

# **DIOXIN/FURAN ANALYSIS**

## **TISSUE SAMPLES**

**AXYS METHOD: MLA-017**

**PROJECT NAME: FIDALGO BAY TISSUE  
INVESTIGATION**

**Contract: 4406**

**Data Package Identification: DPWG25988**

**Analysis WG25699, WG25701, and WG25730**

**25 July 2008**

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**Prepared for:  
Science Applications International Corporation**

**Prepared by:  
AXYS Analytical Services Ltd.  
2045 Mills Rd  
Sidney, British Columbia V8L 5X2  
CANADA**

**Contact: Cynthia Tomey  
Project Manager**

**25 July 2008**



**SCIENCE APPLICATIONS INTERNATIONAL CORP  
TISSUE SAMPLES**

**DIOXIN AND FURAN ANALYSIS  
AXYS METHOD: MLA-017**

**PROJECT: FIDALGO BAY TISSUE INVESTIGATION**

**4406:** L11328-1 to -30, -32 to -45

**23 July 2008**

**NARRATIVE**

This narrative describes the analysis of forty-four tissue samples for the determination of polychlorinated dibenzodioxins and dibenzofurans using high-resolution gas chromatography / high-resolution mass spectrometry (HRGC/HRMS).

**SAMPLE RECEIPT AND STORAGE**

The samples were received on the 24<sup>th</sup> of June 2008. Details of sample conditions on receipt are provided on the Sample Receiving Record form included in this data package. Some minor discrepancies between labels and the client CoC were observed, which were resolved as noted in the e-mail correspondence included in the Sample Receiving section.

The samples were stored at -20°C prior to extraction and analysis.

**SAMPLE PREPARATION AND ANALYSIS**

The samples were homogenized as described on the Tissue Preparation Record forms included in this data package.

Extraction and analysis procedures were in general accordance with **USEPA Method 1613B**, as documented in Axys Method **MLA-017**: "*Analytical Method for the Determination of Polychlorinated Dibenzodioxins and Dibenzofurans by EPA Method 1613B, EPA Method 8290A or Env. Canada EPS 1/RM/19*". A method summary of MLA-017, MSU-018, with a list of modifications of USEPA Method 1613B, is included following this narrative.

Samples were analyzed among three batches. The compositions of these batches are shown on the Cover Page and Correlation Table, and on the Batch List forms accompanying the extraction workup sheets:

Fifteen field samples and three lab QC samples were analyzed in batch DXWG25699. The QC samples consisted of a procedural blank, a lab-generated reference sample known as the Ongoing Precision and Recovery (OPR), and a sample duplicate.

Fifteen field samples and three lab QC samples – blank, OPR, and duplicate – were analyzed in batch DXWG25701.

Fifteen field samples and three lab QC samples – blank, OPR, and duplicate – were analyzed in batch DXWG25730.

All three procedural blanks, named WGXXXXX-101, were prepared using approximately 0.3g corn oil as the matrix. All three OPRs, named WGXXXXX-102, were prepared a reference tissue material as a matrix. The duplicates, named WGXXXXX-103, were prepared from samples 'A2R1-SF', 'A2R2-DC-tissue' and 'A3R1-horse'.



For each sample, an accurately weighed subsample ranging from approximately 10 to 25g was spiked with the  $^{13}\text{C}$ -labeled quantification standards, and then extracted by Soxhlet using 1:1 dichloromethane/hexane. The resulting extract was spiked with  $^{13}\text{C}$ -labelled cleanup standards. After removing a small aliquot for lipid analysis, the raw extract was cleaned up on an automated chromatography apparatus (Fluid Management Systems (FMS), Inc 'Power-Prep<sup>TM</sup> System') equipped with the standard pre-packed columns listed on the extraction workup sheets. Following cleanup, each extract was reduced in volume and spiked with  $^{13}\text{C}$ -labeled recovery (internal) standards prior to instrumental analysis. Final extract volume was 20 $\mu\text{L}$ . 1 $\mu\text{L}$  was injected for the DB5 column analysis; 2 $\mu\text{L}$  were injected for the DB225 column analysis.

## CALCULATION

Target analyte concentrations were determined by isotope dilution or internal standard quantification procedures using Micromass OPUSQuan software. Formulae used in the conversion of the raw chromatograms to concentrations are provided in the method summary document.

Sample specific detection limits (SDLs) were determined from the analysis data following the same procedures used to convert target peak responses to concentrations. In cases when the software selects unrepresentative area for the detection limit calculations, the SDLs are hand-corrected on the quantification report pages.

At the request of SAIC, Axys method detection limits (MDLs), prorated for the extract volume and sample size, were used as reporting limits. All analyte concentrations greater than both the MDL and SDL were reported.

Homologue totals were obtained by summing the concentration of all detected congeners at each level of chlorination. Toxic Equivalents (TEQs) were calculated using WHO 2005 TEFs. Congener peaks that did not meet the method ion abundance ratio criteria were excluded from the homologue totals and TEQ calculations.

## REPORTING CONVENTIONS

For internal tracking, Axys assigned SAIC the contract number 4406. Axys logged the samples under unique laboratory identifiers of the form L11328 -X, where X is a numeral. All data reports reference both the Axys ID and the SAIC sample identifier. To assist in locating data, a table correlating Axys IDs with client sample numbers is included in this data package.

Any additional work performed after the first GC-MS acquisition of the sample is indicated by suffixes added to the Axys IDs. The following extra work suffixes occur in this data package:

- i = the sample extract was re-acquired on the GC-MS
- L = extract was given further cleanup to remove interferences

The following data qualifier flags are used in this data package:

- J = indicates an estimated value where the concentration of the analyte is less than the LMCL but greater than the greater of the MDL and the SDL
- K = a peak was detected that did not meet all the criteria for identification as the target analyte; the reported value is the estimated maximum possible concentration of analyte present.
- U = identifies a compound that was not detected
- V = the recovery of the flagged surrogate fell below the lower method control limit

Reports were generated using a Laboratory Information Management System (LIMS). Results are

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reported in concentration units of picograms per gram (pg/g), on a wet weight basis. Concentrations and detection limits are reported to three figures.

## **ANALYTICAL DISCUSSION**

### WG25699

Sample A3R1-ES (AXYS ID L11328-7) required an additional GC-MS acquisition before all instrumental QC criteria were met. This is indicated by the suffix "i" added to the Axys ID.

The extracts for sample A2R2-polychaeta and the OPR (AXYS Ids L11328-2 and WG25699-102) required additional chromatographic cleanup. All data for these samples are reported from this extract, indicated by the suffix "L" added to the AXYS IDs.

The lab analyst noted that during the extraction of sample A2R1-RR-hepato (AXYS ID L11328-13) a portion of the extract was lost. As the internal standard method of quantification accounts for such losses, data is not considered affected by this variance.

### WG25701

The extracts for sample A3R3-manila (AXYS ID L11328-42) required additional chromatographic cleanup. DB-5 column data for this sample is reported from this extract, indicated by the suffix "L" added to the AXYS ID.

The lab analyst noted that during the extraction of samples A3R1-DC-hepato and A4R2-bentnose (AXYS IDs L11328-23 and -43) a portion of the extracts were lost. As the internal standard method of quantification accounts for such losses, data is not considered affected by this variance.

### WG25730

Sample A4R1-RR-tissue (AXYS ID L11328-28) required an additional GC-MS acquisition before all instrumental QC criteria were met. This is indicated by the suffix "i" added to the Axys ID.

The initial lipid analysis was not successful therefore a second portion of extract was used for an additional lipid analysis. This is accounted for during sample data calculations.

The lab analyst noted that during the extraction of sample A2R1-manila (AXYS ID L11328-39) a portion of the extract was lost. As the internal standard method of quantification accounts for such losses, data is not considered affected by this variance.

## **QA/QC NOTES**

In each batch, a procedural blank, an OPR, and a duplicate were prepared alongside the field samples, and carried through the same analytical procedures. The field sample data were evaluated in relation to the batch QC sample data.

- Sample analyte concentrations are not blank-corrected. The data should be evaluated with consideration of the procedural blank results.
- By virtue of the isotope dilution/internal standard quantification procedures, data are recovery corrected for possible losses during extraction and cleanup.
- The linearity, CAL/VER, OPR and labeled compound recovery specifications were met, with the following exceptions:

### WG25699

All QC criteria were met during the analysis of this batch.

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WG25701

All QC criteria were met during the analysis of this batch.

WG25730

The recovery of 13C-1,2,3,4,7,8-HXCDD in sample A4R1-RR-tissue (AXYS ID L11328-28) was slightly outside method acceptance criteria; these compounds have been flagged with a 'V'. As the isotope dilution method of quantification produces data that are recovery corrected, the slight variances from the method acceptance criteria are deemed not to affect the quantification of these analytes. Percent surrogate recoveries are used as general method performance indicator only.

The analysis of sample A4R2-RR-hepato (AXYS ID L11328-31) was not successful and data is not available in this data package.

**DATA PACKAGE**

This data package has been assigned a unique identifier, DPWG25988. Included are the following documentation:

- Summary of MLA-017 (MSU-018)
- Sample Cover Page and Correlation Table
- Sample Receiving Documentation
- Sample preparation record
- Laboratory extraction logs for each sample
- Sample data reports
- QC sample data reports
- Instrumental QC data reports
- Sample raw data
- QC sample raw data
- Instrumental QC raw data

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**I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, except for the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. The following signature, on behalf of Axys Analytical Services Ltd, authorizes the release of the data contained in this data package.**

*Teresa Rawsthorne*  
Signed: Teresa Rawsthorne, B.Sc., QC Chemist

*24 Jul 08.*  
Date Signed







4406

| <br><b>SAIC</b><br><i>From Science to Solutions</i>  |       | 18912 North Creek Parkway, Suite 101<br>Bothell, Washington 98011<br>TEL: 425.485.5800 • FAX: 425.485.5566            |           |   |                 | <b>Analyses / Tests</b>   |  |                  |  |  |  | <b>Shipping Information</b> |  |                                |  |                    |           |
|---|-------|---|-----------|---|-----------------|---|--|------------------|--|--|--|-----------------------------|--|--------------------------------|--|--------------------|-----------|
|   |       | <b>CHAIN OF CUSTODY RECORD</b>  |           |   |                 |   |  | Dioxins / Furans |  |  |  |                             |  | Number of Shipping Containers: |  |                    |           |
| Project No.: <u>01-0236-00-1204-200</u> Project Mgr: <u>Tim Hammermeister</u><br>Project Name: <u>Fidalgo Bay Sediment Investigation</u><br>Project Location: <u>Fidalgo Bay, Anacortes, WA</u><br>Sample Collectors: <u>MB, <del>MB</del>, JB</u><br>Client Name: <u>Washington Dept. of Ecology</u> |       |   |           |   |                 | Date Shipped:   |  |                  |  |  |  |                             |  |                                |  |                    |           |
|   |       |   |           |   |                 | Carrier:  |  |                  |  |  |  |                             |  |                                |  |                    |           |
|   |       |   |           |   |                 | Waybill No.:  |  |                  |  |  |  |                             |  |                                |  |                    |           |
|   |       |   |           |   |                 | Comments  |  |                  |  |  |  |                             |  |                                |  |                    |           |
| Sample ID   | Depth | Matrix  | Date      | Time  | # of Containers |   |  |                  |  |  |  |                             |  |                                |  |                    |           |
| <del>A4R1-benthose</del>  | N/A   | Tissue  | 6/17/2008 |   |                 |   |  |                  |  |  |  |                             |  |                                |  |                    |           |
| AZR3-polychaeta   | N/A   | Tissue  | 6/18/2008 | 852   | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3025 L11328-       | 1         |
| AZR2-polychaeta   | N/A   | Tissue  | 6/18/2008 | 900   | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3049               | - 2       |
| A3R1-polychaeta   | N/A   | Tissue  | 6/18/2008 | 900   | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3027               | - 3       |
| A3R3-polychaeta   | N/A   | Tissue  | 6/18/2008 | 900   | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3029               | - 4       |
| A4R1-polychaeta   | N/A   | Tissue  | 6/18/2008 | 900   | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3031               | - 5       |
| A4R2-polychaeta   | N/A   | Tissue  | 6/18/2008 | 900   | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3033               | - 6       |
| A3R1-ES   | N/A   | Tissue  | 6/18/2008 | 1022  | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3035               | - 7       |
| A3R1-SF   | N/A   | Tissue  | 6/18/2008 | 1022  | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3037 <del>46</del> | - 8       |
| A3R2-SF   | N/A   | Tissue  | 6/18/2008 | 1022  | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3039               | - 8 - 9   |
| A3R3-SF   | N/A   | Tissue  | 6/18/2008 | 1022  | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3041               | - 9 - 10  |
| AZR1-SF   | N/A   | Tissue  | 6/18/2008 | 1100  | 1               | X   |  |                  |  |  |  |                             |  |                                |  | 3043               | - 10 - 11 |
| <b>RELINQUISHED BY:</b><br>Signature: <u>[Signature]</u><br>Date/Time: <u>06/23/08 1535</u><br>Affiliation: <u>SAIC</u>   |       | <b>RECEIVED BY:</b><br>Signature: <u>[Signature]</u><br>Date/Time: <u>24 Jun 08 11:00</u><br>Affiliation: <u>AXYS</u> |           | <b>RELINQUISHED BY:</b><br>Signature: _____<br>Date/Time: _____<br>Affiliation: _____ |                 | <b>RECEIVED BY:</b><br>Signature: _____<br>Date/Time: _____<br>Affiliation: _____ |  |                  |  |  |  |                             |  | MG 24 Jun 08                   |  |                    |           |

• White: Lab Returns to Originator Upon Receipt of Samples    • Canary: Lab Retains    • Pink: Lab Returns to Project Manager with Final Report    • Goldenrod: Retained by Sampler



4400



18912 North Creek Parkway, Suite 101  
Bothell, Washington 98011  
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: 01-0236-00-1204-200 Project Mgr: Tim Hammermeister  
Project Name: Fidalgo Bay Sediment Investigation  
Project Location: Fidalgo Bay, Anacortes, WA  
Sample Collectors: MB, JB, CH, BD  
Client Name: Washington Dept. of Ecology

Dioxins/Furans

Analyses / Tests

Shipping Information

Number of Shipping Containers:

Date Shipped:

Carrier:

Waybill No.:

Comments

| Sample ID      | Depth | Matrix | Date      | Time | # of Containers |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
|----------------|-------|--------|-----------|------|-----------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------|
| AZR2-SF        | N/A   | Tissue | 6/18/2008 | 1300 | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3045 L11328-11 |
| AZR3-SF        | N/A   | Tissue | 6/18/2008 | 1300 | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3047 -12       |
| AZR1-RR-hepato | N/A   | tissue | 6/23/08   | 1400 | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3050 -13       |
| AZR1-RR-other  | N/A   | tissue | 6/23/08   | 1400 | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3051 -14       |
| AZR1-RR-tissue | N/A   | tissue | 6/23/08   | 1400 | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3053 -15       |
| AZR2-RR-hepato | N/A   | tissue | 6/23/08   | 1400 | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3055 -16       |
| AZR2-DC-tissue |       |        |           |      | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3057 -17       |
| AZR2-DC-other  |       |        |           |      | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3059 -18       |
| AZR3-DC-hepato |       |        |           |      | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3061 -19       |
| AZR3-DC-tissue |       |        |           |      | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3063 -20       |
| AZR3-DC-other  |       |        |           |      | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3065 -21       |
| AZR3-DC-other  |       |        |           |      | 1               | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 3067 -22       |

|                                     |                                   |                        |                    |
|-------------------------------------|-----------------------------------|------------------------|--------------------|
| RELINQUISHED BY: <u>[Signature]</u> | RECEIVED BY: <u>[Signature]</u>   | RELINQUISHED BY: _____ | RECEIVED BY: _____ |
| Signature: _____                    | Signature: _____                  | Signature: _____       | Signature: _____   |
| Date/Time: <u>06/23/08 1535</u>     | Date/Time: <u>24 Jun 08 11:50</u> | Date/Time: _____       | Date/Time: _____   |
| Affiliation: <u>SAIC</u>            | Affiliation: <u>AXYS</u>          | Affiliation: _____     | Affiliation: _____ |

• White: Lab Returns to Originator Upon Receipt of Samples      • Canary: Lab Retains      • Pink: Lab Returns to Project Manager with Final Report      • Goldenrod: Retained by Sampler







**Cynthia Tomey**

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**From:** Georgina Brooks  
**Sent:** Tuesday, June 24, 2008 6:03 PM  
**To:** 'Hafner, William D.'  
**Cc:** Cynthia Tomey  
**Subject:** RE: 4406 sample discrepancies

Hi Will. Thanks for the quick response. No worries with this many samples there are always a few questions.

Tomorrow I am going to finish cross-referencing the sample list from the SOW with the samples we received because I noticed that some samples are different - for example we received A3R2-macoma but it doesn't appear on Table 1 (see attached).

But enough for tonight- talk to you tomorrow.

Georgina

-----Original Message-----

**From:** Hafner, William D. [mailto:WILLIAM.D.HAFNER@saic.com]  
**Sent:** Tuesday, June 24, 2008 3:58 PM  
**To:** Georgina Brooks  
**Subject:** RE: 4406 sample discrepancies

Georgina,  
Sorry for the problems.  
For these samples, go with the date on the COC. We normally list the collection date on both the jar and COC. Since these were archive samples, we listed the processing date (date the samples were thawed/composited) on the jars, and the shipping date on the COC.

I'm going to check with CAS for A3R1-SF #3037 and see if they have it. If so, I'll have them overnight it to you. For A4R1-Bentnose, please send overnight #3020 to CAS. I'll let Harvey know it is coming.

Go with Manila clams.

A2R2-DC is correct.

I will be responsible more and more of the sample management here, so please send the final report to both Tim and I.

Thanks,  
Will

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**From:** Georgina Brooks [mailto:gbrooks@axys.com]  
**Sent:** Tuesday, June 24, 2008 2:52 PM  
**To:** Hafner, William D.  
**Cc:** Cynthia Tomey  
**Subject:** FW: 4406 sample discrepancies  
**Importance:** High

Hi Will: I understand you are the data to day contact for Fidalgo Bay project samples. Should we report final data to both you and Tim, just one of you?

Please see below for questions - some easy, a couple of trickier ones.

The sampling times that are different on the jars versus the COC, we have listed on the COC below.

Please call if you want to go over this on the phone before replying.

Regards  
georgina

-----Original Message-----

**From:** Michelle Gierden  
**Sent:** Tuesday, June 24, 2008 2:42 PM  
**To:** Georgina Brooks; Cynthia Tomey  
**Subject:** 4406 sample discrepancies  
**Importance:** High

Hi there,

Many discrepancies for these samples. Some small.....times differences mostly.

I have a jar listed on COC that did not arrive in shipment: Missing sample is A3R1-SF tag # 3037

2 Jars were received with the same client ID and sampling date and time but different tag #'s: A4R1-bentnose tag # 3019 the other # 3020

1 discrep with client ID: A2R2-DC-hepato on the jar  
A2R2-RR-hepato on the COC

1 jar spells Manilla but COC says Manila (for all)

I have pdf'd COC for you....

At the moment I am just starting to log these in as per the COC. I will make any changes needed once we have heard from the client. The 2 jars that are the same I will log in last.....will not log in missing sample.....

thanks,  
Michelle

<<4406 COC discrep.pdf>>

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Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R3-polychaeta  
Sample Collection:  
18-Jun-2008 08:52

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 10-Jul-2008 Time: 03:11:04

Extract Volume (uL): 20

Injection Volume (uL): 1.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-1

25.2 g (wet)

17-Jun-2008

HR GC/MS

DB5

DX82\_240B S: 7

DX82\_240B S: 4

DX82\_240A S: 1

85.3

1.41

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.031                  | 0.0198             | 0.43                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | U                     |                        | 0.0516             |                                  |                  |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0794             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | U                     |                        | 0.0794             |                                  |                  |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0794             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.315                  | 0.0444             | 0.94                             | 1.000            |
| OCDD                         |                       | 1.75                   | 0.134              | 0.92                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.124                  | 0.0198             | 0.85                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0405             |                                  |                  |
| 2,3,4,7,8-PECDF              | U                     |                        | 0.0405             |                                  |                  |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0369             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0369             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0369             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0369             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | J                     | 0.080                  | 0.0508             | 0.93                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0508             |                                  |                  |
| OCDF                         | J                     | 0.144                  | 0.0393             | 0.87                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.099                  | 0.0198             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.052                  | 0.0516             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.353                  | 0.0794             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 1.01                   | 0.0444             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.464                  | 0.0198             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.208                  | 0.0405             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 0.112                  | 0.0369             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 0.176                  | 0.0508             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R3-polychaeta  
Sample Collection:  
18-Jun-2008 08:52

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 03:11:04  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-1  
  
Sample Size: 25.2 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_240B S: 7  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_240A S: 1  
  
% Moisture: 85.3  
% Lipid: 1.41

| 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        | 1520        | 75.8              | 0.79                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1690        | 84.5              | 0.63                          | 1.386            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1530        | 76.4              | 1.25                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1600        | 80.1              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1600        | 79.8              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 3090        | 77.3              | 0.90                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1510        | 75.5              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1510        | 75.5              | 1.56                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1530        | 76.5              | 1.54                          | 1.356            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1560        | 78.0              | 0.52                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1600        | 80.2              | 0.53                          | 0.959            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1580        | 78.9              | 0.52                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1530        | 76.4              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1520        | 76.0              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1510        | 75.4              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 191 | 95.3 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R3-polychaeta  
Sample Collection:  
18-Jun-2008 08:52

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 08-Jul-2008 Time: 22:49:42

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-1

25.2 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_135 S: 6

DB83\_135 S: 5

DB83\_135 S: 2

85.3

1.41

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF | J                     | 0.104                  | 0.0295             | 0.70                             | 1.001            |

(1) Where applicable, custom lab flags have been used on this report; J = concentration less than LMCL.

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R3-polychaeta**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 08:52

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-1

**Sample Size:** 25.2 g (wet)

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

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

**Sample Data Filenames:** **DB83\_135 S: 6**  
**DX82\_240B S: 7**

| 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        | U                     |             | 0.0198          | 1            | 0.00e+00      | 9.90e-03      |       |
| 1,2,3,7,8-PECDD     | U                     |             | 0.0516          | 1            | 0.00e+00      | 2.58e-02      |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0794          | 0.1          | 0.00e+00      | 3.97e-03      |       |
| 1,2,3,6,7,8-HXCDD   | U                     |             | 0.0794          | 0.1          | 0.00e+00      | 3.97e-03      |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0794          | 0.1          | 0.00e+00      | 3.97e-03      |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.315       | 0.0444          | 0.01         | 3.15e-03      | 3.15e-03      |       |
| OCDD                |                       | 1.75        | 0.134           | 0.0003       | 5.25e-04      | 5.25e-04      |       |
| 2,3,7,8-TCDF        |                       | 0.104       | 0.0295          | 0.1          | 1.04e-02      | 1.04e-02      |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0405          | 0.03         | 0.00e+00      | 6.08e-04      |       |
| 2,3,4,7,8-PECDF     | U                     |             | 0.0405          | 0.3          | 0.00e+00      | 6.08e-03      |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0369          | 0.1          | 0.00e+00      | 1.85e-03      |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0369          | 0.1          | 0.00e+00      | 1.85e-03      |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0369          | 0.1          | 0.00e+00      | 1.85e-03      |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0369          | 0.1          | 0.00e+00      | 1.85e-03      |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 0.080       | 0.0508          | 0.01         | 8.00e-04      | 8.00e-04      |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0508          | 0.01         | 0.00e+00      | 2.54e-04      |       |
| OCDF                |                       | 0.144       | 0.0393          | 0.0003       | 4.32e-05      | 4.32e-05      |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.0149</b> | <b>0.0768</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R2-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-2 L

Matrix: TISSUE

Sample Size: 16.9 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 18-Jul-2008 Time: 04:59:31

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_256 S: 9

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_256 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 78.1  
% Lipid: 0.90

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.038                  | 0.0174             | 0.51                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | K J                   | 0.048                  | 0.0146             | 0.79                             | 1.001            |
| 1,2,3,4,7,8-HXCDD            | J                     | 0.045                  | 0.0426             | 1.18                             | 1.000            |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.265                  | 0.0426             | 1.10                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | J                     | 0.122                  | 0.0426             | 1.34                             | 1.010            |
| 1,2,3,4,6,7,8-HPCDD          |                       | 10.1                   | 0.0493             | 1.05                             | 1.000            |
| OCDD                         |                       | 69.6                   | 0.0169             | 0.89                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.213                  | 0.0211             | 0.85                             | 1.001            |
| 1,2,3,7,8-PECDF              | J                     | 0.041                  | 0.0232             | 1.40                             | 1.000            |
| 2,3,4,7,8-PECDF              | J                     | 0.054                  | 0.0232             | 1.50                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | K J                   | 0.066                  | 0.0251             | 2.12                             | 1.001            |
| 1,2,3,6,7,8-HXCDF            | J                     | 0.030                  | 0.0251             | 1.29                             | 1.001            |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0251             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | K J                   | 0.027                  | 0.0251             | 2.46                             | 1.001            |
| 1,2,3,4,6,7,8-HPCDF          | J                     | 0.455                  | 0.0179             | 1.19                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | J                     | 0.029                  | 0.0179             | 1.02                             | 1.000            |
| OCDF                         | J                     | 0.507                  | 0.0144             | 0.86                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.182                  | 0.0174             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.049                  | 0.0146             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 5.87                   | 0.0426             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 55.5                   | 0.0493             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.333                  | 0.0211             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.645                  | 0.0232             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 1.09                   | 0.0251             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 1.29                   | 0.0179             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R2-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 18-Jul-2008 Time: 04:59:31  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-2 L  
  
Sample Size: 16.9 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_256 S: 9  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_256 S: 1  
  
% Moisture: 78.1  
% Lipid: 0.90

| 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        | 74.9              | 0.79                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1540        | 76.8              | 0.62                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1460        | 73.1              | 1.24                          | 0.986            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1590        | 79.5              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1620        | 80.8              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 3160        | 79.0              | 0.90                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1500        | 74.8              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1420        | 71.0              | 1.56                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1390        | 69.4              | 1.55                          | 1.356            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1430        | 71.6              | 0.51                          | 0.954            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1520        | 75.9              | 0.52                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1500        | 74.8              | 0.52                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1440        | 71.8              | 0.51                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1500        | 75.2              | 0.46                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1550        | 77.4              | 0.44                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 191 | 95.3 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R2-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 18-Jul-2008 Time: 11:48:15

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION

L11328-2 L

16.9 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_153 S: 5

DB83\_135 S: 5

DB83\_153 S: 2

78.1

0.90

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF | J                     | 0.153                  | 0.0296             | 0.72                             | 1.001            |

(1) Where applicable, custom lab flags have been used on this report; J = concentration less than LMCL.

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R2-polychaeta**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 09:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-2 L

**Sample Size:** 16.9 g (wet)

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

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

**Sample Data Filenames:** **DB83\_153 S: 5**  
**DX82\_256 S: 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        | U                     |             | 0.0174          | 1            | 0.00e+00     | 8.70e-03     |       |
| 1,2,3,7,8-PECDD     | U                     |             | 0.0146          | 1            | 0.00e+00     | 7.30e-03     |       |
| 1,2,3,4,7,8-HXCDD   |                       | 0.045       | 0.0426          | 0.1          | 4.50e-03     | 4.50e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.265       | 0.0426          | 0.1          | 2.65e-02     | 2.65e-02     |       |
| 1,2,3,7,8,9-HXCDD   |                       | 0.122       | 0.0426          | 0.1          | 1.22e-02     | 1.22e-02     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 10.1        | 0.0493          | 0.01         | 1.01e-01     | 1.01e-01     |       |
| OCDD                |                       | 69.6        | 0.0169          | 0.0003       | 2.09e-02     | 2.09e-02     |       |
| 2,3,7,8-TCDF        |                       | 0.153       | 0.0296          | 0.1          | 1.53e-02     | 1.53e-02     |       |
| 1,2,3,7,8-PECDF     |                       | 0.041       | 0.0232          | 0.03         | 1.23e-03     | 1.23e-03     |       |
| 2,3,4,7,8-PECDF     |                       | 0.054       | 0.0232          | 0.3          | 1.62e-02     | 1.62e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0251          | 0.1          | 0.00e+00     | 1.26e-03     |       |
| 1,2,3,6,7,8-HXCDF   |                       | 0.030       | 0.0251          | 0.1          | 3.00e-03     | 3.00e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0251          | 0.1          | 0.00e+00     | 1.26e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0251          | 0.1          | 0.00e+00     | 1.26e-03     |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 0.455       | 0.0179          | 0.01         | 4.55e-03     | 4.55e-03     |       |
| 1,2,3,4,7,8,9-HPCDF |                       | 0.029       | 0.0179          | 0.01         | 2.90e-04     | 2.90e-04     |       |
| OCDF                |                       | 0.507       | 0.0144          | 0.0003       | 1.52e-04     | 1.52e-04     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.206</b> | <b>0.226</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R1-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-3

Matrix: TISSUE

Sample Size: 25.3 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 04:59:58

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_240B S: 9

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_240A S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 80.7  
% Lipid: 1.71

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.051                  | 0.0198             | 0.38                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.131                  | 0.0514             | 0.56                             | 1.000            |
| 1,2,3,4,7,8-HXCDD            | J                     | 0.124                  | 0.0790             | 1.06                             | 1.000            |
| 1,2,3,6,7,8-HXCDD            |                       | 0.635                  | 0.0790             | 1.19                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | J                     | 0.237                  | 0.0790             | 1.17                             | 1.010            |
| 1,2,3,4,6,7,8-HPCDD          |                       | 5.34                   | 0.0443             | 1.06                             | 1.000            |
| OCDD                         |                       | 31.4                   | 0.133              | 0.89                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.226                  | 0.0198             | 0.80                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0403             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.077                  | 0.0403             | 1.35                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | J                     | 0.115                  | 0.0367             | 1.10                             | 1.000            |
| 1,2,3,6,7,8-HXCDF            | J                     | 0.078                  | 0.0367             | 1.07                             | 1.000            |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0367             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | J                     | 0.086                  | 0.0367             | 1.22                             | 1.000            |
| 1,2,3,4,6,7,8-HPCDF          |                       | 1.42                   | 0.0506             | 1.08                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0506             |                                  |                  |
| OCDF                         | J                     | 0.907                  | 0.0391             | 0.94                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.313                  | 0.0198             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.424                  | 0.0514             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 3.59                   | 0.0790             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 12.8                   | 0.0443             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 1.18                   | 0.0198             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.962                  | 0.0403             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 2.66                   | 0.0367             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 3.06                   | 0.0506             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R1-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 04:59:58  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-3  
  
Sample Size: 25.3 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_240B S: 9  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_240A S: 1  
  
% Moisture: 80.7  
% Lipid: 1.71

| 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        | 74.8              | 0.78                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1650        | 82.4              | 0.63                          | 1.386            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1510        | 75.7              | 1.26                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1590        | 79.3              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1600        | 80.0              | 1.03                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 3150        | 78.7              | 0.89                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1510        | 75.5              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1540        | 76.8              | 1.54                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1530        | 76.7              | 1.54                          | 1.356            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1560        | 77.9              | 0.52                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1540        | 76.8              | 0.53                          | 0.959            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1630        | 81.7              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1500        | 74.9              | 0.52                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1520        | 75.9              | 0.46                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1560        | 77.8              | 0.45                          | 1.103            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 184 | 92.0 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R1-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 11:44:16

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:  
% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-3

25.3 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_136 S: 8

DB83\_135 S: 5

DB83\_136 S: 2

80.7  
1.71

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.114                  | 0.0397             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A3R1-polychaeta**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 09:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-3

**Sample Size:** 25.3 g (wet)

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

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

**Sample Data Filenames:** **DB83\_136 S: 8**  
**DX82\_240B S: 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        | U                     |             | 0.0198          | 1            | 0.00e+00     | 9.90e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.131       | 0.0514          | 1            | 1.31e-01     | 1.31e-01     |       |
| 1,2,3,4,7,8-HXCDD   |                       | 0.124       | 0.0790          | 0.1          | 1.24e-02     | 1.24e-02     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.635       | 0.0790          | 0.1          | 6.35e-02     | 6.35e-02     |       |
| 1,2,3,7,8,9-HXCDD   |                       | 0.237       | 0.0790          | 0.1          | 2.37e-02     | 2.37e-02     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 5.34        | 0.0443          | 0.01         | 5.34e-02     | 5.34e-02     |       |
| OCDD                |                       | 31.4        | 0.133           | 0.0003       | 9.42e-03     | 9.42e-03     |       |
| 2,3,7,8-TCDF        |                       | 0.114       | 0.0397          | 0.1          | 1.14e-02     | 1.14e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0403          | 0.03         | 0.00e+00     | 6.05e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.077       | 0.0403          | 0.3          | 2.31e-02     | 2.31e-02     |       |
| 1,2,3,4,7,8-HXCDF   |                       | 0.115       | 0.0367          | 0.1          | 1.15e-02     | 1.15e-02     |       |
| 1,2,3,6,7,8-HXCDF   |                       | 0.078       | 0.0367          | 0.1          | 7.80e-03     | 7.80e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 2,3,4,6,7,8-HXCDF   |                       | 0.086       | 0.0367          | 0.1          | 8.60e-03     | 8.60e-03     |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 1.42        | 0.0506          | 0.01         | 1.42e-02     | 1.42e-02     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0506          | 0.01         | 0.00e+00     | 2.53e-04     |       |
| OCDF                |                       | 0.907       | 0.0391          | 0.0003       | 2.72e-04     | 2.72e-04     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.370</b> | <b>0.383</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R3-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-4

Matrix: TISSUE

Sample Size: 25.3 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 05:54:25

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_240B S: 10

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_240A S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 79.6  
% Lipid: 4.06

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.067                  | 0.0197             | 0.60                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.141                  | 0.0513             | 0.61                             | 1.001            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0790             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.200                  | 0.0790             | 1.15                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0790             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          |                       | 0.695                  | 0.0442             | 0.94                             | 1.000            |
| OCDD                         |                       | 2.87                   | 0.133              | 0.88                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.584                  | 0.0233             | 0.78                             | 1.001            |
| 1,2,3,7,8-PECDF              | J                     | 0.051                  | 0.0403             | 1.65                             | 1.000            |
| 2,3,4,7,8-PECDF              | J                     | 0.104                  | 0.0403             | 1.40                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | J                     | 0.048                  | 0.0367             | 1.08                             | 1.000            |
| 1,2,3,6,7,8-HXCDF            | J                     | 0.040                  | 0.0367             | 1.33                             | 1.000            |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0367             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | K J                   | 0.038                  | 0.0367             | 1.66                             | 1.000            |
| 1,2,3,4,6,7,8-HPCDF          | J                     | 0.219                  | 0.0506             | 1.02                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0506             |                                  |                  |
| OCDF                         | J                     | 0.333                  | 0.0391             | 0.96                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.395                  | 0.0197             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.700                  | 0.0513             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 1.08                   | 0.0790             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 1.63                   | 0.0442             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 1.61                   | 0.0233             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 1.09                   | 0.0403             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 0.456                  | 0.0367             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 0.459                  | 0.0506             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R3-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 05:54:25  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-4  
  
Sample Size: 25.3 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_240B S: 10  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_240A S: 1  
  
% Moisture: 79.6  
% Lipid: 4.06

| 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        | 69.2              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1570        | 78.5              | 0.63                          | 1.386            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1490        | 74.3              | 1.26                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1540        | 76.8              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1560        | 78.1              | 1.05                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 3010        | 75.3              | 0.90                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1440        | 72.1              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1420        | 70.8              | 1.55                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1450        | 72.3              | 1.56                          | 1.356            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1470        | 73.3              | 0.52                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1520        | 75.8              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1510        | 75.5              | 0.52                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1480        | 73.8              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1490        | 74.3              | 0.46                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1450        | 72.6              | 0.46                          | 1.103            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 150 | 75.1 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R3-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 12:19:56

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-4

25.3 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_136 S: 9

DB83\_135 S: 5

DB83\_136 S: 2

79.6

4.06

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.498                  | 0.0350             | 0.71                             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A3R3-polychaeta**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 09:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-4

**Sample Size:** 25.3 g (wet)

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

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

**Sample Data Filenames:** **DB83\_136 S: 9**  
**DX82\_240B S: 10**

| 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        | U                     |             | 0.0197          | 1            | 0.00e+00     | 9.85e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.141       | 0.0513          | 1            | 1.41e-01     | 1.41e-01     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0790          | 0.1          | 0.00e+00     | 3.95e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.200       | 0.0790          | 0.1          | 2.00e-02     | 2.00e-02     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0790          | 0.1          | 0.00e+00     | 3.95e-03     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.695       | 0.0442          | 0.01         | 6.95e-03     | 6.95e-03     |       |
| OCDD                |                       | 2.87        | 0.133           | 0.0003       | 8.61e-04     | 8.61e-04     |       |
| 2,3,7,8-TCDF        |                       | 0.498       | 0.0350          | 0.1          | 4.98e-02     | 4.98e-02     |       |
| 1,2,3,7,8-PECDF     |                       | 0.051       | 0.0403          | 0.03         | 1.53e-03     | 1.53e-03     |       |
| 2,3,4,7,8-PECDF     |                       | 0.104       | 0.0403          | 0.3          | 3.12e-02     | 3.12e-02     |       |
| 1,2,3,4,7,8-HXCDF   |                       | 0.048       | 0.0367          | 0.1          | 4.80e-03     | 4.80e-03     |       |
| 1,2,3,6,7,8-HXCDF   |                       | 0.040       | 0.0367          | 0.1          | 4.00e-03     | 4.00e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 0.219       | 0.0506          | 0.01         | 2.19e-03     | 2.19e-03     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0506          | 0.01         | 0.00e+00     | 2.53e-04     |       |
| OCDF                |                       | 0.333       | 0.0391          | 0.0003       | 9.99e-05     | 9.99e-05     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.262</b> | <b>0.284</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A4R1-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-5

Matrix: TISSUE

Sample Size: 25.4 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 06:48:52

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_240B S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_240A S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 84.1  
% Lipid: 1.71

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.056                  | 0.0197             | 0.44                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.098                  | 0.0513             | 0.55                             | 1.000            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0789             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.212                  | 0.0789             | 1.15                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0789             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          |                       | 1.25                   | 0.0442             | 1.03                             | 1.000            |
| OCDD                         |                       | 7.09                   | 0.133              | 0.90                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.266                  | 0.0209             | 0.80                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0402             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.058                  | 0.0402             | 1.33                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0367             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0367             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0367             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0367             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | J                     | 0.260                  | 0.0505             | 1.15                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0505             |                                  |                  |
| OCDF                         | J                     | 0.348                  | 0.0390             | 0.86                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.170                  | 0.0197             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.167                  | 0.0513             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.770                  | 0.0789             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 2.53                   | 0.0442             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.899                  | 0.0209             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.946                  | 0.0402             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 0.890                  | 0.0367             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 0.699                  | 0.0505             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A4R1-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 06:48:52  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-5  
  
Sample Size: 25.4 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_240B S: 11  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_240A S: 1  
  
% Moisture: 84.1  
% Lipid: 1.71

| 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        | 1490        | 74.3              | 0.79                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1690        | 84.7              | 0.63                          | 1.386            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1500        | 75.0              | 1.26                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1560        | 78.0              | 1.24                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1600        | 79.8              | 1.04                          | 1.093            |
| 13C-OCDD                         |                       | 4000        | 3120        | 78.0              | 0.90                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1520        | 75.8              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1530        | 76.4              | 1.55                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1560        | 77.8              | 1.55                          | 1.356            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1510        | 75.3              | 0.53                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1560        | 78.0              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1520        | 76.2              | 0.54                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1510        | 75.3              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1460        | 73.0              | 0.46                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1510        | 75.7              | 0.45                          | 1.103            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 197 | 98.4 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A4R1-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 12:55:34

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-5

25.4 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_136 S: 10

DB83\_135 S: 5

DB83\_136 S: 2

84.1

1.71

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.234                  | 0.0345             | 0.67                             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jul-2008 13:57:28; Application: XMLTransformer-1.9.10;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L11328-5\_Form1A\_DB83\_136S10\_SJ881921.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A4R1-polychaeta**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 09:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-5

**Sample Size:** 25.4 g (wet)

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

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

**Sample Data Filenames:** **DB83\_136 S: 10**  
**DX82\_240B S: 11**

| 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        | U                     |             | 0.0197          | 1            | 0.00e+00     | 9.85e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.098       | 0.0513          | 1            | 9.80e-02     | 9.80e-02     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0789          | 0.1          | 0.00e+00     | 3.95e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.212       | 0.0789          | 0.1          | 2.12e-02     | 2.12e-02     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0789          | 0.1          | 0.00e+00     | 3.95e-03     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 1.25        | 0.0442          | 0.01         | 1.25e-02     | 1.25e-02     |       |
| OCDD                |                       | 7.09        | 0.133           | 0.0003       | 2.13e-03     | 2.13e-03     |       |
| 2,3,7,8-TCDF        |                       | 0.234       | 0.0345          | 0.1          | 2.34e-02     | 2.34e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0402          | 0.03         | 0.00e+00     | 6.03e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.058       | 0.0402          | 0.3          | 1.74e-02     | 1.74e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0367          | 0.1          | 0.00e+00     | 1.84e-03     |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 0.260       | 0.0505          | 0.01         | 2.60e-03     | 2.60e-03     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0505          | 0.01         | 0.00e+00     | 2.53e-04     |       |
| OCDF                |                       | 0.348       | 0.0390          | 0.0003       | 1.04e-04     | 1.04e-04     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.177</b> | <b>0.203</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A4R2-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-6

Matrix: TISSUE

Sample Size: 25.0 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 11:30:08

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 4

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 81.7  
% Lipid: 0.85

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.041                  | 0.0200             | 0.50                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.107                  | 0.0520             | 0.63                             | 1.001            |
| 1,2,3,4,7,8-HXCDD            | J                     | 0.088                  | 0.0800             | 1.32                             | 1.000            |
| 1,2,3,6,7,8-HXCDD            |                       | 0.525                  | 0.0800             | 1.15                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | J                     | 0.182                  | 0.0800             | 1.27                             | 1.010            |
| 1,2,3,4,6,7,8-HPCDD          |                       | 5.47                   | 0.0448             | 1.03                             | 1.000            |
| OCDD                         |                       | 52.1                   | 0.135              | 0.89                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.313                  | 0.0355             | 0.73                             | 1.001            |
| 1,2,3,7,8-PECDF              | J                     | 0.054                  | 0.0408             | 1.41                             | 1.000            |
| 2,3,4,7,8-PECDF              | K J                   | 0.076                  | 0.0408             | 2.01                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | J                     | 0.109                  | 0.0372             | 1.38                             | 1.000            |
| 1,2,3,6,7,8-HXCDF            | J                     | 0.069                  | 0.0372             | 1.24                             | 1.000            |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0372             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | J                     | 0.063                  | 0.0372             | 1.26                             | 1.000            |
| 1,2,3,4,6,7,8-HPCDF          |                       | 2.08                   | 0.0512             | 0.99                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | J                     | 0.164                  | 0.0512             | 1.15                             | 1.001            |
| OCDF                         |                       | 8.63                   | 0.0396             | 0.90                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.908                  | 0.0200             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.935                  | 0.0520             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 4.16                   | 0.0800             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 13.3                   | 0.0448             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 3.03                   | 0.0355             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 2.57                   | 0.0408             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 3.25                   | 0.0372             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 8.35                   | 0.0512             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A4R2-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 11:30:08  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-6  
  
Sample Size: 25.0 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 4  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 81.7  
% Lipid: 0.85

| 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        | 1460        | 73.0              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1650        | 82.6              | 0.63                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1580        | 78.8              | 1.26                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1660        | 83.0              | 1.24                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1660        | 82.9              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 3240        | 81.1              | 0.89                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1530        | 76.5              | 0.79                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1580        | 78.8              | 1.56                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1560        | 78.2              | 1.56                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1610        | 80.7              | 0.51                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1690        | 84.5              | 0.52                          | 0.959            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1530        | 76.5              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1570        | 78.5              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1550        | 77.6              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1600        | 79.9              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 179 | 89.6 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A4R2-polychaeta  
Sample Collection:  
18-Jun-2008 09:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 13:31:09

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-6

25.0 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_136 S: 11

DB83\_135 S: 5

DB83\_136 S: 2

81.7

0.85

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.183                  | 0.0312             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jul-2008 13:57:28; Application: XMLTransformer-1.9.10;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L11328-6\_Form1A\_DB83\_136S11\_SJ881922.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A4R2-polychaeta**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 09:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-6

**Sample Size:** 25.0 g (wet)

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

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

**Sample Data Filenames:** **DB83\_136 S: 11**  
**DX82\_241 S: 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        | U                     |             | 0.0200          | 1            | 0.00e+00     | 1.00e-02     |       |
| 1,2,3,7,8-PECDD     |                       | 0.107       | 0.0520          | 1            | 1.07e-01     | 1.07e-01     |       |
| 1,2,3,4,7,8-HXCDD   |                       | 0.088       | 0.0800          | 0.1          | 8.80e-03     | 8.80e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.525       | 0.0800          | 0.1          | 5.25e-02     | 5.25e-02     |       |
| 1,2,3,7,8,9-HXCDD   |                       | 0.182       | 0.0800          | 0.1          | 1.82e-02     | 1.82e-02     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 5.47        | 0.0448          | 0.01         | 5.47e-02     | 5.47e-02     |       |
| OCDD                |                       | 52.1        | 0.135           | 0.0003       | 1.56e-02     | 1.56e-02     |       |
| 2,3,7,8-TCDF        |                       | 0.183       | 0.0312          | 0.1          | 1.83e-02     | 1.83e-02     |       |
| 1,2,3,7,8-PECDF     |                       | 0.054       | 0.0408          | 0.03         | 1.62e-03     | 1.62e-03     |       |
| 2,3,4,7,8-PECDF     | U                     |             | 0.0408          | 0.3          | 0.00e+00     | 6.12e-03     |       |
| 1,2,3,4,7,8-HXCDF   |                       | 0.109       | 0.0372          | 0.1          | 1.09e-02     | 1.09e-02     |       |
| 1,2,3,6,7,8-HXCDF   |                       | 0.069       | 0.0372          | 0.1          | 6.90e-03     | 6.90e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0372          | 0.1          | 0.00e+00     | 1.86e-03     |       |
| 2,3,4,6,7,8-HXCDF   |                       | 0.063       | 0.0372          | 0.1          | 6.30e-03     | 6.30e-03     |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 2.08        | 0.0512          | 0.01         | 2.08e-02     | 2.08e-02     |       |
| 1,2,3,4,7,8,9-HPCDF |                       | 0.164       | 0.0512          | 0.01         | 1.64e-03     | 1.64e-03     |       |
| OCDF                |                       | 8.63        | 0.0396          | 0.0003       | 2.59e-03     | 2.59e-03     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.326</b> | <b>0.344</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R1-ES  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-7

Matrix: TISSUE

Sample Size: 25.5 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 12:24:29

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 5

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 75.4  
% Lipid: 2.85

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.041                  | 0.0196             | 0.64                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.076                  | 0.0510             | 0.70                             | 1.001            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0785             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | K J                   | 0.106                  | 0.0785             | 0.97                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0785             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.083                  | 0.0439             | 1.14                             | 1.000            |
| OCDD                         | J                     | 0.178                  | 0.132              | 0.88                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.401                  | 0.0196             | 0.76                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0400             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.085                  | 0.0400             | 1.34                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0502             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0502             |                                  |                  |
| OCDF                         | U                     |                        | 0.0388             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0196             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.076                  | 0.0510             |                                  |                  |
| TOTAL HEXA-DIOXINS           | U                     |                        | 0.0785             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 0.083                  | 0.0439             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.401                  | 0.0196             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.085                  | 0.0400             |                                  |                  |
| TOTAL HEXA-FURANS            | U                     |                        | 0.0365             |                                  |                  |
| TOTAL HEPTA-FURANS           | U                     |                        | 0.0502             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R1-ES  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 12:24:29  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-7  
  
Sample Size: 25.5 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 5  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 75.4  
% Lipid: 2.85

| 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        | 68.5              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1550        | 77.6              | 0.63                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1450        | 72.5              | 1.26                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1570        | 78.6              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1550        | 77.5              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 3050        | 76.2              | 0.90                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1410        | 70.3              | 0.79                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1440        | 72.0              | 1.57                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1470        | 73.6              | 1.57                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1470        | 73.7              | 0.53                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1580        | 78.8              | 0.52                          | 0.959            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1460        | 73.2              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1470        | 73.7              | 0.52                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1480        | 73.8              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1480        | 74.0              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 160 | 79.8 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R1-ES  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 21:54:38

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-7

25.5 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_137 S: 5

DB83\_135 S: 5

DB83\_137 S: 2

75.4

2.85

| 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 |                       | 0.354               | 0.0350          | 0.67                          | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A3R1-ES**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 10:22

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-7

**Sample Size:** 25.5 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 5**  
**DX82\_241 S: 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        | U                     |             | 0.0196          | 1            | 0.00e+00     | 9.80e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.076       | 0.0510          | 1            | 7.60e-02     | 7.60e-02     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0785          | 0.1          | 0.00e+00     | 3.93e-03     |       |
| 1,2,3,6,7,8-HXCDD   | U                     |             | 0.0785          | 0.1          | 0.00e+00     | 3.93e-03     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0785          | 0.1          | 0.00e+00     | 3.93e-03     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.083       | 0.0439          | 0.01         | 8.30e-04     | 8.30e-04     |       |
| OCDD                |                       | 0.178       | 0.132           | 0.0003       | 5.34e-05     | 5.34e-05     |       |
| 2,3,7,8-TCDF        |                       | 0.354       | 0.0350          | 0.1          | 3.54e-02     | 3.54e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0400          | 0.03         | 0.00e+00     | 6.00e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.085       | 0.0400          | 0.3          | 2.55e-02     | 2.55e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0502          | 0.01         | 0.00e+00     | 2.51e-04     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0502          | 0.01         | 0.00e+00     | 2.51e-04     |       |
| OCDF                | U                     |             | 0.0388          | 0.0003       | 0.00e+00     | 5.82e-06     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.138</b> | <b>0.168</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R2-SF  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-8

Matrix: TISSUE

Sample Size: 25.1 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 13:18:51

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 6

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 81.1  
% Lipid: 0.99

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.037                  | 0.0199             | 0.29                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.063                  | 0.0517             | 0.69                             | 1.000            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0796             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.102                  | 0.0796             | 1.34                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0796             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | K J                   | 0.069                  | 0.0446             | 1.22                             | 1.000            |
| OCDD                         | J                     | 0.153                  | 0.134              | 0.95                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.259                  | 0.0199             | 0.76                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0406             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.054                  | 0.0406             | 1.49                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0509             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0509             |                                  |                  |
| OCDF                         | U                     |                        | 0.0394             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0199             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.063                  | 0.0517             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.102                  | 0.0796             |                                  |                  |
| TOTAL HEPTA-DIOXINS          | U                     |                        | 0.0446             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.259                  | 0.0199             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.054                  | 0.0406             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 0.041                  | 0.0370             |                                  |                  |
| TOTAL HEPTA-FURANS           | U                     |                        | 0.0509             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R2-SF  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 13:18:51  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-8  
  
Sample Size: 25.1 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 6  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 81.1  
% 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        | 1200        | 59.9              | 0.81                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1460        | 72.8              | 0.63                          | 1.389            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1340        | 66.8              | 1.27                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1360        | 68.0              | 1.24                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1370        | 68.3              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2420        | 60.6              | 0.91                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1280        | 63.8              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1320        | 65.9              | 1.57                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1330        | 66.3              | 1.58                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1320        | 65.8              | 0.52                          | 0.954            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1320        | 65.8              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1330        | 66.7              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1270        | 63.6              | 0.54                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1310        | 65.5              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1260        | 62.9              | 0.45                          | 1.103            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 157 | 78.6 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R2-SF  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 22:30:13

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:  
% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-8

25.1 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_137 S: 6

DB83\_135 S: 5

DB83\_137 S: 2

81.1  
0.99

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.231                  | 0.0298             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A3R2-SF**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 10:22

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-8

**Sample Size:** 25.1 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 6**  
**DX82\_241 S: 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        | U                     |             | 0.0199          | 1            | 0.00e+00     | 9.95e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.063       | 0.0517          | 1            | 6.30e-02     | 6.30e-02     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0796          | 0.1          | 0.00e+00     | 3.98e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.102       | 0.0796          | 0.1          | 1.02e-02     | 1.02e-02     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0796          | 0.1          | 0.00e+00     | 3.98e-03     |       |
| 1,2,3,4,6,7,8-HPCDD | U                     |             | 0.0446          | 0.01         | 0.00e+00     | 2.23e-04     |       |
| OCDD                |                       | 0.153       | 0.134           | 0.0003       | 4.59e-05     | 4.59e-05     |       |
| 2,3,7,8-TCDF        |                       | 0.231       | 0.0298          | 0.1          | 2.31e-02     | 2.31e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0406          | 0.03         | 0.00e+00     | 6.09e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.054       | 0.0406          | 0.3          | 1.62e-02     | 1.62e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0509          | 0.01         | 0.00e+00     | 2.55e-04     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0509          | 0.01         | 0.00e+00     | 2.55e-04     |       |
| OCDF                | U                     |             | 0.0394          | 0.0003       | 0.00e+00     | 5.91e-06     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.113</b> | <b>0.139</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R3-SF  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-9

Matrix: TISSUE

Sample Size: 25.1 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 14:13:13

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 7

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 80.6  
% Lipid: 0.56

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.029                  | 0.0199             | 0.29                             | 1.000            |
| 1,2,3,7,8-PECDD <sup>3</sup> | U                     |                        | 0.0519             |                                  |                  |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0798             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | U                     |                        | 0.0798             |                                  |                  |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0798             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.065                  | 0.0447             | 1.08                             | 1.000            |
| OCDD                         | J                     | 0.160                  | 0.134              | 0.95                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.137                  | 0.0199             | 0.81                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0407             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.042                  | 0.0407             | 1.32                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0371             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0371             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0371             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0371             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0511             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0511             |                                  |                  |
| OCDF                         | U                     |                        | 0.0395             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0199             |                                  |                  |
| TOTAL PENTA-DIOXINS          | U                     |                        | 0.0519             |                                  |                  |
| TOTAL HEXA-DIOXINS           | U                     |                        | 0.0798             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 0.065                  | 0.0447             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.137                  | 0.0199             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.042                  | 0.0407             |                                  |                  |
| TOTAL HEXA-FURANS            | U                     |                        | 0.0371             |                                  |                  |
| TOTAL HEPTA-FURANS           | U                     |                        | 0.0511             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R3-SF  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 14:13:13  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-9  
  
Sample Size: 25.1 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 7  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 80.6  
% Lipid: 0.56

| 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        | 1280        | 63.9              | 0.81                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1460        | 72.8              | 0.63                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1220        | 61.2              | 1.28                          | 0.986            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1330        | 66.4              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1300        | 64.8              | 1.05                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2450        | 61.1              | 0.90                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1330        | 66.4              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1400        | 70.2              | 1.55                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1370        | 68.4              | 1.54                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1290        | 64.6              | 0.52                          | 0.954            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1310        | 65.5              | 0.52                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1300        | 65.1              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1290        | 64.7              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1240        | 62.1              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1270        | 63.3              | 0.45                          | 1.103            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 154 | 77.2 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A3R3-SF  
Sample Collection:  
18-Jun-2008 10:22

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 23:05:53

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-9

25.1 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_137 S: 7

DB83\_135 S: 5

DB83\_137 S: 2

80.6

0.56

| 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 |                       | 0.121               | 0.0468          | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A3R3-SF**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 10:22

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-9

**Sample Size:** 25.1 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 7**  
**DX82\_241 S: 7**

| 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        | U                     |             | 0.0199          | 1            | 0.00e+00      | 9.95e-03      |       |
| 1,2,3,7,8-PECDD     | U                     |             | 0.0519          | 1            | 0.00e+00      | 2.60e-02      |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0798          | 0.1          | 0.00e+00      | 3.99e-03      |       |
| 1,2,3,6,7,8-HXCDD   | U                     |             | 0.0798          | 0.1          | 0.00e+00      | 3.99e-03      |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0798          | 0.1          | 0.00e+00      | 3.99e-03      |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.065       | 0.0447          | 0.01         | 6.50e-04      | 6.50e-04      |       |
| OCDD                |                       | 0.160       | 0.134           | 0.0003       | 4.80e-05      | 4.80e-05      |       |
| 2,3,7,8-TCDF        |                       | 0.121       | 0.0468          | 0.1          | 1.21e-02      | 1.21e-02      |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0407          | 0.03         | 0.00e+00      | 6.11e-04      |       |
| 2,3,4,7,8-PECDF     |                       | 0.042       | 0.0407          | 0.3          | 1.26e-02      | 1.26e-02      |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0371          | 0.1          | 0.00e+00      | 1.86e-03      |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0371          | 0.1          | 0.00e+00      | 1.86e-03      |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0371          | 0.1          | 0.00e+00      | 1.86e-03      |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0371          | 0.1          | 0.00e+00      | 1.86e-03      |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0511          | 0.01         | 0.00e+00      | 2.56e-04      |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0511          | 0.01         | 0.00e+00      | 2.56e-04      |       |
| OCDF                | U                     |             | 0.0395          | 0.0003       | 0.00e+00      | 5.93e-06      |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.0254</b> | <b>0.0818</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-SF  
Sample Collection:  
18-Jun-2008 11:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-10 (A)

Matrix: TISSUE

Sample Size: 25.5 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 15:07:35

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 8

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 78.4  
% Lipid: 1.91

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.047                  | 0.0196             | 0.45                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.068                  | 0.0510             | 0.58                             | 1.000            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0784             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.154                  | 0.0784             | 1.40                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0784             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.093                  | 0.0439             | 1.00                             | 1.000            |
| OCDD                         | J                     | 0.203                  | 0.132              | 0.94                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.470                  | 0.0196             | 0.81                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0400             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.068                  | 0.0400             | 1.67                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0365             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0502             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0502             |                                  |                  |
| OCDF                         | U                     |                        | 0.0388             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0196             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.068                  | 0.0510             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.154                  | 0.0784             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 0.093                  | 0.0439             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.470                  | 0.0196             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.068                  | 0.0400             |                                  |                  |
| TOTAL HEXA-FURANS            | U                     |                        | 0.0365             |                                  |                  |
| TOTAL HEPTA-FURANS           | U                     |                        | 0.0502             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-SF  
Sample Collection:  
18-Jun-2008 11:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 15:07:35  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-10 (A)  
  
Sample Size: 25.5 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 8  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 78.4  
% Lipid: 1.91

| 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                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1370        | 68.4              | 0.63                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1280        | 64.2              | 1.28                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1360        | 68.1              | 1.24                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1380        | 68.9              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2510        | 62.7              | 0.90                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1300        | 65.1              | 0.80                          | 0.967            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1320        | 66.0              | 1.57                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1310        | 65.4              | 1.57                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1320        | 65.9              | 0.53                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1390        | 69.4              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1290        | 64.3              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1330        | 66.4              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1280        | 63.9              | 0.46                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1340        | 66.8              | 0.46                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 155 | 77.4 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-SF  
Sample Collection:  
18-Jun-2008 11:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 09-Jul-2008 Time: 23:41:32

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:  
% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-10 (A)

25.5 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_137 S: 8

DB83\_135 S: 5

DB83\_137 S: 2

78.4  
1.91

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.445                  | 0.0331             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R1-SF**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 11:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-10 (A)

**Sample Size:** 25.5 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 8**  
**DX82\_241 S: 8**

| 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        | U                     |             | 0.0196          | 1            | 0.00e+00     | 9.80e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.068       | 0.0510          | 1            | 6.80e-02     | 6.80e-02     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0784          | 0.1          | 0.00e+00     | 3.92e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.154       | 0.0784          | 0.1          | 1.54e-02     | 1.54e-02     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0784          | 0.1          | 0.00e+00     | 3.92e-03     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.093       | 0.0439          | 0.01         | 9.30e-04     | 9.30e-04     |       |
| OCDD                |                       | 0.203       | 0.132           | 0.0003       | 6.09e-05     | 6.09e-05     |       |
| 2,3,7,8-TCDF        |                       | 0.445       | 0.0331          | 0.1          | 4.45e-02     | 4.45e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0400          | 0.03         | 0.00e+00     | 6.00e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.068       | 0.0400          | 0.3          | 2.04e-02     | 2.04e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0365          | 0.1          | 0.00e+00     | 1.83e-03     |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0502          | 0.01         | 0.00e+00     | 2.51e-04     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0502          | 0.01         | 0.00e+00     | 2.51e-04     |       |
| OCDF                | U                     |             | 0.0388          | 0.0003       | 0.00e+00     | 5.82e-06     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.149</b> | <b>0.175</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-SF (Duplicate)  
Sample Collection:  
18-Jun-2008 11:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

WG25699-103 (DUP L11328-10)

Matrix: TISSUE

Sample Size: 25.1 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 16:01:56

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 9

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 79.2  
% Lipid: 1.84

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.048                  | 0.0199             | 0.48                             | 1.000            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.067                  | 0.0517             | 0.65                             | 1.001            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0796             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.146                  | 0.0796             | 1.19                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0796             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.110                  | 0.0446             | 0.98                             | 1.000            |
| OCDD                         | J                     | 0.247                  | 0.134              | 0.94                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.500                  | 0.0199             | 0.75                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0406             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.079                  | 0.0406             | 1.52                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0370             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0509             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0509             |                                  |                  |
| OCDF                         | U                     |                        | 0.0394             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0199             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.067                  | 0.0517             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.146                  | 0.0796             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 0.110                  | 0.0446             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.500                  | 0.0199             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.079                  | 0.0406             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 0.068                  | 0.0370             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 0.086                  | 0.0509             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-SF (Duplicate)  
Sample Collection:  
18-Jun-2008 11:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 16:01:56  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: WG25699-103 (DUP L11328-10)  
  
Sample Size: 25.1 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 9  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 79.2  
% Lipid: 1.84

| 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        | 913         | 45.7              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1120        | 55.9              | 0.62                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 989         | 49.4              | 1.27                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1090        | 54.3              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1140        | 57.2              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2090        | 52.2              | 0.88                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1000        | 50.1              | 0.79                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 896         | 44.8              | 1.56                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1110        | 55.5              | 1.57                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 864         | 43.2              | 0.54                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 932         | 46.6              | 0.52                          | 0.959            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1020        | 50.8              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1160        | 57.8              | 0.53                          | 0.981            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 847         | 42.4              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 932         | 46.6              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 115 | 57.7 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-SF (Duplicate)  
Sample Collection:  
18-Jun-2008 11:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

WG25699-103 (DUP L11328-10)

Matrix: TISSUE

Sample Size: 25.1 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 07-Jul-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 00:17:11

GC Column ID: DB225

Extract Volume (uL): 20

Sample Data Filename: DB83\_137 S: 9

Injection Volume (uL): 2.0

Blank Data Filename: DB83\_135 S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: DB83\_137 S: 2

Concentration Units: pg/g (wet weight basis)

% Moisture: 79.2  
% Lipid: 1.84

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.435                  | 0.0528             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R1-SF (Duplicate)**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 11:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** WG25699-103 (DUP L11328-10)

**Sample Size:** 25.1 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 9**  
**DX82\_241 S: 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        | U                     |             | 0.0199          | 1            | 0.00e+00     | 9.95e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.067       | 0.0517          | 1            | 6.70e-02     | 6.70e-02     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0796          | 0.1          | 0.00e+00     | 3.98e-03     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.146       | 0.0796          | 0.1          | 1.46e-02     | 1.46e-02     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0796          | 0.1          | 0.00e+00     | 3.98e-03     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.110       | 0.0446          | 0.01         | 1.10e-03     | 1.10e-03     |       |
| OCDD                |                       | 0.247       | 0.134           | 0.0003       | 7.41e-05     | 7.41e-05     |       |
| 2,3,7,8-TCDF        |                       | 0.435       | 0.0528          | 0.1          | 4.35e-02     | 4.35e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0406          | 0.03         | 0.00e+00     | 6.09e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.079       | 0.0406          | 0.3          | 2.37e-02     | 2.37e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0370          | 0.1          | 0.00e+00     | 1.85e-03     |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0509          | 0.01         | 0.00e+00     | 2.55e-04     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0509          | 0.01         | 0.00e+00     | 2.55e-04     |       |
| OCDF                | U                     |             | 0.0394          | 0.0003       | 0.00e+00     | 5.91e-06     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.150</b> | <b>0.176</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS REPORT  
RELATIVE PERCENT DIFFERENCE**

**AXYS ANALYTICAL SERVICES**

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

**Project No.**

FIDALGO BAY TISSUE  
INVESTIGATION

**Contract No.:** 4406

**Client ID:** A2R1-SF

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

| COMPOUND            | L11328-10 (A)         |             | WG25699-103           |             | MEAN  | RELATIVE PERCENT DIFFERENCE |
|---------------------|-----------------------|-------------|-----------------------|-------------|-------|-----------------------------|
|                     | LAB FLAG <sup>1</sup> | CONC. FOUND | LAB FLAG <sup>1</sup> | CONC. FOUND |       |                             |
| 2,3,7,8-TCDD        | K J                   | 0.047       | K J                   | 0.048       |       |                             |
| 1,2,3,7,8-PECDD     | J                     | 0.068       | J                     | 0.067       | 0.068 | 1.48                        |
| 1,2,3,4,7,8-HXCDD   | U                     |             | U                     |             |       |                             |
| 1,2,3,6,7,8-HXCDD   | J                     | 0.154       | J                     | 0.146       | 0.150 | 5.33                        |
| 1,2,3,7,8,9-HXCDD   | U                     |             | U                     |             |       |                             |
| 1,2,3,4,6,7,8-HPCDD | J                     | 0.093       | J                     | 0.110       | 0.102 | 16.7                        |
| OCDD                | J                     | 0.203       | J                     | 0.247       | 0.225 | 19.6                        |
| 2,3,7,8-TCDF        |                       | 0.445       |                       | 0.435       | 0.440 | 2.27                        |
| 1,2,3,7,8-PECDF     | U                     |             | U                     |             |       |                             |
| 2,3,4,7,8-PECDF     | J                     | 0.068       | J                     | 0.079       | 0.074 | 15.0                        |
| 1,2,3,4,7,8-HXCDF   | U                     |             | U                     |             |       |                             |
| 1,2,3,6,7,8-HXCDF   | U                     |             | U                     |             |       |                             |
| 1,2,3,7,8,9-HXCDF   | U                     |             | U                     |             |       |                             |
| 2,3,4,6,7,8-HXCDF   | U                     |             | U                     |             |       |                             |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | U                     |             |       |                             |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | U                     |             |       |                             |
| OCDF                | U                     |             | U                     |             |       |                             |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: RPD.xsl; Created: 21-Jul-2008 13:58:16; Application: XMLTransformer-1.9.10; Report Filename: RPD\_DIOXINS\_1613-RPD\_WG25699-103\_L11328-10\_.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R2-SF  
Sample Collection:  
18-Jun-2008 13:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-11

Matrix: TISSUE

Sample Size: 25.7 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 16:56:29

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 10

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 79.0  
% Lipid: 1.47

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.040                  | 0.0195             | 0.35                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.064                  | 0.0506             | 0.67                             | 1.001            |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0779             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | K J                   | 0.088                  | 0.0779             | 1.52                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0779             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | K J                   | 0.070                  | 0.0436             | 0.80                             | 1.000            |
| OCDD                         | U                     |                        | 0.131              |                                  |                  |
| 2,3,7,8-TCDF                 |                       | 0.349                  | 0.0195             | 0.79                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0397             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.053                  | 0.0397             | 1.76                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0362             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0362             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0362             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0362             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0499             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0499             |                                  |                  |
| OCDF                         | U                     |                        | 0.0386             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0195             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.064                  | 0.0506             |                                  |                  |
| TOTAL HEXA-DIOXINS           | U                     |                        | 0.0779             |                                  |                  |
| TOTAL HEPTA-DIOXINS          | U                     |                        | 0.0436             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.349                  | 0.0195             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.053                  | 0.0397             |                                  |                  |
| TOTAL HEXA-FURANS            | U                     |                        | 0.0362             |                                  |                  |
| TOTAL HEPTA-FURANS           | U                     |                        | 0.0499             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R2-SF  
Sample Collection:  
18-Jun-2008 13:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 16:56:29  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-11  
  
Sample Size: 25.7 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 10  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 79.0  
% Lipid: 1.47

| 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        | 980         | 49.0              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1110        | 55.3              | 0.62                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1010        | 50.7              | 1.27                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1090        | 54.4              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1120        | 56.2              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2020        | 50.6              | 0.89                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1110        | 55.6              | 0.79                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 913         | 45.7              | 1.56                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1120        | 55.9              | 1.58                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 858         | 42.9              | 0.52                          | 0.954            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 912         | 45.6              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1010        | 50.3              | 0.54                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1150        | 57.3              | 0.55                          | 0.980            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 845         | 42.3              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 927         | 46.4              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 132 | 66.1 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**Form 1A  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.  
A2R2-SF  
Sample Collection:  
18-Jun-2008 13:00**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Matrix:** TISSUE

**Sample Receipt Date:** 24-Jun-2008

**Extraction Date:** 26-Jun-2008

**Analysis Date:** 10-Jul-2008 **Time:** 00:52:50

**Extract Volume (uL):** 20

**Injection Volume (uL):** 2.0

**Dilution Factor:** N/A

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

**Project No.**

**Lab Sample I.D.:**

**Sample Size:**

**Initial Calibration Date:**

**Instrument ID:**

**GC Column ID:**

**Sample Data Filename:**

**Blank Data Filename:**

**Cal. Ver. Data Filename:**

**% Moisture:**

**% Lipid:**

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-11

25.7 g (wet)

07-Jul-2008

HR GC/MS

DB225

**DB83\_137 S: 10**

DB83\_135 S: 5

DB83\_137 S: 2

79.0

1.47

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.319                  | 0.0506             | 0.77                             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jul-2008 13:57:28; Application: XMLTransformer-1.9.10;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L11328-11\_Form1A\_DB83\_137S10\_SJ881932.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R2-SF**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 13:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-11

**Sample Size:** 25.7 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 10**  
**DX82\_241 S: 10**

| 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        | U                     |             | 0.0195          | 1            | 0.00e+00     | 9.75e-03     |       |
| 1,2,3,7,8-PECDD     |                       | 0.064       | 0.0506          | 1            | 6.40e-02     | 6.40e-02     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0779          | 0.1          | 0.00e+00     | 3.90e-03     |       |
| 1,2,3,6,7,8-HXCDD   | U                     |             | 0.0779          | 0.1          | 0.00e+00     | 3.90e-03     |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0779          | 0.1          | 0.00e+00     | 3.90e-03     |       |
| 1,2,3,4,6,7,8-HPCDD | U                     |             | 0.0436          | 0.01         | 0.00e+00     | 2.18e-04     |       |
| OCDD                | U                     |             | 0.131           | 0.0003       | 0.00e+00     | 1.97e-05     |       |
| 2,3,7,8-TCDF        |                       | 0.319       | 0.0506          | 0.1          | 3.19e-02     | 3.19e-02     |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0397          | 0.03         | 0.00e+00     | 5.96e-04     |       |
| 2,3,4,7,8-PECDF     |                       | 0.053       | 0.0397          | 0.3          | 1.59e-02     | 1.59e-02     |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0362          | 0.1          | 0.00e+00     | 1.81e-03     |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0362          | 0.1          | 0.00e+00     | 1.81e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0362          | 0.1          | 0.00e+00     | 1.81e-03     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0362          | 0.1          | 0.00e+00     | 1.81e-03     |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0499          | 0.01         | 0.00e+00     | 2.50e-04     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0499          | 0.01         | 0.00e+00     | 2.50e-04     |       |
| OCDF                | U                     |             | 0.0386          | 0.0003       | 0.00e+00     | 5.79e-06     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.112</b> | <b>0.142</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R3-SF  
Sample Collection:  
18-Jun-2008 13:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-12

Matrix: TISSUE

Sample Size: 25.6 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 10-Jul-2008 Time: 17:50:56

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_241 S: 11

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: DX82\_241 S: 1

Concentration Units: pg/g (wet weight basis)

% Moisture: 79.4  
% Lipid: 1.25

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | K J                   | 0.038                  | 0.0196             | 0.47                             | 1.002            |
| 1,2,3,7,8-PECDD <sup>3</sup> | U                     |                        | 0.0508             |                                  |                  |
| 1,2,3,4,7,8-HXCDD            | U                     |                        | 0.0782             |                                  |                  |
| 1,2,3,6,7,8-HXCDD            | J                     | 0.080                  | 0.0782             | 1.29                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | U                     |                        | 0.0782             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.065                  | 0.0438             | 1.08                             | 1.000            |
| OCDD                         | J                     | 0.135                  | 0.132              | 0.93                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.303                  | 0.0196             | 0.77                             | 1.001            |
| 1,2,3,7,8-PECDF              | U                     |                        | 0.0399             |                                  |                  |
| 2,3,4,7,8-PECDF              | J                     | 0.049                  | 0.0399             | 1.67                             | 1.000            |
| 1,2,3,4,7,8-HXCDF            | U                     |                        | 0.0364             |                                  |                  |
| 1,2,3,6,7,8-HXCDF            | U                     |                        | 0.0364             |                                  |                  |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0364             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | U                     |                        | 0.0364             |                                  |                  |
| 1,2,3,4,6,7,8-HPCDF          | U                     |                        | 0.0501             |                                  |                  |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0501             |                                  |                  |
| OCDF                         | U                     |                        | 0.0387             |                                  |                  |
| TOTAL TETRA-DIOXINS          | U                     |                        | 0.0196             |                                  |                  |
| TOTAL PENTA-DIOXINS          | U                     |                        | 0.0508             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.080                  | 0.0782             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 0.065                  | 0.0438             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 0.303                  | 0.0196             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 0.049                  | 0.0399             |                                  |                  |
| TOTAL HEXA-FURANS            | U                     |                        | 0.0364             |                                  |                  |
| TOTAL HEPTA-FURANS           | U                     |                        | 0.0501             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R3-SF  
Sample Collection:  
18-Jun-2008 13:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 10-Jul-2008 Time: 17:50:56  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-12  
  
Sample Size: 25.6 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_241 S: 11  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: DX82\_241 S: 1  
  
% Moisture: 79.4  
% Lipid: 1.25

| 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                 |                       | 2000        | 1170        | 58.3              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1310        | 65.5              | 0.63                          | 1.387            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1150        | 57.7              | 1.25                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1240        | 61.9              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1280        | 64.2              | 1.04                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2340        | 58.5              | 0.90                          | 1.178            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1250        | 62.4              | 0.78                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1130        | 56.7              | 1.58                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1300        | 64.8              | 1.57                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 1040        | 52.2              | 0.52                          | 0.955            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1110        | 55.4              | 0.53                          | 0.959            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1160        | 58.2              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1270        | 63.5              | 0.52                          | 0.980            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 1020        | 50.8              | 0.46                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1140        | 57.0              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 147 | 73.4 |  | 1.016 |
|-------------------|--|-----|-----|------|--|-------|

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



**AXYS METHOD MLA-017 Rev 14**

**Form 1A  
PCDD/PCDF ANALYSIS REPORT**

**CLIENT SAMPLE NO.  
A2R3-SF  
Sample Collection:  
18-Jun-2008 13:00**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Project No.**

FIDALGO BAY TISSUE  
INVESTIGATION

**Lab Sample I.D.:**

L11328-12

**Matrix:** TISSUE

**Sample Size:** 25.6 g (wet)

**Sample Receipt Date:** 24-Jun-2008

**Initial Calibration Date:** 07-Jul-2008

**Extraction Date:** 26-Jun-2008

**Instrument ID:** HR GC/MS

**Analysis Date:** 10-Jul-2008 **Time:** 01:28:29

**GC Column ID:** DB225

**Extract Volume (uL):** 20

**Sample Data Filename:** DB83\_137 S: 11

**Injection Volume (uL):** 2.0

**Blank Data Filename:** DB83\_135 S: 5

**Dilution Factor:** N/A

**Cal. Ver. Data Filename:** DB83\_137 S: 2

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

**% Moisture:** 79.4  
**% Lipid:** 1.25

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.244                  | 0.0308             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jul-2008 13:57:28; Application: XMLTransformer-1.9.10;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L11328-12\_Form1A\_DB83\_137S11\_SJ881933.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R3-SF**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 18-Jun-2008 13:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-12

**Sample Size:** 25.6 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 11**  
**DX82\_241 S: 11**

| 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        | U                     |             | 0.0196          | 1            | 0.00e+00      | 9.80e-03      |       |
| 1,2,3,7,8-PECDD     | U                     |             | 0.0508          | 1            | 0.00e+00      | 2.54e-02      |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0782          | 0.1          | 0.00e+00      | 3.91e-03      |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.080       | 0.0782          | 0.1          | 8.00e-03      | 8.00e-03      |       |
| 1,2,3,7,8,9-HXCDD   | U                     |             | 0.0782          | 0.1          | 0.00e+00      | 3.91e-03      |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.065       | 0.0438          | 0.01         | 6.50e-04      | 6.50e-04      |       |
| OCDD                |                       | 0.135       | 0.132           | 0.0003       | 4.05e-05      | 4.05e-05      |       |
| 2,3,7,8-TCDF        |                       | 0.244       | 0.0308          | 0.1          | 2.44e-02      | 2.44e-02      |       |
| 1,2,3,7,8-PECDF     | U                     |             | 0.0399          | 0.03         | 0.00e+00      | 5.99e-04      |       |
| 2,3,4,7,8-PECDF     |                       | 0.049       | 0.0399          | 0.3          | 1.47e-02      | 1.47e-02      |       |
| 1,2,3,4,7,8-HXCDF   | U                     |             | 0.0364          | 0.1          | 0.00e+00      | 1.82e-03      |       |
| 1,2,3,6,7,8-HXCDF   | U                     |             | 0.0364          | 0.1          | 0.00e+00      | 1.82e-03      |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0364          | 0.1          | 0.00e+00      | 1.82e-03      |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0364          | 0.1          | 0.00e+00      | 1.82e-03      |       |
| 1,2,3,4,6,7,8-HPCDF | U                     |             | 0.0501          | 0.01         | 0.00e+00      | 2.51e-04      |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0501          | 0.01         | 0.00e+00      | 2.51e-04      |       |
| OCDF                | U                     |             | 0.0387          | 0.0003       | 0.00e+00      | 5.81e-06      |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.0478</b> | <b>0.0992</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-RR-hepato  
Sample Collection:  
23-Jun-2008 14:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Project No.

FIDALGO BAY TISSUE  
INVESTIGATION

Lab Sample I.D.:

L11328-13

Matrix: TISSUE

Sample Size: 18.3 g (wet)

Sample Receipt Date: 24-Jun-2008

Initial Calibration Date: 17-Jun-2008

Extraction Date: 26-Jun-2008

Instrument ID: HR GC/MS

Analysis Date: 11-Jul-2008 Time: 00:28:29

GC Column ID: DB5

Extract Volume (uL): 20

Sample Data Filename: DX82\_242 S: 6

Injection Volume (uL): 1.0

Blank Data Filename: DX82\_240B S: 4

Dilution Factor: N/A

Cal. Ver. Data Filename: NEED

Concentration Units: pg/g (wet weight basis)

% Moisture: 82.8  
% Lipid: 4.89

| COMPOUND                     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|------------------------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDD                 | J                     | 0.096                  | 0.0212             | 0.66                             | 1.001            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.248                  | 0.0201             | 0.60                             | 1.000            |
| 1,2,3,4,7,8-HXCDD            | K J                   | 0.211                  | 0.0175             | 1.46                             | 1.000            |
| 1,2,3,6,7,8-HXCDD            |                       | 0.819                  | 0.0175             | 1.30                             | 1.000            |
| 1,2,3,7,8,9-HXCDD            | J                     | 0.321                  | 0.0175             | 1.16                             | 1.010            |
| 1,2,3,4,6,7,8-HPCDD          |                       | 0.971                  | 0.0134             | 1.01                             | 1.000            |
| OCDD                         |                       | 1.84                   | 0.0222             | 0.87                             | 1.000            |
| 2,3,7,8-TCDF                 |                       | 0.681                  | 0.0448             | 0.79                             | 1.001            |
| 1,2,3,7,8-PECDF              | J                     | 0.095                  | 0.0227             | 1.51                             | 1.001            |
| 2,3,4,7,8-PECDF              | J                     | 0.205                  | 0.0227             | 1.61                             | 1.001            |
| 1,2,3,4,7,8-HXCDF            | J                     | 0.114                  | 0.0199             | 1.36                             | 1.000            |
| 1,2,3,6,7,8-HXCDF            | J                     | 0.079                  | 0.0199             | 1.26                             | 1.001            |
| 1,2,3,7,8,9-HXCDF            | U                     |                        | 0.0199             |                                  |                  |
| 2,3,4,6,7,8-HXCDF            | K J                   | 0.071                  | 0.0199             | 1.66                             | 1.001            |
| 1,2,3,4,6,7,8-HPCDF          | J                     | 0.222                  | 0.0080             | 1.15                             | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                        | 0.0080             |                                  |                  |
| OCDF                         | J                     | 0.051                  | 0.0082             | 0.88                             | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 1.38                   | 0.0212             |                                  |                  |
| TOTAL PENTA-DIOXINS          |                       | 1.02                   | 0.0201             |                                  |                  |
| TOTAL HEXA-DIOXINS           |                       | 2.13                   | 0.0175             |                                  |                  |
| TOTAL HEPTA-DIOXINS          |                       | 1.62                   | 0.0134             |                                  |                  |
| TOTAL TETRA-FURANS           |                       | 3.88                   | 0.0448             |                                  |                  |
| TOTAL PENTA-FURANS           |                       | 1.20                   | 0.0227             |                                  |                  |
| TOTAL HEXA-FURANS            |                       | 0.471                  | 0.0199             |                                  |                  |
| TOTAL HEPTA-FURANS           |                       | 0.239                  | 0.0080             |                                  |                  |

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

(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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-RR-hepato  
Sample Collection:  
23-Jun-2008 14:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 11-Jul-2008 Time: 00:28:29  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-13  
  
Sample Size: 18.3 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_242 S: 6  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: NEED  
  
% Moisture: 82.8  
% Lipid: 4.89

| 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        | 851         | 42.5              | 0.79                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 916         | 45.8              | 0.63                          | 1.388            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 872         | 43.6              | 1.27                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 942         | 47.1              | 1.25                          | 0.990            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 928         | 46.4              | 1.03                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 1740        | 43.4              | 0.89                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 863         | 43.2              | 0.77                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 828         | 41.4              | 1.57                          | 1.289            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 899         | 45.0              | 1.57                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 810         | 40.5              | 0.53                          | 0.954            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 866         | 43.3              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 883         | 44.1              | 0.53                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 899         | 44.9              | 0.52                          | 0.980            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 811         | 40.5              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 856         | 42.8              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |      |      |  |       |
|-------------------|--|-----|------|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 87.5 | 43.8 |  | 1.017 |
|-------------------|--|-----|------|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-RR-hepato  
Sample Collection:  
23-Jun-2008 14:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 10-Jul-2008 Time: 02:04:07

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:

% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION

L11328-13

18.3 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_137 S: 12

DB83\_135 S: 5

DB83\_137 S: 2

82.8

4.89

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF |                       | 0.539                  | 0.0882             | 0.66                             | 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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jul-2008 13:57:28; Application: XMLTransformer-1.9.10;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L11328-13\_Form1A\_DB83\_137S12\_SJ881934.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.



**AXYS METHOD MLA-017 Rev 14**

**PCDD/PCDF ANALYSIS TEQ DATA REPORT**

**CLIENT SAMPLE NO.  
A2R1-RR-hepato**

**AXYS ANALYTICAL SERVICES**

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

**Contract No.:** 4406

**Sample Collection:** 23-Jun-2008 14:00

**Project No.** FIDALGO BAY TISSUE INVESTIGATION

**Matrix:** TISSUE

**Lab Sample I.D.:** L11328-13

**Sample Size:** 18.3 g (wet)

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

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

**Sample Data Filenames:** **DB83\_137 S: 12**  
**DX82\_242 S: 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        |                       | 0.096       | 0.0212          | 1            | 9.60e-02     | 9.60e-02     |       |
| 1,2,3,7,8-PECDD     |                       | 0.248       | 0.0201          | 1            | 2.48e-01     | 2.48e-01     |       |
| 1,2,3,4,7,8-HXCDD   | U                     |             | 0.0175          | 0.1          | 0.00e+00     | 8.75e-04     |       |
| 1,2,3,6,7,8-HXCDD   |                       | 0.819       | 0.0175          | 0.1          | 8.19e-02     | 8.19e-02     |       |
| 1,2,3,7,8,9-HXCDD   |                       | 0.321       | 0.0175          | 0.1          | 3.21e-02     | 3.21e-02     |       |
| 1,2,3,4,6,7,8-HPCDD |                       | 0.971       | 0.0134          | 0.01         | 9.71e-03     | 9.71e-03     |       |
| OCDD                |                       | 1.84        | 0.0222          | 0.0003       | 5.52e-04     | 5.52e-04     |       |
| 2,3,7,8-TCDF        |                       | 0.539       | 0.0882          | 0.1          | 5.39e-02     | 5.39e-02     |       |
| 1,2,3,7,8-PECDF     |                       | 0.095       | 0.0227          | 0.03         | 2.85e-03     | 2.85e-03     |       |
| 2,3,4,7,8-PECDF     |                       | 0.205       | 0.0227          | 0.3          | 6.15e-02     | 6.15e-02     |       |
| 1,2,3,4,7,8-HXCDF   |                       | 0.114       | 0.0199          | 0.1          | 1.14e-02     | 1.14e-02     |       |
| 1,2,3,6,7,8-HXCDF   |                       | 0.079       | 0.0199          | 0.1          | 7.90e-03     | 7.90e-03     |       |
| 1,2,3,7,8,9-HXCDF   | U                     |             | 0.0199          | 0.1          | 0.00e+00     | 9.95e-04     |       |
| 2,3,4,6,7,8-HXCDF   | U                     |             | 0.0199          | 0.1          | 0.00e+00     | 9.95e-04     |       |
| 1,2,3,4,6,7,8-HPCDF |                       | 0.222       | 0.0080          | 0.01         | 2.22e-03     | 2.22e-03     |       |
| 1,2,3,4,7,8,9-HPCDF | U                     |             | 0.0080          | 0.01         | 0.00e+00     | 4.00e-05     |       |
| OCDF                |                       | 0.051       | 0.0082          | 0.0003       | 1.53e-05     | 1.53e-05     |       |
| <b>TOTAL TEQ</b>    |                       |             |                 |              | <b>0.608</b> | <b>0.611</b> |       |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-RR-other  
Sample Collection:  
23-Jun-2008 14:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 11-Jul-2008 Time: 01:22:53  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg/g (wet weight basis)

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-14  
  
Sample Size: 16.9 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_242 S: 7  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: NEED  
  
% Moisture: 83.8  
% Lipid: 0.68

| 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                 | J                     | 0.044               | 0.0153          | 0.72                          | 1.002            |
| 1,2,3,7,8-PECDD <sup>3</sup> | J                     | 0.055               | 0.0118          | 0.66                          | 1.001            |
| 1,2,3,4,7,8-HXCDD            | J                     | 0.047               | 0.0151          | 1.32                          | 1.000            |
| 1,2,3,6,7,8-HXCDD            | K J                   | 0.097               | 0.0151          | 1.56                          | 1.000            |
| 1,2,3,7,8,9-HXCDD            | K J                   | 0.061               | 0.0151          | 0.81                          | 1.010            |
| 1,2,3,4,6,7,8-HPCDD          | J                     | 0.251               | 0.0096          | 1.03                          | 1.000            |
| OCDD                         | J                     | 1.02                | 0.0166          | 0.93                          | 1.000            |
| 2,3,7,8-TCDF                 | J                     | 0.132               | 0.0144          | 0.81                          | 1.001            |
| 1,2,3,7,8-PECDF              | K J                   | 0.037               | 0.0091          | 1.16                          | 1.000            |
| 2,3,4,7,8-PECDF              | J                     | 0.043               | 0.0091          | 1.38                          | 1.001            |
| 1,2,3,4,7,8-HXCDF            | K J                   | 0.034               | 0.0127          | 0.91                          | 1.000            |
| 1,2,3,6,7,8-HXCDF            | K J                   | 0.017               | 0.0127          | 0.84                          | 1.000            |
| 1,2,3,7,8,9-HXCDF            | U                     |                     | 0.0127          |                               |                  |
| 2,3,4,6,7,8-HXCDF            | K J                   | 0.016               | 0.0127          | 2.18                          | 1.000            |
| 1,2,3,4,6,7,8-HPCDF          | K J                   | 0.077               | 0.0102          | 1.83                          | 1.000            |
| 1,2,3,4,7,8,9-HPCDF          | U                     |                     | 0.0102          |                               |                  |
| OCDF                         | J                     | 0.051               | 0.0067          | 0.86                          | 1.002            |
| TOTAL TETRA-DIOXINS          |                       | 0.360               | 0.0153          |                               |                  |
| TOTAL PENTA-DIOXINS          |                       | 0.095               | 0.0118          |                               |                  |
| TOTAL HEXA-DIOXINS           |                       | 0.221               | 0.0151          |                               |                  |
| TOTAL HEPTA-DIOXINS          |                       | 0.502               | 0.0096          |                               |                  |
| TOTAL TETRA-FURANS           |                       | 0.914               | 0.0144          |                               |                  |
| TOTAL PENTA-FURANS           |                       | 0.195               | 0.0091          |                               |                  |
| TOTAL HEXA-FURANS            |                       | 0.047               | 0.0127          |                               |                  |
| TOTAL HEPTA-FURANS           |                       | 0.027               | 0.0102          |                               |                  |

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 2  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-RR-other  
Sample Collection:  
23-Jun-2008 14:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406  
  
Matrix: TISSUE  
  
Sample Receipt Date: 24-Jun-2008  
  
Extraction Date: 26-Jun-2008  
  
Analysis Date: 11-Jul-2008 Time: 01:22:53  
  
Extract Volume (uL): 20  
  
Injection Volume (uL): 1.0  
  
Dilution Factor: N/A  
  
Concentration Units: pg absolute

Project No. FIDALGO BAY TISSUE INVESTIGATION  
Lab Sample I.D.: L11328-14  
  
Sample Size: 16.9 g (wet)  
  
Initial Calibration Date: 17-Jun-2008  
  
Instrument ID: HR GC/MS  
  
GC Column ID: DB5  
  
Sample Data Filename: DX82\_242 S: 7  
  
Blank Data Filename: DX82\_240B S: 4  
  
Cal. Ver. Data Filename: NEED  
  
% Moisture: 83.8  
% Lipid: 0.68

| 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        | 57.2              | 0.80                          | 1.015            |
| 13C-1,2,3,7,8-PECDD <sup>4</sup> |                       | 2000        | 1290        | 64.5              | 0.63                          | 1.388            |
| 13C-1,2,3,4,7,8-HXCDD            |                       | 2000        | 1230        | 61.4              | 1.25                          | 0.987            |
| 13C-1,2,3,6,7,8-HXCDD            |                       | 2000        | 1320        | 66.1              | 1.25                          | 0.989            |
| 13C-1,2,3,4,6,7,8-HPCDD          |                       | 2000        | 1290        | 64.3              | 1.05                          | 1.094            |
| 13C-OCDD                         |                       | 4000        | 2310        | 57.9              | 0.89                          | 1.177            |
| 13C-2,3,7,8-TCDF                 |                       | 2000        | 1350        | 67.5              | 0.79                          | 0.968            |
| 13C-1,2,3,7,8-PECDF              |                       | 2000        | 1060        | 53.1              | 1.58                          | 1.290            |
| 13C-2,3,4,7,8-PECDF              |                       | 2000        | 1340        | 67.2              | 1.56                          | 1.357            |
| 13C-1,2,3,4,7,8-HXCDF            |                       | 2000        | 984         | 49.2              | 0.53                          | 0.954            |
| 13C-1,2,3,6,7,8-HXCDF            |                       | 2000        | 1050        | 52.4              | 0.53                          | 0.958            |
| 13C-1,2,3,7,8,9-HXCDF            |                       | 2000        | 1200        | 60.1              | 0.52                          | 1.005            |
| 13C-2,3,4,6,7,8-HXCDF            |                       | 2000        | 1410        | 70.5              | 0.53                          | 0.980            |
| 13C-1,2,3,4,6,7,8-HPCDF          |                       | 2000        | 943         | 47.1              | 0.45                          | 1.062            |
| 13C-1,2,3,4,7,8,9-HPCDF          |                       | 2000        | 1070        | 53.5              | 0.45                          | 1.104            |

CLEANUP STANDARD

|                   |  |     |     |      |  |       |
|-------------------|--|-----|-----|------|--|-------|
| 37CL-2,3,7,8-TCDD |  | 200 | 129 | 64.4 |  | 1.017 |
|-------------------|--|-----|-----|------|--|-------|

- (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.

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist



Form 1A  
PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.  
A2R1-RR-other  
Sample Collection:  
23-Jun-2008 14:00

AXYS ANALYTICAL SERVICES

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

Contract No.: 4406

Matrix: TISSUE

Sample Receipt Date: 24-Jun-2008

Extraction Date: 26-Jun-2008

Analysis Date: 10-Jul-2008 Time: 02:39:46

Extract Volume (uL): 20

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: pg/g (wet weight basis)

Project No.

Lab Sample I.D.:

Sample Size:

Initial Calibration Date:

Instrument ID:

GC Column ID:

Sample Data Filename:

Blank Data Filename:

Cal. Ver. Data Filename:

% Moisture:  
% Lipid:

FIDALGO BAY TISSUE  
INVESTIGATION  
L11328-14

16.9 g (wet)

07-Jul-2008

HR GC/MS

DB225

DB83\_137 S: 13

DB83\_135 S: 5

DB83\_137 S: 2

83.8  
0.68

| COMPOUND     | LAB FLAG <sup>1</sup> | CONCENTRATION<br>FOUND | DETECTION<br>LIMIT | ION ABUND.<br>RATIO <sup>2</sup> | RRT <sup>2</sup> |
|--------------|-----------------------|------------------------|--------------------|----------------------------------|------------------|
| 2,3,7,8-TCDF | U                     |                        | 0.0872             |                                  |                  |

(1) Where applicable, custom lab flags have been used on this report; U = not detected.

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

Approved by: \_\_\_\_\_ Teresa Rawsthorne \_\_\_\_\_ QA/QC Chemist

For Axys Internal Use Only [ XSL Template: Form1A.xsl; Created: 21-Jul-2008 13:57:28; Application: XMLTransformer-1.9.10;  
Report Filename: 1613\_DIOXINS\_1613DB225\_L11328-14\_Form1A\_DB83\_137S13\_SJ881935.html; Workgroup: WG25699; Design ID: 883 ]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

