.75	0.967
13C-1,2,3,7,8-PECDF		4000	2580	64.5	1.48	1.286
13C-2,3,4,7,8-PECDF		4000	2710	67.8	1.59	1.353
13C-1,2,3,4,7,8-HXCDF		4000	3200	80.0	0.46	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3220	80.6	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2910	72.7	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3240	81.1	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	2220	55.6	0.39	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3110	77.8	0.42	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	144	72.0		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH416

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.13 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 04-Nov-2010 17:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-16

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 6  
DX1M\_019 S: 9

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		30.9	0.432	1	3.09e+01	3.09e+01	
1,2,3,7,8-PECDD	ND		0.572	1	0.00e+00	2.86e-01	
1,2,3,4,7,8-HXCDD	ND		0.466	0.1	0.00e+00	2.33e-02	
1,2,3,6,7,8-HXCDD		2.36	0.466	0.1	2.36e-01	2.36e-01	
1,2,3,7,8,9-HXCDD		2.00	0.466	0.1	2.00e-01	2.00e-01	
1,2,3,4,6,7,8-HPCDD		15.7	0.329	0.01	1.57e-01	1.57e-01	
OCDD		73.8	0.675	0.0001	7.38e-03	7.38e-03	
2,3,7,8-TCDF	ND		1.23	0.1	0.00e+00	6.15e-02	
1,2,3,7,8-PECDF	ND		0.673	0.05	0.00e+00	1.68e-02	
2,3,4,7,8-PECDF	ND		0.673	0.5	0.00e+00	1.68e-01	
1,2,3,4,7,8-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
1,2,3,6,7,8-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
1,2,3,7,8,9-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
2,3,4,6,7,8-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.48	0.01	0.00e+00	7.40e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.48	0.01	0.00e+00	7.40e-03	
OCDF	ND		0.369	0.0001	0.00e+00	1.85e-05	
<b>TOTAL TEQ</b>					<b>31.5</b>	<b>32.2</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		30.9	0.432	1	3.09e+01	3.09e+01	
1,2,3,7,8-PECDD	ND		0.572	1	0.00e+00	2.86e-01	
1,2,3,4,7,8-HXCDD	ND		0.466	0.1	0.00e+00	2.33e-02	
1,2,3,6,7,8-HXCDD		2.36	0.466	0.1	2.36e-01	2.36e-01	
1,2,3,7,8,9-HXCDD		2.00	0.466	0.1	2.00e-01	2.00e-01	
1,2,3,4,6,7,8-HPCDD		15.7	0.329	0.01	1.57e-01	1.57e-01	
OCDD		73.8	0.675	0.0003	2.21e-02	2.21e-02	
2,3,7,8-TCDF	ND		1.23	0.1	0.00e+00	6.15e-02	
1,2,3,7,8-PECDF	ND		0.673	0.03	0.00e+00	1.01e-02	
2,3,4,7,8-PECDF	ND		0.673	0.3	0.00e+00	1.01e-01	
1,2,3,4,7,8-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
1,2,3,6,7,8-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
1,2,3,7,8,9-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
2,3,4,6,7,8-HXCDF	ND		0.401	0.1	0.00e+00	2.01e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.48	0.01	0.00e+00	7.40e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.48	0.01	0.00e+00	7.40e-03	
OCDF	ND		0.369	0.0003	0.00e+00	5.54e-05	
<b>TOTAL TEQ</b>					<b>31.5</b>	<b>32.1</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-16\_TEQ\_SJ1235971.html; Workgroup: WG34860; Design ID: 1505 ]

AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH419  
Sample Collection:  
05-Nov-2010 08:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 16-Dec-2010 Time: 17:07:09  
Extract Volume (uL): 100  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-17  
Sample Size: 5.70 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 25  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 18  
% Moisture: 32.1

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		586	1.19 (S)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	10.8	1.85 (S)	0.48	1.001
1,2,3,4,7,8-HXCDD		7.47	0.928 (S)	1.34	1.000
1,2,3,6,7,8-HXCDD		23.9	0.928 (S)	1.29	1.000
1,2,3,7,8,9-HXCDD		28.2	0.928 (S)	1.38	1.000
1,2,3,4,6,7,8-HPCDD		447	1.61 (S)	0.99	1.000
OCDD		4370	3.26 (S)	0.88	1.000
2,3,7,8-TCDF		44.2	0.970 (S)	0.73	1.001
1,2,3,7,8-PECDF	NDR	2.06	1.84 (S)	3.08	1.001
2,3,4,7,8-PECDF		5.26	1.84 (S)	1.65	1.000
1,2,3,4,7,8-HXCDF	NDR	9.51	1.07 (S)	0.85	1.000
1,2,3,6,7,8-HXCDF		7.32	1.07 (S)	1.30	1.000
1,2,3,7,8,9-HXCDF	ND		1.07 (S)		
2,3,4,6,7,8-HXCDF	NDR	5.41	1.07 (S)	1.63	1.001
1,2,3,4,6,7,8-HPCDF		75.3	0.755 (S)	0.90	1.000
1,2,3,4,7,8,9-HPCDF	NDR	4.48	0.755 (S)	0.80	1.000
OCDF		141	1.56 (S)	0.84	1.002
TOTAL TETRA-DIOXINS		638	1.19 (S)		
TOTAL PENTA-DIOXINS		50.0	1.85 (S)		
TOTAL HEXA-DIOXINS		244	0.928 (S)		
TOTAL HEPTA-DIOXINS		879	1.61 (S)		
TOTAL TETRA-FURANS		223	0.970 (S)		
TOTAL PENTA-FURANS		232	1.84 (S)		
TOTAL HEXA-FURANS		110	1.07 (S)		
TOTAL HEPTA-FURANS		165	0.755 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH419  
Sample Collection:  
05-Nov-2010 08:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 13:44:29  
Extract Volume (uL): 100  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-17  
Sample Size: 5.70 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_168 S: 7  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_168 S: 2  
% Moisture: 32.1

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		29.4	1.38 (S)	0.68	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

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## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH419  
Sample Collection:  
05-Nov-2010 08:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 17:07:09

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-17

Sample Size: 5.70 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 25

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 18

% Moisture: 32.1

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2020	50.6	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	2520	62.9	0.64	1.385
13C-1,2,3,4,7,8-HXCDD		4000	2460	61.5	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2250	56.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3050	76.1	0.99	1.094
13C-OCDD		8000	5590	69.8	0.86	1.178
13C-2,3,7,8-TCDF		4000	2080	51.9	0.74	0.967
13C-1,2,3,7,8-PECDF		4000	2230	55.7	1.52	1.286
13C-2,3,4,7,8-PECDF		4000	2320	57.9	1.54	1.355
13C-1,2,3,4,7,8-HXCDF		4000	2350	58.7	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2260	56.5	0.46	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2260	56.6	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		4000	2440	61.1	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	2750	68.8	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	2970	74.2	0.42	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	119	59.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH419

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.70 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 08:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-17

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 7  
DX0M\_169 S: 25

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		586	1.19	1	5.86e+02	5.86e+02	
1,2,3,7,8-PECDD	ND		1.85	1	0.00e+00	9.25e-01	
1,2,3,4,7,8-HXCDD		7.47	0.928	0.1	7.47e-01	7.47e-01	
1,2,3,6,7,8-HXCDD		23.9	0.928	0.1	2.39e+00	2.39e+00	
1,2,3,7,8,9-HXCDD		28.2	0.928	0.1	2.82e+00	2.82e+00	
1,2,3,4,6,7,8-HPCDD		447	1.61	0.01	4.47e+00	4.47e+00	
OCDD		4370	3.26	0.0001	4.37e-01	4.37e-01	
2,3,7,8-TCDF		29.4	1.38	0.1	2.94e+00	2.94e+00	
1,2,3,7,8-PECDF	ND		1.84	0.05	0.00e+00	4.60e-02	
2,3,4,7,8-PECDF		5.26	1.84	0.5	2.63e+00	2.63e+00	
1,2,3,4,7,8-HXCDF	ND		1.07	0.1	0.00e+00	5.35e-02	
1,2,3,6,7,8-HXCDF		7.32	1.07	0.1	7.32e-01	7.32e-01	
1,2,3,7,8,9-HXCDF	ND		1.07	0.1	0.00e+00	5.35e-02	
2,3,4,6,7,8-HXCDF	ND		1.07	0.1	0.00e+00	5.35e-02	
1,2,3,4,6,7,8-HPCDF		75.3	0.755	0.01	7.53e-01	7.53e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.755	0.01	0.00e+00	3.78e-03	
OCDF		141	1.56	0.0001	1.41e-02	1.41e-02	
<b>TOTAL TEQ</b>					<b>604</b>	<b>605</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		586	1.19	1	5.86e+02	5.86e+02	
1,2,3,7,8-PECDD	ND		1.85	1	0.00e+00	9.25e-01	
1,2,3,4,7,8-HXCDD		7.47	0.928	0.1	7.47e-01	7.47e-01	
1,2,3,6,7,8-HXCDD		23.9	0.928	0.1	2.39e+00	2.39e+00	
1,2,3,7,8,9-HXCDD		28.2	0.928	0.1	2.82e+00	2.82e+00	
1,2,3,4,6,7,8-HPCDD		447	1.61	0.01	4.47e+00	4.47e+00	
OCDD		4370	3.26	0.0003	1.31e+00	1.31e+00	
2,3,7,8-TCDF		29.4	1.38	0.1	2.94e+00	2.94e+00	
1,2,3,7,8-PECDF	ND		1.84	0.03	0.00e+00	2.76e-02	
2,3,4,7,8-PECDF		5.26	1.84	0.3	1.58e+00	1.58e+00	
1,2,3,4,7,8-HXCDF	ND		1.07	0.1	0.00e+00	5.35e-02	
1,2,3,6,7,8-HXCDF		7.32	1.07	0.1	7.32e-01	7.32e-01	
1,2,3,7,8,9-HXCDF	ND		1.07	0.1	0.00e+00	5.35e-02	
2,3,4,6,7,8-HXCDF	ND		1.07	0.1	0.00e+00	5.35e-02	
1,2,3,4,6,7,8-HPCDF		75.3	0.755	0.01	7.53e-01	7.53e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.755	0.01	0.00e+00	3.78e-03	
OCDF		141	1.56	0.0003	4.23e-02	4.23e-02	
<b>TOTAL TEQ</b>					604	605	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

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AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH421  
Sample Collection:  
05-Nov-2010 09:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 16-Dec-2010 Time: 18:02:22  
Extract Volume (uL): 100  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-18  
Sample Size: 5.73 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX0M\_169 S: 26  
Blank Data Filename: DX0M\_169 S: 22  
Cal. Ver. Data Filename: DX0M\_169 S: 18  
% Moisture: 31.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		605	0.930 (S)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	9.17	0.747 (S)	0.43	1.002
1,2,3,4,7,8-HXCDD		7.75	0.631 (S)	1.38	1.000
1,2,3,6,7,8-HXCDD		20.1	0.631 (S)	1.17	1.000
1,2,3,7,8,9-HXCDD		21.8	0.631 (S)	1.30	1.000
1,2,3,4,6,7,8-HPCDD		434	1.49 (S)	0.99	1.000
OCDD		4160	5.58 (S)	0.86	1.000
2,3,7,8-TCDF		111	0.906 (S)	0.73	1.001
1,2,3,7,8-PECDF	NDR	3.47	0.888 (S)	1.11	1.002
2,3,4,7,8-PECDF	NDR	2.79	0.888 (S)	2.43	0.999
1,2,3,4,7,8-HXCDF		6.12	0.500 (S)	1.28	1.000
1,2,3,6,7,8-HXCDF		5.56	0.500 (S)	1.12	1.000
1,2,3,7,8,9-HXCDF	NDR	0.894	0.500 (S)	0.60	1.000
2,3,4,6,7,8-HXCDF	NDR	3.24	0.500 (S)	0.81	1.000
1,2,3,4,6,7,8-HPCDF		61.2	0.498 (S)	1.04	1.000
1,2,3,4,7,8,9-HPCDF	NDR	3.16	0.498 (S)	0.60	1.000
OCDF		118	0.805 (S)	0.88	1.002
TOTAL TETRA-DIOXINS		643	0.930 (S)		
TOTAL PENTA-DIOXINS		33.9	0.747 (S)		
TOTAL HEXA-DIOXINS		209	0.631 (S)		
TOTAL HEPTA-DIOXINS		872	1.49 (S)		
TOTAL TETRA-FURANS		274	0.906 (S)		
TOTAL PENTA-FURANS		202	0.888 (S)		
TOTAL HEXA-FURANS		95.8	0.500 (S)		
TOTAL HEPTA-FURANS		61.2	0.498 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH421  
Sample Collection:  
05-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 14:21:23  
Extract Volume (uL): 100  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-18  
Sample Size: 5.73 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_168 S: 8  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_168 S: 2  
% Moisture: 31.3

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		97.1	1.18 (S)	0.77	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-18\_Form1A\_DB03\_168S8\_SJ1235973.html; Workgroup: WG34860; Design ID: 1505 ]





## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH421  
Sample Collection:  
05-Nov-2010 09:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 18:02:22

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-18

Sample Size: 5.73 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 26

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 18

% Moisture: 31.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2120	53.0	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	2680	67.1	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		4000	2540	63.4	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2380	59.6	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3020	75.5	0.98	1.094
13C-OCDD		8000	5870	73.3	0.88	1.178
13C-2,3,7,8-TCDF		4000	2120	53.1	0.73	0.967
13C-1,2,3,7,8-PECDF		4000	2360	59.0	1.57	1.286
13C-2,3,4,7,8-PECDF		4000	2370	59.3	1.60	1.355
13C-1,2,3,4,7,8-HXCDF		4000	2460	61.5	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2340	58.5	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2510	62.9	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	2430	60.8	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	2810	70.2	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	3320	82.9	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	124	62.1		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH421

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.73 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 09:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-18

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 8  
DX0M\_169 S: 26

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		605	0.930	1	6.05e+02	6.05e+02	
1,2,3,7,8-PECDD	ND		0.747	1	0.00e+00	3.74e-01	
1,2,3,4,7,8-HXCDD		7.75	0.631	0.1	7.75e-01	7.75e-01	
1,2,3,6,7,8-HXCDD		20.1	0.631	0.1	2.01e+00	2.01e+00	
1,2,3,7,8,9-HXCDD		21.8	0.631	0.1	2.18e+00	2.18e+00	
1,2,3,4,6,7,8-HPCDD		434	1.49	0.01	4.34e+00	4.34e+00	
OCDD		4160	5.58	0.0001	4.16e-01	4.16e-01	
2,3,7,8-TCDF		97.1	1.18	0.1	9.71e+00	9.71e+00	
1,2,3,7,8-PECDF	ND		0.888	0.05	0.00e+00	2.22e-02	
2,3,4,7,8-PECDF	ND		0.888	0.5	0.00e+00	2.22e-01	
1,2,3,4,7,8-HXCDF		6.12	0.500	0.1	6.12e-01	6.12e-01	
1,2,3,6,7,8-HXCDF		5.56	0.500	0.1	5.56e-01	5.56e-01	
1,2,3,7,8,9-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDF		61.2	0.498	0.01	6.12e-01	6.12e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.498	0.01	0.00e+00	2.49e-03	
OCDF		118	0.805	0.0001	1.18e-02	1.18e-02	
<b>TOTAL TEQ</b>					626	627	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		605	0.930	1	6.05e+02	6.05e+02	
1,2,3,7,8-PECDD	ND		0.747	1	0.00e+00	3.74e-01	
1,2,3,4,7,8-HXCDD		7.75	0.631	0.1	7.75e-01	7.75e-01	
1,2,3,6,7,8-HXCDD		20.1	0.631	0.1	2.01e+00	2.01e+00	
1,2,3,7,8,9-HXCDD		21.8	0.631	0.1	2.18e+00	2.18e+00	
1,2,3,4,6,7,8-HPCDD		434	1.49	0.01	4.34e+00	4.34e+00	
OCDD		4160	5.58	0.0003	1.25e+00	1.25e+00	
2,3,7,8-TCDF		97.1	1.18	0.1	9.71e+00	9.71e+00	
1,2,3,7,8-PECDF	ND		0.888	0.03	0.00e+00	1.33e-02	
2,3,4,7,8-PECDF	ND		0.888	0.3	0.00e+00	1.33e-01	
1,2,3,4,7,8-HXCDF		6.12	0.500	0.1	6.12e-01	6.12e-01	
1,2,3,6,7,8-HXCDF		5.56	0.500	0.1	5.56e-01	5.56e-01	
1,2,3,7,8,9-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDF		61.2	0.498	0.01	6.12e-01	6.12e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.498	0.01	0.00e+00	2.49e-03	
OCDF		118	0.805	0.0003	3.54e-02	3.54e-02	
<b>TOTAL TEQ</b>					<b>627</b>	<b>628</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-18\_TEQ\_SJ1235921.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH422  
Sample Collection:  
05-Nov-2010 09:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-19
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	5.36 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	16-Dec-2010 Time: 18:57:35	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	100	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 27
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 18
		<b>% Moisture:</b>	35.5

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		1710	2.32 (S)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		23.4	0.658 (S)	0.63	1.001
1,2,3,4,7,8-HXCDD		15.2	1.03 (S)	1.36	1.000
1,2,3,6,7,8-HXCDD		52.5	1.03 (S)	1.38	1.000
1,2,3,7,8,9-HXCDD		40.3	1.03 (S)	1.11	1.000
1,2,3,4,6,7,8-HPCDD		818	2.38 (S)	0.97	1.000
OCDD		7200	3.14 (S)	0.88	1.000
2,3,7,8-TCDF		123	0.642 (S)	0.71	1.001
1,2,3,7,8-PECDF	NDR	4.94	1.14 (S)	2.39	1.001
2,3,4,7,8-PECDF		6.62	1.14 (S)	1.41	1.001
1,2,3,4,7,8-HXCDF		9.54	0.575 (S)	1.08	1.000
1,2,3,6,7,8-HXCDF	NDR	9.86	0.575 (S)	0.92	1.000
1,2,3,7,8,9-HXCDF	NDR	1.16	0.575 (S)	0.61	1.001
2,3,4,6,7,8-HXCDF	NDR	5.51	0.575 (S)	1.50	1.000
1,2,3,4,6,7,8-HPCDF		113	0.973 (S)	0.90	1.000
1,2,3,4,7,8,9-HPCDF	NDR	8.06	0.973 (S)	0.82	1.000
OCDF		226	1.09 (S)	0.83	1.002
TOTAL TETRA-DIOXINS		1780	2.32 (S)		
TOTAL PENTA-DIOXINS		98.4	0.658 (S)		
TOTAL HEXA-DIOXINS		415	1.03 (S)		
TOTAL HEPTA-DIOXINS		1560	2.38 (S)		
TOTAL TETRA-FURANS		541	0.642 (S)		
TOTAL PENTA-FURANS		428	1.14 (S)		
TOTAL HEXA-FURANS		191	0.575 (S)		
TOTAL HEPTA-FURANS		274	0.973 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH422  
Sample Collection:  
05-Nov-2010 09:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 14:58:18  
Extract Volume (uL): 100  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15775-19  
Sample Size: 5.36 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_168 S: 9  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_168 S: 2  
% Moisture: 35.5

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		89.4	1.81 (S)	0.82	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-19\_Form1A\_DB03\_168S9\_SJ1235974.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH422  
Sample Collection:  
05-Nov-2010 09:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 18:57:35

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-19

Sample Size: 5.36 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 27

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 18

% Moisture: 35.5

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	3110	77.8	0.73	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3910	97.8	0.65	1.385
13C-1,2,3,4,7,8-HXCDD		4000	3430	85.8	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3080	77.0	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	4050	101	0.99	1.094
13C-OCDD		8000	7740	96.8	0.86	1.178
13C-2,3,7,8-TCDF		4000	3270	81.6	0.79	0.967
13C-1,2,3,7,8-PECDF		4000	3390	84.8	1.58	1.286
13C-2,3,4,7,8-PECDF		4000	3470	86.9	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		4000	3290	82.2	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3120	77.9	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3260	81.4	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3300	82.4	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	3790	94.7	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	4050	101	0.44	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	209	105		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH422

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.36 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 09:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-19

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 9  
DX0M\_169 S: 27

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1710	2.32	1	1.71e+03	1.71e+03	
1,2,3,7,8-PECDD		23.4	0.658	1	2.34e+01	2.34e+01	
1,2,3,4,7,8-HXCDD		15.2	1.03	0.1	1.52e+00	1.52e+00	
1,2,3,6,7,8-HXCDD		52.5	1.03	0.1	5.25e+00	5.25e+00	
1,2,3,7,8,9-HXCDD		40.3	1.03	0.1	4.03e+00	4.03e+00	
1,2,3,4,6,7,8-HPCDD		818	2.38	0.01	8.18e+00	8.18e+00	
OCDD		7200	3.14	0.0001	7.20e-01	7.20e-01	
2,3,7,8-TCDF		89.4	1.81	0.1	8.94e+00	8.94e+00	
1,2,3,7,8-PECDF	ND		1.14	0.05	0.00e+00	2.85e-02	
2,3,4,7,8-PECDF		6.62	1.14	0.5	3.31e+00	3.31e+00	
1,2,3,4,7,8-HXCDF		9.54	0.575	0.1	9.54e-01	9.54e-01	
1,2,3,6,7,8-HXCDF	ND		0.575	0.1	0.00e+00	2.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.575	0.1	0.00e+00	2.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.575	0.1	0.00e+00	2.88e-02	
1,2,3,4,6,7,8-HPCDF		113	0.973	0.01	1.13e+00	1.13e+00	
1,2,3,4,7,8,9-HPCDF	ND		0.973	0.01	0.00e+00	4.87e-03	
OCDF		226	1.09	0.0001	2.26e-02	2.26e-02	
<b>TOTAL TEQ</b>					1770	1770	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1710	2.32	1	1.71e+03	1.71e+03	
1,2,3,7,8-PECDD		23.4	0.658	1	2.34e+01	2.34e+01	
1,2,3,4,7,8-HXCDD		15.2	1.03	0.1	1.52e+00	1.52e+00	
1,2,3,6,7,8-HXCDD		52.5	1.03	0.1	5.25e+00	5.25e+00	
1,2,3,7,8,9-HXCDD		40.3	1.03	0.1	4.03e+00	4.03e+00	
1,2,3,4,6,7,8-HPCDD		818	2.38	0.01	8.18e+00	8.18e+00	
OCDD		7200	3.14	0.0003	2.16e+00	2.16e+00	
2,3,7,8-TCDF		89.4	1.81	0.1	8.94e+00	8.94e+00	
1,2,3,7,8-PECDF	ND		1.14	0.03	0.00e+00	1.71e-02	
2,3,4,7,8-PECDF		6.62	1.14	0.3	1.99e+00	1.99e+00	
1,2,3,4,7,8-HXCDF		9.54	0.575	0.1	9.54e-01	9.54e-01	
1,2,3,6,7,8-HXCDF	ND		0.575	0.1	0.00e+00	2.88e-02	
1,2,3,7,8,9-HXCDF	ND		0.575	0.1	0.00e+00	2.88e-02	
2,3,4,6,7,8-HXCDF	ND		0.575	0.1	0.00e+00	2.88e-02	
1,2,3,4,6,7,8-HPCDF		113	0.973	0.01	1.13e+00	1.13e+00	
1,2,3,4,7,8,9-HPCDF	ND		0.973	0.01	0.00e+00	4.87e-03	
OCDF		226	1.09	0.0003	6.78e-02	6.78e-02	
<b>TOTAL TEQ</b>					1770	1770	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-19\_TEQ\_SJ1235922.html; Workgroup: WG34860; Design ID: 1505 ]





AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH423  
Sample Collection:  
05-Nov-2010 09:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15775-20 i
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	5.40 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	03-Feb-2011 Time: 06:07:55	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	100	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	<b>DX1M_019 S: 10</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_019 S: 1
		<b>% Moisture:</b>	17.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		605	2.76 (S)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		11.3	4.21 (S)	0.68	1.001
1,2,3,4,7,8-HXCDD		6.22	2.80 (S)	1.37	1.000
1,2,3,6,7,8-HXCDD	NDR	33.6	2.80 (S)	1.02	1.000
1,2,3,7,8,9-HXCDD		12.1	2.80 (S)	1.23	1.000
1,2,3,4,6,7,8-HPCDD		135	2.04 (S)	1.09	1.000
OCDD		428	3.47 (S)	0.88	1.001
2,3,7,8-TCDF		51.7	3.67 (S)	0.68	1.002
1,2,3,7,8-PECDF	ND		3.48 (S)		
2,3,4,7,8-PECDF	ND		3.48 (S)		
1,2,3,4,7,8-HXCDF	ND		4.32 (S)		
1,2,3,6,7,8-HXCDF	ND		4.32 (S)		
1,2,3,7,8,9-HXCDF	ND		4.32 (S)		
2,3,4,6,7,8-HXCDF	ND		4.32 (S)		
1,2,3,4,6,7,8-HPCDF	NDR	10.8	3.70 (S)	0.74	1.001
1,2,3,4,7,8,9-HPCDF	ND		3.70 (S)		
OCDF	ND		4.05 (S)		
TOTAL TETRA-DIOXINS		639	2.76 (S)		
TOTAL PENTA-DIOXINS		11.3	4.21 (S)		
TOTAL HEXA-DIOXINS		46.2	2.80 (S)		
TOTAL HEPTA-DIOXINS		208	2.04 (S)		
TOTAL TETRA-FURANS		126	3.67 (S)		
TOTAL PENTA-FURANS		151	3.48 (S)		
TOTAL HEXA-FURANS		8.83	4.32 (S)		
TOTAL HEPTA-FURANS	ND		3.70 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH423  
Sample Collection:  
05-Nov-2010 09:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Matrix:** SOLID

**Sample Receipt Date:** 19-Nov-2010

**Extraction Date:** 07-Dec-2010

**Analysis Date:** 17-Dec-2010 **Time:** 15:35:12

**Extract Volume (uL):** 100

**Injection Volume (uL):** 2.0

**Dilution Factor:** N/A

**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15775-20

**Sample Size:** 5.40 g (dry)

**Initial Calibration Date:** 09-Nov-2010

**Instrument ID:** HR GC/MS

**GC Column ID:** DB225

**Sample Data Filename:** DB03\_168 S: 10

**Blank Data Filename:** N/A

**Cal. Ver. Data Filename:** DB03\_168 S: 2

**% Moisture:** 17.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF	NDR	50.4	11.9 (S)	1.06	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15775-20\_Form1A\_DB03\_168S10\_SJ1235975.html; Workgroup: WG34860; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH423  
Sample Collection:  
05-Nov-2010 09:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 03-Feb-2011 Time: 06:07:55

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-20 i

Sample Size: 5.40 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_019 S: 10

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX1M\_019 S: 1

% Moisture: 17.3

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	1670	41.7	0.74	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	1660	41.6	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		4000	2220	55.4	1.35	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2050	51.3	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	2350	58.8	1.11	1.094
13C-OCDD		8000	3750	46.9	0.90	1.178
13C-2,3,7,8-TCDF		4000	1440	36.1	0.83	0.967
13C-1,2,3,7,8-PECDF		4000	1560	38.9	1.51	1.286
13C-2,3,4,7,8-PECDF		4000	1540	38.6	1.51	1.354
13C-1,2,3,4,7,8-HXCDF		4000	2360	58.9	0.47	0.954
13C-1,2,3,6,7,8-HXCDF		4000	2310	57.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	1960	48.9	0.47	1.005
13C-2,3,4,6,7,8-HXCDF		4000	2060	51.4	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		4000	2130	53.2	0.51	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	1930	48.2	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	103	51.5		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH423

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.40 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 09:25

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15775-20

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 10  
DX1M\_019 S: 10

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		605	2.76	1	6.05e+02	6.05e+02	
1,2,3,7,8-PECDD		11.3	4.21	1	1.13e+01	1.13e+01	
1,2,3,4,7,8-HXCDD		6.22	2.80	0.1	6.22e-01	6.22e-01	
1,2,3,6,7,8-HXCDD	ND		2.80	0.1	0.00e+00	1.40e-01	
1,2,3,7,8,9-HXCDD		12.1	2.80	0.1	1.21e+00	1.21e+00	
1,2,3,4,6,7,8-HPCDD		135	2.04	0.01	1.35e+00	1.35e+00	
OCDD		428	3.47	0.0001	4.28e-02	4.28e-02	
2,3,7,8-TCDF	ND		11.9	0.1	0.00e+00	5.95e-01	
1,2,3,7,8-PECDF	ND		3.48	0.05	0.00e+00	8.70e-02	
2,3,4,7,8-PECDF	ND		3.48	0.5	0.00e+00	8.70e-01	
1,2,3,4,7,8-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
1,2,3,6,7,8-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
1,2,3,7,8,9-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
2,3,4,6,7,8-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.70	0.01	0.00e+00	1.85e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.70	0.01	0.00e+00	1.85e-02	
OCDF	ND		4.05	0.0001	0.00e+00	2.03e-04	
<b>TOTAL TEQ</b>					620	622	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		605	2.76	1	6.05e+02	6.05e+02	
1,2,3,7,8-PECDD		11.3	4.21	1	1.13e+01	1.13e+01	
1,2,3,4,7,8-HXCDD		6.22	2.80	0.1	6.22e-01	6.22e-01	
1,2,3,6,7,8-HXCDD	ND		2.80	0.1	0.00e+00	1.40e-01	
1,2,3,7,8,9-HXCDD		12.1	2.80	0.1	1.21e+00	1.21e+00	
1,2,3,4,6,7,8-HPCDD		135	2.04	0.01	1.35e+00	1.35e+00	
OCDD		428	3.47	0.0003	1.28e-01	1.28e-01	
2,3,7,8-TCDF	ND		11.9	0.1	0.00e+00	5.95e-01	
1,2,3,7,8-PECDF	ND		3.48	0.03	0.00e+00	5.22e-02	
2,3,4,7,8-PECDF	ND		3.48	0.3	0.00e+00	5.22e-01	
1,2,3,4,7,8-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
1,2,3,6,7,8-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
1,2,3,7,8,9-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
2,3,4,6,7,8-HXCDF	ND		4.32	0.1	0.00e+00	2.16e-01	
1,2,3,4,6,7,8-HPCDF	ND		3.70	0.01	0.00e+00	1.85e-02	
1,2,3,4,7,8,9-HPCDF	ND		3.70	0.01	0.00e+00	1.85e-02	
OCDF	ND		4.05	0.0003	0.00e+00	6.08e-04	
<b>TOTAL TEQ</b>					<b>620</b>	<b>622</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15775-20\_TEQ\_SJ1235975.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH424  
Sample Collection:  
05-Nov-2010 09:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15776-1
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	6.02 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	09-Nov-2010
<b>Analysis Date:</b>	16-Dec-2010 Time: 23:51:42	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	100	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX0M_169 S: 32
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX0M_169 S: 29
		<b>% Moisture:</b>	43.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		50.0	1.41 (S)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		229	1.27 (S)	0.63	1.001
1,2,3,4,7,8-HXCDD		258	2.75 (S)	1.24	1.001
1,2,3,6,7,8-HXCDD		392	2.75 (S)	1.23	1.000
1,2,3,7,8,9-HXCDD	NDR	882	2.75 (S)	1.21	0.999
1,2,3,4,6,7,8-HPCDD		1990	3.07 (S)	1.02	1.000
OCDD		3500	0.736 (S)	0.88	1.000
2,3,7,8-TCDF	OLR				
1,2,3,7,8-PECDF		635	4.81 (S)	1.47	1.001
2,3,4,7,8-PECDF		2290	4.81 (S)	1.46	1.001
1,2,3,4,7,8-HXCDF		1920	4.99 (S)	1.23	1.000
1,2,3,6,7,8-HXCDF		1970	4.99 (S)	1.18	1.000
1,2,3,7,8,9-HXCDF		107	4.99 (S)	1.10	1.000
2,3,4,6,7,8-HXCDF		3760	4.99 (S)	1.18	1.000
1,2,3,4,6,7,8-HPCDF		10500	5.19 (S)	0.99	1.000
1,2,3,4,7,8,9-HPCDF		733	5.19 (S)	0.99	1.000
OCDF		2730	0.857 (S)	0.87	1.002
TOTAL TETRA-DIOXINS		3490	1.41 (S)		
TOTAL PENTA-DIOXINS		4400	1.27 (S)		
TOTAL HEXA-DIOXINS		5930	2.75 (S)		
TOTAL HEPTA-DIOXINS		4660	3.07 (S)		
TOTAL TETRA-FURANS	OLR				
TOTAL PENTA-FURANS		32600	4.81 (S)		
TOTAL HEXA-FURANS		26800	4.99 (S)		
TOTAL HEPTA-FURANS		14400	5.19 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; OLR = exceeds calibrated linear range, see dilution data.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH424  
Sample Collection:  
05-Nov-2010 09:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SOLID	<b>Lab Sample I.D.:</b>	L15776-1 Wi
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	6.02 g (dry)
<b>Extraction Date:</b>	07-Dec-2010	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	07-Feb-2011 Time: 15:14:34	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	400	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	1.0	<b>Sample Data Filename:</b>	DX1M_021CC S: 6
<b>Dilution Factor:</b>	4	<b>Blank Data Filename:</b>	DX0M_169 S: 22
<b>Concentration Units:</b>	pg/g (dry weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_021CC S: 1
		<b>% Moisture:</b>	43.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD <sup>4</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	D	7410	5.63 (S)	0.73	1.003
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	D	28900	5.63 (S)		
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH424  
Sample Collection:  
05-Nov-2010 09:50

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 07-Dec-2010  
Analysis Date: 17-Dec-2010 Time: 16:12:02  
Extract Volume (uL): 100  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15776-1  
Sample Size: 6.02 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB03\_168 S: 11  
Blank Data Filename: N/A  
Cal. Ver. Data Filename: DB03\_168 S: 2  
% Moisture: 43.0

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		598	54.2 (S)	0.83	1.001

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 10-Feb-2011 14:16:25; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15776-1\_Form1A\_DB03\_168S11\_SJ1235976.html; Workgroup: WG34860; Design ID: 1505 ]





## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH424  
Sample Collection:  
05-Nov-2010 09:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 16-Dec-2010 Time: 23:51:42

Extract Volume (uL): 100

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-1

Sample Size: 6.02 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX0M\_169 S: 32

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX0M\_169 S: 29

% Moisture: 43.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	2840	71.0	0.80	1.014
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3560	89.0	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		4000	3430	85.9	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		4000	3080	76.9	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	3970	99.2	0.99	1.094
13C-OCDD		8000	7650	95.6	0.85	1.179
13C-2,3,7,8-TCDF		4000	3140	78.5	0.77	0.967
13C-1,2,3,7,8-PECDF		4000	3240	81.1	1.52	1.286
13C-2,3,4,7,8-PECDF		4000	3250	81.2	1.58	1.355
13C-1,2,3,4,7,8-HXCDF		4000	3600	90.0	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3300	82.6	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	3120	78.0	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3420	85.5	0.48	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	4030	101	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	4150	104	0.42	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	169	84.7		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH424  
Sample Collection:  
05-Nov-2010 09:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 19-Nov-2010

Extraction Date: 07-Dec-2010

Analysis Date: 07-Feb-2011 Time: 15:14:34

Extract Volume (uL): 400

Injection Volume (uL): 1.0

Dilution Factor: 4

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-1 Wi

Sample Size: 6.02 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_021CC S: 6

Blank Data Filename: DX0M\_169 S: 22

Cal. Ver. Data Filename: DX1M\_021CC S: 1

% Moisture: 43.0

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD <sup>4</sup>	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD	X					
13C-2,3,7,8-TCDF	D	4000	2840	71.1	0.78	0.967
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD X

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 10-Feb-2011 14:15:13; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-1\_Form2\_DX1M\_021CCS6\_SJ1256803.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH424

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 6.02 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 05-Nov-2010 09:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-1

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB03\_168 S: 11  
DX0M\_169 S: 32  
DX1M\_021CC S: 6

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		50.0	1.41	1	5.00e+01	5.00e+01	
1,2,3,7,8-PECDD		229	1.27	1	2.29e+02	2.29e+02	
1,2,3,4,7,8-HXCDD		258	2.75	0.1	2.58e+01	2.58e+01	
1,2,3,6,7,8-HXCDD		392	2.75	0.1	3.92e+01	3.92e+01	
1,2,3,7,8,9-HXCDD	ND		2.75	0.1	0.00e+00	1.38e-01	
1,2,3,4,6,7,8-HPCDD		1990	3.07	0.01	1.99e+01	1.99e+01	
OCDD		3500	0.736	0.0001	3.50e-01	3.50e-01	
2,3,7,8-TCDF		598	54.2	0.1	5.98e+01	5.98e+01	
1,2,3,7,8-PECDF		635	4.81	0.05	3.18e+01	3.18e+01	
2,3,4,7,8-PECDF		2290	4.81	0.5	1.15e+03	1.15e+03	
1,2,3,4,7,8-HXCDF		1920	4.99	0.1	1.92e+02	1.92e+02	
1,2,3,6,7,8-HXCDF		1970	4.99	0.1	1.97e+02	1.97e+02	
1,2,3,7,8,9-HXCDF		107	4.99	0.1	1.07e+01	1.07e+01	
2,3,4,6,7,8-HXCDF		3760	4.99	0.1	3.76e+02	3.76e+02	
1,2,3,4,6,7,8-HPCDF		10500	5.19	0.01	1.05e+02	1.05e+02	
1,2,3,4,7,8,9-HPCDF		733	5.19	0.01	7.33e+00	7.33e+00	
OCDF		2730	0.857	0.0001	2.73e-01	2.73e-01	
<b>TOTAL TEQ</b>					<b>2490</b>	<b>2490</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		50.0	1.41	1	5.00e+01	5.00e+01	
1,2,3,7,8-PECDD		229	1.27	1	2.29e+02	2.29e+02	
1,2,3,4,7,8-HXCDD		258	2.75	0.1	2.58e+01	2.58e+01	
1,2,3,6,7,8-HXCDD		392	2.75	0.1	3.92e+01	3.92e+01	
1,2,3,7,8,9-HXCDD	ND		2.75	0.1	0.00e+00	1.38e-01	
1,2,3,4,6,7,8-HPCDD		1990	3.07	0.01	1.99e+01	1.99e+01	
OCDD		3500	0.736	0.0003	1.05e+00	1.05e+00	
2,3,7,8-TCDF		598	54.2	0.1	5.98e+01	5.98e+01	
1,2,3,7,8-PECDF		635	4.81	0.03	1.91e+01	1.91e+01	
2,3,4,7,8-PECDF		2290	4.81	0.3	6.87e+02	6.87e+02	
1,2,3,4,7,8-HXCDF		1920	4.99	0.1	1.92e+02	1.92e+02	
1,2,3,6,7,8-HXCDF		1970	4.99	0.1	1.97e+02	1.97e+02	
1,2,3,7,8,9-HXCDF		107	4.99	0.1	1.07e+01	1.07e+01	
2,3,4,6,7,8-HXCDF		3760	4.99	0.1	3.76e+02	3.76e+02	
1,2,3,4,6,7,8-HPCDF		10500	5.19	0.01	1.05e+02	1.05e+02	
1,2,3,4,7,8,9-HPCDF		733	5.19	0.01	7.33e+00	7.33e+00	
OCDF		2730	0.857	0.0003	8.19e-01	8.19e-01	
<b>TOTAL TEQ</b>					2020	2020	

(1) Where applicable, custom lab flags have been used on this report; D = dilution data.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Jason MacKenzie \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 10-Feb-2011 14:17:09; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15776-1\_TEQ\_SJ1235927.html; Workgroup: WG34860; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH426  
Sample Collection:  
06-Nov-2010 11:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 22-Nov-2010  
Extraction Date: 31-Jan-2011  
Analysis Date: 13-Feb-2011 Time: 15:59:42  
Extract Volume (uL): 20  
Injection Volume (uL): 1.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15776-2 R2i (A)  
Sample Size: 6.27 g (dry)  
Initial Calibration Date: 04-Jan-2011  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX1M\_025 S: 59  
Blank Data Filename: DX1M\_025 S: 54  
Cal. Ver. Data Filename: DX1M\_025 S: 51  
% Moisture: 24.5

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		111	0.320 (S)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		3.30	0.281 (S)	0.61	1.001
1,2,3,4,7,8-HXCDD		5.95	0.217 (S)	1.18	1.000
1,2,3,6,7,8-HXCDD		15.6	0.217 (S)	1.22	1.000
1,2,3,7,8,9-HXCDD		14.0	0.217 (S)	1.19	1.000
1,2,3,4,6,7,8-HPCDD		416	0.462 (S)	1.00	1.000
OCDD		3470	0.103 (S)	0.87	1.000
2,3,7,8-TCDF		10.8	0.406 (S)	0.73	1.001
1,2,3,7,8-PECDF		1.24	0.159 (S)	1.66	1.001
2,3,4,7,8-PECDF	NDR	1.90	0.159 (S)	1.18	1.001
1,2,3,4,7,8-HXCDF		4.91	0.126 (S)	1.17	1.000
1,2,3,6,7,8-HXCDF		2.78	0.126 (S)	1.18	1.000
1,2,3,7,8,9-HXCDF	NDR	0.384	0.126 (S)	1.81	1.001
2,3,4,6,7,8-HXCDF		2.78	0.126 (S)	1.15	1.000
1,2,3,4,6,7,8-HPCDF		32.6	0.178 (S)	0.92	1.001
1,2,3,4,7,8,9-HPCDF		2.18	0.178 (S)	1.15	1.000
OCDF		58.7	0.278 (S)	0.85	1.002
TOTAL TETRA-DIOXINS		116	0.320 (S)		
TOTAL PENTA-DIOXINS		16.2	0.281 (S)		
TOTAL HEXA-DIOXINS		136	0.217 (S)		
TOTAL HEPTA-DIOXINS		896	0.462 (S)		
TOTAL TETRA-FURANS		49.0	0.406 (S)		
TOTAL PENTA-FURANS		24.8	0.159 (S)		
TOTAL HEXA-FURANS		45.3	0.126 (S)		
TOTAL HEPTA-FURANS		82.4	0.178 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH426  
Sample Collection:  
06-Nov-2010 11:25

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: SOLID  
Sample Receipt Date: 22-Nov-2010  
Extraction Date: 31-Jan-2011  
Analysis Date: 07-Feb-2011 Time: 12:02:18  
Extract Volume (uL): 20  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15776-2 R2 (A)  
Sample Size: 6.27 g (dry)  
Initial Calibration Date: 09-Nov-2010  
Instrument ID: HR GC/MS  
GC Column ID: DB225  
Sample Data Filename: DB13\_031 S: 7  
Blank Data Filename: DB13\_031 S: 15  
Cal. Ver. Data Filename: DB13\_031 S: 2  
% Moisture: 24.5

This page is part of a total report that contains information necessary for accreditation compliance. Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		5.19	0.452 (S)	0.72	1.000

- (1) Where applicable, custom lab flags have been used on this report.
- (2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
- (3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Shelley Facchin\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Feb-2011 14:27:28; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613DB225\_L15776-2\_Form1A\_DB13\_031S7\_SJ1258917.html; Workgroup: WG35350; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 20

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH426  
Sample Collection:  
06-Nov-2010 11:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 22-Nov-2010

Extraction Date: 31-Jan-2011

Analysis Date: 13-Feb-2011 Time: 15:59:42

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-2 R2i (A)

Sample Size: 6.27 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 59

Blank Data Filename: DX1M\_025 S: 54

Cal. Ver. Data Filename: DX1M\_025 S: 51

% Moisture: 24.5

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	V	4000	803	20.1	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	2060	51.6	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		4000	2760	69.1	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2900	72.4	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	2110	52.7	1.00	1.095
13C-OCDD		8000	2930	36.6	0.87	1.179
13C-2,3,7,8-TCDF	V	4000	571	14.3	0.78	0.967
13C-1,2,3,7,8-PECDF		4000	1920	48.0	1.52	1.285
13C-2,3,4,7,8-PECDF		4000	1320	32.9	1.55	1.353
13C-1,2,3,4,7,8-HXCDF		4000	3010	75.2	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3350	83.7	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2800	70.1	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3130	78.3	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	2070	51.6	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	2130	53.2	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD	V	200	35.2	17.6		1.015
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(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Shelley Facchin\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 17-Feb-2011 14:26:57; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-2\_Form2\_DX1M\_025S59\_SJ1261554.html; Workgroup: WG35350; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH426

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 6.27 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 06-Nov-2010 11:25

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-2 R2 (A)

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB13\_031 S: 7  
DX1M\_025 S: 59

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		111	0.320	1	1.11e+02	1.11e+02	
1,2,3,7,8-PECDD		3.30	0.281	1	3.30e+00	3.30e+00	
1,2,3,4,7,8-HXCDD		5.95	0.217	0.1	5.95e-01	5.95e-01	
1,2,3,6,7,8-HXCDD		15.6	0.217	0.1	1.56e+00	1.56e+00	
1,2,3,7,8,9-HXCDD		14.0	0.217	0.1	1.40e+00	1.40e+00	
1,2,3,4,6,7,8-HPCDD		416	0.462	0.01	4.16e+00	4.16e+00	
OCDD		3470	0.103	0.0001	3.47e-01	3.47e-01	
2,3,7,8-TCDF		5.19	0.452	0.1	5.19e-01	5.19e-01	
1,2,3,7,8-PECDF		1.24	0.159	0.05	6.20e-02	6.20e-02	
2,3,4,7,8-PECDF	ND		0.159	0.5	0.00e+00	3.98e-02	
1,2,3,4,7,8-HXCDF		4.91	0.126	0.1	4.91e-01	4.91e-01	
1,2,3,6,7,8-HXCDF		2.78	0.126	0.1	2.78e-01	2.78e-01	
1,2,3,7,8,9-HXCDF	ND		0.126	0.1	0.00e+00	6.30e-03	
2,3,4,6,7,8-HXCDF		2.78	0.126	0.1	2.78e-01	2.78e-01	
1,2,3,4,6,7,8-HPCDF		32.6	0.178	0.01	3.26e-01	3.26e-01	
1,2,3,4,7,8,9-HPCDF		2.18	0.178	0.01	2.18e-02	2.18e-02	
OCDF		58.7	0.278	0.0001	5.87e-03	5.87e-03	
<b>TOTAL TEQ</b>					124	124	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		111	0.320	1	1.11e+02	1.11e+02	
1,2,3,7,8-PECDD		3.30	0.281	1	3.30e+00	3.30e+00	
1,2,3,4,7,8-HXCDD		5.95	0.217	0.1	5.95e-01	5.95e-01	
1,2,3,6,7,8-HXCDD		15.6	0.217	0.1	1.56e+00	1.56e+00	
1,2,3,7,8,9-HXCDD		14.0	0.217	0.1	1.40e+00	1.40e+00	
1,2,3,4,6,7,8-HPCDD		416	0.462	0.01	4.16e+00	4.16e+00	
OCDD		3470	0.103	0.0003	1.04e+00	1.04e+00	
2,3,7,8-TCDF		5.19	0.452	0.1	5.19e-01	5.19e-01	
1,2,3,7,8-PECDF		1.24	0.159	0.03	3.72e-02	3.72e-02	
2,3,4,7,8-PECDF	ND		0.159	0.3	0.00e+00	2.39e-02	
1,2,3,4,7,8-HXCDF		4.91	0.126	0.1	4.91e-01	4.91e-01	
1,2,3,6,7,8-HXCDF		2.78	0.126	0.1	2.78e-01	2.78e-01	
1,2,3,7,8,9-HXCDF	ND		0.126	0.1	0.00e+00	6.30e-03	
2,3,4,6,7,8-HXCDF		2.78	0.126	0.1	2.78e-01	2.78e-01	
1,2,3,4,6,7,8-HPCDF		32.6	0.178	0.01	3.26e-01	3.26e-01	
1,2,3,4,7,8,9-HPCDF		2.18	0.178	0.01	2.18e-02	2.18e-02	
OCDF		58.7	0.278	0.0003	1.76e-02	1.76e-02	
<b>TOTAL TEQ</b>					<b>125</b>	<b>125</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Feb-2011 14:27:50; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15776-2\_TEQ\_SJ1258917.html; Workgroup: WG35350; Design ID: 1505 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH426 (Duplicate)  
Sample Collection:  
06-Nov-2010 11:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 22-Nov-2010

Extraction Date: 31-Jan-2011

Analysis Date: 13-Feb-2011 Time: 16:54:51

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: WG35350-103 i (DUP L15776-2)

Sample Size: 6.41 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 60

Blank Data Filename: DX1M\_025 S: 54

Cal. Ver. Data Filename: DX1M\_025 S: 51

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		114	0.0780 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		3.43	0.0804 (S)	0.63	1.001
1,2,3,4,7,8-HXCDD		6.00	0.124 (S)	1.20	1.000
1,2,3,6,7,8-HXCDD		17.7	0.124 (S)	1.21	1.000
1,2,3,7,8,9-HXCDD		14.8	0.124 (S)	1.19	1.000
1,2,3,4,6,7,8-HPCDD		482	0.314 (S)	1.01	1.000
OCDD		3860	0.351 (S)	0.87	1.000
2,3,7,8-TCDF		6.84	0.0780 (Q)	0.74	1.001
1,2,3,7,8-PECDF		1.49	0.0941 (S)	1.67	1.001
2,3,4,7,8-PECDF		2.33	0.0941 (S)	1.55	1.001
1,2,3,4,7,8-HXCDF		4.63	0.102 (S)	1.15	1.001
1,2,3,6,7,8-HXCDF		2.87	0.102 (S)	1.15	1.000
1,2,3,7,8,9-HXCDF	NDR	0.400	0.102 (S)	1.03	1.000
2,3,4,6,7,8-HXCDF		3.04	0.102 (S)	1.23	1.000
1,2,3,4,6,7,8-HPCDF		36.9	0.183 (S)	0.98	1.000
1,2,3,4,7,8,9-HPCDF		2.73	0.183 (S)	0.99	1.000
OCDF		67.1	0.117 (S)	0.86	1.002
TOTAL TETRA-DIOXINS		127	0.0780 (Q)		
TOTAL PENTA-DIOXINS		31.3	0.0804 (S)		
TOTAL HEXA-DIOXINS		171	0.124 (S)		
TOTAL HEPTA-DIOXINS		975	0.314 (S)		
TOTAL TETRA-FURANS		62.7	0.0780 (Q)		
TOTAL PENTA-FURANS		48.2	0.0941 (S)		
TOTAL HEXA-FURANS		65.5	0.102 (S)		
TOTAL HEPTA-FURANS		83.9	0.183 (S)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH426 (Duplicate)  
Sample Collection:  
06-Nov-2010 11:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 22-Nov-2010

Extraction Date: 31-Jan-2011

Analysis Date: 07-Feb-2011 Time: 12:39:12

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (dry weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: WG35350-103 (DUP L15776-2)

Sample Size: 6.41 g (dry)

Initial Calibration Date: 09-Nov-2010

Instrument ID: HR GC/MS

GC Column ID: DB225

Sample Data Filename: DB13\_031 S: 8

Blank Data Filename: DB13\_031 S: 15

Cal. Ver. Data Filename: DB13\_031 S: 2

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDF		4.54	0.170 (S)	0.73	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Shelley Facchin\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Feb-2011 14:27:28; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613DB225\_WG35350-103\_Form1A\_DB13\_031S8\_SJ1258918.html; Workgroup: WG35350; Design ID: 1505 ]



## AXYS METHOD MLA-017 Rev 20

Form 2  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH426 (Duplicate)  
Sample Collection:  
06-Nov-2010 11:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Receipt Date: 22-Nov-2010

Extraction Date: 31-Jan-2011

Analysis Date: 13-Feb-2011 Time: 16:54:51

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg absolute

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: WG35350-103 i (DUP L15776-2)

Sample Size: 6.41 g (dry)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 60

Blank Data Filename: DX1M\_025 S: 54

Cal. Ver. Data Filename: DX1M\_025 S: 51

This page is part of a total report that contains information necessary for accreditation compliance.  
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		4000	3340	83.4	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		4000	3330	83.3	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		4000	3150	78.8	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		4000	2960	73.9	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		4000	2330	58.2	1.02	1.095
13C-OCDD		8000	3610	45.2	0.89	1.179
13C-2,3,7,8-TCDF		4000	2040	51.0	0.87	0.967
13C-1,2,3,7,8-PECDF		4000	2920	73.1	1.56	1.286
13C-2,3,4,7,8-PECDF		4000	2820	70.4	1.54	1.353
13C-1,2,3,4,7,8-HXCDF		4000	3480	86.9	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		4000	3510	87.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		4000	2930	73.2	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		4000	3170	79.3	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		4000	2480	62.1	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		4000	2240	56.0	0.43	1.104

## CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	196	97.8		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH426 (Duplicate)

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 6.41 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 06-Nov-2010 11:25

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: WG35350-103 (DUP L15776-2)

GC Column ID(s): DB225  
DB5Sample Data Filenames: DB13\_031 S: 8  
DX1M\_025 S: 60

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		114	0.0780	1	1.14e+02	1.14e+02	
1,2,3,7,8-PECDD		3.43	0.0804	1	3.43e+00	3.43e+00	
1,2,3,4,7,8-HXCDD		6.00	0.124	0.1	6.00e-01	6.00e-01	
1,2,3,6,7,8-HXCDD		17.7	0.124	0.1	1.77e+00	1.77e+00	
1,2,3,7,8,9-HXCDD		14.8	0.124	0.1	1.48e+00	1.48e+00	
1,2,3,4,6,7,8-HPCDD		482	0.314	0.01	4.82e+00	4.82e+00	
OCDD		3860	0.351	0.0001	3.86e-01	3.86e-01	
2,3,7,8-TCDF		4.54	0.170	0.1	4.54e-01	4.54e-01	
1,2,3,7,8-PECDF		1.49	0.0941	0.05	7.45e-02	7.45e-02	
2,3,4,7,8-PECDF		2.33	0.0941	0.5	1.17e+00	1.17e+00	
1,2,3,4,7,8-HXCDF		4.63	0.102	0.1	4.63e-01	4.63e-01	
1,2,3,6,7,8-HXCDF		2.87	0.102	0.1	2.87e-01	2.87e-01	
1,2,3,7,8,9-HXCDF	ND		0.102	0.1	0.00e+00	5.10e-03	
2,3,4,6,7,8-HXCDF		3.04	0.102	0.1	3.04e-01	3.04e-01	
1,2,3,4,6,7,8-HPCDF		36.9	0.183	0.01	3.69e-01	3.69e-01	
1,2,3,4,7,8,9-HPCDF		2.73	0.183	0.01	2.73e-02	2.73e-02	
OCDF		67.1	0.117	0.0001	6.71e-03	6.71e-03	
<b>TOTAL TEQ</b>					<b>130</b>	<b>130</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		114	0.0780	1	1.14e+02	1.14e+02	
1,2,3,7,8-PECDD		3.43	0.0804	1	3.43e+00	3.43e+00	
1,2,3,4,7,8-HXCDD		6.00	0.124	0.1	6.00e-01	6.00e-01	
1,2,3,6,7,8-HXCDD		17.7	0.124	0.1	1.77e+00	1.77e+00	
1,2,3,7,8,9-HXCDD		14.8	0.124	0.1	1.48e+00	1.48e+00	
1,2,3,4,6,7,8-HPCDD		482	0.314	0.01	4.82e+00	4.82e+00	
OCDD		3860	0.351	0.0003	1.16e+00	1.16e+00	
2,3,7,8-TCDF		4.54	0.170	0.1	4.54e-01	4.54e-01	
1,2,3,7,8-PECDF		1.49	0.0941	0.03	4.47e-02	4.47e-02	
2,3,4,7,8-PECDF		2.33	0.0941	0.3	6.99e-01	6.99e-01	
1,2,3,4,7,8-HXCDF		4.63	0.102	0.1	4.63e-01	4.63e-01	
1,2,3,6,7,8-HXCDF		2.87	0.102	0.1	2.87e-01	2.87e-01	
1,2,3,7,8,9-HXCDF	ND		0.102	0.1	0.00e+00	5.10e-03	
2,3,4,6,7,8-HXCDF		3.04	0.102	0.1	3.04e-01	3.04e-01	
1,2,3,4,6,7,8-HPCDF		36.9	0.183	0.01	3.69e-01	3.69e-01	
1,2,3,4,7,8,9-HPCDF		2.73	0.183	0.01	2.73e-02	2.73e-02	
OCDF		67.1	0.117	0.0003	2.01e-02	2.01e-02	
<b>TOTAL TEQ</b>					<b>130</b>	<b>130</b>	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Feb-2011 14:27:50; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_WG35350-103\_TEQ\_SJ1258918.html; Workgroup: WG35350; Design ID: 1505 ]

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH427  
Sample Collection:  
06-Nov-2010 15:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-3

Matrix: SOLID

Sample Size: 5.31 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 23:52:55

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_008A S: 10

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 50.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		212	1.65	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	3.84	2.09	1.94	1.000
1,2,3,4,7,8-HXCDD		4.50	1.51	1.32	1.000
1,2,3,6,7,8-HXCDD		11.5	1.51	1.30	1.001
1,2,3,7,8,9-HXCDD	NDR	12.7	1.51	1.05	1.000
1,2,3,4,6,7,8-HPCDD		206	2.29	1.03	1.000
OCDD		1770	6.43	0.86	1.000
2,3,7,8-TCDF	NDR	10.1	1.46	0.95	1.001
1,2,3,7,8-PECDF	ND		1.85		
2,3,4,7,8-PECDF	NDR	2.06	1.85	2.97	1.001
1,2,3,4,7,8-HXCDF		6.12	2.22	1.13	1.001
1,2,3,6,7,8-HXCDF	NDR	3.10	2.22	2.82	1.001
1,2,3,7,8,9-HXCDF	ND		2.22		
2,3,4,6,7,8-HXCDF		2.23	2.22	1.06	1.001
1,2,3,4,6,7,8-HPCDF	NDR	36.0	1.81	1.45	1.000
1,2,3,4,7,8,9-HPCDF	NDR	3.93	1.81	0.41	1.000
OCDF		80.1	1.91	0.81	1.002
TOTAL TETRA-DIOXINS		224	1.65		
TOTAL PENTA-DIOXINS		12.9	2.09		
TOTAL HEXA-DIOXINS		66.2	1.51		
TOTAL HEPTA-DIOXINS		393	2.29		
TOTAL TETRA-FURANS		35.1	1.46		
TOTAL PENTA-FURANS		50.8	1.85		
TOTAL HEXA-FURANS		22.9	2.22		
TOTAL HEPTA-FURANS		44.4	1.81		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-3\_Form1A\_DX1M\_008AS10\_SJ1243873.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH427  
Sample Collection:  
06-Nov-2010 15:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-3

Matrix: SOLID

Sample Size: 5.31 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 03-Jan-2011 Time: 15:00:52

GC Column ID: DB225

Extract Volume (uL): 100

Sample Data Filename: DB13\_001 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_001 S: 1

Concentration Units: pg/g (dry weight basis)

% Moisture: 50.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		6.88	3.85	0.82	1.000

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15776-3\_Form1A\_DB13\_001S10\_SJ1245293.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH427  
Sample Collection:  
06-Nov-2010 15:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-3

Matrix: SOLID

Sample Size: 5.31 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 23:52:55

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_008A S: 10

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 2

Concentration Units: pg absolute

% Moisture: 50.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	12000	120	0.74	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	12100	121	0.65	1.385
13C-1,2,3,4,7,8-HXCDD		10000	12500	125	1.33	0.987
13C-1,2,3,6,7,8-HXCDD		10000	12400	124	1.13	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	10600	106	1.06	1.094
13C-OCDD		20000	16600	82.9	0.89	1.178
13C-2,3,7,8-TCDF		10000	11500	115	0.73	0.967
13C-1,2,3,7,8-PECDF		10000	11400	114	1.50	1.285
13C-2,3,4,7,8-PECDF		10000	11100	111	1.56	1.354
13C-1,2,3,4,7,8-HXCDF		10000	14200	142	0.52	0.954
13C-1,2,3,6,7,8-HXCDF	V	10000	13800	138	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	12000	120	0.48	1.005
13C-2,3,4,6,7,8-HXCDF		10000	13100	131	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	11400	114	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	11000	110	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	82.7	82.7		1.015
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(1) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-3\_Form2\_DX1M\_008AS10\_SJ1243873.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH427

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 06-Nov-2010 15:15  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15776-3  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_001 S: 10  
DX1M\_008A S: 10

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.31 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		212	1.65	1	2.12e+02	2.12e+02	
1,2,3,7,8-PECDD	ND		2.09	1	0.00e+00	1.05e+00	
1,2,3,4,7,8-HXCDD		4.50	1.51	0.1	4.50e-01	4.50e-01	
1,2,3,6,7,8-HXCDD		11.5	1.51	0.1	1.15e+00	1.15e+00	
1,2,3,7,8,9-HXCDD	ND		1.51	0.1	0.00e+00	7.55e-02	
1,2,3,4,6,7,8-HPCDD		206	2.29	0.01	2.06e+00	2.06e+00	
OCDD		1770	6.43	0.0001	1.77e-01	1.77e-01	
2,3,7,8-TCDF		6.88	3.85	0.1	6.88e-01	6.88e-01	
1,2,3,7,8-PECDF	ND		1.85	0.05	0.00e+00	4.63e-02	
2,3,4,7,8-PECDF	ND		1.85	0.5	0.00e+00	4.63e-01	
1,2,3,4,7,8-HXCDF		6.12	2.22	0.1	6.12e-01	6.12e-01	
1,2,3,6,7,8-HXCDF	ND		2.22	0.1	0.00e+00	1.11e-01	
1,2,3,7,8,9-HXCDF	ND		2.22	0.1	0.00e+00	1.11e-01	
2,3,4,6,7,8-HXCDF		2.23	2.22	0.1	2.23e-01	2.23e-01	
1,2,3,4,6,7,8-HPCDF	ND		1.81	0.01	0.00e+00	9.05e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.81	0.01	0.00e+00	9.05e-03	
OCDF		80.1	1.91	0.0001	8.01e-03	8.01e-03	
<b>TOTAL TEQ</b>					<b>217</b>	<b>219</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		212	1.65	1	2.12e+02	2.12e+02	
1,2,3,7,8-PECDD	ND		2.09	1	0.00e+00	1.05e+00	
1,2,3,4,7,8-HXCDD		4.50	1.51	0.1	4.50e-01	4.50e-01	
1,2,3,6,7,8-HXCDD		11.5	1.51	0.1	1.15e+00	1.15e+00	
1,2,3,7,8,9-HXCDD	ND		1.51	0.1	0.00e+00	7.55e-02	
1,2,3,4,6,7,8-HPCDD		206	2.29	0.01	2.06e+00	2.06e+00	
OCDD		1770	6.43	0.0003	5.31e-01	5.31e-01	
2,3,7,8-TCDF		6.88	3.85	0.1	6.88e-01	6.88e-01	
1,2,3,7,8-PECDF	ND		1.85	0.03	0.00e+00	2.78e-02	
2,3,4,7,8-PECDF	ND		1.85	0.3	0.00e+00	2.78e-01	
1,2,3,4,7,8-HXCDF		6.12	2.22	0.1	6.12e-01	6.12e-01	
1,2,3,6,7,8-HXCDF	ND		2.22	0.1	0.00e+00	1.11e-01	
1,2,3,7,8,9-HXCDF	ND		2.22	0.1	0.00e+00	1.11e-01	
2,3,4,6,7,8-HXCDF		2.23	2.22	0.1	2.23e-01	2.23e-01	
1,2,3,4,6,7,8-HPCDF	ND		1.81	0.01	0.00e+00	9.05e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.81	0.01	0.00e+00	9.05e-03	
OCDF		80.1	1.91	0.0003	2.40e-02	2.40e-02	
<b>TOTAL TEQ</b>					218	219	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15776-3\_TEQ\_SJ1245293.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH428  
Sample Collection:  
06-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-4

Matrix: SOLID

Sample Size: 5.87 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 00:48:07

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_008A S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 2

Concentration Units: pg/g (dry weight basis)

% Moisture: 18.5

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		33.9	2.15	0.69	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	7.77	3.05	0.79	1.001
1,2,3,4,7,8-HXCDD		10.3	3.42	1.28	0.999
1,2,3,6,7,8-HXCDD	NDR	11.2	3.42	1.88	1.000
1,2,3,7,8,9-HXCDD	NDR	8.47	3.42	0.91	1.001
1,2,3,4,6,7,8-HPCDD		38.3	2.55	1.19	1.000
OCDD		342	18.6	0.88	1.000
2,3,7,8-TCDF		6.02	2.26	0.77	1.001
1,2,3,7,8-PECDF	NDR	2.92	2.54	0.90	1.002
2,3,4,7,8-PECDF	NDR	4.61	2.54	1.06	1.002
1,2,3,4,7,8-HXCDF		6.96	3.35	1.31	1.001
1,2,3,6,7,8-HXCDF		6.48	3.35	1.12	1.000
1,2,3,7,8,9-HXCDF	ND		3.35		
2,3,4,6,7,8-HXCDF	NDR	8.80	3.35	0.88	1.001
1,2,3,4,6,7,8-HPCDF		6.17	2.87	1.12	1.000
1,2,3,4,7,8,9-HPCDF	NDR	5.87	2.87	1.26	1.000
OCDF		14.4	4.09	0.76	1.002
TOTAL TETRA-DIOXINS		33.9	2.15		
TOTAL PENTA-DIOXINS		5.35	3.05		
TOTAL HEXA-DIOXINS		14.2	3.42		
TOTAL HEPTA-DIOXINS		82.3	2.55		
TOTAL TETRA-FURANS		6.02	2.26		
TOTAL PENTA-FURANS	ND		2.54		
TOTAL HEXA-FURANS		13.4	3.35		
TOTAL HEPTA-FURANS		9.48	2.87		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-4\_Form1A\_DX1M\_008AS11\_SJ1243874.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH428  
Sample Collection:  
06-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** SOLID  
**Sample Receipt Date:** 22-Nov-2010  
**Extraction Date:** 14-Dec-2010  
**Analysis Date:** 03-Jan-2011 Time: 15:37:43  
**Extract Volume (uL):** 100  
**Injection Volume (uL):** 2.0  
**Dilution Factor:** N/A  
**Concentration Units:** pg/g (dry weight basis)

**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15776-4  
**Sample Size:** 5.87 g (dry)  
**Initial Calibration Date:** 09-Nov-2010  
**Instrument ID:** HR GC/MS  
**GC Column ID:** DB225  
**Sample Data Filename:** DB13\_001 S: 11  
**Blank Data Filename:** DX1M\_007B S: 19  
**Cal. Ver. Data Filename:** DB13\_001 S: 1  
**% Moisture:** 18.5

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.92	2.87	0.86	1.000

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15776-4\_Form1A\_DB13\_001S11\_SJ1245294.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH428  
Sample Collection:  
06-Nov-2010 16:15

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-4

Matrix: SOLID

Sample Size: 5.87 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 00:48:07

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_008A S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 2

Concentration Units: pg absolute

% Moisture: 18.5

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	7770	77.7	0.73	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	7450	74.5	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		10000	7890	78.9	1.14	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8000	80.0	1.17	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7180	71.8	0.97	1.094
13C-OCDD		20000	11300	56.3	0.89	1.178
13C-2,3,7,8-TCDF		10000	7690	76.9	0.73	0.967
13C-1,2,3,7,8-PECDF		10000	7280	72.8	1.56	1.285
13C-2,3,4,7,8-PECDF		10000	7040	70.4	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		10000	9200	92.0	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		10000	9520	95.2	0.47	0.958
13C-1,2,3,7,8,9-HXCDF		10000	7920	79.2	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		10000	8590	85.9	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	7480	74.8	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	6780	67.8	0.47	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	72.0	72.0		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-4\_Form2\_DX1M\_008AS11\_SJ1243874.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SOLID

Sample Size: 5.87 g (dry)

Concentration Units: pg/g (dry weight basis)

Sample Collection: 06-Nov-2010 16:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-4

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_001 S: 11  
DX1M\_008A S: 11

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		33.9	2.15	1	3.39e+01	3.39e+01	
1,2,3,7,8-PECDD	ND		3.05	1	0.00e+00	1.53e+00	
1,2,3,4,7,8-HXCDD		10.3	3.42	0.1	1.03e+00	1.03e+00	
1,2,3,6,7,8-HXCDD	ND		3.42	0.1	0.00e+00	1.71e-01	
1,2,3,7,8,9-HXCDD	ND		3.42	0.1	0.00e+00	1.71e-01	
1,2,3,4,6,7,8-HPCDD		38.3	2.55	0.01	3.83e-01	3.83e-01	
OCDD		342	18.6	0.0001	3.42e-02	3.42e-02	
2,3,7,8-TCDF		2.92	2.87	0.1	2.92e-01	2.92e-01	
1,2,3,7,8-PECDF	ND		2.54	0.05	0.00e+00	6.35e-02	
2,3,4,7,8-PECDF	ND		2.54	0.5	0.00e+00	6.35e-01	
1,2,3,4,7,8-HXCDF		6.96	3.35	0.1	6.96e-01	6.96e-01	
1,2,3,6,7,8-HXCDF		6.48	3.35	0.1	6.48e-01	6.48e-01	
1,2,3,7,8,9-HXCDF	ND		3.35	0.1	0.00e+00	1.68e-01	
2,3,4,6,7,8-HXCDF	ND		3.35	0.1	0.00e+00	1.68e-01	
1,2,3,4,6,7,8-HPCDF		6.17	2.87	0.01	6.17e-02	6.17e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.87	0.01	0.00e+00	1.44e-02	
OCDF		14.4	4.09	0.0001	1.44e-03	1.44e-03	
<b>TOTAL TEQ</b>					37.0	40.0	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		33.9	2.15	1	3.39e+01	3.39e+01	
1,2,3,7,8-PECDD	ND		3.05	1	0.00e+00	1.53e+00	
1,2,3,4,7,8-HXCDD		10.3	3.42	0.1	1.03e+00	1.03e+00	
1,2,3,6,7,8-HXCDD	ND		3.42	0.1	0.00e+00	1.71e-01	
1,2,3,7,8,9-HXCDD	ND		3.42	0.1	0.00e+00	1.71e-01	
1,2,3,4,6,7,8-HPCDD		38.3	2.55	0.01	3.83e-01	3.83e-01	
OCDD		342	18.6	0.0003	1.03e-01	1.03e-01	
2,3,7,8-TCDF		2.92	2.87	0.1	2.92e-01	2.92e-01	
1,2,3,7,8-PECDF	ND		2.54	0.03	0.00e+00	3.81e-02	
2,3,4,7,8-PECDF	ND		2.54	0.3	0.00e+00	3.81e-01	
1,2,3,4,7,8-HXCDF		6.96	3.35	0.1	6.96e-01	6.96e-01	
1,2,3,6,7,8-HXCDF		6.48	3.35	0.1	6.48e-01	6.48e-01	
1,2,3,7,8,9-HXCDF	ND		3.35	0.1	0.00e+00	1.68e-01	
2,3,4,6,7,8-HXCDF	ND		3.35	0.1	0.00e+00	1.68e-01	
1,2,3,4,6,7,8-HPCDF		6.17	2.87	0.01	6.17e-02	6.17e-02	
1,2,3,4,7,8,9-HPCDF	ND		2.87	0.01	0.00e+00	1.44e-02	
OCDF		14.4	4.09	0.0003	4.32e-03	4.32e-03	
<b>TOTAL TEQ</b>					37.1	39.8	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Henry Huang\_\_\_\_\_

For Axy's Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15776-4\_TEQ\_SJ1245294.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH429  
Sample Collection:  
06-Nov-2010 16:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-5

Matrix: SOLID

Sample Size: 5.08 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 15-Jan-2011 Time: 07:03:59

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_008A S: 43

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 34

Concentration Units: pg/g (dry weight basis)

% Moisture: 22.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		24.3	1.96	0.67	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		2.22		
1,2,3,4,7,8-HXCDD	ND		1.77		
1,2,3,6,7,8-HXCDD	NDR	3.47	1.77	2.60	1.000
1,2,3,7,8,9-HXCDD	NDR	1.97	1.77	0.70	1.000
1,2,3,4,6,7,8-HPCDD		31.0	1.98	1.00	1.000
OCDD		393	3.70	0.90	1.000
2,3,7,8-TCDF	ND		2.23		
1,2,3,7,8-PECDF	ND		2.03		
2,3,4,7,8-PECDF	ND		2.03		
1,2,3,4,7,8-HXCDF	ND		1.88		
1,2,3,6,7,8-HXCDF	ND		1.88		
1,2,3,7,8,9-HXCDF	ND		1.88		
2,3,4,6,7,8-HXCDF	ND		1.88		
1,2,3,4,6,7,8-HPCDF	NDR	6.09	1.46	0.81	1.001
1,2,3,4,7,8,9-HPCDF	ND		1.46		
OCDF		14.9	2.79	0.80	1.002
TOTAL TETRA-DIOXINS		24.3	1.96		
TOTAL PENTA-DIOXINS	ND		2.22		
TOTAL HEXA-DIOXINS		6.66	1.77		
TOTAL HEPTA-DIOXINS		31.0	1.98		
TOTAL TETRA-FURANS	ND		2.23		
TOTAL PENTA-FURANS		5.27	2.03		
TOTAL HEXA-FURANS		3.92	1.88		
TOTAL HEPTA-FURANS	ND		1.46		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-5\_Form1A\_DX1M\_008AS43\_SJ1244023.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH429  
Sample Collection:  
06-Nov-2010 16:35

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15776-5

Matrix: SOLID

Sample Size: 5.08 g (dry)

Sample Receipt Date: 22-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 14-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 15-Jan-2011 Time: 07:03:59

GC Column ID: DB5

Extract Volume (uL): 100

Sample Data Filename: DX1M\_008A S: 43

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_007B S: 19

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 34

Concentration Units: pg absolute

% Moisture: 22.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		10000	8180	81.8	0.82	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		10000	8800	88.0	0.65	1.384
13C-1,2,3,4,7,8-HXCDD		10000	8440	84.4	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		10000	8700	87.0	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		10000	7360	73.6	0.98	1.094
13C-OCDD		20000	12300	61.6	0.89	1.178
13C-2,3,7,8-TCDF		10000	8250	82.5	0.76	0.967
13C-1,2,3,7,8-PECDF		10000	8310	83.1	1.51	1.285
13C-2,3,4,7,8-PECDF		10000	8270	82.7	1.47	1.353
13C-1,2,3,4,7,8-HXCDF		10000	9360	93.6	0.49	0.955
13C-1,2,3,6,7,8-HXCDF		10000	9730	97.3	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		10000	8280	82.8	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		10000	9180	91.8	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		10000	8320	83.2	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		10000	7750	77.5	0.46	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		100	79.2	79.2		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 25-Jan-2011 11:29:06; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15776-5\_Form2\_DX1M\_008AS43\_SJ1244023.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 06-Nov-2010 16:35  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15776-5  
GC Column ID: DB5  
Sample Data Filename: DX1M\_008A S: 43

Contract No.: 2607  
Matrix: SOLID  
Sample Size: 5.08 g (dry)  
Concentration Units: pg/g (dry weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		24.3	1.96	1	2.43e+01	2.43e+01	
1,2,3,7,8-PECDD	ND		2.22	1	0.00e+00	1.11e+00	
1,2,3,4,7,8-HXCDD	ND		1.77	0.1	0.00e+00	8.85e-02	
1,2,3,6,7,8-HXCDD	ND		1.77	0.1	0.00e+00	8.85e-02	
1,2,3,7,8,9-HXCDD	ND		1.77	0.1	0.00e+00	8.85e-02	
1,2,3,4,6,7,8-HPCDD		31.0	1.98	0.01	3.10e-01	3.10e-01	
OCDD		393	3.70	0.0001	3.93e-02	3.93e-02	
2,3,7,8-TCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,7,8-PECDF	ND		2.03	0.05	0.00e+00	5.08e-02	
2,3,4,7,8-PECDF	ND		2.03	0.5	0.00e+00	5.08e-01	
1,2,3,4,7,8-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
1,2,3,6,7,8-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
1,2,3,7,8,9-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
2,3,4,6,7,8-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.46	0.01	0.00e+00	7.30e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.46	0.01	0.00e+00	7.30e-03	
OCDF		14.9	2.79	0.0001	1.49e-03	1.49e-03	
<b>TOTAL TEQ</b>					24.7	27.1	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		24.3	1.96	1	2.43e+01	2.43e+01	
1,2,3,7,8-PECDD	ND		2.22	1	0.00e+00	1.11e+00	
1,2,3,4,7,8-HXCDD	ND		1.77	0.1	0.00e+00	8.85e-02	
1,2,3,6,7,8-HXCDD	ND		1.77	0.1	0.00e+00	8.85e-02	
1,2,3,7,8,9-HXCDD	ND		1.77	0.1	0.00e+00	8.85e-02	
1,2,3,4,6,7,8-HPCDD		31.0	1.98	0.01	3.10e-01	3.10e-01	
OCDD		393	3.70	0.0003	1.18e-01	1.18e-01	
2,3,7,8-TCDF	ND		2.23	0.1	0.00e+00	1.12e-01	
1,2,3,7,8-PECDF	ND		2.03	0.03	0.00e+00	3.05e-02	
2,3,4,7,8-PECDF	ND		2.03	0.3	0.00e+00	3.05e-01	
1,2,3,4,7,8-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
1,2,3,6,7,8-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
1,2,3,7,8,9-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
2,3,4,6,7,8-HXCDF	ND		1.88	0.1	0.00e+00	9.40e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.46	0.01	0.00e+00	7.30e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.46	0.01	0.00e+00	7.30e-03	
OCDF		14.9	2.79	0.0003	4.47e-03	4.47e-03	
<b>TOTAL TEQ</b>					24.7	26.9	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Henry Huang \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 25-Jan-2011 12:01:47; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15776-5\_TEQ\_SJ1244023.html; Workgroup: WG34937; Design ID: 1505 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



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**A1.2**

**Fish Tissue Samples -  
Laboratory Analytical Results  
Including QA/QC**

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Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH500  
Sample Collection:  
03-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-1

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 14:22:18

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 30

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.99

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1.40	0.0499	0.68	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	0.0510	0.0499	0.96	1.001
1,2,3,4,7,8-HXCDD	ND		0.0499		
1,2,3,6,7,8-HXCDD	ND		0.0499		
1,2,3,7,8,9-HXCDD	ND		0.0499		
1,2,3,4,6,7,8-HPCDD	NDR	0.0583	0.0499	1.44	1.000
OCDD	NDR	0.105	0.0499	0.66	1.000
2,3,7,8-TCDF		0.329	0.0499	0.65	1.001
1,2,3,7,8-PECDF	ND		0.0499		
2,3,4,7,8-PECDF		0.0574	0.0499	1.38	1.001
1,2,3,4,7,8-HXCDF	ND		0.0499		
1,2,3,6,7,8-HXCDF	ND		0.0499		
1,2,3,7,8,9-HXCDF	ND		0.0499		
2,3,4,6,7,8-HXCDF	ND		0.0499		
1,2,3,4,6,7,8-HPCDF	ND		0.0499		
1,2,3,4,7,8,9-HPCDF	ND		0.0499		
OCDF	ND		0.0499		
TOTAL TETRA-DIOXINS		1.40	0.0499		
TOTAL PENTA-DIOXINS	ND		0.0499		
TOTAL HEXA-DIOXINS	ND		0.0499		
TOTAL HEPTA-DIOXINS	ND		0.0499		
TOTAL TETRA-FURANS		0.400	0.0499		
TOTAL PENTA-FURANS		0.0574	0.0499		
TOTAL HEXA-FURANS	ND		0.0499		
TOTAL HEPTA-FURANS	ND		0.0499		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-1\_Form1A\_DX1M\_005S30\_SJ1239322.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH500  
Sample Collection:  
03-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-1

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Jan-2011 Time: 22:53:34

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 6

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.99

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.253	0.0380	0.86	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-1\_Form1A\_DB13\_004S6\_SJ1241306.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH500  
Sample Collection:  
03-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-1

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 14:22:18

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 30

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg absolute

% Lipid: 0.99

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1070	53.3	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1200	60.1	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1160	58.0	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1110	55.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	975	48.8	1.01	1.094
13C-OCDD		4000	1650	41.2	0.88	1.177
13C-2,3,7,8-TCDF		2000	1020	51.2	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1050	52.7	1.50	1.286
13C-2,3,4,7,8-PECDF		2000	1020	51.2	1.55	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1100	55.2	0.49	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1070	53.7	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1040	52.0	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1100	55.0	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	922	46.1	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	933	46.6	0.44	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	169	84.3		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-1\_Form2\_DX1M\_005S30\_SJ1239322.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 09:55

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: TISSUE

Lab Sample I.D.: L15771-1

Sample Size: 10.0 g (wet)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (wet weight basis)

Sample Data Filenames: DB13\_004 S: 6  
DX1M\_005 S: 30

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.40	0.0499	1	1.40e+00	1.40e+00	
1,2,3,7,8-PECDD	ND		0.0499	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDD	ND		0.0499	0.0001	0.00e+00	2.50e-06	
2,3,7,8-TCDF		0.253	0.0380	0.1	2.53e-02	2.53e-02	
1,2,3,7,8-PECDF	ND		0.0499	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF		0.0574	0.0499	0.5	2.87e-02	2.87e-02	
1,2,3,4,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0499	0.0001	0.00e+00	2.50e-06	
<b>TOTAL TEQ</b>					1.45	1.50	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.40	0.0499	1	1.40e+00	1.40e+00	
1,2,3,7,8-PECDD	ND		0.0499	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDD	ND		0.0499	0.0003	0.00e+00	7.49e-06	
2,3,7,8-TCDF		0.253	0.0380	0.1	2.53e-02	2.53e-02	
1,2,3,7,8-PECDF	ND		0.0499	0.03	0.00e+00	7.49e-04	
2,3,4,7,8-PECDF		0.0574	0.0499	0.3	1.72e-02	1.72e-02	
1,2,3,4,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0499	0.0003	0.00e+00	7.49e-06	
<b>TOTAL TEQ</b>					<b>1.44</b>	<b>1.49</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-1\_TEQ\_SJ1241306.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH501  
Sample Collection:  
03-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-12 i

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 18:39:11

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 30

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg/g (wet weight basis)

% Lipid: 66.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		73.3	0.494	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	2.04	0.494	0.49	1.001
1,2,3,4,7,8-HXCDD		0.601	0.494	1.41	1.000
1,2,3,6,7,8-HXCDD		1.03	0.494	1.28	1.001
1,2,3,7,8,9-HXCDD		0.508	0.494	1.14	1.000
1,2,3,4,6,7,8-HPCDD		5.19	0.494	0.93	1.000
OCDD		40.1	0.494	0.92	1.000
2,3,7,8-TCDF		19.3	0.494	0.76	1.001
1,2,3,7,8-PECDF	NDR	0.820	0.494	1.04	1.001
2,3,4,7,8-PECDF		1.66	0.494	1.34	1.001
1,2,3,4,7,8-HXCDF	ND		0.494		
1,2,3,6,7,8-HXCDF	ND		0.494		
1,2,3,7,8,9-HXCDF	ND		0.494		
2,3,4,6,7,8-HXCDF	ND		0.494		
1,2,3,4,6,7,8-HPCDF		0.854	0.494	0.95	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.494		
OCDF		1.46	0.494	0.99	1.002
TOTAL TETRA-DIOXINS		76.9	0.494		
TOTAL PENTA-DIOXINS	ND		0.494		
TOTAL HEXA-DIOXINS		3.60	0.494		
TOTAL HEPTA-DIOXINS		9.59	0.494		
TOTAL TETRA-FURANS		24.4	0.494		
TOTAL PENTA-FURANS		3.49	0.494		
TOTAL HEXA-FURANS	ND		0.494		
TOTAL HEPTA-FURANS		0.854	0.494		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-12\_Form1A\_DX1M\_008AS30\_SJ1243623.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH501  
Sample Collection:  
03-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-12

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 06:16:06

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 18

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 66.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		15.7	0.321	0.84	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-12\_Form1A\_DB13\_004S18\_SJ1241318.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH501  
Sample Collection:  
03-Nov-2010 09:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-12 i

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 18:39:11

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 30

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg absolute

% Lipid: 66.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1470	73.4	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	2000	100	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1730	86.5	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.0	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1420	70.8	1.02	1.094
13C-OCDD		4000	2200	55.1	0.88	1.178
13C-2,3,7,8-TCDF		2000	1400	70.1	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1630	81.6	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1700	85.0	1.52	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1890	94.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1860	92.8	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1650	82.5	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1770	88.7	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1560	77.8	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1460	72.8	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	164	82.1		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-12\_Form2\_DX1M\_008AS30\_SJ1243623.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: TISSUE  
Sample Size: 1.01 g (wet)  
Concentration Units: pg/g (wet weight basis)

Sample Collection: 03-Nov-2010 09:55  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-12  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 18  
DX1M\_008A S: 30

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		73.3	0.494	1	7.33e+01	7.33e+01	
1,2,3,7,8-PECDD	ND		0.494	1	0.00e+00	2.47e-01	
1,2,3,4,7,8-HXCDD		0.601	0.494	0.1	6.01e-02	6.01e-02	
1,2,3,6,7,8-HXCDD		1.03	0.494	0.1	1.03e-01	1.03e-01	
1,2,3,7,8,9-HXCDD		0.508	0.494	0.1	5.08e-02	5.08e-02	
1,2,3,4,6,7,8-HPCDD		5.19	0.494	0.01	5.19e-02	5.19e-02	
OCDD		40.1	0.494	0.0001	4.01e-03	4.01e-03	
2,3,7,8-TCDF		15.7	0.321	0.1	1.57e+00	1.57e+00	
1,2,3,7,8-PECDF	ND		0.494	0.05	0.00e+00	1.24e-02	
2,3,4,7,8-PECDF		1.66	0.494	0.5	8.30e-01	8.30e-01	
1,2,3,4,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,7,8,9-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
2,3,4,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,4,6,7,8-HPCDF		0.854	0.494	0.01	8.54e-03	8.54e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.494	0.01	0.00e+00	2.47e-03	
OCDF		1.46	0.494	0.0001	1.46e-04	1.46e-04	
<b>TOTAL TEQ</b>					<b>76.0</b>	<b>76.3</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		73.3	0.494	1	7.33e+01	7.33e+01	
1,2,3,7,8-PECDD	ND		0.494	1	0.00e+00	2.47e-01	
1,2,3,4,7,8-HXCDD		0.601	0.494	0.1	6.01e-02	6.01e-02	
1,2,3,6,7,8-HXCDD		1.03	0.494	0.1	1.03e-01	1.03e-01	
1,2,3,7,8,9-HXCDD		0.508	0.494	0.1	5.08e-02	5.08e-02	
1,2,3,4,6,7,8-HPCDD		5.19	0.494	0.01	5.19e-02	5.19e-02	
OCDD		40.1	0.494	0.0003	1.20e-02	1.20e-02	
2,3,7,8-TCDF		15.7	0.321	0.1	1.57e+00	1.57e+00	
1,2,3,7,8-PECDF	ND		0.494	0.03	0.00e+00	7.41e-03	
2,3,4,7,8-PECDF		1.66	0.494	0.3	4.98e-01	4.98e-01	
1,2,3,4,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,7,8,9-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
2,3,4,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,4,6,7,8-HPCDF		0.854	0.494	0.01	8.54e-03	8.54e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.494	0.01	0.00e+00	2.47e-03	
OCDF		1.46	0.494	0.0003	4.38e-04	4.38e-04	
<b>TOTAL TEQ</b>					75.7	76.0	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-12\_TEQ\_SJ1241318.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH502  
Sample Collection:  
03-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15771-2

Matrix: TISSUE

Sample Size:

9.98 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date:

04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID:

HR GC/MS

Analysis Date: 08-Jan-2011 Time: 15:17:31

GC Column ID:

DB5

Extract Volume (uL): 20

Sample Data Filename:

DX1M\_005 S: 31

Injection Volume (uL): 1.0

Blank Data Filename:

DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename:

DX1M\_005 S: 25

Concentration Units: pg/g (wet weight basis)

% Lipid:

0.80

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		14.4	0.0501	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	0.113	0.0501	0.79	1.000
1,2,3,4,7,8-HXCDD	ND		0.0501		
1,2,3,6,7,8-HXCDD	ND		0.0501		
1,2,3,7,8,9-HXCDD	ND		0.0501		
1,2,3,4,6,7,8-HPCDD	NDR	0.0502	0.0501	0.79	1.000
OCDD		0.0945	0.0501	0.98	1.001
2,3,7,8-TCDF		3.74	0.0501	0.75	1.001
1,2,3,7,8-PECDF	ND		0.0501		
2,3,4,7,8-PECDF	NDR	0.0622	0.0501	2.16	1.000
1,2,3,4,7,8-HXCDF	ND		0.0501		
1,2,3,6,7,8-HXCDF	ND		0.0501		
1,2,3,7,8,9-HXCDF	ND		0.0501		
2,3,4,6,7,8-HXCDF	ND		0.0501		
1,2,3,4,6,7,8-HPCDF	ND		0.0501		
1,2,3,4,7,8,9-HPCDF	ND		0.0501		
OCDF	ND		0.0501		
TOTAL TETRA-DIOXINS		14.4	0.0501		
TOTAL PENTA-DIOXINS	ND		0.0501		
TOTAL HEXA-DIOXINS	ND		0.0501		
TOTAL HEPTA-DIOXINS	ND		0.0501		
TOTAL TETRA-FURANS		3.80	0.0501		
TOTAL PENTA-FURANS		0.0696	0.0501		
TOTAL HEXA-FURANS	ND		0.0501		
TOTAL HEPTA-FURANS	ND		0.0501		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-2\_Form1A\_DX1M\_005S31\_SJ1239323.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH502  
Sample Collection:  
03-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-2

Matrix: TISSUE

Sample Size: 9.98 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Jan-2011 Time: 23:30:23

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 7

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.80

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		3.41	0.0291	0.76	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-2\_Form1A\_DB13\_004S7\_SJ1241307.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH502  
Sample Collection:  
03-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-2

Matrix: TISSUE

Sample Size: 9.98 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 15:17:31

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 31

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg absolute

% Lipid: 0.80

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1390	69.3	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1560	78.0	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1530	76.5	1.27	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1450	72.5	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1390	69.4	1.01	1.094
13C-OCDD		4000	2480	62.1	0.87	1.177
13C-2,3,7,8-TCDF		2000	1340	66.8	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1350	67.7	1.51	1.286
13C-2,3,4,7,8-PECDF		2000	1320	66.1	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1510	75.5	0.50	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1470	73.6	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1370	68.5	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1440	72.0	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1290	64.4	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1290	64.7	0.43	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	170	84.9		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-2\_Form2\_DX1M\_005S31\_SJ1239323.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: TISSUE  
Sample Size: 9.98 g (wet)  
Concentration Units: pg/g (wet weight basis)

Sample Collection: 03-Nov-2010 10:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-2  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 7  
DX1M\_005 S: 31

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		14.4	0.0501	1	1.44e+01	1.44e+01	
1,2,3,7,8-PECDD	ND		0.0501	1	0.00e+00	2.51e-02	
1,2,3,4,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDD		0.0945	0.0501	0.0001	9.45e-06	9.45e-06	
2,3,7,8-TCDF		3.41	0.0291	0.1	3.41e-01	3.41e-01	
1,2,3,7,8-PECDF	ND		0.0501	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0501	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDF	ND		0.0501	0.0001	0.00e+00	2.51e-06	
<b>TOTAL TEQ</b>					<b>14.7</b>	<b>14.8</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		14.4	0.0501	1	1.44e+01	1.44e+01	
1,2,3,7,8-PECDD	ND		0.0501	1	0.00e+00	2.51e-02	
1,2,3,4,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDD	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDD		0.0945	0.0501	0.0003	2.84e-05	2.84e-05	
2,3,7,8-TCDF		3.41	0.0291	0.1	3.41e-01	3.41e-01	
1,2,3,7,8-PECDF	ND		0.0501	0.03	0.00e+00	7.52e-04	
2,3,4,7,8-PECDF	ND		0.0501	0.3	0.00e+00	7.52e-03	
1,2,3,4,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,7,8,9-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
2,3,4,6,7,8-HXCDF	ND		0.0501	0.1	0.00e+00	2.51e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0501	0.01	0.00e+00	2.51e-04	
OCDF	ND		0.0501	0.0003	0.00e+00	7.52e-06	
<b>TOTAL TEQ</b>					<b>14.7</b>	<b>14.8</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-2\_TEQ\_SJ1241307.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH503  
Sample Collection:  
03-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-13

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 10:00:21

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 51

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 76.3

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1620	0.460	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		13.2	0.460	0.64	1.001
1,2,3,4,7,8-HXCDD		0.706	0.460	1.40	1.000
1,2,3,6,7,8-HXCDD		1.79	0.460	1.16	1.001
1,2,3,7,8,9-HXCDD		0.590	0.460	1.37	1.000
1,2,3,4,6,7,8-HPCDD		2.10	0.460	0.95	1.000
OCDD		3.63	0.460	0.78	1.000
2,3,7,8-TCDF		452	0.460	0.74	1.001
1,2,3,7,8-PECDF	NDR	1.46	0.460	1.18	1.000
2,3,4,7,8-PECDF		3.07	0.460	1.40	1.001
1,2,3,4,7,8-HXCDF	ND		0.460		
1,2,3,6,7,8-HXCDF	ND		0.460		
1,2,3,7,8,9-HXCDF	ND		0.460		
2,3,4,6,7,8-HXCDF	ND		0.460		
1,2,3,4,6,7,8-HPCDF	ND		0.460		
1,2,3,4,7,8,9-HPCDF	ND		0.460		
OCDF	ND		0.460		
TOTAL TETRA-DIOXINS		1630	0.460		
TOTAL PENTA-DIOXINS		17.2	0.460		
TOTAL HEXA-DIOXINS		3.09	0.460		
TOTAL HEPTA-DIOXINS		2.63	0.460		
TOTAL TETRA-FURANS		472	0.460		
TOTAL PENTA-FURANS		18.3	0.460		
TOTAL HEXA-FURANS		0.512	0.460		
TOTAL HEPTA-FURANS	ND		0.460		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-13\_Form1A\_DX1M\_005S51\_SJ1239908.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH503  
Sample Collection:  
03-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-13

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 10:35:49

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_005 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 76.3

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		487	0.328	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-13\_Form1A\_DB13\_005S5\_SJ1241322.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH503  
Sample Collection:  
03-Nov-2010 10:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-13

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 10:00:21

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 51

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg absolute

% Lipid: 76.3

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1360	68.1	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1600	79.9	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1550	77.4	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1510	75.6	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1420	71.2	1.01	1.094
13C-OCDD		4000	2410	60.2	0.88	1.178
13C-2,3,7,8-TCDF		2000	1170	58.4	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1210	60.3	1.52	1.286
13C-2,3,4,7,8-PECDF		2000	1210	60.6	1.50	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1550	77.4	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1570	78.5	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1450	72.6	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1520	75.8	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1370	68.4	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1350	67.5	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	159	79.7		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-13\_Form2\_DX1M\_005S51\_SJ1239908.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH503

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 03-Nov-2010 10:30

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: TISSUE

Lab Sample I.D.: L15771-13

Sample Size: 1.09 g (wet)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (wet weight basis)

Sample Data Filenames: DB13\_005 S: 5  
DX1M\_005 S: 51

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1620	0.460	1	1.62e+03	1.62e+03	
1,2,3,7,8-PECDD		13.2	0.460	1	1.32e+01	1.32e+01	
1,2,3,4,7,8-HXCDD		0.706	0.460	0.1	7.06e-02	7.06e-02	
1,2,3,6,7,8-HXCDD		1.79	0.460	0.1	1.79e-01	1.79e-01	
1,2,3,7,8,9-HXCDD		0.590	0.460	0.1	5.90e-02	5.90e-02	
1,2,3,4,6,7,8-HPCDD		2.10	0.460	0.01	2.10e-02	2.10e-02	
OCDD		3.63	0.460	0.0001	3.63e-04	3.63e-04	
2,3,7,8-TCDF		487	0.328	0.1	4.87e+01	4.87e+01	
1,2,3,7,8-PECDF	ND		0.460	0.05	0.00e+00	1.15e-02	
2,3,4,7,8-PECDF		3.07	0.460	0.5	1.54e+00	1.54e+00	
1,2,3,4,7,8-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
1,2,3,6,7,8-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
1,2,3,7,8,9-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
2,3,4,6,7,8-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.460	0.01	0.00e+00	2.30e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.460	0.01	0.00e+00	2.30e-03	
OCDF	ND		0.460	0.0001	0.00e+00	2.30e-05	
<b>TOTAL TEQ</b>					<b>1680</b>	<b>1680</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1620	0.460	1	1.62e+03	1.62e+03	
1,2,3,7,8-PECDD		13.2	0.460	1	1.32e+01	1.32e+01	
1,2,3,4,7,8-HXCDD		0.706	0.460	0.1	7.06e-02	7.06e-02	
1,2,3,6,7,8-HXCDD		1.79	0.460	0.1	1.79e-01	1.79e-01	
1,2,3,7,8,9-HXCDD		0.590	0.460	0.1	5.90e-02	5.90e-02	
1,2,3,4,6,7,8-HPCDD		2.10	0.460	0.01	2.10e-02	2.10e-02	
OCDD		3.63	0.460	0.0003	1.09e-03	1.09e-03	
2,3,7,8-TCDF		487	0.328	0.1	4.87e+01	4.87e+01	
1,2,3,7,8-PECDF	ND		0.460	0.03	0.00e+00	6.90e-03	
2,3,4,7,8-PECDF		3.07	0.460	0.3	9.21e-01	9.21e-01	
1,2,3,4,7,8-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
1,2,3,6,7,8-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
1,2,3,7,8,9-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
2,3,4,6,7,8-HXCDF	ND		0.460	0.1	0.00e+00	2.30e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.460	0.01	0.00e+00	2.30e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.460	0.01	0.00e+00	2.30e-03	
OCDF	ND		0.460	0.0003	0.00e+00	6.90e-05	
<b>TOTAL TEQ</b>					1680	1680	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-13\_TEQ\_SJ1239908.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH504  
Sample Collection:  
04-Nov-2010 11:16

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-3

Matrix: TISSUE

Sample Size: 11.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 16:13:18

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 32

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg/g (wet weight basis)

% Lipid: 1.08

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		25.4	0.0455	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.187	0.0455	0.56	1.000
1,2,3,4,7,8-HXCDD	ND		0.0455		
1,2,3,6,7,8-HXCDD		0.0531	0.0455	1.33	1.001
1,2,3,7,8,9-HXCDD	ND		0.0455		
1,2,3,4,6,7,8-HPCDD		0.105	0.0455	0.94	1.000
OCDD		0.504	0.0455	0.86	1.000
2,3,7,8-TCDF		3.02	0.0455	0.74	1.001
1,2,3,7,8-PECDF	ND		0.0455		
2,3,4,7,8-PECDF	NDR	0.0659	0.0455	1.03	1.001
1,2,3,4,7,8-HXCDF	ND		0.0455		
1,2,3,6,7,8-HXCDF	ND		0.0455		
1,2,3,7,8,9-HXCDF	ND		0.0455		
2,3,4,6,7,8-HXCDF	ND		0.0455		
1,2,3,4,6,7,8-HPCDF	ND		0.0455		
1,2,3,4,7,8,9-HPCDF	ND		0.0455		
OCDF	ND		0.0455		
TOTAL TETRA-DIOXINS		25.5	0.0455		
TOTAL PENTA-DIOXINS		0.187	0.0455		
TOTAL HEXA-DIOXINS		0.0531	0.0455		
TOTAL HEPTA-DIOXINS		0.105	0.0455		
TOTAL TETRA-FURANS		3.02	0.0455		
TOTAL PENTA-FURANS	ND		0.0455		
TOTAL HEXA-FURANS	ND		0.0455		
TOTAL HEPTA-FURANS	ND		0.0455		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-3\_Form1A\_DX1M\_005S32\_SJ1239324.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH504  
Sample Collection:  
04-Nov-2010 11:16

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-3

Matrix: TISSUE

Sample Size: 11.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 00:07:13

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 1.08

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.53	0.0235	0.84	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-3\_Form1A\_DB13\_004S8\_SJ1241308.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH504  
Sample Collection:  
04-Nov-2010 11:16

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-3

Matrix: TISSUE

Sample Size: 11.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 16:13:18

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 32

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg absolute

% Lipid: 1.08

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1370	68.3	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1590	79.3	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1450	72.6	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1390	69.7	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1300	64.9	1.02	1.093
13C-OCDD		4000	2360	59.1	0.87	1.177
13C-2,3,7,8-TCDF		2000	1260	63.1	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1300	65.1	1.51	1.286
13C-2,3,4,7,8-PECDF		2000	1310	65.7	1.52	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1450	72.4	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1400	69.9	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1310	65.5	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1370	68.6	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1230	61.4	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1190	59.6	0.43	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	165	82.7		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-3\_Form2\_DX1M\_005S32\_SJ1239324.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: TISSUE

Sample Size: 11.0 g (wet)

Concentration Units: pg/g (wet weight basis)

Sample Collection: 04-Nov-2010 11:16

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-3

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_004 S: 8  
DX1M\_005 S: 32

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		25.4	0.0455	1	2.54e+01	2.54e+01	
1,2,3,7,8-PECDD		0.187	0.0455	1	1.87e-01	1.87e-01	
1,2,3,4,7,8-HXCDD	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,6,7,8-HXCDD		0.0531	0.0455	0.1	5.31e-03	5.31e-03	
1,2,3,7,8,9-HXCDD	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,4,6,7,8-HPCDD		0.105	0.0455	0.01	1.05e-03	1.05e-03	
OCDD		0.504	0.0455	0.0001	5.04e-05	5.04e-05	
2,3,7,8-TCDF		2.53	0.0235	0.1	2.53e-01	2.53e-01	
1,2,3,7,8-PECDF	ND		0.0455	0.05	0.00e+00	1.14e-03	
2,3,4,7,8-PECDF	ND		0.0455	0.5	0.00e+00	1.14e-02	
1,2,3,4,7,8-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,6,7,8-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,7,8,9-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
2,3,4,6,7,8-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0455	0.01	0.00e+00	2.28e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0455	0.01	0.00e+00	2.28e-04	
OCDF	ND		0.0455	0.0001	0.00e+00	2.28e-06	
<b>TOTAL TEQ</b>					<b>25.8</b>	<b>25.9</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		25.4	0.0455	1	2.54e+01	2.54e+01	
1,2,3,7,8-PECDD		0.187	0.0455	1	1.87e-01	1.87e-01	
1,2,3,4,7,8-HXCDD	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,6,7,8-HXCDD		0.0531	0.0455	0.1	5.31e-03	5.31e-03	
1,2,3,7,8,9-HXCDD	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,4,6,7,8-HPCDD		0.105	0.0455	0.01	1.05e-03	1.05e-03	
OCDD		0.504	0.0455	0.0003	1.51e-04	1.51e-04	
2,3,7,8-TCDF		2.53	0.0235	0.1	2.53e-01	2.53e-01	
1,2,3,7,8-PECDF	ND		0.0455	0.03	0.00e+00	6.83e-04	
2,3,4,7,8-PECDF	ND		0.0455	0.3	0.00e+00	6.83e-03	
1,2,3,4,7,8-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,6,7,8-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,7,8,9-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
2,3,4,6,7,8-HXCDF	ND		0.0455	0.1	0.00e+00	2.28e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0455	0.01	0.00e+00	2.28e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0455	0.01	0.00e+00	2.28e-04	
OCDF	ND		0.0455	0.0003	0.00e+00	6.83e-06	
<b>TOTAL TEQ</b>					<b>25.8</b>	<b>25.9</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH505  
Sample Collection:  
04-Nov-2010 11:16

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-14

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 10:55:34

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 52

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 84.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2410	0.497	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		20.3	0.497	0.59	1.001
1,2,3,4,7,8-HXCDD		1.83	0.497	1.41	1.000
1,2,3,6,7,8-HXCDD		5.78	0.497	1.12	1.001
1,2,3,7,8,9-HXCDD		1.79	0.497	1.14	1.000
1,2,3,4,6,7,8-HPCDD		13.3	0.497	1.16	1.000
OCDD		25.4	0.497	0.89	1.000
2,3,7,8-TCDF		293	0.497	0.73	1.001
1,2,3,7,8-PECDF		2.09	0.497	1.36	1.000
2,3,4,7,8-PECDF		3.83	0.497	1.60	1.001
1,2,3,4,7,8-HXCDF	ND		0.497		
1,2,3,6,7,8-HXCDF	ND		0.497		
1,2,3,7,8,9-HXCDF	ND		0.497		
2,3,4,6,7,8-HXCDF	ND		0.497		
1,2,3,4,6,7,8-HPCDF	ND		0.497		
1,2,3,4,7,8,9-HPCDF	ND		0.497		
OCDF		0.776	0.497	0.87	1.002
TOTAL TETRA-DIOXINS		2410	0.497		
TOTAL PENTA-DIOXINS		27.7	0.497		
TOTAL HEXA-DIOXINS		10.7	0.497		
TOTAL HEPTA-DIOXINS		15.4	0.497		
TOTAL TETRA-FURANS		310	0.497		
TOTAL PENTA-FURANS		21.5	0.497		
TOTAL HEXA-FURANS		1.25	0.497		
TOTAL HEPTA-FURANS	ND		0.497		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH505  
Sample Collection:  
04-Nov-2010 11:16

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-14

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 11:12:44

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_005 S: 6

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 84.7

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		306	0.343	0.77	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH505  
Sample Collection:  
04-Nov-2010 11:16

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-14

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 10:55:34

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 52

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg absolute

% Lipid: 84.7

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1270	63.3	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1570	78.7	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1450	72.4	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1430	71.4	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1290	64.4	1.02	1.094
13C-OCDD		4000	2220	55.5	0.88	1.178
13C-2,3,7,8-TCDF		2000	1190	59.5	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1190	59.4	1.50	1.286
13C-2,3,4,7,8-PECDF		2000	1220	60.9	1.54	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1540	76.8	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1490	74.3	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1380	69.1	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1440	71.9	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1260	62.8	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1250	62.6	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	136	67.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-14\_Form2\_DX1M\_005S52\_SJ1239909.html; Workgroup: WG35005; Design ID: 1507 ]

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 11:16  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-14  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_005 S: 6  
DX1M\_005 S: 52

Contract No.: 2607

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2410	0.497	1	2.41e+03	2.41e+03	
1,2,3,7,8-PECDD		20.3	0.497	1	2.03e+01	2.03e+01	
1,2,3,4,7,8-HXCDD		1.83	0.497	0.1	1.83e-01	1.83e-01	
1,2,3,6,7,8-HXCDD		5.78	0.497	0.1	5.78e-01	5.78e-01	
1,2,3,7,8,9-HXCDD		1.79	0.497	0.1	1.79e-01	1.79e-01	
1,2,3,4,6,7,8-HPCDD		13.3	0.497	0.01	1.33e-01	1.33e-01	
OCDD		25.4	0.497	0.0001	2.54e-03	2.54e-03	
2,3,7,8-TCDF		306	0.343	0.1	3.06e+01	3.06e+01	
1,2,3,7,8-PECDF		2.09	0.497	0.05	1.05e-01	1.05e-01	
2,3,4,7,8-PECDF		3.83	0.497	0.5	1.92e+00	1.92e+00	
1,2,3,4,7,8-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
1,2,3,6,7,8-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
1,2,3,7,8,9-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
2,3,4,6,7,8-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.497	0.01	0.00e+00	2.49e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.497	0.01	0.00e+00	2.49e-03	
OCDF		0.776	0.497	0.0001	7.76e-05	7.76e-05	
<b>TOTAL TEQ</b>					<b>2460</b>	<b>2460</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2410	0.497	1	2.41e+03	2.41e+03	
1,2,3,7,8-PECDD		20.3	0.497	1	2.03e+01	2.03e+01	
1,2,3,4,7,8-HXCDD		1.83	0.497	0.1	1.83e-01	1.83e-01	
1,2,3,6,7,8-HXCDD		5.78	0.497	0.1	5.78e-01	5.78e-01	
1,2,3,7,8,9-HXCDD		1.79	0.497	0.1	1.79e-01	1.79e-01	
1,2,3,4,6,7,8-HPCDD		13.3	0.497	0.01	1.33e-01	1.33e-01	
OCDD		25.4	0.497	0.0003	7.62e-03	7.62e-03	
2,3,7,8-TCDF		306	0.343	0.1	3.06e+01	3.06e+01	
1,2,3,7,8-PECDF		2.09	0.497	0.03	6.27e-02	6.27e-02	
2,3,4,7,8-PECDF		3.83	0.497	0.3	1.15e+00	1.15e+00	
1,2,3,4,7,8-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
1,2,3,6,7,8-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
1,2,3,7,8,9-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
2,3,4,6,7,8-HXCDF	ND		0.497	0.1	0.00e+00	2.49e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.497	0.01	0.00e+00	2.49e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.497	0.01	0.00e+00	2.49e-03	
OCDF		0.776	0.497	0.0003	2.33e-04	2.33e-04	
<b>TOTAL TEQ</b>					2460	2460	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-14\_TEQ\_SJ1239909.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH507  
Sample Collection:  
03-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-4

Matrix: TISSUE

Sample Size: 10.1 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 17:07:59

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 33

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg/g (wet weight basis)

% Lipid: 2.24

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		32.7	0.0496	0.74	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.233	0.0496	0.69	1.001
1,2,3,4,7,8-HXCDD	ND		0.0496		
1,2,3,6,7,8-HXCDD		0.0808	0.0496	1.26	1.000
1,2,3,7,8,9-HXCDD	ND		0.0496		
1,2,3,4,6,7,8-HPCDD		0.0804	0.0496	1.16	1.000
OCDD		0.226	0.0496	0.84	1.000
2,3,7,8-TCDF		3.54	0.0496	0.72	1.001
1,2,3,7,8-PECDF	ND		0.0496		
2,3,4,7,8-PECDF	NDR	0.112	0.0496	1.24	1.001
1,2,3,4,7,8-HXCDF	ND		0.0496		
1,2,3,6,7,8-HXCDF	ND		0.0496		
1,2,3,7,8,9-HXCDF	ND		0.0496		
2,3,4,6,7,8-HXCDF	ND		0.0496		
1,2,3,4,6,7,8-HPCDF	ND		0.0496		
1,2,3,4,7,8,9-HPCDF	ND		0.0496		
OCDF	ND		0.0496		
TOTAL TETRA-DIOXINS		32.7	0.0496		
TOTAL PENTA-DIOXINS		0.233	0.0496		
TOTAL HEXA-DIOXINS		0.0808	0.0496		
TOTAL HEPTA-DIOXINS		0.0804	0.0496		
TOTAL TETRA-FURANS		3.75	0.0496		
TOTAL PENTA-FURANS		0.129	0.0496		
TOTAL HEXA-FURANS	ND		0.0496		
TOTAL HEPTA-FURANS	ND		0.0496		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-4\_Form1A\_DX1M\_005S33\_SJ1239325.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH507  
Sample Collection:  
03-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-4

Matrix: TISSUE

Sample Size: 10.1 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 00:44:08

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 2.24

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.76	0.0300	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-4\_Form1A\_DB13\_004S9\_SJ1241309.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH507  
Sample Collection:  
03-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-4

Matrix: TISSUE

Sample Size: 10.1 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 17:07:59

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 33

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg absolute

% Lipid: 2.24

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1390	69.4	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1640	82.2	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1630	81.7	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1590	79.5	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1650	82.5	1.01	1.094
13C-OCDD		4000	3220	80.5	0.87	1.177
13C-2,3,7,8-TCDF		2000	1340	66.9	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1420	70.8	1.50	1.286
13C-2,3,4,7,8-PECDF		2000	1400	69.9	1.56	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1610	80.7	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1560	78.2	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1460	73.0	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1510	75.4	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1470	73.4	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1540	77.1	0.43	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	158	78.9		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-4\_Form2\_DX1M\_005S33\_SJ1239325.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: TISSUE

Sample Size: 10.1 g (wet)

Concentration Units: pg/g (wet weight basis)

Sample Collection: 03-Nov-2010 16:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-4

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_004 S: 9  
DX1M\_005 S: 33

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		32.7	0.0496	1	3.27e+01	3.27e+01	
1,2,3,7,8-PECDD		0.233	0.0496	1	2.33e-01	2.33e-01	
1,2,3,4,7,8-HXCDD	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,6,7,8-HXCDD		0.0808	0.0496	0.1	8.08e-03	8.08e-03	
1,2,3,7,8,9-HXCDD	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,4,6,7,8-HPCDD		0.0804	0.0496	0.01	8.04e-04	8.04e-04	
OCDD		0.226	0.0496	0.0001	2.26e-05	2.26e-05	
2,3,7,8-TCDF		2.76	0.0300	0.1	2.76e-01	2.76e-01	
1,2,3,7,8-PECDF	ND		0.0496	0.05	0.00e+00	1.24e-03	
2,3,4,7,8-PECDF	ND		0.0496	0.5	0.00e+00	1.24e-02	
1,2,3,4,7,8-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,6,7,8-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,7,8,9-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
2,3,4,6,7,8-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0496	0.01	0.00e+00	2.48e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0496	0.01	0.00e+00	2.48e-04	
OCDF	ND		0.0496	0.0001	0.00e+00	2.48e-06	
<b>TOTAL TEQ</b>					<b>33.2</b>	<b>33.2</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		32.7	0.0496	1	3.27e+01	3.27e+01	
1,2,3,7,8-PECDD		0.233	0.0496	1	2.33e-01	2.33e-01	
1,2,3,4,7,8-HXCDD	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,6,7,8-HXCDD		0.0808	0.0496	0.1	8.08e-03	8.08e-03	
1,2,3,7,8,9-HXCDD	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,4,6,7,8-HPCDD		0.0804	0.0496	0.01	8.04e-04	8.04e-04	
OCDD		0.226	0.0496	0.0003	6.78e-05	6.78e-05	
2,3,7,8-TCDF		2.76	0.0300	0.1	2.76e-01	2.76e-01	
1,2,3,7,8-PECDF	ND		0.0496	0.03	0.00e+00	7.44e-04	
2,3,4,7,8-PECDF	ND		0.0496	0.3	0.00e+00	7.44e-03	
1,2,3,4,7,8-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,6,7,8-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,7,8,9-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
2,3,4,6,7,8-HXCDF	ND		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0496	0.01	0.00e+00	2.48e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0496	0.01	0.00e+00	2.48e-04	
OCDF	ND		0.0496	0.0003	0.00e+00	7.44e-06	
<b>TOTAL TEQ</b>					<b>33.2</b>	<b>33.2</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-4\_TEQ\_SJ1241309.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH508  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-15

Matrix: TISSUE

Sample Size: 1.27 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 11:50:48

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 53

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 90.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1490	0.393	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		13.8	0.393	0.67	1.001
1,2,3,4,7,8-HXCDD		1.09	0.393	1.11	1.000
1,2,3,6,7,8-HXCDD		3.50	0.393	1.41	1.000
1,2,3,7,8,9-HXCDD		1.23	0.393	1.40	1.000
1,2,3,4,6,7,8-HPCDD		3.56	0.393	1.12	1.000
OCDD		3.73	0.393	0.79	1.000
2,3,7,8-TCDF		161	0.393	0.74	1.001
1,2,3,7,8-PECDF		1.56	0.393	1.43	1.001
2,3,4,7,8-PECDF		4.13	0.393	1.67	1.001
1,2,3,4,7,8-HXCDF	ND		0.393		
1,2,3,6,7,8-HXCDF	ND		0.393		
1,2,3,7,8,9-HXCDF	ND		0.393		
2,3,4,6,7,8-HXCDF	ND		0.393		
1,2,3,4,6,7,8-HPCDF	ND		0.393		
1,2,3,4,7,8,9-HPCDF	ND		0.393		
OCDF	ND		0.393		
TOTAL TETRA-DIOXINS		1490	0.393		
TOTAL PENTA-DIOXINS		13.8	0.393		
TOTAL HEXA-DIOXINS		5.82	0.393		
TOTAL HEPTA-DIOXINS		3.56	0.393		
TOTAL TETRA-FURANS		189	0.393		
TOTAL PENTA-FURANS		5.69	0.393		
TOTAL HEXA-FURANS		0.807	0.393		
TOTAL HEPTA-FURANS	ND		0.393		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH508  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15771-15

Matrix: TISSUE

Sample Size:

1.27 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date:

09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID:

HR GC/MS

Analysis Date: 10-Jan-2011 Time: 11:49:37

GC Column ID:

DB225

Extract Volume (uL): 20

Sample Data Filename:

DB13\_005 S: 7

Injection Volume (uL): 2.0

Blank Data Filename:

DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid:

90.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		162	0.466	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-15\_Form1A\_DB13\_005S7\_SJ1241324.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH508  
Sample Collection:  
04-Nov-2010 16:10

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-15

Matrix: TISSUE

Sample Size: 1.27 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 11:50:48

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 53

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg absolute

% Lipid: 90.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1530	76.3	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1800	90.1	0.63	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1740	86.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1690	84.4	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1520	76.0	1.00	1.094
13C-OCDD		4000	2600	64.9	0.89	1.177
13C-2,3,7,8-TCDF		2000	1390	69.4	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1430	71.4	1.51	1.286
13C-2,3,4,7,8-PECDF		2000	1410	70.3	1.54	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1850	92.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1800	89.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1600	80.2	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1690	84.6	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1460	73.2	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1470	73.4	0.43	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	175	87.6		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-15\_Form2\_DX1M\_005S53\_SJ1239910.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH508

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 16:10  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-15  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_005 S: 7  
DX1M\_005 S: 53

Contract No.: 2607

Matrix: TISSUE

Sample Size: 1.27 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1490	0.393	1	1.49e+03	1.49e+03	
1,2,3,7,8-PECDD		13.8	0.393	1	1.38e+01	1.38e+01	
1,2,3,4,7,8-HXCDD		1.09	0.393	0.1	1.09e-01	1.09e-01	
1,2,3,6,7,8-HXCDD		3.50	0.393	0.1	3.50e-01	3.50e-01	
1,2,3,7,8,9-HXCDD		1.23	0.393	0.1	1.23e-01	1.23e-01	
1,2,3,4,6,7,8-HPCDD		3.56	0.393	0.01	3.56e-02	3.56e-02	
OCDD		3.73	0.393	0.0001	3.73e-04	3.73e-04	
2,3,7,8-TCDF		162	0.466	0.1	1.62e+01	1.62e+01	
1,2,3,7,8-PECDF		1.56	0.393	0.05	7.80e-02	7.80e-02	
2,3,4,7,8-PECDF		4.13	0.393	0.5	2.07e+00	2.07e+00	
1,2,3,4,7,8-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
1,2,3,6,7,8-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
1,2,3,7,8,9-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
2,3,4,6,7,8-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.393	0.01	0.00e+00	1.97e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.393	0.01	0.00e+00	1.97e-03	
OCDF	ND		0.393	0.0001	0.00e+00	1.97e-05	
<b>TOTAL TEQ</b>					1520	1520	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1490	0.393	1	1.49e+03	1.49e+03	
1,2,3,7,8-PECDD		13.8	0.393	1	1.38e+01	1.38e+01	
1,2,3,4,7,8-HXCDD		1.09	0.393	0.1	1.09e-01	1.09e-01	
1,2,3,6,7,8-HXCDD		3.50	0.393	0.1	3.50e-01	3.50e-01	
1,2,3,7,8,9-HXCDD		1.23	0.393	0.1	1.23e-01	1.23e-01	
1,2,3,4,6,7,8-HPCDD		3.56	0.393	0.01	3.56e-02	3.56e-02	
OCDD		3.73	0.393	0.0003	1.12e-03	1.12e-03	
2,3,7,8-TCDF		162	0.466	0.1	1.62e+01	1.62e+01	
1,2,3,7,8-PECDF		1.56	0.393	0.03	4.68e-02	4.68e-02	
2,3,4,7,8-PECDF		4.13	0.393	0.3	1.24e+00	1.24e+00	
1,2,3,4,7,8-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
1,2,3,6,7,8-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
1,2,3,7,8,9-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
2,3,4,6,7,8-HXCDF	ND		0.393	0.1	0.00e+00	1.97e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.393	0.01	0.00e+00	1.97e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.393	0.01	0.00e+00	1.97e-03	
OCDF	ND		0.393	0.0003	0.00e+00	5.90e-05	
<b>TOTAL TEQ</b>					<b>1520</b>	<b>1520</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-15\_TEQ\_SJ1239910.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH509  
Sample Collection:  
04-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-5

Matrix: TISSUE

Sample Size: 10.3 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 18:03:13

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 34

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.59

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		31.2	0.0485	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.0721	0.0485	0.69	1.002
1,2,3,4,7,8-HXCDD	ND		0.0485		
1,2,3,6,7,8-HXCDD	ND		0.0485		
1,2,3,7,8,9-HXCDD	ND		0.0485		
1,2,3,4,6,7,8-HPCDD	NDR	0.0721	0.0485	1.33	1.000
OCDD		0.0886	0.0485	0.86	1.000
2,3,7,8-TCDF		2.85	0.0485	0.74	1.001
1,2,3,7,8-PECDF	ND		0.0485		
2,3,4,7,8-PECDF		0.0517	0.0485	1.37	1.000
1,2,3,4,7,8-HXCDF	ND		0.0485		
1,2,3,6,7,8-HXCDF	ND		0.0485		
1,2,3,7,8,9-HXCDF	ND		0.0485		
2,3,4,6,7,8-HXCDF	ND		0.0485		
1,2,3,4,6,7,8-HPCDF	ND		0.0564		
1,2,3,4,7,8,9-HPCDF	ND		0.0564		
OCDF	ND		0.0485		
TOTAL TETRA-DIOXINS		31.2	0.0485		
TOTAL PENTA-DIOXINS		0.0721	0.0485		
TOTAL HEXA-DIOXINS	ND		0.0485		
TOTAL HEPTA-DIOXINS	ND		0.0485		
TOTAL TETRA-FURANS		2.85	0.0485		
TOTAL PENTA-FURANS		0.0517	0.0485		
TOTAL HEXA-FURANS	ND		0.0485		
TOTAL HEPTA-FURANS	ND		0.0564		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-5\_Form1A\_DX1M\_005S34\_SJ1239326.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH509  
Sample Collection:  
04-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15771-5

Matrix: TISSUE

Sample Size:

10.3 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date:

09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID:

HR GC/MS

Analysis Date: 08-Jan-2011 Time: 01:21:01

GC Column ID:

DB225

Extract Volume (uL): 20

Sample Data Filename:

DB13\_004 S: 10

Injection Volume (uL): 2.0

Blank Data Filename:

DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid:

0.59

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.21	0.0382	0.86	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-5\_Form1A\_DB13\_004S10\_SJ1241310.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH509  
Sample Collection:  
04-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-5

Matrix: TISSUE

Sample Size: 10.3 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 18:03:13

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 34

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 25

Concentration Units: pg absolute

% Lipid: 0.59

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1270	63.4	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1420	71.0	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1380	68.9	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1330	66.3	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1290	64.7	0.99	1.094
13C-OCDD		4000	2680	67.0	0.88	1.177
13C-2,3,7,8-TCDF		2000	1170	58.6	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1230	61.4	1.55	1.286
13C-2,3,4,7,8-PECDF		2000	1170	58.6	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1350	67.6	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1320	65.9	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1250	62.4	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1320	65.9	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1210	60.4	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1210	60.7	0.42	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	154	76.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-5\_Form2\_DX1M\_005S34\_SJ1239326.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH509

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 16:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-5  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 10  
DX1M\_005 S: 34

Contract No.: 2607

Matrix: TISSUE

Sample Size: 10.3 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		31.2	0.0485	1	3.12e+01	3.12e+01	
1,2,3,7,8-PECDD		0.0721	0.0485	1	7.21e-02	7.21e-02	
1,2,3,4,7,8-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,6,7,8-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0485	0.01	0.00e+00	2.43e-04	
OCDD		0.0886	0.0485	0.0001	8.86e-06	8.86e-06	
2,3,7,8-TCDF		2.21	0.0382	0.1	2.21e-01	2.21e-01	
1,2,3,7,8-PECDF	ND		0.0485	0.05	0.00e+00	1.21e-03	
2,3,4,7,8-PECDF		0.0517	0.0485	0.5	2.59e-02	2.59e-02	
1,2,3,4,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
2,3,4,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0564	0.01	0.00e+00	2.82e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0564	0.01	0.00e+00	2.82e-04	
OCDF	ND		0.0485	0.0001	0.00e+00	2.43e-06	
<b>TOTAL TEQ</b>					<b>31.5</b>	<b>31.5</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		31.2	0.0485	1	3.12e+01	3.12e+01	
1,2,3,7,8-PECDD		0.0721	0.0485	1	7.21e-02	7.21e-02	
1,2,3,4,7,8-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,6,7,8-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDD	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0485	0.01	0.00e+00	2.43e-04	
OCDD		0.0886	0.0485	0.0003	2.66e-05	2.66e-05	
2,3,7,8-TCDF		2.21	0.0382	0.1	2.21e-01	2.21e-01	
1,2,3,7,8-PECDF	ND		0.0485	0.03	0.00e+00	7.28e-04	
2,3,4,7,8-PECDF		0.0517	0.0485	0.3	1.55e-02	1.55e-02	
1,2,3,4,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,7,8,9-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
2,3,4,6,7,8-HXCDF	ND		0.0485	0.1	0.00e+00	2.43e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0564	0.01	0.00e+00	2.82e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0564	0.01	0.00e+00	2.82e-04	
OCDF	ND		0.0485	0.0003	0.00e+00	7.28e-06	
<b>TOTAL TEQ</b>					<b>31.5</b>	<b>31.5</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-5\_TEQ\_SJ1241310.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH510  
Sample Collection:  
04-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-16

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 12:46:02

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 54

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 88.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3990	0.461	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		12.7	0.461	0.62	1.001
1,2,3,4,7,8-HXCDD		1.39	0.461	1.15	1.000
1,2,3,6,7,8-HXCDD		4.43	0.461	1.07	1.000
1,2,3,7,8,9-HXCDD		1.26	0.461	1.08	1.000
1,2,3,4,6,7,8-HPCDD		3.65	0.461	0.94	1.000
OCDD		8.48	0.461	0.84	1.000
2,3,7,8-TCDF		319	0.461	0.72	1.001
1,2,3,7,8-PECDF	NDR	1.40	0.461	1.22	1.001
2,3,4,7,8-PECDF		4.91	0.461	1.33	1.001
1,2,3,4,7,8-HXCDF	ND		0.461		
1,2,3,6,7,8-HXCDF	ND		0.461		
1,2,3,7,8,9-HXCDF	ND		0.461		
2,3,4,6,7,8-HXCDF	ND		0.461		
1,2,3,4,6,7,8-HPCDF	ND		0.461		
1,2,3,4,7,8,9-HPCDF	ND		0.461		
OCDF	NDR	0.474	0.461	1.30	1.002
TOTAL TETRA-DIOXINS		4000	0.461		
TOTAL PENTA-DIOXINS		14.4	0.461		
TOTAL HEXA-DIOXINS		7.74	0.461		
TOTAL HEPTA-DIOXINS		3.65	0.461		
TOTAL TETRA-FURANS		334	0.461		
TOTAL PENTA-FURANS		10.7	0.461		
TOTAL HEXA-FURANS	ND		0.461		
TOTAL HEPTA-FURANS	ND		0.461		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-16\_Form1A\_DX1M\_005S54\_SJ1239911.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH510  
Sample Collection:  
04-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-16

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 12:26:27

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_005 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 88.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		339	0.228	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-16\_Form1A\_DB13\_005S8\_SJ1241325.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH510  
Sample Collection:  
04-Nov-2010 16:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-16

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 12:46:02

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 54

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg absolute

% Lipid: 88.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1410	70.7	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1550	77.5	0.62	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1570	78.3	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1510	75.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1360	67.9	1.02	1.094
13C-OCDD		4000	2270	56.8	0.88	1.177
13C-2,3,7,8-TCDF		2000	1240	62.2	0.73	0.967
13C-1,2,3,7,8-PECDF		2000	1250	62.7	1.51	1.286
13C-2,3,4,7,8-PECDF		2000	1260	63.2	1.57	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1620	81.1	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1600	80.0	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1470	73.5	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1540	77.0	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1300	65.1	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1280	64.2	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	158	79.0		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-16\_Form2\_DX1M\_005S54\_SJ1239911.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH510

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 16:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-16  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_005 S: 8  
DX1M\_005 S: 54

Contract No.: 2607

Matrix: TISSUE

Sample Size: 1.09 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3990	0.461	1	3.99e+03	3.99e+03	
1,2,3,7,8-PECDD		12.7	0.461	1	1.27e+01	1.27e+01	
1,2,3,4,7,8-HXCDD		1.39	0.461	0.1	1.39e-01	1.39e-01	
1,2,3,6,7,8-HXCDD		4.43	0.461	0.1	4.43e-01	4.43e-01	
1,2,3,7,8,9-HXCDD		1.26	0.461	0.1	1.26e-01	1.26e-01	
1,2,3,4,6,7,8-HPCDD		3.65	0.461	0.01	3.65e-02	3.65e-02	
OCDD		8.48	0.461	0.0001	8.48e-04	8.48e-04	
2,3,7,8-TCDF		339	0.228	0.1	3.39e+01	3.39e+01	
1,2,3,7,8-PECDF	ND		0.461	0.05	0.00e+00	1.15e-02	
2,3,4,7,8-PECDF		4.91	0.461	0.5	2.46e+00	2.46e+00	
1,2,3,4,7,8-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
1,2,3,6,7,8-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
1,2,3,7,8,9-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
2,3,4,6,7,8-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.461	0.01	0.00e+00	2.31e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.461	0.01	0.00e+00	2.31e-03	
OCDF	ND		0.461	0.0001	0.00e+00	2.31e-05	
<b>TOTAL TEQ</b>					4040	4040	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3990	0.461	1	3.99e+03	3.99e+03	
1,2,3,7,8-PECDD		12.7	0.461	1	1.27e+01	1.27e+01	
1,2,3,4,7,8-HXCDD		1.39	0.461	0.1	1.39e-01	1.39e-01	
1,2,3,6,7,8-HXCDD		4.43	0.461	0.1	4.43e-01	4.43e-01	
1,2,3,7,8,9-HXCDD		1.26	0.461	0.1	1.26e-01	1.26e-01	
1,2,3,4,6,7,8-HPCDD		3.65	0.461	0.01	3.65e-02	3.65e-02	
OCDD		8.48	0.461	0.0003	2.54e-03	2.54e-03	
2,3,7,8-TCDF		339	0.228	0.1	3.39e+01	3.39e+01	
1,2,3,7,8-PECDF	ND		0.461	0.03	0.00e+00	6.92e-03	
2,3,4,7,8-PECDF		4.91	0.461	0.3	1.47e+00	1.47e+00	
1,2,3,4,7,8-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
1,2,3,6,7,8-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
1,2,3,7,8,9-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
2,3,4,6,7,8-HXCDF	ND		0.461	0.1	0.00e+00	2.31e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.461	0.01	0.00e+00	2.31e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.461	0.01	0.00e+00	2.31e-03	
OCDF	ND		0.461	0.0003	0.00e+00	6.92e-05	
<b>TOTAL TEQ</b>					<b>4040</b>	<b>4040</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-16\_TEQ\_SJ1239911.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH512  
Sample Collection:  
04-Nov-2010 16:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-6 i

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 16:48:44

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 28

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg/g (wet weight basis)

% Lipid: 1.77

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	NDR	0.0862	0.0499	0.44	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.0499		
1,2,3,4,7,8-HXCDD	ND		0.0499		
1,2,3,6,7,8-HXCDD	ND		0.0499		
1,2,3,7,8,9-HXCDD	ND		0.0499		
1,2,3,4,6,7,8-HPCDD		0.0589	0.0499	0.89	1.000
OCDD		0.123	0.0499	1.01	1.000
2,3,7,8-TCDF		0.0657	0.0499	0.71	1.002
1,2,3,7,8-PECDF	ND		0.0499		
2,3,4,7,8-PECDF	ND		0.0499		
1,2,3,4,7,8-HXCDF	ND		0.0499		
1,2,3,6,7,8-HXCDF	ND		0.0499		
1,2,3,7,8,9-HXCDF	ND		0.0499		
2,3,4,6,7,8-HXCDF	ND		0.0499		
1,2,3,4,6,7,8-HPCDF	ND		0.0499		
1,2,3,4,7,8,9-HPCDF	ND		0.0499		
OCDF	ND		0.0499		
TOTAL TETRA-DIOXINS	ND		0.0499		
TOTAL PENTA-DIOXINS	ND		0.0499		
TOTAL HEXA-DIOXINS	ND		0.0499		
TOTAL HEPTA-DIOXINS		0.0589	0.0499		
TOTAL TETRA-FURANS		0.0657	0.0499		
TOTAL PENTA-FURANS	ND		0.0499		
TOTAL HEXA-FURANS	ND		0.0499		
TOTAL HEPTA-FURANS	ND		0.0499		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-6\_Form1A\_DX1M\_008AS28\_SJ1243621.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH512  
Sample Collection:  
04-Nov-2010 16:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-6

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 01:57:56

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 1.77

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.0530	0.0296	1.11	1.000

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-6\_Form1A\_DB13\_004S11\_SJ1241311.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH512  
Sample Collection:  
04-Nov-2010 16:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-6 i

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 16:48:44

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 28

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg absolute

% Lipid: 1.77

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1450	72.3	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1790	89.6	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1520	75.8	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1500	75.2	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1260	63.0	1.00	1.094
13C-OCDD		4000	1830	45.6	0.88	1.178
13C-2,3,7,8-TCDF		2000	1440	72.0	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1540	76.9	1.50	1.286
13C-2,3,4,7,8-PECDF		2000	1470	73.6	1.53	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1650	82.3	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1660	83.1	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1490	74.7	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1530	76.7	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1310	65.5	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1270	63.3	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	168	83.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-6\_Form2\_DX1M\_008AS28\_SJ1243621.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH512

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 16:55  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-6  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 11  
DX1M\_008A S: 28

Contract No.: 2607

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.0499	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0499	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.0589	0.0499	0.01	5.89e-04	5.89e-04	
OCDD		0.123	0.0499	0.0001	1.23e-05	1.23e-05	
2,3,7,8-TCDF	ND		0.0296	0.1	0.00e+00	1.48e-03	
1,2,3,7,8-PECDF	ND		0.0499	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0499	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0499	0.0001	0.00e+00	2.50e-06	
<b>TOTAL TEQ</b>					0.000601	0.0837	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.0499	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0499	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD		0.0589	0.0499	0.01	5.89e-04	5.89e-04	
OCDD		0.123	0.0499	0.0003	3.69e-05	3.69e-05	
2,3,7,8-TCDF	ND		0.0296	0.1	0.00e+00	1.48e-03	
1,2,3,7,8-PECDF	ND		0.0499	0.03	0.00e+00	7.49e-04	
2,3,4,7,8-PECDF	ND		0.0499	0.3	0.00e+00	7.49e-03	
1,2,3,4,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF	ND		0.0499	0.0003	0.00e+00	7.49e-06	
<b>TOTAL TEQ</b>					<b>0.000626</b>	<b>0.0782</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-6\_TEQ\_SJ1241311.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH513  
Sample Collection:  
04-Nov-2010 16:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-17 i

Matrix: TISSUE

Sample Size: 1.02 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 17:43:57

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 29

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg/g (wet weight basis)

% Lipid: 93.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.51	0.492	0.66	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.17	0.492	0.70	1.001
1,2,3,4,7,8-HXCDD	ND		0.492		
1,2,3,6,7,8-HXCDD		1.02	0.492	1.18	1.000
1,2,3,7,8,9-HXCDD		0.539	0.492	1.19	1.000
1,2,3,4,6,7,8-HPCDD		1.93	0.492	0.92	1.000
OCDD		2.69	0.492	0.93	1.000
2,3,7,8-TCDF		2.96	0.492	0.77	1.001
1,2,3,7,8-PECDF		0.660	0.492	1.62	1.001
2,3,4,7,8-PECDF		1.12	0.492	1.33	1.001
1,2,3,4,7,8-HXCDF	ND		0.492		
1,2,3,6,7,8-HXCDF	ND		0.492		
1,2,3,7,8,9-HXCDF	ND		0.492		
2,3,4,6,7,8-HXCDF	ND		0.492		
1,2,3,4,6,7,8-HPCDF	ND		0.492		
1,2,3,4,7,8,9-HPCDF	ND		0.492		
OCDF	ND		0.492		
TOTAL TETRA-DIOXINS		4.66	0.492		
TOTAL PENTA-DIOXINS		1.17	0.492		
TOTAL HEXA-DIOXINS		1.56	0.492		
TOTAL HEPTA-DIOXINS		1.93	0.492		
TOTAL TETRA-FURANS		6.95	0.492		
TOTAL PENTA-FURANS		1.78	0.492		
TOTAL HEXA-FURANS	ND		0.492		
TOTAL HEPTA-FURANS	ND		0.492		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH513  
Sample Collection:  
04-Nov-2010 16:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-17 i

Matrix: TISSUE

Sample Size: 1.02 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 10:52:55

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_010 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_010 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 93.2

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.01	0.115	0.72	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH513  
Sample Collection:  
04-Nov-2010 16:55

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-17 i

Matrix: TISSUE

Sample Size: 1.02 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 17:43:57

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_008A S: 29

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg absolute

% Lipid: 93.2

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1560	78.0	0.78	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1930	96.7	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1760	88.1	1.25	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1660	82.8	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1440	71.8	0.99	1.094
13C-OCDD		4000	2120	52.9	0.88	1.178
13C-2,3,7,8-TCDF		2000	1520	75.8	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	1640	81.9	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	1590	79.7	1.55	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1930	96.5	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1880	94.0	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1610	80.7	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1760	88.2	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1500	75.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1450	72.4	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	163	81.6		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-17\_Form2\_DX1M\_008AS29\_SJ1243622.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH513

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 16:55

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: TISSUE

Lab Sample I.D.: L15771-17 i

Sample Size: 1.02 g (wet)

GC Column ID(s): DB225  
DB5

Concentration Units: pg/g (wet weight basis)

Sample Data Filenames: DB13\_010 S: 5  
DX1M\_008A S: 29

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.51	0.492	1	2.51e+00	2.51e+00	
1,2,3,7,8-PECDD		1.17	0.492	1	1.17e+00	1.17e+00	
1,2,3,4,7,8-HXCDD	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,6,7,8-HXCDD		1.02	0.492	0.1	1.02e-01	1.02e-01	
1,2,3,7,8,9-HXCDD		0.539	0.492	0.1	5.39e-02	5.39e-02	
1,2,3,4,6,7,8-HPCDD		1.93	0.492	0.01	1.93e-02	1.93e-02	
OCDD		2.69	0.492	0.0001	2.69e-04	2.69e-04	
2,3,7,8-TCDF		2.01	0.115	0.1	2.01e-01	2.01e-01	
1,2,3,7,8-PECDF		0.660	0.492	0.05	3.30e-02	3.30e-02	
2,3,4,7,8-PECDF		1.12	0.492	0.5	5.60e-01	5.60e-01	
1,2,3,4,7,8-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,6,7,8-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,7,8,9-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
2,3,4,6,7,8-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.492	0.01	0.00e+00	2.46e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.492	0.01	0.00e+00	2.46e-03	
OCDF	ND		0.492	0.0001	0.00e+00	2.46e-05	
<b>TOTAL TEQ</b>					4.65	4.78	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.51	0.492	1	2.51e+00	2.51e+00	
1,2,3,7,8-PECDD		1.17	0.492	1	1.17e+00	1.17e+00	
1,2,3,4,7,8-HXCDD	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,6,7,8-HXCDD		1.02	0.492	0.1	1.02e-01	1.02e-01	
1,2,3,7,8,9-HXCDD		0.539	0.492	0.1	5.39e-02	5.39e-02	
1,2,3,4,6,7,8-HPCDD		1.93	0.492	0.01	1.93e-02	1.93e-02	
OCDD		2.69	0.492	0.0003	8.07e-04	8.07e-04	
2,3,7,8-TCDF		2.01	0.115	0.1	2.01e-01	2.01e-01	
1,2,3,7,8-PECDF		0.660	0.492	0.03	1.98e-02	1.98e-02	
2,3,4,7,8-PECDF		1.12	0.492	0.3	3.36e-01	3.36e-01	
1,2,3,4,7,8-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,6,7,8-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,7,8,9-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
2,3,4,6,7,8-HXCDF	ND		0.492	0.1	0.00e+00	2.46e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.492	0.01	0.00e+00	2.46e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.492	0.01	0.00e+00	2.46e-03	
OCDF	ND		0.492	0.0003	0.00e+00	7.38e-05	
<b>TOTAL TEQ</b>					<b>4.41</b>	<b>4.54</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-17\_TEQ\_SJ1244002.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH514  
Sample Collection:  
05-Nov-2010 17:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-7

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 22:48:29

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 39

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg/g (wet weight basis)

% Lipid: 1.59

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	NDR	0.117	0.0500	0.35	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD		0.0502	0.0500	1.15	1.001
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD	ND		0.0500		
OCDD		0.0899	0.0500	0.92	1.000
2,3,7,8-TCDF		0.114	0.0500	0.81	1.001
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	ND		0.0500		
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0525		
1,2,3,4,7,8,9-HPCDF	ND		0.0525		
OCDF	ND		0.0500		
TOTAL TETRA-DIOXINS	ND		0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS		0.0502	0.0500		
TOTAL HEPTA-DIOXINS	ND		0.0500		
TOTAL TETRA-FURANS		0.114	0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0525		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-7\_Form1A\_DX1M\_005S39\_SJ1239738.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH514  
Sample Collection:  
05-Nov-2010 17:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-7

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 02:34:46

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 1.59

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.0650	0.0268	0.79	1.000

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-7\_Form1A\_DB13\_004S12\_SJ1241312.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH514  
Sample Collection:  
05-Nov-2010 17:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-7

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 22:48:29

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 39

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg absolute

% Lipid: 1.59

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1340	67.2	0.80	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1730	86.7	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1570	78.3	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1510	75.4	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1420	71.2	1.04	1.094
13C-OCDD		4000	2670	66.7	0.87	1.177
13C-2,3,7,8-TCDF		2000	1270	63.6	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1320	65.9	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1290	64.5	1.60	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1560	77.8	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1540	76.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1400	70.1	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1460	73.1	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1320	66.1	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1300	65.1	0.43	1.103

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	155	77.5		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-7\_Form2\_DX1M\_005S39\_SJ1239738.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: TISSUE  
Sample Size: 10.0 g (wet)  
Concentration Units: pg/g (wet weight basis)

Sample Collection: 05-Nov-2010 17:20  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-7  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 12  
DX1M\_005 S: 39

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD		0.0502	0.0500	0.1	5.02e-03	5.02e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.0899	0.0500	0.0001	8.99e-06	8.99e-06	
2,3,7,8-TCDF		0.0650	0.0268	0.1	6.50e-03	6.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0525	0.01	0.00e+00	2.63e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0525	0.01	0.00e+00	2.63e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
<b>TOTAL TEQ</b>					0.0115	0.0911	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD		0.0502	0.0500	0.1	5.02e-03	5.02e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.0899	0.0500	0.0003	2.70e-05	2.70e-05	
2,3,7,8-TCDF		0.0650	0.0268	0.1	6.50e-03	6.50e-03	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0525	0.01	0.00e+00	2.63e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0525	0.01	0.00e+00	2.63e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
<b>TOTAL TEQ</b>					<b>0.0115</b>	<b>0.0856</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-7\_TEQ\_SJ1241312.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH515  
Sample Collection:  
05-Nov-2010 17:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-18

Matrix: TISSUE

Sample Size: 1.04 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 14:36:30

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 56

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 92.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3.29	0.481	0.66	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.55	0.481	0.69	1.002
1,2,3,4,7,8-HXCDD		0.541	0.481	1.10	1.000
1,2,3,6,7,8-HXCDD		1.03	0.481	1.40	1.001
1,2,3,7,8,9-HXCDD	ND		0.481		
1,2,3,4,6,7,8-HPCDD		1.50	0.481	1.09	1.000
OCDD		3.55	0.481	0.78	1.000
2,3,7,8-TCDF		3.82	0.481	0.76	1.001
1,2,3,7,8-PECDF		0.491	0.481	1.72	1.001
2,3,4,7,8-PECDF		1.53	0.481	1.33	1.001
1,2,3,4,7,8-HXCDF	ND		0.481		
1,2,3,6,7,8-HXCDF	ND		0.481		
1,2,3,7,8,9-HXCDF	ND		0.481		
2,3,4,6,7,8-HXCDF	ND		0.481		
1,2,3,4,6,7,8-HPCDF	ND		0.481		
1,2,3,4,7,8,9-HPCDF	ND		0.481		
OCDF	ND		0.481		
TOTAL TETRA-DIOXINS		5.49	0.481		
TOTAL PENTA-DIOXINS		1.55	0.481		
TOTAL HEXA-DIOXINS		1.57	0.481		
TOTAL HEPTA-DIOXINS		1.50	0.481		
TOTAL TETRA-FURANS		5.75	0.481		
TOTAL PENTA-FURANS		4.64	0.481		
TOTAL HEXA-FURANS	ND		0.481		
TOTAL HEPTA-FURANS	ND		0.481		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH515  
Sample Collection:  
05-Nov-2010 17:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-18

Matrix: TISSUE

Sample Size: 1.04 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 13:40:07

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_005 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 92.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.85	0.231	0.82	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-18\_Form1A\_DB13\_005S10\_SJ1241327.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH515  
Sample Collection:  
05-Nov-2010 17:20

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-18

Matrix: TISSUE

Sample Size: 1.04 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 14:36:30

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 56

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg absolute

% Lipid: 92.9

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1380	68.9	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1610	80.6	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1620	81.1	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1580	78.9	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1470	73.5	1.03	1.094
13C-OCDD		4000	2380	59.4	0.89	1.178
13C-2,3,7,8-TCDF		2000	1260	63.0	0.74	0.967
13C-1,2,3,7,8-PECDF		2000	1280	63.8	1.53	1.286
13C-2,3,4,7,8-PECDF		2000	1290	64.3	1.52	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1710	85.7	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1660	83.0	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1490	74.7	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1590	79.4	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1430	71.7	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1370	68.5	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	146	72.9		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-18\_Form2\_DX1M\_005S56\_SJ1239913.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: TISSUE  
Sample Size: 1.04 g (wet)  
Concentration Units: pg/g (wet weight basis)

Sample Collection: 05-Nov-2010 17:20  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-18  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_005 S: 10  
DX1M\_005 S: 56

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.29	0.481	1	3.29e+00	3.29e+00	
1,2,3,7,8-PECDD		1.55	0.481	1	1.55e+00	1.55e+00	
1,2,3,4,7,8-HXCDD		0.541	0.481	0.1	5.41e-02	5.41e-02	
1,2,3,6,7,8-HXCDD		1.03	0.481	0.1	1.03e-01	1.03e-01	
1,2,3,7,8,9-HXCDD	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,4,6,7,8-HPCDD		1.50	0.481	0.01	1.50e-02	1.50e-02	
OCDD		3.55	0.481	0.0001	3.55e-04	3.55e-04	
2,3,7,8-TCDF		2.85	0.231	0.1	2.85e-01	2.85e-01	
1,2,3,7,8-PECDF		0.491	0.481	0.05	2.46e-02	2.46e-02	
2,3,4,7,8-PECDF		1.53	0.481	0.5	7.65e-01	7.65e-01	
1,2,3,4,7,8-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,6,7,8-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
2,3,4,6,7,8-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.481	0.01	0.00e+00	2.41e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.481	0.01	0.00e+00	2.41e-03	
OCDF	ND		0.481	0.0001	0.00e+00	2.41e-05	
<b>TOTAL TEQ</b>					6.09	6.21	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.29	0.481	1	3.29e+00	3.29e+00	
1,2,3,7,8-PECDD		1.55	0.481	1	1.55e+00	1.55e+00	
1,2,3,4,7,8-HXCDD		0.541	0.481	0.1	5.41e-02	5.41e-02	
1,2,3,6,7,8-HXCDD		1.03	0.481	0.1	1.03e-01	1.03e-01	
1,2,3,7,8,9-HXCDD	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,4,6,7,8-HPCDD		1.50	0.481	0.01	1.50e-02	1.50e-02	
OCDD		3.55	0.481	0.0003	1.07e-03	1.07e-03	
2,3,7,8-TCDF		2.85	0.231	0.1	2.85e-01	2.85e-01	
1,2,3,7,8-PECDF		0.491	0.481	0.03	1.47e-02	1.47e-02	
2,3,4,7,8-PECDF		1.53	0.481	0.3	4.59e-01	4.59e-01	
1,2,3,4,7,8-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,6,7,8-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
2,3,4,6,7,8-HXCDF	ND		0.481	0.1	0.00e+00	2.41e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.481	0.01	0.00e+00	2.41e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.481	0.01	0.00e+00	2.41e-03	
OCDF	ND		0.481	0.0003	0.00e+00	7.22e-05	
<b>TOTAL TEQ</b>					<b>5.77</b>	<b>5.90</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-18\_TEQ\_SJ1239913.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH516  
Sample Collection:  
05-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-8

Matrix: TISSUE

Sample Size: 10.3 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 23:43:43

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 40

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.94

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		18.6	0.0487	0.74	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.123	0.0487	0.69	1.001
1,2,3,4,7,8-HXCDD	ND		0.0487		
1,2,3,6,7,8-HXCDD	ND		0.0487		
1,2,3,7,8,9-HXCDD	ND		0.0487		
1,2,3,4,6,7,8-HPCDD		0.0691	0.0487	1.19	1.000
OCDD		0.0852	0.0487	0.76	1.000
2,3,7,8-TCDF		1.91	0.0487	0.70	1.001
1,2,3,7,8-PECDF	ND		0.0487		
2,3,4,7,8-PECDF	ND		0.0487		
1,2,3,4,7,8-HXCDF	ND		0.0487		
1,2,3,6,7,8-HXCDF	ND		0.0487		
1,2,3,7,8,9-HXCDF	ND		0.0487		
2,3,4,6,7,8-HXCDF	ND		0.0487		
1,2,3,4,6,7,8-HPCDF	ND		0.0487		
1,2,3,4,7,8,9-HPCDF	ND		0.0487		
OCDF	ND		0.0487		
TOTAL TETRA-DIOXINS		18.6	0.0487		
TOTAL PENTA-DIOXINS		0.123	0.0487		
TOTAL HEXA-DIOXINS	ND		0.0487		
TOTAL HEPTA-DIOXINS		0.0691	0.0487		
TOTAL TETRA-FURANS		1.91	0.0487		
TOTAL PENTA-FURANS	ND		0.0487		
TOTAL HEXA-FURANS	ND		0.0487		
TOTAL HEPTA-FURANS	ND		0.0487		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH516  
Sample Collection:  
05-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-8

Matrix: TISSUE

Sample Size: 10.3 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 03:11:40

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 13

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.94

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.65	0.0305	0.75	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH516  
Sample Collection:  
05-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-8

Matrix: TISSUE

Sample Size: 10.3 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 23:43:43

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 40

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg absolute

% Lipid: 0.94

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1300	65.0	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1570	78.6	0.63	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1550	77.6	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1510	75.7	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1270	63.7	1.03	1.094
13C-OCDD		4000	2280	56.9	0.89	1.178
13C-2,3,7,8-TCDF		2000	1220	61.2	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1330	66.4	1.52	1.285
13C-2,3,4,7,8-PECDF		2000	1280	64.1	1.54	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1460	72.9	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1450	72.4	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1350	67.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1500	75.0	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1230	61.4	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1230	61.7	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	154	77.1		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-8\_Form2\_DX1M\_005S40\_SJ1239739.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: TISSUE  
Sample Size: 10.3 g (wet)  
Concentration Units: pg/g (wet weight basis)

Sample Collection: 05-Nov-2010 15:45  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-8  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 13  
DX1M\_005 S: 40

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		18.6	0.0487	1	1.86e+01	1.86e+01	
1,2,3,7,8-PECDD		0.123	0.0487	1	1.23e-01	1.23e-01	
1,2,3,4,7,8-HXCDD	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,6,7,8-HXCDD	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,7,8,9-HXCDD	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,4,6,7,8-HPCDD		0.0691	0.0487	0.01	6.91e-04	6.91e-04	
OCDD		0.0852	0.0487	0.0001	8.52e-06	8.52e-06	
2,3,7,8-TCDF		1.65	0.0305	0.1	1.65e-01	1.65e-01	
1,2,3,7,8-PECDF	ND		0.0487	0.05	0.00e+00	1.22e-03	
2,3,4,7,8-PECDF	ND		0.0487	0.5	0.00e+00	1.22e-02	
1,2,3,4,7,8-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,6,7,8-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,7,8,9-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
2,3,4,6,7,8-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0487	0.01	0.00e+00	2.44e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0487	0.01	0.00e+00	2.44e-04	
OCDF	ND		0.0487	0.0001	0.00e+00	2.44e-06	
<b>TOTAL TEQ</b>					18.9	18.9	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		18.6	0.0487	1	1.86e+01	1.86e+01	
1,2,3,7,8-PECDD		0.123	0.0487	1	1.23e-01	1.23e-01	
1,2,3,4,7,8-HXCDD	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,6,7,8-HXCDD	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,7,8,9-HXCDD	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,4,6,7,8-HPCDD		0.0691	0.0487	0.01	6.91e-04	6.91e-04	
OCDD		0.0852	0.0487	0.0003	2.56e-05	2.56e-05	
2,3,7,8-TCDF		1.65	0.0305	0.1	1.65e-01	1.65e-01	
1,2,3,7,8-PECDF	ND		0.0487	0.03	0.00e+00	7.31e-04	
2,3,4,7,8-PECDF	ND		0.0487	0.3	0.00e+00	7.31e-03	
1,2,3,4,7,8-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,6,7,8-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,7,8,9-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
2,3,4,6,7,8-HXCDF	ND		0.0487	0.1	0.00e+00	2.44e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0487	0.01	0.00e+00	2.44e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0487	0.01	0.00e+00	2.44e-04	
OCDF	ND		0.0487	0.0003	0.00e+00	7.31e-06	
<b>TOTAL TEQ</b>					<b>18.9</b>	<b>18.9</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-8\_TEQ\_SJ1241313.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH517  
Sample Collection:  
05-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-19

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 15:31:42

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 57

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 59.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1410	0.494	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		12.4	0.494	0.55	1.001
1,2,3,4,7,8-HXCDD		0.695	0.494	1.31	1.000
1,2,3,6,7,8-HXCDD		2.31	0.494	1.40	1.000
1,2,3,7,8,9-HXCDD		0.928	0.494	1.13	1.000
1,2,3,4,6,7,8-HPCDD		3.19	0.494	1.15	1.000
OCDD		10.4	0.494	0.97	1.000
2,3,7,8-TCDF		163	0.494	0.73	1.001
1,2,3,7,8-PECDF		1.17	0.494	1.37	1.001
2,3,4,7,8-PECDF		3.11	0.494	1.65	1.001
1,2,3,4,7,8-HXCDF	ND		0.494		
1,2,3,6,7,8-HXCDF	ND		0.494		
1,2,3,7,8,9-HXCDF	ND		0.494		
2,3,4,6,7,8-HXCDF	ND		0.494		
1,2,3,4,6,7,8-HPCDF	ND		0.494		
1,2,3,4,7,8,9-HPCDF	ND		0.494		
OCDF	ND		0.494		
TOTAL TETRA-DIOXINS		1420	0.494		
TOTAL PENTA-DIOXINS		16.4	0.494		
TOTAL HEXA-DIOXINS		3.93	0.494		
TOTAL HEPTA-DIOXINS		3.19	0.494		
TOTAL TETRA-FURANS		183	0.494		
TOTAL PENTA-FURANS		17.0	0.494		
TOTAL HEXA-FURANS		1.03	0.494		
TOTAL HEPTA-FURANS	ND		0.494		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH517  
Sample Collection:  
05-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-19

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 14:16:58

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_005 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 59.6

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		158	0.255	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-19\_Form1A\_DB13\_005S11\_SJ1241328.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH517  
Sample Collection:  
05-Nov-2010 15:45

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-19

Matrix: TISSUE

Sample Size: 1.01 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 15:31:42

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 57

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg absolute

% Lipid: 59.6

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1420	71.1	0.76	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1720	85.9	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1680	84.2	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1630	81.7	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1560	77.9	1.02	1.094
13C-OCDD		4000	2610	65.2	0.87	1.178
13C-2,3,7,8-TCDF		2000	1270	63.4	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1310	65.3	1.52	1.285
13C-2,3,4,7,8-PECDF		2000	1320	66.2	1.54	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1720	85.9	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1660	83.0	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1560	77.8	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1650	82.3	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1550	77.6	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1470	73.7	0.44	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	162	81.2		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** TISSUE  
**Sample Size:** 1.01 g (wet)  
**Concentration Units:** pg/g (wet weight basis)

**Sample Collection:** 05-Nov-2010 15:45  
**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15771-19  
**GC Column ID(s):** DB225  
DB5  
**Sample Data Filenames:** DB13\_005 S: 11  
DX1M\_005 S: 57

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1410	0.494	1	1.41e+03	1.41e+03	
1,2,3,7,8-PECDD		12.4	0.494	1	1.24e+01	1.24e+01	
1,2,3,4,7,8-HXCDD		0.695	0.494	0.1	6.95e-02	6.95e-02	
1,2,3,6,7,8-HXCDD		2.31	0.494	0.1	2.31e-01	2.31e-01	
1,2,3,7,8,9-HXCDD		0.928	0.494	0.1	9.28e-02	9.28e-02	
1,2,3,4,6,7,8-HPCDD		3.19	0.494	0.01	3.19e-02	3.19e-02	
OCDD		10.4	0.494	0.0001	1.04e-03	1.04e-03	
2,3,7,8-TCDF		158	0.255	0.1	1.58e+01	1.58e+01	
1,2,3,7,8-PECDF		1.17	0.494	0.05	5.85e-02	5.85e-02	
2,3,4,7,8-PECDF		3.11	0.494	0.5	1.56e+00	1.56e+00	
1,2,3,4,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,7,8,9-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
2,3,4,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.494	0.01	0.00e+00	2.47e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.494	0.01	0.00e+00	2.47e-03	
OCDF	ND		0.494	0.0001	0.00e+00	2.47e-05	
<b>TOTAL TEQ</b>					<b>1440</b>	<b>1440</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1410	0.494	1	1.41e+03	1.41e+03	
1,2,3,7,8-PECDD		12.4	0.494	1	1.24e+01	1.24e+01	
1,2,3,4,7,8-HXCDD		0.695	0.494	0.1	6.95e-02	6.95e-02	
1,2,3,6,7,8-HXCDD		2.31	0.494	0.1	2.31e-01	2.31e-01	
1,2,3,7,8,9-HXCDD		0.928	0.494	0.1	9.28e-02	9.28e-02	
1,2,3,4,6,7,8-HPCDD		3.19	0.494	0.01	3.19e-02	3.19e-02	
OCDD		10.4	0.494	0.0003	3.12e-03	3.12e-03	
2,3,7,8-TCDF		158	0.255	0.1	1.58e+01	1.58e+01	
1,2,3,7,8-PECDF		1.17	0.494	0.03	3.51e-02	3.51e-02	
2,3,4,7,8-PECDF		3.11	0.494	0.3	9.33e-01	9.33e-01	
1,2,3,4,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,7,8,9-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
2,3,4,6,7,8-HXCDF	ND		0.494	0.1	0.00e+00	2.47e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.494	0.01	0.00e+00	2.47e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.494	0.01	0.00e+00	2.47e-03	
OCDF	ND		0.494	0.0003	0.00e+00	7.41e-05	
<b>TOTAL TEQ</b>					1440	1440	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH518  
Sample Collection:  
05-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-9

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 00:38:56

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 41

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.43

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1.25	0.0500	0.72	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		0.0500		
1,2,3,4,7,8-HXCDD	ND		0.0500		
1,2,3,6,7,8-HXCDD	ND		0.0500		
1,2,3,7,8,9-HXCDD	ND		0.0500		
1,2,3,4,6,7,8-HPCDD	ND		0.0500		
OCDD		0.0622	0.0500	0.99	1.000
2,3,7,8-TCDF		0.603	0.0500	0.70	1.001
1,2,3,7,8-PECDF	ND		0.0500		
2,3,4,7,8-PECDF	ND		0.0500		
1,2,3,4,7,8-HXCDF	ND		0.0500		
1,2,3,6,7,8-HXCDF	ND		0.0500		
1,2,3,7,8,9-HXCDF	ND		0.0500		
2,3,4,6,7,8-HXCDF	ND		0.0500		
1,2,3,4,6,7,8-HPCDF	ND		0.0596		
1,2,3,4,7,8,9-HPCDF	ND		0.0596		
OCDF	ND		0.0500		
TOTAL TETRA-DIOXINS		1.25	0.0500		
TOTAL PENTA-DIOXINS	ND		0.0500		
TOTAL HEXA-DIOXINS	ND		0.0500		
TOTAL HEPTA-DIOXINS	ND		0.0500		
TOTAL TETRA-FURANS		0.603	0.0500		
TOTAL PENTA-FURANS	ND		0.0500		
TOTAL HEXA-FURANS	ND		0.0500		
TOTAL HEPTA-FURANS	ND		0.0596		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH518  
Sample Collection:  
05-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-9

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 03:48:34

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 14

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 0.43

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.526	0.0558	0.87	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH518  
Sample Collection:  
05-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-9

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 00:38:56

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 41

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg absolute

% Lipid: 0.43

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	780	39.0	0.76	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	882	44.1	0.60	1.384
13C-1,2,3,4,7,8-HXCDD		2000	939	46.9	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	879	43.9	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	863	43.1	1.01	1.094
13C-OCDD		4000	1540	38.4	0.89	1.178
13C-2,3,7,8-TCDF		2000	599	29.9	0.76	0.967
13C-1,2,3,7,8-PECDF		2000	876	43.8	1.51	1.286
13C-2,3,4,7,8-PECDF		2000	607	30.3	1.48	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1080	53.8	0.49	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1030	51.4	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	865	43.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	610	30.5	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	944	47.2	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	926	46.3	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	109	54.3		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-9\_Form2\_DX1M\_005S41\_SJ1239740.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Concentration Units: pg/g (wet weight basis)

Sample Collection: 05-Nov-2010 09:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-9

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_004 S: 14  
DX1M\_005 S: 41

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.25	0.0500	1	1.25e+00	1.25e+00	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.0622	0.0500	0.0001	6.22e-06	6.22e-06	
2,3,7,8-TCDF		0.526	0.0558	0.1	5.26e-02	5.26e-02	
1,2,3,7,8-PECDF	ND		0.0500	0.05	0.00e+00	1.25e-03	
2,3,4,7,8-PECDF	ND		0.0500	0.5	0.00e+00	1.25e-02	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0596	0.01	0.00e+00	2.98e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0596	0.01	0.00e+00	2.98e-04	
OCDF	ND		0.0500	0.0001	0.00e+00	2.50e-06	
<b>TOTAL TEQ</b>					1.30	1.36	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.25	0.0500	1	1.25e+00	1.25e+00	
1,2,3,7,8-PECDD	ND		0.0500	1	0.00e+00	2.50e-02	
1,2,3,4,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDD	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDD	ND		0.0500	0.01	0.00e+00	2.50e-04	
OCDD		0.0622	0.0500	0.0003	1.87e-05	1.87e-05	
2,3,7,8-TCDF		0.526	0.0558	0.1	5.26e-02	5.26e-02	
1,2,3,7,8-PECDF	ND		0.0500	0.03	0.00e+00	7.50e-04	
2,3,4,7,8-PECDF	ND		0.0500	0.3	0.00e+00	7.50e-03	
1,2,3,4,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8,9-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF	ND		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,4,6,7,8-HPCDF	ND		0.0596	0.01	0.00e+00	2.98e-04	
1,2,3,4,7,8,9-HPCDF	ND		0.0596	0.01	0.00e+00	2.98e-04	
OCDF	ND		0.0500	0.0003	0.00e+00	7.50e-06	
<b>TOTAL TEQ</b>					<b>1.30</b>	<b>1.35</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-9\_TEQ\_SJ1241314.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH519  
Sample Collection:  
05-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-20

Matrix: TISSUE

Sample Size: 1.07 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 16:26:56

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 58

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 48

Concentration Units: pg/g (wet weight basis)

% Lipid: 11.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		86.7	0.468	0.73	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	0.808	0.468	0.88	1.001
1,2,3,4,7,8-HXCDD	ND		0.468		
1,2,3,6,7,8-HXCDD	ND		0.468		
1,2,3,7,8,9-HXCDD	ND		0.468		
1,2,3,4,6,7,8-HPCDD		2.32	0.468	0.91	1.000
OCDD		39.2	0.468	0.83	1.000
2,3,7,8-TCDF		52.6	0.468	0.71	1.001
1,2,3,7,8-PECDF	ND		0.468		
2,3,4,7,8-PECDF		0.628	0.468	1.34	1.000
1,2,3,4,7,8-HXCDF	ND		0.468		
1,2,3,6,7,8-HXCDF	ND		0.468		
1,2,3,7,8,9-HXCDF	ND		0.468		
2,3,4,6,7,8-HXCDF	ND		0.468		
1,2,3,4,6,7,8-HPCDF		0.546	0.468	0.90	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.468		
OCDF		1.13	0.468	0.93	1.002
TOTAL TETRA-DIOXINS		86.7	0.468		
TOTAL PENTA-DIOXINS	ND		0.468		
TOTAL HEXA-DIOXINS	ND		0.468		
TOTAL HEPTA-DIOXINS		2.32	0.468		
TOTAL TETRA-FURANS		53.6	0.468		
TOTAL PENTA-FURANS		1.44	0.468		
TOTAL HEXA-FURANS	ND		0.468		
TOTAL HEPTA-FURANS		1.07	0.468		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-20\_Form1A\_DX1M\_005S58\_SJ1239915.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH519  
Sample Collection:  
05-Nov-2010 09:40

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

L15771-20

Matrix: TISSUE

Sample Size:

1.07 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date:

09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID:

HR GC/MS

Analysis Date: 10-Jan-2011 Time: 14:53:47

GC Column ID:

DB225

Extract Volume (uL): 20

Sample Data Filename:

DB13\_005 S: 12

Injection Volume (uL): 2.0

Blank Data Filename:

DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

DB13\_005 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid:

11.4

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		44.8	0.178	0.77	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-20\_Form1A\_DB13\_005S12\_SJ1241329.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**Form 2  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.  
10VNBH519  
Sample Collection:  
05-Nov-2010 09:40**

**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607

**Project No.** O33 1579 BIEN HOA

**Lab Sample I.D.:** L15771-20

**Matrix:** TISSUE

**Sample Size:** 1.07 g (wet)

**Sample Receipt Date:** 19-Nov-2010

**Initial Calibration Date:** 04-Jan-2011

**Extraction Date:** 20-Dec-2010

**Instrument ID:** HR GC/MS

**Analysis Date:** 09-Jan-2011 Time: 16:26:56

**GC Column ID:** DB5

**Extract Volume (uL):** 20

**Sample Data Filename:** DX1M\_005 S: 58

**Injection Volume (uL):** 1.0

**Blank Data Filename:** DX1M\_005 S: 29

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DX1M\_005 S: 48

**Concentration Units:** pg absolute

**% Lipid:** 11.4

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1540	76.8	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1810	90.5	0.61	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1760	87.9	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1700	85.0	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1550	77.6	1.01	1.094
13C-OCDD		4000	2640	66.1	0.87	1.178
13C-2,3,7,8-TCDF		2000	1350	67.3	0.75	0.967
13C-1,2,3,7,8-PECDF		2000	1400	70.0	1.52	1.286
13C-2,3,4,7,8-PECDF		2000	1380	69.2	1.59	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1830	91.5	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1810	90.4	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1630	81.3	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1730	86.6	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1550	77.4	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1470	73.7	0.44	1.104

**CLEANUP STANDARD**

37CL-2,3,7,8-TCDD		200	175	87.5		1.014
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-20\_Form2\_DX1M\_005S58\_SJ1239915.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: TISSUE  
Sample Size: 1.07 g (wet)  
Concentration Units: pg/g (wet weight basis)

Sample Collection: 05-Nov-2010 09:40  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-20  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_005 S: 12  
DX1M\_005 S: 58

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		86.7	0.468	1	8.67e+01	8.67e+01	
1,2,3,7,8-PECDD	ND		0.468	1	0.00e+00	2.34e-01	
1,2,3,4,7,8-HXCDD	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,6,7,8-HXCDD	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,7,8,9-HXCDD	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,4,6,7,8-HPCDD		2.32	0.468	0.01	2.32e-02	2.32e-02	
OCDD		39.2	0.468	0.0001	3.92e-03	3.92e-03	
2,3,7,8-TCDF		44.8	0.178	0.1	4.48e+00	4.48e+00	
1,2,3,7,8-PECDF	ND		0.468	0.05	0.00e+00	1.17e-02	
2,3,4,7,8-PECDF		0.628	0.468	0.5	3.14e-01	3.14e-01	
1,2,3,4,7,8-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,6,7,8-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,7,8,9-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
2,3,4,6,7,8-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,4,6,7,8-HPCDF		0.546	0.468	0.01	5.46e-03	5.46e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.468	0.01	0.00e+00	2.34e-03	
OCDF		1.13	0.468	0.0001	1.13e-04	1.13e-04	
<b>TOTAL TEQ</b>					91.5	91.9	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		86.7	0.468	1	8.67e+01	8.67e+01	
1,2,3,7,8-PECDD	ND		0.468	1	0.00e+00	2.34e-01	
1,2,3,4,7,8-HXCDD	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,6,7,8-HXCDD	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,7,8,9-HXCDD	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,4,6,7,8-HPCDD		2.32	0.468	0.01	2.32e-02	2.32e-02	
OCDD		39.2	0.468	0.0003	1.18e-02	1.18e-02	
2,3,7,8-TCDF		44.8	0.178	0.1	4.48e+00	4.48e+00	
1,2,3,7,8-PECDF	ND		0.468	0.03	0.00e+00	7.02e-03	
2,3,4,7,8-PECDF		0.628	0.468	0.3	1.88e-01	1.88e-01	
1,2,3,4,7,8-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,6,7,8-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,7,8,9-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
2,3,4,6,7,8-HXCDF	ND		0.468	0.1	0.00e+00	2.34e-02	
1,2,3,4,6,7,8-HPCDF		0.546	0.468	0.01	5.46e-03	5.46e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.468	0.01	0.00e+00	2.34e-03	
OCDF		1.13	0.468	0.0003	3.39e-04	3.39e-04	
<b>TOTAL TEQ</b>					91.4	91.8	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-20\_TEQ\_SJ1239915.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH521  
Sample Collection:  
04-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-10 W (A)

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 19:34:24

GC Column ID: DB5

Extract Volume (uL): 50

Sample Data Filename: DX1M\_008A S: 31

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: 2.5

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg/g (wet weight basis)

% Lipid: 6.31

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	D	618	0.115	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>	D	3.22	0.0606	0.65	1.001
1,2,3,4,7,8-HXCDD	D	0.803	0.119	1.07	1.000
1,2,3,6,7,8-HXCDD	D	3.15	0.119	1.21	1.000
1,2,3,7,8,9-HXCDD	D	1.20	0.119	1.06	1.000
1,2,3,4,6,7,8-HPCDD	D	3.68	0.0570	0.92	1.000
OCDD	D	8.69	0.0777	0.81	1.000
2,3,7,8-TCDF	D	3.76	0.0479	0.75	1.001
1,2,3,7,8-PECDF	ND D		0.0547		
2,3,4,7,8-PECDF	D	0.323	0.0547	1.36	1.001
1,2,3,4,7,8-HXCDF	NDR D	0.108	0.0867	3.62	1.001
1,2,3,6,7,8-HXCDF	ND D		0.0867		
1,2,3,7,8,9-HXCDF	ND D		0.0867		
2,3,4,6,7,8-HXCDF	ND D		0.0867		
1,2,3,4,6,7,8-HPCDF	D	0.285	0.160	1.12	1.001
1,2,3,4,7,8,9-HPCDF	ND D		0.160		
OCDF	D	0.333	0.0618	0.78	1.002
TOTAL TETRA-DIOXINS	D	618	0.115		
TOTAL PENTA-DIOXINS	D	4.07	0.0606		
TOTAL HEXA-DIOXINS	D	6.92	0.119		
TOTAL HEPTA-DIOXINS	D	5.14	0.0570		
TOTAL TETRA-FURANS	D	4.54	0.0479		
TOTAL PENTA-FURANS	D	0.323	0.0547		
TOTAL HEXA-FURANS	D	0.100	0.0867		
TOTAL HEPTA-FURANS	D	0.285	0.160		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-10\_Form1A\_DX1M\_008AS31\_SJ1243624.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH521  
Sample Collection:  
04-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-10 (A)

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 04:25:28

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 15

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 6.31

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.81	0.0336	0.77	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15771-10\_Form1A\_DB13\_004S15\_SJ1241315.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH521  
Sample Collection:  
04-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-10 W (A)

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 19:34:24

GC Column ID: DB5

Extract Volume (uL): 50

Sample Data Filename: DX1M\_008A S: 31

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: 2.5

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg absolute

% Lipid: 6.31

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1640	82.2	0.81	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>	D	2000	1890	94.3	0.62	1.385
13C-1,2,3,4,7,8-HXCDD	D	2000	1720	86.0	1.21	0.987
13C-1,2,3,6,7,8-HXCDD	D	2000	1600	80.1	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD	D	2000	1530	76.4	0.97	1.094
13C-OCDD	D	4000	2300	57.6	0.90	1.178
13C-2,3,7,8-TCDF	D	2000	1520	75.8	0.75	0.967
13C-1,2,3,7,8-PECDF	D	2000	1610	80.3	1.52	1.286
13C-2,3,4,7,8-PECDF	D	2000	1590	79.7	1.49	1.355
13C-1,2,3,4,7,8-HXCDF	D	2000	1850	92.6	0.50	0.954
13C-1,2,3,6,7,8-HXCDF	D	2000	1880	93.9	0.50	0.958
13C-1,2,3,7,8,9-HXCDF	D	2000	1710	85.4	0.50	1.005
13C-2,3,4,6,7,8-HXCDF	D	2000	1750	87.3	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF	D	2000	1660	82.8	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF	D	2000	1590	79.3	0.45	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD	D	200	208	104		1.014
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(1) Where applicable, custom lab flags have been used on this report; D = dilution data.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-10\_Form2\_DX1M\_008AS31\_SJ1243624.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH521

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 12:00  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-10 (A)  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 15  
DX1M\_008A S: 31

Contract No.: 2607

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		618	0.115	1	6.18e+02	6.18e+02	
1,2,3,7,8-PECDD		3.22	0.0606	1	3.22e+00	3.22e+00	
1,2,3,4,7,8-HXCDD		0.803	0.119	0.1	8.03e-02	8.03e-02	
1,2,3,6,7,8-HXCDD		3.15	0.119	0.1	3.15e-01	3.15e-01	
1,2,3,7,8,9-HXCDD		1.20	0.119	0.1	1.20e-01	1.20e-01	
1,2,3,4,6,7,8-HPCDD		3.68	0.0570	0.01	3.68e-02	3.68e-02	
OCDD		8.69	0.0777	0.0001	8.69e-04	8.69e-04	
2,3,7,8-TCDF		2.81	0.0336	0.1	2.81e-01	2.81e-01	
1,2,3,7,8-PECDF	ND		0.0547	0.05	0.00e+00	1.37e-03	
2,3,4,7,8-PECDF		0.323	0.0547	0.5	1.62e-01	1.62e-01	
1,2,3,4,7,8-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
1,2,3,6,7,8-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
1,2,3,7,8,9-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
2,3,4,6,7,8-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
1,2,3,4,6,7,8-HPCDF		0.285	0.160	0.01	2.85e-03	2.85e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.160	0.01	0.00e+00	8.00e-04	
OCDF		0.333	0.0618	0.0001	3.33e-05	3.33e-05	
<b>TOTAL TEQ</b>					<b>622</b>	<b>622</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		618	0.115	1	6.18e+02	6.18e+02	
1,2,3,7,8-PECDD		3.22	0.0606	1	3.22e+00	3.22e+00	
1,2,3,4,7,8-HXCDD		0.803	0.119	0.1	8.03e-02	8.03e-02	
1,2,3,6,7,8-HXCDD		3.15	0.119	0.1	3.15e-01	3.15e-01	
1,2,3,7,8,9-HXCDD		1.20	0.119	0.1	1.20e-01	1.20e-01	
1,2,3,4,6,7,8-HPCDD		3.68	0.0570	0.01	3.68e-02	3.68e-02	
OCDD		8.69	0.0777	0.0003	2.61e-03	2.61e-03	
2,3,7,8-TCDF		2.81	0.0336	0.1	2.81e-01	2.81e-01	
1,2,3,7,8-PECDF	ND		0.0547	0.03	0.00e+00	8.21e-04	
2,3,4,7,8-PECDF		0.323	0.0547	0.3	9.69e-02	9.69e-02	
1,2,3,4,7,8-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
1,2,3,6,7,8-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
1,2,3,7,8,9-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
2,3,4,6,7,8-HXCDF	ND		0.0867	0.1	0.00e+00	4.34e-03	
1,2,3,4,6,7,8-HPCDF		0.285	0.160	0.01	2.85e-03	2.85e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.160	0.01	0.00e+00	8.00e-04	
OCDF		0.333	0.0618	0.0003	9.99e-05	9.99e-05	
<b>TOTAL TEQ</b>					622	622	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-10\_TEQ\_SJ1241315.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH521 (Duplicate)  
Sample Collection:  
04-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG35005-103 W (DUP L15771-10)

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 20:29:32

GC Column ID: DB5

Extract Volume (uL): 50

Sample Data Filename: DX1M\_008A S: 32

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: 2.5

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg/g (wet weight basis)

% Lipid: 5.25

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	D	621	0.155	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>	D	3.11	0.0580	0.57	1.001
1,2,3,4,7,8-HXCDD	D	0.727	0.0828	1.39	1.000
1,2,3,6,7,8-HXCDD	D	3.27	0.0828	1.30	1.000
1,2,3,7,8,9-HXCDD	D	1.06	0.0828	1.05	1.000
1,2,3,4,6,7,8-HPCDD	D	3.77	0.0499	0.89	1.000
OCDD	D	8.64	0.113	0.90	1.000
2,3,7,8-TCDF	D	3.86	0.0703	0.78	1.001
1,2,3,7,8-PECDF	NDR D	0.121	0.0492	0.94	1.001
2,3,4,7,8-PECDF	D	0.278	0.0492	1.32	1.001
1,2,3,4,7,8-HXCDF	D	0.0869	0.0819	1.39	1.001
1,2,3,6,7,8-HXCDF	ND D		0.0819		
1,2,3,7,8,9-HXCDF	ND D		0.0819		
2,3,4,6,7,8-HXCDF	ND D		0.0819		
1,2,3,4,6,7,8-HPCDF	D	0.217	0.0865	1.04	1.000
1,2,3,4,7,8,9-HPCDF	ND D		0.0865		
OCDF	D	0.318	0.0712	0.76	1.002
TOTAL TETRA-DIOXINS	D	621	0.155		
TOTAL PENTA-DIOXINS	D	3.56	0.0580		
TOTAL HEXA-DIOXINS	D	6.23	0.0828		
TOTAL HEPTA-DIOXINS	D	5.31	0.0499		
TOTAL TETRA-FURANS	D	5.49	0.0703		
TOTAL PENTA-FURANS	D	2.18	0.0492		
TOTAL HEXA-FURANS	D	0.198	0.0819		
TOTAL HEPTA-FURANS	D	0.217	0.0865		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; D = dilution data.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG35005-103\_Form1A\_DX1M\_008AS32\_SJ1243625.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH521 (Duplicate)  
Sample Collection:  
04-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG35005-103 (DUP L15771-10)

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 05:02:22

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 16

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 5.25

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		2.91	0.0295	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 20-Jan-2011 15:30:48; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_WG35005-103\_Form1A\_DB13\_004S16\_SJ1241316.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH521 (Duplicate)  
Sample Collection:  
04-Nov-2010 12:00

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Lab Sample I.D.:

WG35005-103 W (DUP L15771-10)

Matrix: TISSUE

Sample Size: 10.5 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 14-Jan-2011 Time: 20:29:32

GC Column ID: DB5

Extract Volume (uL): 50

Sample Data Filename: DX1M\_008A S: 32

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: 2.5

Cal. Ver. Data Filename: DX1M\_008A S: 23

Concentration Units: pg absolute

% Lipid: 5.25

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD	D	2000	1620	81.0	0.79	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>	D	2000	1820	90.9	0.63	1.385
13C-1,2,3,4,7,8-HXCDD	D	2000	1830	91.6	1.24	0.987
13C-1,2,3,6,7,8-HXCDD	D	2000	1760	87.8	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD	D	2000	1700	85.1	1.02	1.094
13C-OCDD	D	4000	2540	63.6	0.87	1.178
13C-2,3,7,8-TCDF	D	2000	1480	73.8	0.76	0.967
13C-1,2,3,7,8-PECDF	D	2000	1580	78.9	1.57	1.286
13C-2,3,4,7,8-PECDF	D	2000	1570	78.4	1.57	1.355
13C-1,2,3,4,7,8-HXCDF	D	2000	1980	98.8	0.49	0.954
13C-1,2,3,6,7,8-HXCDF	D	2000	1940	97.0	0.50	0.958
13C-1,2,3,7,8,9-HXCDF	D	2000	1810	90.7	0.49	1.005
13C-2,3,4,6,7,8-HXCDF	D	2000	1870	93.6	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF	D	2000	1840	92.0	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF	D	2000	1730	86.3	0.43	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD	D	200	191	95.7		1.014
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(1) Where applicable, custom lab flags have been used on this report; D = dilution data.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_WG35005-103\_Form2\_DX1M\_008AS32\_SJ1243625.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH521 (Duplicate)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:

04-Nov-2010 12:00

Contract No.: 2607

Project No.

O33 1579 BIEN HOA

Matrix: TISSUE

Lab Sample I.D.:

WG35005-103 (DUP L15771-10)

Sample Size: 10.5 g (wet)

GC Column ID(s):

DB225  
DB5

Concentration Units: pg/g (wet weight basis)

Sample Data Filenames:

DB13\_004 S: 16  
DX1M\_008A S: 32

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		621	0.155	1	6.21e+02	6.21e+02	
1,2,3,7,8-PECDD		3.11	0.0580	1	3.11e+00	3.11e+00	
1,2,3,4,7,8-HXCDD		0.727	0.0828	0.1	7.27e-02	7.27e-02	
1,2,3,6,7,8-HXCDD		3.27	0.0828	0.1	3.27e-01	3.27e-01	
1,2,3,7,8,9-HXCDD		1.06	0.0828	0.1	1.06e-01	1.06e-01	
1,2,3,4,6,7,8-HPCDD		3.77	0.0499	0.01	3.77e-02	3.77e-02	
OCDD		8.64	0.113	0.0001	8.64e-04	8.64e-04	
2,3,7,8-TCDF		2.91	0.0295	0.1	2.91e-01	2.91e-01	
1,2,3,7,8-PECDF	ND		0.0492	0.05	0.00e+00	1.23e-03	
2,3,4,7,8-PECDF		0.278	0.0492	0.5	1.39e-01	1.39e-01	
1,2,3,4,7,8-HXCDF		0.0869	0.0819	0.1	8.69e-03	8.69e-03	
1,2,3,6,7,8-HXCDF	ND		0.0819	0.1	0.00e+00	4.10e-03	
1,2,3,7,8,9-HXCDF	ND		0.0819	0.1	0.00e+00	4.10e-03	
2,3,4,6,7,8-HXCDF	ND		0.0819	0.1	0.00e+00	4.10e-03	
1,2,3,4,6,7,8-HPCDF		0.217	0.0865	0.01	2.17e-03	2.17e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0865	0.01	0.00e+00	4.33e-04	
OCDF		0.318	0.0712	0.0001	3.18e-05	3.18e-05	
<b>TOTAL TEQ</b>					<b>625</b>	<b>625</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		621	0.155	1	6.21e+02	6.21e+02	
1,2,3,7,8-PECDD		3.11	0.0580	1	3.11e+00	3.11e+00	
1,2,3,4,7,8-HXCDD		0.727	0.0828	0.1	7.27e-02	7.27e-02	
1,2,3,6,7,8-HXCDD		3.27	0.0828	0.1	3.27e-01	3.27e-01	
1,2,3,7,8,9-HXCDD		1.06	0.0828	0.1	1.06e-01	1.06e-01	
1,2,3,4,6,7,8-HPCDD		3.77	0.0499	0.01	3.77e-02	3.77e-02	
OCDD		8.64	0.113	0.0003	2.59e-03	2.59e-03	
2,3,7,8-TCDF		2.91	0.0295	0.1	2.91e-01	2.91e-01	
1,2,3,7,8-PECDF	ND		0.0492	0.03	0.00e+00	7.38e-04	
2,3,4,7,8-PECDF		0.278	0.0492	0.3	8.34e-02	8.34e-02	
1,2,3,4,7,8-HXCDF		0.0869	0.0819	0.1	8.69e-03	8.69e-03	
1,2,3,6,7,8-HXCDF	ND		0.0819	0.1	0.00e+00	4.10e-03	
1,2,3,7,8,9-HXCDF	ND		0.0819	0.1	0.00e+00	4.10e-03	
2,3,4,6,7,8-HXCDF	ND		0.0819	0.1	0.00e+00	4.10e-03	
1,2,3,4,6,7,8-HPCDF		0.217	0.0865	0.01	2.17e-03	2.17e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0865	0.01	0.00e+00	4.33e-04	
OCDF		0.318	0.0712	0.0003	9.54e-05	9.54e-05	
<b>TOTAL TEQ</b>					<b>625</b>	<b>625</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_WG35005-103\_TEQ\_SJ1241316.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH522  
Sample Collection:  
04-Nov-2010 12:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-11

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 03:24:36

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 44

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg/g (wet weight basis)

% Lipid: 2.01

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		94.7	0.0499	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		0.756	0.0499	0.55	1.001
1,2,3,4,7,8-HXCDD		0.128	0.0499	1.09	1.000
1,2,3,6,7,8-HXCDD		0.476	0.0499	1.25	1.000
1,2,3,7,8,9-HXCDD		0.367	0.0499	1.08	1.000
1,2,3,4,6,7,8-HPCDD		5.94	0.0499	0.98	1.000
OCDD		57.9	0.0737	0.85	1.000
2,3,7,8-TCDF		8.67	0.0499	0.72	1.001
1,2,3,7,8-PECDF		0.0810	0.0499	1.65	1.001
2,3,4,7,8-PECDF		0.164	0.0499	1.58	1.000
1,2,3,4,7,8-HXCDF		0.0802	0.0499	1.06	1.001
1,2,3,6,7,8-HXCDF		0.134	0.0499	1.19	1.000
1,2,3,7,8,9-HXCDF	ND		0.0499		
2,3,4,6,7,8-HXCDF		0.0673	0.0499	1.07	1.001
1,2,3,4,6,7,8-HPCDF		0.746	0.0499	1.01	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.0499		
OCDF		1.96	0.0499	0.79	1.002
TOTAL TETRA-DIOXINS		95.8	0.0499		
TOTAL PENTA-DIOXINS		2.08	0.0499		
TOTAL HEXA-DIOXINS		3.52	0.0499		
TOTAL HEPTA-DIOXINS		11.6	0.0499		
TOTAL TETRA-FURANS		11.7	0.0499		
TOTAL PENTA-FURANS		4.06	0.0499		
TOTAL HEXA-FURANS		1.50	0.0499		
TOTAL HEPTA-FURANS		1.82	0.0499		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH522  
Sample Collection:  
04-Nov-2010 12:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-11

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 05:39:16

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB13\_004 S: 17

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_004 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_004 S: 2

Concentration Units: pg/g (wet weight basis)

% Lipid: 2.01

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		7.64	0.0588	0.78	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH522  
Sample Collection:  
04-Nov-2010 12:30

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15771-11

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 20-Dec-2010

Instrument ID: HR GC/MS

Analysis Date: 09-Jan-2011 Time: 03:24:36

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX1M\_005 S: 44

Injection Volume (uL): 1.0

Blank Data Filename: DX1M\_005 S: 29

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 36

Concentration Units: pg absolute

% Lipid: 2.01

LABELLED COMPOUND	LAB FLAG <sup>1</sup>	SPIKE CONC.	CONC. FOUND	R(%) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
13C-2,3,7,8-TCDD		2000	1410	70.5	0.77	1.013
13C-1,2,3,7,8-PECDD <sup>4</sup>		2000	1760	87.8	0.62	1.385
13C-1,2,3,4,7,8-HXCDD		2000	1630	81.4	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1560	78.1	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1530	76.4	1.01	1.094
13C-OCDD		4000	3070	76.7	0.87	1.178
13C-2,3,7,8-TCDF		2000	1320	66.0	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1290	64.5	1.52	1.286
13C-2,3,4,7,8-PECDF		2000	1270	63.3	1.55	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1620	81.0	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1560	78.0	0.48	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1490	74.3	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1550	77.7	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1400	70.2	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1520	75.9	0.42	1.104

CLEANUP STANDARD

37CL-2,3,7,8-TCDD		200	171	85.5		1.015
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(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form2.xsl; Created: 20-Jan-2011 15:29:04; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15771-11\_Form2\_DX1M\_005S44\_SJ1239743.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH522

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 04-Nov-2010 12:30  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15771-11  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_004 S: 17  
DX1M\_005 S: 44

Contract No.: 2607

Matrix: TISSUE

Sample Size: 10.0 g (wet)

Concentration Units: pg/g (wet weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		94.7	0.0499	1	9.47e+01	9.47e+01	
1,2,3,7,8-PECDD		0.756	0.0499	1	7.56e-01	7.56e-01	
1,2,3,4,7,8-HXCDD		0.128	0.0499	0.1	1.28e-02	1.28e-02	
1,2,3,6,7,8-HXCDD		0.476	0.0499	0.1	4.76e-02	4.76e-02	
1,2,3,7,8,9-HXCDD		0.367	0.0499	0.1	3.67e-02	3.67e-02	
1,2,3,4,6,7,8-HPCDD		5.94	0.0499	0.01	5.94e-02	5.94e-02	
OCDD		57.9	0.0737	0.0001	5.79e-03	5.79e-03	
2,3,7,8-TCDF		7.64	0.0588	0.1	7.64e-01	7.64e-01	
1,2,3,7,8-PECDF		0.0810	0.0499	0.05	4.05e-03	4.05e-03	
2,3,4,7,8-PECDF		0.164	0.0499	0.5	8.20e-02	8.20e-02	
1,2,3,4,7,8-HXCDF		0.0802	0.0499	0.1	8.02e-03	8.02e-03	
1,2,3,6,7,8-HXCDF		0.134	0.0499	0.1	1.34e-02	1.34e-02	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF		0.0673	0.0499	0.1	6.73e-03	6.73e-03	
1,2,3,4,6,7,8-HPCDF		0.746	0.0499	0.01	7.46e-03	7.46e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF		1.96	0.0499	0.0001	1.96e-04	1.96e-04	
<b>TOTAL TEQ</b>					96.5	96.5	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		94.7	0.0499	1	9.47e+01	9.47e+01	
1,2,3,7,8-PECDD		0.756	0.0499	1	7.56e-01	7.56e-01	
1,2,3,4,7,8-HXCDD		0.128	0.0499	0.1	1.28e-02	1.28e-02	
1,2,3,6,7,8-HXCDD		0.476	0.0499	0.1	4.76e-02	4.76e-02	
1,2,3,7,8,9-HXCDD		0.367	0.0499	0.1	3.67e-02	3.67e-02	
1,2,3,4,6,7,8-HPCDD		5.94	0.0499	0.01	5.94e-02	5.94e-02	
OCDD		57.9	0.0737	0.0003	1.74e-02	1.74e-02	
2,3,7,8-TCDF		7.64	0.0588	0.1	7.64e-01	7.64e-01	
1,2,3,7,8-PECDF		0.0810	0.0499	0.03	2.43e-03	2.43e-03	
2,3,4,7,8-PECDF		0.164	0.0499	0.3	4.92e-02	4.92e-02	
1,2,3,4,7,8-HXCDF		0.0802	0.0499	0.1	8.02e-03	8.02e-03	
1,2,3,6,7,8-HXCDF		0.134	0.0499	0.1	1.34e-02	1.34e-02	
1,2,3,7,8,9-HXCDF	ND		0.0499	0.1	0.00e+00	2.50e-03	
2,3,4,6,7,8-HXCDF		0.0673	0.0499	0.1	6.73e-03	6.73e-03	
1,2,3,4,6,7,8-HPCDF		0.746	0.0499	0.01	7.46e-03	7.46e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.0499	0.01	0.00e+00	2.50e-04	
OCDF		1.96	0.0499	0.0003	5.88e-04	5.88e-04	
<b>TOTAL TEQ</b>					<b>96.5</b>	<b>96.5</b>	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 20-Jan-2011 15:31:32; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15771-11\_TEQ\_SJ1241317.html; Workgroup: WG35005; Design ID: 1507 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



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**A1.3**

**Human Serum Samples  
(Lipid Basis) -  
Laboratory Analytical Results  
Including QA/QC**

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AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH600  
Sample Collection:  
02-Nov-2010 10:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-1
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.281 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	27-Jan-2011 Time: 03:48:39	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	<b>DX1M_016C S: 10</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_016C S: 1
		<b>% Lipid:</b>	0.86

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		27.8	0.709 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		5.87	0.709 (Q)	0.69	1.001
1,2,3,4,7,8-HXCDD		5.01	0.709 (Q)	1.32	1.000
1,2,3,6,7,8-HXCDD		18.0	0.709 (Q)	1.13	1.000
1,2,3,7,8,9-HXCDD		5.31	0.709 (Q)	1.11	1.000
1,2,3,4,6,7,8-HPCDD		62.1	0.709 (Q)	0.98	1.000
OCDD		402	0.709 (Q)	0.86	1.000
2,3,7,8-TCDF	ND		0.709 (Q)		
1,2,3,7,8-PECDF	NDR	0.802	0.709 (Q)	1.24	1.001
2,3,4,7,8-PECDF		6.78	0.709 (Q)	1.45	1.001
1,2,3,4,7,8-HXCDF		11.6	0.709 (Q)	1.11	1.001
1,2,3,6,7,8-HXCDF		7.39	0.709 (Q)	1.16	1.000
1,2,3,7,8,9-HXCDF	ND		0.709 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.31	0.709 (Q)	0.87	1.000
1,2,3,4,6,7,8-HPCDF		16.7	0.709 (Q)	1.00	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.21	0.709 (Q)	0.86	1.001
OCDF	NDR	0.732	0.709 (Q)	1.12	1.002
TOTAL TETRA-DIOXINS		27.8	0.709 (Q)		
TOTAL PENTA-DIOXINS		5.87	0.709 (Q)		
TOTAL HEXA-DIOXINS		28.4	0.709 (Q)		
TOTAL HEPTA-DIOXINS		62.1	0.709 (Q)		
TOTAL TETRA-FURANS	ND		0.709 (Q)		
TOTAL PENTA-FURANS		6.78	0.709 (Q)		
TOTAL HEXA-FURANS		19.0	0.709 (Q)		
TOTAL HEPTA-FURANS		16.7	0.709 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





AXYS METHOD MLA-017 Rev 19

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH600

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 10:00

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-1

Sample Size: 0.281 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_016C S: 10

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		27.8	0.709	1	2.78e+01	2.78e+01	
1,2,3,7,8-PECDD		5.87	0.709	1	5.87e+00	5.87e+00	
1,2,3,4,7,8-HXCDD		5.01	0.709	0.1	5.01e-01	5.01e-01	
1,2,3,6,7,8-HXCDD		18.0	0.709	0.1	1.80e+00	1.80e+00	
1,2,3,7,8,9-HXCDD		5.31	0.709	0.1	5.31e-01	5.31e-01	
1,2,3,4,6,7,8-HPCDD		62.1	0.709	0.01	6.21e-01	6.21e-01	
OCDD		402	0.709	0.0001	4.02e-02	4.02e-02	
2,3,7,8-TCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
1,2,3,7,8-PECDF	ND		0.709	0.05	0.00e+00	1.77e-02	
2,3,4,7,8-PECDF		6.78	0.709	0.5	3.39e+00	3.39e+00	
1,2,3,4,7,8-HXCDF		11.6	0.709	0.1	1.16e+00	1.16e+00	
1,2,3,6,7,8-HXCDF		7.39	0.709	0.1	7.39e-01	7.39e-01	
1,2,3,7,8,9-HXCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
2,3,4,6,7,8-HXCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
1,2,3,4,6,7,8-HPCDF		16.7	0.709	0.01	1.67e-01	1.67e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.709	0.01	0.00e+00	3.55e-03	
OCDF	ND		0.709	0.0001	0.00e+00	3.55e-05	
<b>TOTAL TEQ</b>					<b>42.6</b>	<b>42.7</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		27.8	0.709	1	2.78e+01	2.78e+01	
1,2,3,7,8-PECDD		5.87	0.709	1	5.87e+00	5.87e+00	
1,2,3,4,7,8-HXCDD		5.01	0.709	0.1	5.01e-01	5.01e-01	
1,2,3,6,7,8-HXCDD		18.0	0.709	0.1	1.80e+00	1.80e+00	
1,2,3,7,8,9-HXCDD		5.31	0.709	0.1	5.31e-01	5.31e-01	
1,2,3,4,6,7,8-HPCDD		62.1	0.709	0.01	6.21e-01	6.21e-01	
OCDD		402	0.709	0.0003	1.21e-01	1.21e-01	
2,3,7,8-TCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
1,2,3,7,8-PECDF	ND		0.709	0.03	0.00e+00	1.06e-02	
2,3,4,7,8-PECDF		6.78	0.709	0.3	2.03e+00	2.03e+00	
1,2,3,4,7,8-HXCDF		11.6	0.709	0.1	1.16e+00	1.16e+00	
1,2,3,6,7,8-HXCDF		7.39	0.709	0.1	7.39e-01	7.39e-01	
1,2,3,7,8,9-HXCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
2,3,4,6,7,8-HXCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
1,2,3,4,6,7,8-HPCDF		16.7	0.709	0.01	1.67e-01	1.67e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.709	0.01	0.00e+00	3.55e-03	
OCDF	ND		0.709	0.0003	0.00e+00	1.06e-04	
<b>TOTAL TEQ</b>					41.3	41.5	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-1\_TEQ\_SJ1253527\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH601  
Sample Collection:  
02-Nov-2010 10:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 27-Jan-2011 Time: 04:43:51

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-2

Sample Size: 0.279 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_016C S: 11

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_016C S: 1

% Lipid: 0.86

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		58.0	0.720 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		10.7	0.720 (Q)	0.65	1.001
1,2,3,4,7,8-HXCDD		5.72	0.720 (Q)	1.07	1.001
1,2,3,6,7,8-HXCDD		21.4	0.720 (Q)	1.12	1.001
1,2,3,7,8,9-HXCDD		4.80	0.720 (Q)	1.30	1.000
1,2,3,4,6,7,8-HPCDD		25.6	0.720 (Q)	0.96	1.000
OCDD		282	0.720 (Q)	0.89	1.000
2,3,7,8-TCDF		1.52	0.720 (Q)	0.84	1.001
1,2,3,7,8-PECDF		0.837	0.720 (Q)	1.37	1.001
2,3,4,7,8-PECDF		7.31	0.720 (Q)	1.47	1.001
1,2,3,4,7,8-HXCDF		11.0	0.720 (Q)	1.06	1.000
1,2,3,6,7,8-HXCDF		6.15	0.720 (Q)	1.21	1.000
1,2,3,7,8,9-HXCDF		0.813	0.720 (Q)	1.14	1.000
2,3,4,6,7,8-HXCDF		0.999	0.720 (Q)	1.06	1.001
1,2,3,4,6,7,8-HPCDF		9.66	0.720 (Q)	1.00	1.000
1,2,3,4,7,8,9-HPCDF		0.860	0.720 (Q)	0.89	1.000
OCDF	ND		0.720 (Q)		
TOTAL TETRA-DIOXINS		58.0	0.720 (Q)		
TOTAL PENTA-DIOXINS		10.7	0.720 (Q)		
TOTAL HEXA-DIOXINS		32.0	0.720 (Q)		
TOTAL HEPTA-DIOXINS		25.6	0.720 (Q)		
TOTAL TETRA-FURANS		1.52	0.720 (Q)		
TOTAL PENTA-FURANS		8.15	0.720 (Q)		
TOTAL HEXA-FURANS		18.9	0.720 (Q)		
TOTAL HEPTA-FURANS		10.5	0.720 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH601

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.279 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 10:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-2

GC Column ID: DB5

Sample Data Filename: DX1M\_016C S: 11

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		58.0	0.720	1	5.80e+01	5.80e+01	
1,2,3,7,8-PECDD		10.7	0.720	1	1.07e+01	1.07e+01	
1,2,3,4,7,8-HXCDD		5.72	0.720	0.1	5.72e-01	5.72e-01	
1,2,3,6,7,8-HXCDD		21.4	0.720	0.1	2.14e+00	2.14e+00	
1,2,3,7,8,9-HXCDD		4.80	0.720	0.1	4.80e-01	4.80e-01	
1,2,3,4,6,7,8-HPCDD		25.6	0.720	0.01	2.56e-01	2.56e-01	
OCDD		282	0.720	0.0001	2.82e-02	2.82e-02	
2,3,7,8-TCDF		1.52	0.720	0.1	1.52e-01	1.52e-01	
1,2,3,7,8-PECDF		0.837	0.720	0.05	4.19e-02	4.19e-02	
2,3,4,7,8-PECDF		7.31	0.720	0.5	3.66e+00	3.66e+00	
1,2,3,4,7,8-HXCDF		11.0	0.720	0.1	1.10e+00	1.10e+00	
1,2,3,6,7,8-HXCDF		6.15	0.720	0.1	6.15e-01	6.15e-01	
1,2,3,7,8,9-HXCDF		0.813	0.720	0.1	8.13e-02	8.13e-02	
2,3,4,6,7,8-HXCDF		0.999	0.720	0.1	9.99e-02	9.99e-02	
1,2,3,4,6,7,8-HPCDF		9.66	0.720	0.01	9.66e-02	9.66e-02	
1,2,3,4,7,8,9-HPCDF		0.860	0.720	0.01	8.60e-03	8.60e-03	
OCDF	ND		0.720	0.0001	0.00e+00	3.60e-05	
<b>TOTAL TEQ</b>					<b>78.0</b>	<b>78.0</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		58.0	0.720	1	5.80e+01	5.80e+01	
1,2,3,7,8-PECDD		10.7	0.720	1	1.07e+01	1.07e+01	
1,2,3,4,7,8-HXCDD		5.72	0.720	0.1	5.72e-01	5.72e-01	
1,2,3,6,7,8-HXCDD		21.4	0.720	0.1	2.14e+00	2.14e+00	
1,2,3,7,8,9-HXCDD		4.80	0.720	0.1	4.80e-01	4.80e-01	
1,2,3,4,6,7,8-HPCDD		25.6	0.720	0.01	2.56e-01	2.56e-01	
OCDD		282	0.720	0.0003	8.46e-02	8.46e-02	
2,3,7,8-TCDF		1.52	0.720	0.1	1.52e-01	1.52e-01	
1,2,3,7,8-PECDF		0.837	0.720	0.03	2.51e-02	2.51e-02	
2,3,4,7,8-PECDF		7.31	0.720	0.3	2.19e+00	2.19e+00	
1,2,3,4,7,8-HXCDF		11.0	0.720	0.1	1.10e+00	1.10e+00	
1,2,3,6,7,8-HXCDF		6.15	0.720	0.1	6.15e-01	6.15e-01	
1,2,3,7,8,9-HXCDF		0.813	0.720	0.1	8.13e-02	8.13e-02	
2,3,4,6,7,8-HXCDF		0.999	0.720	0.1	9.99e-02	9.99e-02	
1,2,3,4,6,7,8-HPCDF		9.66	0.720	0.01	9.66e-02	9.66e-02	
1,2,3,4,7,8,9-HPCDF		0.860	0.720	0.01	8.60e-03	8.60e-03	
OCDF	ND		0.720	0.0003	0.00e+00	1.08e-04	
<b>TOTAL TEQ</b>					76.6	76.6	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-2\_TEQ\_SJ1253528\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH602  
Sample Collection:  
02-Nov-2010 10:45

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 27-Jan-2011 Time: 14:12:41

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-3

Sample Size: 0.338 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 4

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 1

% Lipid: 0.94

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		42.1	0.595 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		8.33	0.595 (Q)	0.52	1.001
1,2,3,4,7,8-HXCDD	NDR	4.96	0.595 (Q)	1.63	1.000
1,2,3,6,7,8-HXCDD		24.5	0.595 (Q)	1.17	1.000
1,2,3,7,8,9-HXCDD		4.22	0.595 (Q)	1.36	1.000
1,2,3,4,6,7,8-HPCDD		17.2	0.595 (Q)	0.99	1.000
OCDD		225	0.595 (Q)	0.90	1.000
2,3,7,8-TCDF		0.978	0.595 (Q)	0.82	1.001
1,2,3,7,8-PECDF	ND		0.595 (Q)		
2,3,4,7,8-PECDF		9.29	0.595 (Q)	1.42	1.001
1,2,3,4,7,8-HXCDF		13.4	0.595 (Q)	1.28	1.000
1,2,3,6,7,8-HXCDF		8.14	0.595 (Q)	1.37	1.001
1,2,3,7,8,9-HXCDF	ND		0.595 (Q)		
2,3,4,6,7,8-HXCDF		0.829	0.595 (Q)	1.15	1.000
1,2,3,4,6,7,8-HPCDF		11.3	0.595 (Q)	0.93	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.09	0.595 (Q)	1.39	1.000
OCDF	ND		0.595 (Q)		
TOTAL TETRA-DIOXINS		42.1	0.595 (Q)		
TOTAL PENTA-DIOXINS		8.33	0.595 (Q)		
TOTAL HEXA-DIOXINS		28.8	0.595 (Q)		
TOTAL HEPTA-DIOXINS		17.2	0.595 (Q)		
TOTAL TETRA-FURANS		0.978	0.595 (Q)		
TOTAL PENTA-FURANS		9.29	0.595 (Q)		
TOTAL HEXA-FURANS		22.3	0.595 (Q)		
TOTAL HEPTA-FURANS		11.3	0.595 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH602

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.338 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 10:45

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-3

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 4

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		42.1	0.595	1	4.21e+01	4.21e+01	
1,2,3,7,8-PECDD		8.33	0.595	1	8.33e+00	8.33e+00	
1,2,3,4,7,8-HXCDD	ND		0.595	0.1	0.00e+00	2.98e-02	
1,2,3,6,7,8-HXCDD		24.5	0.595	0.1	2.45e+00	2.45e+00	
1,2,3,7,8,9-HXCDD		4.22	0.595	0.1	4.22e-01	4.22e-01	
1,2,3,4,6,7,8-HPCDD		17.2	0.595	0.01	1.72e-01	1.72e-01	
OCDD		225	0.595	0.0001	2.25e-02	2.25e-02	
2,3,7,8-TCDF		0.978	0.595	0.1	9.78e-02	9.78e-02	
1,2,3,7,8-PECDF	ND		0.595	0.05	0.00e+00	1.49e-02	
2,3,4,7,8-PECDF		9.29	0.595	0.5	4.65e+00	4.65e+00	
1,2,3,4,7,8-HXCDF		13.4	0.595	0.1	1.34e+00	1.34e+00	
1,2,3,6,7,8-HXCDF		8.14	0.595	0.1	8.14e-01	8.14e-01	
1,2,3,7,8,9-HXCDF	ND		0.595	0.1	0.00e+00	2.98e-02	
2,3,4,6,7,8-HXCDF		0.829	0.595	0.1	8.29e-02	8.29e-02	
1,2,3,4,6,7,8-HPCDF		11.3	0.595	0.01	1.13e-01	1.13e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.595	0.01	0.00e+00	2.98e-03	
OCDF	ND		0.595	0.0001	0.00e+00	2.98e-05	
<b>TOTAL TEQ</b>					<b>60.6</b>	<b>60.7</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		42.1	0.595	1	4.21e+01	4.21e+01	
1,2,3,7,8-PECDD		8.33	0.595	1	8.33e+00	8.33e+00	
1,2,3,4,7,8-HXCDD	ND		0.595	0.1	0.00e+00	2.98e-02	
1,2,3,6,7,8-HXCDD		24.5	0.595	0.1	2.45e+00	2.45e+00	
1,2,3,7,8,9-HXCDD		4.22	0.595	0.1	4.22e-01	4.22e-01	
1,2,3,4,6,7,8-HPCDD		17.2	0.595	0.01	1.72e-01	1.72e-01	
OCDD		225	0.595	0.0003	6.75e-02	6.75e-02	
2,3,7,8-TCDF		0.978	0.595	0.1	9.78e-02	9.78e-02	
1,2,3,7,8-PECDF	ND		0.595	0.03	0.00e+00	8.93e-03	
2,3,4,7,8-PECDF		9.29	0.595	0.3	2.79e+00	2.79e+00	
1,2,3,4,7,8-HXCDF		13.4	0.595	0.1	1.34e+00	1.34e+00	
1,2,3,6,7,8-HXCDF		8.14	0.595	0.1	8.14e-01	8.14e-01	
1,2,3,7,8,9-HXCDF	ND		0.595	0.1	0.00e+00	2.98e-02	
2,3,4,6,7,8-HXCDF		0.829	0.595	0.1	8.29e-02	8.29e-02	
1,2,3,4,6,7,8-HPCDF		11.3	0.595	0.01	1.13e-01	1.13e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.595	0.01	0.00e+00	2.98e-03	
OCDF	ND		0.595	0.0003	0.00e+00	8.93e-05	
<b>TOTAL TEQ</b>					<b>58.8</b>	<b>58.8</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-3\_TEQ\_SJ1254262\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]





AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH603  
Sample Collection:  
02-Nov-2010 11:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-4
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.285 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	27-Jan-2011 Time: 15:07:47	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 5
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 1
		<b>% Lipid:</b>	0.87

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		137	0.701 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	9.29	0.701 (Q)	0.72	1.001
1,2,3,4,7,8-HXCDD		4.84	0.701 (Q)	1.07	1.000
1,2,3,6,7,8-HXCDD		18.3	0.701 (Q)	1.06	1.000
1,2,3,7,8,9-HXCDD		4.46	0.701 (Q)	1.28	1.000
1,2,3,4,6,7,8-HPCDD		26.5	0.701 (Q)	1.00	1.000
OCDD		319	0.701 (Q)	0.86	1.000
2,3,7,8-TCDF	NDR	1.40	0.701 (Q)	0.60	1.002
1,2,3,7,8-PECDF	NDR	0.747	0.701 (Q)	0.89	1.001
2,3,4,7,8-PECDF		7.49	0.701 (Q)	1.44	1.001
1,2,3,4,7,8-HXCDF		10.3	0.701 (Q)	1.32	1.000
1,2,3,6,7,8-HXCDF		7.17	0.701 (Q)	1.41	1.000
1,2,3,7,8,9-HXCDF	ND		0.701 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.17	0.701 (Q)	0.88	1.000
1,2,3,4,6,7,8-HPCDF		12.1	0.701 (Q)	0.98	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.919	0.701 (Q)	0.43	1.000
OCDF	NDR	0.724	0.701 (Q)	1.53	1.002
TOTAL TETRA-DIOXINS		137	0.701 (Q)		
TOTAL PENTA-DIOXINS	ND		0.701 (Q)		
TOTAL HEXA-DIOXINS		27.6	0.701 (Q)		
TOTAL HEPTA-DIOXINS		29.3	0.701 (Q)		
TOTAL TETRA-FURANS	ND		0.701 (Q)		
TOTAL PENTA-FURANS		7.49	0.701 (Q)		
TOTAL HEXA-FURANS		17.5	0.701 (Q)		
TOTAL HEPTA-FURANS		12.1	0.701 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH603

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.285 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 11:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-4

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 5

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		137	0.701	1	1.37e+02	1.37e+02	
1,2,3,7,8-PECDD	ND		0.701	1	0.00e+00	3.51e-01	
1,2,3,4,7,8-HXCDD		4.84	0.701	0.1	4.84e-01	4.84e-01	
1,2,3,6,7,8-HXCDD		18.3	0.701	0.1	1.83e+00	1.83e+00	
1,2,3,7,8,9-HXCDD		4.46	0.701	0.1	4.46e-01	4.46e-01	
1,2,3,4,6,7,8-HPCDD		26.5	0.701	0.01	2.65e-01	2.65e-01	
OCDD		319	0.701	0.0001	3.19e-02	3.19e-02	
2,3,7,8-TCDF	ND		0.701	0.1	0.00e+00	3.51e-02	
1,2,3,7,8-PECDF	ND		0.701	0.05	0.00e+00	1.75e-02	
2,3,4,7,8-PECDF		7.49	0.701	0.5	3.75e+00	3.75e+00	
1,2,3,4,7,8-HXCDF		10.3	0.701	0.1	1.03e+00	1.03e+00	
1,2,3,6,7,8-HXCDF		7.17	0.701	0.1	7.17e-01	7.17e-01	
1,2,3,7,8,9-HXCDF	ND		0.701	0.1	0.00e+00	3.51e-02	
2,3,4,6,7,8-HXCDF	ND		0.701	0.1	0.00e+00	3.51e-02	
1,2,3,4,6,7,8-HPCDF		12.1	0.701	0.01	1.21e-01	1.21e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.701	0.01	0.00e+00	3.51e-03	
OCDF	ND		0.701	0.0001	0.00e+00	3.51e-05	
<b>TOTAL TEQ</b>					146	146	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		137	0.701	1	1.37e+02	1.37e+02	
1,2,3,7,8-PECDD	ND		0.701	1	0.00e+00	3.51e-01	
1,2,3,4,7,8-HXCDD		4.84	0.701	0.1	4.84e-01	4.84e-01	
1,2,3,6,7,8-HXCDD		18.3	0.701	0.1	1.83e+00	1.83e+00	
1,2,3,7,8,9-HXCDD		4.46	0.701	0.1	4.46e-01	4.46e-01	
1,2,3,4,6,7,8-HPCDD		26.5	0.701	0.01	2.65e-01	2.65e-01	
OCDD		319	0.701	0.0003	9.57e-02	9.57e-02	
2,3,7,8-TCDF	ND		0.701	0.1	0.00e+00	3.51e-02	
1,2,3,7,8-PECDF	ND		0.701	0.03	0.00e+00	1.05e-02	
2,3,4,7,8-PECDF		7.49	0.701	0.3	2.25e+00	2.25e+00	
1,2,3,4,7,8-HXCDF		10.3	0.701	0.1	1.03e+00	1.03e+00	
1,2,3,6,7,8-HXCDF		7.17	0.701	0.1	7.17e-01	7.17e-01	
1,2,3,7,8,9-HXCDF	ND		0.701	0.1	0.00e+00	3.51e-02	
2,3,4,6,7,8-HXCDF	ND		0.701	0.1	0.00e+00	3.51e-02	
1,2,3,4,6,7,8-HPCDF		12.1	0.701	0.01	1.21e-01	1.21e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.701	0.01	0.00e+00	3.51e-03	
OCDF	ND		0.701	0.0003	0.00e+00	1.05e-04	
<b>TOTAL TEQ</b>					144	145	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-4\_TEQ\_SJ1254263\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH604  
Sample Collection:  
02-Nov-2010 11:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-5
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.245 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	27-Jan-2011 Time: 16:03:01	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 6
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 1
		<b>% Lipid:</b>	0.81

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		1040	0.815 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		25.1	0.815 (Q)	0.54	1.001
1,2,3,4,7,8-HXCDD	NDR	11.5	0.815 (Q)	1.46	1.000
1,2,3,6,7,8-HXCDD		39.3	0.815 (Q)	1.30	1.000
1,2,3,7,8,9-HXCDD		7.36	0.815 (Q)	1.19	1.000
1,2,3,4,6,7,8-HPCDD		39.4	0.815 (Q)	1.15	1.000
OCDD		275	0.951 (S)	0.90	1.000
2,3,7,8-TCDF		1.57	0.815 (Q)	0.84	1.002
1,2,3,7,8-PECDF	ND		0.815 (Q)		
2,3,4,7,8-PECDF		14.1	0.815 (Q)	1.78	1.001
1,2,3,4,7,8-HXCDF		17.4	0.815 (Q)	1.24	1.000
1,2,3,6,7,8-HXCDF	NDR	10.2	0.815 (Q)	1.49	1.000
1,2,3,7,8,9-HXCDF	ND		0.815 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.79	0.815 (Q)	0.55	1.000
1,2,3,4,6,7,8-HPCDF		21.6	1.26 (S)	0.93	1.000
1,2,3,4,7,8,9-HPCDF		1.88	1.26 (S)	1.19	1.000
OCDF	NDR	0.902	0.828 (S)	1.67	1.002
TOTAL TETRA-DIOXINS		1040	0.815 (Q)		
TOTAL PENTA-DIOXINS		25.1	0.815 (Q)		
TOTAL HEXA-DIOXINS		46.7	0.815 (Q)		
TOTAL HEPTA-DIOXINS		39.4	0.815 (Q)		
TOTAL TETRA-FURANS		1.57	0.815 (Q)		
TOTAL PENTA-FURANS		14.1	0.815 (Q)		
TOTAL HEXA-FURANS		17.4	0.815 (Q)		
TOTAL HEPTA-FURANS		23.6	1.26 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH604

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.245 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 11:25

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-5

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 6

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1040	0.815	1	1.04e+03	1.04e+03	
1,2,3,7,8-PECDD		25.1	0.815	1	2.51e+01	2.51e+01	
1,2,3,4,7,8-HXCDD	ND		0.815	0.1	0.00e+00	4.08e-02	
1,2,3,6,7,8-HXCDD		39.3	0.815	0.1	3.93e+00	3.93e+00	
1,2,3,7,8,9-HXCDD		7.36	0.815	0.1	7.36e-01	7.36e-01	
1,2,3,4,6,7,8-HPCDD		39.4	0.815	0.01	3.94e-01	3.94e-01	
OCDD		275	0.951	0.0001	2.75e-02	2.75e-02	
2,3,7,8-TCDF		1.57	0.815	0.1	1.57e-01	1.57e-01	
1,2,3,7,8-PECDF	ND		0.815	0.05	0.00e+00	2.04e-02	
2,3,4,7,8-PECDF		14.1	0.815	0.5	7.05e+00	7.05e+00	
1,2,3,4,7,8-HXCDF		17.4	0.815	0.1	1.74e+00	1.74e+00	
1,2,3,6,7,8-HXCDF	ND		0.815	0.1	0.00e+00	4.08e-02	
1,2,3,7,8,9-HXCDF	ND		0.815	0.1	0.00e+00	4.08e-02	
2,3,4,6,7,8-HXCDF	ND		0.815	0.1	0.00e+00	4.08e-02	
1,2,3,4,6,7,8-HPCDF		21.6	1.26	0.01	2.16e-01	2.16e-01	
1,2,3,4,7,8,9-HPCDF		1.88	1.26	0.01	1.88e-02	1.88e-02	
OCDF	ND		0.828	0.0001	0.00e+00	4.14e-05	
<b>TOTAL TEQ</b>					1080	1080	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1040	0.815	1	1.04e+03	1.04e+03	
1,2,3,7,8-PECDD		25.1	0.815	1	2.51e+01	2.51e+01	
1,2,3,4,7,8-HXCDD	ND		0.815	0.1	0.00e+00	4.08e-02	
1,2,3,6,7,8-HXCDD		39.3	0.815	0.1	3.93e+00	3.93e+00	
1,2,3,7,8,9-HXCDD		7.36	0.815	0.1	7.36e-01	7.36e-01	
1,2,3,4,6,7,8-HPCDD		39.4	0.815	0.01	3.94e-01	3.94e-01	
OCDD		275	0.951	0.0003	8.25e-02	8.25e-02	
2,3,7,8-TCDF		1.57	0.815	0.1	1.57e-01	1.57e-01	
1,2,3,7,8-PECDF	ND		0.815	0.03	0.00e+00	1.22e-02	
2,3,4,7,8-PECDF		14.1	0.815	0.3	4.23e+00	4.23e+00	
1,2,3,4,7,8-HXCDF		17.4	0.815	0.1	1.74e+00	1.74e+00	
1,2,3,6,7,8-HXCDF	ND		0.815	0.1	0.00e+00	4.08e-02	
1,2,3,7,8,9-HXCDF	ND		0.815	0.1	0.00e+00	4.08e-02	
2,3,4,6,7,8-HXCDF	ND		0.815	0.1	0.00e+00	4.08e-02	
1,2,3,4,6,7,8-HPCDF		21.6	1.26	0.01	2.16e-01	2.16e-01	
1,2,3,4,7,8,9-HPCDF		1.88	1.26	0.01	1.88e-02	1.88e-02	
OCDF	ND		0.828	0.0003	0.00e+00	1.24e-04	
<b>TOTAL TEQ</b>					1080	1080	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-5\_TEQ\_SJ1254264\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]

AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH605  
Sample Collection:  
02-Nov-2010 11:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-6
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.357 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	27-Jan-2011 Time: 16:58:12	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 7
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 1
		<b>% Lipid:</b>	1.10

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		37.7	0.564 (Q)	0.74	1.001
1,2,3,7,8-PECDD <sup>4</sup>		5.05	0.564 (Q)	0.52	1.001
1,2,3,4,7,8-HXCDD	NDR	3.68	0.564 (Q)	1.52	1.001
1,2,3,6,7,8-HXCDD		14.9	0.564 (Q)	1.19	1.000
1,2,3,7,8,9-HXCDD		3.63	0.564 (Q)	1.28	1.000
1,2,3,4,6,7,8-HPCDD		25.7	0.564 (Q)	0.99	1.000
OCDD		346	0.564 (Q)	0.90	1.000
2,3,7,8-TCDF	NDR	1.21	0.564 (Q)	0.58	1.001
1,2,3,7,8-PECDF	NDR	0.619	0.564 (Q)	2.73	1.001
2,3,4,7,8-PECDF		5.88	0.564 (Q)	1.47	1.001
1,2,3,4,7,8-HXCDF		12.2	0.564 (Q)	1.25	1.000
1,2,3,6,7,8-HXCDF		7.90	0.564 (Q)	1.08	1.000
1,2,3,7,8,9-HXCDF	ND		0.564 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.43	0.564 (Q)	0.80	1.000
1,2,3,4,6,7,8-HPCDF		15.0	0.564 (Q)	1.03	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.27	0.564 (Q)	0.75	1.000
OCDF	ND		0.564 (Q)		
TOTAL TETRA-DIOXINS		37.7	0.564 (Q)		
TOTAL PENTA-DIOXINS		5.05	0.564 (Q)		
TOTAL HEXA-DIOXINS		18.5	0.564 (Q)		
TOTAL HEPTA-DIOXINS		25.7	0.564 (Q)		
TOTAL TETRA-FURANS	ND		0.564 (Q)		
TOTAL PENTA-FURANS		5.88	0.564 (Q)		
TOTAL HEXA-FURANS		20.0	0.564 (Q)		
TOTAL HEPTA-FURANS		15.0	0.564 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH605

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.357 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 11:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-6

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 7

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		37.7	0.564	1	3.77e+01	3.77e+01	
1,2,3,7,8-PECDD		5.05	0.564	1	5.05e+00	5.05e+00	
1,2,3,4,7,8-HXCDD	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,6,7,8-HXCDD		14.9	0.564	0.1	1.49e+00	1.49e+00	
1,2,3,7,8,9-HXCDD		3.63	0.564	0.1	3.63e-01	3.63e-01	
1,2,3,4,6,7,8-HPCDD		25.7	0.564	0.01	2.57e-01	2.57e-01	
OCDD		346	0.564	0.0001	3.46e-02	3.46e-02	
2,3,7,8-TCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,7,8-PECDF	ND		0.564	0.05	0.00e+00	1.41e-02	
2,3,4,7,8-PECDF		5.88	0.564	0.5	2.94e+00	2.94e+00	
1,2,3,4,7,8-HXCDF		12.2	0.564	0.1	1.22e+00	1.22e+00	
1,2,3,6,7,8-HXCDF		7.90	0.564	0.1	7.90e-01	7.90e-01	
1,2,3,7,8,9-HXCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
2,3,4,6,7,8-HXCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,4,6,7,8-HPCDF		15.0	0.564	0.01	1.50e-01	1.50e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.564	0.01	0.00e+00	2.82e-03	
OCDF	ND		0.564	0.0001	0.00e+00	2.82e-05	
<b>TOTAL TEQ</b>					50.0	50.1	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		37.7	0.564	1	3.77e+01	3.77e+01	
1,2,3,7,8-PECDD		5.05	0.564	1	5.05e+00	5.05e+00	
1,2,3,4,7,8-HXCDD	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,6,7,8-HXCDD		14.9	0.564	0.1	1.49e+00	1.49e+00	
1,2,3,7,8,9-HXCDD		3.63	0.564	0.1	3.63e-01	3.63e-01	
1,2,3,4,6,7,8-HPCDD		25.7	0.564	0.01	2.57e-01	2.57e-01	
OCDD		346	0.564	0.0003	1.04e-01	1.04e-01	
2,3,7,8-TCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,7,8-PECDF	ND		0.564	0.03	0.00e+00	8.46e-03	
2,3,4,7,8-PECDF		5.88	0.564	0.3	1.76e+00	1.76e+00	
1,2,3,4,7,8-HXCDF		12.2	0.564	0.1	1.22e+00	1.22e+00	
1,2,3,6,7,8-HXCDF		7.90	0.564	0.1	7.90e-01	7.90e-01	
1,2,3,7,8,9-HXCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
2,3,4,6,7,8-HXCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,4,6,7,8-HPCDF		15.0	0.564	0.01	1.50e-01	1.50e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.564	0.01	0.00e+00	2.82e-03	
OCDF	ND		0.564	0.0003	0.00e+00	8.46e-05	
<b>TOTAL TEQ</b>					<b>48.9</b>	<b>49.0</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-6\_TEQ\_SJ1254265\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH606  
Sample Collection:  
02-Nov-2010 14:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-7
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.267 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	27-Jan-2011 Time: 17:53:26	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 8
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 1
		<b>% Lipid:</b>	0.89

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		92.8	0.752 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		9.81	0.752 (Q)	0.53	1.001
1,2,3,4,7,8-HXCDD		5.73	0.752 (Q)	1.26	1.000
1,2,3,6,7,8-HXCDD		21.3	0.752 (Q)	1.27	1.000
1,2,3,7,8,9-HXCDD		6.27	0.752 (Q)	1.32	1.000
1,2,3,4,6,7,8-HPCDD		26.9	0.752 (Q)	1.04	1.000
OCDD		249	0.752 (Q)	0.86	1.000
2,3,7,8-TCDF	NDR	1.32	0.752 (Q)	0.61	1.001
1,2,3,7,8-PECDF		1.25	0.752 (Q)	1.38	1.001
2,3,4,7,8-PECDF		8.69	0.752 (Q)	1.55	1.001
1,2,3,4,7,8-HXCDF		12.9	0.752 (Q)	1.21	1.001
1,2,3,6,7,8-HXCDF		9.19	0.752 (Q)	1.28	1.000
1,2,3,7,8,9-HXCDF	ND		0.752 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.56	0.752 (Q)	0.95	1.000
1,2,3,4,6,7,8-HPCDF		16.0	0.752 (Q)	1.07	1.000
1,2,3,4,7,8,9-HPCDF		1.65	0.752 (Q)	0.89	1.000
OCDF	NDR	1.80	0.752 (Q)	1.04	1.002
TOTAL TETRA-DIOXINS		92.8	0.752 (Q)		
TOTAL PENTA-DIOXINS		9.81	0.752 (Q)		
TOTAL HEXA-DIOXINS		33.3	0.752 (Q)		
TOTAL HEPTA-DIOXINS		29.4	0.752 (Q)		
TOTAL TETRA-FURANS	ND		0.752 (Q)		
TOTAL PENTA-FURANS		9.93	0.752 (Q)		
TOTAL HEXA-FURANS		22.1	0.752 (Q)		
TOTAL HEPTA-FURANS		17.7	0.752 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH606

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.267 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:00

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-7

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 8

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		92.8	0.752	1	9.28e+01	9.28e+01	
1,2,3,7,8-PECDD		9.81	0.752	1	9.81e+00	9.81e+00	
1,2,3,4,7,8-HXCDD		5.73	0.752	0.1	5.73e-01	5.73e-01	
1,2,3,6,7,8-HXCDD		21.3	0.752	0.1	2.13e+00	2.13e+00	
1,2,3,7,8,9-HXCDD		6.27	0.752	0.1	6.27e-01	6.27e-01	
1,2,3,4,6,7,8-HPCDD		26.9	0.752	0.01	2.69e-01	2.69e-01	
OCDD		249	0.752	0.0001	2.49e-02	2.49e-02	
2,3,7,8-TCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
1,2,3,7,8-PECDF		1.25	0.752	0.05	6.25e-02	6.25e-02	
2,3,4,7,8-PECDF		8.69	0.752	0.5	4.35e+00	4.35e+00	
1,2,3,4,7,8-HXCDF		12.9	0.752	0.1	1.29e+00	1.29e+00	
1,2,3,6,7,8-HXCDF		9.19	0.752	0.1	9.19e-01	9.19e-01	
1,2,3,7,8,9-HXCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
2,3,4,6,7,8-HXCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
1,2,3,4,6,7,8-HPCDF		16.0	0.752	0.01	1.60e-01	1.60e-01	
1,2,3,4,7,8,9-HPCDF		1.65	0.752	0.01	1.65e-02	1.65e-02	
OCDF	ND		0.752	0.0001	0.00e+00	3.76e-05	
<b>TOTAL TEQ</b>					113	113	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		92.8	0.752	1	9.28e+01	9.28e+01	
1,2,3,7,8-PECDD		9.81	0.752	1	9.81e+00	9.81e+00	
1,2,3,4,7,8-HXCDD		5.73	0.752	0.1	5.73e-01	5.73e-01	
1,2,3,6,7,8-HXCDD		21.3	0.752	0.1	2.13e+00	2.13e+00	
1,2,3,7,8,9-HXCDD		6.27	0.752	0.1	6.27e-01	6.27e-01	
1,2,3,4,6,7,8-HPCDD		26.9	0.752	0.01	2.69e-01	2.69e-01	
OCDD		249	0.752	0.0003	7.47e-02	7.47e-02	
2,3,7,8-TCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
1,2,3,7,8-PECDF		1.25	0.752	0.03	3.75e-02	3.75e-02	
2,3,4,7,8-PECDF		8.69	0.752	0.3	2.61e+00	2.61e+00	
1,2,3,4,7,8-HXCDF		12.9	0.752	0.1	1.29e+00	1.29e+00	
1,2,3,6,7,8-HXCDF		9.19	0.752	0.1	9.19e-01	9.19e-01	
1,2,3,7,8,9-HXCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
2,3,4,6,7,8-HXCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
1,2,3,4,6,7,8-HPCDF		16.0	0.752	0.01	1.60e-01	1.60e-01	
1,2,3,4,7,8,9-HPCDF		1.65	0.752	0.01	1.65e-02	1.65e-02	
OCDF	ND		0.752	0.0003	0.00e+00	1.13e-04	
<b>TOTAL TEQ</b>					<b>111</b>	<b>111</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-7\_TEQ\_SJ1254266\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH607  
Sample Collection:  
02-Nov-2010 14:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 27-Jan-2011 Time: 21:43:31

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-8

Sample Size: 0.353 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 12

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 9

% Lipid: 1.10

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		40.9	0.564 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		6.21	0.564 (Q)	0.58	1.001
1,2,3,4,7,8-HXCDD		3.10	0.564 (Q)	1.27	1.001
1,2,3,6,7,8-HXCDD		11.8	0.564 (Q)	1.28	1.000
1,2,3,7,8,9-HXCDD		2.90	0.564 (Q)	1.09	1.000
1,2,3,4,6,7,8-HPCDD		11.6	0.564 (Q)	1.02	1.000
OCDD		105	0.564 (Q)	0.82	1.000
2,3,7,8-TCDF		1.34	0.564 (Q)	0.73	1.001
1,2,3,7,8-PECDF	ND		0.564 (Q)		
2,3,4,7,8-PECDF	NDR	5.64	0.564 (Q)	1.22	1.001
1,2,3,4,7,8-HXCDF		7.57	0.564 (Q)	1.12	1.001
1,2,3,6,7,8-HXCDF		4.83	0.564 (Q)	1.14	1.001
1,2,3,7,8,9-HXCDF	ND		0.564 (Q)		
2,3,4,6,7,8-HXCDF		0.700	0.564 (Q)	1.07	1.000
1,2,3,4,6,7,8-HPCDF		6.30	0.564 (Q)	1.01	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.564 (Q)		
OCDF	ND		0.564 (Q)		
TOTAL TETRA-DIOXINS		40.9	0.564 (Q)		
TOTAL PENTA-DIOXINS		6.21	0.564 (Q)		
TOTAL HEXA-DIOXINS		17.9	0.564 (Q)		
TOTAL HEPTA-DIOXINS		11.6	0.564 (Q)		
TOTAL TETRA-FURANS		1.34	0.564 (Q)		
TOTAL PENTA-FURANS	ND		0.564 (Q)		
TOTAL HEXA-FURANS		13.1	0.564 (Q)		
TOTAL HEPTA-FURANS		6.30	0.564 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH607

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.353 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-8

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 12

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		40.9	0.564	1	4.09e+01	4.09e+01	
1,2,3,7,8-PECDD		6.21	0.564	1	6.21e+00	6.21e+00	
1,2,3,4,7,8-HXCDD		3.10	0.564	0.1	3.10e-01	3.10e-01	
1,2,3,6,7,8-HXCDD		11.8	0.564	0.1	1.18e+00	1.18e+00	
1,2,3,7,8,9-HXCDD		2.90	0.564	0.1	2.90e-01	2.90e-01	
1,2,3,4,6,7,8-HPCDD		11.6	0.564	0.01	1.16e-01	1.16e-01	
OCDD		105	0.564	0.0001	1.05e-02	1.05e-02	
2,3,7,8-TCDF		1.34	0.564	0.1	1.34e-01	1.34e-01	
1,2,3,7,8-PECDF	ND		0.564	0.05	0.00e+00	1.41e-02	
2,3,4,7,8-PECDF	ND		0.564	0.5	0.00e+00	1.41e-01	
1,2,3,4,7,8-HXCDF		7.57	0.564	0.1	7.57e-01	7.57e-01	
1,2,3,6,7,8-HXCDF		4.83	0.564	0.1	4.83e-01	4.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
2,3,4,6,7,8-HXCDF		0.700	0.564	0.1	7.00e-02	7.00e-02	
1,2,3,4,6,7,8-HPCDF		6.30	0.564	0.01	6.30e-02	6.30e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.564	0.01	0.00e+00	2.82e-03	
OCDF	ND		0.564	0.0001	0.00e+00	2.82e-05	
<b>TOTAL TEQ</b>					50.5	50.7	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		40.9	0.564	1	4.09e+01	4.09e+01	
1,2,3,7,8-PECDD		6.21	0.564	1	6.21e+00	6.21e+00	
1,2,3,4,7,8-HXCDD		3.10	0.564	0.1	3.10e-01	3.10e-01	
1,2,3,6,7,8-HXCDD		11.8	0.564	0.1	1.18e+00	1.18e+00	
1,2,3,7,8,9-HXCDD		2.90	0.564	0.1	2.90e-01	2.90e-01	
1,2,3,4,6,7,8-HPCDD		11.6	0.564	0.01	1.16e-01	1.16e-01	
OCDD		105	0.564	0.0003	3.15e-02	3.15e-02	
2,3,7,8-TCDF		1.34	0.564	0.1	1.34e-01	1.34e-01	
1,2,3,7,8-PECDF	ND		0.564	0.03	0.00e+00	8.46e-03	
2,3,4,7,8-PECDF	ND		0.564	0.3	0.00e+00	8.46e-02	
1,2,3,4,7,8-HXCDF		7.57	0.564	0.1	7.57e-01	7.57e-01	
1,2,3,6,7,8-HXCDF		4.83	0.564	0.1	4.83e-01	4.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.564	0.1	0.00e+00	2.82e-02	
2,3,4,6,7,8-HXCDF		0.700	0.564	0.1	7.00e-02	7.00e-02	
1,2,3,4,6,7,8-HPCDF		6.30	0.564	0.01	6.30e-02	6.30e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.564	0.01	0.00e+00	2.82e-03	
OCDF	ND		0.564	0.0003	0.00e+00	8.46e-05	
<b>TOTAL TEQ</b>					<b>50.5</b>	<b>50.7</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-8\_TEQ\_SJ1254595\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH608  
Sample Collection:  
02-Nov-2010 14:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-9
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.299 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	27-Jan-2011 Time: 22:38:44	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 13
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 9
		<b>% Lipid:</b>	0.90

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		29.9	0.667 (Q)	0.78	1.001
1,2,3,7,8-PECDD <sup>4</sup>		4.22	0.667 (Q)	0.53	1.001
1,2,3,4,7,8-HXCDD	NDR	3.12	0.667 (Q)	1.69	1.000
1,2,3,6,7,8-HXCDD		7.27	0.667 (Q)	1.39	1.000
1,2,3,7,8,9-HXCDD	NDR	1.96	0.667 (Q)	2.00	1.000
1,2,3,4,6,7,8-HPCDD		17.8	0.667 (Q)	0.96	1.000
OCDD		109	0.667 (Q)	0.88	1.000
2,3,7,8-TCDF	NDR	0.867	0.667 (Q)	0.59	1.001
1,2,3,7,8-PECDF	ND		0.667 (Q)		
2,3,4,7,8-PECDF		4.71	0.667 (Q)	1.47	1.001
1,2,3,4,7,8-HXCDF		6.18	0.667 (Q)	1.28	1.001
1,2,3,6,7,8-HXCDF		4.57	0.667 (Q)	1.28	1.001
1,2,3,7,8,9-HXCDF	ND		0.667 (Q)		
2,3,4,6,7,8-HXCDF		1.02	0.667 (Q)	1.29	1.001
1,2,3,4,6,7,8-HPCDF		7.12	0.667 (Q)	0.93	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.945	0.667 (Q)	0.70	1.000
OCDF	ND		0.667 (Q)		
TOTAL TETRA-DIOXINS		29.9	0.667 (Q)		
TOTAL PENTA-DIOXINS		4.22	0.667 (Q)		
TOTAL HEXA-DIOXINS		7.27	0.667 (Q)		
TOTAL HEPTA-DIOXINS		18.6	0.667 (Q)		
TOTAL TETRA-FURANS	ND		0.667 (Q)		
TOTAL PENTA-FURANS		4.71	0.667 (Q)		
TOTAL HEXA-FURANS		11.8	0.667 (Q)		
TOTAL HEPTA-FURANS		7.12	0.667 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH608

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.299 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-9

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 13

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		29.9	0.667	1	2.99e+01	2.99e+01	
1,2,3,7,8-PECDD		4.22	0.667	1	4.22e+00	4.22e+00	
1,2,3,4,7,8-HXCDD	ND		0.667	0.1	0.00e+00	3.34e-02	
1,2,3,6,7,8-HXCDD		7.27	0.667	0.1	7.27e-01	7.27e-01	
1,2,3,7,8,9-HXCDD	ND		0.667	0.1	0.00e+00	3.34e-02	
1,2,3,4,6,7,8-HPCDD		17.8	0.667	0.01	1.78e-01	1.78e-01	
OCDD		109	0.667	0.0001	1.09e-02	1.09e-02	
2,3,7,8-TCDF	ND		0.667	0.1	0.00e+00	3.34e-02	
1,2,3,7,8-PECDF	ND		0.667	0.05	0.00e+00	1.67e-02	
2,3,4,7,8-PECDF		4.71	0.667	0.5	2.36e+00	2.36e+00	
1,2,3,4,7,8-HXCDF		6.18	0.667	0.1	6.18e-01	6.18e-01	
1,2,3,6,7,8-HXCDF		4.57	0.667	0.1	4.57e-01	4.57e-01	
1,2,3,7,8,9-HXCDF	ND		0.667	0.1	0.00e+00	3.34e-02	
2,3,4,6,7,8-HXCDF		1.02	0.667	0.1	1.02e-01	1.02e-01	
1,2,3,4,6,7,8-HPCDF		7.12	0.667	0.01	7.12e-02	7.12e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.667	0.01	0.00e+00	3.34e-03	
OCDF	ND		0.667	0.0001	0.00e+00	3.34e-05	
<b>TOTAL TEQ</b>					<b>38.6</b>	<b>38.8</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		29.9	0.667	1	2.99e+01	2.99e+01	
1,2,3,7,8-PECDD		4.22	0.667	1	4.22e+00	4.22e+00	
1,2,3,4,7,8-HXCDD	ND		0.667	0.1	0.00e+00	3.34e-02	
1,2,3,6,7,8-HXCDD		7.27	0.667	0.1	7.27e-01	7.27e-01	
1,2,3,7,8,9-HXCDD	ND		0.667	0.1	0.00e+00	3.34e-02	
1,2,3,4,6,7,8-HPCDD		17.8	0.667	0.01	1.78e-01	1.78e-01	
OCDD		109	0.667	0.0003	3.27e-02	3.27e-02	
2,3,7,8-TCDF	ND		0.667	0.1	0.00e+00	3.34e-02	
1,2,3,7,8-PECDF	ND		0.667	0.03	0.00e+00	1.00e-02	
2,3,4,7,8-PECDF		4.71	0.667	0.3	1.41e+00	1.41e+00	
1,2,3,4,7,8-HXCDF		6.18	0.667	0.1	6.18e-01	6.18e-01	
1,2,3,6,7,8-HXCDF		4.57	0.667	0.1	4.57e-01	4.57e-01	
1,2,3,7,8,9-HXCDF	ND		0.667	0.1	0.00e+00	3.34e-02	
2,3,4,6,7,8-HXCDF		1.02	0.667	0.1	1.02e-01	1.02e-01	
1,2,3,4,6,7,8-HPCDF		7.12	0.667	0.01	7.12e-02	7.12e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.667	0.01	0.00e+00	3.34e-03	
OCDF	ND		0.667	0.0003	0.00e+00	1.00e-04	
<b>TOTAL TEQ</b>					<b>37.7</b>	<b>37.9</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-9\_TEQ\_SJ1254596\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH609  
Sample Collection:  
02-Nov-2010 14:25

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 27-Jan-2011 Time: 23:33:58

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-10

Sample Size: 0.179 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 14

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 9

% Lipid: 0.78

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		17.6	1.12 (Q)	0.82	1.001
1,2,3,7,8-PECDD <sup>4</sup>		7.45	1.12 (Q)	0.62	1.001
1,2,3,4,7,8-HXCDD	NDR	3.38	1.12 (Q)	1.71	1.000
1,2,3,6,7,8-HXCDD		16.2	1.12 (Q)	1.23	1.000
1,2,3,7,8,9-HXCDD		4.45	1.12 (Q)	1.31	1.000
1,2,3,4,6,7,8-HPCDD	NDR	16.6	1.12 (Q)	0.87	1.000
OCDD		280	1.12 (Q)	0.91	1.000
2,3,7,8-TCDF		1.55	1.12 (Q)	0.88	1.001
1,2,3,7,8-PECDF	ND		1.12 (Q)		
2,3,4,7,8-PECDF		6.56	1.12 (Q)	1.48	1.001
1,2,3,4,7,8-HXCDF		9.10	1.12 (Q)	1.07	1.001
1,2,3,6,7,8-HXCDF		7.15	1.12 (Q)	1.10	1.000
1,2,3,7,8,9-HXCDF	ND		1.12 (Q)		
2,3,4,6,7,8-HXCDF	ND		1.12 (Q)		
1,2,3,4,6,7,8-HPCDF		9.82	1.12 (Q)	0.94	1.000
1,2,3,4,7,8,9-HPCDF	ND		1.12 (Q)		
OCDF	ND		1.12 (Q)		
TOTAL TETRA-DIOXINS		17.6	1.12 (Q)		
TOTAL PENTA-DIOXINS		7.45	1.12 (Q)		
TOTAL HEXA-DIOXINS		20.7	1.12 (Q)		
TOTAL HEPTA-DIOXINS	ND		1.12 (Q)		
TOTAL TETRA-FURANS		1.55	1.12 (Q)		
TOTAL PENTA-FURANS		6.56	1.12 (Q)		
TOTAL HEXA-FURANS		16.3	1.12 (Q)		
TOTAL HEPTA-FURANS		9.82	1.12 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH609

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.179 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:25

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-10

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 14

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		17.6	1.12	1	1.76e+01	1.76e+01	
1,2,3,7,8-PECDD		7.45	1.12	1	7.45e+00	7.45e+00	
1,2,3,4,7,8-HXCDD	ND		1.12	0.1	0.00e+00	5.60e-02	
1,2,3,6,7,8-HXCDD		16.2	1.12	0.1	1.62e+00	1.62e+00	
1,2,3,7,8,9-HXCDD		4.45	1.12	0.1	4.45e-01	4.45e-01	
1,2,3,4,6,7,8-HPCDD	ND		1.12	0.01	0.00e+00	5.60e-03	
OCDD		280	1.12	0.0001	2.80e-02	2.80e-02	
2,3,7,8-TCDF		1.55	1.12	0.1	1.55e-01	1.55e-01	
1,2,3,7,8-PECDF	ND		1.12	0.05	0.00e+00	2.80e-02	
2,3,4,7,8-PECDF		6.56	1.12	0.5	3.28e+00	3.28e+00	
1,2,3,4,7,8-HXCDF		9.10	1.12	0.1	9.10e-01	9.10e-01	
1,2,3,6,7,8-HXCDF		7.15	1.12	0.1	7.15e-01	7.15e-01	
1,2,3,7,8,9-HXCDF	ND		1.12	0.1	0.00e+00	5.60e-02	
2,3,4,6,7,8-HXCDF	ND		1.12	0.1	0.00e+00	5.60e-02	
1,2,3,4,6,7,8-HPCDF		9.82	1.12	0.01	9.82e-02	9.82e-02	
1,2,3,4,7,8,9-HPCDF	ND		1.12	0.01	0.00e+00	5.60e-03	
OCDF	ND		1.12	0.0001	0.00e+00	5.60e-05	
<b>TOTAL TEQ</b>					<b>32.3</b>	<b>32.5</b>	

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		17.6	1.12	1	1.76e+01	1.76e+01	
1,2,3,7,8-PECDD		7.45	1.12	1	7.45e+00	7.45e+00	
1,2,3,4,7,8-HXCDD	ND		1.12	0.1	0.00e+00	5.60e-02	
1,2,3,6,7,8-HXCDD		16.2	1.12	0.1	1.62e+00	1.62e+00	
1,2,3,7,8,9-HXCDD		4.45	1.12	0.1	4.45e-01	4.45e-01	
1,2,3,4,6,7,8-HPCDD	ND		1.12	0.01	0.00e+00	5.60e-03	
OCDD		280	1.12	0.0003	8.40e-02	8.40e-02	
2,3,7,8-TCDF		1.55	1.12	0.1	1.55e-01	1.55e-01	
1,2,3,7,8-PECDF	ND		1.12	0.03	0.00e+00	1.68e-02	
2,3,4,7,8-PECDF		6.56	1.12	0.3	1.97e+00	1.97e+00	
1,2,3,4,7,8-HXCDF		9.10	1.12	0.1	9.10e-01	9.10e-01	
1,2,3,6,7,8-HXCDF		7.15	1.12	0.1	7.15e-01	7.15e-01	
1,2,3,7,8,9-HXCDF	ND		1.12	0.1	0.00e+00	5.60e-02	
2,3,4,6,7,8-HXCDF	ND		1.12	0.1	0.00e+00	5.60e-02	
1,2,3,4,6,7,8-HPCDF		9.82	1.12	0.01	9.82e-02	9.82e-02	
1,2,3,4,7,8,9-HPCDF	ND		1.12	0.01	0.00e+00	5.60e-03	
OCDF	ND		1.12	0.0003	0.00e+00	1.68e-04	
<b>TOTAL TEQ</b>					31.0	31.2	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-10\_TEQ\_SJ1254597\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH610  
Sample Collection:  
02-Nov-2010 14:30

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 00:29:12

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-11

Sample Size: 0.184 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 19

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 9

% Lipid: 0.63

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		13.7	1.09 (Q)	0.80	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	3.79	1.09 (Q)	0.74	1.001
1,2,3,4,7,8-HXCDD	NDR	3.48	1.09 (Q)	1.57	1.000
1,2,3,6,7,8-HXCDD		9.98	1.09 (Q)	1.26	1.000
1,2,3,7,8,9-HXCDD		2.95	1.09 (Q)	1.13	1.000
1,2,3,4,6,7,8-HPCDD		23.8	1.09 (Q)	1.08	1.000
OCDD		212	1.09 (Q)	0.84	1.000
2,3,7,8-TCDF	NDR	1.60	1.09 (Q)	0.94	1.001
1,2,3,7,8-PECDF	ND		1.09 (Q)		
2,3,4,7,8-PECDF		5.56	1.09 (Q)	1.63	1.001
1,2,3,4,7,8-HXCDF		8.46	1.09 (Q)	1.30	1.000
1,2,3,6,7,8-HXCDF		5.57	1.09 (Q)	1.12	1.000
1,2,3,7,8,9-HXCDF	ND		1.09 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.49	1.09 (Q)	1.44	1.000
1,2,3,4,6,7,8-HPCDF		10.3	1.09 (Q)	0.99	1.000
1,2,3,4,7,8,9-HPCDF		1.17	1.09 (Q)	0.96	1.000
OCDF	ND		1.09 (Q)		
TOTAL TETRA-DIOXINS		13.7	1.09 (Q)		
TOTAL PENTA-DIOXINS	ND		1.09 (Q)		
TOTAL HEXA-DIOXINS		12.9	1.09 (Q)		
TOTAL HEPTA-DIOXINS		25.0	1.09 (Q)		
TOTAL TETRA-FURANS	ND		1.09 (Q)		
TOTAL PENTA-FURANS		5.56	1.09 (Q)		
TOTAL HEXA-FURANS		14.0	1.09 (Q)		
TOTAL HEPTA-FURANS		11.4	1.09 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH610

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.184 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:30

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-11

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 15

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		13.7	1.09	1	1.37e+01	1.37e+01	
1,2,3,7,8-PECDD	ND		1.09	1	0.00e+00	5.45e-01	
1,2,3,4,7,8-HXCDD	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,6,7,8-HXCDD		9.98	1.09	0.1	9.98e-01	9.98e-01	
1,2,3,7,8,9-HXCDD		2.95	1.09	0.1	2.95e-01	2.95e-01	
1,2,3,4,6,7,8-HPCDD		23.8	1.09	0.01	2.38e-01	2.38e-01	
OCDD		212	1.09	0.0001	2.12e-02	2.12e-02	
2,3,7,8-TCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,7,8-PECDF	ND		1.09	0.05	0.00e+00	2.73e-02	
2,3,4,7,8-PECDF		5.56	1.09	0.5	2.78e+00	2.78e+00	
1,2,3,4,7,8-HXCDF		8.46	1.09	0.1	8.46e-01	8.46e-01	
1,2,3,6,7,8-HXCDF		5.57	1.09	0.1	5.57e-01	5.57e-01	
1,2,3,7,8,9-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
2,3,4,6,7,8-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,4,6,7,8-HPCDF		10.3	1.09	0.01	1.03e-01	1.03e-01	
1,2,3,4,7,8,9-HPCDF		1.17	1.09	0.01	1.17e-02	1.17e-02	
OCDF	ND		1.09	0.0001	0.00e+00	5.45e-05	
<b>TOTAL TEQ</b>					19.5	20.3	

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		13.7	1.09	1	1.37e+01	1.37e+01	
1,2,3,7,8-PECDD	ND		1.09	1	0.00e+00	5.45e-01	
1,2,3,4,7,8-HXCDD	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,6,7,8-HXCDD		9.98	1.09	0.1	9.98e-01	9.98e-01	
1,2,3,7,8,9-HXCDD		2.95	1.09	0.1	2.95e-01	2.95e-01	
1,2,3,4,6,7,8-HPCDD		23.8	1.09	0.01	2.38e-01	2.38e-01	
OCDD		212	1.09	0.0003	6.36e-02	6.36e-02	
2,3,7,8-TCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,7,8-PECDF	ND		1.09	0.03	0.00e+00	1.64e-02	
2,3,4,7,8-PECDF		5.56	1.09	0.3	1.67e+00	1.67e+00	
1,2,3,4,7,8-HXCDF		8.46	1.09	0.1	8.46e-01	8.46e-01	
1,2,3,6,7,8-HXCDF		5.57	1.09	0.1	5.57e-01	5.57e-01	
1,2,3,7,8,9-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
2,3,4,6,7,8-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,4,6,7,8-HPCDF		10.3	1.09	0.01	1.03e-01	1.03e-01	
1,2,3,4,7,8,9-HPCDF		1.17	1.09	0.01	1.17e-02	1.17e-02	
OCDF	ND		1.09	0.0003	0.00e+00	1.64e-04	
<b>TOTAL TEQ</b>					18.5	19.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-11\_TEQ\_SJ1254598\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]





AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH611  
Sample Collection:  
02-Nov-2010 14:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 01:24:25

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-12

Sample Size: 0.296 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 16

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 9

% Lipid: 0.82

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		56.5	0.670 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		6.53	0.670 (Q)	0.55	1.001
1,2,3,4,7,8-HXCDD		4.79	0.670 (Q)	1.35	1.000
1,2,3,6,7,8-HXCDD		16.3	0.670 (Q)	1.19	1.000
1,2,3,7,8,9-HXCDD		4.29	0.670 (Q)	1.13	1.000
1,2,3,4,6,7,8-HPCDD		33.4	0.670 (Q)	1.04	1.000
OCDD		214	0.670 (Q)	0.86	1.000
2,3,7,8-TCDF	NDR	1.27	0.670 (Q)	0.61	1.001
1,2,3,7,8-PECDF	ND		0.670 (Q)		
2,3,4,7,8-PECDF		7.24	0.670 (Q)	1.41	1.001
1,2,3,4,7,8-HXCDF		10.6	0.670 (Q)	1.23	1.000
1,2,3,6,7,8-HXCDF		6.87	0.670 (Q)	1.19	1.001
1,2,3,7,8,9-HXCDF	ND		0.670 (Q)		
2,3,4,6,7,8-HXCDF		1.44	0.670 (Q)	1.27	1.000
1,2,3,4,6,7,8-HPCDF		13.0	0.670 (Q)	1.09	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.39	0.670 (Q)	1.49	1.001
OCDF	ND		0.670 (Q)		
TOTAL TETRA-DIOXINS		56.5	0.670 (Q)		
TOTAL PENTA-DIOXINS		6.53	0.670 (Q)		
TOTAL HEXA-DIOXINS		25.5	0.670 (Q)		
TOTAL HEPTA-DIOXINS		33.4	0.670 (Q)		
TOTAL TETRA-FURANS	ND		0.670 (Q)		
TOTAL PENTA-FURANS		7.24	0.670 (Q)		
TOTAL HEXA-FURANS		18.9	0.670 (Q)		
TOTAL HEPTA-FURANS		13.0	0.670 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH611

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.296 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-12

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 16

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		56.5	0.670	1	5.65e+01	5.65e+01	
1,2,3,7,8-PECDD		6.53	0.670	1	6.53e+00	6.53e+00	
1,2,3,4,7,8-HXCDD		4.79	0.670	0.1	4.79e-01	4.79e-01	
1,2,3,6,7,8-HXCDD		16.3	0.670	0.1	1.63e+00	1.63e+00	
1,2,3,7,8,9-HXCDD		4.29	0.670	0.1	4.29e-01	4.29e-01	
1,2,3,4,6,7,8-HPCDD		33.4	0.670	0.01	3.34e-01	3.34e-01	
OCDD		214	0.670	0.0001	2.14e-02	2.14e-02	
2,3,7,8-TCDF	ND		0.670	0.1	0.00e+00	3.35e-02	
1,2,3,7,8-PECDF	ND		0.670	0.05	0.00e+00	1.68e-02	
2,3,4,7,8-PECDF		7.24	0.670	0.5	3.62e+00	3.62e+00	
1,2,3,4,7,8-HXCDF		10.6	0.670	0.1	1.06e+00	1.06e+00	
1,2,3,6,7,8-HXCDF		6.87	0.670	0.1	6.87e-01	6.87e-01	
1,2,3,7,8,9-HXCDF	ND		0.670	0.1	0.00e+00	3.35e-02	
2,3,4,6,7,8-HXCDF		1.44	0.670	0.1	1.44e-01	1.44e-01	
1,2,3,4,6,7,8-HPCDF		13.0	0.670	0.01	1.30e-01	1.30e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.670	0.01	0.00e+00	3.35e-03	
OCDF	ND		0.670	0.0001	0.00e+00	3.35e-05	
<b>TOTAL TEQ</b>					<b>71.6</b>	<b>71.7</b>	

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		56.5	0.670	1	5.65e+01	5.65e+01	
1,2,3,7,8-PECDD		6.53	0.670	1	6.53e+00	6.53e+00	
1,2,3,4,7,8-HXCDD		4.79	0.670	0.1	4.79e-01	4.79e-01	
1,2,3,6,7,8-HXCDD		16.3	0.670	0.1	1.63e+00	1.63e+00	
1,2,3,7,8,9-HXCDD		4.29	0.670	0.1	4.29e-01	4.29e-01	
1,2,3,4,6,7,8-HPCDD		33.4	0.670	0.01	3.34e-01	3.34e-01	
OCDD		214	0.670	0.0003	6.42e-02	6.42e-02	
2,3,7,8-TCDF	ND		0.670	0.1	0.00e+00	3.35e-02	
1,2,3,7,8-PECDF	ND		0.670	0.03	0.00e+00	1.01e-02	
2,3,4,7,8-PECDF		7.24	0.670	0.3	2.17e+00	2.17e+00	
1,2,3,4,7,8-HXCDF		10.6	0.670	0.1	1.06e+00	1.06e+00	
1,2,3,6,7,8-HXCDF		6.87	0.670	0.1	6.87e-01	6.87e-01	
1,2,3,7,8,9-HXCDF	ND		0.670	0.1	0.00e+00	3.35e-02	
2,3,4,6,7,8-HXCDF		1.44	0.670	0.1	1.44e-01	1.44e-01	
1,2,3,4,6,7,8-HPCDF		13.0	0.670	0.01	1.30e-01	1.30e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.670	0.01	0.00e+00	3.35e-03	
OCDF	ND		0.670	0.0003	0.00e+00	1.01e-04	
<b>TOTAL TEQ</b>					<b>70.2</b>	<b>70.2</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-12\_TEQ\_SJ1254599\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH612  
Sample Collection:  
02-Nov-2010 14:45

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 02:19:38

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-13

Sample Size: 0.292 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 9

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 9

% Lipid: 0.90

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		79.0	0.688 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		11.8	0.688 (Q)	0.58	1.001
1,2,3,4,7,8-HXCDD		9.97	0.688 (Q)	1.17	1.000
1,2,3,6,7,8-HXCDD		30.1	0.688 (Q)	1.22	1.000
1,2,3,7,8,9-HXCDD		10.7	0.688 (Q)	1.16	1.000
1,2,3,4,6,7,8-HPCDD		72.6	0.688 (Q)	1.00	1.000
OCDD		596	0.688 (Q)	0.87	1.000
2,3,7,8-TCDF		1.80	0.688 (Q)	0.77	1.001
1,2,3,7,8-PECDF		1.88	0.688 (Q)	1.32	1.001
2,3,4,7,8-PECDF		10.9	0.688 (Q)	1.62	1.001
1,2,3,4,7,8-HXCDF		16.1	0.688 (Q)	1.21	1.000
1,2,3,6,7,8-HXCDF		12.1	0.688 (Q)	1.21	1.001
1,2,3,7,8,9-HXCDF	ND		0.688 (Q)		
2,3,4,6,7,8-HXCDF		2.43	0.688 (Q)	1.11	1.001
1,2,3,4,6,7,8-HPCDF		20.2	0.688 (Q)	1.01	1.000
1,2,3,4,7,8,9-HPCDF		1.95	0.688 (Q)	1.04	1.000
OCDF	ND		0.688 (Q)		
TOTAL TETRA-DIOXINS		79.0	0.688 (Q)		
TOTAL PENTA-DIOXINS		11.8	0.688 (Q)		
TOTAL HEXA-DIOXINS		50.8	0.688 (Q)		
TOTAL HEPTA-DIOXINS		72.6	0.688 (Q)		
TOTAL TETRA-FURANS		1.80	0.688 (Q)		
TOTAL PENTA-FURANS		12.8	0.688 (Q)		
TOTAL HEXA-FURANS		30.6	0.688 (Q)		
TOTAL HEPTA-FURANS		22.2	0.688 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH612

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 14:45

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-13

Sample Size: 0.292 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_017A S: 17

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		79.0	0.688	1	7.90e+01	7.90e+01	
1,2,3,7,8-PECDD		11.8	0.688	1	1.18e+01	1.18e+01	
1,2,3,4,7,8-HXCDD		9.97	0.688	0.1	9.97e-01	9.97e-01	
1,2,3,6,7,8-HXCDD		30.1	0.688	0.1	3.01e+00	3.01e+00	
1,2,3,7,8,9-HXCDD		10.7	0.688	0.1	1.07e+00	1.07e+00	
1,2,3,4,6,7,8-HPCDD		72.6	0.688	0.01	7.26e-01	7.26e-01	
OCDD		596	0.688	0.0001	5.96e-02	5.96e-02	
2,3,7,8-TCDF		1.80	0.688	0.1	1.80e-01	1.80e-01	
1,2,3,7,8-PECDF		1.88	0.688	0.05	9.40e-02	9.40e-02	
2,3,4,7,8-PECDF		10.9	0.688	0.5	5.45e+00	5.45e+00	
1,2,3,4,7,8-HXCDF		16.1	0.688	0.1	1.61e+00	1.61e+00	
1,2,3,6,7,8-HXCDF		12.1	0.688	0.1	1.21e+00	1.21e+00	
1,2,3,7,8,9-HXCDF	ND		0.688	0.1	0.00e+00	3.44e-02	
2,3,4,6,7,8-HXCDF		2.43	0.688	0.1	2.43e-01	2.43e-01	
1,2,3,4,6,7,8-HPCDF		20.2	0.688	0.01	2.02e-01	2.02e-01	
1,2,3,4,7,8,9-HPCDF		1.95	0.688	0.01	1.95e-02	1.95e-02	
OCDF	ND		0.688	0.0001	0.00e+00	3.44e-05	
<b>TOTAL TEQ</b>					<b>106</b>	<b>106</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		79.0	0.688	1	7.90e+01	7.90e+01	
1,2,3,7,8-PECDD		11.8	0.688	1	1.18e+01	1.18e+01	
1,2,3,4,7,8-HXCDD		9.97	0.688	0.1	9.97e-01	9.97e-01	
1,2,3,6,7,8-HXCDD		30.1	0.688	0.1	3.01e+00	3.01e+00	
1,2,3,7,8,9-HXCDD		10.7	0.688	0.1	1.07e+00	1.07e+00	
1,2,3,4,6,7,8-HPCDD		72.6	0.688	0.01	7.26e-01	7.26e-01	
OCDD		596	0.688	0.0003	1.79e-01	1.79e-01	
2,3,7,8-TCDF		1.80	0.688	0.1	1.80e-01	1.80e-01	
1,2,3,7,8-PECDF		1.88	0.688	0.03	5.64e-02	5.64e-02	
2,3,4,7,8-PECDF		10.9	0.688	0.3	3.27e+00	3.27e+00	
1,2,3,4,7,8-HXCDF		16.1	0.688	0.1	1.61e+00	1.61e+00	
1,2,3,6,7,8-HXCDF		12.1	0.688	0.1	1.21e+00	1.21e+00	
1,2,3,7,8,9-HXCDF	ND		0.688	0.1	0.00e+00	3.44e-02	
2,3,4,6,7,8-HXCDF		2.43	0.688	0.1	2.43e-01	2.43e-01	
1,2,3,4,6,7,8-HPCDF		20.2	0.688	0.01	2.02e-01	2.02e-01	
1,2,3,4,7,8,9-HPCDF		1.95	0.688	0.01	1.95e-02	1.95e-02	
OCDF	ND		0.688	0.0003	0.00e+00	1.03e-04	
<b>TOTAL TEQ</b>					104	104	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-13\_TEQ\_SJ1254600\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH613  
Sample Collection:  
02-Nov-2010 14:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-14
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.483 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	28-Jan-2011 Time: 03:14:46	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 18
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 9
		<b>% Lipid:</b>	1.50

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		53.3	0.413 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		9.52	0.413 (Q)	0.60	1.001
1,2,3,4,7,8-HXCDD		5.18	0.413 (Q)	1.14	1.000
1,2,3,6,7,8-HXCDD		36.8	0.413 (Q)	1.20	1.000
1,2,3,7,8,9-HXCDD		5.24	0.413 (Q)	1.38	1.000
1,2,3,4,6,7,8-HPCDD		21.6	0.413 (Q)	0.98	1.000
OCDD		370	0.413 (Q)	0.87	1.000
2,3,7,8-TCDF		0.526	0.413 (Q)	0.78	1.001
1,2,3,7,8-PECDF		0.500	0.413 (Q)	1.32	1.001
2,3,4,7,8-PECDF		9.46	0.413 (Q)	1.61	1.001
1,2,3,4,7,8-HXCDF		12.9	0.413 (Q)	1.17	1.000
1,2,3,6,7,8-HXCDF		8.86	0.413 (Q)	1.13	1.001
1,2,3,7,8,9-HXCDF	ND		0.413 (Q)		
2,3,4,6,7,8-HXCDF		0.673	0.413 (Q)	1.27	1.000
1,2,3,4,6,7,8-HPCDF		12.5	0.413 (Q)	1.07	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.41	0.413 (Q)	1.25	1.001
OCDF	NDR	0.666	0.413 (Q)	1.18	1.002
TOTAL TETRA-DIOXINS		53.3	0.413 (Q)		
TOTAL PENTA-DIOXINS		9.52	0.413 (Q)		
TOTAL HEXA-DIOXINS		47.2	0.413 (Q)		
TOTAL HEPTA-DIOXINS		21.6	0.413 (Q)		
TOTAL TETRA-FURANS		0.526	0.413 (Q)		
TOTAL PENTA-FURANS		9.99	0.413 (Q)		
TOTAL HEXA-FURANS		22.3	0.413 (Q)		
TOTAL HEPTA-FURANS		12.5	0.413 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH613

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.483 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 14:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-14

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 18

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		53.3	0.413	1	5.33e+01	5.33e+01	
1,2,3,7,8-PECDD		9.52	0.413	1	9.52e+00	9.52e+00	
1,2,3,4,7,8-HXCDD		5.18	0.413	0.1	5.18e-01	5.18e-01	
1,2,3,6,7,8-HXCDD		36.8	0.413	0.1	3.68e+00	3.68e+00	
1,2,3,7,8,9-HXCDD		5.24	0.413	0.1	5.24e-01	5.24e-01	
1,2,3,4,6,7,8-HPCDD		21.6	0.413	0.01	2.16e-01	2.16e-01	
OCDD		370	0.413	0.0001	3.70e-02	3.70e-02	
2,3,7,8-TCDF		0.526	0.413	0.1	5.26e-02	5.26e-02	
1,2,3,7,8-PECDF		0.500	0.413	0.05	2.50e-02	2.50e-02	
2,3,4,7,8-PECDF		9.46	0.413	0.5	4.73e+00	4.73e+00	
1,2,3,4,7,8-HXCDF		12.9	0.413	0.1	1.29e+00	1.29e+00	
1,2,3,6,7,8-HXCDF		8.86	0.413	0.1	8.86e-01	8.86e-01	
1,2,3,7,8,9-HXCDF	ND		0.413	0.1	0.00e+00	2.07e-02	
2,3,4,6,7,8-HXCDF		0.673	0.413	0.1	6.73e-02	6.73e-02	
1,2,3,4,6,7,8-HPCDF		12.5	0.413	0.01	1.25e-01	1.25e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.413	0.01	0.00e+00	2.07e-03	
OCDF	ND		0.413	0.0001	0.00e+00	2.07e-05	
<b>TOTAL TEQ</b>					75.0	75.0	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		53.3	0.413	1	5.33e+01	5.33e+01	
1,2,3,7,8-PECDD		9.52	0.413	1	9.52e+00	9.52e+00	
1,2,3,4,7,8-HXCDD		5.18	0.413	0.1	5.18e-01	5.18e-01	
1,2,3,6,7,8-HXCDD		36.8	0.413	0.1	3.68e+00	3.68e+00	
1,2,3,7,8,9-HXCDD		5.24	0.413	0.1	5.24e-01	5.24e-01	
1,2,3,4,6,7,8-HPCDD		21.6	0.413	0.01	2.16e-01	2.16e-01	
OCDD		370	0.413	0.0003	1.11e-01	1.11e-01	
2,3,7,8-TCDF		0.526	0.413	0.1	5.26e-02	5.26e-02	
1,2,3,7,8-PECDF		0.500	0.413	0.03	1.50e-02	1.50e-02	
2,3,4,7,8-PECDF		9.46	0.413	0.3	2.84e+00	2.84e+00	
1,2,3,4,7,8-HXCDF		12.9	0.413	0.1	1.29e+00	1.29e+00	
1,2,3,6,7,8-HXCDF		8.86	0.413	0.1	8.86e-01	8.86e-01	
1,2,3,7,8,9-HXCDF	ND		0.413	0.1	0.00e+00	2.07e-02	
2,3,4,6,7,8-HXCDF		0.673	0.413	0.1	6.73e-02	6.73e-02	
1,2,3,4,6,7,8-HPCDF		12.5	0.413	0.01	1.25e-01	1.25e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.413	0.01	0.00e+00	2.07e-03	
OCDF	ND		0.413	0.0003	0.00e+00	6.20e-05	
<b>TOTAL TEQ</b>					<b>73.1</b>	<b>73.2</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-14\_TEQ\_SJ1254601\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH614  
Sample Collection:  
02-Nov-2010 15:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-15
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.244 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	28-Jan-2011 Time: 04:10:00	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 9
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 9
		<b>% Lipid:</b>	0.90

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		327	0.822 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		9.04	0.822 (Q)	0.60	1.001
1,2,3,4,7,8-HXCDD		6.43	0.822 (Q)	1.24	1.000
1,2,3,6,7,8-HXCDD		18.2	0.822 (Q)	1.31	1.000
1,2,3,7,8,9-HXCDD		4.94	0.822 (Q)	1.17	1.000
1,2,3,4,6,7,8-HPCDD		72.1	0.822 (Q)	0.98	1.000
OCDD		596	0.822 (Q)	0.87	1.000
2,3,7,8-TCDF		3.05	0.822 (Q)	0.68	1.001
1,2,3,7,8-PECDF	NDR	1.43	0.822 (Q)	2.13	1.001
2,3,4,7,8-PECDF		10.3	0.822 (Q)	1.35	1.001
1,2,3,4,7,8-HXCDF		19.5	0.822 (Q)	1.31	1.000
1,2,3,6,7,8-HXCDF		13.8	0.822 (Q)	1.20	1.001
1,2,3,7,8,9-HXCDF	NDR	1.22	0.822 (Q)	1.54	1.000
2,3,4,6,7,8-HXCDF		2.07	0.822 (Q)	1.21	1.001
1,2,3,4,6,7,8-HPCDF		20.4	0.822 (Q)	0.99	1.000
1,2,3,4,7,8,9-HPCDF		2.92	0.822 (Q)	1.09	1.000
OCDF		1.22	0.822 (Q)	0.97	1.002
TOTAL TETRA-DIOXINS		327	0.822 (Q)		
TOTAL PENTA-DIOXINS		9.04	0.822 (Q)		
TOTAL HEXA-DIOXINS		29.5	0.822 (Q)		
TOTAL HEPTA-DIOXINS		72.1	0.822 (Q)		
TOTAL TETRA-FURANS		3.05	0.822 (Q)		
TOTAL PENTA-FURANS		10.3	0.822 (Q)		
TOTAL HEXA-FURANS		35.4	0.822 (Q)		
TOTAL HEPTA-FURANS		23.4	0.822 (Q)		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH614

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.244 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:00

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-15

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 19

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		327	0.822	1	3.27e+02	3.27e+02	
1,2,3,7,8-PECDD		9.04	0.822	1	9.04e+00	9.04e+00	
1,2,3,4,7,8-HXCDD		6.43	0.822	0.1	6.43e-01	6.43e-01	
1,2,3,6,7,8-HXCDD		18.2	0.822	0.1	1.82e+00	1.82e+00	
1,2,3,7,8,9-HXCDD		4.94	0.822	0.1	4.94e-01	4.94e-01	
1,2,3,4,6,7,8-HPCDD		72.1	0.822	0.01	7.21e-01	7.21e-01	
OCDD		596	0.822	0.0001	5.96e-02	5.96e-02	
2,3,7,8-TCDF		3.05	0.822	0.1	3.05e-01	3.05e-01	
1,2,3,7,8-PECDF	ND		0.822	0.05	0.00e+00	2.06e-02	
2,3,4,7,8-PECDF		10.3	0.822	0.5	5.15e+00	5.15e+00	
1,2,3,4,7,8-HXCDF		19.5	0.822	0.1	1.95e+00	1.95e+00	
1,2,3,6,7,8-HXCDF		13.8	0.822	0.1	1.38e+00	1.38e+00	
1,2,3,7,8,9-HXCDF	ND		0.822	0.1	0.00e+00	4.11e-02	
2,3,4,6,7,8-HXCDF		2.07	0.822	0.1	2.07e-01	2.07e-01	
1,2,3,4,6,7,8-HPCDF		20.4	0.822	0.01	2.04e-01	2.04e-01	
1,2,3,4,7,8,9-HPCDF		2.92	0.822	0.01	2.92e-02	2.92e-02	
OCDF		1.22	0.822	0.0001	1.22e-04	1.22e-04	
<b>TOTAL TEQ</b>					<b>349</b>	<b>349</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		327	0.822	1	3.27e+02	3.27e+02	
1,2,3,7,8-PECDD		9.04	0.822	1	9.04e+00	9.04e+00	
1,2,3,4,7,8-HXCDD		6.43	0.822	0.1	6.43e-01	6.43e-01	
1,2,3,6,7,8-HXCDD		18.2	0.822	0.1	1.82e+00	1.82e+00	
1,2,3,7,8,9-HXCDD		4.94	0.822	0.1	4.94e-01	4.94e-01	
1,2,3,4,6,7,8-HPCDD		72.1	0.822	0.01	7.21e-01	7.21e-01	
OCDD		596	0.822	0.0003	1.79e-01	1.79e-01	
2,3,7,8-TCDF		3.05	0.822	0.1	3.05e-01	3.05e-01	
1,2,3,7,8-PECDF	ND		0.822	0.03	0.00e+00	1.23e-02	
2,3,4,7,8-PECDF		10.3	0.822	0.3	3.09e+00	3.09e+00	
1,2,3,4,7,8-HXCDF		19.5	0.822	0.1	1.95e+00	1.95e+00	
1,2,3,6,7,8-HXCDF		13.8	0.822	0.1	1.38e+00	1.38e+00	
1,2,3,7,8,9-HXCDF	ND		0.822	0.1	0.00e+00	4.11e-02	
2,3,4,6,7,8-HXCDF		2.07	0.822	0.1	2.07e-01	2.07e-01	
1,2,3,4,6,7,8-HPCDF		20.4	0.822	0.01	2.04e-01	2.04e-01	
1,2,3,4,7,8,9-HPCDF		2.92	0.822	0.01	2.92e-02	2.92e-02	
OCDF		1.22	0.822	0.0003	3.66e-04	3.66e-04	
<b>TOTAL TEQ</b>					347	347	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-15\_TEQ\_SJ1254602\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH615  
Sample Collection:  
02-Nov-2010 15:10

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 05:05:12

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-16

Sample Size: 0.330 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 20

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 9

% Lipid: 1.0

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		42.8	0.610 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		9.82	0.610 (Q)	0.67	1.001
1,2,3,4,7,8-HXCDD		8.29	0.610 (Q)	1.19	1.000
1,2,3,6,7,8-HXCDD		22.4	0.610 (Q)	1.22	1.000
1,2,3,7,8,9-HXCDD		6.17	0.610 (Q)	1.08	1.000
1,2,3,4,6,7,8-HPCDD		42.5	0.610 (Q)	1.07	1.000
OCDD		377	0.610 (Q)	0.88	1.000
2,3,7,8-TCDF		2.36	0.610 (Q)	0.68	1.001
1,2,3,7,8-PECDF	NDR	0.950	0.610 (Q)	3.84	1.001
2,3,4,7,8-PECDF		12.2	0.610 (Q)	1.55	1.001
1,2,3,4,7,8-HXCDF		17.7	0.610 (Q)	1.14	1.000
1,2,3,6,7,8-HXCDF		11.0	0.610 (Q)	1.16	1.000
1,2,3,7,8,9-HXCDF	ND		0.610 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.93	0.610 (Q)	1.59	1.001
1,2,3,4,6,7,8-HPCDF		15.7	0.610 (Q)	0.95	1.000
1,2,3,4,7,8,9-HPCDF		1.34	0.610 (Q)	0.98	1.000
OCDF	ND		0.610 (Q)		
TOTAL TETRA-DIOXINS		42.8	0.610 (Q)		
TOTAL PENTA-DIOXINS		9.82	0.610 (Q)		
TOTAL HEXA-DIOXINS		36.9	0.610 (Q)		
TOTAL HEPTA-DIOXINS		42.5	0.610 (Q)		
TOTAL TETRA-FURANS		3.11	0.610 (Q)		
TOTAL PENTA-FURANS		12.2	0.610 (Q)		
TOTAL HEXA-FURANS		28.8	0.610 (Q)		
TOTAL HEPTA-FURANS		17.1	0.610 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH615

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.330 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:10

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-16

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		42.8	0.610	1	4.28e+01	4.28e+01	
1,2,3,7,8-PECDD		9.82	0.610	1	9.82e+00	9.82e+00	
1,2,3,4,7,8-HXCDD		8.29	0.610	0.1	8.29e-01	8.29e-01	
1,2,3,6,7,8-HXCDD		22.4	0.610	0.1	2.24e+00	2.24e+00	
1,2,3,7,8,9-HXCDD		6.17	0.610	0.1	6.17e-01	6.17e-01	
1,2,3,4,6,7,8-HPCDD		42.5	0.610	0.01	4.25e-01	4.25e-01	
OCDD		377	0.610	0.0001	3.77e-02	3.77e-02	
2,3,7,8-TCDF		2.36	0.610	0.1	2.36e-01	2.36e-01	
1,2,3,7,8-PECDF	ND		0.610	0.05	0.00e+00	1.53e-02	
2,3,4,7,8-PECDF		12.2	0.610	0.5	6.10e+00	6.10e+00	
1,2,3,4,7,8-HXCDF		17.7	0.610	0.1	1.77e+00	1.77e+00	
1,2,3,6,7,8-HXCDF		11.0	0.610	0.1	1.10e+00	1.10e+00	
1,2,3,7,8,9-HXCDF	ND		0.610	0.1	0.00e+00	3.05e-02	
2,3,4,6,7,8-HXCDF	ND		0.610	0.1	0.00e+00	3.05e-02	
1,2,3,4,6,7,8-HPCDF		15.7	0.610	0.01	1.57e-01	1.57e-01	
1,2,3,4,7,8,9-HPCDF		1.34	0.610	0.01	1.34e-02	1.34e-02	
OCDF	ND		0.610	0.0001	0.00e+00	3.05e-05	
<b>TOTAL TEQ</b>					66.1	66.2	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		42.8	0.610	1	4.28e+01	4.28e+01	
1,2,3,7,8-PECDD		9.82	0.610	1	9.82e+00	9.82e+00	
1,2,3,4,7,8-HXCDD		8.29	0.610	0.1	8.29e-01	8.29e-01	
1,2,3,6,7,8-HXCDD		22.4	0.610	0.1	2.24e+00	2.24e+00	
1,2,3,7,8,9-HXCDD		6.17	0.610	0.1	6.17e-01	6.17e-01	
1,2,3,4,6,7,8-HPCDD		42.5	0.610	0.01	4.25e-01	4.25e-01	
OCDD		377	0.610	0.0003	1.13e-01	1.13e-01	
2,3,7,8-TCDF		2.36	0.610	0.1	2.36e-01	2.36e-01	
1,2,3,7,8-PECDF	ND		0.610	0.03	0.00e+00	9.15e-03	
2,3,4,7,8-PECDF		12.2	0.610	0.3	3.66e+00	3.66e+00	
1,2,3,4,7,8-HXCDF		17.7	0.610	0.1	1.77e+00	1.77e+00	
1,2,3,6,7,8-HXCDF		11.0	0.610	0.1	1.10e+00	1.10e+00	
1,2,3,7,8,9-HXCDF	ND		0.610	0.1	0.00e+00	3.05e-02	
2,3,4,6,7,8-HXCDF	ND		0.610	0.1	0.00e+00	3.05e-02	
1,2,3,4,6,7,8-HPCDF		15.7	0.610	0.01	1.57e-01	1.57e-01	
1,2,3,4,7,8,9-HPCDF		1.34	0.610	0.01	1.34e-02	1.34e-02	
OCDF	ND		0.610	0.0003	0.00e+00	9.15e-05	
<b>TOTAL TEQ</b>					63.8	63.9	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-16\_TEQ\_SJ1254603\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH616  
Sample Collection:  
02-Nov-2010 15:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 09:26:03

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-17

Sample Size: 0.266 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 24

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 21

% Lipid: 1.10

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		45.9	0.754 (Q)	0.71	1.001
1,2,3,7,8-PECDD <sup>4</sup>		8.55	0.754 (Q)	0.60	1.001
1,2,3,4,7,8-HXCDD	NDR	8.60	0.754 (Q)	1.59	1.000
1,2,3,6,7,8-HXCDD		24.7	0.754 (Q)	1.18	1.000
1,2,3,7,8,9-HXCDD		8.91	0.754 (Q)	1.31	1.000
1,2,3,4,6,7,8-HPCDD		64.7	0.754 (Q)	1.02	1.000
OCDD		558	0.754 (Q)	0.86	1.000
2,3,7,8-TCDF	NDR	1.12	0.754 (Q)	0.92	1.003
1,2,3,7,8-PECDF	NDR	0.799	0.754 (Q)	0.85	1.001
2,3,4,7,8-PECDF	NDR	7.94	0.754 (Q)	1.27	1.001
1,2,3,4,7,8-HXCDF		12.5	0.754 (Q)	1.08	1.000
1,2,3,6,7,8-HXCDF		8.63	0.754 (Q)	1.11	1.000
1,2,3,7,8,9-HXCDF	ND		0.754 (Q)		
2,3,4,6,7,8-HXCDF		2.16	0.754 (Q)	1.33	1.001
1,2,3,4,6,7,8-HPCDF		12.9	0.754 (Q)	0.89	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.09	0.754 (Q)	1.27	1.000
OCDF	ND		0.754 (Q)		
TOTAL TETRA-DIOXINS		45.9	0.754 (Q)		
TOTAL PENTA-DIOXINS		8.55	0.754 (Q)		
TOTAL HEXA-DIOXINS		33.6	0.754 (Q)		
TOTAL HEPTA-DIOXINS		66.2	0.754 (Q)		
TOTAL TETRA-FURANS	ND		0.754 (Q)		
TOTAL PENTA-FURANS	ND		0.754 (Q)		
TOTAL HEXA-FURANS		23.3	0.754 (Q)		
TOTAL HEPTA-FURANS		12.9	0.754 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH616

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.266 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-17

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 24

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		45.9	0.754	1	4.59e+01	4.59e+01	
1,2,3,7,8-PECDD		8.55	0.754	1	8.55e+00	8.55e+00	
1,2,3,4,7,8-HXCDD	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,6,7,8-HXCDD		24.7	0.754	0.1	2.47e+00	2.47e+00	
1,2,3,7,8,9-HXCDD		8.91	0.754	0.1	8.91e-01	8.91e-01	
1,2,3,4,6,7,8-HPCDD		64.7	0.754	0.01	6.47e-01	6.47e-01	
OCDD		558	0.754	0.0001	5.58e-02	5.58e-02	
2,3,7,8-TCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,7,8-PECDF	ND		0.754	0.05	0.00e+00	1.89e-02	
2,3,4,7,8-PECDF	ND		0.754	0.5	0.00e+00	1.89e-01	
1,2,3,4,7,8-HXCDF		12.5	0.754	0.1	1.25e+00	1.25e+00	
1,2,3,6,7,8-HXCDF		8.63	0.754	0.1	8.63e-01	8.63e-01	
1,2,3,7,8,9-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
2,3,4,6,7,8-HXCDF		2.16	0.754	0.1	2.16e-01	2.16e-01	
1,2,3,4,6,7,8-HPCDF		12.9	0.754	0.01	1.29e-01	1.29e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.754	0.01	0.00e+00	3.77e-03	
OCDF	ND		0.754	0.0001	0.00e+00	3.77e-05	
<b>TOTAL TEQ</b>					<b>61.0</b>	<b>61.3</b>	

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		45.9	0.754	1	4.59e+01	4.59e+01	
1,2,3,7,8-PECDD		8.55	0.754	1	8.55e+00	8.55e+00	
1,2,3,4,7,8-HXCDD	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,6,7,8-HXCDD		24.7	0.754	0.1	2.47e+00	2.47e+00	
1,2,3,7,8,9-HXCDD		8.91	0.754	0.1	8.91e-01	8.91e-01	
1,2,3,4,6,7,8-HPCDD		64.7	0.754	0.01	6.47e-01	6.47e-01	
OCDD		558	0.754	0.0003	1.67e-01	1.67e-01	
2,3,7,8-TCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
1,2,3,7,8-PECDF	ND		0.754	0.03	0.00e+00	1.13e-02	
2,3,4,7,8-PECDF	ND		0.754	0.3	0.00e+00	1.13e-01	
1,2,3,4,7,8-HXCDF		12.5	0.754	0.1	1.25e+00	1.25e+00	
1,2,3,6,7,8-HXCDF		8.63	0.754	0.1	8.63e-01	8.63e-01	
1,2,3,7,8,9-HXCDF	ND		0.754	0.1	0.00e+00	3.77e-02	
2,3,4,6,7,8-HXCDF		2.16	0.754	0.1	2.16e-01	2.16e-01	
1,2,3,4,6,7,8-HPCDF		12.9	0.754	0.01	1.29e-01	1.29e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.754	0.01	0.00e+00	3.77e-03	
OCDF	ND		0.754	0.0003	0.00e+00	1.13e-04	
<b>TOTAL TEQ</b>					<b>61.1</b>	<b>61.3</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-17\_TEQ\_SJ1254487\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH617  
Sample Collection:  
02-Nov-2010 15:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 10:21:18

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-18

Sample Size: 0.222 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 25

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 21

% Lipid: 0.71

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		322	0.903 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		12.1	0.903 (Q)	0.52	1.001
1,2,3,4,7,8-HXCDD		8.37	0.903 (Q)	1.11	1.000
1,2,3,6,7,8-HXCDD		27.8	0.903 (Q)	1.33	1.000
1,2,3,7,8,9-HXCDD		6.98	0.903 (Q)	1.07	1.000
1,2,3,4,6,7,8-HPCDD		57.3	0.903 (Q)	0.93	1.000
OCDD		547	0.903 (Q)	0.88	1.000
2,3,7,8-TCDF	NDR	1.24	0.903 (Q)	0.91	1.001
1,2,3,7,8-PECDF	ND		0.903 (Q)		
2,3,4,7,8-PECDF		9.81	0.903 (Q)	1.68	1.001
1,2,3,4,7,8-HXCDF	NDR	12.9	0.903 (Q)	1.00	1.000
1,2,3,6,7,8-HXCDF		8.58	0.903 (Q)	1.21	1.000
1,2,3,7,8,9-HXCDF	ND		0.903 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.88	0.903 (Q)	1.03	1.000
1,2,3,4,6,7,8-HPCDF		29.6	0.903 (Q)	1.05	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.10	0.903 (Q)	1.94	1.000
OCDF	ND		0.903 (Q)		
TOTAL TETRA-DIOXINS		322	0.903 (Q)		
TOTAL PENTA-DIOXINS		12.1	0.903 (Q)		
TOTAL HEXA-DIOXINS		43.2	0.903 (Q)		
TOTAL HEPTA-DIOXINS		61.4	0.903 (Q)		
TOTAL TETRA-FURANS	ND		0.903 (Q)		
TOTAL PENTA-FURANS		9.81	0.903 (Q)		
TOTAL HEXA-FURANS		8.58	0.903 (Q)		
TOTAL HEPTA-FURANS		29.6	0.903 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH617

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.222 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:20

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-18

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 25

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		322	0.903	1	3.22e+02	3.22e+02	
1,2,3,7,8-PECDD		12.1	0.903	1	1.21e+01	1.21e+01	
1,2,3,4,7,8-HXCDD		8.37	0.903	0.1	8.37e-01	8.37e-01	
1,2,3,6,7,8-HXCDD		27.8	0.903	0.1	2.78e+00	2.78e+00	
1,2,3,7,8,9-HXCDD		6.98	0.903	0.1	6.98e-01	6.98e-01	
1,2,3,4,6,7,8-HPCDD		57.3	0.903	0.01	5.73e-01	5.73e-01	
OCDD		547	0.903	0.0001	5.47e-02	5.47e-02	
2,3,7,8-TCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,7,8-PECDF	ND		0.903	0.05	0.00e+00	2.26e-02	
2,3,4,7,8-PECDF		9.81	0.903	0.5	4.91e+00	4.91e+00	
1,2,3,4,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,6,7,8-HXCDF		8.58	0.903	0.1	8.58e-01	8.58e-01	
1,2,3,7,8,9-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
2,3,4,6,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,4,6,7,8-HPCDF		29.6	0.903	0.01	2.96e-01	2.96e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.903	0.01	0.00e+00	4.52e-03	
OCDF	ND		0.903	0.0001	0.00e+00	4.52e-05	
<b>TOTAL TEQ</b>					<b>345</b>	<b>345</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		322	0.903	1	3.22e+02	3.22e+02	
1,2,3,7,8-PECDD		12.1	0.903	1	1.21e+01	1.21e+01	
1,2,3,4,7,8-HXCDD		8.37	0.903	0.1	8.37e-01	8.37e-01	
1,2,3,6,7,8-HXCDD		27.8	0.903	0.1	2.78e+00	2.78e+00	
1,2,3,7,8,9-HXCDD		6.98	0.903	0.1	6.98e-01	6.98e-01	
1,2,3,4,6,7,8-HPCDD		57.3	0.903	0.01	5.73e-01	5.73e-01	
OCDD		547	0.903	0.0003	1.64e-01	1.64e-01	
2,3,7,8-TCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,7,8-PECDF	ND		0.903	0.03	0.00e+00	1.35e-02	
2,3,4,7,8-PECDF		9.81	0.903	0.3	2.94e+00	2.94e+00	
1,2,3,4,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,6,7,8-HXCDF		8.58	0.903	0.1	8.58e-01	8.58e-01	
1,2,3,7,8,9-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
2,3,4,6,7,8-HXCDF	ND		0.903	0.1	0.00e+00	4.52e-02	
1,2,3,4,6,7,8-HPCDF		29.6	0.903	0.01	2.96e-01	2.96e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.903	0.01	0.00e+00	4.52e-03	
OCDF	ND		0.903	0.0003	0.00e+00	1.35e-04	
<b>TOTAL TEQ</b>					343	343	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-18\_TEQ\_SJ1254488\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH618  
Sample Collection:  
02-Nov-2010 15:30

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-19
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.304 g (lipid)
<b>Extraction Date:</b>	06-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	28-Jan-2011 Time: 11:16:32	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 26
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_016C S: 9
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 21
		<b>% Lipid:</b>	0.98

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		67.8	0.654 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		8.37	0.654 (Q)	0.62	1.001
1,2,3,4,7,8-HXCDD		5.71	0.654 (Q)	1.22	1.000
1,2,3,6,7,8-HXCDD		19.5	0.654 (Q)	1.16	1.000
1,2,3,7,8,9-HXCDD	NDR	5.23	0.654 (Q)	0.98	1.000
1,2,3,4,6,7,8-HPCDD		42.4	0.654 (Q)	1.02	1.000
OCDD		331	0.654 (Q)	0.87	1.000
2,3,7,8-TCDF		1.53	0.654 (Q)	0.70	1.001
1,2,3,7,8-PECDF	NDR	0.889	0.654 (Q)	2.30	1.001
2,3,4,7,8-PECDF		8.62	0.654 (Q)	1.42	1.001
1,2,3,4,7,8-HXCDF	NDR	12.9	0.654 (Q)	1.01	1.000
1,2,3,6,7,8-HXCDF		9.12	0.654 (Q)	1.16	1.001
1,2,3,7,8,9-HXCDF	ND		0.654 (Q)		
2,3,4,6,7,8-HXCDF		1.44	0.654 (Q)	1.28	1.000
1,2,3,4,6,7,8-HPCDF		14.2	0.654 (Q)	0.95	1.000
1,2,3,4,7,8,9-HPCDF		1.44	0.654 (Q)	1.13	1.000
OCDF	ND		0.654 (Q)		
TOTAL TETRA-DIOXINS		67.8	0.654 (Q)		
TOTAL PENTA-DIOXINS		8.37	0.654 (Q)		
TOTAL HEXA-DIOXINS		25.2	0.654 (Q)		
TOTAL HEPTA-DIOXINS		42.4	0.654 (Q)		
TOTAL TETRA-FURANS		1.53	0.654 (Q)		
TOTAL PENTA-FURANS		8.62	0.654 (Q)		
TOTAL HEXA-FURANS		10.5	0.654 (Q)		
TOTAL HEPTA-FURANS		15.6	0.654 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH618

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.304 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:30

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-19

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 26

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		67.8	0.654	1	6.78e+01	6.78e+01	
1,2,3,7,8-PECDD		8.37	0.654	1	8.37e+00	8.37e+00	
1,2,3,4,7,8-HXCDD		5.71	0.654	0.1	5.71e-01	5.71e-01	
1,2,3,6,7,8-HXCDD		19.5	0.654	0.1	1.95e+00	1.95e+00	
1,2,3,7,8,9-HXCDD	ND		0.654	0.1	0.00e+00	3.27e-02	
1,2,3,4,6,7,8-HPCDD		42.4	0.654	0.01	4.24e-01	4.24e-01	
OCDD		331	0.654	0.0001	3.31e-02	3.31e-02	
2,3,7,8-TCDF		1.53	0.654	0.1	1.53e-01	1.53e-01	
1,2,3,7,8-PECDF	ND		0.654	0.05	0.00e+00	1.64e-02	
2,3,4,7,8-PECDF		8.62	0.654	0.5	4.31e+00	4.31e+00	
1,2,3,4,7,8-HXCDF	ND		0.654	0.1	0.00e+00	3.27e-02	
1,2,3,6,7,8-HXCDF		9.12	0.654	0.1	9.12e-01	9.12e-01	
1,2,3,7,8,9-HXCDF	ND		0.654	0.1	0.00e+00	3.27e-02	
2,3,4,6,7,8-HXCDF		1.44	0.654	0.1	1.44e-01	1.44e-01	
1,2,3,4,6,7,8-HPCDF		14.2	0.654	0.01	1.42e-01	1.42e-01	
1,2,3,4,7,8,9-HPCDF		1.44	0.654	0.01	1.44e-02	1.44e-02	
OCDF	ND		0.654	0.0001	0.00e+00	3.27e-05	
<b>TOTAL TEQ</b>					84.8	84.9	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		67.8	0.654	1	6.78e+01	6.78e+01	
1,2,3,7,8-PECDD		8.37	0.654	1	8.37e+00	8.37e+00	
1,2,3,4,7,8-HXCDD		5.71	0.654	0.1	5.71e-01	5.71e-01	
1,2,3,6,7,8-HXCDD		19.5	0.654	0.1	1.95e+00	1.95e+00	
1,2,3,7,8,9-HXCDD	ND		0.654	0.1	0.00e+00	3.27e-02	
1,2,3,4,6,7,8-HPCDD		42.4	0.654	0.01	4.24e-01	4.24e-01	
OCDD		331	0.654	0.0003	9.93e-02	9.93e-02	
2,3,7,8-TCDF		1.53	0.654	0.1	1.53e-01	1.53e-01	
1,2,3,7,8-PECDF	ND		0.654	0.03	0.00e+00	9.81e-03	
2,3,4,7,8-PECDF		8.62	0.654	0.3	2.59e+00	2.59e+00	
1,2,3,4,7,8-HXCDF	ND		0.654	0.1	0.00e+00	3.27e-02	
1,2,3,6,7,8-HXCDF		9.12	0.654	0.1	9.12e-01	9.12e-01	
1,2,3,7,8,9-HXCDF	ND		0.654	0.1	0.00e+00	3.27e-02	
2,3,4,6,7,8-HXCDF		1.44	0.654	0.1	1.44e-01	1.44e-01	
1,2,3,4,6,7,8-HPCDF		14.2	0.654	0.01	1.42e-01	1.42e-01	
1,2,3,4,7,8,9-HPCDF		1.44	0.654	0.01	1.44e-02	1.44e-02	
OCDF	ND		0.654	0.0003	0.00e+00	9.81e-05	
<b>TOTAL TEQ</b>					83.2	83.3	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-19\_TEQ\_SJ1254489\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]





AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH619  
Sample Collection:  
02-Nov-2010 15:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 12:11:45

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-20

Sample Size: 0.282 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 27

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 21

% Lipid: 0.80

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		38.9	0.711 (Q)	0.73	1.001
1,2,3,7,8-PECDD <sup>4</sup>		5.19	0.711 (Q)	0.60	1.001
1,2,3,4,7,8-HXCDD		3.29	0.711 (Q)	1.34	1.000
1,2,3,6,7,8-HXCDD		12.3	0.711 (Q)	1.20	1.000
1,2,3,7,8,9-HXCDD		3.27	0.711 (Q)	1.16	1.000
1,2,3,4,6,7,8-HPCDD		17.5	0.711 (Q)	0.94	1.000
OCDD		223	0.711 (Q)	0.89	1.000
2,3,7,8-TCDF	NDR	1.01	0.711 (Q)	0.50	1.001
1,2,3,7,8-PECDF	ND		0.711 (Q)		
2,3,4,7,8-PECDF		5.75	0.711 (Q)	1.52	1.001
1,2,3,4,7,8-HXCDF		9.01	0.711 (Q)	1.14	1.000
1,2,3,6,7,8-HXCDF		5.59	0.711 (Q)	1.23	1.001
1,2,3,7,8,9-HXCDF	ND		0.711 (Q)		
2,3,4,6,7,8-HXCDF	NDR	0.799	0.711 (Q)	1.04	1.001
1,2,3,4,6,7,8-HPCDF		12.0	0.711 (Q)	0.93	1.000
1,2,3,4,7,8,9-HPCDF		1.04	0.711 (Q)	0.90	1.000
OCDF	ND		0.711 (Q)		
TOTAL TETRA-DIOXINS		38.9	0.711 (Q)		
TOTAL PENTA-DIOXINS		5.19	0.711 (Q)		
TOTAL HEXA-DIOXINS		18.8	0.711 (Q)		
TOTAL HEPTA-DIOXINS		17.5	0.711 (Q)		
TOTAL TETRA-FURANS	ND		0.711 (Q)		
TOTAL PENTA-FURANS		5.75	0.711 (Q)		
TOTAL HEXA-FURANS		14.6	0.711 (Q)		
TOTAL HEPTA-FURANS		13.1	0.711 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH619

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.282 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-20

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 27

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		38.9	0.711	1	3.89e+01	3.89e+01	
1,2,3,7,8-PECDD		5.19	0.711	1	5.19e+00	5.19e+00	
1,2,3,4,7,8-HXCDD		3.29	0.711	0.1	3.29e-01	3.29e-01	
1,2,3,6,7,8-HXCDD		12.3	0.711	0.1	1.23e+00	1.23e+00	
1,2,3,7,8,9-HXCDD		3.27	0.711	0.1	3.27e-01	3.27e-01	
1,2,3,4,6,7,8-HPCDD		17.5	0.711	0.01	1.75e-01	1.75e-01	
OCDD		223	0.711	0.0001	2.23e-02	2.23e-02	
2,3,7,8-TCDF	ND		0.711	0.1	0.00e+00	3.56e-02	
1,2,3,7,8-PECDF	ND		0.711	0.05	0.00e+00	1.78e-02	
2,3,4,7,8-PECDF		5.75	0.711	0.5	2.88e+00	2.88e+00	
1,2,3,4,7,8-HXCDF		9.01	0.711	0.1	9.01e-01	9.01e-01	
1,2,3,6,7,8-HXCDF		5.59	0.711	0.1	5.59e-01	5.59e-01	
1,2,3,7,8,9-HXCDF	ND		0.711	0.1	0.00e+00	3.56e-02	
2,3,4,6,7,8-HXCDF	ND		0.711	0.1	0.00e+00	3.56e-02	
1,2,3,4,6,7,8-HPCDF		12.0	0.711	0.01	1.20e-01	1.20e-01	
1,2,3,4,7,8,9-HPCDF		1.04	0.711	0.01	1.04e-02	1.04e-02	
OCDF	ND		0.711	0.0001	0.00e+00	3.56e-05	
<b>TOTAL TEQ</b>					50.6	50.8	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		38.9	0.711	1	3.89e+01	3.89e+01	
1,2,3,7,8-PECDD		5.19	0.711	1	5.19e+00	5.19e+00	
1,2,3,4,7,8-HXCDD		3.29	0.711	0.1	3.29e-01	3.29e-01	
1,2,3,6,7,8-HXCDD		12.3	0.711	0.1	1.23e+00	1.23e+00	
1,2,3,7,8,9-HXCDD		3.27	0.711	0.1	3.27e-01	3.27e-01	
1,2,3,4,6,7,8-HPCDD		17.5	0.711	0.01	1.75e-01	1.75e-01	
OCDD		223	0.711	0.0003	6.69e-02	6.69e-02	
2,3,7,8-TCDF	ND		0.711	0.1	0.00e+00	3.56e-02	
1,2,3,7,8-PECDF	ND		0.711	0.03	0.00e+00	1.07e-02	
2,3,4,7,8-PECDF		5.75	0.711	0.3	1.73e+00	1.73e+00	
1,2,3,4,7,8-HXCDF		9.01	0.711	0.1	9.01e-01	9.01e-01	
1,2,3,6,7,8-HXCDF		5.59	0.711	0.1	5.59e-01	5.59e-01	
1,2,3,7,8,9-HXCDF	ND		0.711	0.1	0.00e+00	3.56e-02	
2,3,4,6,7,8-HXCDF	ND		0.711	0.1	0.00e+00	3.56e-02	
1,2,3,4,6,7,8-HPCDF		12.0	0.711	0.01	1.20e-01	1.20e-01	
1,2,3,4,7,8,9-HPCDF		1.04	0.711	0.01	1.04e-02	1.04e-02	
OCDF	ND		0.711	0.0003	0.00e+00	1.07e-04	
<b>TOTAL TEQ</b>					49.5	49.7	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-20\_TEQ\_SJ1254490\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 19

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH620  
Sample Collection:  
02-Nov-2010 15:45

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 06-Jan-2011

Analysis Date: 28-Jan-2011 Time: 13:06:57

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-21

Sample Size: 0.220 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 28

Blank Data Filename: DX1M\_016C S: 9

Cal. Ver. Data Filename: DX1M\_017A S: 21

% Lipid: 0.70

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		32.4	0.913 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		7.26	0.913 (Q)	0.61	1.001
1,2,3,4,7,8-HXCDD		4.08	0.913 (Q)	1.21	1.000
1,2,3,6,7,8-HXCDD		15.3	0.913 (Q)	1.25	1.000
1,2,3,7,8,9-HXCDD		3.42	0.913 (Q)	1.42	1.000
1,2,3,4,6,7,8-HPCDD		20.4	0.913 (Q)	1.01	1.000
OCDD		202	0.913 (Q)	0.87	1.000
2,3,7,8-TCDF	ND		0.913 (Q)		
1,2,3,7,8-PECDF	ND		0.913 (Q)		
2,3,4,7,8-PECDF		6.00	0.913 (Q)	1.48	1.001
1,2,3,4,7,8-HXCDF		8.87	0.913 (Q)	1.18	1.000
1,2,3,6,7,8-HXCDF		5.19	0.913 (Q)	1.31	1.000
1,2,3,7,8,9-HXCDF	ND		0.913 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.913 (Q)		
1,2,3,4,6,7,8-HPCDF		11.3	0.913 (Q)	1.01	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.38	0.913 (Q)	1.85	1.000
OCDF	ND		0.913 (Q)		
TOTAL TETRA-DIOXINS		32.4	0.913 (Q)		
TOTAL PENTA-DIOXINS		7.26	0.913 (Q)		
TOTAL HEXA-DIOXINS		22.7	0.913 (Q)		
TOTAL HEPTA-DIOXINS		20.4	0.913 (Q)		
TOTAL TETRA-FURANS		1.10	0.913 (Q)		
TOTAL PENTA-FURANS		6.00	0.913 (Q)		
TOTAL HEXA-FURANS		14.1	0.913 (Q)		
TOTAL HEPTA-FURANS		11.3	0.913 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 19

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH620

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.220 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:45

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-21

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 28

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		32.4	0.913	1	3.24e+01	3.24e+01	
1,2,3,7,8-PECDD		7.26	0.913	1	7.26e+00	7.26e+00	
1,2,3,4,7,8-HXCDD		4.08	0.913	0.1	4.08e-01	4.08e-01	
1,2,3,6,7,8-HXCDD		15.3	0.913	0.1	1.53e+00	1.53e+00	
1,2,3,7,8,9-HXCDD		3.42	0.913	0.1	3.42e-01	3.42e-01	
1,2,3,4,6,7,8-HPCDD		20.4	0.913	0.01	2.04e-01	2.04e-01	
OCDD		202	0.913	0.0001	2.02e-02	2.02e-02	
2,3,7,8-TCDF	ND		0.913	0.1	0.00e+00	4.57e-02	
1,2,3,7,8-PECDF	ND		0.913	0.05	0.00e+00	2.28e-02	
2,3,4,7,8-PECDF		6.00	0.913	0.5	3.00e+00	3.00e+00	
1,2,3,4,7,8-HXCDF		8.87	0.913	0.1	8.87e-01	8.87e-01	
1,2,3,6,7,8-HXCDF		5.19	0.913	0.1	5.19e-01	5.19e-01	
1,2,3,7,8,9-HXCDF	ND		0.913	0.1	0.00e+00	4.57e-02	
2,3,4,6,7,8-HXCDF	ND		0.913	0.1	0.00e+00	4.57e-02	
1,2,3,4,6,7,8-HPCDF		11.3	0.913	0.01	1.13e-01	1.13e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.913	0.01	0.00e+00	4.57e-03	
OCDF	ND		0.913	0.0001	0.00e+00	4.57e-05	
<b>TOTAL TEQ</b>					<b>46.7</b>	<b>46.8</b>	

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		32.4	0.913	1	3.24e+01	3.24e+01	
1,2,3,7,8-PECDD		7.26	0.913	1	7.26e+00	7.26e+00	
1,2,3,4,7,8-HXCDD		4.08	0.913	0.1	4.08e-01	4.08e-01	
1,2,3,6,7,8-HXCDD		15.3	0.913	0.1	1.53e+00	1.53e+00	
1,2,3,7,8,9-HXCDD		3.42	0.913	0.1	3.42e-01	3.42e-01	
1,2,3,4,6,7,8-HPCDD		20.4	0.913	0.01	2.04e-01	2.04e-01	
OCDD		202	0.913	0.0003	6.06e-02	6.06e-02	
2,3,7,8-TCDF	ND		0.913	0.1	0.00e+00	4.57e-02	
1,2,3,7,8-PECDF	ND		0.913	0.03	0.00e+00	1.37e-02	
2,3,4,7,8-PECDF		6.00	0.913	0.3	1.80e+00	1.80e+00	
1,2,3,4,7,8-HXCDF		8.87	0.913	0.1	8.87e-01	8.87e-01	
1,2,3,6,7,8-HXCDF		5.19	0.913	0.1	5.19e-01	5.19e-01	
1,2,3,7,8,9-HXCDF	ND		0.913	0.1	0.00e+00	4.57e-02	
2,3,4,6,7,8-HXCDF	ND		0.913	0.1	0.00e+00	4.57e-02	
1,2,3,4,6,7,8-HPCDF		11.3	0.913	0.01	1.13e-01	1.13e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.913	0.01	0.00e+00	4.57e-03	
OCDF	ND		0.913	0.0003	0.00e+00	1.37e-04	
<b>TOTAL TEQ</b>					45.5	45.7	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 11-Feb-2011 13:51:45; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-21\_TEQ\_SJ1254491\_Lipid.html; Workgroup: WG34730; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH621  
Sample Collection:  
02-Nov-2010 15:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-22 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.434 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 17:20:53	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 35
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 28
		<b>% Lipid:</b>	1.20

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		95.8	0.458 (Q)	0.79	1.001
1,2,3,7,8-PECDD <sup>4</sup>		7.66	0.458 (Q)	0.61	1.001
1,2,3,4,7,8-HXCDD		4.75	0.458 (Q)	1.14	1.000
1,2,3,6,7,8-HXCDD		14.2	0.458 (Q)	1.14	1.000
1,2,3,7,8,9-HXCDD		3.19	0.458 (Q)	1.38	1.001
1,2,3,4,6,7,8-HPCDD		26.6	0.458 (Q)	0.97	1.000
OCDD		237	0.458 (Q)	0.85	1.000
2,3,7,8-TCDF	G	1.01	0.458 (Q)	0.67	1.001
1,2,3,7,8-PECDF	NDR	0.666	0.458 (Q)	0.98	1.002
2,3,4,7,8-PECDF		6.61	0.458 (Q)	1.49	1.001
1,2,3,4,7,8-HXCDF		8.49	0.458 (Q)	1.22	1.000
1,2,3,6,7,8-HXCDF		4.92	0.458 (Q)	1.42	1.000
1,2,3,7,8,9-HXCDF	ND		0.458 (Q)		
2,3,4,6,7,8-HXCDF		0.958	0.458 (Q)	1.16	1.000
1,2,3,4,6,7,8-HPCDF		7.68	0.458 (Q)	1.19	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.09	0.458 (Q)	0.88	1.001
OCDF		0.791	0.458 (Q)	0.86	1.001
TOTAL TETRA-DIOXINS		95.8	0.458 (Q)		
TOTAL PENTA-DIOXINS		7.66	0.458 (Q)		
TOTAL HEXA-DIOXINS		22.2	0.458 (Q)		
TOTAL HEPTA-DIOXINS		28.6	0.458 (Q)		
TOTAL TETRA-FURANS		1.59	0.458 (Q)		
TOTAL PENTA-FURANS		6.61	0.458 (Q)		
TOTAL HEXA-FURANS		14.4	0.458 (Q)		
TOTAL HEPTA-FURANS		7.68	0.458 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH621

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.434 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 15:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-22 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 35

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		95.8	0.458	1	9.58e+01	9.58e+01	
1,2,3,7,8-PECDD		7.66	0.458	1	7.66e+00	7.66e+00	
1,2,3,4,7,8-HXCDD		4.75	0.458	0.1	4.75e-01	4.75e-01	
1,2,3,6,7,8-HXCDD		14.2	0.458	0.1	1.42e+00	1.42e+00	
1,2,3,7,8,9-HXCDD		3.19	0.458	0.1	3.19e-01	3.19e-01	
1,2,3,4,6,7,8-HPCDD		26.6	0.458	0.01	2.66e-01	2.66e-01	
OCDD		237	0.458	0.0001	2.37e-02	2.37e-02	
2,3,7,8-TCDF		1.01	0.458	0.1	1.01e-01	1.01e-01	
1,2,3,7,8-PECDF	ND		0.458	0.05	0.00e+00	1.15e-02	
2,3,4,7,8-PECDF		6.61	0.458	0.5	3.31e+00	3.31e+00	
1,2,3,4,7,8-HXCDF		8.49	0.458	0.1	8.49e-01	8.49e-01	
1,2,3,6,7,8-HXCDF		4.92	0.458	0.1	4.92e-01	4.92e-01	
1,2,3,7,8,9-HXCDF	ND		0.458	0.1	0.00e+00	2.29e-02	
2,3,4,6,7,8-HXCDF		0.958	0.458	0.1	9.58e-02	9.58e-02	
1,2,3,4,6,7,8-HPCDF		7.68	0.458	0.01	7.68e-02	7.68e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.458	0.01	0.00e+00	2.29e-03	
OCDF		0.791	0.458	0.0001	7.91e-05	7.91e-05	
<b>TOTAL TEQ</b>					111	111	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		95.8	0.458	1	9.58e+01	9.58e+01	
1,2,3,7,8-PECDD		7.66	0.458	1	7.66e+00	7.66e+00	
1,2,3,4,7,8-HXCDD		4.75	0.458	0.1	4.75e-01	4.75e-01	
1,2,3,6,7,8-HXCDD		14.2	0.458	0.1	1.42e+00	1.42e+00	
1,2,3,7,8,9-HXCDD		3.19	0.458	0.1	3.19e-01	3.19e-01	
1,2,3,4,6,7,8-HPCDD		26.6	0.458	0.01	2.66e-01	2.66e-01	
OCDD		237	0.458	0.0003	7.11e-02	7.11e-02	
2,3,7,8-TCDF		1.01	0.458	0.1	1.01e-01	1.01e-01	
1,2,3,7,8-PECDF	ND		0.458	0.03	0.00e+00	6.87e-03	
2,3,4,7,8-PECDF		6.61	0.458	0.3	1.98e+00	1.98e+00	
1,2,3,4,7,8-HXCDF		8.49	0.458	0.1	8.49e-01	8.49e-01	
1,2,3,6,7,8-HXCDF		4.92	0.458	0.1	4.92e-01	4.92e-01	
1,2,3,7,8,9-HXCDF	ND		0.458	0.1	0.00e+00	2.29e-02	
2,3,4,6,7,8-HXCDF		0.958	0.458	0.1	9.58e-02	9.58e-02	
1,2,3,4,6,7,8-HPCDF		7.68	0.458	0.01	7.68e-02	7.68e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.458	0.01	0.00e+00	2.29e-03	
OCDF		0.791	0.458	0.0003	2.37e-04	2.37e-04	
<b>TOTAL TEQ</b>					110	110	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-22\_TEQ\_SJ1260336\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH622  
Sample Collection:  
02-Nov-2010 16:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-23
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.192 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	28-Jan-2011 Time: 19:55:57	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 35
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 29
		<b>% Lipid:</b>	0.71

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		274	1.04 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		14.9	1.04 (Q)	0.65	1.001
1,2,3,4,7,8-HXCDD		9.50	1.04 (Q)	1.42	1.000
1,2,3,6,7,8-HXCDD		39.1	1.04 (Q)	1.32	1.000
1,2,3,7,8,9-HXCDD		9.45	1.04 (Q)	1.42	1.001
1,2,3,4,6,7,8-HPCDD		77.8	1.04 (Q)	1.01	1.000
OCDD		663	1.04 (Q)	0.84	1.000
2,3,7,8-TCDF	NDR	2.64	1.04 (Q)	1.01	1.001
1,2,3,7,8-PECDF		1.80	1.04 (Q)	1.36	1.001
2,3,4,7,8-PECDF		12.2	1.04 (Q)	1.77	1.001
1,2,3,4,7,8-HXCDF		20.4	1.04 (Q)	1.17	1.001
1,2,3,6,7,8-HXCDF		15.1	1.04 (Q)	1.16	1.000
1,2,3,7,8,9-HXCDF	ND		1.04 (Q)		
2,3,4,6,7,8-HXCDF	NDR	2.30	1.04 (Q)	0.96	1.000
1,2,3,4,6,7,8-HPCDF		31.9	1.04 (Q)	1.11	1.001
1,2,3,4,7,8,9-HPCDF		3.16	1.04 (Q)	1.15	1.000
OCDF	NDR	1.73	1.04 (Q)	1.10	1.002
TOTAL TETRA-DIOXINS		274	1.04 (Q)		
TOTAL PENTA-DIOXINS		14.9	1.04 (Q)		
TOTAL HEXA-DIOXINS		57.9	1.04 (Q)		
TOTAL HEPTA-DIOXINS		77.8	1.04 (Q)		
TOTAL TETRA-FURANS	ND		1.04 (Q)		
TOTAL PENTA-FURANS		14.0	1.04 (Q)		
TOTAL HEXA-FURANS		35.5	1.04 (Q)		
TOTAL HEPTA-FURANS		35.0	1.04 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH622

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.192 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 16:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-23

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 35

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		274	1.04	1	2.74e+02	2.74e+02	
1,2,3,7,8-PECDD		14.9	1.04	1	1.49e+01	1.49e+01	
1,2,3,4,7,8-HXCDD		9.50	1.04	0.1	9.50e-01	9.50e-01	
1,2,3,6,7,8-HXCDD		39.1	1.04	0.1	3.91e+00	3.91e+00	
1,2,3,7,8,9-HXCDD		9.45	1.04	0.1	9.45e-01	9.45e-01	
1,2,3,4,6,7,8-HPCDD		77.8	1.04	0.01	7.78e-01	7.78e-01	
OCDD		663	1.04	0.0001	6.63e-02	6.63e-02	
2,3,7,8-TCDF	ND		1.04	0.1	0.00e+00	5.20e-02	
1,2,3,7,8-PECDF		1.80	1.04	0.05	9.00e-02	9.00e-02	
2,3,4,7,8-PECDF		12.2	1.04	0.5	6.10e+00	6.10e+00	
1,2,3,4,7,8-HXCDF		20.4	1.04	0.1	2.04e+00	2.04e+00	
1,2,3,6,7,8-HXCDF		15.1	1.04	0.1	1.51e+00	1.51e+00	
1,2,3,7,8,9-HXCDF	ND		1.04	0.1	0.00e+00	5.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.04	0.1	0.00e+00	5.20e-02	
1,2,3,4,6,7,8-HPCDF		31.9	1.04	0.01	3.19e-01	3.19e-01	
1,2,3,4,7,8,9-HPCDF		3.16	1.04	0.01	3.16e-02	3.16e-02	
OCDF	ND		1.04	0.0001	0.00e+00	5.20e-05	
<b>TOTAL TEQ</b>					306	306	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		274	1.04	1	2.74e+02	2.74e+02	
1,2,3,7,8-PECDD		14.9	1.04	1	1.49e+01	1.49e+01	
1,2,3,4,7,8-HXCDD		9.50	1.04	0.1	9.50e-01	9.50e-01	
1,2,3,6,7,8-HXCDD		39.1	1.04	0.1	3.91e+00	3.91e+00	
1,2,3,7,8,9-HXCDD		9.45	1.04	0.1	9.45e-01	9.45e-01	
1,2,3,4,6,7,8-HPCDD		77.8	1.04	0.01	7.78e-01	7.78e-01	
OCDD		663	1.04	0.0003	1.99e-01	1.99e-01	
2,3,7,8-TCDF	ND		1.04	0.1	0.00e+00	5.20e-02	
1,2,3,7,8-PECDF		1.80	1.04	0.03	5.40e-02	5.40e-02	
2,3,4,7,8-PECDF		12.2	1.04	0.3	3.66e+00	3.66e+00	
1,2,3,4,7,8-HXCDF		20.4	1.04	0.1	2.04e+00	2.04e+00	
1,2,3,6,7,8-HXCDF		15.1	1.04	0.1	1.51e+00	1.51e+00	
1,2,3,7,8,9-HXCDF	ND		1.04	0.1	0.00e+00	5.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.04	0.1	0.00e+00	5.20e-02	
1,2,3,4,6,7,8-HPCDF		31.9	1.04	0.01	3.19e-01	3.19e-01	
1,2,3,4,7,8,9-HPCDF		3.16	1.04	0.01	3.16e-02	3.16e-02	
OCDF	ND		1.04	0.0003	0.00e+00	1.56e-04	
<b>TOTAL TEQ</b>					303	303	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-23\_TEQ\_SJ1253119\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH623  
Sample Collection:  
02-Nov-2010 16:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-24
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.279 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	28-Jan-2011 Time: 20:51:09	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	<b>DX1M_017A S: 36</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 29
		<b>% Lipid:</b>	0.89

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		67.7	0.719 (Q)	0.73	1.001
1,2,3,7,8-PECDD <sup>4</sup>		7.60	0.719 (Q)	0.60	1.001
1,2,3,4,7,8-HXCDD		4.15	0.719 (Q)	1.13	1.000
1,2,3,6,7,8-HXCDD		15.9	0.719 (Q)	1.26	1.000
1,2,3,7,8,9-HXCDD		3.80	0.719 (Q)	1.29	1.000
1,2,3,4,6,7,8-HPCDD		14.1	0.719 (Q)	1.04	1.000
OCDD		211	0.719 (Q)	0.87	1.000
2,3,7,8-TCDF		1.40	0.719 (Q)	0.84	1.001
1,2,3,7,8-PECDF	ND		0.719 (Q)		
2,3,4,7,8-PECDF		8.15	0.719 (Q)	1.37	1.001
1,2,3,4,7,8-HXCDF		10.7	0.719 (Q)	1.24	1.000
1,2,3,6,7,8-HXCDF		8.01	0.719 (Q)	1.07	1.000
1,2,3,7,8,9-HXCDF	ND		0.719 (Q)		
2,3,4,6,7,8-HXCDF	NDR	0.910	0.719 (Q)	1.70	1.000
1,2,3,4,6,7,8-HPCDF	NDR	11.9	0.719 (Q)	0.86	1.000
1,2,3,4,7,8,9-HPCDF		1.01	0.719 (Q)	1.16	1.000
OCDF	ND		0.719 (Q)		
TOTAL TETRA-DIOXINS		67.7	0.719 (Q)		
TOTAL PENTA-DIOXINS		7.60	0.719 (Q)		
TOTAL HEXA-DIOXINS		23.9	0.719 (Q)		
TOTAL HEPTA-DIOXINS		14.1	0.719 (Q)		
TOTAL TETRA-FURANS		1.40	0.719 (Q)		
TOTAL PENTA-FURANS		8.15	0.719 (Q)		
TOTAL HEXA-FURANS		18.8	0.719 (Q)		
TOTAL HEPTA-FURANS		1.01	0.719 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH623

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.279 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 16:20

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-24

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 36

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		67.7	0.719	1	6.77e+01	6.77e+01	
1,2,3,7,8-PECDD		7.60	0.719	1	7.60e+00	7.60e+00	
1,2,3,4,7,8-HXCDD		4.15	0.719	0.1	4.15e-01	4.15e-01	
1,2,3,6,7,8-HXCDD		15.9	0.719	0.1	1.59e+00	1.59e+00	
1,2,3,7,8,9-HXCDD		3.80	0.719	0.1	3.80e-01	3.80e-01	
1,2,3,4,6,7,8-HPCDD		14.1	0.719	0.01	1.41e-01	1.41e-01	
OCDD		211	0.719	0.0001	2.11e-02	2.11e-02	
2,3,7,8-TCDF		1.40	0.719	0.1	1.40e-01	1.40e-01	
1,2,3,7,8-PECDF	ND		0.719	0.05	0.00e+00	1.80e-02	
2,3,4,7,8-PECDF		8.15	0.719	0.5	4.08e+00	4.08e+00	
1,2,3,4,7,8-HXCDF		10.7	0.719	0.1	1.07e+00	1.07e+00	
1,2,3,6,7,8-HXCDF		8.01	0.719	0.1	8.01e-01	8.01e-01	
1,2,3,7,8,9-HXCDF	ND		0.719	0.1	0.00e+00	3.60e-02	
2,3,4,6,7,8-HXCDF	ND		0.719	0.1	0.00e+00	3.60e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.719	0.01	0.00e+00	3.60e-03	
1,2,3,4,7,8,9-HPCDF		1.01	0.719	0.01	1.01e-02	1.01e-02	
OCDF	ND		0.719	0.0001	0.00e+00	3.60e-05	
<b>TOTAL TEQ</b>					83.9	84.0	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		67.7	0.719	1	6.77e+01	6.77e+01	
1,2,3,7,8-PECDD		7.60	0.719	1	7.60e+00	7.60e+00	
1,2,3,4,7,8-HXCDD		4.15	0.719	0.1	4.15e-01	4.15e-01	
1,2,3,6,7,8-HXCDD		15.9	0.719	0.1	1.59e+00	1.59e+00	
1,2,3,7,8,9-HXCDD		3.80	0.719	0.1	3.80e-01	3.80e-01	
1,2,3,4,6,7,8-HPCDD		14.1	0.719	0.01	1.41e-01	1.41e-01	
OCDD		211	0.719	0.0003	6.33e-02	6.33e-02	
2,3,7,8-TCDF		1.40	0.719	0.1	1.40e-01	1.40e-01	
1,2,3,7,8-PECDF	ND		0.719	0.03	0.00e+00	1.08e-02	
2,3,4,7,8-PECDF		8.15	0.719	0.3	2.45e+00	2.45e+00	
1,2,3,4,7,8-HXCDF		10.7	0.719	0.1	1.07e+00	1.07e+00	
1,2,3,6,7,8-HXCDF		8.01	0.719	0.1	8.01e-01	8.01e-01	
1,2,3,7,8,9-HXCDF	ND		0.719	0.1	0.00e+00	3.60e-02	
2,3,4,6,7,8-HXCDF	ND		0.719	0.1	0.00e+00	3.60e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.719	0.01	0.00e+00	3.60e-03	
1,2,3,4,7,8,9-HPCDF		1.01	0.719	0.01	1.01e-02	1.01e-02	
OCDF	ND		0.719	0.0003	0.00e+00	1.08e-04	
<b>TOTAL TEQ</b>					<b>82.4</b>	<b>82.4</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-24\_TEQ\_SJ1253120\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH624  
Sample Collection:  
02-Nov-2010 17:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-25 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.182 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 03:54:37	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 21
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 11
		<b>% Lipid:</b>	0.64

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		72.1	1.09 (Q)	0.74	1.002
1,2,3,7,8-PECDD <sup>4</sup>		8.80	1.09 (Q)	0.52	1.001
1,2,3,4,7,8-HXCDD		6.94	1.09 (Q)	1.26	1.000
1,2,3,6,7,8-HXCDD		24.1	1.09 (Q)	1.07	1.000
1,2,3,7,8,9-HXCDD		4.96	1.09 (Q)	1.06	1.000
1,2,3,4,6,7,8-HPCDD		45.0	1.09 (Q)	1.00	1.000
OCDD		314	1.09 (Q)	0.87	1.000
2,3,7,8-TCDF	NDR G	1.47	1.09 (Q)	0.64	1.001
1,2,3,7,8-PECDF	ND		1.09 (Q)		
2,3,4,7,8-PECDF	NDR	6.96	1.09 (Q)	1.28	1.001
1,2,3,4,7,8-HXCDF		12.4	1.09 (Q)	1.11	1.000
1,2,3,6,7,8-HXCDF		8.98	1.09 (Q)	1.10	1.000
1,2,3,7,8,9-HXCDF	ND		1.09 (Q)		
2,3,4,6,7,8-HXCDF		1.41	1.09 (Q)	1.23	1.001
1,2,3,4,6,7,8-HPCDF		23.0	1.09 (Q)	0.91	1.001
1,2,3,4,7,8,9-HPCDF	ND		1.09 (Q)		
OCDF	ND		1.09 (Q)		
TOTAL TETRA-DIOXINS		72.1	1.09 (Q)		
TOTAL PENTA-DIOXINS		8.80	1.09 (Q)		
TOTAL HEXA-DIOXINS		36.0	1.09 (Q)		
TOTAL HEPTA-DIOXINS		45.0	1.09 (Q)		
TOTAL TETRA-FURANS		1.25	1.09 (Q)		
TOTAL PENTA-FURANS	ND		1.09 (Q)		
TOTAL HEXA-FURANS		22.8	1.09 (Q)		
TOTAL HEPTA-FURANS		23.0	1.09 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH624

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.182 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 17:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-25 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 21

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		72.1	1.09	1	7.21e+01	7.21e+01	
1,2,3,7,8-PECDD		8.80	1.09	1	8.80e+00	8.80e+00	
1,2,3,4,7,8-HXCDD		6.94	1.09	0.1	6.94e-01	6.94e-01	
1,2,3,6,7,8-HXCDD		24.1	1.09	0.1	2.41e+00	2.41e+00	
1,2,3,7,8,9-HXCDD		4.96	1.09	0.1	4.96e-01	4.96e-01	
1,2,3,4,6,7,8-HPCDD		45.0	1.09	0.01	4.50e-01	4.50e-01	
OCDD		314	1.09	0.0001	3.14e-02	3.14e-02	
2,3,7,8-TCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,7,8-PECDF	ND		1.09	0.05	0.00e+00	2.73e-02	
2,3,4,7,8-PECDF	ND		1.09	0.5	0.00e+00	2.73e-01	
1,2,3,4,7,8-HXCDF		12.4	1.09	0.1	1.24e+00	1.24e+00	
1,2,3,6,7,8-HXCDF		8.98	1.09	0.1	8.98e-01	8.98e-01	
1,2,3,7,8,9-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
2,3,4,6,7,8-HXCDF		1.41	1.09	0.1	1.41e-01	1.41e-01	
1,2,3,4,6,7,8-HPCDF		23.0	1.09	0.01	2.30e-01	2.30e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.09	0.01	0.00e+00	5.45e-03	
OCDF	ND		1.09	0.0001	0.00e+00	5.45e-05	
<b>TOTAL TEQ</b>					<b>87.5</b>	<b>87.9</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		72.1	1.09	1	7.21e+01	7.21e+01	
1,2,3,7,8-PECDD		8.80	1.09	1	8.80e+00	8.80e+00	
1,2,3,4,7,8-HXCDD		6.94	1.09	0.1	6.94e-01	6.94e-01	
1,2,3,6,7,8-HXCDD		24.1	1.09	0.1	2.41e+00	2.41e+00	
1,2,3,7,8,9-HXCDD		4.96	1.09	0.1	4.96e-01	4.96e-01	
1,2,3,4,6,7,8-HPCDD		45.0	1.09	0.01	4.50e-01	4.50e-01	
OCDD		314	1.09	0.0003	9.42e-02	9.42e-02	
2,3,7,8-TCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
1,2,3,7,8-PECDF	ND		1.09	0.03	0.00e+00	1.64e-02	
2,3,4,7,8-PECDF	ND		1.09	0.3	0.00e+00	1.64e-01	
1,2,3,4,7,8-HXCDF		12.4	1.09	0.1	1.24e+00	1.24e+00	
1,2,3,6,7,8-HXCDF		8.98	1.09	0.1	8.98e-01	8.98e-01	
1,2,3,7,8,9-HXCDF	ND		1.09	0.1	0.00e+00	5.45e-02	
2,3,4,6,7,8-HXCDF		1.41	1.09	0.1	1.41e-01	1.41e-01	
1,2,3,4,6,7,8-HPCDF		23.0	1.09	0.01	2.30e-01	2.30e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.09	0.01	0.00e+00	5.45e-03	
OCDF	ND		1.09	0.0003	0.00e+00	1.64e-04	
<b>TOTAL TEQ</b>					<b>87.6</b>	<b>87.8</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-25\_TEQ\_SJ1260259\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]

AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORTCLIENT SAMPLE NO.  
10VNBH625  
Sample Collection:  
02-Nov-2010 16:45

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 12-Feb-2011 Time: 14:35:13

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-26 L

Sample Size: 0.397 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 32

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_025 S: 28

% Lipid: 1.20

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		44.1	0.500 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		6.62	0.500 (Q)	0.58	1.001
1,2,3,4,7,8-HXCDD		5.13	0.500 (Q)	1.42	1.000
1,2,3,6,7,8-HXCDD		14.3	0.500 (Q)	1.24	1.000
1,2,3,7,8,9-HXCDD		2.91	0.500 (Q)	1.39	1.000
1,2,3,4,6,7,8-HPCDD		25.9	0.500 (Q)	1.05	1.000
OCDD		208	0.500 (Q)	0.82	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	NDR	0.692	0.500 (Q)	2.05	1.001
2,3,4,7,8-PECDF		7.35	0.500 (Q)	1.33	1.001
1,2,3,4,7,8-HXCDF		10.0	0.500 (Q)	1.22	1.000
1,2,3,6,7,8-HXCDF		6.93	0.500 (Q)	1.28	1.001
1,2,3,7,8,9-HXCDF	ND		0.500 (Q)		
2,3,4,6,7,8-HXCDF		1.08	0.500 (Q)	1.10	1.001
1,2,3,4,6,7,8-HPCDF	NDR	7.88	0.500 (Q)	0.87	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.17	0.500 (Q)	1.39	1.000
OCDF		0.550	0.500 (Q)	0.79	1.002
TOTAL TETRA-DIOXINS		44.1	0.500 (Q)		
TOTAL PENTA-DIOXINS		6.62	0.500 (Q)		
TOTAL HEXA-DIOXINS		22.3	0.500 (Q)		
TOTAL HEPTA-DIOXINS		27.4	0.500 (Q)		
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS		7.35	0.500 (Q)		
TOTAL HEXA-FURANS		18.0	0.500 (Q)		
TOTAL HEPTA-FURANS	ND		0.500 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH625  
Sample Collection:  
02-Nov-2010 16:45

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 14-Feb-2011 Time: 19:55:56

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: 2

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-26 LW

Sample Size: 0.397 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_026 S: 5

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_026 S: 1

% Lipid: 1.20

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD <sup>4</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	D	2.29	0.500 (Q)	0.71	1.001
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	D	2.29	0.500 (Q)		
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH625

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.397 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 16:45

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-26 L

GC Column ID(s): DB5

Sample Data Filenames: DX1M\_025 S: 32  
DX1M\_026 S: 5

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		44.1	0.500	1	4.41e+01	4.41e+01	
1,2,3,7,8-PECDD		6.62	0.500	1	6.62e+00	6.62e+00	
1,2,3,4,7,8-HXCDD		5.13	0.500	0.1	5.13e-01	5.13e-01	
1,2,3,6,7,8-HXCDD		14.3	0.500	0.1	1.43e+00	1.43e+00	
1,2,3,7,8,9-HXCDD		2.91	0.500	0.1	2.91e-01	2.91e-01	
1,2,3,4,6,7,8-HPCDD		25.9	0.500	0.01	2.59e-01	2.59e-01	
OCDD		208	0.500	0.0001	2.08e-02	2.08e-02	
2,3,7,8-TCDF		2.29	0.500	0.1	2.29e-01	2.29e-01	
1,2,3,7,8-PECDF	ND		0.500	0.05	0.00e+00	1.25e-02	
2,3,4,7,8-PECDF		7.35	0.500	0.5	3.68e+00	3.68e+00	
1,2,3,4,7,8-HXCDF		10.0	0.500	0.1	1.00e+00	1.00e+00	
1,2,3,6,7,8-HXCDF		6.93	0.500	0.1	6.93e-01	6.93e-01	
1,2,3,7,8,9-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF		1.08	0.500	0.1	1.08e-01	1.08e-01	
1,2,3,4,6,7,8-HPCDF	ND		0.500	0.01	0.00e+00	2.50e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.500	0.01	0.00e+00	2.50e-03	
OCDF		0.550	0.500	0.0001	5.50e-05	5.50e-05	
<b>TOTAL TEQ</b>					<b>58.9</b>	<b>59.0</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		44.1	0.500	1	4.41e+01	4.41e+01	
1,2,3,7,8-PECDD		6.62	0.500	1	6.62e+00	6.62e+00	
1,2,3,4,7,8-HXCDD		5.13	0.500	0.1	5.13e-01	5.13e-01	
1,2,3,6,7,8-HXCDD		14.3	0.500	0.1	1.43e+00	1.43e+00	
1,2,3,7,8,9-HXCDD		2.91	0.500	0.1	2.91e-01	2.91e-01	
1,2,3,4,6,7,8-HPCDD		25.9	0.500	0.01	2.59e-01	2.59e-01	
OCDD		208	0.500	0.0003	6.24e-02	6.24e-02	
2,3,7,8-TCDF		2.29	0.500	0.1	2.29e-01	2.29e-01	
1,2,3,7,8-PECDF	ND		0.500	0.03	0.00e+00	7.50e-03	
2,3,4,7,8-PECDF		7.35	0.500	0.3	2.21e+00	2.21e+00	
1,2,3,4,7,8-HXCDF		10.0	0.500	0.1	1.00e+00	1.00e+00	
1,2,3,6,7,8-HXCDF		6.93	0.500	0.1	6.93e-01	6.93e-01	
1,2,3,7,8,9-HXCDF	ND		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF		1.08	0.500	0.1	1.08e-01	1.08e-01	
1,2,3,4,6,7,8-HPCDF	ND		0.500	0.01	0.00e+00	2.50e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.500	0.01	0.00e+00	2.50e-03	
OCDF		0.550	0.500	0.0003	1.65e-04	1.65e-04	
<b>TOTAL TEQ</b>					57.5	57.5	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-26\_TEQ\_SJ1260333\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH626  
Sample Collection:  
02-Nov-2010 16:30

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-27 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.203 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 01:09:06	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 18
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 11
		<b>% Lipid:</b>	0.76

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		31.9	0.989 (Q)	0.72	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	4.73	0.989 (Q)	0.50	1.001
1,2,3,4,7,8-HXCDD		4.09	0.989 (Q)	1.28	1.000
1,2,3,6,7,8-HXCDD		13.5	0.989 (Q)	1.35	1.000
1,2,3,7,8,9-HXCDD	NDR	4.69	0.989 (Q)	1.00	1.000
1,2,3,4,6,7,8-HPCDD		15.2	0.989 (Q)	0.99	1.000
OCDD		261	0.989 (Q)	0.88	1.000
2,3,7,8-TCDF	G	1.91	0.989 (Q)	0.77	1.002
1,2,3,7,8-PECDF	ND		0.989 (Q)		
2,3,4,7,8-PECDF	NDR	5.62	0.989 (Q)	1.12	1.001
1,2,3,4,7,8-HXCDF		7.50	0.989 (Q)	1.30	1.001
1,2,3,6,7,8-HXCDF	NDR	5.27	0.989 (Q)	0.96	1.000
1,2,3,7,8,9-HXCDF	ND		0.989 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.989 (Q)		
1,2,3,4,6,7,8-HPCDF		10.1	0.989 (Q)	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.989 (Q)		
OCDF	ND		0.989 (Q)		
TOTAL TETRA-DIOXINS		31.9	0.989 (Q)		
TOTAL PENTA-DIOXINS	ND		0.989 (Q)		
TOTAL HEXA-DIOXINS		17.5	0.989 (Q)		
TOTAL HEPTA-DIOXINS		15.2	0.989 (Q)		
TOTAL TETRA-FURANS		3.26	0.989 (Q)		
TOTAL PENTA-FURANS	ND		0.989 (Q)		
TOTAL HEXA-FURANS		7.50	0.989 (Q)		
TOTAL HEPTA-FURANS		10.1	0.989 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH626

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.203 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 16:30

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-27 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 18

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		31.9	0.989	1	3.19e+01	3.19e+01	
1,2,3,7,8-PECDD	ND		0.989	1	0.00e+00	4.95e-01	
1,2,3,4,7,8-HXCDD		4.09	0.989	0.1	4.09e-01	4.09e-01	
1,2,3,6,7,8-HXCDD		13.5	0.989	0.1	1.35e+00	1.35e+00	
1,2,3,7,8,9-HXCDD	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,4,6,7,8-HPCDD		15.2	0.989	0.01	1.52e-01	1.52e-01	
OCDD		261	0.989	0.0001	2.61e-02	2.61e-02	
2,3,7,8-TCDF		1.91	0.989	0.1	1.91e-01	1.91e-01	
1,2,3,7,8-PECDF	ND		0.989	0.05	0.00e+00	2.47e-02	
2,3,4,7,8-PECDF	ND		0.989	0.5	0.00e+00	2.47e-01	
1,2,3,4,7,8-HXCDF		7.50	0.989	0.1	7.50e-01	7.50e-01	
1,2,3,6,7,8-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,7,8,9-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
2,3,4,6,7,8-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,4,6,7,8-HPCDF		10.1	0.989	0.01	1.01e-01	1.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.989	0.01	0.00e+00	4.95e-03	
OCDF	ND		0.989	0.0001	0.00e+00	4.95e-05	
<b>TOTAL TEQ</b>					<b>34.9</b>	<b>35.8</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		31.9	0.989	1	3.19e+01	3.19e+01	
1,2,3,7,8-PECDD	ND		0.989	1	0.00e+00	4.95e-01	
1,2,3,4,7,8-HXCDD		4.09	0.989	0.1	4.09e-01	4.09e-01	
1,2,3,6,7,8-HXCDD		13.5	0.989	0.1	1.35e+00	1.35e+00	
1,2,3,7,8,9-HXCDD	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,4,6,7,8-HPCDD		15.2	0.989	0.01	1.52e-01	1.52e-01	
OCDD		261	0.989	0.0003	7.83e-02	7.83e-02	
2,3,7,8-TCDF		1.91	0.989	0.1	1.91e-01	1.91e-01	
1,2,3,7,8-PECDF	ND		0.989	0.03	0.00e+00	1.48e-02	
2,3,4,7,8-PECDF	ND		0.989	0.3	0.00e+00	1.48e-01	
1,2,3,4,7,8-HXCDF		7.50	0.989	0.1	7.50e-01	7.50e-01	
1,2,3,6,7,8-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,7,8,9-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
2,3,4,6,7,8-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,4,6,7,8-HPCDF		10.1	0.989	0.01	1.01e-01	1.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.989	0.01	0.00e+00	4.95e-03	
OCDF	ND		0.989	0.0003	0.00e+00	1.48e-04	
<b>TOTAL TEQ</b>					<b>34.9</b>	<b>35.8</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-27\_TEQ\_SJ1260256\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH627  
Sample Collection:  
02-Nov-2010 16:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-28 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.139 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 02:59:27	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 20
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 11
		<b>% Lipid:</b>	0.52

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		71.0	1.44 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		8.00	1.44 (Q)	0.63	1.001
1,2,3,4,7,8-HXCDD		4.81	1.44 (Q)	1.33	1.000
1,2,3,6,7,8-HXCDD		20.5	1.44 (Q)	1.30	1.000
1,2,3,7,8,9-HXCDD		6.08	1.44 (Q)	1.32	1.000
1,2,3,4,6,7,8-HPCDD		28.8	1.44 (Q)	1.04	1.000
OCDD		330	1.44 (Q)	0.85	1.000
2,3,7,8-TCDF		1.98	1.44 (Q)	0.67	1.001
1,2,3,7,8-PECDF	ND		1.44 (Q)		
2,3,4,7,8-PECDF		10.5	1.44 (Q)	1.42	1.001
1,2,3,4,7,8-HXCDF		16.8	1.44 (Q)	1.21	1.001
1,2,3,6,7,8-HXCDF		11.2	1.44 (Q)	1.15	1.001
1,2,3,7,8,9-HXCDF	ND		1.44 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.57	1.44 (Q)	1.54	1.001
1,2,3,4,6,7,8-HPCDF		19.0	1.44 (Q)	1.12	1.000
1,2,3,4,7,8,9-HPCDF	ND		1.44 (Q)		
OCDF	ND		1.44 (Q)		
TOTAL TETRA-DIOXINS		71.0	1.44 (Q)		
TOTAL PENTA-DIOXINS		8.00	1.44 (Q)		
TOTAL HEXA-DIOXINS		31.5	1.44 (Q)		
TOTAL HEPTA-DIOXINS		28.8	1.44 (Q)		
TOTAL TETRA-FURANS		1.98	1.44 (Q)		
TOTAL PENTA-FURANS		10.5	1.44 (Q)		
TOTAL HEXA-FURANS		28.0	1.44 (Q)		
TOTAL HEPTA-FURANS		19.0	1.44 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH627

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.139 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 16:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-28 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		71.0	1.44	1	7.10e+01	7.10e+01	
1,2,3,7,8-PECDD		8.00	1.44	1	8.00e+00	8.00e+00	
1,2,3,4,7,8-HXCDD		4.81	1.44	0.1	4.81e-01	4.81e-01	
1,2,3,6,7,8-HXCDD		20.5	1.44	0.1	2.05e+00	2.05e+00	
1,2,3,7,8,9-HXCDD		6.08	1.44	0.1	6.08e-01	6.08e-01	
1,2,3,4,6,7,8-HPCDD		28.8	1.44	0.01	2.88e-01	2.88e-01	
OCDD		330	1.44	0.0001	3.30e-02	3.30e-02	
2,3,7,8-TCDF		1.98	1.44	0.1	1.98e-01	1.98e-01	
1,2,3,7,8-PECDF	ND		1.44	0.05	0.00e+00	3.60e-02	
2,3,4,7,8-PECDF		10.5	1.44	0.5	5.25e+00	5.25e+00	
1,2,3,4,7,8-HXCDF		16.8	1.44	0.1	1.68e+00	1.68e+00	
1,2,3,6,7,8-HXCDF		11.2	1.44	0.1	1.12e+00	1.12e+00	
1,2,3,7,8,9-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,4,6,7,8-HPCDF		19.0	1.44	0.01	1.90e-01	1.90e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.44	0.01	0.00e+00	7.20e-03	
OCDF	ND		1.44	0.0001	0.00e+00	7.20e-05	
<b>TOTAL TEQ</b>					90.9	91.1	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		71.0	1.44	1	7.10e+01	7.10e+01	
1,2,3,7,8-PECDD		8.00	1.44	1	8.00e+00	8.00e+00	
1,2,3,4,7,8-HXCDD		4.81	1.44	0.1	4.81e-01	4.81e-01	
1,2,3,6,7,8-HXCDD		20.5	1.44	0.1	2.05e+00	2.05e+00	
1,2,3,7,8,9-HXCDD		6.08	1.44	0.1	6.08e-01	6.08e-01	
1,2,3,4,6,7,8-HPCDD		28.8	1.44	0.01	2.88e-01	2.88e-01	
OCDD		330	1.44	0.0003	9.90e-02	9.90e-02	
2,3,7,8-TCDF		1.98	1.44	0.1	1.98e-01	1.98e-01	
1,2,3,7,8-PECDF	ND		1.44	0.03	0.00e+00	2.16e-02	
2,3,4,7,8-PECDF		10.5	1.44	0.3	3.15e+00	3.15e+00	
1,2,3,4,7,8-HXCDF		16.8	1.44	0.1	1.68e+00	1.68e+00	
1,2,3,6,7,8-HXCDF		11.2	1.44	0.1	1.12e+00	1.12e+00	
1,2,3,7,8,9-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
2,3,4,6,7,8-HXCDF	ND		1.44	0.1	0.00e+00	7.20e-02	
1,2,3,4,6,7,8-HPCDF		19.0	1.44	0.01	1.90e-01	1.90e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.44	0.01	0.00e+00	7.20e-03	
OCDF	ND		1.44	0.0003	0.00e+00	2.16e-04	
<b>TOTAL TEQ</b>					<b>88.9</b>	<b>89.0</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-28\_TEQ\_SJ1260258\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH628  
Sample Collection:  
02-Nov-2010 17:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 12-Feb-2011 Time: 04:49:49

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-29 L

Sample Size: 0.196 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 22

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_025 S: 11

% Lipid: 0.73

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		159	1.02 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		9.43	1.02 (Q)	0.64	1.000
1,2,3,4,7,8-HXCDD		6.15	1.17 (S)	1.35	1.000
1,2,3,6,7,8-HXCDD		21.7	1.17 (S)	1.23	1.000
1,2,3,7,8,9-HXCDD		5.31	1.17 (S)	1.31	1.001
1,2,3,4,6,7,8-HPCDD		33.9	1.02 (Q)	0.89	1.000
OCDD		295	1.02 (Q)	0.87	1.000
2,3,7,8-TCDF		4.09	1.02 (Q)	0.66	1.002
1,2,3,7,8-PECDF	ND		1.02 (Q)		
2,3,4,7,8-PECDF	NDR	12.1	1.02 (Q)	2.05	1.001
1,2,3,4,7,8-HXCDF	NDR	18.9	1.02 (Q)	1.02	1.001
1,2,3,6,7,8-HXCDF	NDR	11.0	1.02 (Q)	1.46	1.000
1,2,3,7,8,9-HXCDF	ND		1.02 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.65	1.02 (Q)	2.58	1.000
1,2,3,4,6,7,8-HPCDF	NDR	15.7	1.04 (S)	1.24	1.000
1,2,3,4,7,8,9-HPCDF	NDR	2.38	1.04 (S)	0.69	1.000
OCDF	ND		1.02 (Q)		
TOTAL TETRA-DIOXINS		159	1.02 (Q)		
TOTAL PENTA-DIOXINS		9.43	1.02 (Q)		
TOTAL HEXA-DIOXINS		33.2	1.17 (S)		
TOTAL HEPTA-DIOXINS		33.9	1.02 (Q)		
TOTAL TETRA-FURANS		4.09	1.02 (Q)		
TOTAL PENTA-FURANS	ND		1.02 (Q)		
TOTAL HEXA-FURANS	ND		1.02 (Q)		
TOTAL HEPTA-FURANS	ND		1.04 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH628

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 17:00

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-29 L

Sample Size: 0.196 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_025 S: 22

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		159	1.02	1	1.59e+02	1.59e+02	
1,2,3,7,8-PECDD		9.43	1.02	1	9.43e+00	9.43e+00	
1,2,3,4,7,8-HXCDD		6.15	1.17	0.1	6.15e-01	6.15e-01	
1,2,3,6,7,8-HXCDD		21.7	1.17	0.1	2.17e+00	2.17e+00	
1,2,3,7,8,9-HXCDD		5.31	1.17	0.1	5.31e-01	5.31e-01	
1,2,3,4,6,7,8-HPCDD		33.9	1.02	0.01	3.39e-01	3.39e-01	
OCDD		295	1.02	0.0001	2.95e-02	2.95e-02	
2,3,7,8-TCDF		4.09	1.02	0.1	4.09e-01	4.09e-01	
1,2,3,7,8-PECDF	ND		1.02	0.05	0.00e+00	2.55e-02	
2,3,4,7,8-PECDF	ND		1.02	0.5	0.00e+00	2.55e-01	
1,2,3,4,7,8-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,6,7,8-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,7,8,9-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
2,3,4,6,7,8-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.04	0.01	0.00e+00	5.20e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.04	0.01	0.00e+00	5.20e-03	
OCDF	ND		1.02	0.0001	0.00e+00	5.10e-05	
<b>TOTAL TEQ</b>					<b>173</b>	<b>173</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		159	1.02	1	1.59e+02	1.59e+02	
1,2,3,7,8-PECDD		9.43	1.02	1	9.43e+00	9.43e+00	
1,2,3,4,7,8-HXCDD		6.15	1.17	0.1	6.15e-01	6.15e-01	
1,2,3,6,7,8-HXCDD		21.7	1.17	0.1	2.17e+00	2.17e+00	
1,2,3,7,8,9-HXCDD		5.31	1.17	0.1	5.31e-01	5.31e-01	
1,2,3,4,6,7,8-HPCDD		33.9	1.02	0.01	3.39e-01	3.39e-01	
OCDD		295	1.02	0.0003	8.85e-02	8.85e-02	
2,3,7,8-TCDF		4.09	1.02	0.1	4.09e-01	4.09e-01	
1,2,3,7,8-PECDF	ND		1.02	0.03	0.00e+00	1.53e-02	
2,3,4,7,8-PECDF	ND		1.02	0.3	0.00e+00	1.53e-01	
1,2,3,4,7,8-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,6,7,8-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,7,8,9-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
2,3,4,6,7,8-HXCDF	ND		1.02	0.1	0.00e+00	5.10e-02	
1,2,3,4,6,7,8-HPCDF	ND		1.04	0.01	0.00e+00	5.20e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.04	0.01	0.00e+00	5.20e-03	
OCDF	ND		1.02	0.0003	0.00e+00	1.53e-04	
<b>TOTAL TEQ</b>					<b>173</b>	<b>173</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-29\_TEQ\_SJ1260260\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH629  
Sample Collection:  
02-Nov-2010 16:55

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 29-Jan-2011 Time: 06:12:37

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-30

Sample Size: 0.255 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 46

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_017A S: 40

% Lipid: 1.10

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		160	0.781 (Q)	0.73	1.001
1,2,3,7,8-PECDD <sup>4</sup>		11.8	0.781 (Q)	0.59	1.001
1,2,3,4,7,8-HXCDD		5.20	0.781 (Q)	1.19	1.000
1,2,3,6,7,8-HXCDD		21.1	0.781 (Q)	1.27	1.000
1,2,3,7,8,9-HXCDD		5.36	0.781 (Q)	1.22	1.000
1,2,3,4,6,7,8-HPCDD		34.0	0.781 (Q)	0.97	1.000
OCDD		260	0.781 (Q)	0.87	1.000
2,3,7,8-TCDF		4.66	0.781 (Q)	0.72	1.001
1,2,3,7,8-PECDF	ND		0.781 (Q)		
2,3,4,7,8-PECDF		7.02	0.781 (Q)	1.52	1.001
1,2,3,4,7,8-HXCDF		8.96	0.781 (Q)	1.31	1.000
1,2,3,6,7,8-HXCDF	NDR	5.54	0.781 (Q)	1.03	1.000
1,2,3,7,8,9-HXCDF	ND		0.781 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.781 (Q)		
1,2,3,4,6,7,8-HPCDF		8.21	0.781 (Q)	1.12	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.781 (Q)		
OCDF	ND		0.781 (Q)		
TOTAL TETRA-DIOXINS		160	0.781 (Q)		
TOTAL PENTA-DIOXINS		11.8	0.781 (Q)		
TOTAL HEXA-DIOXINS		31.6	0.781 (Q)		
TOTAL HEPTA-DIOXINS		34.0	0.781 (Q)		
TOTAL TETRA-FURANS		4.66	0.781 (Q)		
TOTAL PENTA-FURANS		7.02	0.781 (Q)		
TOTAL HEXA-FURANS		8.96	0.781 (Q)		
TOTAL HEPTA-FURANS		8.21	0.781 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH629

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 16:55

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-30

Sample Size: 0.255 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_017A S: 46

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		160	0.781	1	1.60e+02	1.60e+02	
1,2,3,7,8-PECDD		11.8	0.781	1	1.18e+01	1.18e+01	
1,2,3,4,7,8-HXCDD		5.20	0.781	0.1	5.20e-01	5.20e-01	
1,2,3,6,7,8-HXCDD		21.1	0.781	0.1	2.11e+00	2.11e+00	
1,2,3,7,8,9-HXCDD		5.36	0.781	0.1	5.36e-01	5.36e-01	
1,2,3,4,6,7,8-HPCDD		34.0	0.781	0.01	3.40e-01	3.40e-01	
OCDD		260	0.781	0.0001	2.60e-02	2.60e-02	
2,3,7,8-TCDF		4.66	0.781	0.1	4.66e-01	4.66e-01	
1,2,3,7,8-PECDF	ND		0.781	0.05	0.00e+00	1.95e-02	
2,3,4,7,8-PECDF		7.02	0.781	0.5	3.51e+00	3.51e+00	
1,2,3,4,7,8-HXCDF		8.96	0.781	0.1	8.96e-01	8.96e-01	
1,2,3,6,7,8-HXCDF	ND		0.781	0.1	0.00e+00	3.91e-02	
1,2,3,7,8,9-HXCDF	ND		0.781	0.1	0.00e+00	3.91e-02	
2,3,4,6,7,8-HXCDF	ND		0.781	0.1	0.00e+00	3.91e-02	
1,2,3,4,6,7,8-HPCDF		8.21	0.781	0.01	8.21e-02	8.21e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.781	0.01	0.00e+00	3.91e-03	
OCDF	ND		0.781	0.0001	0.00e+00	3.91e-05	
<b>TOTAL TEQ</b>					180	180	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		160	0.781	1	1.60e+02	1.60e+02	
1,2,3,7,8-PECDD		11.8	0.781	1	1.18e+01	1.18e+01	
1,2,3,4,7,8-HXCDD		5.20	0.781	0.1	5.20e-01	5.20e-01	
1,2,3,6,7,8-HXCDD		21.1	0.781	0.1	2.11e+00	2.11e+00	
1,2,3,7,8,9-HXCDD		5.36	0.781	0.1	5.36e-01	5.36e-01	
1,2,3,4,6,7,8-HPCDD		34.0	0.781	0.01	3.40e-01	3.40e-01	
OCDD		260	0.781	0.0003	7.80e-02	7.80e-02	
2,3,7,8-TCDF		4.66	0.781	0.1	4.66e-01	4.66e-01	
1,2,3,7,8-PECDF	ND		0.781	0.03	0.00e+00	1.17e-02	
2,3,4,7,8-PECDF		7.02	0.781	0.3	2.11e+00	2.11e+00	
1,2,3,4,7,8-HXCDF		8.96	0.781	0.1	8.96e-01	8.96e-01	
1,2,3,6,7,8-HXCDF	ND		0.781	0.1	0.00e+00	3.91e-02	
1,2,3,7,8,9-HXCDF	ND		0.781	0.1	0.00e+00	3.91e-02	
2,3,4,6,7,8-HXCDF	ND		0.781	0.1	0.00e+00	3.91e-02	
1,2,3,4,6,7,8-HPCDF		8.21	0.781	0.01	8.21e-02	8.21e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.781	0.01	0.00e+00	3.91e-03	
OCDF	ND		0.781	0.0003	0.00e+00	1.17e-04	
<b>TOTAL TEQ</b>					<b>179</b>	<b>179</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-30\_TEQ\_SJ1253228\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH630  
Sample Collection:  
02-Nov-2010 16:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-31
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.232 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	29-Jan-2011 Time: 07:07:53	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	<b>DX1M_017A S: 47</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 40
		<b>% Lipid:</b>	0.80

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		85.4	0.864 (Q)	0.78	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	7.27	1.49 (S)	0.92	1.001
1,2,3,4,7,8-HXCDD		5.57	0.864 (Q)	1.36	1.000
1,2,3,6,7,8-HXCDD		14.8	0.864 (Q)	1.40	1.000
1,2,3,7,8,9-HXCDD		4.28	0.864 (Q)	1.31	1.000
1,2,3,4,6,7,8-HPCDD		27.2	0.864 (Q)	0.93	1.000
OCDD		240	1.54 (S)	0.89	1.000
2,3,7,8-TCDF	NDR	1.99	0.864 (Q)	0.94	1.001
1,2,3,7,8-PECDF	NDR	0.989	0.864 (Q)	5.21	1.001
2,3,4,7,8-PECDF	NDR	7.01	0.864 (Q)	1.08	1.001
1,2,3,4,7,8-HXCDF		7.50	0.864 (Q)	1.05	1.001
1,2,3,6,7,8-HXCDF		7.22	0.864 (Q)	1.12	1.000
1,2,3,7,8,9-HXCDF	ND		0.864 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.38	0.864 (Q)	0.63	1.000
1,2,3,4,6,7,8-HPCDF		13.1	0.976 (S)	0.91	1.000
1,2,3,4,7,8,9-HPCDF		1.04	0.976 (S)	1.00	1.000
OCDF	ND		1.13 (S)		
TOTAL TETRA-DIOXINS		85.4	0.864 (Q)		
TOTAL PENTA-DIOXINS	ND		1.49 (S)		
TOTAL HEXA-DIOXINS		24.7	0.864 (Q)		
TOTAL HEPTA-DIOXINS		28.2	0.864 (Q)		
TOTAL TETRA-FURANS	ND		0.864 (Q)		
TOTAL PENTA-FURANS	ND		0.864 (Q)		
TOTAL HEXA-FURANS		14.8	0.864 (Q)		
TOTAL HEPTA-FURANS		14.1	0.976 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH630

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.232 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 16:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-31

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 47

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		85.4	0.864	1	8.54e+01	8.54e+01	
1,2,3,7,8-PECDD	ND		1.49	1	0.00e+00	7.45e-01	
1,2,3,4,7,8-HXCDD		5.57	0.864	0.1	5.57e-01	5.57e-01	
1,2,3,6,7,8-HXCDD		14.8	0.864	0.1	1.48e+00	1.48e+00	
1,2,3,7,8,9-HXCDD		4.28	0.864	0.1	4.28e-01	4.28e-01	
1,2,3,4,6,7,8-HPCDD		27.2	0.864	0.01	2.72e-01	2.72e-01	
OCDD		240	1.54	0.0001	2.40e-02	2.40e-02	
2,3,7,8-TCDF	ND		0.864	0.1	0.00e+00	4.32e-02	
1,2,3,7,8-PECDF	ND		0.864	0.05	0.00e+00	2.16e-02	
2,3,4,7,8-PECDF	ND		0.864	0.5	0.00e+00	2.16e-01	
1,2,3,4,7,8-HXCDF		7.50	0.864	0.1	7.50e-01	7.50e-01	
1,2,3,6,7,8-HXCDF		7.22	0.864	0.1	7.22e-01	7.22e-01	
1,2,3,7,8,9-HXCDF	ND		0.864	0.1	0.00e+00	4.32e-02	
2,3,4,6,7,8-HXCDF	ND		0.864	0.1	0.00e+00	4.32e-02	
1,2,3,4,6,7,8-HPCDF		13.1	0.976	0.01	1.31e-01	1.31e-01	
1,2,3,4,7,8,9-HPCDF		1.04	0.976	0.01	1.04e-02	1.04e-02	
OCDF	ND		1.13	0.0001	0.00e+00	5.65e-05	
<b>TOTAL TEQ</b>					<b>89.8</b>	<b>90.9</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		85.4	0.864	1	8.54e+01	8.54e+01	
1,2,3,7,8-PECDD	ND		1.49	1	0.00e+00	7.45e-01	
1,2,3,4,7,8-HXCDD		5.57	0.864	0.1	5.57e-01	5.57e-01	
1,2,3,6,7,8-HXCDD		14.8	0.864	0.1	1.48e+00	1.48e+00	
1,2,3,7,8,9-HXCDD		4.28	0.864	0.1	4.28e-01	4.28e-01	
1,2,3,4,6,7,8-HPCDD		27.2	0.864	0.01	2.72e-01	2.72e-01	
OCDD		240	1.54	0.0003	7.20e-02	7.20e-02	
2,3,7,8-TCDF	ND		0.864	0.1	0.00e+00	4.32e-02	
1,2,3,7,8-PECDF	ND		0.864	0.03	0.00e+00	1.30e-02	
2,3,4,7,8-PECDF	ND		0.864	0.3	0.00e+00	1.30e-01	
1,2,3,4,7,8-HXCDF		7.50	0.864	0.1	7.50e-01	7.50e-01	
1,2,3,6,7,8-HXCDF		7.22	0.864	0.1	7.22e-01	7.22e-01	
1,2,3,7,8,9-HXCDF	ND		0.864	0.1	0.00e+00	4.32e-02	
2,3,4,6,7,8-HXCDF	ND		0.864	0.1	0.00e+00	4.32e-02	
1,2,3,4,6,7,8-HPCDF		13.1	0.976	0.01	1.31e-01	1.31e-01	
1,2,3,4,7,8,9-HPCDF		1.04	0.976	0.01	1.04e-02	1.04e-02	
OCDF	ND		1.13	0.0003	0.00e+00	1.70e-04	
<b>TOTAL TEQ</b>					<b>89.8</b>	<b>90.8</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-31\_TEQ\_SJ1253229\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH631  
Sample Collection:  
02-Nov-2010 17:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 12-Feb-2011 Time: 13:40:03

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-32 L

Sample Size: 0.289 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 31

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_025 S: 28

% Lipid: 1.10

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		49.5	0.692 (Q)	0.80	1.001
1,2,3,7,8-PECDD <sup>4</sup>		4.57	0.692 (Q)	0.61	1.001
1,2,3,4,7,8-HXCDD		3.60	0.692 (Q)	1.38	1.000
1,2,3,6,7,8-HXCDD		10.7	0.692 (Q)	1.21	1.000
1,2,3,7,8,9-HXCDD		2.59	0.692 (Q)	1.37	1.001
1,2,3,4,6,7,8-HPCDD		15.8	0.692 (Q)	0.96	1.000
OCDD		182	0.692 (Q)	0.85	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF		0.901	0.692 (Q)	1.52	1.001
2,3,4,7,8-PECDF		6.36	0.692 (Q)	1.68	1.001
1,2,3,4,7,8-HXCDF		10.2	0.692 (Q)	1.38	1.000
1,2,3,6,7,8-HXCDF		6.18	0.692 (Q)	1.22	1.001
1,2,3,7,8,9-HXCDF	NDR	0.856	0.692 (Q)	0.94	1.000
2,3,4,6,7,8-HXCDF		0.819	0.692 (Q)	1.25	1.001
1,2,3,4,6,7,8-HPCDF		7.75	0.692 (Q)	1.05	1.000
1,2,3,4,7,8,9-HPCDF		1.05	0.692 (Q)	1.18	1.000
OCDF	ND		0.692 (Q)		
TOTAL TETRA-DIOXINS		49.5	0.692 (Q)		
TOTAL PENTA-DIOXINS		4.57	0.692 (Q)		
TOTAL HEXA-DIOXINS		16.9	0.692 (Q)		
TOTAL HEPTA-DIOXINS		15.8	0.692 (Q)		
TOTAL TETRA-FURANS	X				
TOTAL PENTA-FURANS		7.26	0.692 (Q)		
TOTAL HEXA-FURANS		17.2	0.692 (Q)		
TOTAL HEPTA-FURANS		8.80	0.692 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH631  
Sample Collection:  
02-Nov-2010 17:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 14-Feb-2011 Time: 20:54:15

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: 2

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-32 LW

Sample Size: 0.289 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_026 S: 6

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_026 S: 1

% Lipid: 1.10

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD	X				
1,2,3,7,8-PECDD <sup>4</sup>	X				
1,2,3,4,7,8-HXCDD	X				
1,2,3,6,7,8-HXCDD	X				
1,2,3,7,8,9-HXCDD	X				
1,2,3,4,6,7,8-HPCDD	X				
OCDD	X				
2,3,7,8-TCDF	D	1.07	0.692 (Q)	0.70	1.001
1,2,3,7,8-PECDF	X				
2,3,4,7,8-PECDF	X				
1,2,3,4,7,8-HXCDF	X				
1,2,3,6,7,8-HXCDF	X				
1,2,3,7,8,9-HXCDF	X				
2,3,4,6,7,8-HXCDF	X				
1,2,3,4,6,7,8-HPCDF	X				
1,2,3,4,7,8,9-HPCDF	X				
OCDF	X				
TOTAL TETRA-DIOXINS	X				
TOTAL PENTA-DIOXINS	X				
TOTAL HEXA-DIOXINS	X				
TOTAL HEPTA-DIOXINS	X				
TOTAL TETRA-FURANS	D	1.07	0.692 (Q)		
TOTAL PENTA-FURANS	X				
TOTAL HEXA-FURANS	X				
TOTAL HEPTA-FURANS	X				

(1) Where applicable, custom lab flags have been used on this report; D = dilution data; X = result reported separately.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH631

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.289 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 17:00

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-32 L

GC Column ID(s): DB5

Sample Data Filenames: DX1M\_025 S: 31  
DX1M\_026 S: 6

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		49.5	0.692	1	4.95e+01	4.95e+01	
1,2,3,7,8-PECDD		4.57	0.692	1	4.57e+00	4.57e+00	
1,2,3,4,7,8-HXCDD		3.60	0.692	0.1	3.60e-01	3.60e-01	
1,2,3,6,7,8-HXCDD		10.7	0.692	0.1	1.07e+00	1.07e+00	
1,2,3,7,8,9-HXCDD		2.59	0.692	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDD		15.8	0.692	0.01	1.58e-01	1.58e-01	
OCDD		182	0.692	0.0001	1.82e-02	1.82e-02	
2,3,7,8-TCDF		1.07	0.692	0.1	1.07e-01	1.07e-01	
1,2,3,7,8-PECDF		0.901	0.692	0.05	4.51e-02	4.51e-02	
2,3,4,7,8-PECDF		6.36	0.692	0.5	3.18e+00	3.18e+00	
1,2,3,4,7,8-HXCDF		10.2	0.692	0.1	1.02e+00	1.02e+00	
1,2,3,6,7,8-HXCDF		6.18	0.692	0.1	6.18e-01	6.18e-01	
1,2,3,7,8,9-HXCDF	ND		0.692	0.1	0.00e+00	3.46e-02	
2,3,4,6,7,8-HXCDF		0.819	0.692	0.1	8.19e-02	8.19e-02	
1,2,3,4,6,7,8-HPCDF		7.75	0.692	0.01	7.75e-02	7.75e-02	
1,2,3,4,7,8,9-HPCDF		1.05	0.692	0.01	1.05e-02	1.05e-02	
OCDF	ND		0.692	0.0001	0.00e+00	3.46e-05	
<b>TOTAL TEQ</b>					61.1	61.1	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		49.5	0.692	1	4.95e+01	4.95e+01	
1,2,3,7,8-PECDD		4.57	0.692	1	4.57e+00	4.57e+00	
1,2,3,4,7,8-HXCDD		3.60	0.692	0.1	3.60e-01	3.60e-01	
1,2,3,6,7,8-HXCDD		10.7	0.692	0.1	1.07e+00	1.07e+00	
1,2,3,7,8,9-HXCDD		2.59	0.692	0.1	2.59e-01	2.59e-01	
1,2,3,4,6,7,8-HPCDD		15.8	0.692	0.01	1.58e-01	1.58e-01	
OCDD		182	0.692	0.0003	5.46e-02	5.46e-02	
2,3,7,8-TCDF		1.07	0.692	0.1	1.07e-01	1.07e-01	
1,2,3,7,8-PECDF		0.901	0.692	0.03	2.70e-02	2.70e-02	
2,3,4,7,8-PECDF		6.36	0.692	0.3	1.91e+00	1.91e+00	
1,2,3,4,7,8-HXCDF		10.2	0.692	0.1	1.02e+00	1.02e+00	
1,2,3,6,7,8-HXCDF		6.18	0.692	0.1	6.18e-01	6.18e-01	
1,2,3,7,8,9-HXCDF	ND		0.692	0.1	0.00e+00	3.46e-02	
2,3,4,6,7,8-HXCDF		0.819	0.692	0.1	8.19e-02	8.19e-02	
1,2,3,4,6,7,8-HPCDF		7.75	0.692	0.01	7.75e-02	7.75e-02	
1,2,3,4,7,8,9-HPCDF		1.05	0.692	0.01	1.05e-02	1.05e-02	
OCDF	ND		0.692	0.0003	0.00e+00	1.04e-04	
<b>TOTAL TEQ</b>					59.8	59.9	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; D = dilution data.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-32\_TEQ\_SJ1260332\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH632  
Sample Collection:  
02-Nov-2010 17:07

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 14-Feb-2011 Time: 21:46:45

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-33 Li

Sample Size: 0.380 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_026 S: 7

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_026 S: 1

% Lipid: 1.50

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		211	0.527 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>		10.7	0.527 (Q)	0.66	1.001
1,2,3,4,7,8-HXCDD		6.64	0.527 (Q)	1.37	1.000
1,2,3,6,7,8-HXCDD		23.4	0.527 (Q)	1.15	1.000
1,2,3,7,8,9-HXCDD	NDR	5.06	0.527 (Q)	1.01	1.000
1,2,3,4,6,7,8-HPCDD		35.4	0.527 (Q)	0.96	1.000
OCDD		311	0.600 (S)	0.87	1.000
2,3,7,8-TCDF		1.75	0.527 (Q)	0.71	1.001
1,2,3,7,8-PECDF	ND		0.527 (Q)		
2,3,4,7,8-PECDF		9.07	0.527 (Q)	1.62	1.001
1,2,3,4,7,8-HXCDF		11.2	0.527 (Q)	1.24	1.000
1,2,3,6,7,8-HXCDF		6.80	0.527 (Q)	1.32	1.000
1,2,3,7,8,9-HXCDF	ND		0.527 (Q)		
2,3,4,6,7,8-HXCDF		1.19	0.527 (Q)	1.14	1.001
1,2,3,4,6,7,8-HPCDF		10.1	0.527 (Q)	0.99	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.894	0.527 (Q)	0.87	1.000
OCDF	ND		0.527 (Q)		
TOTAL TETRA-DIOXINS		211	0.527 (Q)		
TOTAL PENTA-DIOXINS		10.7	0.527 (Q)		
TOTAL HEXA-DIOXINS		30.0	0.527 (Q)		
TOTAL HEPTA-DIOXINS		35.4	0.527 (Q)		
TOTAL TETRA-FURANS		1.75	0.527 (Q)		
TOTAL PENTA-FURANS		9.07	0.527 (Q)		
TOTAL HEXA-FURANS		19.2	0.527 (Q)		
TOTAL HEPTA-FURANS		10.1	0.527 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH632

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.380 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 17:07

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-33 Li

GC Column ID: DB5

Sample Data Filename: DX1M\_026 S: 7

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		211	0.527	1	2.11e+02	2.11e+02	
1,2,3,7,8-PECDD		10.7	0.527	1	1.07e+01	1.07e+01	
1,2,3,4,7,8-HXCDD		6.64	0.527	0.1	6.64e-01	6.64e-01	
1,2,3,6,7,8-HXCDD		23.4	0.527	0.1	2.34e+00	2.34e+00	
1,2,3,7,8,9-HXCDD	ND		0.527	0.1	0.00e+00	2.64e-02	
1,2,3,4,6,7,8-HPCDD		35.4	0.527	0.01	3.54e-01	3.54e-01	
OCDD		311	0.600	0.0001	3.11e-02	3.11e-02	
2,3,7,8-TCDF		1.75	0.527	0.1	1.75e-01	1.75e-01	
1,2,3,7,8-PECDF	ND		0.527	0.05	0.00e+00	1.32e-02	
2,3,4,7,8-PECDF		9.07	0.527	0.5	4.54e+00	4.54e+00	
1,2,3,4,7,8-HXCDF		11.2	0.527	0.1	1.12e+00	1.12e+00	
1,2,3,6,7,8-HXCDF		6.80	0.527	0.1	6.80e-01	6.80e-01	
1,2,3,7,8,9-HXCDF	ND		0.527	0.1	0.00e+00	2.64e-02	
2,3,4,6,7,8-HXCDF		1.19	0.527	0.1	1.19e-01	1.19e-01	
1,2,3,4,6,7,8-HPCDF		10.1	0.527	0.01	1.01e-01	1.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.527	0.01	0.00e+00	2.64e-03	
OCDF	ND		0.527	0.0001	0.00e+00	2.64e-05	
<b>TOTAL TEQ</b>					<b>232</b>	<b>232</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		211	0.527	1	2.11e+02	2.11e+02	
1,2,3,7,8-PECDD		10.7	0.527	1	1.07e+01	1.07e+01	
1,2,3,4,7,8-HXCDD		6.64	0.527	0.1	6.64e-01	6.64e-01	
1,2,3,6,7,8-HXCDD		23.4	0.527	0.1	2.34e+00	2.34e+00	
1,2,3,7,8,9-HXCDD	ND		0.527	0.1	0.00e+00	2.64e-02	
1,2,3,4,6,7,8-HPCDD		35.4	0.527	0.01	3.54e-01	3.54e-01	
OCDD		311	0.600	0.0003	9.33e-02	9.33e-02	
2,3,7,8-TCDF		1.75	0.527	0.1	1.75e-01	1.75e-01	
1,2,3,7,8-PECDF	ND		0.527	0.03	0.00e+00	7.91e-03	
2,3,4,7,8-PECDF		9.07	0.527	0.3	2.72e+00	2.72e+00	
1,2,3,4,7,8-HXCDF		11.2	0.527	0.1	1.12e+00	1.12e+00	
1,2,3,6,7,8-HXCDF		6.80	0.527	0.1	6.80e-01	6.80e-01	
1,2,3,7,8,9-HXCDF	ND		0.527	0.1	0.00e+00	2.64e-02	
2,3,4,6,7,8-HXCDF		1.19	0.527	0.1	1.19e-01	1.19e-01	
1,2,3,4,6,7,8-HPCDF		10.1	0.527	0.01	1.01e-01	1.01e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.527	0.01	0.00e+00	2.64e-03	
OCDF	ND		0.527	0.0003	0.00e+00	7.91e-05	
<b>TOTAL TEQ</b>					<b>230</b>	<b>230</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-33\_TEQ\_SJ1260847\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH633  
Sample Collection:  
02-Nov-2010 17:50

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-34 Li
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.282 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	14-Feb-2011 Time: 22:41:59	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	<b>DX1M_026 S: 8</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_026 S: 1
		<b>% Lipid:</b>	0.89

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		1970	0.707 (Q)	0.76	1.001
1,2,3,7,8-PECDD <sup>4</sup>		34.2	0.707 (Q)	0.57	1.001
1,2,3,4,7,8-HXCDD		8.18	0.707 (Q)	1.14	1.000
1,2,3,6,7,8-HXCDD		53.2	0.707 (Q)	1.27	1.000
1,2,3,7,8,9-HXCDD	NDR	6.38	0.707 (Q)	0.96	1.000
1,2,3,4,6,7,8-HPCDD		21.6	0.707 (Q)	1.03	1.000
OCDD		163	0.707 (Q)	0.83	1.000
2,3,7,8-TCDF		1.51	0.707 (Q)	0.77	1.001
1,2,3,7,8-PECDF	ND		0.707 (Q)		
2,3,4,7,8-PECDF		11.4	0.707 (Q)	1.42	1.001
1,2,3,4,7,8-HXCDF		8.02	0.707 (Q)	1.19	1.000
1,2,3,6,7,8-HXCDF		5.46	0.707 (Q)	1.06	1.000
1,2,3,7,8,9-HXCDF	ND		0.707 (Q)		
2,3,4,6,7,8-HXCDF		0.763	0.707 (Q)	1.20	1.000
1,2,3,4,6,7,8-HPCDF		8.57	0.707 (Q)	1.00	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.707 (Q)		
OCDF	NDR	0.763	0.707 (Q)	0.71	1.002
TOTAL TETRA-DIOXINS		1970	0.707 (Q)		
TOTAL PENTA-DIOXINS		34.2	0.707 (Q)		
TOTAL HEXA-DIOXINS		61.4	0.707 (Q)		
TOTAL HEPTA-DIOXINS		21.6	0.707 (Q)		
TOTAL TETRA-FURANS		1.51	0.707 (Q)		
TOTAL PENTA-FURANS		11.4	0.707 (Q)		
TOTAL HEXA-FURANS		14.2	0.707 (Q)		
TOTAL HEPTA-FURANS		8.57	0.707 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH633

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.282 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 17:50

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-34 Li

GC Column ID: DB5

Sample Data Filename: DX1M\_026 S: 8

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1970	0.707	1	1.97e+03	1.97e+03	
1,2,3,7,8-PECDD		34.2	0.707	1	3.42e+01	3.42e+01	
1,2,3,4,7,8-HXCDD		8.18	0.707	0.1	8.18e-01	8.18e-01	
1,2,3,6,7,8-HXCDD		53.2	0.707	0.1	5.32e+00	5.32e+00	
1,2,3,7,8,9-HXCDD	ND		0.707	0.1	0.00e+00	3.54e-02	
1,2,3,4,6,7,8-HPCDD		21.6	0.707	0.01	2.16e-01	2.16e-01	
OCDD		163	0.707	0.0001	1.63e-02	1.63e-02	
2,3,7,8-TCDF		1.51	0.707	0.1	1.51e-01	1.51e-01	
1,2,3,7,8-PECDF	ND		0.707	0.05	0.00e+00	1.77e-02	
2,3,4,7,8-PECDF		11.4	0.707	0.5	5.70e+00	5.70e+00	
1,2,3,4,7,8-HXCDF		8.02	0.707	0.1	8.02e-01	8.02e-01	
1,2,3,6,7,8-HXCDF		5.46	0.707	0.1	5.46e-01	5.46e-01	
1,2,3,7,8,9-HXCDF	ND		0.707	0.1	0.00e+00	3.54e-02	
2,3,4,6,7,8-HXCDF		0.763	0.707	0.1	7.63e-02	7.63e-02	
1,2,3,4,6,7,8-HPCDF		8.57	0.707	0.01	8.57e-02	8.57e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.707	0.01	0.00e+00	3.54e-03	
OCDF	ND		0.707	0.0001	0.00e+00	3.54e-05	
<b>TOTAL TEQ</b>					2020	2020	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1970	0.707	1	1.97e+03	1.97e+03	
1,2,3,7,8-PECDD		34.2	0.707	1	3.42e+01	3.42e+01	
1,2,3,4,7,8-HXCDD		8.18	0.707	0.1	8.18e-01	8.18e-01	
1,2,3,6,7,8-HXCDD		53.2	0.707	0.1	5.32e+00	5.32e+00	
1,2,3,7,8,9-HXCDD	ND		0.707	0.1	0.00e+00	3.54e-02	
1,2,3,4,6,7,8-HPCDD		21.6	0.707	0.01	2.16e-01	2.16e-01	
OCDD		163	0.707	0.0003	4.89e-02	4.89e-02	
2,3,7,8-TCDF		1.51	0.707	0.1	1.51e-01	1.51e-01	
1,2,3,7,8-PECDF	ND		0.707	0.03	0.00e+00	1.06e-02	
2,3,4,7,8-PECDF		11.4	0.707	0.3	3.42e+00	3.42e+00	
1,2,3,4,7,8-HXCDF		8.02	0.707	0.1	8.02e-01	8.02e-01	
1,2,3,6,7,8-HXCDF		5.46	0.707	0.1	5.46e-01	5.46e-01	
1,2,3,7,8,9-HXCDF	ND		0.707	0.1	0.00e+00	3.54e-02	
2,3,4,6,7,8-HXCDF		0.763	0.707	0.1	7.63e-02	7.63e-02	
1,2,3,4,6,7,8-HPCDF		8.57	0.707	0.01	8.57e-02	8.57e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.707	0.01	0.00e+00	3.54e-03	
OCDF	ND		0.707	0.0003	0.00e+00	1.06e-04	
<b>TOTAL TEQ</b>					<b>2020</b>	<b>2020</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-34\_TEQ\_SJ1260848\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH634  
Sample Collection:  
02-Nov-2010 17:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-35 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.205 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 00:13:53	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 17
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 11
		<b>% Lipid:</b>	0.64

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		87.0	0.970 (Q)	0.77	1.001
1,2,3,7,8-PECDD <sup>4</sup>	NDR	4.18	0.970 (Q)	0.42	1.002
1,2,3,4,7,8-HXCDD	NDR	3.97	0.970 (Q)	0.86	1.001
1,2,3,6,7,8-HXCDD		9.96	0.970 (Q)	1.20	1.001
1,2,3,7,8,9-HXCDD		3.53	0.970 (Q)	1.40	1.000
1,2,3,4,6,7,8-HPCDD		24.1	0.970 (Q)	1.10	1.000
OCDD		158	0.970 (Q)	0.80	1.000
2,3,7,8-TCDF		1.80	0.970 (Q)	0.86	1.001
1,2,3,7,8-PECDF	NDR	1.30	0.970 (Q)	0.80	1.002
2,3,4,7,8-PECDF		6.52	0.970 (Q)	1.57	1.001
1,2,3,4,7,8-HXCDF		9.29	0.970 (Q)	1.20	1.000
1,2,3,6,7,8-HXCDF		6.77	0.970 (Q)	1.13	1.001
1,2,3,7,8,9-HXCDF	ND		0.970 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.34	0.970 (Q)	1.63	1.000
1,2,3,4,6,7,8-HPCDF		11.8	0.970 (Q)	1.05	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.27	0.970 (Q)	0.80	1.000
OCDF	ND		0.970 (Q)		
TOTAL TETRA-DIOXINS		87.0	0.970 (Q)		
TOTAL PENTA-DIOXINS	ND		0.970 (Q)		
TOTAL HEXA-DIOXINS		13.5	0.970 (Q)		
TOTAL HEPTA-DIOXINS		24.1	0.970 (Q)		
TOTAL TETRA-FURANS		1.80	0.970 (Q)		
TOTAL PENTA-FURANS		6.52	0.970 (Q)		
TOTAL HEXA-FURANS		16.1	0.970 (Q)		
TOTAL HEPTA-FURANS		11.8	0.970 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_





AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH634

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 17:15

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-35 L

Sample Size: 0.205 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_025 S: 17

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		87.0	0.970	1	8.70e+01	8.70e+01	
1,2,3,7,8-PECDD	ND		0.970	1	0.00e+00	4.85e-01	
1,2,3,4,7,8-HXCDD	ND		0.970	0.1	0.00e+00	4.85e-02	
1,2,3,6,7,8-HXCDD		9.96	0.970	0.1	9.96e-01	9.96e-01	
1,2,3,7,8,9-HXCDD		3.53	0.970	0.1	3.53e-01	3.53e-01	
1,2,3,4,6,7,8-HPCDD		24.1	0.970	0.01	2.41e-01	2.41e-01	
OCDD		158	0.970	0.0001	1.58e-02	1.58e-02	
2,3,7,8-TCDF		1.80	0.970	0.1	1.80e-01	1.80e-01	
1,2,3,7,8-PECDF	ND		0.970	0.05	0.00e+00	2.43e-02	
2,3,4,7,8-PECDF		6.52	0.970	0.5	3.26e+00	3.26e+00	
1,2,3,4,7,8-HXCDF		9.29	0.970	0.1	9.29e-01	9.29e-01	
1,2,3,6,7,8-HXCDF		6.77	0.970	0.1	6.77e-01	6.77e-01	
1,2,3,7,8,9-HXCDF	ND		0.970	0.1	0.00e+00	4.85e-02	
2,3,4,6,7,8-HXCDF	ND		0.970	0.1	0.00e+00	4.85e-02	
1,2,3,4,6,7,8-HPCDF		11.8	0.970	0.01	1.18e-01	1.18e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.970	0.01	0.00e+00	4.85e-03	
OCDF	ND		0.970	0.0001	0.00e+00	4.85e-05	
<b>TOTAL TEQ</b>					<b>93.8</b>	<b>94.4</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		87.0	0.970	1	8.70e+01	8.70e+01	
1,2,3,7,8-PECDD	ND		0.970	1	0.00e+00	4.85e-01	
1,2,3,4,7,8-HXCDD	ND		0.970	0.1	0.00e+00	4.85e-02	
1,2,3,6,7,8-HXCDD		9.96	0.970	0.1	9.96e-01	9.96e-01	
1,2,3,7,8,9-HXCDD		3.53	0.970	0.1	3.53e-01	3.53e-01	
1,2,3,4,6,7,8-HPCDD		24.1	0.970	0.01	2.41e-01	2.41e-01	
OCDD		158	0.970	0.0003	4.74e-02	4.74e-02	
2,3,7,8-TCDF		1.80	0.970	0.1	1.80e-01	1.80e-01	
1,2,3,7,8-PECDF	ND		0.970	0.03	0.00e+00	1.46e-02	
2,3,4,7,8-PECDF		6.52	0.970	0.3	1.96e+00	1.96e+00	
1,2,3,4,7,8-HXCDF		9.29	0.970	0.1	9.29e-01	9.29e-01	
1,2,3,6,7,8-HXCDF		6.77	0.970	0.1	6.77e-01	6.77e-01	
1,2,3,7,8,9-HXCDF	ND		0.970	0.1	0.00e+00	4.85e-02	
2,3,4,6,7,8-HXCDF	ND		0.970	0.1	0.00e+00	4.85e-02	
1,2,3,4,6,7,8-HPCDF		11.8	0.970	0.01	1.18e-01	1.18e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.970	0.01	0.00e+00	4.85e-03	
OCDF	ND		0.970	0.0003	0.00e+00	1.46e-04	
<b>TOTAL TEQ</b>					<b>92.5</b>	<b>93.1</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-35\_TEQ\_SJ1260255\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH635  
Sample Collection:  
02-Nov-2010 17:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-36 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.373 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 15:30:26	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 33
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 28
		<b>% Lipid:</b>	1.70

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		67.1	0.536 (Q)	0.72	1.001
1,2,3,7,8-PECDD <sup>4</sup>		4.75	0.536 (Q)	0.65	1.001
1,2,3,4,7,8-HXCDD		2.68	0.536 (Q)	1.14	1.000
1,2,3,6,7,8-HXCDD		7.77	0.536 (Q)	1.24	1.000
1,2,3,7,8,9-HXCDD		1.92	0.536 (Q)	1.26	1.001
1,2,3,4,6,7,8-HPCDD		12.8	0.536 (Q)	0.92	1.000
OCDD		131	0.536 (Q)	0.85	1.000
2,3,7,8-TCDF	G	2.38	0.536 (Q)	0.77	1.001
1,2,3,7,8-PECDF	NDR	0.906	0.536 (Q)	1.28	1.001
2,3,4,7,8-PECDF	NDR	4.67	0.536 (Q)	1.83	1.001
1,2,3,4,7,8-HXCDF		6.18	0.536 (Q)	1.26	1.000
1,2,3,6,7,8-HXCDF		3.64	0.536 (Q)	1.24	1.000
1,2,3,7,8,9-HXCDF	ND		0.536 (Q)		
2,3,4,6,7,8-HXCDF	NDR	0.777	0.536 (Q)	0.95	1.000
1,2,3,4,6,7,8-HPCDF		5.09	0.536 (Q)	1.06	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.536 (Q)		
OCDF	ND		0.536 (Q)		
TOTAL TETRA-DIOXINS		67.1	0.536 (Q)		
TOTAL PENTA-DIOXINS		4.75	0.536 (Q)		
TOTAL HEXA-DIOXINS		12.4	0.536 (Q)		
TOTAL HEPTA-DIOXINS		12.8	0.536 (Q)		
TOTAL TETRA-FURANS		2.38	0.536 (Q)		
TOTAL PENTA-FURANS	ND		0.536 (Q)		
TOTAL HEXA-FURANS		9.83	0.536 (Q)		
TOTAL HEPTA-FURANS		5.09	0.536 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH635

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.373 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 17:20

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-36 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 33

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		67.1	0.536	1	6.71e+01	6.71e+01	
1,2,3,7,8-PECDD		4.75	0.536	1	4.75e+00	4.75e+00	
1,2,3,4,7,8-HXCDD		2.68	0.536	0.1	2.68e-01	2.68e-01	
1,2,3,6,7,8-HXCDD		7.77	0.536	0.1	7.77e-01	7.77e-01	
1,2,3,7,8,9-HXCDD		1.92	0.536	0.1	1.92e-01	1.92e-01	
1,2,3,4,6,7,8-HPCDD		12.8	0.536	0.01	1.28e-01	1.28e-01	
OCDD		131	0.536	0.0001	1.31e-02	1.31e-02	
2,3,7,8-TCDF		2.38	0.536	0.1	2.38e-01	2.38e-01	
1,2,3,7,8-PECDF	ND		0.536	0.05	0.00e+00	1.34e-02	
2,3,4,7,8-PECDF	ND		0.536	0.5	0.00e+00	1.34e-01	
1,2,3,4,7,8-HXCDF		6.18	0.536	0.1	6.18e-01	6.18e-01	
1,2,3,6,7,8-HXCDF		3.64	0.536	0.1	3.64e-01	3.64e-01	
1,2,3,7,8,9-HXCDF	ND		0.536	0.1	0.00e+00	2.68e-02	
2,3,4,6,7,8-HXCDF	ND		0.536	0.1	0.00e+00	2.68e-02	
1,2,3,4,6,7,8-HPCDF		5.09	0.536	0.01	5.09e-02	5.09e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.536	0.01	0.00e+00	2.68e-03	
OCDF	ND		0.536	0.0001	0.00e+00	2.68e-05	
<b>TOTAL TEQ</b>					<b>74.5</b>	<b>74.7</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		67.1	0.536	1	6.71e+01	6.71e+01	
1,2,3,7,8-PECDD		4.75	0.536	1	4.75e+00	4.75e+00	
1,2,3,4,7,8-HXCDD		2.68	0.536	0.1	2.68e-01	2.68e-01	
1,2,3,6,7,8-HXCDD		7.77	0.536	0.1	7.77e-01	7.77e-01	
1,2,3,7,8,9-HXCDD		1.92	0.536	0.1	1.92e-01	1.92e-01	
1,2,3,4,6,7,8-HPCDD		12.8	0.536	0.01	1.28e-01	1.28e-01	
OCDD		131	0.536	0.0003	3.93e-02	3.93e-02	
2,3,7,8-TCDF		2.38	0.536	0.1	2.38e-01	2.38e-01	
1,2,3,7,8-PECDF	ND		0.536	0.03	0.00e+00	8.04e-03	
2,3,4,7,8-PECDF	ND		0.536	0.3	0.00e+00	8.04e-02	
1,2,3,4,7,8-HXCDF		6.18	0.536	0.1	6.18e-01	6.18e-01	
1,2,3,6,7,8-HXCDF		3.64	0.536	0.1	3.64e-01	3.64e-01	
1,2,3,7,8,9-HXCDF	ND		0.536	0.1	0.00e+00	2.68e-02	
2,3,4,6,7,8-HXCDF	ND		0.536	0.1	0.00e+00	2.68e-02	
1,2,3,4,6,7,8-HPCDF		5.09	0.536	0.01	5.09e-02	5.09e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.536	0.01	0.00e+00	2.68e-03	
OCDF	ND		0.536	0.0003	0.00e+00	8.04e-05	
<b>TOTAL TEQ</b>					<b>74.5</b>	<b>74.7</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-36\_TEQ\_SJ1260334\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH636  
Sample Collection:  
02-Nov-2010 17:40

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-37 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.207 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 18:16:07	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 36
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 28
		<b>% Lipid:</b>	0.67

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		161	0.969 (Q)	0.74	1.001
1,2,3,7,8-PECDD <sup>4</sup>		13.4	0.969 (Q)	0.52	1.000
1,2,3,4,7,8-HXCDD		8.90	2.12 (S)	1.26	1.001
1,2,3,6,7,8-HXCDD		26.7	2.12 (S)	1.30	1.000
1,2,3,7,8,9-HXCDD		8.41	2.12 (S)	1.42	1.001
1,2,3,4,6,7,8-HPCDD		54.3	0.969 (Q)	1.02	1.000
OCDD		449	1.18 (S)	0.85	1.000
2,3,7,8-TCDF		2.76	0.969 (Q)	0.77	1.001
1,2,3,7,8-PECDF	ND		0.969 (Q)		
2,3,4,7,8-PECDF	NDR	12.4	0.969 (Q)	1.30	1.001
1,2,3,4,7,8-HXCDF		15.7	0.969 (Q)	1.31	1.000
1,2,3,6,7,8-HXCDF		12.7	0.969 (Q)	1.23	1.000
1,2,3,7,8,9-HXCDF	NDR	1.06	0.969 (Q)	0.48	1.000
2,3,4,6,7,8-HXCDF	NDR	3.16	0.969 (Q)	1.66	1.000
1,2,3,4,6,7,8-HPCDF		14.5	1.74 (S)	1.01	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.79	1.74 (S)	1.27	1.001
OCDF	ND		0.969 (Q)		
TOTAL TETRA-DIOXINS		161	0.969 (Q)		
TOTAL PENTA-DIOXINS		13.4	0.969 (Q)		
TOTAL HEXA-DIOXINS		44.0	2.12 (S)		
TOTAL HEPTA-DIOXINS		54.3	0.969 (Q)		
TOTAL TETRA-FURANS		2.76	0.969 (Q)		
TOTAL PENTA-FURANS	ND		0.969 (Q)		
TOTAL HEXA-FURANS		28.3	0.969 (Q)		
TOTAL HEPTA-FURANS		14.5	1.74 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH636

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.207 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 17:40

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-37 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 36

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		161	0.969	1	1.61e+02	1.61e+02	
1,2,3,7,8-PECDD		13.4	0.969	1	1.34e+01	1.34e+01	
1,2,3,4,7,8-HXCDD		8.90	2.12	0.1	8.90e-01	8.90e-01	
1,2,3,6,7,8-HXCDD		26.7	2.12	0.1	2.67e+00	2.67e+00	
1,2,3,7,8,9-HXCDD		8.41	2.12	0.1	8.41e-01	8.41e-01	
1,2,3,4,6,7,8-HPCDD		54.3	0.969	0.01	5.43e-01	5.43e-01	
OCDD		449	1.18	0.0001	4.49e-02	4.49e-02	
2,3,7,8-TCDF		2.76	0.969	0.1	2.76e-01	2.76e-01	
1,2,3,7,8-PECDF	ND		0.969	0.05	0.00e+00	2.42e-02	
2,3,4,7,8-PECDF	ND		0.969	0.5	0.00e+00	2.42e-01	
1,2,3,4,7,8-HXCDF		15.7	0.969	0.1	1.57e+00	1.57e+00	
1,2,3,6,7,8-HXCDF		12.7	0.969	0.1	1.27e+00	1.27e+00	
1,2,3,7,8,9-HXCDF	ND		0.969	0.1	0.00e+00	4.85e-02	
2,3,4,6,7,8-HXCDF	ND		0.969	0.1	0.00e+00	4.85e-02	
1,2,3,4,6,7,8-HPCDF		14.5	1.74	0.01	1.45e-01	1.45e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.74	0.01	0.00e+00	8.70e-03	
OCDF	ND		0.969	0.0001	0.00e+00	4.85e-05	
<b>TOTAL TEQ</b>					183	183	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		161	0.969	1	1.61e+02	1.61e+02	
1,2,3,7,8-PECDD		13.4	0.969	1	1.34e+01	1.34e+01	
1,2,3,4,7,8-HXCDD		8.90	2.12	0.1	8.90e-01	8.90e-01	
1,2,3,6,7,8-HXCDD		26.7	2.12	0.1	2.67e+00	2.67e+00	
1,2,3,7,8,9-HXCDD		8.41	2.12	0.1	8.41e-01	8.41e-01	
1,2,3,4,6,7,8-HPCDD		54.3	0.969	0.01	5.43e-01	5.43e-01	
OCDD		449	1.18	0.0003	1.35e-01	1.35e-01	
2,3,7,8-TCDF		2.76	0.969	0.1	2.76e-01	2.76e-01	
1,2,3,7,8-PECDF	ND		0.969	0.03	0.00e+00	1.45e-02	
2,3,4,7,8-PECDF	ND		0.969	0.3	0.00e+00	1.45e-01	
1,2,3,4,7,8-HXCDF		15.7	0.969	0.1	1.57e+00	1.57e+00	
1,2,3,6,7,8-HXCDF		12.7	0.969	0.1	1.27e+00	1.27e+00	
1,2,3,7,8,9-HXCDF	ND		0.969	0.1	0.00e+00	4.85e-02	
2,3,4,6,7,8-HXCDF	ND		0.969	0.1	0.00e+00	4.85e-02	
1,2,3,4,6,7,8-HPCDF		14.5	1.74	0.01	1.45e-01	1.45e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.74	0.01	0.00e+00	8.70e-03	
OCDF	ND		0.969	0.0003	0.00e+00	1.45e-04	
<b>TOTAL TEQ</b>					<b>183</b>	<b>183</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-37\_TEQ\_SJ1260337\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]





AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH637  
Sample Collection:  
02-Nov-2010 18:00

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-38 i
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.167 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	29-Jan-2011 Time: 21:18:36	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_017A S: 61
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_017A S: 58
		<b>% Lipid:</b>	0.51

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		1130	1.20 (Q)	0.74	1.001
1,2,3,7,8-PECDD <sup>4</sup>		17.6	1.20 (Q)	0.54	1.000
1,2,3,4,7,8-HXCDD		5.87	1.20 (Q)	1.28	1.000
1,2,3,6,7,8-HXCDD		31.0	1.20 (Q)	1.09	1.000
1,2,3,7,8,9-HXCDD		7.63	1.20 (Q)	1.37	1.000
1,2,3,4,6,7,8-HPCDD		32.8	1.20 (Q)	0.97	1.000
OCDD		332	1.20 (Q)	0.85	1.001
2,3,7,8-TCDF		3.24	1.20 (Q)	0.66	1.001
1,2,3,7,8-PECDF	ND		1.20 (Q)		
2,3,4,7,8-PECDF	NDR	7.26	1.20 (Q)	2.01	1.001
1,2,3,4,7,8-HXCDF		10.7	1.20 (Q)	1.26	1.001
1,2,3,6,7,8-HXCDF	NDR	6.22	1.20 (Q)	1.57	1.001
1,2,3,7,8,9-HXCDF	ND		1.20 (Q)		
2,3,4,6,7,8-HXCDF	ND		1.20 (Q)		
1,2,3,4,6,7,8-HPCDF		17.6	1.20 (Q)	1.03	1.000
1,2,3,4,7,8,9-HPCDF	ND		1.20 (Q)		
OCDF	NDR	1.41	1.20 (Q)	0.51	1.003
TOTAL TETRA-DIOXINS		1130	1.20 (Q)		
TOTAL PENTA-DIOXINS		17.6	1.20 (Q)		
TOTAL HEXA-DIOXINS		44.3	1.20 (Q)		
TOTAL HEPTA-DIOXINS		32.8	1.20 (Q)		
TOTAL TETRA-FURANS		4.88	1.20 (Q)		
TOTAL PENTA-FURANS	ND		1.20 (Q)		
TOTAL HEXA-FURANS		10.7	1.20 (Q)		
TOTAL HEPTA-FURANS		17.6	1.20 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH637

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 18:00

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-38 i

Sample Size: 0.167 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_017A S: 61

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1130	1.20	1	1.13e+03	1.13e+03	
1,2,3,7,8-PECDD		17.6	1.20	1	1.76e+01	1.76e+01	
1,2,3,4,7,8-HXCDD		5.87	1.20	0.1	5.87e-01	5.87e-01	
1,2,3,6,7,8-HXCDD		31.0	1.20	0.1	3.10e+00	3.10e+00	
1,2,3,7,8,9-HXCDD		7.63	1.20	0.1	7.63e-01	7.63e-01	
1,2,3,4,6,7,8-HPCDD		32.8	1.20	0.01	3.28e-01	3.28e-01	
OCDD		332	1.20	0.0001	3.32e-02	3.32e-02	
2,3,7,8-TCDF		3.24	1.20	0.1	3.24e-01	3.24e-01	
1,2,3,7,8-PECDF	ND		1.20	0.05	0.00e+00	3.00e-02	
2,3,4,7,8-PECDF	ND		1.20	0.5	0.00e+00	3.00e-01	
1,2,3,4,7,8-HXCDF		10.7	1.20	0.1	1.07e+00	1.07e+00	
1,2,3,6,7,8-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
1,2,3,7,8,9-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
2,3,4,6,7,8-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
1,2,3,4,6,7,8-HPCDF		17.6	1.20	0.01	1.76e-01	1.76e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.20	0.01	0.00e+00	6.00e-03	
OCDF	ND		1.20	0.0001	0.00e+00	6.00e-05	
<b>TOTAL TEQ</b>					1150	1150	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1130	1.20	1	1.13e+03	1.13e+03	
1,2,3,7,8-PECDD		17.6	1.20	1	1.76e+01	1.76e+01	
1,2,3,4,7,8-HXCDD		5.87	1.20	0.1	5.87e-01	5.87e-01	
1,2,3,6,7,8-HXCDD		31.0	1.20	0.1	3.10e+00	3.10e+00	
1,2,3,7,8,9-HXCDD		7.63	1.20	0.1	7.63e-01	7.63e-01	
1,2,3,4,6,7,8-HPCDD		32.8	1.20	0.01	3.28e-01	3.28e-01	
OCDD		332	1.20	0.0003	9.96e-02	9.96e-02	
2,3,7,8-TCDF		3.24	1.20	0.1	3.24e-01	3.24e-01	
1,2,3,7,8-PECDF	ND		1.20	0.03	0.00e+00	1.80e-02	
2,3,4,7,8-PECDF	ND		1.20	0.3	0.00e+00	1.80e-01	
1,2,3,4,7,8-HXCDF		10.7	1.20	0.1	1.07e+00	1.07e+00	
1,2,3,6,7,8-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
1,2,3,7,8,9-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
2,3,4,6,7,8-HXCDF	ND		1.20	0.1	0.00e+00	6.00e-02	
1,2,3,4,6,7,8-HPCDF		17.6	1.20	0.01	1.76e-01	1.76e-01	
1,2,3,4,7,8,9-HPCDF	ND		1.20	0.01	0.00e+00	6.00e-03	
OCDF	ND		1.20	0.0003	0.00e+00	1.80e-04	
<b>TOTAL TEQ</b>					<b>1150</b>	<b>1150</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-38\_TEQ\_SJ1253272\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH638  
Sample Collection:  
02-Nov-2010 17:45

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Receipt Date: 19-Nov-2010

Extraction Date: 11-Jan-2011

Analysis Date: 29-Jan-2011 Time: 22:13:51

Extract Volume (uL): 10

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (lipid weight basis)

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-39

Sample Size: 0.202 g (lipid)

Initial Calibration Date: 04-Jan-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

Sample Data Filename: DX1M\_017A S: 62

Blank Data Filename: DX1M\_017A S: 33

Cal. Ver. Data Filename: DX1M\_017A S: 58

% Lipid: 0.80

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		28.1	0.989 (Q)	0.75	1.001
1,2,3,7,8-PECDD <sup>4</sup>		6.79	0.989 (Q)	0.68	1.000
1,2,3,4,7,8-HXCDD		5.52	0.989 (Q)	1.09	1.000
1,2,3,6,7,8-HXCDD		20.8	0.989 (Q)	1.28	1.000
1,2,3,7,8,9-HXCDD	NDR	5.07	0.989 (Q)	1.54	1.000
1,2,3,4,6,7,8-HPCDD		36.2	0.989 (Q)	1.05	1.000
OCDD		392	0.989 (Q)	0.85	1.000
2,3,7,8-TCDF	NDR	1.03	0.989 (Q)	1.34	1.000
1,2,3,7,8-PECDF	ND		0.989 (Q)		
2,3,4,7,8-PECDF		9.11	0.989 (Q)	1.51	1.001
1,2,3,4,7,8-HXCDF		15.5	0.989 (Q)	1.25	1.001
1,2,3,6,7,8-HXCDF		11.5	0.989 (Q)	1.27	1.001
1,2,3,7,8,9-HXCDF	ND		0.989 (Q)		
2,3,4,6,7,8-HXCDF		2.79	0.989 (Q)	1.09	1.000
1,2,3,4,6,7,8-HPCDF		18.5	0.989 (Q)	1.14	1.001
1,2,3,4,7,8,9-HPCDF	NDR	1.38	0.989 (Q)	0.74	1.001
OCDF		1.03	0.989 (Q)	0.97	1.002
TOTAL TETRA-DIOXINS		28.1	0.989 (Q)		
TOTAL PENTA-DIOXINS		6.79	0.989 (Q)		
TOTAL HEXA-DIOXINS		26.3	0.989 (Q)		
TOTAL HEPTA-DIOXINS		36.2	0.989 (Q)		
TOTAL TETRA-FURANS	ND		0.989 (Q)		
TOTAL PENTA-FURANS		9.11	0.989 (Q)		
TOTAL HEXA-FURANS		29.9	0.989 (Q)		
TOTAL HEPTA-FURANS		18.5	0.989 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH638

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 17:45

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-39

Sample Size: 0.202 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_017A S: 62

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		28.1	0.989	1	2.81e+01	2.81e+01	
1,2,3,7,8-PECDD		6.79	0.989	1	6.79e+00	6.79e+00	
1,2,3,4,7,8-HXCDD		5.52	0.989	0.1	5.52e-01	5.52e-01	
1,2,3,6,7,8-HXCDD		20.8	0.989	0.1	2.08e+00	2.08e+00	
1,2,3,7,8,9-HXCDD	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,4,6,7,8-HPCDD		36.2	0.989	0.01	3.62e-01	3.62e-01	
OCDD		392	0.989	0.0001	3.92e-02	3.92e-02	
2,3,7,8-TCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,7,8-PECDF	ND		0.989	0.05	0.00e+00	2.47e-02	
2,3,4,7,8-PECDF		9.11	0.989	0.5	4.56e+00	4.56e+00	
1,2,3,4,7,8-HXCDF		15.5	0.989	0.1	1.55e+00	1.55e+00	
1,2,3,6,7,8-HXCDF		11.5	0.989	0.1	1.15e+00	1.15e+00	
1,2,3,7,8,9-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
2,3,4,6,7,8-HXCDF		2.79	0.989	0.1	2.79e-01	2.79e-01	
1,2,3,4,6,7,8-HPCDF		18.5	0.989	0.01	1.85e-01	1.85e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.989	0.01	0.00e+00	4.95e-03	
OCDF		1.03	0.989	0.0001	1.03e-04	1.03e-04	
<b>TOTAL TEQ</b>					<b>45.6</b>	<b>45.8</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		28.1	0.989	1	2.81e+01	2.81e+01	
1,2,3,7,8-PECDD		6.79	0.989	1	6.79e+00	6.79e+00	
1,2,3,4,7,8-HXCDD		5.52	0.989	0.1	5.52e-01	5.52e-01	
1,2,3,6,7,8-HXCDD		20.8	0.989	0.1	2.08e+00	2.08e+00	
1,2,3,7,8,9-HXCDD	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,4,6,7,8-HPCDD		36.2	0.989	0.01	3.62e-01	3.62e-01	
OCDD		392	0.989	0.0003	1.18e-01	1.18e-01	
2,3,7,8-TCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
1,2,3,7,8-PECDF	ND		0.989	0.03	0.00e+00	1.48e-02	
2,3,4,7,8-PECDF		9.11	0.989	0.3	2.73e+00	2.73e+00	
1,2,3,4,7,8-HXCDF		15.5	0.989	0.1	1.55e+00	1.55e+00	
1,2,3,6,7,8-HXCDF		11.5	0.989	0.1	1.15e+00	1.15e+00	
1,2,3,7,8,9-HXCDF	ND		0.989	0.1	0.00e+00	4.95e-02	
2,3,4,6,7,8-HXCDF		2.79	0.989	0.1	2.79e-01	2.79e-01	
1,2,3,4,6,7,8-HPCDF		18.5	0.989	0.01	1.85e-01	1.85e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.989	0.01	0.00e+00	4.95e-03	
OCDF		1.03	0.989	0.0003	3.09e-04	3.09e-04	
<b>TOTAL TEQ</b>					<b>43.9</b>	<b>44.1</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-39\_TEQ\_SJ1253273\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH639  
Sample Collection:  
02-Nov-2010 18:15

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-40 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.260 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 16:25:40	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	<b>DX1M_025 S: 34</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 28
		<b>% Lipid:</b>	0.77

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		102	0.766 (Q)	0.78	1.001
1,2,3,7,8-PECDD <sup>4</sup>		9.54	0.766 (Q)	0.54	1.000
1,2,3,4,7,8-HXCDD		8.70	0.766 (Q)	1.10	1.000
1,2,3,6,7,8-HXCDD		29.5	0.766 (Q)	1.31	1.001
1,2,3,7,8,9-HXCDD	NDR	4.99	0.766 (Q)	1.53	1.000
1,2,3,4,6,7,8-HPCDD		59.6	0.766 (Q)	1.04	1.000
OCDD		802	0.766 (Q)	0.87	1.000
2,3,7,8-TCDF		1.13	0.766 (Q)	0.87	1.001
1,2,3,7,8-PECDF	ND		0.766 (Q)		
2,3,4,7,8-PECDF		6.99	0.766 (Q)	1.33	1.001
1,2,3,4,7,8-HXCDF		11.7	0.766 (Q)	1.07	1.001
1,2,3,6,7,8-HXCDF		7.27	0.766 (Q)	1.36	1.000
1,2,3,7,8,9-HXCDF	ND		0.766 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.51	0.766 (Q)	1.66	1.000
1,2,3,4,6,7,8-HPCDF		17.3	0.766 (Q)	0.98	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.805	0.766 (Q)	0.87	1.001
OCDF		1.31	0.766 (Q)	0.84	1.002
TOTAL TETRA-DIOXINS		102	0.766 (Q)		
TOTAL PENTA-DIOXINS		9.54	0.766 (Q)		
TOTAL HEXA-DIOXINS		38.2	0.766 (Q)		
TOTAL HEPTA-DIOXINS		60.8	0.766 (Q)		
TOTAL TETRA-FURANS		1.13	0.766 (Q)		
TOTAL PENTA-FURANS		6.99	0.766 (Q)		
TOTAL HEXA-FURANS		19.0	0.766 (Q)		
TOTAL HEPTA-FURANS		17.3	0.766 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH639

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.260 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 18:15

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-40 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 34

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		102	0.766	1	1.02e+02	1.02e+02	
1,2,3,7,8-PECDD		9.54	0.766	1	9.54e+00	9.54e+00	
1,2,3,4,7,8-HXCDD		8.70	0.766	0.1	8.70e-01	8.70e-01	
1,2,3,6,7,8-HXCDD		29.5	0.766	0.1	2.95e+00	2.95e+00	
1,2,3,7,8,9-HXCDD	ND		0.766	0.1	0.00e+00	3.83e-02	
1,2,3,4,6,7,8-HPCDD		59.6	0.766	0.01	5.96e-01	5.96e-01	
OCDD		802	0.766	0.0001	8.02e-02	8.02e-02	
2,3,7,8-TCDF		1.13	0.766	0.1	1.13e-01	1.13e-01	
1,2,3,7,8-PECDF	ND		0.766	0.05	0.00e+00	1.92e-02	
2,3,4,7,8-PECDF		6.99	0.766	0.5	3.50e+00	3.50e+00	
1,2,3,4,7,8-HXCDF		11.7	0.766	0.1	1.17e+00	1.17e+00	
1,2,3,6,7,8-HXCDF		7.27	0.766	0.1	7.27e-01	7.27e-01	
1,2,3,7,8,9-HXCDF	ND		0.766	0.1	0.00e+00	3.83e-02	
2,3,4,6,7,8-HXCDF	ND		0.766	0.1	0.00e+00	3.83e-02	
1,2,3,4,6,7,8-HPCDF		17.3	0.766	0.01	1.73e-01	1.73e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.766	0.01	0.00e+00	3.83e-03	
OCDF		1.31	0.766	0.0001	1.31e-04	1.31e-04	
<b>TOTAL TEQ</b>					<b>122</b>	<b>122</b>	





COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		102	0.766	1	1.02e+02	1.02e+02	
1,2,3,7,8-PECDD		9.54	0.766	1	9.54e+00	9.54e+00	
1,2,3,4,7,8-HXCDD		8.70	0.766	0.1	8.70e-01	8.70e-01	
1,2,3,6,7,8-HXCDD		29.5	0.766	0.1	2.95e+00	2.95e+00	
1,2,3,7,8,9-HXCDD	ND		0.766	0.1	0.00e+00	3.83e-02	
1,2,3,4,6,7,8-HPCDD		59.6	0.766	0.01	5.96e-01	5.96e-01	
OCDD		802	0.766	0.0003	2.41e-01	2.41e-01	
2,3,7,8-TCDF		1.13	0.766	0.1	1.13e-01	1.13e-01	
1,2,3,7,8-PECDF	ND		0.766	0.03	0.00e+00	1.15e-02	
2,3,4,7,8-PECDF		6.99	0.766	0.3	2.10e+00	2.10e+00	
1,2,3,4,7,8-HXCDF		11.7	0.766	0.1	1.17e+00	1.17e+00	
1,2,3,6,7,8-HXCDF		7.27	0.766	0.1	7.27e-01	7.27e-01	
1,2,3,7,8,9-HXCDF	ND		0.766	0.1	0.00e+00	3.83e-02	
2,3,4,6,7,8-HXCDF	ND		0.766	0.1	0.00e+00	3.83e-02	
1,2,3,4,6,7,8-HPCDF		17.3	0.766	0.01	1.73e-01	1.73e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.766	0.01	0.00e+00	3.83e-03	
OCDF		1.31	0.766	0.0003	3.93e-04	3.93e-04	
<b>TOTAL TEQ</b>					120	121	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-40\_TEQ\_SJ1260335\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH640  
Sample Collection:  
02-Nov-2010 18:05

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-41 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.224 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 02:04:15	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	DX1M_025 S: 19
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 11
		<b>% Lipid:</b>	0.73

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		34.4	0.892 (Q)	0.74	1.001
1,2,3,7,8-PECDD <sup>4</sup>		5.98	0.892 (Q)	0.59	1.001
1,2,3,4,7,8-HXCDD		4.47	0.892 (Q)	1.27	1.001
1,2,3,6,7,8-HXCDD		14.3	0.892 (Q)	1.28	1.000
1,2,3,7,8,9-HXCDD		3.99	0.892 (Q)	1.15	1.000
1,2,3,4,6,7,8-HPCDD		33.3	0.892 (Q)	0.93	1.000
OCDD		339	0.892 (Q)	0.87	1.000
2,3,7,8-TCDF		1.78	0.892 (Q)	0.82	1.001
1,2,3,7,8-PECDF	ND		0.892 (Q)		
2,3,4,7,8-PECDF		6.43	0.892 (Q)	1.41	1.001
1,2,3,4,7,8-HXCDF	NDR	16.7	0.892 (Q)	1.02	1.000
1,2,3,6,7,8-HXCDF		10.9	0.892 (Q)	1.06	1.000
1,2,3,7,8,9-HXCDF	ND		0.892 (Q)		
2,3,4,6,7,8-HXCDF		1.43	0.892 (Q)	1.11	1.001
1,2,3,4,6,7,8-HPCDF		20.6	0.892 (Q)	1.00	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.71	0.892 (Q)	1.68	1.001
OCDF	ND		0.892 (Q)		
TOTAL TETRA-DIOXINS		34.4	0.892 (Q)		
TOTAL PENTA-DIOXINS		5.98	0.892 (Q)		
TOTAL HEXA-DIOXINS		22.8	0.892 (Q)		
TOTAL HEPTA-DIOXINS		33.3	0.892 (Q)		
TOTAL TETRA-FURANS		1.78	0.892 (Q)		
TOTAL PENTA-FURANS		6.43	0.892 (Q)		
TOTAL HEXA-FURANS		12.3	0.892 (Q)		
TOTAL HEPTA-FURANS		20.6	0.892 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



## AXYS METHOD MLA-017 Rev 20

## PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH640

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: SERUM

Sample Size: 0.224 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 02-Nov-2010 18:05

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15778-41 L

GC Column ID: DB5

Sample Data Filename: DX1M\_025 S: 19

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		34.4	0.892	1	3.44e+01	3.44e+01	
1,2,3,7,8-PECDD		5.98	0.892	1	5.98e+00	5.98e+00	
1,2,3,4,7,8-HXCDD		4.47	0.892	0.1	4.47e-01	4.47e-01	
1,2,3,6,7,8-HXCDD		14.3	0.892	0.1	1.43e+00	1.43e+00	
1,2,3,7,8,9-HXCDD		3.99	0.892	0.1	3.99e-01	3.99e-01	
1,2,3,4,6,7,8-HPCDD		33.3	0.892	0.01	3.33e-01	3.33e-01	
OCDD		339	0.892	0.0001	3.39e-02	3.39e-02	
2,3,7,8-TCDF		1.78	0.892	0.1	1.78e-01	1.78e-01	
1,2,3,7,8-PECDF	ND		0.892	0.05	0.00e+00	2.23e-02	
2,3,4,7,8-PECDF		6.43	0.892	0.5	3.22e+00	3.22e+00	
1,2,3,4,7,8-HXCDF	ND		0.892	0.1	0.00e+00	4.46e-02	
1,2,3,6,7,8-HXCDF		10.9	0.892	0.1	1.09e+00	1.09e+00	
1,2,3,7,8,9-HXCDF	ND		0.892	0.1	0.00e+00	4.46e-02	
2,3,4,6,7,8-HXCDF		1.43	0.892	0.1	1.43e-01	1.43e-01	
1,2,3,4,6,7,8-HPCDF		20.6	0.892	0.01	2.06e-01	2.06e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.892	0.01	0.00e+00	4.46e-03	
OCDF	ND		0.892	0.0001	0.00e+00	4.46e-05	
<b>TOTAL TEQ</b>					<b>47.9</b>	<b>48.0</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		34.4	0.892	1	3.44e+01	3.44e+01	
1,2,3,7,8-PECDD		5.98	0.892	1	5.98e+00	5.98e+00	
1,2,3,4,7,8-HXCDD		4.47	0.892	0.1	4.47e-01	4.47e-01	
1,2,3,6,7,8-HXCDD		14.3	0.892	0.1	1.43e+00	1.43e+00	
1,2,3,7,8,9-HXCDD		3.99	0.892	0.1	3.99e-01	3.99e-01	
1,2,3,4,6,7,8-HPCDD		33.3	0.892	0.01	3.33e-01	3.33e-01	
OCDD		339	0.892	0.0003	1.02e-01	1.02e-01	
2,3,7,8-TCDF		1.78	0.892	0.1	1.78e-01	1.78e-01	
1,2,3,7,8-PECDF	ND		0.892	0.03	0.00e+00	1.34e-02	
2,3,4,7,8-PECDF		6.43	0.892	0.3	1.93e+00	1.93e+00	
1,2,3,4,7,8-HXCDF	ND		0.892	0.1	0.00e+00	4.46e-02	
1,2,3,6,7,8-HXCDF		10.9	0.892	0.1	1.09e+00	1.09e+00	
1,2,3,7,8,9-HXCDF	ND		0.892	0.1	0.00e+00	4.46e-02	
2,3,4,6,7,8-HXCDF		1.43	0.892	0.1	1.43e-01	1.43e-01	
1,2,3,4,6,7,8-HPCDF		20.6	0.892	0.01	2.06e-01	2.06e-01	
1,2,3,4,7,8,9-HPCDF	ND		0.892	0.01	0.00e+00	4.46e-03	
OCDF	ND		0.892	0.0003	0.00e+00	1.34e-04	
<b>TOTAL TEQ</b>					<b>46.6</b>	<b>46.7</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-41\_TEQ\_SJ1260257\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



AXYS METHOD MLA-017 Rev 20

Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH641  
Sample Collection:  
02-Nov-2010 18:20

## AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

<b>Contract No.:</b>	2607	<b>Project No.</b>	O33 1579 BIEN HOA
<b>Matrix:</b>	SERUM	<b>Lab Sample I.D.:</b>	L15778-42 L
<b>Sample Receipt Date:</b>	19-Nov-2010	<b>Sample Size:</b>	0.255 g (lipid)
<b>Extraction Date:</b>	11-Jan-2011	<b>Initial Calibration Date:</b>	04-Jan-2011
<b>Analysis Date:</b>	12-Feb-2011 Time: 19:11:20	<b>Instrument ID:</b>	HR GC/MS
<b>Extract Volume (uL):</b>	10	<b>GC Column ID:</b>	DB5
<b>Injection Volume (uL):</b>	2.0	<b>Sample Data Filename:</b>	<b>DX1M_025 S: 37</b>
<b>Dilution Factor:</b>	N/A	<b>Blank Data Filename:</b>	DX1M_017A S: 33
<b>Concentration Units:</b>	pg/g (lipid weight basis)	<b>Cal. Ver. Data Filename:</b>	DX1M_025 S: 28
		<b>% Lipid:</b>	0.85

This page is part of a total report that contains information necessary for accreditation compliance.  
This test is not CALA accredited. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	REPORTING LIMIT (RL) <sup>2</sup>	ION ABUND. RATIO <sup>3</sup>	RRT <sup>3</sup>
2,3,7,8-TCDD		119	0.790 (Q)	0.74	1.001
1,2,3,7,8-PECDD <sup>4</sup>		8.52	0.790 (Q)	0.61	1.000
1,2,3,4,7,8-HXCDD		6.49	0.790 (Q)	1.12	1.000
1,2,3,6,7,8-HXCDD		26.6	0.790 (Q)	1.38	1.000
1,2,3,7,8,9-HXCDD		4.96	0.790 (Q)	1.21	1.000
1,2,3,4,6,7,8-HPCDD		44.3	0.790 (Q)	0.96	1.000
OCDD		486	0.790 (Q)	0.85	1.000
2,3,7,8-TCDF		1.13	0.790 (Q)	0.86	1.001
1,2,3,7,8-PECDF	NDR	0.848	0.790 (Q)	0.96	1.001
2,3,4,7,8-PECDF		8.50	0.790 (Q)	1.39	1.001
1,2,3,4,7,8-HXCDF		19.6	0.790 (Q)	1.16	1.000
1,2,3,6,7,8-HXCDF		11.4	0.790 (Q)	1.29	1.001
1,2,3,7,8,9-HXCDF	ND		0.790 (Q)		
2,3,4,6,7,8-HXCDF	NDR	1.73	0.790 (Q)	0.91	1.001
1,2,3,4,6,7,8-HPCDF		20.9	0.790 (Q)	0.97	1.000
1,2,3,4,7,8,9-HPCDF		2.02	0.790 (Q)	0.91	1.000
OCDF	NDR	0.978	0.790 (Q)	1.05	1.002
TOTAL TETRA-DIOXINS		119	0.790 (Q)		
TOTAL PENTA-DIOXINS		8.52	0.790 (Q)		
TOTAL HEXA-DIOXINS		38.1	0.790 (Q)		
TOTAL HEPTA-DIOXINS		44.3	0.790 (Q)		
TOTAL TETRA-FURANS		1.13	0.790 (Q)		
TOTAL PENTA-FURANS		8.50	0.790 (Q)		
TOTAL HEXA-FURANS		31.0	0.790 (Q)		
TOTAL HEPTA-FURANS		22.9	0.790 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.

(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_Teresa Rawsthorne\_\_\_\_\_



AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.  
10VNBH641

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 02-Nov-2010 18:20

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Matrix: SERUM

Lab Sample I.D.: L15778-42 L

Sample Size: 0.255 g (lipid)

GC Column ID: DB5

Concentration Units: pg/g (lipid weight basis)

Sample Data Filename: DX1M\_025 S: 37

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		119	0.790	1	1.19e+02	1.19e+02	
1,2,3,7,8-PECDD		8.52	0.790	1	8.52e+00	8.52e+00	
1,2,3,4,7,8-HXCDD		6.49	0.790	0.1	6.49e-01	6.49e-01	
1,2,3,6,7,8-HXCDD		26.6	0.790	0.1	2.66e+00	2.66e+00	
1,2,3,7,8,9-HXCDD		4.96	0.790	0.1	4.96e-01	4.96e-01	
1,2,3,4,6,7,8-HPCDD		44.3	0.790	0.01	4.43e-01	4.43e-01	
OCDD		486	0.790	0.0001	4.86e-02	4.86e-02	
2,3,7,8-TCDF		1.13	0.790	0.1	1.13e-01	1.13e-01	
1,2,3,7,8-PECDF	ND		0.790	0.05	0.00e+00	1.98e-02	
2,3,4,7,8-PECDF		8.50	0.790	0.5	4.25e+00	4.25e+00	
1,2,3,4,7,8-HXCDF		19.6	0.790	0.1	1.96e+00	1.96e+00	
1,2,3,6,7,8-HXCDF		11.4	0.790	0.1	1.14e+00	1.14e+00	
1,2,3,7,8,9-HXCDF	ND		0.790	0.1	0.00e+00	3.95e-02	
2,3,4,6,7,8-HXCDF	ND		0.790	0.1	0.00e+00	3.95e-02	
1,2,3,4,6,7,8-HPCDF		20.9	0.790	0.01	2.09e-01	2.09e-01	
1,2,3,4,7,8,9-HPCDF		2.02	0.790	0.01	2.02e-02	2.02e-02	
OCDF	ND		0.790	0.0001	0.00e+00	3.95e-05	
<b>TOTAL TEQ</b>					<b>140</b>	<b>140</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		119	0.790	1	1.19e+02	1.19e+02	
1,2,3,7,8-PECDD		8.52	0.790	1	8.52e+00	8.52e+00	
1,2,3,4,7,8-HXCDD		6.49	0.790	0.1	6.49e-01	6.49e-01	
1,2,3,6,7,8-HXCDD		26.6	0.790	0.1	2.66e+00	2.66e+00	
1,2,3,7,8,9-HXCDD		4.96	0.790	0.1	4.96e-01	4.96e-01	
1,2,3,4,6,7,8-HPCDD		44.3	0.790	0.01	4.43e-01	4.43e-01	
OCDD		486	0.790	0.0003	1.46e-01	1.46e-01	
2,3,7,8-TCDF		1.13	0.790	0.1	1.13e-01	1.13e-01	
1,2,3,7,8-PECDF	ND		0.790	0.03	0.00e+00	1.19e-02	
2,3,4,7,8-PECDF		8.50	0.790	0.3	2.55e+00	2.55e+00	
1,2,3,4,7,8-HXCDF		19.6	0.790	0.1	1.96e+00	1.96e+00	
1,2,3,6,7,8-HXCDF		11.4	0.790	0.1	1.14e+00	1.14e+00	
1,2,3,7,8,9-HXCDF	ND		0.790	0.1	0.00e+00	3.95e-02	
2,3,4,6,7,8-HXCDF	ND		0.790	0.1	0.00e+00	3.95e-02	
1,2,3,4,6,7,8-HPCDF		20.9	0.790	0.01	2.09e-01	2.09e-01	
1,2,3,4,7,8,9-HPCDF		2.02	0.790	0.01	2.02e-02	2.02e-02	
OCDF	ND		0.790	0.0003	0.00e+00	1.19e-04	
<b>TOTAL TEQ</b>					<b>138</b>	<b>138</b>	

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axy Internal Use Only [ XSL Template: TEQ.xsl; Created: 15-Feb-2011 17:27:10; Application: XMLTransformer-1.11.1;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15778-42\_TEQ\_SJ1260338\_Lipid.html; Workgroup: WG35048; Design ID: 1506 ]



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**A1.4**

**Human Breast Milk Samples  
(Lipid Basis) –  
Laboratory Analytical Results  
Including QA/QC**

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Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH800  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-1 L

Matrix: MILK

Sample Size: 1.45 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Jan-2011 Time: 18:08:39

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 9.61

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		8.21	0.138	0.75	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.00	0.138	0.57	1.001
1,2,3,4,7,8-HXCDD		1.35	0.138	1.37	1.000
1,2,3,6,7,8-HXCDD		3.55	0.138	1.12	1.000
1,2,3,7,8,9-HXCDD		1.27	0.138	1.27	1.000
1,2,3,4,6,7,8-HPCDD		7.12	0.138	0.97	1.000
OCDD		44.7	0.138	0.88	1.000
2,3,7,8-TCDF		0.699	0.138	0.67	1.001
1,2,3,7,8-PECDF		0.782	0.138	1.68	1.001
2,3,4,7,8-PECDF		3.00	0.138	1.38	1.001
1,2,3,4,7,8-HXCDF		5.69	0.138	1.22	1.001
1,2,3,6,7,8-HXCDF		2.72	0.138	1.21	1.000
1,2,3,7,8,9-HXCDF	NDR	0.229	0.138	0.97	1.000
2,3,4,6,7,8-HXCDF		0.532	0.138	1.22	1.001
1,2,3,4,6,7,8-HPCDF		3.45	0.138	0.97	1.000
1,2,3,4,7,8,9-HPCDF		0.574	0.138	1.07	1.000
OCDF		0.146	0.138	0.97	1.002
TOTAL TETRA-DIOXINS		8.21	0.138		
TOTAL PENTA-DIOXINS		2.00	0.138		
TOTAL HEXA-DIOXINS		6.17	0.138		
TOTAL HEPTA-DIOXINS		7.12	0.138		
TOTAL TETRA-FURANS		0.699	0.138		
TOTAL PENTA-FURANS		3.79	0.138		
TOTAL HEXA-FURANS		8.95	0.138		
TOTAL HEPTA-FURANS		4.03	0.138		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-1\_Form1A\_DX1M\_005S9\_SJ1240028\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH800  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-1 L

Matrix: MILK

Sample Size: 1.45 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 14:48:25

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 7

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 9.61

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.584	0.157	0.67	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-1\_Form1A\_DB13\_006S7\_SJ1241173\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 1.45 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-1 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 7  
DX1M\_005 S: 9

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		8.21	0.138	1	8.21e+00	8.21e+00	
1,2,3,7,8-PECDD		2.00	0.138	1	2.00e+00	2.00e+00	
1,2,3,4,7,8-HXCDD		1.35	0.138	0.1	1.35e-01	1.35e-01	
1,2,3,6,7,8-HXCDD		3.55	0.138	0.1	3.55e-01	3.55e-01	
1,2,3,7,8,9-HXCDD		1.27	0.138	0.1	1.27e-01	1.27e-01	
1,2,3,4,6,7,8-HPCDD		7.12	0.138	0.01	7.12e-02	7.12e-02	
OCDD		44.7	0.138	0.0001	4.47e-03	4.47e-03	
2,3,7,8-TCDF		0.584	0.157	0.1	5.84e-02	5.84e-02	
1,2,3,7,8-PECDF		0.782	0.138	0.05	3.91e-02	3.91e-02	
2,3,4,7,8-PECDF		3.00	0.138	0.5	1.50e+00	1.50e+00	
1,2,3,4,7,8-HXCDF		5.69	0.138	0.1	5.69e-01	5.69e-01	
1,2,3,6,7,8-HXCDF		2.72	0.138	0.1	2.72e-01	2.72e-01	
1,2,3,7,8,9-HXCDF	ND		0.138	0.1	0.00e+00	6.90e-03	
2,3,4,6,7,8-HXCDF		0.532	0.138	0.1	5.32e-02	5.32e-02	
1,2,3,4,6,7,8-HPCDF		3.45	0.138	0.01	3.45e-02	3.45e-02	
1,2,3,4,7,8,9-HPCDF		0.574	0.138	0.01	5.74e-03	5.74e-03	
OCDF		0.146	0.138	0.0001	1.46e-05	1.46e-05	
<b>TOTAL TEQ</b>					13.4	13.4	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		8.21	0.138	1	8.21e+00	8.21e+00	
1,2,3,7,8-PECDD		2.00	0.138	1	2.00e+00	2.00e+00	
1,2,3,4,7,8-HXCDD		1.35	0.138	0.1	1.35e-01	1.35e-01	
1,2,3,6,7,8-HXCDD		3.55	0.138	0.1	3.55e-01	3.55e-01	
1,2,3,7,8,9-HXCDD		1.27	0.138	0.1	1.27e-01	1.27e-01	
1,2,3,4,6,7,8-HPCDD		7.12	0.138	0.01	7.12e-02	7.12e-02	
OCDD		44.7	0.138	0.0003	1.34e-02	1.34e-02	
2,3,7,8-TCDF		0.584	0.157	0.1	5.84e-02	5.84e-02	
1,2,3,7,8-PECDF		0.782	0.138	0.03	2.35e-02	2.35e-02	
2,3,4,7,8-PECDF		3.00	0.138	0.3	9.00e-01	9.00e-01	
1,2,3,4,7,8-HXCDF		5.69	0.138	0.1	5.69e-01	5.69e-01	
1,2,3,6,7,8-HXCDF		2.72	0.138	0.1	2.72e-01	2.72e-01	
1,2,3,7,8,9-HXCDF	ND		0.138	0.1	0.00e+00	6.90e-03	
2,3,4,6,7,8-HXCDF		0.532	0.138	0.1	5.32e-02	5.32e-02	
1,2,3,4,6,7,8-HPCDF		3.45	0.138	0.01	3.45e-02	3.45e-02	
1,2,3,4,7,8,9-HPCDF		0.574	0.138	0.01	5.74e-03	5.74e-03	
OCDF		0.146	0.138	0.0003	4.38e-05	4.38e-05	
<b>TOTAL TEQ</b>					12.8	12.8	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-1\_TEQ\_SJ1240028\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH801  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-2 L

Matrix: MILK

Sample Size: 0.653 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Jan-2011 Time: 19:03:53

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 6.14

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.39	0.306	0.80	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.74	0.314	0.52	1.001
1,2,3,4,7,8-HXCDD		1.74	0.306	1.26	1.001
1,2,3,6,7,8-HXCDD		3.96	0.306	1.31	1.001
1,2,3,7,8-HXCDD		1.69	0.306	1.14	1.000
1,2,3,4,6,7,8-HPCDD		9.41	0.306	1.03	1.000
OCDD		113	0.324	0.88	1.000
2,3,7,8-TCDF		0.765	0.306	0.72	1.003
1,2,3,7,8-PECDF		0.423	0.306	1.34	1.001
2,3,4,7,8-PECDF		3.45	0.306	1.52	1.001
1,2,3,4,7,8-HXCDF		8.32	0.306	1.13	1.001
1,2,3,6,7,8-HXCDF		4.10	0.306	1.06	1.000
1,2,3,7,8,9-HXCDF		0.326	0.306	1.13	1.000
2,3,4,6,7,8-HXCDF		1.11	0.306	1.35	1.001
1,2,3,4,6,7,8-HPCDF		8.79	0.306	1.10	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.25	0.306	0.81	1.000
OCDF	ND		0.306		
TOTAL TETRA-DIOXINS		2.39	0.306		
TOTAL PENTA-DIOXINS		1.74	0.314		
TOTAL HEXA-DIOXINS		7.39	0.306		
TOTAL HEPTA-DIOXINS		10.0	0.306		
TOTAL TETRA-FURANS		0.765	0.306		
TOTAL PENTA-FURANS		3.89	0.306		
TOTAL HEXA-FURANS		13.9	0.306		
TOTAL HEPTA-FURANS		8.79	0.306		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-2\_Form1A\_DX1M\_005S10\_SJ1240019\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH801  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-2 L

Matrix: MILK

Sample Size: 0.653 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 15:25:19

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 6.14

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.456	0.396	0.53	1.002

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-2\_Form1A\_DB13\_006S8\_SJ1241174\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.653 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-2 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 8  
DX1M\_005 S: 10

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.39	0.306	1	2.39e+00	2.39e+00	
1,2,3,7,8-PECDD		1.74	0.314	1	1.74e+00	1.74e+00	
1,2,3,4,7,8-HXCDD		1.74	0.306	0.1	1.74e-01	1.74e-01	
1,2,3,6,7,8-HXCDD		3.96	0.306	0.1	3.96e-01	3.96e-01	
1,2,3,7,8,9-HXCDD		1.69	0.306	0.1	1.69e-01	1.69e-01	
1,2,3,4,6,7,8-HPCDD		9.41	0.306	0.01	9.41e-02	9.41e-02	
OCDD		113	0.324	0.0001	1.13e-02	1.13e-02	
2,3,7,8-TCDF	ND		0.396	0.1	0.00e+00	1.98e-02	
1,2,3,7,8-PECDF		0.423	0.306	0.05	2.12e-02	2.12e-02	
2,3,4,7,8-PECDF		3.45	0.306	0.5	1.73e+00	1.73e+00	
1,2,3,4,7,8-HXCDF		8.32	0.306	0.1	8.32e-01	8.32e-01	
1,2,3,6,7,8-HXCDF		4.10	0.306	0.1	4.10e-01	4.10e-01	
1,2,3,7,8,9-HXCDF		0.326	0.306	0.1	3.26e-02	3.26e-02	
2,3,4,6,7,8-HXCDF		1.11	0.306	0.1	1.11e-01	1.11e-01	
1,2,3,4,6,7,8-HPCDF		8.79	0.306	0.01	8.79e-02	8.79e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.306	0.01	0.00e+00	1.53e-03	
OCDF	ND		0.306	0.0001	0.00e+00	1.53e-05	
<b>TOTAL TEQ</b>					8.19	8.22	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.39	0.306	1	2.39e+00	2.39e+00	
1,2,3,7,8-PECDD		1.74	0.314	1	1.74e+00	1.74e+00	
1,2,3,4,7,8-HXCDD		1.74	0.306	0.1	1.74e-01	1.74e-01	
1,2,3,6,7,8-HXCDD		3.96	0.306	0.1	3.96e-01	3.96e-01	
1,2,3,7,8,9-HXCDD		1.69	0.306	0.1	1.69e-01	1.69e-01	
1,2,3,4,6,7,8-HPCDD		9.41	0.306	0.01	9.41e-02	9.41e-02	
OCDD		113	0.324	0.0003	3.39e-02	3.39e-02	
2,3,7,8-TCDF	ND		0.396	0.1	0.00e+00	1.98e-02	
1,2,3,7,8-PECDF		0.423	0.306	0.03	1.27e-02	1.27e-02	
2,3,4,7,8-PECDF		3.45	0.306	0.3	1.04e+00	1.04e+00	
1,2,3,4,7,8-HXCDF		8.32	0.306	0.1	8.32e-01	8.32e-01	
1,2,3,6,7,8-HXCDF		4.10	0.306	0.1	4.10e-01	4.10e-01	
1,2,3,7,8,9-HXCDF		0.326	0.306	0.1	3.26e-02	3.26e-02	
2,3,4,6,7,8-HXCDF		1.11	0.306	0.1	1.11e-01	1.11e-01	
1,2,3,4,6,7,8-HPCDF		8.79	0.306	0.01	8.79e-02	8.79e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.306	0.01	0.00e+00	1.53e-03	
OCDF	ND		0.306	0.0003	0.00e+00	4.59e-05	
<b>TOTAL TEQ</b>					7.52	7.54	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-2\_TEQ\_SJ1240019\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH802  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-3 L

Matrix: MILK

Sample Size: 1.00 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Jan-2011 Time: 19:59:06

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 5.70

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1.48	0.201	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.01	0.201	0.67	1.001
1,2,3,4,7,8-HXCDD		1.48	0.201	1.23	1.000
1,2,3,6,7,8-HXCDD		4.17	0.201	1.29	1.000
1,2,3,7,8,9-HXCDD		1.51	0.201	1.18	1.000
1,2,3,4,6,7,8-HPCDD		7.34	0.201	0.97	1.000
OCDD		44.7	0.201	0.86	1.000
2,3,7,8-TCDF		0.722	0.201	0.82	1.001
1,2,3,7,8-PECDF		0.493	0.201	1.55	1.001
2,3,4,7,8-PECDF		3.54	0.201	1.57	1.001
1,2,3,4,7,8-HXCDF		6.29	0.201	1.22	1.001
1,2,3,6,7,8-HXCDF		3.38	0.201	1.15	1.000
1,2,3,7,8,9-HXCDF	ND		0.201		
2,3,4,6,7,8-HXCDF		0.775	0.201	1.30	1.000
1,2,3,4,6,7,8-HPCDF		4.60	0.201	1.09	1.000
1,2,3,4,7,8,9-HPCDF		0.511	0.201	1.10	1.000
OCDF		0.229	0.201	0.80	1.002
TOTAL TETRA-DIOXINS		1.48	0.201		
TOTAL PENTA-DIOXINS		2.01	0.201		
TOTAL HEXA-DIOXINS		7.17	0.201		
TOTAL HEPTA-DIOXINS		7.82	0.201		
TOTAL TETRA-FURANS		0.722	0.201		
TOTAL PENTA-FURANS		4.02	0.201		
TOTAL HEXA-FURANS		10.4	0.201		
TOTAL HEPTA-FURANS		5.09	0.201		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH802  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-3 L

Matrix: MILK

Sample Size: 1.00 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 16:02:09

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 5.70

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.564	0.201	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-3\_Form1A\_DB13\_006S9\_SJ1241175\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 1.00 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-3 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 9  
DX1M\_005 S: 11

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.48	0.201	1	1.48e+00	1.48e+00	
1,2,3,7,8-PECDD		2.01	0.201	1	2.01e+00	2.01e+00	
1,2,3,4,7,8-HXCDD		1.48	0.201	0.1	1.48e-01	1.48e-01	
1,2,3,6,7,8-HXCDD		4.17	0.201	0.1	4.17e-01	4.17e-01	
1,2,3,7,8,9-HXCDD		1.51	0.201	0.1	1.51e-01	1.51e-01	
1,2,3,4,6,7,8-HPCDD		7.34	0.201	0.01	7.34e-02	7.34e-02	
OCDD		44.7	0.201	0.0001	4.47e-03	4.47e-03	
2,3,7,8-TCDF		0.564	0.201	0.1	5.64e-02	5.64e-02	
1,2,3,7,8-PECDF		0.493	0.201	0.05	2.47e-02	2.47e-02	
2,3,4,7,8-PECDF		3.54	0.201	0.5	1.77e+00	1.77e+00	
1,2,3,4,7,8-HXCDF		6.29	0.201	0.1	6.29e-01	6.29e-01	
1,2,3,6,7,8-HXCDF		3.38	0.201	0.1	3.38e-01	3.38e-01	
1,2,3,7,8,9-HXCDF	ND		0.201	0.1	0.00e+00	1.01e-02	
2,3,4,6,7,8-HXCDF		0.775	0.201	0.1	7.75e-02	7.75e-02	
1,2,3,4,6,7,8-HPCDF		4.60	0.201	0.01	4.60e-02	4.60e-02	
1,2,3,4,7,8,9-HPCDF		0.511	0.201	0.01	5.11e-03	5.11e-03	
OCDF		0.229	0.201	0.0001	2.29e-05	2.29e-05	
<b>TOTAL TEQ</b>					7.23	7.24	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.48	0.201	1	1.48e+00	1.48e+00	
1,2,3,7,8-PECDD		2.01	0.201	1	2.01e+00	2.01e+00	
1,2,3,4,7,8-HXCDD		1.48	0.201	0.1	1.48e-01	1.48e-01	
1,2,3,6,7,8-HXCDD		4.17	0.201	0.1	4.17e-01	4.17e-01	
1,2,3,7,8,9-HXCDD		1.51	0.201	0.1	1.51e-01	1.51e-01	
1,2,3,4,6,7,8-HPCDD		7.34	0.201	0.01	7.34e-02	7.34e-02	
OCDD		44.7	0.201	0.0003	1.34e-02	1.34e-02	
2,3,7,8-TCDF		0.564	0.201	0.1	5.64e-02	5.64e-02	
1,2,3,7,8-PECDF		0.493	0.201	0.03	1.48e-02	1.48e-02	
2,3,4,7,8-PECDF		3.54	0.201	0.3	1.06e+00	1.06e+00	
1,2,3,4,7,8-HXCDF		6.29	0.201	0.1	6.29e-01	6.29e-01	
1,2,3,6,7,8-HXCDF		3.38	0.201	0.1	3.38e-01	3.38e-01	
1,2,3,7,8,9-HXCDF	ND		0.201	0.1	0.00e+00	1.01e-02	
2,3,4,6,7,8-HXCDF		0.775	0.201	0.1	7.75e-02	7.75e-02	
1,2,3,4,6,7,8-HPCDF		4.60	0.201	0.01	4.60e-02	4.60e-02	
1,2,3,4,7,8,9-HPCDF		0.511	0.201	0.01	5.11e-03	5.11e-03	
OCDF		0.229	0.201	0.0003	6.87e-05	6.87e-05	
<b>TOTAL TEQ</b>					6.52	6.53	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-3\_TEQ\_SJ1240020\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH803  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-4 L

Matrix: MILK

Sample Size: 0.634 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Jan-2011 Time: 20:54:20

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 2.52

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		30.3	0.314	0.72	1.001
1,2,3,7,8-PECDD <sup>3</sup>		3.93	0.314	0.65	1.001
1,2,3,4,7,8-HXCDD		2.90	0.314	1.22	1.000
1,2,3,6,7,8-HXCDD		12.6	0.314	1.21	1.000
1,2,3,7,8,9-HXCDD		4.52	0.314	1.19	1.000
1,2,3,4,6,7,8-HPCDD		97.6	0.314	0.98	1.000
OCDD		182	0.314	0.84	1.000
2,3,7,8-TCDF		0.714	0.314	0.75	1.001
1,2,3,7,8-PECDF		0.595	0.314	1.67	1.001
2,3,4,7,8-PECDF		4.25	0.314	1.38	1.001
1,2,3,4,7,8-HXCDF		5.79	0.314	1.15	1.001
1,2,3,6,7,8-HXCDF		3.33	0.314	1.34	1.000
1,2,3,7,8,9-HXCDF	ND		0.314		
2,3,4,6,7,8-HXCDF		0.794	0.314	1.19	1.000
1,2,3,4,6,7,8-HPCDF	NDR	6.63	0.314	0.78	1.000
1,2,3,4,7,8,9-HPCDF		0.873	0.314	0.99	1.000
OCDF	ND		0.314		
TOTAL TETRA-DIOXINS		30.3	0.314		
TOTAL PENTA-DIOXINS		4.25	0.314		
TOTAL HEXA-DIOXINS		28.7	0.314		
TOTAL HEPTA-DIOXINS		113	0.314		
TOTAL TETRA-FURANS		0.714	0.314		
TOTAL PENTA-FURANS		4.84	0.314		
TOTAL HEXA-FURANS		9.88	0.314		
TOTAL HEPTA-FURANS		0.873	0.314		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-4\_Form1A\_DX1M\_005S12\_SJ1240021\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH803  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-4 L

Matrix: MILK

Sample Size: 0.634 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 16:39:03

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 2.52

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.437	0.365	1.09	1.000

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.634 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-4 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 10  
DX1M\_005 S: 12

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		30.3	0.314	1	3.03e+01	3.03e+01	
1,2,3,7,8-PECDD		3.93	0.314	1	3.93e+00	3.93e+00	
1,2,3,4,7,8-HXCDD		2.90	0.314	0.1	2.90e-01	2.90e-01	
1,2,3,6,7,8-HXCDD		12.6	0.314	0.1	1.26e+00	1.26e+00	
1,2,3,7,8,9-HXCDD		4.52	0.314	0.1	4.52e-01	4.52e-01	
1,2,3,4,6,7,8-HPCDD		97.6	0.314	0.01	9.76e-01	9.76e-01	
OCDD		182	0.314	0.0001	1.82e-02	1.82e-02	
2,3,7,8-TCDF	ND		0.365	0.1	0.00e+00	1.83e-02	
1,2,3,7,8-PECDF		0.595	0.314	0.05	2.98e-02	2.98e-02	
2,3,4,7,8-PECDF		4.25	0.314	0.5	2.13e+00	2.13e+00	
1,2,3,4,7,8-HXCDF		5.79	0.314	0.1	5.79e-01	5.79e-01	
1,2,3,6,7,8-HXCDF		3.33	0.314	0.1	3.33e-01	3.33e-01	
1,2,3,7,8,9-HXCDF	ND		0.314	0.1	0.00e+00	1.57e-02	
2,3,4,6,7,8-HXCDF		0.794	0.314	0.1	7.94e-02	7.94e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.314	0.01	0.00e+00	1.57e-03	
1,2,3,4,7,8,9-HPCDF		0.873	0.314	0.01	8.73e-03	8.73e-03	
OCDF	ND		0.314	0.0001	0.00e+00	1.57e-05	
<b>TOTAL TEQ</b>					<b>40.4</b>	<b>40.4</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		30.3	0.314	1	3.03e+01	3.03e+01	
1,2,3,7,8-PECDD		3.93	0.314	1	3.93e+00	3.93e+00	
1,2,3,4,7,8-HXCDD		2.90	0.314	0.1	2.90e-01	2.90e-01	
1,2,3,6,7,8-HXCDD		12.6	0.314	0.1	1.26e+00	1.26e+00	
1,2,3,7,8,9-HXCDD		4.52	0.314	0.1	4.52e-01	4.52e-01	
1,2,3,4,6,7,8-HPCDD		97.6	0.314	0.01	9.76e-01	9.76e-01	
OCDD		182	0.314	0.0003	5.46e-02	5.46e-02	
2,3,7,8-TCDF	ND		0.365	0.1	0.00e+00	1.83e-02	
1,2,3,7,8-PECDF		0.595	0.314	0.03	1.79e-02	1.79e-02	
2,3,4,7,8-PECDF		4.25	0.314	0.3	1.28e+00	1.28e+00	
1,2,3,4,7,8-HXCDF		5.79	0.314	0.1	5.79e-01	5.79e-01	
1,2,3,6,7,8-HXCDF		3.33	0.314	0.1	3.33e-01	3.33e-01	
1,2,3,7,8,9-HXCDF	ND		0.314	0.1	0.00e+00	1.57e-02	
2,3,4,6,7,8-HXCDF		0.794	0.314	0.1	7.94e-02	7.94e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.314	0.01	0.00e+00	1.57e-03	
1,2,3,4,7,8,9-HPCDF		0.873	0.314	0.01	8.73e-03	8.73e-03	
OCDF	ND		0.314	0.0003	0.00e+00	4.71e-05	
<b>TOTAL TEQ</b>					39.6	39.6	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-4\_TEQ\_SJ1240021\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH804  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-5 L

Matrix: MILK

Sample Size: 0.417 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 03:29:56

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 19

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 13

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.25

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		22.5	0.479	0.78	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.70	0.479	0.53	1.001
1,2,3,4,7,8-HXCDD	NDR	1.22	0.564	1.54	1.000
1,2,3,6,7,8-HXCDD		5.10	0.564	1.11	1.000
1,2,3,7,8-HXCDD		1.43	0.564	1.40	1.001
1,2,3,4,6,7,8-HPCDD		14.1	0.479	1.17	1.000
OCDD		106	0.536	0.86	1.000
2,3,7,8-TCDF		1.34	0.479	0.69	1.002
1,2,3,7,8-PECDF	NDR	0.964	0.479	0.53	1.001
2,3,4,7,8-PECDF		3.74	0.479	1.61	1.001
1,2,3,4,7,8-HXCDF		7.97	0.479	1.25	1.000
1,2,3,6,7,8-HXCDF		4.32	0.479	1.16	1.001
1,2,3,7,8,9-HXCDF	NDR	0.541	0.479	0.23	1.001
2,3,4,6,7,8-HXCDF		1.06	0.479	1.39	1.001
1,2,3,4,6,7,8-HPCDF	NDR	7.43	0.479	0.61	1.000
1,2,3,4,7,8,9-HPCDF		1.32	0.479	0.93	1.000
OCDF	NDR	0.658	0.479	0.65	1.001
TOTAL TETRA-DIOXINS		22.5	0.479		
TOTAL PENTA-DIOXINS		2.70	0.479		
TOTAL HEXA-DIOXINS		6.53	0.564		
TOTAL HEPTA-DIOXINS		14.1	0.479		
TOTAL TETRA-FURANS		13.4	0.479		
TOTAL PENTA-FURANS		3.74	0.479		
TOTAL HEXA-FURANS		13.3	0.479		
TOTAL HEPTA-FURANS		1.32	0.479		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH804  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-5 L

Matrix: MILK

Sample Size: 0.417 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 17:15:53

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.25

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.917	0.724	0.97	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-5 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 11  
DX1M\_005 S: 19

Contract No.: 2607

Matrix: MILK

Sample Size: 0.417 g (lipid)

Concentration Units: pg/g (lipid weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		22.5	0.479	1	2.25e+01	2.25e+01	
1,2,3,7,8-PECDD		2.70	0.479	1	2.70e+00	2.70e+00	
1,2,3,4,7,8-HXCDD	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,6,7,8-HXCDD		5.10	0.564	0.1	5.10e-01	5.10e-01	
1,2,3,7,8,9-HXCDD		1.43	0.564	0.1	1.43e-01	1.43e-01	
1,2,3,4,6,7,8-HPCDD		14.1	0.479	0.01	1.41e-01	1.41e-01	
OCDD		106	0.536	0.0001	1.06e-02	1.06e-02	
2,3,7,8-TCDF	ND		0.724	0.1	0.00e+00	3.62e-02	
1,2,3,7,8-PECDF	ND		0.479	0.05	0.00e+00	1.20e-02	
2,3,4,7,8-PECDF		3.74	0.479	0.5	1.87e+00	1.87e+00	
1,2,3,4,7,8-HXCDF		7.97	0.479	0.1	7.97e-01	7.97e-01	
1,2,3,6,7,8-HXCDF		4.32	0.479	0.1	4.32e-01	4.32e-01	
1,2,3,7,8,9-HXCDF	ND		0.479	0.1	0.00e+00	2.40e-02	
2,3,4,6,7,8-HXCDF		1.06	0.479	0.1	1.06e-01	1.06e-01	
1,2,3,4,6,7,8-HPCDF	ND		0.479	0.01	0.00e+00	2.40e-03	
1,2,3,4,7,8,9-HPCDF		1.32	0.479	0.01	1.32e-02	1.32e-02	
OCDF	ND		0.479	0.0001	0.00e+00	2.40e-05	
<b>TOTAL TEQ</b>					29.2	29.3	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		22.5	0.479	1	2.25e+01	2.25e+01	
1,2,3,7,8-PECDD		2.70	0.479	1	2.70e+00	2.70e+00	
1,2,3,4,7,8-HXCDD	ND		0.564	0.1	0.00e+00	2.82e-02	
1,2,3,6,7,8-HXCDD		5.10	0.564	0.1	5.10e-01	5.10e-01	
1,2,3,7,8,9-HXCDD		1.43	0.564	0.1	1.43e-01	1.43e-01	
1,2,3,4,6,7,8-HPCDD		14.1	0.479	0.01	1.41e-01	1.41e-01	
OCDD		106	0.536	0.0003	3.18e-02	3.18e-02	
2,3,7,8-TCDF	ND		0.724	0.1	0.00e+00	3.62e-02	
1,2,3,7,8-PECDF	ND		0.479	0.03	0.00e+00	7.19e-03	
2,3,4,7,8-PECDF		3.74	0.479	0.3	1.12e+00	1.12e+00	
1,2,3,4,7,8-HXCDF		7.97	0.479	0.1	7.97e-01	7.97e-01	
1,2,3,6,7,8-HXCDF		4.32	0.479	0.1	4.32e-01	4.32e-01	
1,2,3,7,8,9-HXCDF	ND		0.479	0.1	0.00e+00	2.40e-02	
2,3,4,6,7,8-HXCDF		1.06	0.479	0.1	1.06e-01	1.06e-01	
1,2,3,4,6,7,8-HPCDF	ND		0.479	0.01	0.00e+00	2.40e-03	
1,2,3,4,7,8,9-HPCDF		1.32	0.479	0.01	1.32e-02	1.32e-02	
OCDF	ND		0.479	0.0003	0.00e+00	7.19e-05	
<b>TOTAL TEQ</b>					28.5	28.6	

(1) Where applicable, custom lab flags have been used on this report.

(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-5\_TEQ\_SJ1240050\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH805  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811  
Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-6 L

Matrix: MILK  
Sample Receipt Date: 19-Nov-2010

Sample Size: 0.912 g (lipid)  
Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010  
Analysis Date: 08-Jan-2011 Time: 04:25:11

Instrument ID: HR GC/MS  
GC Column ID: DB5

Extract Volume (uL): 10  
Injection Volume (uL): 2.0

Sample Data Filename: DX1M\_005 S: 20  
Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A  
Concentration Units: pg/g (lipid weight basis)

Cal. Ver. Data Filename: DX1M\_005 S: 13  
% Lipid: 3.68

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	ND		12.3		
1,2,3,7,8-PECDD <sup>3</sup>		4.02	0.617	0.53	1.000
1,2,3,4,7,8-HXCDD		2.88	0.350	1.16	1.000
1,2,3,6,7,8-HXCDD		6.38	0.527	1.12	1.002
1,2,3,7,8,9-HXCDD		1.52	0.326	1.07	1.000
1,2,3,4,6,7,8-HPCDD		8.64	0.220	0.99	1.000
OCDD		70.3	0.250	0.86	1.000
2,3,7,8-TCDF	X				
1,2,3,7,8-PECDF	ND		0.301		
2,3,4,7,8-PECDF		2.85	0.356	1.58	1.002
1,2,3,4,7,8-HXCDF		5.27	0.253	1.17	1.000
1,2,3,6,7,8-HXCDF		4.83	0.220	1.18	0.998
1,2,3,7,8,9-HXCDF	ND		0.709		
2,3,4,6,7,8-HXCDF	ND		0.752		
1,2,3,4,6,7,8-HPCDF		5.05	0.220	1.19	1.000
1,2,3,4,7,8,9-HPCDF		0.760	0.236	1.17	1.000
OCDF	NDR	0.570	0.220	0.68	1.002
TOTAL TETRA-DIOXINS	NQ				
TOTAL PENTA-DIOXINS	NQ				
TOTAL HEXA-DIOXINS	NQ				
TOTAL HEPTA-DIOXINS	NQ				
TOTAL TETRA-FURANS	NQ				
TOTAL PENTA-FURANS	NQ				
TOTAL HEXA-FURANS	NQ				
TOTAL HEPTA-FURANS	NQ				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; X = result reported separately; NQ = data not quantifiable.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.  
 Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH805  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-6

Matrix: MILK

Sample Size: 0.912 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Dec-2010 Time: 02:39:00

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB03\_156 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_156 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.68

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		6.74		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jan-2011 14:15:25; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-6\_Form1A\_DB03\_156S12\_SJ1244338\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.912 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-6  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_156 S: 12  
DX1M\_005 S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		12.3	1	0.00e+00	6.15e+00	
1,2,3,7,8-PECDD		4.02	0.617	1	4.02e+00	4.02e+00	
1,2,3,4,7,8-HXCDD		2.88	0.350	0.1	2.88e-01	2.88e-01	
1,2,3,6,7,8-HXCDD		6.38	0.527	0.1	6.38e-01	6.38e-01	
1,2,3,7,8,9-HXCDD		1.52	0.326	0.1	1.52e-01	1.52e-01	
1,2,3,4,6,7,8-HPCDD		8.64	0.220	0.01	8.64e-02	8.64e-02	
OCDD		70.3	0.250	0.0001	7.03e-03	7.03e-03	
2,3,7,8-TCDF	ND		6.74	0.1	0.00e+00	3.37e-01	
1,2,3,7,8-PECDF	ND		0.301	0.05	0.00e+00	7.53e-03	
2,3,4,7,8-PECDF		2.85	0.356	0.5	1.43e+00	1.43e+00	
1,2,3,4,7,8-HXCDF		5.27	0.253	0.1	5.27e-01	5.27e-01	
1,2,3,6,7,8-HXCDF		4.83	0.220	0.1	4.83e-01	4.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
2,3,4,6,7,8-HXCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
1,2,3,4,6,7,8-HPCDF		5.05	0.220	0.01	5.05e-02	5.05e-02	
1,2,3,4,7,8,9-HPCDF		0.760	0.236	0.01	7.60e-03	7.60e-03	
OCDF	ND		0.220	0.0001	0.00e+00	1.10e-05	
<b>TOTAL TEQ</b>					7.68	14.3	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		12.3	1	0.00e+00	6.15e+00	
1,2,3,7,8-PECDD		4.02	0.617	1	4.02e+00	4.02e+00	
1,2,3,4,7,8-HXCDD		2.88	0.350	0.1	2.88e-01	2.88e-01	
1,2,3,6,7,8-HXCDD		6.38	0.527	0.1	6.38e-01	6.38e-01	
1,2,3,7,8,9-HXCDD		1.52	0.326	0.1	1.52e-01	1.52e-01	
1,2,3,4,6,7,8-HPCDD		8.64	0.220	0.01	8.64e-02	8.64e-02	
OCDD		70.3	0.250	0.0003	2.11e-02	2.11e-02	
2,3,7,8-TCDF	ND		6.74	0.1	0.00e+00	3.37e-01	
1,2,3,7,8-PECDF	ND		0.301	0.03	0.00e+00	4.52e-03	
2,3,4,7,8-PECDF		2.85	0.356	0.3	8.55e-01	8.55e-01	
1,2,3,4,7,8-HXCDF		5.27	0.253	0.1	5.27e-01	5.27e-01	
1,2,3,6,7,8-HXCDF		4.83	0.220	0.1	4.83e-01	4.83e-01	
1,2,3,7,8,9-HXCDF	ND		0.709	0.1	0.00e+00	3.55e-02	
2,3,4,6,7,8-HXCDF	ND		0.752	0.1	0.00e+00	3.76e-02	
1,2,3,4,6,7,8-HPCDF		5.05	0.220	0.01	5.05e-02	5.05e-02	
1,2,3,4,7,8,9-HPCDF		0.760	0.236	0.01	7.60e-03	7.60e-03	
OCDF	ND		0.220	0.0003	0.00e+00	3.30e-05	
<b>TOTAL TEQ</b>					7.13	13.7	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 21-Jan-2011 14:16:15; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-6\_TEQ\_SJ1244338\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH806  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-7 L

Matrix: MILK

Sample Size: 0.814 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 05:20:24

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 21

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 13

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.58

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	ND		0.246		
1,2,3,7,8-PECDD <sup>3</sup>	NDR	0.810	0.246	0.86	1.001
1,2,3,4,7,8-HXCDD		0.419	0.246	1.39	1.000
1,2,3,6,7,8-HXCDD	NDR	1.37	0.246	1.46	1.000
1,2,3,7,8,9-HXCDD	NDR	0.558	0.246	1.50	1.000
1,2,3,4,6,7,8-HPCDD		5.47	0.246	1.16	1.000
OCDD		48.3	0.246	0.86	1.000
2,3,7,8-TCDF	NDR	0.642	0.246	1.33	1.003
1,2,3,7,8-PECDF		0.279	0.246	1.51	1.000
2,3,4,7,8-PECDF		1.59	0.246	1.53	1.000
1,2,3,4,7,8-HXCDF		3.55	0.246	1.21	1.000
1,2,3,6,7,8-HXCDF		1.76	0.246	1.37	1.001
1,2,3,7,8,9-HXCDF	ND		0.246		
2,3,4,6,7,8-HXCDF	ND		0.246		
1,2,3,4,6,7,8-HPCDF	NDR	6.06	0.246	3.40	1.001
1,2,3,4,7,8,9-HPCDF		0.475	0.246	0.90	1.000
OCDF	ND		0.246		
TOTAL TETRA-DIOXINS	NQ				
TOTAL PENTA-DIOXINS	NQ				
TOTAL HEXA-DIOXINS	NQ				
TOTAL HEPTA-DIOXINS	NQ				
TOTAL TETRA-FURANS	NQ				
TOTAL PENTA-FURANS	NQ				
TOTAL HEXA-FURANS	NQ				
TOTAL HEPTA-FURANS	NQ				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; NQ = data not quantifiable.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jan-2011 14:13:44; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-7\_Form1A\_DX1M\_005S21\_SJ1240052\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH806  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-7

Matrix: MILK

Sample Size: 0.814 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Dec-2010 Time: 03:15:51

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB03\_156 S: 13

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_156 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.58

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		2.33		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jan-2011 14:15:25; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-7\_Form1A\_DB03\_156S13\_SJ1244339\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** MILK  
**Sample Size:** 0.814 g (lipid)  
**Concentration Units:** pg/g (lipid weight basis)

**Sample Collection:** 05-Nov-2010  
**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15777-7  
**GC Column ID(s):** DB225  
DB5  
**Sample Data Filenames:** DB03\_156 S: 13  
DX1M\_005 S: 21

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.246	1	0.00e+00	1.23e-01	
1,2,3,7,8-PECDD	ND		0.246	1	0.00e+00	1.23e-01	
1,2,3,4,7,8-HXCDD		0.419	0.246	0.1	4.19e-02	4.19e-02	
1,2,3,6,7,8-HXCDD	ND		0.246	0.1	0.00e+00	1.23e-02	
1,2,3,7,8,9-HXCDD	ND		0.246	0.1	0.00e+00	1.23e-02	
1,2,3,4,6,7,8-HPCDD		5.47	0.246	0.01	5.47e-02	5.47e-02	
OCDD		48.3	0.246	0.0001	4.83e-03	4.83e-03	
2,3,7,8-TCDF	ND		2.33	0.1	0.00e+00	1.17e-01	
1,2,3,7,8-PECDF		0.279	0.246	0.05	1.40e-02	1.40e-02	
2,3,4,7,8-PECDF		1.59	0.246	0.5	7.95e-01	7.95e-01	
1,2,3,4,7,8-HXCDF		3.55	0.246	0.1	3.55e-01	3.55e-01	
1,2,3,6,7,8-HXCDF		1.76	0.246	0.1	1.76e-01	1.76e-01	
1,2,3,7,8,9-HXCDF	ND		0.246	0.1	0.00e+00	1.23e-02	
2,3,4,6,7,8-HXCDF	ND		0.246	0.1	0.00e+00	1.23e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.246	0.01	0.00e+00	1.23e-03	
1,2,3,4,7,8,9-HPCDF		0.475	0.246	0.01	4.75e-03	4.75e-03	
OCDF	ND		0.246	0.0001	0.00e+00	1.23e-05	
<b>TOTAL TEQ</b>					1.45	1.86	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.246	1	0.00e+00	1.23e-01	
1,2,3,7,8-PECDD	ND		0.246	1	0.00e+00	1.23e-01	
1,2,3,4,7,8-HXCDD		0.419	0.246	0.1	4.19e-02	4.19e-02	
1,2,3,6,7,8-HXCDD	ND		0.246	0.1	0.00e+00	1.23e-02	
1,2,3,7,8,9-HXCDD	ND		0.246	0.1	0.00e+00	1.23e-02	
1,2,3,4,6,7,8-HPCDD		5.47	0.246	0.01	5.47e-02	5.47e-02	
OCDD		48.3	0.246	0.0003	1.45e-02	1.45e-02	
2,3,7,8-TCDF	ND		2.33	0.1	0.00e+00	1.17e-01	
1,2,3,7,8-PECDF		0.279	0.246	0.03	8.37e-03	8.37e-03	
2,3,4,7,8-PECDF		1.59	0.246	0.3	4.77e-01	4.77e-01	
1,2,3,4,7,8-HXCDF		3.55	0.246	0.1	3.55e-01	3.55e-01	
1,2,3,6,7,8-HXCDF		1.76	0.246	0.1	1.76e-01	1.76e-01	
1,2,3,7,8,9-HXCDF	ND		0.246	0.1	0.00e+00	1.23e-02	
2,3,4,6,7,8-HXCDF	ND		0.246	0.1	0.00e+00	1.23e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.246	0.01	0.00e+00	1.23e-03	
1,2,3,4,7,8,9-HPCDF		0.475	0.246	0.01	4.75e-03	4.75e-03	
OCDF	ND		0.246	0.0003	0.00e+00	3.69e-05	
<b>TOTAL TEQ</b>					1.13	1.55	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 21-Jan-2011 14:16:15; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-7\_TEQ\_SJ1244339\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH807  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-8 L

Matrix: MILK

Sample Size: 0.414 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 06:15:37

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 22

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 13

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.97

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.94	0.482	0.68	1.001
1,2,3,7,8-PECDD <sup>3</sup>		5.07	0.482	0.53	1.001
1,2,3,4,7,8-HXCDD		3.04	0.482	1.17	1.001
1,2,3,6,7,8-HXCDD		9.39	0.482	1.11	1.001
1,2,3,7,8,9-HXCDD		3.86	0.482	1.08	1.000
1,2,3,4,6,7,8-HPCDD		17.3	0.482	0.91	1.000
OCDD		153	0.482	0.89	1.000
2,3,7,8-TCDF		0.812	0.482	0.79	1.001
1,2,3,7,8-PECDF	ND		0.482		
2,3,4,7,8-PECDF		5.99	0.482	1.62	1.001
1,2,3,4,7,8-HXCDF		10.7	0.482	1.11	1.001
1,2,3,6,7,8-HXCDF	NDR	6.14	0.482	1.52	1.000
1,2,3,7,8,9-HXCDF	ND		0.482		
2,3,4,6,7,8-HXCDF		0.863	0.482	1.34	1.000
1,2,3,4,6,7,8-HPCDF		8.22	0.604	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.660	0.604	1.12	1.000
OCDF	ND		0.482		
TOTAL TETRA-DIOXINS		2.94	0.482		
TOTAL PENTA-DIOXINS		5.07	0.482		
TOTAL HEXA-DIOXINS		16.3	0.482		
TOTAL HEPTA-DIOXINS		17.3	0.482		
TOTAL TETRA-FURANS		0.812	0.482		
TOTAL PENTA-FURANS		5.99	0.482		
TOTAL HEXA-FURANS		11.6	0.482		
TOTAL HEPTA-FURANS		8.88	0.604		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-8\_Form1A\_DX1M\_005S22\_SJ1240053\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH807  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-8 L

Matrix: MILK

Sample Size: 0.414 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 17:52:43

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.97

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		0.787		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-8\_Form1A\_DB13\_006S12\_SJ1241178\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-8 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 12  
DX1M\_005 S: 22

Contract No.: 2607

Matrix: MILK

Sample Size: 0.414 g (lipid)

Concentration Units: pg/g (lipid weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.94	0.482	1	2.94e+00	2.94e+00	
1,2,3,7,8-PECDD		5.07	0.482	1	5.07e+00	5.07e+00	
1,2,3,4,7,8-HXCDD		3.04	0.482	0.1	3.04e-01	3.04e-01	
1,2,3,6,7,8-HXCDD		9.39	0.482	0.1	9.39e-01	9.39e-01	
1,2,3,7,8,9-HXCDD		3.86	0.482	0.1	3.86e-01	3.86e-01	
1,2,3,4,6,7,8-HPCDD		17.3	0.482	0.01	1.73e-01	1.73e-01	
OCDD		153	0.482	0.0001	1.53e-02	1.53e-02	
2,3,7,8-TCDF	ND		0.787	0.1	0.00e+00	3.94e-02	
1,2,3,7,8-PECDF	ND		0.482	0.05	0.00e+00	1.21e-02	
2,3,4,7,8-PECDF		5.99	0.482	0.5	3.00e+00	3.00e+00	
1,2,3,4,7,8-HXCDF		10.7	0.482	0.1	1.07e+00	1.07e+00	
1,2,3,6,7,8-HXCDF	ND		0.482	0.1	0.00e+00	2.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.482	0.1	0.00e+00	2.41e-02	
2,3,4,6,7,8-HXCDF		0.863	0.482	0.1	8.63e-02	8.63e-02	
1,2,3,4,6,7,8-HPCDF		8.22	0.604	0.01	8.22e-02	8.22e-02	
1,2,3,4,7,8,9-HPCDF		0.660	0.604	0.01	6.60e-03	6.60e-03	
OCDF	ND		0.482	0.0001	0.00e+00	2.41e-05	
<b>TOTAL TEQ</b>					14.1	14.2	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.94	0.482	1	2.94e+00	2.94e+00	
1,2,3,7,8-PECCDD		5.07	0.482	1	5.07e+00	5.07e+00	
1,2,3,4,7,8-HXCDD		3.04	0.482	0.1	3.04e-01	3.04e-01	
1,2,3,6,7,8-HXCDD		9.39	0.482	0.1	9.39e-01	9.39e-01	
1,2,3,7,8,9-HXCDD		3.86	0.482	0.1	3.86e-01	3.86e-01	
1,2,3,4,6,7,8-HPCDD		17.3	0.482	0.01	1.73e-01	1.73e-01	
OCDD		153	0.482	0.0003	4.59e-02	4.59e-02	
2,3,7,8-TCDF	ND		0.787	0.1	0.00e+00	3.94e-02	
1,2,3,7,8-PECCDF	ND		0.482	0.03	0.00e+00	7.23e-03	
2,3,4,7,8-PECCDF		5.99	0.482	0.3	1.80e+00	1.80e+00	
1,2,3,4,7,8-HXCDF		10.7	0.482	0.1	1.07e+00	1.07e+00	
1,2,3,6,7,8-HXCDF	ND		0.482	0.1	0.00e+00	2.41e-02	
1,2,3,7,8,9-HXCDF	ND		0.482	0.1	0.00e+00	2.41e-02	
2,3,4,6,7,8-HXCDF		0.863	0.482	0.1	8.63e-02	8.63e-02	
1,2,3,4,6,7,8-HPCDF		8.22	0.604	0.01	8.22e-02	8.22e-02	
1,2,3,4,7,8,9-HPCDF		0.660	0.604	0.01	6.60e-03	6.60e-03	
OCDF	ND		0.482	0.0003	0.00e+00	7.23e-05	
<b>TOTAL TEQ</b>					12.9	13.0	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-8\_TEQ\_SJ1240053\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH808  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-9 L

Matrix: MILK

Sample Size: 0.636 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Jan-2011 Time: 07:10:51

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_005 S: 23

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_005 S: 13

Concentration Units: pg/g (lipid weight basis)

% Lipid: 2.51

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3.11	0.490	0.67	1.001
1,2,3,7,8-PECDD <sup>3</sup>	NDR	1.71	0.434	0.47	1.001
1,2,3,4,7,8-HXCDD		0.996	0.327	1.06	1.000
1,2,3,6,7,8-HXCDD	NDR	3.82	0.327	1.04	1.000
1,2,3,7,8,9-HXCDD		1.87	0.327	1.24	1.000
1,2,3,4,6,7,8-HPCDD		7.29	0.550	0.97	1.000
OCDD		54.2	0.386	0.81	1.000
2,3,7,8-TCDF		0.518	0.315	0.79	1.002
1,2,3,7,8-PECDF	NDR	0.797	0.398	0.45	1.001
2,3,4,7,8-PECDF		3.39	0.398	1.48	1.001
1,2,3,4,7,8-HXCDF		5.06	0.315	1.21	1.001
1,2,3,6,7,8-HXCDF		2.55	0.315	1.27	1.000
1,2,3,7,8,9-HXCDF	ND		0.315		
2,3,4,6,7,8-HXCDF	NDR	0.398	0.315	0.71	1.001
1,2,3,4,6,7,8-HPCDF	NDR	8.05	0.558	0.62	1.001
1,2,3,4,7,8,9-HPCDF	NDR	0.956	0.558	0.50	1.000
OCDF		0.398	0.315	0.90	1.002
TOTAL TETRA-DIOXINS		3.11	0.490		
TOTAL PENTA-DIOXINS	ND		0.434		
TOTAL HEXA-DIOXINS		2.87	0.327		
TOTAL HEPTA-DIOXINS		8.17	0.550		
TOTAL TETRA-FURANS		0.518	0.315		
TOTAL PENTA-FURANS		3.39	0.398		
TOTAL HEXA-FURANS		7.61	0.315		
TOTAL HEPTA-FURANS	ND		0.558		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-9\_Form1A\_DX1M\_005S23\_SJ1240054\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH808  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-9 L

Matrix: MILK

Sample Size: 0.636 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 18:29:33

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_006 S: 13

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_006 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 2.51

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.837	0.825	1.18	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-9\_Form1A\_DB13\_006S13\_SJ1241179\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.636 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-9 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_006 S: 13  
DX1M\_005 S: 23

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.11	0.490	1	3.11e+00	3.11e+00	
1,2,3,7,8-PECDD	ND		0.434	1	0.00e+00	2.17e-01	
1,2,3,4,7,8-HXCDD		0.996	0.327	0.1	9.96e-02	9.96e-02	
1,2,3,6,7,8-HXCDD	ND		0.327	0.1	0.00e+00	1.64e-02	
1,2,3,7,8,9-HXCDD		1.87	0.327	0.1	1.87e-01	1.87e-01	
1,2,3,4,6,7,8-HPCDD		7.29	0.550	0.01	7.29e-02	7.29e-02	
OCDD		54.2	0.386	0.0001	5.42e-03	5.42e-03	
2,3,7,8-TCDF	ND		0.825	0.1	0.00e+00	4.13e-02	
1,2,3,7,8-PECDF	ND		0.398	0.05	0.00e+00	9.95e-03	
2,3,4,7,8-PECDF		3.39	0.398	0.5	1.70e+00	1.70e+00	
1,2,3,4,7,8-HXCDF		5.06	0.315	0.1	5.06e-01	5.06e-01	
1,2,3,6,7,8-HXCDF		2.55	0.315	0.1	2.55e-01	2.55e-01	
1,2,3,7,8,9-HXCDF	ND		0.315	0.1	0.00e+00	1.58e-02	
2,3,4,6,7,8-HXCDF	ND		0.315	0.1	0.00e+00	1.58e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.558	0.01	0.00e+00	2.79e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.558	0.01	0.00e+00	2.79e-03	
OCDF		0.398	0.315	0.0001	3.98e-05	3.98e-05	
<b>TOTAL TEQ</b>					5.93	6.25	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.11	0.490	1	3.11e+00	3.11e+00	
1,2,3,7,8-PECDD	ND		0.434	1	0.00e+00	2.17e-01	
1,2,3,4,7,8-HXCDD		0.996	0.327	0.1	9.96e-02	9.96e-02	
1,2,3,6,7,8-HXCDD	ND		0.327	0.1	0.00e+00	1.64e-02	
1,2,3,7,8,9-HXCDD		1.87	0.327	0.1	1.87e-01	1.87e-01	
1,2,3,4,6,7,8-HPCDD		7.29	0.550	0.01	7.29e-02	7.29e-02	
OCDD		54.2	0.386	0.0003	1.63e-02	1.63e-02	
2,3,7,8-TCDF	ND		0.825	0.1	0.00e+00	4.13e-02	
1,2,3,7,8-PECDF	ND		0.398	0.03	0.00e+00	5.97e-03	
2,3,4,7,8-PECDF		3.39	0.398	0.3	1.02e+00	1.02e+00	
1,2,3,4,7,8-HXCDF		5.06	0.315	0.1	5.06e-01	5.06e-01	
1,2,3,6,7,8-HXCDF		2.55	0.315	0.1	2.55e-01	2.55e-01	
1,2,3,7,8,9-HXCDF	ND		0.315	0.1	0.00e+00	1.58e-02	
2,3,4,6,7,8-HXCDF	ND		0.315	0.1	0.00e+00	1.58e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.558	0.01	0.00e+00	2.79e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.558	0.01	0.00e+00	2.79e-03	
OCDF		0.398	0.315	0.0003	1.19e-04	1.19e-04	
<b>TOTAL TEQ</b>					5.26	5.58	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-9\_TEQ\_SJ1240054\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH809  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811  
Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-10 L

Matrix: MILK

Sample Size: 0.796 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 10:56:27

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 4

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 1

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.96

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.45	0.252	0.84	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.27	0.252	0.63	1.001
1,2,3,4,7,8-HXCDD		1.69	0.270	1.24	1.001
1,2,3,6,7,8-HXCDD	NDR	5.07	0.270	1.46	1.000
1,2,3,7,8,9-HXCDD		0.833	0.270	1.07	1.000
1,2,3,4,6,7,8-HPCDD		6.89	0.290	0.99	1.000
OCDD		49.2	0.255	0.90	1.000
2,3,7,8-TCDF	NDR	0.681	0.252	0.62	1.001
1,2,3,7,8-PECDF	ND		0.288		
2,3,4,7,8-PECDF		3.91	0.288	1.65	1.001
1,2,3,4,7,8-HXCDF		6.51	0.285	1.37	1.000
1,2,3,6,7,8-HXCDF		3.28	0.285	1.18	1.000
1,2,3,7,8,9-HXCDF	ND		0.285		
2,3,4,6,7,8-HXCDF	NDR	0.808	0.285	2.31	1.002
1,2,3,4,6,7,8-HPCDF		5.10	0.326	1.03	1.000
1,2,3,4,7,8,9-HPCDF		0.681	0.326	0.98	1.000
OCDF	NDR	0.353	0.252	1.86	1.002
TOTAL TETRA-DIOXINS		2.45	0.252		
TOTAL PENTA-DIOXINS		2.27	0.252		
TOTAL HEXA-DIOXINS		2.52	0.270		
TOTAL HEPTA-DIOXINS		6.89	0.290		
TOTAL TETRA-FURANS	ND		0.252		
TOTAL PENTA-FURANS		3.91	0.288		
TOTAL HEXA-FURANS		9.79	0.285		
TOTAL HEPTA-FURANS		5.78	0.326		

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
- (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
- (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-10\_Form1A\_DX1M\_006S4\_SJ1240133\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH809  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-10 L

Matrix: MILK

Sample Size: 0.796 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 22:17:18

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.96

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.732	0.321	0.87	0.999

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-10\_Form1A\_DB13\_007S5\_SJ1241185\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**AXYS ANALYTICAL SERVICES**

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

**Contract No.:** 2607  
**Matrix:** MILK  
**Sample Size:** 0.796 g (lipid)  
**Concentration Units:** pg/g (lipid weight basis)

**Sample Collection:** 05-Nov-2010  
**Project No.** O33 1579 BIEN HOA  
**Lab Sample I.D.:** L15777-10 L  
**GC Column ID(s):** DB225  
DB5  
**Sample Data Filenames:** **DB13\_007 S: 5**  
**DX1M\_006 S: 4**

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.45	0.252	1	2.45e+00	2.45e+00	
1,2,3,7,8-PECDD		2.27	0.252	1	2.27e+00	2.27e+00	
1,2,3,4,7,8-HXCDD		1.69	0.270	0.1	1.69e-01	1.69e-01	
1,2,3,6,7,8-HXCDD	ND		0.270	0.1	0.00e+00	1.35e-02	
1,2,3,7,8,9-HXCDD		0.833	0.270	0.1	8.33e-02	8.33e-02	
1,2,3,4,6,7,8-HPCDD		6.89	0.290	0.01	6.89e-02	6.89e-02	
OCDD		49.2	0.255	0.0001	4.92e-03	4.92e-03	
2,3,7,8-TCDF		0.732	0.321	0.1	7.32e-02	7.32e-02	
1,2,3,7,8-PECDF	ND		0.288	0.05	0.00e+00	7.20e-03	
2,3,4,7,8-PECDF		3.91	0.288	0.5	1.96e+00	1.96e+00	
1,2,3,4,7,8-HXCDF		6.51	0.285	0.1	6.51e-01	6.51e-01	
1,2,3,6,7,8-HXCDF		3.28	0.285	0.1	3.28e-01	3.28e-01	
1,2,3,7,8,9-HXCDF	ND		0.285	0.1	0.00e+00	1.43e-02	
2,3,4,6,7,8-HXCDF	ND		0.285	0.1	0.00e+00	1.43e-02	
1,2,3,4,6,7,8-HPCDF		5.10	0.326	0.01	5.10e-02	5.10e-02	
1,2,3,4,7,8,9-HPCDF		0.681	0.326	0.01	6.81e-03	6.81e-03	
OCDF	ND		0.252	0.0001	0.00e+00	1.26e-05	
<b>TOTAL TEQ</b>					<b>8.11</b>	<b>8.16</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.45	0.252	1	2.45e+00	2.45e+00	
1,2,3,7,8-PECDD		2.27	0.252	1	2.27e+00	2.27e+00	
1,2,3,4,7,8-HXCDD		1.69	0.270	0.1	1.69e-01	1.69e-01	
1,2,3,6,7,8-HXCDD	ND		0.270	0.1	0.00e+00	1.35e-02	
1,2,3,7,8,9-HXCDD		0.833	0.270	0.1	8.33e-02	8.33e-02	
1,2,3,4,6,7,8-HPCDD		6.89	0.290	0.01	6.89e-02	6.89e-02	
OCDD		49.2	0.255	0.0003	1.48e-02	1.48e-02	
2,3,7,8-TCDF		0.732	0.321	0.1	7.32e-02	7.32e-02	
1,2,3,7,8-PECDF	ND		0.288	0.03	0.00e+00	4.32e-03	
2,3,4,7,8-PECDF		3.91	0.288	0.3	1.17e+00	1.17e+00	
1,2,3,4,7,8-HXCDF		6.51	0.285	0.1	6.51e-01	6.51e-01	
1,2,3,6,7,8-HXCDF		3.28	0.285	0.1	3.28e-01	3.28e-01	
1,2,3,7,8,9-HXCDF	ND		0.285	0.1	0.00e+00	1.43e-02	
2,3,4,6,7,8-HXCDF	ND		0.285	0.1	0.00e+00	1.43e-02	
1,2,3,4,6,7,8-HPCDF		5.10	0.326	0.01	5.10e-02	5.10e-02	
1,2,3,4,7,8,9-HPCDF		0.681	0.326	0.01	6.81e-03	6.81e-03	
OCDF	ND		0.252	0.0003	0.00e+00	3.78e-05	
<b>TOTAL TEQ</b>					7.34	7.39	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-10\_TEQ\_SJ1240133\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH810  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-11 L

Matrix: MILK

Sample Size: 0.283 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 11:49:09

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 1

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.96

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		9.85	0.705	0.77	1.001
1,2,3,7,8-PECDD <sup>3</sup>		2.40	0.705	0.61	1.002
1,2,3,4,7,8-HXCDD		1.28	0.705	1.23	1.000
1,2,3,6,7,8-HXCDD		5.11	0.705	1.09	1.000
1,2,3,7,8,9-HXCDD	NDR	0.919	0.705	1.99	1.000
1,2,3,4,6,7,8-HPCDD		6.03	0.705	1.04	1.000
OCDD		35.2	0.705	0.85	1.000
2,3,7,8-TCDF	NDR	0.868	0.705	0.91	1.001
1,2,3,7,8-PECDF	NDR	0.766	0.705	1.24	1.001
2,3,4,7,8-PECDF	NDR	3.47	0.705	1.24	1.001
1,2,3,4,7,8-HXCDF		5.05	0.705	1.28	1.000
1,2,3,6,7,8-HXCDF		2.86	0.705	1.43	1.001
1,2,3,7,8,9-HXCDF	ND		0.705		
2,3,4,6,7,8-HXCDF	ND		0.705		
1,2,3,4,6,7,8-HPCDF	NDR	6.38	0.705	0.77	1.000
1,2,3,4,7,8,9-HPCDF		1.02	0.705	0.93	1.000
OCDF	ND		0.705		
TOTAL TETRA-DIOXINS		9.85	0.705		
TOTAL PENTA-DIOXINS		2.40	0.705		
TOTAL HEXA-DIOXINS		6.43	0.705		
TOTAL HEPTA-DIOXINS		6.03	0.705		
TOTAL TETRA-FURANS	ND		0.705		
TOTAL PENTA-FURANS	ND		0.705		
TOTAL HEXA-FURANS		7.91	0.705		
TOTAL HEPTA-FURANS		1.02	0.705		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-11\_Form1A\_DX1M\_006S5\_SJ1240134\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH810  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811  
Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-11 L

Matrix: MILK Sample Size: 0.283 g (lipid)  
Sample Receipt Date: 19-Nov-2010 Initial Calibration Date: 09-Nov-2010  
Extraction Date: 24-Nov-2010 Instrument ID: HR GC/MS  
Analysis Date: 12-Jan-2011 Time: 22:54:13 GC Column ID: DB225  
Extract Volume (uL): 10 Sample Data Filename: DB13\_007 S: 6  
Injection Volume (uL): 2.0 Blank Data Filename: DB13\_006 S: 5  
Dilution Factor: N/A Cal. Ver. Data Filename: DB13\_007 S: 2  
Concentration Units: pg/g (lipid weight basis) % Lipid: 1.96

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	1.17	0.720	1.02	1.002

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.  
Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-11\_Form1A\_DB13\_007S6\_SJ1241186\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.283 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-11 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 6  
DX1M\_006 S: 5

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		9.85	0.705	1	9.85e+00	9.85e+00	
1,2,3,7,8-PECDD		2.40	0.705	1	2.40e+00	2.40e+00	
1,2,3,4,7,8-HXCDD		1.28	0.705	0.1	1.28e-01	1.28e-01	
1,2,3,6,7,8-HXCDD		5.11	0.705	0.1	5.11e-01	5.11e-01	
1,2,3,7,8,9-HXCDD	ND		0.705	0.1	0.00e+00	3.53e-02	
1,2,3,4,6,7,8-HPCDD		6.03	0.705	0.01	6.03e-02	6.03e-02	
OCDD		35.2	0.705	0.0001	3.52e-03	3.52e-03	
2,3,7,8-TCDF	ND		0.720	0.1	0.00e+00	3.60e-02	
1,2,3,7,8-PECDF	ND		0.705	0.05	0.00e+00	1.76e-02	
2,3,4,7,8-PECDF	ND		0.705	0.5	0.00e+00	1.76e-01	
1,2,3,4,7,8-HXCDF		5.05	0.705	0.1	5.05e-01	5.05e-01	
1,2,3,6,7,8-HXCDF		2.86	0.705	0.1	2.86e-01	2.86e-01	
1,2,3,7,8,9-HXCDF	ND		0.705	0.1	0.00e+00	3.53e-02	
2,3,4,6,7,8-HXCDF	ND		0.705	0.1	0.00e+00	3.53e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.705	0.01	0.00e+00	3.53e-03	
1,2,3,4,7,8,9-HPCDF		1.02	0.705	0.01	1.02e-02	1.02e-02	
OCDF	ND		0.705	0.0001	0.00e+00	3.53e-05	
<b>TOTAL TEQ</b>					13.8	14.1	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		9.85	0.705	1	9.85e+00	9.85e+00	
1,2,3,7,8-PECDD		2.40	0.705	1	2.40e+00	2.40e+00	
1,2,3,4,7,8-HXCDD		1.28	0.705	0.1	1.28e-01	1.28e-01	
1,2,3,6,7,8-HXCDD		5.11	0.705	0.1	5.11e-01	5.11e-01	
1,2,3,7,8,9-HXCDD	ND		0.705	0.1	0.00e+00	3.53e-02	
1,2,3,4,6,7,8-HPCDD		6.03	0.705	0.01	6.03e-02	6.03e-02	
OCDD		35.2	0.705	0.0003	1.06e-02	1.06e-02	
2,3,7,8-TCDF	ND		0.720	0.1	0.00e+00	3.60e-02	
1,2,3,7,8-PECDF	ND		0.705	0.03	0.00e+00	1.06e-02	
2,3,4,7,8-PECDF	ND		0.705	0.3	0.00e+00	1.06e-01	
1,2,3,4,7,8-HXCDF		5.05	0.705	0.1	5.05e-01	5.05e-01	
1,2,3,6,7,8-HXCDF		2.86	0.705	0.1	2.86e-01	2.86e-01	
1,2,3,7,8,9-HXCDF	ND		0.705	0.1	0.00e+00	3.53e-02	
2,3,4,6,7,8-HXCDF	ND		0.705	0.1	0.00e+00	3.53e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.705	0.01	0.00e+00	3.53e-03	
1,2,3,4,7,8,9-HPCDF		1.02	0.705	0.01	1.02e-02	1.02e-02	
OCDF	ND		0.705	0.0003	0.00e+00	1.06e-04	
<b>TOTAL TEQ</b>					13.8	14.0	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-11\_TEQ\_SJ1240134\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH811  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811  
Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-12 L  
Sample Size: 0.616 g (lipid)  
Initial Calibration Date: 04-Jan-2011  
Instrument ID: HR GC/MS  
GC Column ID: DB5  
Sample Data Filename: DX1M\_006 S: 6  
Blank Data Filename: DX1M\_005 S: 7  
Cal. Ver. Data Filename: DX1M\_006 S: 1  
% Lipid: 6.04

Matrix: MILK  
Sample Receipt Date: 19-Nov-2010  
Extraction Date: 24-Nov-2010  
Analysis Date: 10-Jan-2011 Time: 12:44:22  
Extract Volume (uL): 10  
Injection Volume (uL): 2.0  
Dilution Factor: N/A  
Concentration Units: pg/g (lipid weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	NDR	1.64	0.359	1.04	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.14	0.325	0.52	1.000
1,2,3,4,7,8-HXCDD		1.19	0.325	1.26	1.000
1,2,3,6,7,8-HXCDD		3.66	0.325	1.25	1.000
1,2,3,7,8,9-HXCDD		1.64	0.325	1.09	1.000
1,2,3,4,6,7,8-HPCDD		17.6	0.325	0.99	1.000
OCDD		77.5	0.325	0.88	1.000
2,3,7,8-TCDF		0.729	0.325	0.81	1.002
1,2,3,7,8-PECDF	NDR	0.364	0.325	1.84	1.001
2,3,4,7,8-PECDF		2.02	0.325	1.39	1.001
1,2,3,4,7,8-HXCDF		4.50	0.325	1.07	1.000
1,2,3,6,7,8-HXCDF		2.04	0.325	1.17	1.001
1,2,3,7,8,9-HXCDF	ND		0.325		
2,3,4,6,7,8-HXCDF	NDR	0.397	0.325	1.72	1.000
1,2,3,4,6,7,8-HPCDF	NDR	4.62	0.325	1.26	1.001
1,2,3,4,7,8,9-HPCDF	NDR	0.729	0.325	1.24	1.000
OCDF		0.431	0.325	0.78	1.002
TOTAL TETRA-DIOXINS	ND		0.359		
TOTAL PENTA-DIOXINS		1.14	0.325		
TOTAL HEXA-DIOXINS		6.94	0.325		
TOTAL HEPTA-DIOXINS		20.5	0.325		
TOTAL TETRA-FURANS		0.729	0.325		
TOTAL PENTA-FURANS		2.02	0.325		
TOTAL HEXA-FURANS		6.54	0.325		
TOTAL HEPTA-FURANS	ND		0.325		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.  
 Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH811  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-12 L

Matrix: MILK

Sample Size: 0.616 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 23:31:06

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 7

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 6.04

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.629	0.434	1.18	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-12\_Form1A\_DB13\_007S7\_SJ1241187\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.616 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-12 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 7  
DX1M\_006 S: 6

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.359	1	0.00e+00	1.80e-01	
1,2,3,7,8-PECDD		1.14	0.325	1	1.14e+00	1.14e+00	
1,2,3,4,7,8-HXCDD		1.19	0.325	0.1	1.19e-01	1.19e-01	
1,2,3,6,7,8-HXCDD		3.66	0.325	0.1	3.66e-01	3.66e-01	
1,2,3,7,8,9-HXCDD		1.64	0.325	0.1	1.64e-01	1.64e-01	
1,2,3,4,6,7,8-HPCDD		17.6	0.325	0.01	1.76e-01	1.76e-01	
OCDD		77.5	0.325	0.0001	7.75e-03	7.75e-03	
2,3,7,8-TCDF	ND		0.434	0.1	0.00e+00	2.17e-02	
1,2,3,7,8-PECDF	ND		0.325	0.05	0.00e+00	8.13e-03	
2,3,4,7,8-PECDF		2.02	0.325	0.5	1.01e+00	1.01e+00	
1,2,3,4,7,8-HXCDF		4.50	0.325	0.1	4.50e-01	4.50e-01	
1,2,3,6,7,8-HXCDF		2.04	0.325	0.1	2.04e-01	2.04e-01	
1,2,3,7,8,9-HXCDF	ND		0.325	0.1	0.00e+00	1.63e-02	
2,3,4,6,7,8-HXCDF	ND		0.325	0.1	0.00e+00	1.63e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.325	0.01	0.00e+00	1.63e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.325	0.01	0.00e+00	1.63e-03	
OCDF		0.431	0.325	0.0001	4.31e-05	4.31e-05	
<b>TOTAL TEQ</b>					<b>3.64</b>	<b>3.88</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.359	1	0.00e+00	1.80e-01	
1,2,3,7,8-PECDD		1.14	0.325	1	1.14e+00	1.14e+00	
1,2,3,4,7,8-HXCDD		1.19	0.325	0.1	1.19e-01	1.19e-01	
1,2,3,6,7,8-HXCDD		3.66	0.325	0.1	3.66e-01	3.66e-01	
1,2,3,7,8,9-HXCDD		1.64	0.325	0.1	1.64e-01	1.64e-01	
1,2,3,4,6,7,8-HPCDD		17.6	0.325	0.01	1.76e-01	1.76e-01	
OCDD		77.5	0.325	0.0003	2.33e-02	2.33e-02	
2,3,7,8-TCDF	ND		0.434	0.1	0.00e+00	2.17e-02	
1,2,3,7,8-PECDF	ND		0.325	0.03	0.00e+00	4.88e-03	
2,3,4,7,8-PECDF		2.02	0.325	0.3	6.06e-01	6.06e-01	
1,2,3,4,7,8-HXCDF		4.50	0.325	0.1	4.50e-01	4.50e-01	
1,2,3,6,7,8-HXCDF		2.04	0.325	0.1	2.04e-01	2.04e-01	
1,2,3,7,8,9-HXCDF	ND		0.325	0.1	0.00e+00	1.63e-02	
2,3,4,6,7,8-HXCDF	ND		0.325	0.1	0.00e+00	1.63e-02	
1,2,3,4,6,7,8-HPCDF	ND		0.325	0.01	0.00e+00	1.63e-03	
1,2,3,4,7,8,9-HPCDF	ND		0.325	0.01	0.00e+00	1.63e-03	
OCDF		0.431	0.325	0.0003	1.29e-04	1.29e-04	
<b>TOTAL TEQ</b>					3.25	3.49	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-12\_TEQ\_SJ1240135\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH812  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811  
Contract No.: 2607

Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-13 L

Matrix: MILK  
Sample Receipt Date: 19-Nov-2010

Sample Size: 0.642 g (lipid)  
Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 13:39:35

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 7

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 1

Concentration Units: pg/g (lipid weight basis)

% Lipid: 2.69

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		8.99	0.312	0.72	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.67	0.312	0.70	1.001
1,2,3,4,7,8-HXCDD		1.15	0.312	1.34	1.001
1,2,3,6,7,8-HXCDD		3.20	0.312	1.20	1.000
1,2,3,7,8,9-HXCDD		1.38	0.312	1.22	1.001
1,2,3,4,6,7,8-HPCDD		7.47	0.312	1.11	1.000
OCDD		63.2	0.312	0.88	1.000
2,3,7,8-TCDF		1.04	0.312	0.75	1.001
1,2,3,7,8-PECDF		0.520	0.312	1.53	1.001
2,3,4,7,8-PECDF		2.23	0.312	1.43	1.001
1,2,3,4,7,8-HXCDF		3.46	0.312	1.26	1.000
1,2,3,6,7,8-HXCDF		1.86	0.312	1.14	1.000
1,2,3,7,8,9-HXCDF	ND		0.312		
2,3,4,6,7,8-HXCDF		0.557	0.312	1.39	1.001
1,2,3,4,6,7,8-HPCDF		3.57	0.312	0.90	1.000
1,2,3,4,7,8,9-HPCDF	NDR	0.409	0.312	1.32	1.000
OCDF	NDR	0.372	0.312	1.08	1.002
TOTAL TETRA-DIOXINS		8.99	0.312		
TOTAL PENTA-DIOXINS		1.67	0.312		
TOTAL HEXA-DIOXINS		5.72	0.312		
TOTAL HEPTA-DIOXINS		7.88	0.312		
TOTAL TETRA-FURANS		1.04	0.312		
TOTAL PENTA-FURANS		3.08	0.312		
TOTAL HEXA-FURANS		5.87	0.312		
TOTAL HEPTA-FURANS		3.57	0.312		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.  
 Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH812  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-13 L

Matrix: MILK

Sample Size: 0.642 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 00:08:00

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 2.69

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.818	0.312	0.62	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-13 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 8  
DX1M\_006 S: 7

Contract No.: 2607

Matrix: MILK

Sample Size: 0.642 g (lipid)

Concentration Units: pg/g (lipid weight basis)

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		8.99	0.312	1	8.99e+00	8.99e+00	
1,2,3,7,8-PECDD		1.67	0.312	1	1.67e+00	1.67e+00	
1,2,3,4,7,8-HXCDD		1.15	0.312	0.1	1.15e-01	1.15e-01	
1,2,3,6,7,8-HXCDD		3.20	0.312	0.1	3.20e-01	3.20e-01	
1,2,3,7,8,9-HXCDD		1.38	0.312	0.1	1.38e-01	1.38e-01	
1,2,3,4,6,7,8-HPCDD		7.47	0.312	0.01	7.47e-02	7.47e-02	
OCDD		63.2	0.312	0.0001	6.32e-03	6.32e-03	
2,3,7,8-TCDF	ND		0.312	0.1	0.00e+00	1.56e-02	
1,2,3,7,8-PECDF		0.520	0.312	0.05	2.60e-02	2.60e-02	
2,3,4,7,8-PECDF		2.23	0.312	0.5	1.12e+00	1.12e+00	
1,2,3,4,7,8-HXCDF		3.46	0.312	0.1	3.46e-01	3.46e-01	
1,2,3,6,7,8-HXCDF		1.86	0.312	0.1	1.86e-01	1.86e-01	
1,2,3,7,8,9-HXCDF	ND		0.312	0.1	0.00e+00	1.56e-02	
2,3,4,6,7,8-HXCDF		0.557	0.312	0.1	5.57e-02	5.57e-02	
1,2,3,4,6,7,8-HPCDF		3.57	0.312	0.01	3.57e-02	3.57e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.312	0.01	0.00e+00	1.56e-03	
OCDF	ND		0.312	0.0001	0.00e+00	1.56e-05	
<b>TOTAL TEQ</b>					13.1	13.1	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		8.99	0.312	1	8.99e+00	8.99e+00	
1,2,3,7,8-PECDD		1.67	0.312	1	1.67e+00	1.67e+00	
1,2,3,4,7,8-HXCDD		1.15	0.312	0.1	1.15e-01	1.15e-01	
1,2,3,6,7,8-HXCDD		3.20	0.312	0.1	3.20e-01	3.20e-01	
1,2,3,7,8,9-HXCDD		1.38	0.312	0.1	1.38e-01	1.38e-01	
1,2,3,4,6,7,8-HPCDD		7.47	0.312	0.01	7.47e-02	7.47e-02	
OCDD		63.2	0.312	0.0003	1.90e-02	1.90e-02	
2,3,7,8-TCDF	ND		0.312	0.1	0.00e+00	1.56e-02	
1,2,3,7,8-PECDF		0.520	0.312	0.03	1.56e-02	1.56e-02	
2,3,4,7,8-PECDF		2.23	0.312	0.3	6.69e-01	6.69e-01	
1,2,3,4,7,8-HXCDF		3.46	0.312	0.1	3.46e-01	3.46e-01	
1,2,3,6,7,8-HXCDF		1.86	0.312	0.1	1.86e-01	1.86e-01	
1,2,3,7,8,9-HXCDF	ND		0.312	0.1	0.00e+00	1.56e-02	
2,3,4,6,7,8-HXCDF		0.557	0.312	0.1	5.57e-02	5.57e-02	
1,2,3,4,6,7,8-HPCDF		3.57	0.312	0.01	3.57e-02	3.57e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.312	0.01	0.00e+00	1.56e-03	
OCDF	ND		0.312	0.0003	0.00e+00	4.68e-05	
<b>TOTAL TEQ</b>					12.6	12.7	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-13\_TEQ\_SJ1240136\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH813  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-14 L

Matrix: MILK

Sample Size: 0.732 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 14:34:49

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 8

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 1

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.19

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.27	0.274	0.72	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.46	0.274	0.56	1.000
1,2,3,4,7,8-HXCDD		1.17	0.274	1.22	1.000
1,2,3,6,7,8-HXCDD		3.01	0.274	1.23	1.001
1,2,3,7,8,9-HXCDD		1.34	0.274	1.13	1.000
1,2,3,4,6,7,8-HPCDD		6.30	0.274	1.18	1.000
OCDD		58.4	0.274	0.87	1.000
2,3,7,8-TCDF		0.978	0.274	0.67	1.001
1,2,3,7,8-PECDF		0.501	0.274	1.45	1.001
2,3,4,7,8-PECDF		2.31	0.274	1.42	1.001
1,2,3,4,7,8-HXCDF		4.34	0.274	1.11	1.001
1,2,3,6,7,8-HXCDF		2.03	0.274	1.14	1.000
1,2,3,7,8,9-HXCDF	ND		0.274		
2,3,4,6,7,8-HXCDF	NDR	0.525	0.274	0.89	1.000
1,2,3,4,6,7,8-HPCDF		4.10	0.274	0.92	1.000
1,2,3,4,7,8,9-HPCDF		0.739	0.274	1.16	1.000
OCDF	ND		0.274		
TOTAL TETRA-DIOXINS		2.27	0.274		
TOTAL PENTA-DIOXINS		1.46	0.274		
TOTAL HEXA-DIOXINS		5.51	0.274		
TOTAL HEPTA-DIOXINS		6.68	0.274		
TOTAL TETRA-FURANS		0.978	0.274		
TOTAL PENTA-FURANS		2.81	0.274		
TOTAL HEXA-FURANS		6.34	0.274		
TOTAL HEPTA-FURANS		4.84	0.274		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-14\_Form1A\_DX1M\_006S8\_SJ1240137\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH813  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-14 L

Matrix: MILK

Sample Size: 0.732 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 00:44:55

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.19

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.859	0.274	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-14\_Form1A\_DB13\_007S9\_SJ1241189\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.732 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-14 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 9  
DX1M\_006 S: 8

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.27	0.274	1	2.27e+00	2.27e+00	
1,2,3,7,8-PECDD		1.46	0.274	1	1.46e+00	1.46e+00	
1,2,3,4,7,8-HXCDD		1.17	0.274	0.1	1.17e-01	1.17e-01	
1,2,3,6,7,8-HXCDD		3.01	0.274	0.1	3.01e-01	3.01e-01	
1,2,3,7,8,9-HXCDD		1.34	0.274	0.1	1.34e-01	1.34e-01	
1,2,3,4,6,7,8-HPCDD		6.30	0.274	0.01	6.30e-02	6.30e-02	
OCDD		58.4	0.274	0.0001	5.84e-03	5.84e-03	
2,3,7,8-TCDF		0.859	0.274	0.1	8.59e-02	8.59e-02	
1,2,3,7,8-PECDF		0.501	0.274	0.05	2.51e-02	2.51e-02	
2,3,4,7,8-PECDF		2.31	0.274	0.5	1.16e+00	1.16e+00	
1,2,3,4,7,8-HXCDF		4.34	0.274	0.1	4.34e-01	4.34e-01	
1,2,3,6,7,8-HXCDF		2.03	0.274	0.1	2.03e-01	2.03e-01	
1,2,3,7,8,9-HXCDF	ND		0.274	0.1	0.00e+00	1.37e-02	
2,3,4,6,7,8-HXCDF	ND		0.274	0.1	0.00e+00	1.37e-02	
1,2,3,4,6,7,8-HPCDF		4.10	0.274	0.01	4.10e-02	4.10e-02	
1,2,3,4,7,8,9-HPCDF		0.739	0.274	0.01	7.39e-03	7.39e-03	
OCDF	ND		0.274	0.0001	0.00e+00	1.37e-05	
<b>TOTAL TEQ</b>					<b>6.30</b>	<b>6.33</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.27	0.274	1	2.27e+00	2.27e+00	
1,2,3,7,8-PECDD		1.46	0.274	1	1.46e+00	1.46e+00	
1,2,3,4,7,8-HXCDD		1.17	0.274	0.1	1.17e-01	1.17e-01	
1,2,3,6,7,8-HXCDD		3.01	0.274	0.1	3.01e-01	3.01e-01	
1,2,3,7,8,9-HXCDD		1.34	0.274	0.1	1.34e-01	1.34e-01	
1,2,3,4,6,7,8-HPCDD		6.30	0.274	0.01	6.30e-02	6.30e-02	
OCDD		58.4	0.274	0.0003	1.75e-02	1.75e-02	
2,3,7,8-TCDF		0.859	0.274	0.1	8.59e-02	8.59e-02	
1,2,3,7,8-PECDF		0.501	0.274	0.03	1.50e-02	1.50e-02	
2,3,4,7,8-PECDF		2.31	0.274	0.3	6.93e-01	6.93e-01	
1,2,3,4,7,8-HXCDF		4.34	0.274	0.1	4.34e-01	4.34e-01	
1,2,3,6,7,8-HXCDF		2.03	0.274	0.1	2.03e-01	2.03e-01	
1,2,3,7,8,9-HXCDF	ND		0.274	0.1	0.00e+00	1.37e-02	
2,3,4,6,7,8-HXCDF	ND		0.274	0.1	0.00e+00	1.37e-02	
1,2,3,4,6,7,8-HPCDF		4.10	0.274	0.01	4.10e-02	4.10e-02	
1,2,3,4,7,8,9-HPCDF		0.739	0.274	0.01	7.39e-03	7.39e-03	
OCDF	ND		0.274	0.0003	0.00e+00	4.11e-05	
<b>TOTAL TEQ</b>					5.84	5.87	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-14\_TEQ\_SJ1240137\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH814  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-15 Li

Matrix: MILK

Sample Size: 0.688 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 12-Jan-2011 Time: 17:36:19

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_007B S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_007B S: 4

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.46

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		13.8	0.312	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>		13.1	0.327	0.56	1.001
1,2,3,4,7,8-HXCDD		4.65	0.292	1.15	1.000
1,2,3,6,7,8-HXCDD		21.6	0.292	1.23	1.000
1,2,3,7,8,9-HXCDD		3.44	0.292	1.27	1.000
1,2,3,4,6,7,8-HPCDD		9.83	0.330	0.92	1.000
OCDD		116	0.327	0.89	1.000
2,3,7,8-TCDF		0.781	0.292	0.70	1.000
1,2,3,7,8-PECDF	NDR	0.549	0.344	0.73	1.002
2,3,4,7,8-PECDF	NDR	5.84	0.344	1.22	1.001
1,2,3,4,7,8-HXCDF		9.42	0.292	1.17	1.000
1,2,3,6,7,8-HXCDF		4.68	0.292	1.42	1.000
1,2,3,7,8,9-HXCDF		0.723	0.292	1.11	1.001
2,3,4,6,7,8-HXCDF		0.867	0.292	1.30	1.000
1,2,3,4,6,7,8-HPCDF		4.91	0.292	1.19	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.04	0.292	1.79	1.001
OCDF		0.781	0.483	0.97	1.002
TOTAL TETRA-DIOXINS		13.8	0.312		
TOTAL PENTA-DIOXINS		13.1	0.327		
TOTAL HEXA-DIOXINS		29.8	0.292		
TOTAL HEPTA-DIOXINS		10.4	0.330		
TOTAL TETRA-FURANS		0.781	0.292		
TOTAL PENTA-FURANS	ND		0.344		
TOTAL HEXA-FURANS		15.7	0.292		
TOTAL HEPTA-FURANS		4.91	0.292		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH814  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-15 L

Matrix: MILK

Sample Size: 0.688 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 15-Jan-2011 Time: 10:23:52

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_012 S: 5

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_012 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.46

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		1.01	0.399	0.68	1.001

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.688 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-15 Li  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_012 S: 5  
DX1M\_007B S: 10

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		13.8	0.312	1	1.38e+01	1.38e+01	
1,2,3,7,8-PECDD		13.1	0.327	1	1.31e+01	1.31e+01	
1,2,3,4,7,8-HXCDD		4.65	0.292	0.1	4.65e-01	4.65e-01	
1,2,3,6,7,8-HXCDD		21.6	0.292	0.1	2.16e+00	2.16e+00	
1,2,3,7,8,9-HXCDD		3.44	0.292	0.1	3.44e-01	3.44e-01	
1,2,3,4,6,7,8-HPCDD		9.83	0.330	0.01	9.83e-02	9.83e-02	
OCDD		116	0.327	0.0001	1.16e-02	1.16e-02	
2,3,7,8-TCDF		1.01	0.399	0.1	1.01e-01	1.01e-01	
1,2,3,7,8-PECDF	ND		0.344	0.05	0.00e+00	8.60e-03	
2,3,4,7,8-PECDF	ND		0.344	0.5	0.00e+00	8.60e-02	
1,2,3,4,7,8-HXCDF		9.42	0.292	0.1	9.42e-01	9.42e-01	
1,2,3,6,7,8-HXCDF		4.68	0.292	0.1	4.68e-01	4.68e-01	
1,2,3,7,8,9-HXCDF		0.723	0.292	0.1	7.23e-02	7.23e-02	
2,3,4,6,7,8-HXCDF		0.867	0.292	0.1	8.67e-02	8.67e-02	
1,2,3,4,6,7,8-HPCDF		4.91	0.292	0.01	4.91e-02	4.91e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.292	0.01	0.00e+00	1.46e-03	
OCDF		0.781	0.483	0.0001	7.81e-05	7.81e-05	
<b>TOTAL TEQ</b>					<b>31.7</b>	<b>31.8</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		13.8	0.312	1	1.38e+01	1.38e+01	
1,2,3,7,8-PECDD		13.1	0.327	1	1.31e+01	1.31e+01	
1,2,3,4,7,8-HXCDD		4.65	0.292	0.1	4.65e-01	4.65e-01	
1,2,3,6,7,8-HXCDD		21.6	0.292	0.1	2.16e+00	2.16e+00	
1,2,3,7,8,9-HXCDD		3.44	0.292	0.1	3.44e-01	3.44e-01	
1,2,3,4,6,7,8-HPCDD		9.83	0.330	0.01	9.83e-02	9.83e-02	
OCDD		116	0.327	0.0003	3.48e-02	3.48e-02	
2,3,7,8-TCDF		1.01	0.399	0.1	1.01e-01	1.01e-01	
1,2,3,7,8-PECDF	ND		0.344	0.03	0.00e+00	5.16e-03	
2,3,4,7,8-PECDF	ND		0.344	0.3	0.00e+00	5.16e-02	
1,2,3,4,7,8-HXCDF		9.42	0.292	0.1	9.42e-01	9.42e-01	
1,2,3,6,7,8-HXCDF		4.68	0.292	0.1	4.68e-01	4.68e-01	
1,2,3,7,8,9-HXCDF		0.723	0.292	0.1	7.23e-02	7.23e-02	
2,3,4,6,7,8-HXCDF		0.867	0.292	0.1	8.67e-02	8.67e-02	
1,2,3,4,6,7,8-HPCDF		4.91	0.292	0.01	4.91e-02	4.91e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.292	0.01	0.00e+00	1.46e-03	
OCDF		0.781	0.483	0.0003	2.34e-04	2.34e-04	
<b>TOTAL TEQ</b>					31.7	31.8	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 21-Jan-2011 14:16:15; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-15\_TEQ\_SJ1241056\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH815  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-16 L

Matrix: MILK

Sample Size: 0.501 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 16:25:15

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 1

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.99

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		2.31	0.397	0.81	1.001
1,2,3,7,8-PECDD <sup>3</sup>		3.11	0.397	0.52	1.001
1,2,3,4,7,8-HXCDD	NDR	2.01	0.397	0.93	1.000
1,2,3,6,7,8-HXCDD		7.53	0.397	1.08	1.000
1,2,3,7,8,9-HXCDD		2.61	0.397	1.34	1.000
1,2,3,4,6,7,8-HPCDD		19.6	0.397	1.01	1.000
OCDD		104	0.397	0.87	1.000
2,3,7,8-TCDF		0.552	0.397	0.86	1.001
1,2,3,7,8-PECDF	NDR	0.402	0.397	1.08	1.002
2,3,4,7,8-PECDF		5.22	0.397	1.42	1.001
1,2,3,4,7,8-HXCDF		8.54	0.397	1.15	1.000
1,2,3,6,7,8-HXCDF		4.72	0.397	1.16	1.001
1,2,3,7,8,9-HXCDF		0.402	0.397	1.35	1.000
2,3,4,6,7,8-HXCDF		1.10	0.397	1.26	1.001
1,2,3,4,6,7,8-HPCDF		7.23	0.397	0.95	1.000
1,2,3,4,7,8,9-HPCDF		0.904	0.397	1.10	1.000
OCDF	ND		0.397		
TOTAL TETRA-DIOXINS		2.31	0.397		
TOTAL PENTA-DIOXINS		3.11	0.397		
TOTAL HEXA-DIOXINS		10.1	0.397		
TOTAL HEPTA-DIOXINS		23.0	0.397		
TOTAL TETRA-FURANS		0.552	0.397		
TOTAL PENTA-FURANS		5.22	0.397		
TOTAL HEXA-FURANS		14.8	0.397		
TOTAL HEPTA-FURANS		8.14	0.397		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-16\_Form1A\_DX1M\_006S10\_SJ1240129\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH815  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-16 L

Matrix: MILK

Sample Size: 0.501 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 01:21:48

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.99

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.854	0.397	1.44	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-16\_Form1A\_DB13\_007S10\_SJ1241190\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.501 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-16 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 10  
DX1M\_006 S: 10

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.31	0.397	1	2.31e+00	2.31e+00	
1,2,3,7,8-PECDD		3.11	0.397	1	3.11e+00	3.11e+00	
1,2,3,4,7,8-HXCDD	ND		0.397	0.1	0.00e+00	1.99e-02	
1,2,3,6,7,8-HXCDD		7.53	0.397	0.1	7.53e-01	7.53e-01	
1,2,3,7,8,9-HXCDD		2.61	0.397	0.1	2.61e-01	2.61e-01	
1,2,3,4,6,7,8-HPCDD		19.6	0.397	0.01	1.96e-01	1.96e-01	
OCDD		104	0.397	0.0001	1.04e-02	1.04e-02	
2,3,7,8-TCDF	ND		0.397	0.1	0.00e+00	1.99e-02	
1,2,3,7,8-PECDF	ND		0.397	0.05	0.00e+00	9.93e-03	
2,3,4,7,8-PECDF		5.22	0.397	0.5	2.61e+00	2.61e+00	
1,2,3,4,7,8-HXCDF		8.54	0.397	0.1	8.54e-01	8.54e-01	
1,2,3,6,7,8-HXCDF		4.72	0.397	0.1	4.72e-01	4.72e-01	
1,2,3,7,8,9-HXCDF		0.402	0.397	0.1	4.02e-02	4.02e-02	
2,3,4,6,7,8-HXCDF		1.10	0.397	0.1	1.10e-01	1.10e-01	
1,2,3,4,6,7,8-HPCDF		7.23	0.397	0.01	7.23e-02	7.23e-02	
1,2,3,4,7,8,9-HPCDF		0.904	0.397	0.01	9.04e-03	9.04e-03	
OCDF	ND		0.397	0.0001	0.00e+00	1.99e-05	
<b>TOTAL TEQ</b>					10.8	10.9	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		2.31	0.397	1	2.31e+00	2.31e+00	
1,2,3,7,8-PECDD		3.11	0.397	1	3.11e+00	3.11e+00	
1,2,3,4,7,8-HXCDD	ND		0.397	0.1	0.00e+00	1.99e-02	
1,2,3,6,7,8-HXCDD		7.53	0.397	0.1	7.53e-01	7.53e-01	
1,2,3,7,8,9-HXCDD		2.61	0.397	0.1	2.61e-01	2.61e-01	
1,2,3,4,6,7,8-HPCDD		19.6	0.397	0.01	1.96e-01	1.96e-01	
OCDD		104	0.397	0.0003	3.12e-02	3.12e-02	
2,3,7,8-TCDF	ND		0.397	0.1	0.00e+00	1.99e-02	
1,2,3,7,8-PECDF	ND		0.397	0.03	0.00e+00	5.96e-03	
2,3,4,7,8-PECDF		5.22	0.397	0.3	1.57e+00	1.57e+00	
1,2,3,4,7,8-HXCDF		8.54	0.397	0.1	8.54e-01	8.54e-01	
1,2,3,6,7,8-HXCDF		4.72	0.397	0.1	4.72e-01	4.72e-01	
1,2,3,7,8,9-HXCDF		0.402	0.397	0.1	4.02e-02	4.02e-02	
2,3,4,6,7,8-HXCDF		1.10	0.397	0.1	1.10e-01	1.10e-01	
1,2,3,4,6,7,8-HPCDF		7.23	0.397	0.01	7.23e-02	7.23e-02	
1,2,3,4,7,8,9-HPCDF		0.904	0.397	0.01	9.04e-03	9.04e-03	
OCDF	ND		0.397	0.0003	0.00e+00	5.96e-05	
<b>TOTAL TEQ</b>					9.78	9.83	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-16\_TEQ\_SJ1240129\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH816  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-17

Matrix: MILK

Sample Size: 0.767 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 12:12:13

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX0M\_170A S: 51

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_170A S: 46

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.64

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1.37	0.272	0.76	1.001
1,2,3,7,8-PECDD <sup>3</sup>	ND		1.61		
1,2,3,4,7,8-HXCDD		1.46	0.261	1.14	1.000
1,2,3,6,7,8-HXCDD		5.05	0.261	1.12	1.000
1,2,3,7,8,9-HXCDD		1.46	0.261	1.28	1.000
1,2,3,4,6,7,8-HPCDD		4.72	0.277	0.94	1.000
OCDD		35.4	0.261	0.81	1.000
2,3,7,8-TCDF	ND		0.324		
1,2,3,7,8-PECDF	ND		0.651		
2,3,4,7,8-PECDF		3.62	0.582	1.35	1.001
1,2,3,4,7,8-HXCDF		8.57	0.261	1.25	1.000
1,2,3,6,7,8-HXCDF		4.89	0.261	1.40	1.000
1,2,3,7,8,9-HXCDF	ND		0.264		
2,3,4,6,7,8-HXCDF		0.659	0.261	1.30	1.000
1,2,3,4,6,7,8-HPCDF		3.60	0.261	0.91	1.000
1,2,3,4,7,8,9-HPCDF	ND		0.283		
OCDF	ND		0.417		
TOTAL TETRA-DIOXINS	NQ				
TOTAL PENTA-DIOXINS	NQ				
TOTAL HEXA-DIOXINS	NQ				
TOTAL HEPTA-DIOXINS	NQ				
TOTAL TETRA-FURANS	NQ				
TOTAL PENTA-FURANS	NQ				
TOTAL HEXA-FURANS	NQ				
TOTAL HEPTA-FURANS	NQ				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NQ = data not quantifiable.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH816  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-17

Matrix: MILK

Sample Size: 0.767 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Dec-2010 Time: 12:40:30

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB03\_157 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_157 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 3.64

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		5.38		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.767 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-17  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_157 S: 9  
DX0M\_170A S: 51

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.37	0.272	1	1.37e+00	1.37e+00	
1,2,3,7,8-PECDD	ND		1.61	1	0.00e+00	8.05e-01	
1,2,3,4,7,8-HXCDD		1.46	0.261	0.1	1.46e-01	1.46e-01	
1,2,3,6,7,8-HXCDD		5.05	0.261	0.1	5.05e-01	5.05e-01	
1,2,3,7,8,9-HXCDD		1.46	0.261	0.1	1.46e-01	1.46e-01	
1,2,3,4,6,7,8-HPCDD		4.72	0.277	0.01	4.72e-02	4.72e-02	
OCDD		35.4	0.261	0.0001	3.54e-03	3.54e-03	
2,3,7,8-TCDF	ND		5.38	0.1	0.00e+00	2.69e-01	
1,2,3,7,8-PECDF	ND		0.651	0.05	0.00e+00	1.63e-02	
2,3,4,7,8-PECDF		3.62	0.582	0.5	1.81e+00	1.81e+00	
1,2,3,4,7,8-HXCDF		8.57	0.261	0.1	8.57e-01	8.57e-01	
1,2,3,6,7,8-HXCDF		4.89	0.261	0.1	4.89e-01	4.89e-01	
1,2,3,7,8,9-HXCDF	ND		0.264	0.1	0.00e+00	1.32e-02	
2,3,4,6,7,8-HXCDF		0.659	0.261	0.1	6.59e-02	6.59e-02	
1,2,3,4,6,7,8-HPCDF		3.60	0.261	0.01	3.60e-02	3.60e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.283	0.01	0.00e+00	1.42e-03	
OCDF	ND		0.417	0.0001	0.00e+00	2.09e-05	
<b>TOTAL TEQ</b>					<b>5.48</b>	<b>6.58</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.37	0.272	1	1.37e+00	1.37e+00	
1,2,3,7,8-PECDD	ND		1.61	1	0.00e+00	8.05e-01	
1,2,3,4,7,8-HXCDD		1.46	0.261	0.1	1.46e-01	1.46e-01	
1,2,3,6,7,8-HXCDD		5.05	0.261	0.1	5.05e-01	5.05e-01	
1,2,3,7,8,9-HXCDD		1.46	0.261	0.1	1.46e-01	1.46e-01	
1,2,3,4,6,7,8-HPCDD		4.72	0.277	0.01	4.72e-02	4.72e-02	
OCDD		35.4	0.261	0.0003	1.06e-02	1.06e-02	
2,3,7,8-TCDF	ND		5.38	0.1	0.00e+00	2.69e-01	
1,2,3,7,8-PECDF	ND		0.651	0.03	0.00e+00	9.77e-03	
2,3,4,7,8-PECDF		3.62	0.582	0.3	1.09e+00	1.09e+00	
1,2,3,4,7,8-HXCDF		8.57	0.261	0.1	8.57e-01	8.57e-01	
1,2,3,6,7,8-HXCDF		4.89	0.261	0.1	4.89e-01	4.89e-01	
1,2,3,7,8,9-HXCDF	ND		0.264	0.1	0.00e+00	1.32e-02	
2,3,4,6,7,8-HXCDF		0.659	0.261	0.1	6.59e-02	6.59e-02	
1,2,3,4,6,7,8-HPCDF		3.60	0.261	0.01	3.60e-02	3.60e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.283	0.01	0.00e+00	1.42e-03	
OCDF	ND		0.417	0.0003	0.00e+00	6.26e-05	
<b>TOTAL TEQ</b>					4.76	5.86	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 21-Jan-2011 14:16:15; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-17\_TEQ\_SJ1244350\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH817  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-18

Matrix: MILK

Sample Size: 0.311 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 22-Dec-2010 Time: 13:07:26

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX0M\_170A S: 52

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX0M\_170A S: 46

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.24

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD	ND		0.815		
1,2,3,7,8-PECDD <sup>3</sup>	ND		1.50		
1,2,3,4,7,8-HXCDD	ND		1.27		
1,2,3,6,7,8-HXCDD	NDR	2.42	1.27	0.97	1.000
1,2,3,7,8,9-HXCDD	NDR	1.69	1.36	1.97	1.000
1,2,3,4,6,7,8-HPCDD		7.83	1.37	0.94	1.000
OCDD		47.5	1.00	0.81	1.000
2,3,7,8-TCDF	ND		0.855		
1,2,3,7,8-PECDF	ND		1.85		
2,3,4,7,8-PECDF	ND		2.32		
1,2,3,4,7,8-HXCDF	NDR	4.68	1.81	1.54	1.000
1,2,3,6,7,8-HXCDF		3.87	1.75	1.29	1.000
1,2,3,7,8,9-HXCDF	ND		2.37		
2,3,4,6,7,8-HXCDF	ND		2.49		
1,2,3,4,6,7,8-HPCDF	NDR	6.62	1.22	1.20	1.000
1,2,3,4,7,8,9-HPCDF	NDR	1.37	1.22	1.48	1.000
OCDF	ND		1.51		
TOTAL TETRA-DIOXINS	NQ				
TOTAL PENTA-DIOXINS	NQ				
TOTAL HEXA-DIOXINS	NQ				
TOTAL HEPTA-DIOXINS	NQ				
TOTAL TETRA-FURANS	NQ				
TOTAL PENTA-FURANS	NQ				
TOTAL HEXA-FURANS	NQ				
TOTAL HEPTA-FURANS	NQ				

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; NQ = data not quantifiable.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH817  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-18

Matrix: MILK

Sample Size: 0.311 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Dec-2010 Time: 13:17:19

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB03\_157 S: 10

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB03\_157 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.24

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	ND		8.71		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jan-2011 14:15:25; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-18\_Form1A\_DB03\_157S10\_SJ1244351\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.311 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-18  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB03\_157 S: 10  
DX0M\_170A S: 52

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.815	1	0.00e+00	4.08e-01	
1,2,3,7,8-PECDD	ND		1.50	1	0.00e+00	7.50e-01	
1,2,3,4,7,8-HXCDD	ND		1.27	0.1	0.00e+00	6.35e-02	
1,2,3,6,7,8-HXCDD	ND		1.27	0.1	0.00e+00	6.35e-02	
1,2,3,7,8,9-HXCDD	ND		1.36	0.1	0.00e+00	6.80e-02	
1,2,3,4,6,7,8-HPCDD		7.83	1.37	0.01	7.83e-02	7.83e-02	
OCDD		47.5	1.00	0.0001	4.75e-03	4.75e-03	
2,3,7,8-TCDF	ND		8.71	0.1	0.00e+00	4.36e-01	
1,2,3,7,8-PECDF	ND		1.85	0.05	0.00e+00	4.63e-02	
2,3,4,7,8-PECDF	ND		2.32	0.5	0.00e+00	5.80e-01	
1,2,3,4,7,8-HXCDF	ND		1.81	0.1	0.00e+00	9.05e-02	
1,2,3,6,7,8-HXCDF		3.87	1.75	0.1	3.87e-01	3.87e-01	
1,2,3,7,8,9-HXCDF	ND		2.37	0.1	0.00e+00	1.19e-01	
2,3,4,6,7,8-HXCDF	ND		2.49	0.1	0.00e+00	1.25e-01	
1,2,3,4,6,7,8-HPCDF	ND		1.22	0.01	0.00e+00	6.10e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.22	0.01	0.00e+00	6.10e-03	
OCDF	ND		1.51	0.0001	0.00e+00	7.55e-05	
<b>TOTAL TEQ</b>					<b>0.470</b>	<b>3.23</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD	ND		0.815	1	0.00e+00	4.08e-01	
1,2,3,7,8-PECDD	ND		1.50	1	0.00e+00	7.50e-01	
1,2,3,4,7,8-HXCDD	ND		1.27	0.1	0.00e+00	6.35e-02	
1,2,3,6,7,8-HXCDD	ND		1.27	0.1	0.00e+00	6.35e-02	
1,2,3,7,8,9-HXCDD	ND		1.36	0.1	0.00e+00	6.80e-02	
1,2,3,4,6,7,8-HPCDD		7.83	1.37	0.01	7.83e-02	7.83e-02	
OCDD		47.5	1.00	0.0003	1.43e-02	1.43e-02	
2,3,7,8-TCDF	ND		8.71	0.1	0.00e+00	4.36e-01	
1,2,3,7,8-PECDF	ND		1.85	0.03	0.00e+00	2.78e-02	
2,3,4,7,8-PECDF	ND		2.32	0.3	0.00e+00	3.48e-01	
1,2,3,4,7,8-HXCDF	ND		1.81	0.1	0.00e+00	9.05e-02	
1,2,3,6,7,8-HXCDF		3.87	1.75	0.1	3.87e-01	3.87e-01	
1,2,3,7,8,9-HXCDF	ND		2.37	0.1	0.00e+00	1.19e-01	
2,3,4,6,7,8-HXCDF	ND		2.49	0.1	0.00e+00	1.25e-01	
1,2,3,4,6,7,8-HPCDF	ND		1.22	0.01	0.00e+00	6.10e-03	
1,2,3,4,7,8,9-HPCDF	ND		1.22	0.01	0.00e+00	6.10e-03	
OCDF	ND		1.51	0.0003	0.00e+00	2.27e-04	
<b>TOTAL TEQ</b>					0.480	2.99	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 21-Jan-2011 14:16:15; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-18\_TEQ\_SJ1244351\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH818  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-19 L

Matrix: MILK

Sample Size: 0.763 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 10-Jan-2011 Time: 23:56:20

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 18

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 11

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.03

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		10.2	0.285	0.78	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.74	0.263	0.65	1.001
1,2,3,4,7,8-HXCDD	NDR	0.992	0.263	1.73	1.000
1,2,3,6,7,8-HXCDD		3.03	0.263	1.12	1.000
1,2,3,7,8-HXCDD		0.918	0.263	1.23	1.001
1,2,3,4,6,7,8-HPCDD		5.28	0.263	1.08	1.000
OCDD		30.0	0.263	0.81	1.000
2,3,7,8-TCDF		0.992	0.263	0.67	1.001
1,2,3,7,8-PECDF	NDR	0.620	0.263	0.71	1.001
2,3,4,7,8-PECDF		1.86	0.263	1.37	1.001
1,2,3,4,7,8-HXCDF		3.35	0.263	1.14	1.000
1,2,3,6,7,8-HXCDF		1.76	0.263	1.24	1.001
1,2,3,7,8,9-HXCDF	ND		0.263		
2,3,4,6,7,8-HXCDF	NDR	0.372	0.263	0.61	1.000
1,2,3,4,6,7,8-HPCDF		2.18	0.263	0.95	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.263		
OCDF	ND		0.263		
TOTAL TETRA-DIOXINS		10.2	0.285		
TOTAL PENTA-DIOXINS		1.74	0.263		
TOTAL HEXA-DIOXINS		3.94	0.263		
TOTAL HEPTA-DIOXINS		5.61	0.263		
TOTAL TETRA-FURANS		0.992	0.263		
TOTAL PENTA-FURANS		1.86	0.263		
TOTAL HEXA-FURANS		5.09	0.263		
TOTAL HEPTA-FURANS		2.18	0.263		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-19\_Form1A\_DX1M\_006S18\_SJ1239986\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH818  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-19 L

Matrix: MILK

Sample Size: 0.763 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 01:58:43

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 11

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.03

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.744	0.263	1.04	1.000

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.763 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-19 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 11  
DX1M\_006 S: 18

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		10.2	0.285	1	1.02e+01	1.02e+01	
1,2,3,7,8-PECDD		1.74	0.263	1	1.74e+00	1.74e+00	
1,2,3,4,7,8-HXCDD	ND		0.263	0.1	0.00e+00	1.32e-02	
1,2,3,6,7,8-HXCDD		3.03	0.263	0.1	3.03e-01	3.03e-01	
1,2,3,7,8,9-HXCDD		0.918	0.263	0.1	9.18e-02	9.18e-02	
1,2,3,4,6,7,8-HPCDD		5.28	0.263	0.01	5.28e-02	5.28e-02	
OCDD		30.0	0.263	0.0001	3.00e-03	3.00e-03	
2,3,7,8-TCDF	ND		0.263	0.1	0.00e+00	1.32e-02	
1,2,3,7,8-PECDF	ND		0.263	0.05	0.00e+00	6.58e-03	
2,3,4,7,8-PECDF		1.86	0.263	0.5	9.30e-01	9.30e-01	
1,2,3,4,7,8-HXCDF		3.35	0.263	0.1	3.35e-01	3.35e-01	
1,2,3,6,7,8-HXCDF		1.76	0.263	0.1	1.76e-01	1.76e-01	
1,2,3,7,8,9-HXCDF	ND		0.263	0.1	0.00e+00	1.32e-02	
2,3,4,6,7,8-HXCDF	ND		0.263	0.1	0.00e+00	1.32e-02	
1,2,3,4,6,7,8-HPCDF		2.18	0.263	0.01	2.18e-02	2.18e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.263	0.01	0.00e+00	1.32e-03	
OCDF	ND		0.263	0.0001	0.00e+00	1.32e-05	
<b>TOTAL TEQ</b>					13.9	13.9	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		10.2	0.285	1	1.02e+01	1.02e+01	
1,2,3,7,8-PECDD		1.74	0.263	1	1.74e+00	1.74e+00	
1,2,3,4,7,8-HXCDD	ND		0.263	0.1	0.00e+00	1.32e-02	
1,2,3,6,7,8-HXCDD		3.03	0.263	0.1	3.03e-01	3.03e-01	
1,2,3,7,8,9-HXCDD		0.918	0.263	0.1	9.18e-02	9.18e-02	
1,2,3,4,6,7,8-HPCDD		5.28	0.263	0.01	5.28e-02	5.28e-02	
OCDD		30.0	0.263	0.0003	9.00e-03	9.00e-03	
2,3,7,8-TCDF	ND		0.263	0.1	0.00e+00	1.32e-02	
1,2,3,7,8-PECDF	ND		0.263	0.03	0.00e+00	3.95e-03	
2,3,4,7,8-PECDF		1.86	0.263	0.3	5.58e-01	5.58e-01	
1,2,3,4,7,8-HXCDF		3.35	0.263	0.1	3.35e-01	3.35e-01	
1,2,3,6,7,8-HXCDF		1.76	0.263	0.1	1.76e-01	1.76e-01	
1,2,3,7,8,9-HXCDF	ND		0.263	0.1	0.00e+00	1.32e-02	
2,3,4,6,7,8-HXCDF	ND		0.263	0.1	0.00e+00	1.32e-02	
1,2,3,4,6,7,8-HPCDF		2.18	0.263	0.01	2.18e-02	2.18e-02	
1,2,3,4,7,8,9-HPCDF	ND		0.263	0.01	0.00e+00	1.32e-03	
OCDF	ND		0.263	0.0003	0.00e+00	3.95e-05	
<b>TOTAL TEQ</b>					13.5	13.5	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

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Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-19\_TEQ\_SJ1239986\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH819  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-20 L

Matrix: MILK

Sample Size: 0.470 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 11-Jan-2011 Time: 00:51:33

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 19

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 11

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.86

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		1.72	0.425	0.83	1.002
1,2,3,7,8-PECDD <sup>3</sup>		2.21	0.425	0.69	1.000
1,2,3,4,7,8-HXCDD	NDR	1.45	0.425	0.83	1.001
1,2,3,6,7,8-HXCDD		4.20	0.425	1.26	1.000
1,2,3,7,8,9-HXCDD		1.56	0.425	1.15	1.000
1,2,3,4,6,7,8-HPCDD		7.00	0.425	0.91	1.000
OCDD		60.8	0.425	0.86	1.000
2,3,7,8-TCDF	NDR	0.700	0.425	0.95	1.001
1,2,3,7,8-PECDF	ND		0.425		
2,3,4,7,8-PECDF		2.74	0.425	1.44	1.001
1,2,3,4,7,8-HXCDF		4.63	0.425	1.24	1.001
1,2,3,6,7,8-HXCDF		2.37	0.425	1.14	1.000
1,2,3,7,8,9-HXCDF	ND		0.425		
2,3,4,6,7,8-HXCDF	NDR	0.592	0.425	0.99	1.000
1,2,3,4,6,7,8-HPCDF		3.71	0.425	0.96	1.000
1,2,3,4,7,8,9-HPCDF		0.430	0.425	1.00	1.000
OCDF	ND		0.425		
TOTAL TETRA-DIOXINS		1.72	0.425		
TOTAL PENTA-DIOXINS		2.21	0.425		
TOTAL HEXA-DIOXINS		5.76	0.425		
TOTAL HEPTA-DIOXINS		7.48	0.425		
TOTAL TETRA-FURANS	ND		0.425		
TOTAL PENTA-FURANS		2.74	0.425		
TOTAL HEXA-FURANS		7.00	0.425		
TOTAL HEPTA-FURANS		4.14	0.425		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-20\_Form1A\_DX1M\_006S19\_SJ1239987\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH819  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-20 L

Matrix: MILK

Sample Size: 0.470 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 02:35:36

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 12

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 1.86

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF	NDR	0.592	0.425	0.94	1.001

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-20\_Form1A\_DB13\_007S12\_SJ1241192\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 0.470 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-20 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 12  
DX1M\_006 S: 19

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.72	0.425	1	1.72e+00	1.72e+00	
1,2,3,7,8-PECDD		2.21	0.425	1	2.21e+00	2.21e+00	
1,2,3,4,7,8-HXCDD	ND		0.425	0.1	0.00e+00	2.13e-02	
1,2,3,6,7,8-HXCDD		4.20	0.425	0.1	4.20e-01	4.20e-01	
1,2,3,7,8,9-HXCDD		1.56	0.425	0.1	1.56e-01	1.56e-01	
1,2,3,4,6,7,8-HPCDD		7.00	0.425	0.01	7.00e-02	7.00e-02	
OCDD		60.8	0.425	0.0001	6.08e-03	6.08e-03	
2,3,7,8-TCDF	ND		0.425	0.1	0.00e+00	2.13e-02	
1,2,3,7,8-PECDF	ND		0.425	0.05	0.00e+00	1.06e-02	
2,3,4,7,8-PECDF		2.74	0.425	0.5	1.37e+00	1.37e+00	
1,2,3,4,7,8-HXCDF		4.63	0.425	0.1	4.63e-01	4.63e-01	
1,2,3,6,7,8-HXCDF		2.37	0.425	0.1	2.37e-01	2.37e-01	
1,2,3,7,8,9-HXCDF	ND		0.425	0.1	0.00e+00	2.13e-02	
2,3,4,6,7,8-HXCDF	ND		0.425	0.1	0.00e+00	2.13e-02	
1,2,3,4,6,7,8-HPCDF		3.71	0.425	0.01	3.71e-02	3.71e-02	
1,2,3,4,7,8,9-HPCDF		0.430	0.425	0.01	4.30e-03	4.30e-03	
OCDF	ND		0.425	0.0001	0.00e+00	2.13e-05	
<b>TOTAL TEQ</b>					<b>6.69</b>	<b>6.79</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		1.72	0.425	1	1.72e+00	1.72e+00	
1,2,3,7,8-PECDD		2.21	0.425	1	2.21e+00	2.21e+00	
1,2,3,4,7,8-HXCDD	ND		0.425	0.1	0.00e+00	2.13e-02	
1,2,3,6,7,8-HXCDD		4.20	0.425	0.1	4.20e-01	4.20e-01	
1,2,3,7,8,9-HXCDD		1.56	0.425	0.1	1.56e-01	1.56e-01	
1,2,3,4,6,7,8-HPCDD		7.00	0.425	0.01	7.00e-02	7.00e-02	
OCDD		60.8	0.425	0.0003	1.82e-02	1.82e-02	
2,3,7,8-TCDF	ND		0.425	0.1	0.00e+00	2.13e-02	
1,2,3,7,8-PECDF	ND		0.425	0.03	0.00e+00	6.38e-03	
2,3,4,7,8-PECDF		2.74	0.425	0.3	8.22e-01	8.22e-01	
1,2,3,4,7,8-HXCDF		4.63	0.425	0.1	4.63e-01	4.63e-01	
1,2,3,6,7,8-HXCDF		2.37	0.425	0.1	2.37e-01	2.37e-01	
1,2,3,7,8,9-HXCDF	ND		0.425	0.1	0.00e+00	2.13e-02	
2,3,4,6,7,8-HXCDF	ND		0.425	0.1	0.00e+00	2.13e-02	
1,2,3,4,6,7,8-HPCDF		3.71	0.425	0.01	3.71e-02	3.71e-02	
1,2,3,4,7,8,9-HPCDF		0.430	0.425	0.01	4.30e-03	4.30e-03	
OCDF	ND		0.425	0.0003	0.00e+00	6.38e-05	
<b>TOTAL TEQ</b>					6.16	6.25	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-20\_TEQ\_SJ1239987\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH820  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-21 L

Matrix: MILK

Sample Size: 1.19 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 11-Jan-2011 Time: 01:46:46

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 20

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 11

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.70

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		3.20	0.168	0.78	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.17	0.168	0.62	1.001
1,2,3,4,7,8-HXCDD		1.08	0.168	1.25	1.000
1,2,3,6,7,8-HXCDD		3.52	0.168	1.16	1.000
1,2,3,7,8,9-HXCDD		1.61	0.168	1.23	1.001
1,2,3,4,6,7,8-HPCDD		12.4	0.168	0.92	1.000
OCDD		111	0.202	0.88	1.000
2,3,7,8-TCDF		0.509	0.168	0.69	1.001
1,2,3,7,8-PECDF		0.403	0.168	1.35	1.001
2,3,4,7,8-PECDF		2.14	0.168	1.49	1.001
1,2,3,4,7,8-HXCDF		5.43	0.168	1.23	1.000
1,2,3,6,7,8-HXCDF		2.59	0.168	1.08	1.001
1,2,3,7,8,9-HXCDF		0.212	0.168	1.13	1.000
2,3,4,6,7,8-HXCDF		0.446	0.168	1.09	1.000
1,2,3,4,6,7,8-HPCDF		5.98	0.168	0.98	1.001
1,2,3,4,7,8,9-HPCDF		0.976	0.168	1.11	1.000
OCDF	ND		0.168		
TOTAL TETRA-DIOXINS		3.20	0.168		
TOTAL PENTA-DIOXINS		1.17	0.168		
TOTAL HEXA-DIOXINS		6.22	0.168		
TOTAL HEPTA-DIOXINS		12.9	0.168		
TOTAL TETRA-FURANS		0.509	0.168		
TOTAL PENTA-FURANS		2.55	0.168		
TOTAL HEXA-FURANS		8.68	0.168		
TOTAL HEPTA-FURANS		6.96	0.168		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
 (2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.  
 (3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH820  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-21 L

Matrix: MILK

Sample Size: 1.19 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 03:12:31

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 13

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 4.70

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.361	0.168	0.83	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For AxyS Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-21\_Form1A\_DB13\_007S13\_SJ1241193\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Matrix: MILK

Sample Size: 1.19 g (lipid)

Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-21 L

GC Column ID(s): DB225  
DB5

Sample Data Filenames: DB13\_007 S: 13  
DX1M\_006 S: 20

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.20	0.168	1	3.20e+00	3.20e+00	
1,2,3,7,8-PECDD		1.17	0.168	1	1.17e+00	1.17e+00	
1,2,3,4,7,8-HXCDD		1.08	0.168	0.1	1.08e-01	1.08e-01	
1,2,3,6,7,8-HXCDD		3.52	0.168	0.1	3.52e-01	3.52e-01	
1,2,3,7,8,9-HXCDD		1.61	0.168	0.1	1.61e-01	1.61e-01	
1,2,3,4,6,7,8-HPCDD		12.4	0.168	0.01	1.24e-01	1.24e-01	
OCDD		111	0.202	0.0001	1.11e-02	1.11e-02	
2,3,7,8-TCDF		0.361	0.168	0.1	3.61e-02	3.61e-02	
1,2,3,7,8-PECDF		0.403	0.168	0.05	2.02e-02	2.02e-02	
2,3,4,7,8-PECDF		2.14	0.168	0.5	1.07e+00	1.07e+00	
1,2,3,4,7,8-HXCDF		5.43	0.168	0.1	5.43e-01	5.43e-01	
1,2,3,6,7,8-HXCDF		2.59	0.168	0.1	2.59e-01	2.59e-01	
1,2,3,7,8,9-HXCDF		0.212	0.168	0.1	2.12e-02	2.12e-02	
2,3,4,6,7,8-HXCDF		0.446	0.168	0.1	4.46e-02	4.46e-02	
1,2,3,4,6,7,8-HPCDF		5.98	0.168	0.01	5.98e-02	5.98e-02	
1,2,3,4,7,8,9-HPCDF		0.976	0.168	0.01	9.76e-03	9.76e-03	
OCDF	ND		0.168	0.0001	0.00e+00	8.40e-06	
<b>TOTAL TEQ</b>					<b>7.19</b>	<b>7.19</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		3.20	0.168	1	3.20e+00	3.20e+00	
1,2,3,7,8-PECDD		1.17	0.168	1	1.17e+00	1.17e+00	
1,2,3,4,7,8-HXCDD		1.08	0.168	0.1	1.08e-01	1.08e-01	
1,2,3,6,7,8-HXCDD		3.52	0.168	0.1	3.52e-01	3.52e-01	
1,2,3,7,8,9-HXCDD		1.61	0.168	0.1	1.61e-01	1.61e-01	
1,2,3,4,6,7,8-HPCDD		12.4	0.168	0.01	1.24e-01	1.24e-01	
OCDD		111	0.202	0.0003	3.33e-02	3.33e-02	
2,3,7,8-TCDF		0.361	0.168	0.1	3.61e-02	3.61e-02	
1,2,3,7,8-PECDF		0.403	0.168	0.03	1.21e-02	1.21e-02	
2,3,4,7,8-PECDF		2.14	0.168	0.3	6.42e-01	6.42e-01	
1,2,3,4,7,8-HXCDF		5.43	0.168	0.1	5.43e-01	5.43e-01	
1,2,3,6,7,8-HXCDF		2.59	0.168	0.1	2.59e-01	2.59e-01	
1,2,3,7,8,9-HXCDF		0.212	0.168	0.1	2.12e-02	2.12e-02	
2,3,4,6,7,8-HXCDF		0.446	0.168	0.1	4.46e-02	4.46e-02	
1,2,3,4,6,7,8-HPCDF		5.98	0.168	0.01	5.98e-02	5.98e-02	
1,2,3,4,7,8,9-HPCDF		0.976	0.168	0.01	9.76e-03	9.76e-03	
OCDF	ND		0.168	0.0003	0.00e+00	2.52e-05	
<b>TOTAL TEQ</b>					6.78	6.78	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-21\_TEQ\_SJ1239988\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH821  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-22 L

Matrix: MILK

Sample Size: 2.44 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 04-Jan-2011

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 11-Jan-2011 Time: 02:42:01

GC Column ID: DB5

Extract Volume (uL): 10

Sample Data Filename: DX1M\_006 S: 21

Injection Volume (uL): 2.0

Blank Data Filename: DX1M\_005 S: 7

Dilution Factor: N/A

Cal. Ver. Data Filename: DX1M\_006 S: 11

Concentration Units: pg/g (lipid weight basis)

% Lipid: 11.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDD		0.773	0.0823	0.83	1.001
1,2,3,7,8-PECDD <sup>3</sup>		1.87	0.0823	0.63	1.001
1,2,3,4,7,8-HXCDD		1.67	0.0823	1.19	1.001
1,2,3,6,7,8-HXCDD		6.56	0.0823	1.26	1.000
1,2,3,7,8,9-HXCDD		2.35	0.0823	1.27	1.000
1,2,3,4,6,7,8-HPCDD		17.2	0.0823	0.99	1.000
OCDD		94.9	0.0823	0.85	1.000
2,3,7,8-TCDF		0.378	0.0823	0.66	1.001
1,2,3,7,8-PECDF	NDR	0.143	0.0823	1.03	1.001
2,3,4,7,8-PECDF		3.12	0.0823	1.35	1.001
1,2,3,4,7,8-HXCDF		8.15	0.0823	1.19	1.001
1,2,3,6,7,8-HXCDF		5.13	0.0823	1.16	1.000
1,2,3,7,8,9-HXCDF	NDR	0.101	0.0823	1.77	1.000
2,3,4,6,7,8-HXCDF		0.597	0.0823	1.39	1.001
1,2,3,4,6,7,8-HPCDF		5.39	0.0823	0.98	1.000
1,2,3,4,7,8,9-HPCDF		0.706	0.0823	1.03	1.001
OCDF		0.218	0.0823	0.81	1.002
TOTAL TETRA-DIOXINS		0.773	0.0823		
TOTAL PENTA-DIOXINS		1.87	0.0823		
TOTAL HEXA-DIOXINS		11.2	0.0823		
TOTAL HEPTA-DIOXINS		18.2	0.0823		
TOTAL TETRA-FURANS		0.378	0.0823		
TOTAL PENTA-FURANS		3.12	0.0823		
TOTAL HEXA-FURANS		13.9	0.0823		
TOTAL HEPTA-FURANS		6.09	0.0823		

(1) Where applicable, custom lab flags have been used on this report; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:12:41; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB5\_L15777-22\_Form1A\_DX1M\_006S21\_SJ1239989\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
10VNBH821  
Sample Collection:  
05-Nov-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607

Project No. O33 1579 BIEN HOA

Lab Sample I.D.: L15777-22 L

Matrix: MILK

Sample Size: 2.44 g (lipid)

Sample Receipt Date: 19-Nov-2010

Initial Calibration Date: 09-Nov-2010

Extraction Date: 24-Nov-2010

Instrument ID: HR GC/MS

Analysis Date: 13-Jan-2011 Time: 03:49:25

GC Column ID: DB225

Extract Volume (uL): 10

Sample Data Filename: DB13\_007 S: 14

Injection Volume (uL): 2.0

Blank Data Filename: DB13\_006 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB13\_007 S: 2

Concentration Units: pg/g (lipid weight basis)

% Lipid: 11.9

COMPOUND	LAB FLAG <sup>1</sup>	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO <sup>2</sup>	RRT <sup>2</sup>
2,3,7,8-TCDF		0.244	0.0823	0.73	1.002

(1) Where applicable, custom lab flags have been used on this report.

(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axy Internal Use Only [ XSL Template: Form1A.xsl; Created: 17-Jan-2011 09:13:56; Application: XMLTransformer-1.10.30; Report Filename: 1613\_DIOXINS\_1613DB225\_L15777-22\_Form1A\_DB13\_007S14\_SJ1241194\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA  
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2607  
Matrix: MILK  
Sample Size: 2.44 g (lipid)  
Concentration Units: pg/g (lipid weight basis)

Sample Collection: 05-Nov-2010  
Project No. O33 1579 BIEN HOA  
Lab Sample I.D.: L15777-22 L  
GC Column ID(s): DB225  
DB5  
Sample Data Filenames: DB13\_007 S: 14  
DX1M\_006 S: 21

COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 1998 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		0.773	0.0823	1	7.73e-01	7.73e-01	
1,2,3,7,8-PECDD		1.87	0.0823	1	1.87e+00	1.87e+00	
1,2,3,4,7,8-HXCDD		1.67	0.0823	0.1	1.67e-01	1.67e-01	
1,2,3,6,7,8-HXCDD		6.56	0.0823	0.1	6.56e-01	6.56e-01	
1,2,3,7,8,9-HXCDD		2.35	0.0823	0.1	2.35e-01	2.35e-01	
1,2,3,4,6,7,8-HPCDD		17.2	0.0823	0.01	1.72e-01	1.72e-01	
OCDD		94.9	0.0823	0.0001	9.49e-03	9.49e-03	
2,3,7,8-TCDF		0.244	0.0823	0.1	2.44e-02	2.44e-02	
1,2,3,7,8-PECDF	ND		0.0823	0.05	0.00e+00	2.06e-03	
2,3,4,7,8-PECDF		3.12	0.0823	0.5	1.56e+00	1.56e+00	
1,2,3,4,7,8-HXCDF		8.15	0.0823	0.1	8.15e-01	8.15e-01	
1,2,3,6,7,8-HXCDF		5.13	0.0823	0.1	5.13e-01	5.13e-01	
1,2,3,7,8,9-HXCDF	ND		0.0823	0.1	0.00e+00	4.12e-03	
2,3,4,6,7,8-HXCDF		0.597	0.0823	0.1	5.97e-02	5.97e-02	
1,2,3,4,6,7,8-HPCDF		5.39	0.0823	0.01	5.39e-02	5.39e-02	
1,2,3,4,7,8,9-HPCDF		0.706	0.0823	0.01	7.06e-03	7.06e-03	
OCDF		0.218	0.0823	0.0001	2.18e-05	2.18e-05	
<b>TOTAL TEQ</b>					<b>6.92</b>	<b>6.92</b>	



COMPOUND	LAB FLAG <sup>1</sup>	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ		
					ND=0	ND=1/2 DL	ND=DL
2,3,7,8-TCDD		0.773	0.0823	1	7.73e-01	7.73e-01	
1,2,3,7,8-PECDD		1.87	0.0823	1	1.87e+00	1.87e+00	
1,2,3,4,7,8-HXCDD		1.67	0.0823	0.1	1.67e-01	1.67e-01	
1,2,3,6,7,8-HXCDD		6.56	0.0823	0.1	6.56e-01	6.56e-01	
1,2,3,7,8,9-HXCDD		2.35	0.0823	0.1	2.35e-01	2.35e-01	
1,2,3,4,6,7,8-HPCDD		17.2	0.0823	0.01	1.72e-01	1.72e-01	
OCDD		94.9	0.0823	0.0003	2.85e-02	2.85e-02	
2,3,7,8-TCDF		0.244	0.0823	0.1	2.44e-02	2.44e-02	
1,2,3,7,8-PECDF	ND		0.0823	0.03	0.00e+00	1.23e-03	
2,3,4,7,8-PECDF		3.12	0.0823	0.3	9.36e-01	9.36e-01	
1,2,3,4,7,8-HXCDF		8.15	0.0823	0.1	8.15e-01	8.15e-01	
1,2,3,6,7,8-HXCDF		5.13	0.0823	0.1	5.13e-01	5.13e-01	
1,2,3,7,8,9-HXCDF	ND		0.0823	0.1	0.00e+00	4.12e-03	
2,3,4,6,7,8-HXCDF		0.597	0.0823	0.1	5.97e-02	5.97e-02	
1,2,3,4,6,7,8-HPCDF		5.39	0.0823	0.01	5.39e-02	5.39e-02	
1,2,3,4,7,8,9-HPCDF		0.706	0.0823	0.01	7.06e-03	7.06e-03	
OCDF		0.218	0.0823	0.0003	6.54e-05	6.54e-05	
<b>TOTAL TEQ</b>					6.31	6.32	

- (1) Where applicable, custom lab flags have been used on this report; ND = not detected.  
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: \_\_\_\_\_ Shelley Facchin \_\_\_\_\_

For Axys Internal Use Only [ XSL Template: TEQ.xsl; Created: 17-Jan-2011 09:14:34; Application: XMLTransformer-1.10.30;  
Report Filename: 1613\_DIOXINS\_1613-TEQ\_L15777-22\_TEQ\_SJ1239989\_Lipid.html; Workgroup: WG34705; Design ID: 1485 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.





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**A1.5**

**AXYS Analytical Services  
Methodologies**

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## DETERMINATION OF POLYCHLORINATED DIBENZODIOXINS AND POLYCHLORINATED DIBENZODIFURANS ACCORDING TO EPA 1613B

The extraction, cleanup and instrumental procedures are fully documented in AXYS' methods MLA-013 "*Analytical Method for the Determination of: Polychlorinated Dibenzodioxins and Furans, Polybrominated Diphenyl Ethers, PCB Congeners, Chlorinated Pesticides and Toxaphene*" and MLA-017 "*Analytical Method for the determination of Polychlorinated Dibenzodioxins and Dibenzofurans by EPA Method 1613B, EPA Method 8290/8290A, Env. Canada EPS 1/RM/19 or EPA Method DLM02.0*".

### EXTRACTION

#### ***Solids Soxhlet extraction***

Sediment and soil samples are thawed, homogenized and the moisture is determined. Wet samples (equivalent to 5-25 g dry sample) are spiked with dioxin/furan surrogate standards and the sample is dried by mixing with anhydrous sodium sulphate. The sample is extracted for at least 16 hours using 300 mL of 80:20 toluene:acetone in a Soxhlet extractor. Aliquots of extraction standards are added and the extract is ready for cleanup.

#### ***Soxhlet Extraction of Tissues***

Tissue samples are thawed and homogenized. Wet sample (10 g wet weight) is spiked with dioxin/furan surrogate standards and the sample is dried by mixing with anhydrous sodium sulphate. The dried and spiked sample is extracted for at least 16 hours using 300 mL of 1:1 dichloromethane:hexane in a Soxhlet extractor. Gravimetric lipid determination is performed on a portion of the extract. Aliquots of extraction standards are added. The extract is ready for cleanup.

#### ***Aqueous Samples***

An aliquot of surrogate standards is added to a 1-litre water sample. The water is extracted by shaking three times with dichloromethane. The combined dichloromethane extracts are dried over anhydrous sodium sulphate and evaporated to less than 10 mL by rotary evaporation. Extraction standards are added and the extract is ready for cleanup.

#### ***Blood Extraction Procedure***

Whole blood or blood serum samples are thawed and homogenized by thorough shaking. Surrogate standards are added to accurately weighed amounts of blood serum (40 g) or whole blood (60 g). Ethanol, hexane and saturated ammonium sulphate solution are added (sample:ethanol:hexane:saturated ammonium sulphate ratio 1:1:3:1) and the mixture is mechanically shaken for 30 minutes. The hexane layer is collected, 50 mL of fresh hexane is added and the mixture is shaken again for 30 minutes. The two hexane extracts are combined, washed twice by shaking with 50 mL of water and dried over anhydrous sodium sulphate. Extraction standards are added and the extract is ready for clean up.

#### ***Milk Extraction Procedure***

Milk samples are thawed and homogenized by thorough shaking. Surrogate standards are added to up to 50 g milk subsamples. The mixture is extracted by shaking with 200 mL 2:1 acetone:hexane in a separatory funnel. The hexane extract is collected and the water phase

extracted this time with 200 mL of hexane. The hexane phases are combined, washed twice by shaking with 50 mL of water and dried over anhydrous sodium sulphate. A gravimetric lipid determination is performed on an aliquot of the extract. Extraction standards are added and the extract is ready for cleanup.

## CHROMATOGRAPHIC CLEANUP

An automated chromatographic cleanup system utilizes a Fluid Management System (FMS) to pump solvents through various chromatography columns to cleanup the extract and, if desired, to chemically separate the extract into two fractions, one containing PCBs and the other containing PCDD/Fs.

The solvent exchanged to hexane and the extract is filtered to remove any precipitate. The extract is processed through the column sequence Jumbo Acidic Silica – Small Layered Silica – Alumina- Carbon. The eluate containing the dioxins and furans is evaporated to 0.5 mL and is ready for instrumental analysis.

If both dioxin/furan and PCB analysis is required, the extract is first processed through the column sequence Jumbo Acidic Silica – Small Layered Silica – Florisil– Alumina. The resulting eluate contains PCBs while the dioxins and furans are retained on the Florisil column. The silica and alumina columns are removed and a carbon column is inserted after the Florisil column. The elution is performed with a stronger solvent to yield the PCDD/Fs. This eluate containing the dioxins and furans is evaporated to 0.5 mL and is ready for instrumental analysis.

## INSTRUMENTAL ANALYSIS

The cleaned up extract is evaporated and solvent changed to hexane. PCDD/F recovery standards are added. Analysis of the extract is performed using a Micromass Ultima high resolution mass spectrometer equipped with an HP 6890 gas chromatograph, a CTC autosampler, and an Alpha workstation running VG software.

### *HRGC/HRMS Analysis*

A 1-2  $\mu$ l splitless/split injection sequence is used on a DB-5 chromatography column (60 m, 0.25 mm i.d., 0.1  $\mu$ m film thickness) coupled directly to the MS source. The HRMS is operated at a static mass resolution of 10,000 or greater in the electron impact (EI) ionization mode. To enhance sensitivity data are acquired in the voltage selected ion recording mode (SIR). At least two ions are used to monitor each of the target analytes and  $^{13}\text{C}$ -labelled surrogate standards.

### *Quantification*

Target concentrations are determined with respect to the labelled surrogate standards added at the beginning of analysis. Mean relative response factors (RRF) determined from the initial calibration runs are used to convert raw peak areas in sample chromatograms to final recovery corrected concentrations using the following formulae:

$$\text{Concentration of target} = \left( \frac{\text{area of Target}}{\text{area of Surrogate}} \right) \times \left( \frac{\text{weight of Surrogate}}{\text{weight of sample}} \right) \times \left( \frac{1}{\text{RRF}} \right)$$

where

$$\text{RRF} = \left( \frac{\text{area of Target}}{\text{area of Surrogate}} \right) \times \left( \frac{\text{weight of Surrogate}}{\text{weight of Target}} \right)$$

### Quality Control Samples

- Batch Size. Each batch consists of up to twenty test samples and additional QC samples.
- Blanks. One procedural blank is analyzed with each batch. It is prepared by spiking an aliquot of the surrogate standard solution into a clean matrix.
- On-going Precision and Recovery (OPR) is demonstrated by the analysis of a spiked reference matrix (SPM) analyzed with each batch. The OPR sample is prepared by spiking an aliquot of the authentic spiking solution into an accurately weighed in-house reference blank matrix.
- A duplicate sample is analyzed in each analysis batch, provided sufficient sample is available.

### QC Specifications for QC Samples, Instrumental Analysis and Analyte Quantification

QC Parameter	Specification
Analysis Duplicate	Must agree to within $\pm 20\%$ of the mean (applicable to concentrations $> 10$ times the DL) <sup>1</sup>
Procedural Blank	<b>Blood:</b> TCDD/F $< 0.2$ pg/sample, PeCDD/F $< 0.5$ pg/sample, HxCDD/F and HpCDD/F $< 1.0$ pg/ sample, OCDD/F $< 5$ pg/sample. <b>Other Matrices:</b> TCDD/F $< 0.5$ pg/sample, PeCDD/F, HxCDD/F, HpCDD/F $< 1.0$ pg/sample, OCDD/F $< 5$ pg/sample. Higher levels acceptable where all sample concentrations are $> 10X$ the blank concentrations.
Detection Limit	SDL Requirements <b>Blood:</b> Tetra-penta-CDD/F 0.2 pg/sample Hexa-octa-CDD/F 0.5 pg/sample <b>Other Matrices:</b> 1 pg/sample
Instrument Carry over and Background: Toluene Blank	A. 1 <sup>st</sup> toluene blank following Cal Ver must have $< 0.6$ pg TCDD and $< 25$ pg OCDD <sup>2</sup> . B. 2 <sup>nd</sup> toluene blank following Cal Ver must have $< 0.2$ pg TCDD/F, $< 0.8$ pg Pe-HpCDD/F, and $< 5.0$ pg OCDD <sup>2</sup> .  Blood Extract Analysis: as many toluene blanks as necessary are run to achieve an instrument blank level of $< 0.1$ pg TCDD/F, $< 0.3$ pg PeCDD/F, $< 0.5$ pg HxCDD/F, $< 0.5$ pg HpCDD/F and $< 3.5$ pg OCDD.  $< 10\%$ contribution from preceding sample (based on observed instrument carryover rate).
Samples	
Analyte/Surrogate Ratios	Response must be within the calibrated range of the instrument. Data may be taken from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Must be within $\pm 15\%$ of theoretical
Sensitivity	S:N $\geq 10:1$ for all compounds for 0.1 pg/ $\mu$ L (CS-0.2) plus, for bloods, S:N $\geq 3:1$ for 0.025 pg/ $\mu$ L 2,3,7,8-T4CDD.

<sup>1</sup> Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

<sup>2</sup> Instrument background specifications are calculated from spiking labelled standard into the toluene blank and expressed as pg in a 20  $\mu$ L extract.

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**Appendix A2**

**Sample Collection Forms and  
Permits, November 2010**

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**A2.1**

**Soil and Sediment Sample  
Collection Field Data Sheet**

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# SEDIMENT or SOIL COLLECTION FIELD DATA SHEET

Dioxin Assessment Bien Hoa Airbase O331579					
Site Name:		Start Time:		Date:	
		Finish Time:			
Sample collected by (initials):			Field Notes Recorded by (initials):		Crew Signatures:
Waypoint (UTM)	Easting:	Northing:	Photos:		
SAMPLE INFO					
Sample Type (circle one):    SOIL                    SEDIMENT					
Sampling Device (circle one): Ekman            Corer            Spade            Other (define):					
Sampling Method (circle one): Grab            Composite (n =            )					
<b>Sample Label</b>		Sample Depth (m)	Sampler Fullness (%)	Texture (e.g., rocky, sandy, silty)	
		Distance from Bank _____ (m)		Colour:	Organic Content: Low            Medium High
DESCRIPTION OF SAMPLING LOCATION (AND AREA SURROUNDING, IF APPLICABLE):					
SITE MAP (please draw an "X" showing sampling location)					

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**A2.2**

**Fish Sample Collection  
Field Data Sheet**

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# FISH COLLECTION FIELD DATA SHEET

Dioxin Assessment Bien Hoa Airbase O331579					
Site Name:		Start Time:		Date:	
		Finish Time:			
Sample collected by (initials):		Field Notes Recorded by (initials):		Crew Signatures:	
Waypoint (UTM)	Easting:	Northing:	Photos:		
FISH INFO					
Fish Capture Method:					
Fish Species	Weight (g)	Length (mm)	Sex	Tissues Collected	Scales/ odoliths Collected?
			Male Female Indeterminate	Muscle Liver Fat _____	Yes No
<b>Muscle</b>	<b>Sample Label</b>		<b>Liver</b>	<b>Sample Label</b>	
<b>Fat</b>	<b>Sample Label</b>		<b>Sample Stickers</b>		
<b>Other (1)</b>	<b>Sample Label</b>		<b>Other (2)</b>	<b>Sample Label</b>	
Abnormalities Noted?					
<b>DESCRIPTION OF SAMPLING LOCATION (AND AREA SURROUNDING, IF APPLICABLE):</b>			<b>SITE MAP (please draw an "X" showing sampling location)</b>		

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**A2.3**

**Human Serum and Breast Milk  
Collection Field Data Sheet**

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**A2.4**

**Sample Import/Export Permits**

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Canadian Food Inspection Agency  
Government of Canada

Agence canadienne d'inspection des aliments  
Gouvernement du Canada

59 Camelot Drive  
Nepean, Ontario  
K1A 0Y9

HATFIELD CONSULTANTS PARTNERSHIP  
200-850 HARBOURSIDE DRIVE  
NORTH VANCOUVER, BRITISH COLUMBIA  
V7P0A3  
ATTENTION: BRUCE, GLEN  
Fax: 604-926-5389

2009-11-16

Dear Client:

In response to your recent application, please find enclosed import permit # P-2009-04029.

I wish to take this opportunity to explain to you why the Canadian Food Inspection Agency (CFIA) encourages importers to apply for a Plant Protection Import Permit well in advance of the intended date of importation.

According to Section 29 of the federal Plant Protection Regulations, a person must obtain an import permit before a regulated commodity is permitted to enter Canada. As a matter of fact, a person must obtain an import permit for a regulated commodity before it is exported from the country of origin, because the permit may specify certain import conditions (e.g., treatments at origin, additional certification requirements) which the importer must forward to the exporter before the commodity is shipped to Canada. The application for a permit to import enables CFIA to advise an importer whether the material they intend to import is prohibited or restricted from entering Canada.

Failure to comply with the above-noted instructions may result in the CFIA taking compliance or enforcement action, should an importation arrive in Canada prior to the importer obtaining a plant protection import permit. If you have any further questions, please feel free to contact your local CFIA office.

Thank you for your continued cooperation.

Yours sincerely,

Import Permit Office, Import Unit  
Plant Health Division

Canadian Food Inspection Agency  
Government of CanadaAgence canadienne d'inspection des aliments  
Gouvernement du CanadaPermit No./N° de permis:  
P-2009-04029  
ORIGINAL  
2009/11/16  
year/mo/day  
année/mois/jour

## IMPORT PERMIT

## PERMIS D'IMPORTATION

Page 1 of/de 2

THIS PERMIT IS ISSUED PURSUANT TO:/CE PERMIS EST DÉLIVRÉ CONFORMÉMENT A:

THE PLANT PROTECTION ACT AND REGULATIONS/LOI ET RÈGLEMENT SUR LA PROTECTION DES VÉGÉTAUX

<b>Importer/Importateur</b> HATFIELD CONSULTANTS PARTNERSHIP  200-850 HARBOURSIDE DRIVE NORTH VANCOUVER, BRITISH COLUMBIA V7P0A3  Applicant Name: BRUCE, GLEN Phone: 604-926-3261 Fax: 604-926-5389 Email: GLENBRUCE@HATFIELDGROUP.COM		<b>Exporter/Exportateur</b> VARIOUS SOURCES  VIETNAM	
<b>Quarantine/Destination/Quarantaine</b> AXYS ANALYTICAL SERVICES LTD  2045 MILLS ROAD WEST SIDNEY, BRITISH COLUMBIA V8L5X2		<b>Producer/Producteur</b>	
<b>Valid/Valide</b> from/du	2009/11/16	to/au	2010/11/16
	year/month/day		year/month/day
	année/mois/jour		année/mois/jour
		<b>Country of Provenance or Production / Le pays de multiplication ou de production</b> VIETNAM	
For the entry of/ Pour l'entrée de: _____ Single shipment/Chargement simple <input checked="" type="checkbox"/> Multiple shipments/Chargements multiples			
Place of entry into Canada/Lieu d'entrée au Canada: ALL REGULATED PORTS			
<b>FOR THE IMPORTATION OF:/POUR L'IMPORTATION DE:</b> (Description of things(s)/Description de la ou des choses) SOIL SAMPLES FOR ANALYSIS			
<b>A PERSON WHO IMPORTS A THING UNDER THIS PERMIT SHALL COMPLY WITH ALL THE CONDITIONS SET OUT HEREIN/TOUTE PERSONNE QUI IMPORTE UNE CHOSE EN VERTU DE CE PERMIS DEVRA RESPECTER TOUTES LES CONDITIONS DÉCRITES CI-DESSOUS</b>			

## Selected Conditions / Conditions Choies

## SOIL SAMPLES FOR ANALYSIS

1. Importation is authorized under Section 43 of the Plant Protection Regulations. Phytosanitary certification at origin waived.
2. The material must be routed directly to the approved premises or facility. The material must be packaged and transported in sturdy leak proof containers. Not for sale or distribution; for research use only. The material must be contained until processed. Any residual material must be destroyed in a dry oven at 121°C for a minimum of 6 hours or be autoclaved at 15 lbs pressure at 121°C for a minimum of 30 minutes, or sterilized by another CFIA approved treatment.
3. At all times (ie., during importation, research, storage and until disposal), the material shall be identified with labels or other efficient identification means.
4. The importer shall keep a log book of all importations. This log book shall show where the material is in the facility and its status (e.g., treated, stored, ...).



Canadian Food Inspection Agency  
Government of Canada

Agence canadienne d'inspection des aliments  
Gouvernement du Canada

Permit No./N° de permis:  
P-2009-04029  
ORIGINAL  
2009/11/16  
year/mo/day  
année/mois/jour

IMPORT PERMIT

PERMIS D'IMPORTATION

Page 2 of/de 2

THIS PERMIT IS ISSUED PURSUANT TO:/CÉ PERMIS EST DÉLIVRÉ CONFORMÉMENT A:

THE PLANT PROTECTION ACT AND REGULATIONS/LOI ET RÈGLEMENT SUR LA PROTECTION DES VÉGÉTAUX

**Importer/Importateur**

HATFIELD CONSULTANTS PARTNERSHIP

200-850 HARBOURSIDE DRIVE  
NORTH VANCOUVER, BRITISH COLUMBIA  
V7P0A3

Applicant Name: BRUCE, GLEN

Phone: 604-926-3261 Fax: 604-926-5389

Email: GLENBRUCE@HATFIELDGROUP.COM

**Exporter/Exportateur**

VARIOUS SOURCES

VIETNAM

**Selected Conditions / Conditions Choies (Continued/Suite)**

5. If the imported soil is moved to another facility for further analysis, treatment or disposal, a CFIA inspector must verify that the receiving facility is approved by CFIA before the issuance of a Movement Certificate.

Authorized By:/Approuvé par:

*Jean-François Dubuc*

For the Minister of Agriculture and Agri-Food  
Pour le ministre d'agriculture et agroalimentaire

The information is required by (for) the Canadian Food Inspection Agency for the purpose of verifying import products. Information may be accessible or protected as required under the provisions of the Access to Information Act.

**Pathogen Regulation Directorate  
Direction de la réglementation  
des agents pathogènes**

Centre for Emergency Preparedness and Response  
Centre de mesures et d'interventions d'urgence  
100 chemin Colonnade Road, Loc.: 6201A  
Ottawa, Ontario, Canada K1A 0K9



Public Health / Agence de la santé  
Agency of Canada / publique du Canada

WHO Collaborating  
Centre for Biosafety



Centre collaborateur OMS  
pour les techniques de biosécurité

**Tel: (613) 957-1779 Fax: (613) 941-0596**

**TO/À:** Glen Bruce  
Hatfield Consultants Partnership

**DATE:** JULY 12, 2010

**FAX:** 604-926-5389 **TEL:** 604-926-5389

**PAGES TO FOLLOW /**  
**PAGES À SUIVRE:** 1

<p>This fax contains confidential information intended only for the use of individual(s) or entity to which it is addressed. Any unauthorized use, disclosure, distribution, or copying of this communication by anyone other than the intended recipient is strictly prohibited. If you have received this fax in error, please notify sender immediately by telephone and return the entire original transmission to us by mail without making a copy. Thank you.</p>	<p>Cette télécopie contient des renseignements confidentiels à l'intention des seules personnes ou entités auxquelles elle est adressée. Toute utilisation, divulgation, distribution ou reproduction non autorisée de cette communication par une personne autre que le destinataire est strictement défendue. Si cette télécopie ne vous est pas destinée, veuillez en informer immédiatement l'expéditeur par téléphone et nous retourner la transmission initiale par courrier, sans en faire de copie. Merci.</p>
---	--

**\* COMMENTS - COMMENTAIRES \***

Please find attached a copy of your "Notice" concerning the importation of biological material that does NOT require a Public Health Agency of Canada import permit under the *Human Pathogens Importation Regulations (SOR/94-558)*. The original "Notice" is being sent to you through regular mail.

Vous trouverez sous pli une copie de votre "Avis" concernant l'importation de matières biologiques qui ne requiert PAS de permis d'importation de l'Agence de santé publique du Canada, selon le *Règlement sur l'importation des agents anthropopathogènes (DORS/94-558)*. La copie originale de votre "Avis" vous parviendra par la poste.

Be advised, however, that if these products contain matter of animal origin (such as bovine serum, etc.), you will need to contact the Canadian Food Inspection Agency (CFIA) at (613) 221-7068 for their consideration.

Veillez noter, cependant, que si ces produits contiennent des substances d'origine animale (par exemple du serum bovin), vous devez contacter l'Agence canadienne d'inspection des aliments (ACIA) au (613) 221-7068 afin d'obtenir leur approbation.

If you have not already done so, we would appreciate receiving your original application for a permit to import human pathogen(s) so our files may be kept up to date.

Si ce n'est déjà fait, prière de nous faire parvenir votre demande originale de permis d'importation (d')agent(s) anthropopathogène(s) afin de tenir nos dossiers à jour.

Thank you.

Merci.





Public Health  
Agency of Canada


Agence de la santé  
publique du Canada

**Name and/or Organization:** Hatfield Consultants Partnership  
Attn: Glen Bruce

**Address:** 850 Harbourside Drive, Suite 200  
North Vancouver, BC  
V7P 0A3

**The following biological material does not require a Public Health Agency of Canada import permit under the HPIR\*:**

Human blood and breastmilk, as provided by the Office of the National Steering Committee (Office 33), Ministry of Natural Resources and Environment, Hanoi, Vietnam.

  
Marianne Heisz  
Chief, Importation and Regulatory Affairs

**JULY 12, 2010**

Date

## NOTICE

### \*HPIR (HUMAN PATHOGENS IMPORTATION REGULATIONS)

- ▶ We are in receipt of your application for an importation permit for biological materials. The HPIR apply **only** to the importation of infectious substances which cause human disease and their subsequent distribution or transfer. Other materials, which are deemed by the importer to be non-infectious for humans, **do not** require a permit under these regulations. It should be noted that the importation of biological materials may also be subject to other federal, provincial and municipal laws.
- ▶ For animal or plant pathogens one **must** apply to The Canadian Food Inspection Agency (CFIA) for a permit to import. If this material is of animal or plant origin it may also require a permit from the CFIA. Please contact the CFIA for their consideration. CFIA contact numbers are as follows:
  - (613) 221-7068 for information concerning animal pathogens/material
  - (613) 221-4195 for information concerning plant pathogens/material
- ▶ Importation of this material may also be subject to the requirements of the *New Substances Notification Regulations (Organisms)* of the *Canadian Environmental Protection Act, 1999*, administered by Environment Canada and Health Canada. Please contact the New Substances Information Line at 1-800-567-1999 or [nsn-infoline@ec.gc.ca](mailto:nsn-infoline@ec.gc.ca).
- ▶ You may be required to provide the Canada Border Services Agency (CBSA) customs officers with a declaration that the imported material is non-infectious and non-hazardous.

Should you require further information, please contact:

Office of Laboratory Security  
Centre for Emergency Preparedness and Response  
(613) 957-1779

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**Appendix A3**

**Sample Donor Consent Form and  
Questionnaire Survey**

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**A3.1**

**Informed Consent Document**

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Case ID # \_\_\_\_\_

Sample Id # \_\_\_\_\_

**Informed Consent Document**  
**Complete Bien Hoa Dioxin Assessment Project:**  
**Questionnaire and Blood/Breast Milk Sampling**

**1. Title of the research project:**

Complete Bien Hoa Dioxin Assessment Project (BHDAP)

**2. Sponsor of Study**

This study is sponsored by the Ford Foundation.

**3. Names of the researchers**

All researchers are affiliated with Hatfield Consultants and Office 33:

- Principal Investigators: Thomas Boivin, M.Sc., R.P. Bio. and Dr. Le Ke Son, M.D.
- Co-Investigators:
- Dr. Hang Nguyen
- Adrienne Gilbride, P.Eng
- Daniel Moats, B.Sc., Dipl.T.

**4. Description of the research**

Recent studies have shown elevated levels of chemicals (i.e., dioxins and furans) in soil and sediment samples obtained from the Bien Hoa Airbase. There are hundreds of different types of dioxins and furans. One particular dioxin (referred to as 'TCDD') has been identified as a human carcinogen by government and international agencies. The main objective of the BHDAP is to assess the levels of dioxins and furans in the environment and human population in the vicinity of the Bien Hoa Airbase, and to assist with protection of human health and eventual clean-up of the area.

The study will investigate the contribution of many potential sources of exposure to these chemicals, including: soils, sediments, and fish. People considered at high risk of exposure to dioxin from working on the Airbase and/or consuming fish from the lakes on the Airbase or outside the Airbase will be the key focus of the study. Subjects invited to participate in this study will be asked to complete a questionnaire and provide a blood and/or breast milk sample. Whole blood (and/or serum lipids) and breast milk samples will be analyzed for selected dioxins and furans.

Persons who complete the questionnaire and provide a blood/milk sample may be asked to allow soil or other food samples to be collected for analyses.

## 5. Description of human subject involvement

You are being asked to participate in this study because you have been identified as having a potentially higher risk of exposure to dioxins from historical contamination on the Bien Hoa Airbase.

To be eligible for this study, subjects must be at least 18 years old and must have lived at their current residence continuously for the last 5 years (except for vacations or other absences that total less than 6 months).

Subjects will be asked to complete an interview with a trained interviewer from Hatfield, Office 33 or the Ministry of Health. The interview will include questions about residential history, occupational history, recreational activities (e.g., fishing), pregnancy history (for women only), health, and diet.

Subjects will be asked to provide a blood sample of 80 milliliters. Blood samples will be analyzed only for selected dioxins, furans, and/or serum lipids. No other analyses will be performed on blood samples; any left over blood may be stored or 'banked' for future analyses.

Subjects must meet the following blood/milk sample eligibility criteria:

- Must be at least 18 years of age
- Weigh at least 45 kg (100 pounds)
- No chemotherapy in the last 6 months
- No history of bleeding or clotting disorders
- Not currently taking blood thinner medications
- Not currently pregnant
- Not currently diagnosed or treated for anemia
- Not currently diagnosed or treated for malaria or dengue fever
- Not currently diagnosed or treated for Hepatitis A, B or C
- Not currently diagnosed or treated for HIV AIDS
- No blood donation within the last 8 weeks

Please confirm whether you meet the blood sample eligibility criteria by initialing one of the following statements:

- I meet the blood/milk sample eligibility criteria
- I do NOT meet the blood/milk sample eligibility criteria.

If you meet the blood sample eligibility criteria, please confirm whether you want to provide a blood sample for analyses in this study by initialing one of the following statements:

- I want to provide a blood/milk sample
- I do NOT want to provide blood/milk sample

## **6. Length of human subject participation**

The interview will last approximately 20-30 minutes. There will be only one interview. The interview will be conducted at a time and place that is convenient to the subject. Some subjects may be re-contacted (usually by phone) to verify and/or clarify answers on the questionnaire.

Blood sample collection will be scheduled for a time and place that is convenient to the subject. There will be only one blood sample collected, and this should take about 15-30 minutes.

## **7. Risks & discomforts of participation**

The only physical risk associated with participation in this study is related to obtaining the blood or milk sample. The blood sample will be obtained by a trained, professional phlebotomist using sterile, disposable equipment. The risks of bleeding, bruising, or infection are small, and similar to having blood drawn at your doctor's office. Some subjects report a feeling of faintness or brief dizziness upon blood donation. However, the volume of blood (80 milliliters) is small, and will be replaced quickly by your body. For comparison, donation of blood normally involves about 500 milliliters, and it is permissible for a healthy person to donate this much blood as often as every 8 weeks.

Breast milk samples (40-50 ml) will also be obtained by trained medical professionals. Samples will be collected by squeezing milk directly from the breast into a pre-cleaned glass jar; the mother can do this herself, with assistance from the medical personnel.

The interview will include questions about residential history, occupational history, recreational activities (e.g., fishing), and diet. The interview does not include questions that might be considered potentially embarrassing (e.g., use of illegal drugs or other criminal behavior).

You are unlikely to benefit directly from participation in this study, except that you can choose to learn the results of tests for dioxins, furans, and lipids in your blood. However, this study will increase the scientific understanding of how dioxins and furans get into people's blood in Bien Hoa.

You should be aware that almost everyone has measurable levels of dioxins and furans in their blood. And, there is no medical treatment for removing these chemicals from our bodies.

Please indicate whether you want to receive the results of analyses of your blood/milk for dioxins, furans, and lipids by initialing one of the following choices:

- I want to receive results of analyses for dioxins, furans, PCBs and lipids in my blood/milk
- I do NOT want to receive results of analyses for dioxins, furans, PCBs and lipids in my blood/milk

You can change your decision about receiving results by notifying the Principal Investigators in writing.

### **9. Management of Physical Injury**

Should you get physically injured as a result of research-related procedures, the BHDAP team will provide first-aid medical treatment. Additional medical treatment will be provided, if the BHDAP team determines that it is responsible to provide such treatment. However, the BHDAP team does not provide compensation to a person injured while taking part as a subject in research.

### **10. Costs to subject resulting from participation in the study**

There are no costs associated with participation in the questionnaire and blood sampling phase of this study.

### **11. Payments to subject for participation in the study**

Subjects who agree to participate in this study will be paid \$20 USD for completing the questionnaire and providing a blood and/or milk sample. Subjects who provide both a blood and milk sample will be paid \$40 USD. An additional \$5 will be paid for collection of any additional soil, sediment or food items from your household.

### **12. Confidentiality of records/data**

Individual subjects will not be identified in any reports on this study. Research records will be kept confidential to the extent possible.

The researchers will not make any disclosure of information that would identify you as a participant in this research unless you provide written authorization to the Principal Investigator to do so.

### **13. Contact Information**

If you have questions about this research, you may contact:  
Thomas Boivin, M.Sc. R.P. Bio ([tboivin@hatfieldgroup.com](mailto:tboivin@hatfieldgroup.com))

Dr. Hang Nguyen ([nguyen.my.hang@gmail.com](mailto:nguyen.my.hang@gmail.com))  
Adrienne Gilbride, P.Eng ([agilbride@hatfieldgroup.com](mailto:agilbride@hatfieldgroup.com))

**14. Voluntary nature of participation**

Your participation in this project is voluntary. Even after you sign this informed consent document, you may decide to stop further participation in the study at any time without penalty or loss of benefits to which you may otherwise be entitled. Data and specimens that have already been collected will remain in the study. You may skip or refuse to answer any survey question without affecting your study compensation.

**16. Documentation of the consent**

One copy of this document will be kept together with the research records of this study. Also, you will be given a copy to keep.

**17. Consent of the subject:**

I have read [or been informed] of the information given above. Mr. Boivin, Dr. Hang or their representatives have offered to answer any questions I may have concerning the study. I hereby consent to participate in the study.

ADULT SUBJECT OF RESEARCH

\_\_\_\_\_

Consenting signature

\_\_\_\_\_

Printed Name

\_\_\_\_\_

Witness signature

\_\_\_\_\_

Printed Name

Date



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**A3.2**

**Questionnaire Survey**

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CASE ID # \_\_\_\_\_ For Office Use Only

**HATFIELD / OFFICE 33  
DIOXIN ASSESSMENT AND MITIGATION PROJECT**

Sample ID Number: \_\_\_\_\_

- 1 Interviewer's ID Name and No.: \_\_\_\_\_
- 2 Date Interview Began: \_\_\_\_\_
- 3 Date Interview Completed: \_\_\_\_\_
- 4 Time Interview Began: \_\_\_\_\_ am/pm
- 5 Time Interview Completed: \_\_\_\_\_ am/pm
- 6 Length of Interview: \_\_\_\_\_

**The following statement must be read to all respondents:**

Your participation in this project is completely voluntary. Even though you signed the informed consent document, you may decide to leave the study at any time. You may skip or refuse to answer any survey question that makes you feel uncomfortable.

## SECTION AA. INTRODUCTION TO QUESTIONNAIRE

We would just like to confirm, before we start, that you have lived in this residence continuously for the last five years. That would mean that you moved in on, or prior to, November 1, 2005.

Yes \_\_\_\_\_ No \_\_\_\_\_

AA0. EXACT TIME NOW: \_\_\_\_\_ am/pm

AA1. Please tell me your date of birth.

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
(MM) ( DD ) (YYYY)

### Section A: Health

A1. SEX OF THE RESPONDENT: MALE FEMALE

A2. How tall are you? \_\_\_\_\_m \_\_\_\_\_cm

A3. How much do you weigh? \_\_\_\_\_kg

A4. Have you lost weight in the past 12 months? Yes \_\_\_\_\_ No \_\_\_\_\_

A5. How much weight did you lose? \_\_\_\_\_kg

A6. Have you gained weight in the past 12 months? Yes \_\_\_\_\_ No \_\_\_\_\_

A7. How much weight did you gain? \_\_\_\_\_kg

A7a. Do you, or anyone in your family, have Type II diabetes?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

If yes, describe who: \_\_\_\_\_

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

**FEMALES:**

A8. How many times have you been pregnant in your life? Please include babies born alive, stillborn, aborted, miscarried, or ectopic or tubal pregnancies.

# Pregnancies \_\_\_\_\_ None \_\_\_\_\_ Don't Know \_\_\_\_\_

A8a. How many times have you had a miscarriage in your life?

# Miscarriages \_\_\_\_\_ None \_\_\_\_\_ Don't Know \_\_\_\_\_

A8b. How many times have you had a stillborn child in your life?

# Stillborn children \_\_\_\_\_ None \_\_\_\_\_ Don't Know \_\_\_\_\_

A9. How many children have you given birth to? (Please only count live births.)

# Children \_\_\_\_\_ None \_\_\_\_\_ Don't Know \_\_\_\_\_

A10. For each child, please provide the year of birth and an estimate of the number of months that your child was breast-fed as the main source of nutrition. Let's start with your first child: *(IF MORE THAN 8 CHILDREN, PLEASE USE THE MARGINS. IF NOT BREAST-FED, RECORD 00 MONTHS)*

CHILD	NAME	A10a. What is the child's year of birth? (ENTER YYYY)	A10b. How many months was this child breast-fed?
1	_____	Year: _____	# Months: _____
2	_____	Year: _____	# Months: _____
3	_____	Year: _____	# Months: _____
4	_____	Year: _____	# Months: _____
5	_____	Year: _____	# Months: _____
6	_____	Year: _____	# Months: _____
7	_____	Year: _____	# Months: _____
8	_____	Year: _____	# Months: _____

A10c. Have you or any of your children had serious medical problems?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

If Yes, describe:

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SMOKING HABITS:

A11. Have you ever smoked cigarettes or any other kind of tobacco (e.g., pipe-Thuoc) in your life? (If you have smoked less than 20 packs of cigarettes in your lifetime, or less than 1 cigarette a day for 1 year, then please answer "No".)

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

A12. How old were you when you first started cigarette smoking?

Age: \_\_\_\_\_ Don't Know \_\_\_\_\_

A13. Do you smoke cigarettes now (that is, as of one month ago)?

No                      Infrequently              Occasionally              Sometimes              Frequently

A14. As of one month ago, on average, how many cigarettes do you smoke per day?

# Cigarettes/Day: \_\_\_\_\_ Don't Know \_\_\_\_\_

A15. On average, for the entire time you have smoked, how many cigarettes did you smoke per day?

# Cigarettes/Day: \_\_\_\_\_ Don't Know \_\_\_\_\_

A16. If you have stopped smoking cigarettes completely, how old were you when you stopped?

Age Stopped: \_\_\_\_\_ Don't Know \_\_\_\_\_

A17. What is the total number of years that you smoked?

Years: \_\_\_\_\_ Don't Know \_\_\_\_\_

Comments \_\_\_\_\_  
\_\_\_\_\_

A19. I have a few other questions about your health.

	YES	NO	DON'T KNOW
A19a. Do you have hemophilia or any other blood clotting or bleeding disorder?			
A19b. Have you received chemotherapy in the past 6 months?			
A19c. Do you weigh less than 40 KG (90 pounds)?			
A19d. Are you currently taking medication to thin your blood? (IF YES, PROBE: This does not include aspirin.)			
A19e. Have you been currently diagnosed or treated for anemia?			
A19f. Have you been currently diagnosed or treated for malaria?			
A19g. Have you been currently diagnosed or treated for dengue fever?			
A19h. Have you been currently diagnosed or treated for Hepatitis?			
A19i. Have you been currently diagnosed or treated for HIV?			
A19j. Have you donated blood within the last 8 weeks?			
A19k. Are you currently pregnant?			
A19l. Have you breastfed a child in the last 6 months?			
A19m. If The Participant ANSWERED "NO" TO ALL THE A19 QUESTIONS AND IS ELIGIBLE TO GIVE A BLOOD SAMPLE.			

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

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## Section B: Residential History

B2a. What is your current address, including ward, commune, district, city, and province?

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B2b. What year did you move into this address? \_\_\_\_\_

Now I need to get the addresses for where you have lived during the last 30 years. If you lived outside of Bien Hoa during this time, please just tell me the city, town and province.

COLLECT ADDRESSES UNTIL THE BEGIN YEAR IS 1975 OR EARLIER (B2b to B8b).

B3a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

---

---

B3b. During what years did you live at this address?

Begin Year \_\_\_\_\_ End Year \_\_\_\_\_

B4a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

---

---

B4b. During what years did you live at this address?

Begin Year \_\_\_\_\_ End Year \_\_\_\_\_

B5a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

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---

B5b. During what years did you live at this address?

Begin Year \_\_\_\_\_ End Year \_\_\_\_\_

B6a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

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B6b. During what years did you live at this address?

Begin Year \_\_\_\_\_ End Year \_\_\_\_\_

B7a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

---

---

B7b. During what years did you live at this address?

Begin Year \_\_\_\_\_ End Year \_\_\_\_\_

B8a. Please give me the address, including ward, commune, district, city, and province of the previous residence you lived in.

---

---

B8b. During what years did you live at this address?

Begin Year \_\_\_\_\_ End Year \_\_\_\_\_

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

## Section C: Property Use

### PROPERTY USE

C1. Do you or does anyone else in your household have a vegetable garden on this property?

Yes \_\_\_\_ No \_\_\_\_ Don't Know \_\_\_\_ Comments \_\_\_\_\_

---

C2. Did you, yourself, ever use weed killers on your property?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

Comments (provide names, if known)

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---

C3. Did you ever live on a property where trash or yard waste was burned?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

Comments \_\_\_\_\_

---

C4. Did you ever live on a property where a wood burning fireplace, wood burning stove or charcoal burning stove was used regularly?

Yes \_\_\_\_ No \_\_\_\_ Don't Know \_\_\_\_ Comments \_\_\_\_\_

---

C5. Was a property that you lived in ever damaged by a fire while you lived there?

Yes \_\_\_\_ No \_\_\_\_ Don't Know \_\_\_\_ Comments \_\_\_\_\_

---

C6. To your knowledge, has any portion of your property ever been flooded during the monsoon rains?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

Comments \_\_\_\_\_  
\_\_\_\_\_

C7. Did flood waters ever enter into any of the living areas of your home, either inside or outside the home?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

Comments \_\_\_\_\_  
\_\_\_\_\_

Any additional comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Section D: Work History

D1. Did you serve in the military during the American War?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_ Where and for how long did you serve?

---

D1a. Did you serve in areas where Agent Orange and other defoliants were used?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments (if yes, which areas) \_\_\_\_\_

---

D1b. Did you personally handle or work with Agent Orange and/or other defoliants?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments \_\_\_\_\_

---

D2. Have you ever worked in waste disposal including incinerator, wastewater, solid waste, and scrap metal collection?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments \_\_\_\_\_

---

D3. Have you ever worked in a factory?

Unsure No Infrequently Occasionally Sometimes Frequently

Describe type, where, when, for how long \_\_\_\_\_

---

D4. Has your work ever involved spraying chemicals to kill plants, weeds or insects?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments \_\_\_\_\_

---

D5. Have you ever worked in the paper industry?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

Comments \_\_\_\_\_

D5a. Have you ever worked in the electrical industry, including working for an electricity company?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

Comments \_\_\_\_\_

D6. Have you ever worked in the production, formulation, use or disposal of:

D6a. Chlorophenol (wood preservatives)?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

D6b. Agent Orange?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

D6c. Vietnam wartime herbicides other than Agent Orange such as Agent Purple, Agent Pink, Agent Blue, and Agent Green?

Unsure          No          Infrequently          Occasionally          Sometimes          Frequently

D6d. Other herbicides, weed killers, insect killers, or vegetation killers?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

D6e.PCP or pentachlorophenol?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

D6f.DDT?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

D6g.Trichlorophenol and its derivatives (such as 2,4,5-T)?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

D6h.PCBs?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

D6i.Electrical transformers?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

D7. Have you ever been exposed to a spill involving industrial chemicals anywhere?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_ Comments

(if Yes, describe, where, when, for how long, which chemicals)\_\_\_\_\_

D7b. Have you ever been exposed to a fire involving industrial chemicals anywhere?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_ Comments

(if Yes, describe, where, when, for how long, which chemicals)\_\_\_\_\_

D7b.If you have worked around barrels or drums of chemicals, do you remember any markings or stripes on the barrels or drums?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_ Comments

(If Yes, where and describe)\_\_\_\_\_

## Section E: Bien Hoa

E1. Have you ever worked or participated in activities on, or been inside, the Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

Comments (If yes, describe the work (when, for how long) at the Bien Hoa Base

---

---

E2. Have you ever worked at the Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

Which years and what was your job? \_\_\_\_\_

E3. Have you ever been exposed to a chemical spill or chemical accident while working at the Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

Describe \_\_\_\_\_

E4. Have you ever been exposed to any fire involving chemicals while working at the Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

Describe \_\_\_\_\_

E5. Did you ever collect or use 200 litre (55-gallon) barrels or drums in the Bien Hoa Area?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently



E6. Have you ever lived with someone who worked at the Bien Hoa Airbase?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

Describe \_\_\_\_\_

E7. Did you live with them while they worked at the Bien Hoa Airbase?

Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

**Section F: Fish (All species, including Eels) and Ducks**

F1. Have you ever gone fishing anywhere in Bien Hoa?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when, where (describe):

---

---

F2. Did you ever fish in the lakes on Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when, where (describe):

---

---

F3. Did you ever fish in Bien Hung Lake?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when (describe):

---

---

F4. Did you ever fish in South Base Lake?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when (describe):

---

F5. Did you ever fish in Z1 lakes/wetlands?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when (describe):

---

---

F6. Did you ever fish in the Dong Nai River?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when, where on the Dong Nai River (describe):

---

---

F7. Did you ever fish in any other areas?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when, where (describe):

---

---

F8. What species did you catch?

Bien Hung Lake \_\_\_\_\_

South Base Lake \_\_\_\_\_

Z1 Lakes/wetlands \_\_\_\_\_

Dong Nai River \_\_\_\_\_

Other Areas \_\_\_\_\_

F9. How many fish do you catch from each of the above lakes and Dong Nai River on average each week?

Mark: 0 \_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4 \_\_\_\_\_ 5 \_\_\_\_\_

5 - 10 \_\_\_\_\_ 10-20 \_\_\_\_\_ >20 \_\_\_\_\_

Bien Hung Lake \_\_\_\_\_

South Base Lake \_\_\_\_\_

Z1 Lakes/wetlands \_\_\_\_\_

Dong Nai River \_\_\_\_\_

Other Areas \_\_\_\_\_

F10. Did you in the past or now do you buy fish from local markets?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when(describe):

\_\_\_\_\_  
\_\_\_\_\_

F10 a. From which markets do you buy your fish? Specify the location and name:

\_\_\_\_\_  
\_\_\_\_\_

F11 How much fish did you or do you buy from local markets each week?

0 \_\_\_\_\_ < 1kg \_\_\_\_\_ 1-2 kg \_\_\_\_\_ 2-5 kg \_\_\_\_\_ 5-10 kg \_\_\_\_\_ >10 kg \_\_\_\_\_

F12. Did you in the past, or now buy ducks from local markets?

Unsure                      No                      Infrequently                      Occasionally                      Sometimes  
Frequently

If Yes, when, where, which markets (describe):

---

---

F13. Did you raise, harvest or turn ducks from Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when, where and for how many years? (describe):

---

---

F14. Did you harvest any other animals from Bien Hoa Airbase (e.g., frogs, birds, rats, etc.)

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when (describe):

---

---

**Section G: Growing or Harvesting Vegetables**

G15. Do you grow your own rice, vegetables and fruits at your home?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

G15a . What types of vegetables and fruits do you grow at home? Specify:

---

---

G16. Did you ever grow rice or vegetables or fruit on Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, what vegetables, when did you grow them and for how many years? (describe):

---

---

G17. Did you ever harvest wood from Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when (describe):

---

---

G18. Did you in the past or do you now harvest lotus or other aquatic vegetables from Bien Hoa Airbase?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when (describe):

---

---

G19. Do you buy vegetables and fruit at a market?

Unsure    No    Infrequently    Occasionally    Sometimes    Frequently

If Yes, when, which market (s) (describe):

---

---

## Section H: Food Consumption

H1. Have you ever eaten fish caught from Bien Hoa Airbase?

Unsure      No      Infrequently      Occasionally      Sometimes      Frequently

H2. Have you ever eaten fish and other aquatic animals from:

Bien Hung Lake      Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

South Base Lake      Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

Z1 lakes/wetlands      Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

Dong Nai River      Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

Other lakes near Bien Hoa Airbase      Yes \_\_\_\_\_ No \_\_\_\_\_ Don't Know \_\_\_\_\_

H2a. If yes, which species of fish did you eat from each lake?

Bien Hung Lake \_\_\_\_\_

South Base Lake \_\_\_\_\_

Z1 Lakes/wetlands \_\_\_\_\_

Dong Nai River \_\_\_\_\_

Other Areas \_\_\_\_\_

H3. Which parts of the fish do you eat?

Muscle (meat) only \_\_\_\_\_

Liver \_\_\_\_\_

Stomach \_\_\_\_\_

Fat \_\_\_\_\_

All parts \_\_\_\_\_

H4. What other meat do you eat? How often per week?

Duck \_\_\_\_\_

Pork \_\_\_\_\_

Beef \_\_\_\_\_

Chicken \_\_\_\_\_



Eggs \_\_\_\_\_

Frogs \_\_\_\_\_

Snakes \_\_\_\_\_

Birds \_\_\_\_\_

Wild Animals \_\_\_\_\_ specify: \_\_\_\_\_

Others (specify): \_\_\_\_\_

H5. List the kinds of fruits and vegetables that you eat:

Lotus \_\_\_\_\_

Bamboo \_\_\_\_\_

Spinach \_\_\_\_\_

Gourds \_\_\_\_\_

Water hyacinth \_\_\_\_\_

Other (specify): \_\_\_\_\_

H6. Do you raise your own animals? If so, specify which animals and where you raise them:

\_\_\_\_\_

## Section I: Educational Level

11. Now I am going to ask you about your own education level.

What is the highest level of school you have completed or the highest degree you have received?

- |    |                          |   |
|----|--------------------------|---|
| 1  | <input type="checkbox"/> | Less than 1 <sup>st</sup> grade   |
| 2  | <input type="checkbox"/> | 1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> , or 4 <sup>th</sup> grade    |
| 3  | <input type="checkbox"/> | 5 <sup>th</sup> or 6 <sup>th</sup> grade  |
| 4  | <input type="checkbox"/> | 7 <sup>th</sup> or 8 <sup>th</sup> grade  |
| 5  | <input type="checkbox"/> | 9 <sup>th</sup> grade   |
| 6  | <input type="checkbox"/> | 10 <sup>th</sup> grade  |
| 7  | <input type="checkbox"/> | 11 <sup>th</sup> grade  |
| 8  | <input type="checkbox"/> | 12 <sup>th</sup> grade No Diploma   |
| 9  | <input type="checkbox"/> | High school graduate -- high school diploma, or the equivalent (for example: GED) |
| 10 | <input type="checkbox"/> | Some college but no degree  |
| 11 | <input type="checkbox"/> | Associate degree in college -- Occupational/vocational program                    |
| 12 | <input type="checkbox"/> | Associate degree in college -- Academic program                                   |
| 13 | <input type="checkbox"/> | Bachelor's degree (For example: BA, AB, BS)                                       |
| 14 | <input type="checkbox"/> | Master's degree (For example: MA, MS, MEng, MEd, MSW, MBA)                        |
| 15 | <input type="checkbox"/> | Professional School Degree (For example: MD, DDS, DVM, LLB, JD)                   |
| 16 | <input type="checkbox"/> | Doctorate degree (For example: PhD, EdD)  |
| 17 | <input type="checkbox"/> | Don't Know  |
| 18 | <input type="checkbox"/> | REFUSED   |

**Section J: Information and Outreach**

J1. Have you heard any reports about the dioxin issue in the newspaper?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments\_\_\_\_\_

J2. Have you heard any reports about the dioxin issue on the radio?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments\_\_\_\_\_

J3. Have you heard any reports about the dioxin issue on the public address system (loudspeaker)?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments\_\_\_\_\_

J4. Have you seen or heard any reports on the dioxin issue on television, including community access TV?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments\_\_\_\_\_

J5. Have you read any reports about the dioxin issue on any internet websites?

Unsure No Infrequently Occasionally Sometimes Frequently

Comments\_\_\_\_\_

What is your knowledge of the dioxin issue, any other comments?

\_\_\_\_\_  
\_\_\_\_\_

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**A3.3**

**Information on Aquaculture  
Farms in Bien Hoa**

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## Aquaculture Farms in Bien Hoa Airbase

1	Fish farmer	Fish species	Harvest		Purpose	Locations	Locations correspond to fish sample IDs
			Quantity	Time			
1	Mr. Hoc	Tilapia, butterfly, silver carp, and grass carp	3 tons/year	All year round	Selling at Buu Long Market (in Dong Nai province)	Lakes #16, 17, 18, and 19	Lake #19 (10VNBH509, 10VNBH510, 10VNBH511) Small pond North of Lake #19 (10VNBH521)
2	Mr. Quy	Mainly red snapper fish	3.5 – 4 tons/ year	3 times	Selling as breed-fishes	Lakes # 12 and 13	10VNBH504, 10VNBH505
3	Mr. Minh	Tilapia, butterfly, common carp silver carp, mud carp and grass carp	10 tons/ year (total of all his ponds)	Every 6-7 months	Selling for distributors	Lakes # 5, 6, 7 and 8	
		The pond of Mr. Minh where the samples were taken was harvest approximately 5 tons/ year					
4	Mr. Duong	Mud carp, common carp, grass carp, and silver carp	1 ton/ year	2 times: - May or June - November or December	Selling for distributors	North of lake # 4, on the other side of the street	10VNBH502, 10VNBH503
5	Mr. San	Mud carp, common carp, silver carp, tilapia and grass carp	2 tons/ year	December	Selling for distributors	Lakes # 3 and 4	10VNBH500, 10VNBH501
6	Mr. Hai	Mud carp, common carp, silver carp, tilapia and grass carp	3 tons/ year	December	Selling for distributors	Lake # 15	
7	Mr. Hung	Mud carp, common carp, silver carp, tilapia and grass carp	1 ton/ year	At the end of the year	Selling for distributors	West of lake #15, about 300-400 meters away from the north side of the road	
8	Mr. Binh	Mud carp, common carp, silver carp, tilapia and grass carp	2 tons/ year	At the end of the year	Selling for distributors	Lakes # 9,10 and 11	Lake #11 (10VNBH506)
9	National Guard Company #2	Mud carp, common carp, silver carp, tilapia and grass carp	Close to 1 ton/ year	At the end of the year	Selling for distributors	North East of lake #4, and 100m away from the road	

# Aquaculture Farms in Bien Hoa Airbase

Scientific name:

- Grass carp (cá trắm): *Ctenopharyngodon idella*
- Mud carp (cá trôi): *Cirrhinus molitorella*
- Silver carp (cá mè): *Hypophthalmichthys molitrix*
- Tilapia (cá rô phi): *Oreochromis niloticus*
- Common carp (cá chép): *Cyprinus carpio*

Notice for lakes' locations:

- Lake #1: There is no owner for this lake. This lake is currently abandoned since 2008 to present. The regiment bans anyone to grow fish in this lake.
- Lake #2: I did not see any #2 in this map, but I understand that it means Gate 2 Lake. Currently, it's also abandoned for growing fish here.
- Lakes of Mr. Duong, Mr. Hung and National Guard Company #2 did not show in this map.