Appendix D
Laboratory Data Reports

DIOXIN/FURAN ANALYSIS

SOLID SAMPLES

AXYS METHOD: MLA-017

PROJECT NAME: FIDALGO BAY TISSUE INVESTIGATION

Contract: 4406
Data Package Identification: DPWG26043

Analysis WG25754

31 July 2008

DIOXIN/FURAN ANALYSIS

SOLID SAMPLES

AXYS METHOD: MLA-017

PROJECT NAME: FIDALGO BAY TISSUE INVESTIGATION

Contract: 4406
Data Package Identification: DPWG26043
Analysis WG25754

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

31 July 2008

SCIENCE APPLICATIONS INTERNATIONAL CORP
SEDIMENT SAMPLES

DIOXIN AND FURAN ANALYSIS
AXYS METHOD: MLA-017
4406: L10342-44 and -46, L11365-1 to -9

FIDALGO BAY SEDIMENT INVESTIGATION PROJECT

06 August 2008

NARRATIVE

This narrative describes the analysis of eleven sediment 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 11th of September 2007 and the 26th of June 2008. The temperature of the samples upon receipt was between 10 °C and 18 °C, exceeding the requirement of 4 °C. This is judged not to significantly impact the data accuracy and the analysis was allowed to proceed. Details of sample conditions on receipt are provided on the Sample Receiving Record form included in this data package. The sample was stored at -20°C prior to extraction and analysis.

Some documentation discrepancies were noticed between the Chain of Custody record and the sample labels by the analyst during the login of the samples. The client was notified of discrepancies and the details of the action taken have been included in the Sample Documentation section of the data package.

SAMPLE PREPARATION AND ANALYSIS

The samples were homogenized as described on the Solid 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 (MSU-018) of MLA-017, with a list of modifications of USEPA Method 1613B, is included following this narrative.

Eleven field samples and three lab QC samples were analyzed in batch DXWG25754. 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. The composition of the batch is shown on the Cover Page and Correlation Table, and on the Batch List form accompanying the extraction workup sheets.

The procedural blank WG25754-101 and OPR WG25754-103 were prepared using clean sand. The duplicate WG25754-105 was prepared from sample FBA4-04-S.

Approximately 10g dry weight of the sample was spiked with the ^{13}C-labeled quantification standards, and then extracted by Soxhlet using 80:20 toluene/acetone. The resulting extract was spiked with ^{13}C-labeled cleanup standards, and cleaned up on an automated chromatography apparatus (Fluid Management Systems (FMS), Inc *'Power-Prep™ 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}C-labeled recovery (internal) standards prior to instrumental analysis. The final extract volume was 20µL.

1µL was injected for the DB5 column analysis and 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 L10342-X and L11365-X, where 'X' are numerals. All data reports reference both the Axys ID and the client sample identifier. To assist in locating data, a table correlating Axys IDs with client sample numbers is included in this data package. The report forms were generated using Laboratory Information Management Software (LIMS).

To facilitate the reporting of the batch QC using the LIMS, a Lab Sample ID suffix of :4406 was required in some cases.

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

Results are reported in concentration units of picograms per gram (pg/g), on a dry weight basis.

QA/QC NOTES

QC samples (Lab Blank and OPR) were prepared alongside the field sample in one single analysis batch and carried intact through the entire 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.
- All linearity, calibration verification, OPR, duplicate and labeled compound recovery specifications were met with the following exception:

Relative Percent Differences (RPD) for some analytes between the sample FBA4-04-S and its duplicate (AXYS IDs: L10342-46 and WG25754-105, respectively) were above the method guideline specification of 40%. All method QC indicators showed the method to be in a state of control. The observed high RPD values may be related to the characteristics of the sample matrix (wet sediment).

ANALYTICAL DISCUSSION

Samples FBA4-06-S and FBA3-06-S (AXYS IDs: L11365-2 and -9, respectively) were instrumentally re-analyzed to confirm possible carry-over. The re-injection showed that carry over did not occur and samples are reported from the original instrumental analysis.

DATA PACKAGE

This data package has been assigned a unique identifier, DPWG26043, shown on the front page of this Data Package. Included in the data package following the narrative is the following documentations:

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

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.

Signed: Jason MacKenzie, B.Sc., QC Chemist

August 06, 2008
Date Signed

Science Applications International Corporation

COVER PAGE AND CORRELATION TABLE

DIOXIN/FURAN ANALYSIS

Lab Name: AXYS Analytical Services Ltd.	**Project Manager: Cynthia Tomey**
Project Name: FIDALGO BAY SEDIMENT INVESTIGATION	**Contract No: 4406**
	AXYS Method: MLA-017
Data Package Identification: DPWG26043	**Program: Solid Samples**
Client Sample No.	**Lab Sample ID**
LAB BLANK	WG25754-101
OPR	WG25754-103
FBA4-07-S	L10342-44
FBA4-04-S	L10342-46 WG25754-105 DUPLICATE
FBA4-03-S	L11365-1
FBA4-06-S	L11365-2
FBA4-08-S	L11365-3
FBA4-11-S	L11365-4
FBA3-18-S	L11365-5
FBA3-37-S	L11365-6
FBA3-42-S	L11365-7
FBA3-03-S	L11365-8
FBA3-06-S	L11365-9

AXYS

11/16/6

SAIC
From Science to Solutions
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: 01-0236-00-1204200 Project Mgr: Tim Hammermeister
Project Name: Fidalgo Bay Sediment Investigation
Project Location: Fidalgo Bay Washington
Sample Collectors: Leon Delwiche, Will Hafner
Client Name: WDOE

Analyses / Tests: Dioxin / Furan Archive

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

Sample ID	Depth	Matrix	Date	Time	# of Containers	Dioxin / Furan Archive	Comments
FBA4-17-S	0-10cm	Sediment	9/6/07	17:00 CN	1	X 41034 2-38	653
FBA4-15-S	0-10cm	Sediment	9/6/07	09:17 CN	1	X -39	659
FBA4-13-S	0-10cm	Sediment	9/6/07	10:10 CN	1	X -40	665
FBA4-12-S	0-10cm	Sediment	9/6/07	10:35 CN	1	X -41	671
FBA4-10-S	0-10cm	Sediment	9/6/07	11:00 CN	1	X -42	677
FBA4-09-S	0-10cm	Sediment	9/6/07	11:16 CN	1	X -43	683
FBA4-07-S	0-10cm	Sediment	9/6/07	11:40 CN	1	X -44	689
FBA4-05-S	0-10cm	Sediment	9/6/07	12:05 CN	1	X -45	695
FBA4-04-S	0-10cm	Sediment	9/6/07	12:26 CN	1	X -46	701
FBA4-02-S	0-10cm	Sediment	9/6/07	13:45 CN	1	X -47	713
FBA4-02-D	0-10cm	Sediment	9/6/07	13:45 CN	1	X -48	714

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature: Eva Nooy
Date/Time:	Date/Time:	Date/Time:	Date/Time: Sept 11/07 1:12:00
Affiliation:	Affiliation:	Affiliation:	Affiliation: EN Sept 11/07

• 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

Candice Navaroli

From: Candice Navaroli [cnavaroli@axys.com]
Sent: Friday, September 14, 2007 12:20 PM
To: 'Hammermeister, Tim J.'
Subject: 4406 Fidalgo Bay sediment samples

DATA PKG.

One more thing Tim,

Our sample receiving department is still working on logging in your samples. They have noted that the 2 coolers arrived slightly above the method recommended shipping temperature of <40 degrees C. For sediment waybill 790333360160 Cooler 1, arrived at a temperature of 10 C and sediment waybill 798260281020 Cooler 2 arrived at temp 9 C.

Sorry for the delay in getting this information to you.

Candice

Candice Navaroli

Project Manager

AXYS ANALYTICAL SERVICES LTD

2045 Mills Road

Sidney BC V8L 5X2

Telephone (250) 655-5800

Fax (250) 655-5811

cnavaroli@axys.com

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Candice Navaroli

From: Hammermeister, Tim J. [TIM.J.HAMMERMEISTER@saic.com]
Sent: Thursday, September 13, 2007 11:33 AM
To: Candice Navaroli
Subject: RE: 4406 Fidalgo Bay Sediment samples

DATA PKG.

Corrections listed below in **BOLD**:

-----Original Message-----
From: Candice Navaroli [mailto:cnavaroli@axys.com]
Sent: Thursday, September 13, 2007 11:07 AM
To: Hammermeister, Tim J.
Subject: 4406 Fidalgo Bay Sediment samples

Hi Tim,

There a few discrepancies between the COC and the sample bottles for some of the samples:

- COC ID FBA2-06-S, corresponding bottle ID FBA2-0 -S (jar #276) - should we use the COC or Bottle ID?

FBA2-06-S is the correct sample ID

- COC ID FBA2-35-S jar #314 corresponding bottle lid ID FBA2-35-S jar #314, but the corresponding bottle label ID is FBA2-29-S, also we already have another sample that has FBA2-29-S listed on the COC and has a matching bottle label of FBA2-29-S - should we use the COC or Bottle label ID?

FBA2-35-S is the correct sample ID

- There are a few samples that have differences between the COC sampling time and the bottle label sampling time, most often only by a minute or 2 - should we use the COC or bottle label sampling time?

Please use the COC sampling time

- All of the samples on the last page of the COC starting with FBA4-17-5 and ending with FBA4-02-D have no sampling time listed. There are sampling times listed on the bottles. Do you wish for us to include the sampling time on the bottle in the sample login information?

Yes, use times listed on the bottle and please enter the times on the COC so they correspond correctly and initial the corrections

Jacky, Sample FBA4-20-S has been sent with 2 bottles, even though only one is listed on the COC. One looks as though it is for DX analysis and has a jar # of 624 Dx, the extra jar has jar # of 625 metals, which I imagine is for metals analysis. Should the jar for metals analysis have been sent to AXYS? Does it need to be returned to you or should it bee here for some other analysis purpose?

Jar # 625 should have been sent to Columbia Analytical Services. Please archive with your remaining samples. We noticed the jar missing from the CAS shipment and instructed them to use jar initially intended for archival.

One last question for you. Is there a project name for the samples that you wish to have show up on the client reports?

Please Identify the project as the Fidalgo Bay Sediment Investigation.

Thanks,

Candice

Candice Navaroli

Project Manager

AXYS ANALYTICAL SERVICES LTD

2045 Mills Road

Sidney BC V8L 5X2

Telephone (250) 655-5800

Fax (250) 655-5811

cnavaroli@axys.com

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Candice Navaroli

To: TIM.J.HAMMERMEISTER@saic.com
Subject: 4406 Fidalgo Bay sediment samples L10342

DATA PKG.

Hi Tim,

I wanted to let you know that several of your sediment samples have had their jars cracked or broken upon freezing of the samples. All of the sample jars that were wrapped in black electrical tape cracked or broke, but we don't think that they arrived cracked or broken. As the samples have been frozen there appears to be no loss of any samples and I feel that none of the samples have been compromised. All of the affected samples will be transferred to new analysis jars upon homogenization.

It is difficult to tell how full the jars are due to their dark colour, but if you happen to know if they were filled to the top I would recommend filling them only 3/4 full for future samples in order to avoid breakage upon freezing. We can certainly supply additional sampling bottles/jars to you to split the sample over 2 jars if you would like.

Let me know if you would like me to supply you with a list of the affected samples.
Cheers,
Candice

Candice Navaroli

Project Manager

AXYS ANALYTICAL SERVICES LTD

2045 Mills Road

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Cynthia Tomey

From: Hafner, William D. [WILLIAM.D.HAFNER@saic.com]
Sent: Wednesday, July 02, 2008 11:51 AM
To: Cynthia Tomey
Subject: RE: 4406 Fidalgo Bay Sediment Samples

Sounds good.

From: Cynthia Tomey [mailto:ctomey@axys.com]
Sent: Wednesday, July 02, 2008 11:43 AM
To: Hafner, William D.
Subject: RE: 4406 Fidalgo Bay Sediment Samples

Hi Will,

I just looked over the jars and the sample in question has tag 566. So I'll label it as per the jar label.

Cynthia

> -----Original Message-----
> **From:** Hafner, William D. [mailto:WILLIAM.D.HAFNER@saic.com]
> **Sent:** Wednesday, July 02, 2008 11:22 AM
> **To:** Cynthia Tomey
> **Subject:** RE: 4406 Fidalgo Bay Sediment Samples
>
> Cynthia,
> We do want FBA3-18-S analyzed, I'm guessing the COC is a mistake. As long as the jar is labeled A3-18 and the jar tag is either 566 or 567, it is the correct sample.
> There isn't much we can do about the sediment temp at this point. I'll make a note that the temp was exceeded both for your analysis and for CAS.
> Thanks,
> Will
>
> ---
>
> **From:** Cynthia Tomey [mailto:ctomey@axys.com]
> **Sent:** Wednesday, July 02, 2008 11:01 AM
> **To:** Hafner, William D.
> **Subject:** 4406 Fidalgo Bay Sediment Samples
>
> Hi Will,
>
> As I mentioned this morning the sediment samples came in from CAS on Monday. They arrived at 18 degrees Celsius. I have talked to Harvey Jacky and we'll be going with my plan of taking the sample we need and then shipping the remaining sample back. They will be shipped to CAS on Monday of next week.
>
> There is a sample discrepancy between CAS CoC and the labels on the jars. For one of the samples the jar label has FBA3-18-S and the CoC says FBA4-18-S. I'd like to log the sample in as per the jar label since A3-18 is the ID that appears in the statement of work. Let me know if this is appropriate.
>
> Cynthia

Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-07-S
Sample Collection:
06-Sep-2007 11:40

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L10342-44
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 15:13:07	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	21.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	U		0.0471		
1,2,3,7,8-PECDD [3]	U		0.122		
1,2,3,4,7,8-HXCDD	U		0.179		
1,2,3,6,7,8-HXCDD	J	0.378	0.179	1.19	1.000
1,2,3,7,8,9-HXCDD	J	0.212	0.179	1.22	1.011
1,2,3,4,6,7,8-HPCDD		7.12	0.160	1.04	1.000
OCDD		66.2	0.782	0.88	1.000
2,3,7,8-TCDF	J	0.153	0.0471	0.84	1.001
1,2,3,7,8-PECDF	U		0.0904		
2,3,4,7,8-PECDF	U		0.0904		
1,2,3,4,7,8-HXCDF	U		0.113		
1,2,3,6,7,8-HXCDF	U		0.113		
1,2,3,7,8,9-HXCDF	U		0.113		
2,3,4,6,7,8-HXCDF	U		0.113		
1,2,3,4,6,7,8-HPCDF		1.31	0.0932	1.02	1.000
1,2,3,4,7,8,9-HPCDF	U		0.0932		
OCDF		2.71	0.264	0.82	1.002
TOTAL TETRA-DIOXINS		0.113	0.0471		
TOTAL PENTA-DIOXINS		0.143	0.122		
TOTAL HEXA-DIOXINS		2.40	0.179		
TOTAL HEPTA-DIOXINS		17.9	0.160		
TOTAL TETRA-FURANS		0.553	0.0471		
TOTAL PENTA-FURANS		0.305	0.0904		
TOTAL HEXA-FURANS		1.50	0.113		
TOTAL HEPTA-FURANS		3.99	0.0932		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; 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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 30-Jul-2008 13:52:33; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_L10342-44_Form1A_DX82_253S8_SJ883432.html; Workgroup: WG25754; Design ID: 699]

These 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

CLIENT SAMPLE NO.
FBA4-07-S
Sample Collection:
06-Sep-2007 11:40

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L10342-44
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 15:13:07	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg absolute	**% Moisture:**	21.9

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1200	60.2	0.79	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1280	64.2	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1310	65.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1360	67.8	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1220	60.9	1.06	1.094
13C-OCDD		4000	2290	57.2	0.89	1.178
13C-2,3,7,8-TCDF		2000	1250	62.6	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1120	56.0	1.56	1.288
13C-2,3,4,7,8-PECDF		2000	1150	57.4	1.56	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1180	59.1	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1190	59.4	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1260	62.8	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1180	59.1	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1180	58.8	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1170	58.3	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	131	65.4		1.015

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 30-Jul-2008 13:52:33; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_L10342-44_Form2_DX82_253S8_SJ883432.html; Workgroup: WG25754; Design ID: 699]

These 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

CLIENT SAMPLE NO.
FBA4-07-S
Sample Collection:
06-Sep-2007 11:40

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L10342-44
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 15:06:56	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_147 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_147 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	21.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	J	0.142	0.0471	0.67	1.000

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L10342-44_Form1A_DB83_147S11_SJ884323.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-07-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

Sample Collection: 06-Sep-2007 11:40

Contract No.: 4406

Project No. FIDALGO BAY SEDIMENT INVESTIGATION

Matrix: SOLID

Lab Sample I.D.: L10342-44

Sample Size: 10.6 g (dry)

GC Column ID(s): DB225
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: **DB83_147 S: 11**
DX82_253 S: 8

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0471	1	0.00e+00	2.36e-02	
1,2,3,7,8-PECDD	U		0.122	1	0.00e+00	6.10e-02	
1,2,3,4,7,8-HXCDD	U		0.179	0.1	0.00e+00	8.95e-03	
1,2,3,6,7,8-HXCDD		0.378	0.179	0.1	3.78e-02	3.78e-02	
1,2,3,7,8,9-HXCDD		0.212	0.179	0.1	2.12e-02	2.12e-02	
1,2,3,4,6,7,8-HPCDD		7.12	0.160	0.01	7.12e-02	7.12e-02	
OCDD		66.2	0.782	0.0003	1.99e-02	1.99e-02	
2,3,7,8-TCDF		0.142	0.0471	0.1	1.42e-02	1.42e-02	
1,2,3,7,8-PECDF	U		0.0904	0.03	0.00e+00	1.36e-03	
2,3,4,7,8-PECDF	U		0.0904	0.3	0.00e+00	1.36e-02	
1,2,3,4,7,8-HXCDF	U		0.113	0.1	0.00e+00	5.65e-03	
1,2,3,6,7,8-HXCDF	U		0.113	0.1	0.00e+00	5.65e-03	
1,2,3,7,8,9-HXCDF	U		0.113	0.1	0.00e+00	5.65e-03	
2,3,4,6,7,8-HXCDF	U		0.113	0.1	0.00e+00	5.65e-03	
1,2,3,4,6,7,8-HPCDF		1.31	0.0932	0.01	1.31e-02	1.31e-02	
1,2,3,4,7,8,9-HPCDF	U		0.0932	0.01	0.00e+00	4.66e-04	
OCDF		2.71	0.264	0.0003	8.13e-04	8.13e-04	
			TOTAL TEQ		0.178	0.310	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L10342-44_TEQ_SJ884323.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-04-S
Sample Collection:
06-Sep-2007 12:26

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L10342-46 (A)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 16:07:29	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	0.096	0.0482	0.48	1.001
1,2,3,7,8-PECDD [3]	J	0.277	0.125	0.52	1.000
1,2,3,4,7,8-HXCDD	J	0.321	0.183	1.26	1.000
1,2,3,6,7,8-HXCDD		1.82	0.183	1.30	1.000
1,2,3,7,8,9-HXCDD	J	1.14	0.183	1.23	1.010
1,2,3,4,6,7,8-HPCDD		31.3	0.164	1.07	1.000
OCDD		257	0.800	0.89	1.000
2,3,7,8-TCDF		0.780	0.0482	0.70	1.001
1,2,3,7,8-PECDF	J	0.145	0.0926	1.52	1.000
2,3,4,7,8-PECDF	J	0.199	0.0926	1.34	1.000
1,2,3,4,7,8-HXCDF	J	0.353	0.116	1.18	1.000
1,2,3,6,7,8-HXCDF	J	0.201	0.116	1.41	1.000
1,2,3,7,8,9-HXCDF	U		0.116		
2,3,4,6,7,8-HXCDF	J	0.198	0.116	1.16	1.000
1,2,3,4,6,7,8-HPCDF		4.57	0.0955	0.99	1.000
1,2,3,4,7,8,9-HPCDF	J	0.242	0.0955	1.17	1.000
OCDF		10.9	0.270	0.88	1.002
TOTAL TETRA-DIOXINS		3.55	0.0482		
TOTAL PENTA-DIOXINS		3.77	0.125		
TOTAL HEXA-DIOXINS		19.1	0.183		
TOTAL HEPTA-DIOXINS		121	0.164		
TOTAL TETRA-FURANS		4.05	0.0482		
TOTAL PENTA-FURANS		2.85	0.0926		
TOTAL HEXA-FURANS		5.96	0.116		
TOTAL HEPTA-FURANS		13.6	0.0955		

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L10342-46_Form1A_DX82_253S9_SJ883433.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-04-S
Sample Collection:
06-Sep-2007 12:26

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L10342-46 (A)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 16:07:29	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.6

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1350	67.6	0.79	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1410	70.3	0.63	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1500	74.8	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1500	74.8	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1380	69.0	1.05	1.094
13C-OCDD		4000	2590	64.9	0.89	1.178
13C-2,3,7,8-TCDF		2000	1410	70.4	0.79	0.968
13C-1,2,3,7,8-PECDF		2000	1270	63.3	1.55	1.289
13C-2,3,4,7,8-PECDF		2000	1270	63.5	1.55	1.357
13C-1,2,3,4,7,8-HXCDF		2000	1360	67.8	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1380	69.2	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1420	71.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1330	66.3	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1350	67.6	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1350	67.3	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L10342-46_Form2_DX82_253S9_SJ883433.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-04-S
Sample Collection:
06-Sep-2007 12:26

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L10342-46 (A)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 15:42:34	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_147 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_147 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.521	0.0482	0.72	1.002

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 30-Jul-2008 13:54:34; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB225_L10342-46_Form1A_DB83_147S12_SJ884324.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-04-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	06-Sep-2007 12:26
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L10342-46 (A)
Sample Size:	10.4 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_147 S: 12** **DX82_253 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0482	1	0.00e+00	2.41e-02	
1,2,3,7,8-PECDD		0.277	0.125	1	2.77e-01	2.77e-01	
1,2,3,4,7,8-HXCDD		0.321	0.183	0.1	3.21e-02	3.21e-02	
1,2,3,6,7,8-HXCDD		1.82	0.183	0.1	1.82e-01	1.82e-01	
1,2,3,7,8,9-HXCDD		1.14	0.183	0.1	1.14e-01	1.14e-01	
1,2,3,4,6,7,8-HPCDD		31.3	0.164	0.01	3.13e-01	3.13e-01	
OCDD		257	0.800	0.0003	7.71e-02	7.71e-02	
2,3,7,8-TCDF		0.521	0.0482	0.1	5.21e-02	5.21e-02	
1,2,3,7,8-PECDF		0.145	0.0926	0.03	4.35e-03	4.35e-03	
2,3,4,7,8-PECDF		0.199	0.0926	0.3	5.97e-02	5.97e-02	
1,2,3,4,7,8-HXCDF		0.353	0.116	0.1	3.53e-02	3.53e-02	
1,2,3,6,7,8-HXCDF		0.201	0.116	0.1	2.01e-02	2.01e-02	
1,2,3,7,8,9-HXCDF	U		0.116	0.1	0.00e+00	5.80e-03	
2,3,4,6,7,8-HXCDF		0.198	0.116	0.1	1.98e-02	1.98e-02	
1,2,3,4,6,7,8-HPCDF		4.57	0.0955	0.01	4.57e-02	4.57e-02	
1,2,3,4,7,8,9-HPCDF		0.242	0.0955	0.01	2.42e-03	2.42e-03	
OCDF		10.9	0.270	0.0003	3.27e-03	3.27e-03	
			TOTAL TEQ		1.24	1.27	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L10342-46_TEQ_SJ884324.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-04-S (Duplicate)
Sample Collection:
06-Sep-2007 12:26

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	WG25754-105 (DUP L10342-46)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 17:01:50	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	0.102	0.0482	0.45	1.001
1,2,3,7,8-PECDD [3]	J	0.244	0.125	0.55	1.000
1,2,3,4,7,8-HXCDD	J	0.324	0.183	1.08	1.000
1,2,3,6,7,8-HXCDD		2.03	0.183	1.19	1.000
1,2,3,7,8,9-HXCDD		1.25	0.183	1.25	1.010
1,2,3,4,6,7,8-HPCDD		48.0	0.164	1.04	1.000
OCDD		422	0.800	0.88	1.000
2,3,7,8-TCDF		0.662	0.0482	0.80	1.001
1,2,3,7,8-PECDF	J	0.150	0.0926	1.46	1.001
2,3,4,7,8-PECDF	J	0.214	0.0926	1.59	1.000
1,2,3,4,7,8-HXCDF	J	0.463	0.116	1.10	1.000
1,2,3,6,7,8-HXCDF	J	0.221	0.116	1.06	1.000
1,2,3,7,8,9-HXCDF	U		0.116		
2,3,4,6,7,8-HXCDF	J	0.208	0.116	1.33	1.000
1,2,3,4,6,7,8-HPCDF		5.16	0.0955	1.01	1.000
1,2,3,4,7,8,9-HPCDF	J	0.353	0.0955	1.12	1.000
OCDF		17.2	0.270	0.91	1.002
TOTAL TETRA-DIOXINS		1.48	0.0482		
TOTAL PENTA-DIOXINS		2.46	0.125		
TOTAL HEXA-DIOXINS		22.2	0.183		
TOTAL HEPTA-DIOXINS		209	0.164		
TOTAL TETRA-FURANS		3.21	0.0482		
TOTAL PENTA-FURANS		2.54	0.0926		
TOTAL HEXA-FURANS		7.32	0.116		
TOTAL HEPTA-FURANS		17.9	0.0955		

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 30-Jul-2008 13:52:33; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_WG25754-105_Form1A_DX82_253S10_SJ883434.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-04-S (Duplicate)
Sample Collection:
06-Sep-2007 12:26

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	WG25754-105 (DUP L10342-46)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 17:01:50	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg absolute	**% Moisture:**	28.8

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1150	57.3	0.78	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1180	58.8	0.62	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1230	61.5	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1290	64.4	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1170	58.5	1.06	1.094
13C-OCDD		4000	2200	55.1	0.91	1.178
13C-2,3,7,8-TCDF		2000	1170	58.4	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1060	53.1	1.57	1.288
13C-2,3,4,7,8-PECDF		2000	1090	54.3	1.54	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1150	57.6	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1160	57.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1210	60.3	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1150	57.4	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1150	57.3	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1160	57.8	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	127	63.3		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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 30-Jul-2008 13:52:33; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_WG25754-105_Form2_DX82_253S10_SJ883434.html; Workgroup: WG25754; Design ID: 699]

These 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

CLIENT SAMPLE NO.
FBA4-04-S (Duplicate)
Sample Collection:
06-Sep-2007 12:26

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	WG25754-105 (DUP L10342-46)
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	11-Sep-2007	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 16:18:09	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_147 S: 13**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 7
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_147 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	28.8

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.518	0.0482	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_WG25754-105_Form1A_DB83_147S13_SJ884325.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
FBA4-04-S (Duplicate)

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

Sample Collection: 06-Sep-2007 12:26

Contract No.: 4406

Project No. FIDALGO BAY SEDIMENT INVESTIGATION

Matrix: SOLID

Lab Sample I.D.: WG25754-105 (DUP L10342-46)

Sample Size: 10.4 g (dry)

GC Column ID(s): DB225
DB5

Concentration Units: pg/g (dry weight basis)

Sample Data Filenames: **DB83_147 S: 13**
DX82_253 S: 10

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0482	1	0.00e+00	2.41e-02	
1,2,3,7,8-PECDD		0.244	0.125	1	2.44e-01	2.44e-01	
1,2,3,4,7,8-HXCDD		0.324	0.183	0.1	3.24e-02	3.24e-02	
1,2,3,6,7,8-HXCDD		2.03	0.183	0.1	2.03e-01	2.03e-01	
1,2,3,7,8,9-HXCDD		1.25	0.183	0.1	1.25e-01	1.25e-01	
1,2,3,4,6,7,8-HPCDD		48.0	0.164	0.01	4.80e-01	4.80e-01	
OCDD		422	0.800	0.0003	1.27e-01	1.27e-01	
2,3,7,8-TCDF		0.518	0.0482	0.1	5.18e-02	5.18e-02	
1,2,3,7,8-PECDF		0.150	0.0926	0.03	4.50e-03	4.50e-03	
2,3,4,7,8-PECDF		0.214	0.0926	0.3	6.42e-02	6.42e-02	
1,2,3,4,7,8-HXCDF		0.463	0.116	0.1	4.63e-02	4.63e-02	
1,2,3,6,7,8-HXCDF		0.221	0.116	0.1	2.21e-02	2.21e-02	
1,2,3,7,8,9-HXCDF	U		0.116	0.1	0.00e+00	5.80e-03	
2,3,4,6,7,8-HXCDF		0.208	0.116	0.1	2.08e-02	2.08e-02	
1,2,3,4,6,7,8-HPCDF		5.16	0.0955	0.01	5.16e-02	5.16e-02	
1,2,3,4,7,8,9-HPCDF		0.353	0.0955	0.01	3.53e-03	3.53e-03	
OCDF		17.2	0.270	0.0003	5.16e-03	5.16e-03	
			TOTAL TEQ		1.48	1.51	

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 30-Jul-2008 11:59:26; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613-TEQ_WG25754-105_TEQ_SJ884325.html; Workgroup: WG25754; Design ID: 699]

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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 SEDIMENT INVESTIGATION

Contract No.: 4406

Client ID: FBA4-04-S

Concentration Units: pg/g (dry weight basis)

COMPOUND	L10342-46 (A) LAB FLAG [1]	L10342-46 (A) CONC. FOUND	WG25754-105 LAB FLAG [1]	WG25754-105 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3,7,8-TCDD	K J	0.096	K J	0.102		
1,2,3,7,8-PECDD	J	0.277	J	0.244	0.261	12.7
1,2,3,4,7,8-HXCDD	J	0.321	J	0.324	0.323	0.930
1,2,3,6,7,8-HXCDD		1.82		2.03	1.92	10.8
1,2,3,7,8,9-HXCDD	J	1.14		1.25	1.19	9.31
1,2,3,4,6,7,8-HPCDD		31.3		48.0	39.7	42.3
OCDD		257		422	339	48.5
2,3,7,8-TCDF		0.521		0.518	0.520	0.577
1,2,3,7,8-PECDF	J	0.145	J	0.150	0.148	3.39
2,3,4,7,8-PECDF	J	0.199	J	0.214	0.207	7.26
1,2,3,4,7,8-HXCDF	J	0.353	J	0.463	0.408	27.0
1,2,3,6,7,8-HXCDF	J	0.201	J	0.221	0.211	9.48
1,2,3,7,8,9-HXCDF	U		U			
2,3,4,6,7,8-HXCDF	J	0.198	J	0.208	0.203	4.93
1,2,3,4,6,7,8-HPCDF		4.57		5.16	4.87	12.2
1,2,3,4,7,8,9-HPCDF	J	0.242	J	0.353	0.298	37.3
OCDF		10.9		17.2	14.0	44.4

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: RPD_DIOXINS_1613-RPD_WG25754-105_L10342-46_.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-03-S
Sample Collection:
06-Sep-2007 14:34

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-1
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 13:26:30	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	29.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	0.051	0.0486	0.29	1.001
1,2,3,7,8-PECDD [3]	U		0.126		
1,2,3,4,7,8-HXCDD	J	0.208	0.185	1.26	1.000
1,2,3,6,7,8-HXCDD		3.18	0.185	1.27	1.000
1,2,3,7,8,9-HXCDD	J	1.07	0.185	1.20	1.010
1,2,3,4,6,7,8-HPCDD		79.2	0.165	1.05	1.000
OCDD		753	0.807	0.89	1.000
2,3,7,8-TCDF	J	0.159	0.0486	0.85	1.001
1,2,3,7,8-PECDF	U		0.0934		
2,3,4,7,8-PECDF	J	0.109	0.0934	1.43	1.000
1,2,3,4,7,8-HXCDF	J	0.317	0.117	1.34	1.000
1,2,3,6,7,8-HXCDF	J	0.169	0.117	1.06	1.001
1,2,3,7,8,9-HXCDF	U		0.117		
2,3,4,6,7,8-HXCDF	J	0.275	0.117	1.14	1.000
1,2,3,4,6,7,8-HPCDF		4.48	0.0963	1.05	1.000
1,2,3,4,7,8,9-HPCDF	J	0.193	0.0963	1.13	1.000
OCDF		4.02	0.272	0.89	1.002
TOTAL TETRA-DIOXINS		0.161	0.0486		
TOTAL PENTA-DIOXINS		0.403	0.126		
TOTAL HEXA-DIOXINS		38.3	0.185		
TOTAL HEPTA-DIOXINS		790	0.165		
TOTAL TETRA-FURANS		0.573	0.0486		
TOTAL PENTA-FURANS		1.63	0.0934		
TOTAL HEXA-FURANS		10.6	0.117		
TOTAL HEPTA-FURANS		14.6	0.0963		

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-1_Form1A_DX82_255AS4_SJ884857.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-03-S
Sample Collection:
06-Sep-2007 14:34

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-1
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 13:26:30	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 4**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	29.0

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1190	59.5	0.79	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1410	70.7	0.63	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1270	63.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1300	64.9	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1140	56.9	1.03	1.094
13C-OCDD		4000	2040	51.0	0.89	1.178
13C-2,3,7,8-TCDF		2000	1240	62.0	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1240	62.0	1.56	1.289
13C-2,3,4,7,8-PECDF		2000	1290	64.3	1.58	1.357
13C-1,2,3,4,7,8-HXCDF		2000	1210	60.4	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1240	62.1	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1210	60.7	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1180	59.2	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1130	56.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1090	54.6	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	134	66.9		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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-1_Form2_DX82_255AS4_SJ884857.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-03-S
Sample Collection:
06-Sep-2007 14:34

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-1
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 22:19:10	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	29.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	K J	0.121	0.0486	0.95	1.000

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-1_Form1A_DB83_148S5_SJ884344.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-03-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	06-Sep-2007 14:34
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-1
Sample Size:	10.3 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 5** **DX82_255A S: 4**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0486	1	0.00e+00	2.43e-02	
1,2,3,7,8-PECDD	U		0.126	1	0.00e+00	6.30e-02	
1,2,3,4,7,8-HXCDD		0.208	0.185	0.1	2.08e-02	2.08e-02	
1,2,3,6,7,8-HXCDD		3.18	0.185	0.1	3.18e-01	3.18e-01	
1,2,3,7,8,9-HXCDD		1.07	0.185	0.1	1.07e-01	1.07e-01	
1,2,3,4,6,7,8-HPCDD		79.2	0.165	0.01	7.92e-01	7.92e-01	
OCDD		753	0.807	0.0003	2.26e-01	2.26e-01	
2,3,7,8-TCDF	U		0.0486	0.1	0.00e+00	2.43e-03	
1,2,3,7,8-PECDF	U		0.0934	0.03	0.00e+00	1.40e-03	
2,3,4,7,8-PECDF		0.109	0.0934	0.3	3.27e-02	3.27e-02	
1,2,3,4,7,8-HXCDF		0.317	0.117	0.1	3.17e-02	3.17e-02	
1,2,3,6,7,8-HXCDF		0.169	0.117	0.1	1.69e-02	1.69e-02	
1,2,3,7,8,9-HXCDF	U		0.117	0.1	0.00e+00	5.85e-03	
2,3,4,6,7,8-HXCDF		0.275	0.117	0.1	2.75e-02	2.75e-02	
1,2,3,4,6,7,8-HPCDF		4.48	0.0963	0.01	4.48e-02	4.48e-02	
1,2,3,4,7,8,9-HPCDF		0.193	0.0963	0.01	1.93e-03	1.93e-03	
OCDF		4.02	0.272	0.0003	1.21e-03	1.21e-03	
			TOTAL TEQ		1.62	1.72	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L11365-1_TEQ_SJ884344.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-06-S
Sample Collection:
06-Sep-2007 14:44

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-2
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 14:20:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	26.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	0.063	0.0486	0.35	1.001
1,2,3,7,8-PECDD [3]	U		0.126		
1,2,3,4,7,8-HXCDD	U		0.185		
1,2,3,6,7,8-HXCDD	J	0.377	0.185	1.32	1.000
1,2,3,7,8,9-HXCDD	J	0.249	0.185	1.31	1.010
1,2,3,4,6,7,8-HPCDD		5.56	0.165	1.02	1.000
OCDD		48.0	0.807	0.87	1.000
2,3,7,8-TCDF	J	0.212	0.0486	0.74	1.001
1,2,3,7,8-PECDF	U		0.0933		
2,3,4,7,8-PECDF	K J	0.097	0.0933	1.81	1.000
1,2,3,4,7,8-HXCDF	J	0.125	0.117	1.08	1.000
1,2,3,6,7,8-HXCDF	U		0.117		
1,2,3,7,8,9-HXCDF	U		0.117		
2,3,4,6,7,8-HXCDF	U		0.117		
1,2,3,4,6,7,8-HPCDF	J	0.966	0.0962	1.05	1.000
1,2,3,4,7,8,9-HPCDF	U		0.0962		
OCDF	J	1.81	0.272	0.84	1.002
TOTAL TETRA-DIOXINS		0.287	0.0486		
TOTAL PENTA-DIOXINS		0.198	0.126		
TOTAL HEXA-DIOXINS		3.76	0.185		
TOTAL HEPTA-DIOXINS		22.2	0.165		
TOTAL TETRA-FURANS		0.750	0.0486		
TOTAL PENTA-FURANS		0.500	0.0933		
TOTAL HEXA-FURANS		1.20	0.117		
TOTAL HEPTA-FURANS		2.38	0.0962		

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-2_Form1A_DX82_255AS5_SJ884858.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-06-S
Sample Collection:
06-Sep-2007 14:44

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-2
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 14:20:53	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	26.7

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1040	51.9	0.80	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1330	66.3	0.63	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1120	56.1	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1130	56.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1030	51.5	1.04	1.094
13C-OCDD		4000	1760	44.0	0.90	1.178
13C-2,3,7,8-TCDF		2000	1150	57.3	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1130	56.7	1.54	1.289
13C-2,3,4,7,8-PECDF		2000	1180	59.1	1.55	1.357
13C-1,2,3,4,7,8-HXCDF		2000	1070	53.3	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1100	54.9	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1080	54.1	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1040	52.0	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1010	50.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	971	48.6	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-2_Form2_DX82_255AS5_SJ884858.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-06-S
Sample Collection:
06-Sep-2007 14:44

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-2
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 22:54:45	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	26.7

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	J	0.119	0.0486	0.69	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-2_Form1A_DB83_148S6_SJ884345.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-06-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	06-Sep-2007 14:44
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-2
Sample Size:	10.3 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 6** **DX82_255A S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0486	1	0.00e+00	2.43e-02	
1,2,3,7,8-PECDD	U		0.126	1	0.00e+00	6.30e-02	
1,2,3,4,7,8-HXCDD	U		0.185	0.1	0.00e+00	9.25e-03	
1,2,3,6,7,8-HXCDD		0.377	0.185	0.1	3.77e-02	3.77e-02	
1,2,3,7,8,9-HXCDD		0.249	0.185	0.1	2.49e-02	2.49e-02	
1,2,3,4,6,7,8-HPCDD		5.56	0.165	0.01	5.56e-02	5.56e-02	
OCDD		48.0	0.807	0.0003	1.44e-02	1.44e-02	
2,3,7,8-TCDF		0.119	0.0486	0.1	1.19e-02	1.19e-02	
1,2,3,7,8-PECDF	U		0.0933	0.03	0.00e+00	1.40e-03	
2,3,4,7,8-PECDF	U		0.0933	0.3	0.00e+00	1.40e-02	
1,2,3,4,7,8-HXCDF		0.125	0.117	0.1	1.25e-02	1.25e-02	
1,2,3,6,7,8-HXCDF	U		0.117	0.1	0.00e+00	5.85e-03	
1,2,3,7,8,9-HXCDF	U		0.117	0.1	0.00e+00	5.85e-03	
2,3,4,6,7,8-HXCDF	U		0.117	0.1	0.00e+00	5.85e-03	
1,2,3,4,6,7,8-HPCDF		0.966	0.0962	0.01	9.66e-03	9.66e-03	
1,2,3,4,7,8,9-HPCDF	U		0.0962	0.01	0.00e+00	4.81e-04	
OCDF		1.81	0.272	0.0003	5.43e-04	5.43e-04	
			TOTAL TEQ		0.167	0.297	

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 30-Jul-2008 11:59:26; Application: XMLTransformer-1.9.10;
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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-08-S
Sample Collection:
06-Sep-2007 14:57

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-3
Matrix:	SOLID	**Sample Size:**	10.9 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 15:15:16	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	23.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	0.052	0.0458	0.21	1.001
1,2,3,7,8-PECDD [3]	U		0.119		
1,2,3,4,7,8-HXCDD	U		0.174		
1,2,3,6,7,8-HXCDD	J	0.360	0.174	1.19	1.000
1,2,3,7,8,9-HXCDD	J	0.179	0.174	1.29	1.010
1,2,3,4,6,7,8-HPCDD		5.58	0.156	1.06	1.000
OCDD		50.8	0.761	0.90	1.000
2,3,7,8-TCDF	J	0.158	0.0458	0.82	1.001
1,2,3,7,8-PECDF	U		0.0880		
2,3,4,7,8-PECDF	U		0.0880		
1,2,3,4,7,8-HXCDF	J	0.166	0.110	1.15	1.000
1,2,3,6,7,8-HXCDF	U		0.110		
1,2,3,7,8,9-HXCDF	U		0.110		
2,3,4,6,7,8-HXCDF	U		0.110		
1,2,3,4,6,7,8-HPCDF	J	0.994	0.0907	1.02	1.000
1,2,3,4,7,8,9-HPCDF	U		0.0907		
OCDF	J	1.45	0.257	0.89	1.002
TOTAL TETRA-DIOXINS		0.208	0.0458		
TOTAL PENTA-DIOXINS	U		0.119		
TOTAL HEXA-DIOXINS		2.25	0.174		
TOTAL HEPTA-DIOXINS		13.3	0.156		
TOTAL TETRA-FURANS		0.454	0.0458		
TOTAL PENTA-FURANS		0.166	0.0880		
TOTAL HEXA-FURANS		1.67	0.110		
TOTAL HEPTA-FURANS		2.89	0.0907		

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-08-S
Sample Collection:
06-Sep-2007 14:57

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-3
Matrix:	SOLID	**Sample Size:**	10.9 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 15:15:16	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	23.2

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1150	57.6	0.79	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1320	65.8	0.63	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1210	60.6	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1240	62.1	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1110	55.7	1.03	1.094
13C-OCDD		4000	1940	48.6	0.90	1.178
13C-2,3,7,8-TCDF		2000	1220	61.1	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1170	58.4	1.57	1.289
13C-2,3,4,7,8-PECDF		2000	1180	59.1	1.55	1.357
13C-1,2,3,4,7,8-HXCDF		2000	1190	59.3	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1180	58.9	0.52	0.959
13C-1,2,3,7,8,9-HXCDF		2000	1160	57.8	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1120	56.0	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1110	55.5	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1060	53.2	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	127	63.7		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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-3_Form2_DX82_255AS6_SJ884859.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-08-S
Sample Collection:
06-Sep-2007 14:57

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-3
Matrix:	SOLID	**Sample Size:**	10.9 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 23:30:21	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 7**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	23.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	J	0.148	0.0458	0.72	1.002

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-3_Form1A_DB83_148S7_SJ884346.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-08-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	06-Sep-2007 14:57
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-3
Sample Size:	10.9 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 7** **DX82_255A S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0458	1	0.00e+00	2.29e-02	
1,2,3,7,8-PECDD	U		0.119	1	0.00e+00	5.95e-02	
1,2,3,4,7,8-HXCDD	U		0.174	0.1	0.00e+00	8.70e-03	
1,2,3,6,7,8-HXCDD		0.360	0.174	0.1	3.60e-02	3.60e-02	
1,2,3,7,8,9-HXCDD		0.179	0.174	0.1	1.79e-02	1.79e-02	
1,2,3,4,6,7,8-HPCDD		5.58	0.156	0.01	5.58e-02	5.58e-02	
OCDD		50.8	0.761	0.0003	1.52e-02	1.52e-02	
2,3,7,8-TCDF		0.148	0.0458	0.1	1.48e-02	1.48e-02	
1,2,3,7,8-PECDF	U		0.0880	0.03	0.00e+00	1.32e-03	
2,3,4,7,8-PECDF	U		0.0880	0.3	0.00e+00	1.32e-02	
1,2,3,4,7,8-HXCDF		0.166	0.110	0.1	1.66e-02	1.66e-02	
1,2,3,6,7,8-HXCDF	U		0.110	0.1	0.00e+00	5.50e-03	
1,2,3,7,8,9-HXCDF	U		0.110	0.1	0.00e+00	5.50e-03	
2,3,4,6,7,8-HXCDF	U		0.110	0.1	0.00e+00	5.50e-03	
1,2,3,4,6,7,8-HPCDF		0.994	0.0907	0.01	9.94e-03	9.94e-03	
1,2,3,4,7,8,9-HPCDF	U		0.0907	0.01	0.00e+00	4.54e-04	
OCDF		1.45	0.257	0.0003	4.35e-04	4.35e-04	
			TOTAL TEQ		0.167	0.289	

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 30-Jul-2008 11:59:26; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613-TEQ_L11365-3_TEQ_SJ884346.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-11-S
Sample Collection:
06-Sep-2007 15:28

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-4
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 16:09:38	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	25.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	0.116	0.0496	0.84	1.001
1,2,3,7,8-PECDD [3]	J	0.296	0.129	0.55	1.000
1,2,3,4,7,8-HXCDD	K J	0.199	0.188	0.95	1.000
1,2,3,6,7,8-HXCDD	J	0.748	0.188	1.16	1.000
1,2,3,7,8,9-HXCDD	J	0.515	0.188	1.13	1.010
1,2,3,4,6,7,8-HPCDD		11.2	0.169	1.04	1.000
OCDD		98.5	0.823	0.88	1.000
2,3,7,8-TCDF		0.292	0.0496	0.74	1.001
1,2,3,7,8-PECDF	U		0.0952		
2,3,4,7,8-PECDF	U		0.0952		
1,2,3,4,7,8-HXCDF	J	0.149	0.119	1.30	1.000
1,2,3,6,7,8-HXCDF	U		0.119		
1,2,3,7,8,9-HXCDF	U		0.119		
2,3,4,6,7,8-HXCDF	U		0.119		
1,2,3,4,6,7,8-HPCDF		1.61	0.0982	1.01	1.000
1,2,3,4,7,8,9-HPCDF	U		0.0982		
OCDF		2.50	0.278	0.91	1.002
TOTAL TETRA-DIOXINS		36.5	0.0496		
TOTAL PENTA-DIOXINS		10.3	0.129		
TOTAL HEXA-DIOXINS		7.16	0.188		
TOTAL HEPTA-DIOXINS		39.8	0.169		
TOTAL TETRA-FURANS		1.43	0.0496		
TOTAL PENTA-FURANS		0.951	0.0952		
TOTAL HEXA-FURANS		2.13	0.119		
TOTAL HEPTA-FURANS		4.51	0.0982		

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-4_Form1A_DX82_255AS7_SJ884860.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-11-S
Sample Collection:
06-Sep-2007 15:28

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-4
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 16:09:38	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	25.6

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1130	56.5	0.78	1.014
13C-1,2,3,7,8-PECDD [4]		2000	1220	60.9	0.62	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1190	59.5	1.27	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1250	62.5	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1140	56.9	1.05	1.094
13C-OCDD		4000	2070	51.8	0.90	1.178
13C-2,3,7,8-TCDF		2000	1190	59.4	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1130	56.6	1.55	1.288
13C-2,3,4,7,8-PECDF		2000	1140	56.8	1.56	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1160	57.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1170	58.6	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1180	58.9	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1110	55.6	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1090	54.4	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1060	53.0	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	122	61.1		1.015

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-4_Form2_DX82_255AS7_SJ884860.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-11-S
Sample Collection:
06-Sep-2007 15:28

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-4
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 00:05:56	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	25.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	K J	0.174	0.0496	0.99	1.001

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-4_Form1A_DB83_148S8_SJ884347.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA4-11-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	06-Sep-2007 15:28
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-4
Sample Size:	10.1 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 8** **DX82_255A S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.116	0.0496	1	1.16e-01	1.16e-01	
1,2,3,7,8-PECDD		0.296	0.129	1	2.96e-01	2.96e-01	
1,2,3,4,7,8-HXCDD	U		0.188	0.1	0.00e+00	9.40e-03	
1,2,3,6,7,8-HXCDD		0.748	0.188	0.1	7.48e-02	7.48e-02	
1,2,3,7,8,9-HXCDD		0.515	0.188	0.1	5.15e-02	5.15e-02	
1,2,3,4,6,7,8-HPCDD		11.2	0.169	0.01	1.12e-01	1.12e-01	
OCDD		98.5	0.823	0.0003	2.96e-02	2.96e-02	
2,3,7,8-TCDF	U		0.0496	0.1	0.00e+00	2.48e-03	
1,2,3,7,8-PECDF	U		0.0952	0.03	0.00e+00	1.43e-03	
2,3,4,7,8-PECDF	U		0.0952	0.3	0.00e+00	1.43e-02	
1,2,3,4,7,8-HXCDF		0.149	0.119	0.1	1.49e-02	1.49e-02	
1,2,3,6,7,8-HXCDF	U		0.119	0.1	0.00e+00	5.95e-03	
1,2,3,7,8,9-HXCDF	U		0.119	0.1	0.00e+00	5.95e-03	
2,3,4,6,7,8-HXCDF	U		0.119	0.1	0.00e+00	5.95e-03	
1,2,3,4,6,7,8-HPCDF		1.61	0.0982	0.01	1.61e-02	1.61e-02	
1,2,3,4,7,8,9-HPCDF	U		0.0982	0.01	0.00e+00	4.91e-04	
OCDF		2.50	0.278	0.0003	7.50e-04	7.50e-04	
			TOTAL TEQ		0.712	0.758	

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 30-Jul-2008 11:59:26; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613-TEQ_L11365-4_TEQ_SJ884347.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-18-S
Sample Collection:
05-Sep-2007 08:44

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-5
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 17:04:00	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	52.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.300	0.0495	0.68	1.001
1,2,3,7,8-PECDD [3]	J	1.06	0.129	0.61	1.001
1,2,3,4,7,8-HXCDD		1.33	0.188	1.20	1.000
1,2,3,6,7,8-HXCDD		6.44	0.188	1.24	1.000
1,2,3,7,8,9-HXCDD		4.06	0.188	1.22	1.010
1,2,3,4,6,7,8-HPCDD		122	0.168	1.06	1.000
OCDD		950	0.822	0.89	1.000
2,3,7,8-TCDF		2.09	0.0853	0.76	1.001
1,2,3,7,8-PECDF	J	0.460	0.0950	1.50	1.000
2,3,4,7,8-PECDF	J	0.721	0.0950	1.53	1.000
1,2,3,4,7,8-HXCDF		1.73	0.119	1.23	1.000
1,2,3,6,7,8-HXCDF	J	0.906	0.119	1.28	1.000
1,2,3,7,8,9-HXCDF	U		0.119		
2,3,4,6,7,8-HXCDF	J	0.857	0.119	1.29	1.000
1,2,3,4,6,7,8-HPCDF		32.8	0.0980	1.04	1.000
1,2,3,4,7,8,9-HPCDF		1.74	0.0980	1.02	1.000
OCDF		130	0.277	0.89	1.002
TOTAL TETRA-DIOXINS		11.9	0.0495		
TOTAL PENTA-DIOXINS		15.9	0.129		
TOTAL HEXA-DIOXINS		59.7	0.188		
TOTAL HEPTA-DIOXINS		308	0.168		
TOTAL TETRA-FURANS		12.0	0.0853		
TOTAL PENTA-FURANS		11.7	0.0950		
TOTAL HEXA-FURANS		32.0	0.119		
TOTAL HEPTA-FURANS		109	0.0980		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; 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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-5_Form1A_DX82_255AS8_SJ884861.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-18-S
Sample Collection:
05-Sep-2007 08:44

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-5
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 17:04:00	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	52.1

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1030	51.3	0.81	1.014
13C-1,2,3,7,8-PECDD [4]		2000	1110	55.3	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1070	53.5	1.26	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1140	57.0	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1030	51.5	1.05	1.094
13C-OCDD		4000	1880	46.9	0.89	1.178
13C-2,3,7,8-TCDF		2000	1100	54.8	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1030	51.4	1.56	1.288
13C-2,3,4,7,8-PECDF		2000	1030	51.7	1.55	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1020	50.8	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1030	51.7	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1070	53.7	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1000	50.0	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	983	49.2	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	967	48.4	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	141	70.6		1.015

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-5_Form2_DX82_255AS8_SJ884861.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-18-S
Sample Collection:
05-Sep-2007 08:44

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-5
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 00:41:35	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	52.1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.33	0.0495	0.87	1.001

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-5_Form1A_DB83_148S9_SJ884348.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-18-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	05-Sep-2007 08:44
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-5
Sample Size:	10.1 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 9** **DX82_255A S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.300	0.0495	1	3.00e-01	3.00e-01	
1,2,3,7,8-PECDD		1.06	0.129	1	1.06e+00	1.06e+00	
1,2,3,4,7,8-HXCDD		1.33	0.188	0.1	1.33e-01	1.33e-01	
1,2,3,6,7,8-HXCDD		6.44	0.188	0.1	6.44e-01	6.44e-01	
1,2,3,7,8,9-HXCDD		4.06	0.188	0.1	4.06e-01	4.06e-01	
1,2,3,4,6,7,8-HPCDD		122	0.168	0.01	1.22e+00	1.22e+00	
OCDD		950	0.822	0.0003	2.85e-01	2.85e-01	
2,3,7,8-TCDF		1.33	0.0495	0.1	1.33e-01	1.33e-01	
1,2,3,7,8-PECDF		0.460	0.0950	0.03	1.38e-02	1.38e-02	
2,3,4,7,8-PECDF		0.721	0.0950	0.3	2.16e-01	2.16e-01	
1,2,3,4,7,8-HXCDF		1.73	0.119	0.1	1.73e-01	1.73e-01	
1,2,3,6,7,8-HXCDF		0.906	0.119	0.1	9.06e-02	9.06e-02	
1,2,3,7,8,9-HXCDF	U		0.119	0.1	0.00e+00	5.95e-03	
2,3,4,6,7,8-HXCDF		0.857	0.119	0.1	8.57e-02	8.57e-02	
1,2,3,4,6,7,8-HPCDF		32.8	0.0980	0.01	3.28e-01	3.28e-01	
1,2,3,4,7,8,9-HPCDF		1.74	0.0980	0.01	1.74e-02	1.74e-02	
OCDF		130	0.277	0.0003	3.90e-02	3.90e-02	
			TOTAL TEQ		5.14	5.15	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L11365-5_TEQ_SJ884348.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-37-S
Sample Collection:
04-Sep-2007 10:37

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-6
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 17:58:21	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	52.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.295	0.0492	0.72	1.001
1,2,3,7,8-PECDD [3]	J	1.06	0.128	0.60	1.001
1,2,3,4,7,8-HXCDD	J	1.15	0.187	1.31	1.000
1,2,3,6,7,8-HXCDD		4.54	0.187	1.21	1.000
1,2,3,7,8,9-HXCDD		3.15	0.187	1.25	1.010
1,2,3,4,6,7,8-HPCDD		67.3	0.167	1.05	1.000
OCDD		461	0.816	0.89	1.000
2,3,7,8-TCDF		2.20	0.153	0.78	1.001
1,2,3,7,8-PECDF	J	0.438	0.0944	1.65	1.001
2,3,4,7,8-PECDF	J	0.627	0.0944	1.50	1.000
1,2,3,4,7,8-HXCDF		1.19	0.118	1.15	1.000
1,2,3,6,7,8-HXCDF	J	0.770	0.118	1.25	1.000
1,2,3,7,8,9-HXCDF	U		0.118		
2,3,4,6,7,8-HXCDF	J	0.783	0.118	1.21	1.000
1,2,3,4,6,7,8-HPCDF		18.7	0.0973	1.01	1.000
1,2,3,4,7,8,9-HPCDF	J	1.06	0.0973	1.01	1.000
OCDF		55.5	0.275	0.89	1.002
TOTAL TETRA-DIOXINS		16.6	0.0492		
TOTAL PENTA-DIOXINS		17.4	0.128		
TOTAL HEXA-DIOXINS		47.4	0.187		
TOTAL HEPTA-DIOXINS		158	0.167		
TOTAL TETRA-FURANS		13.8	0.153		
TOTAL PENTA-FURANS		10.9	0.0944		
TOTAL HEXA-FURANS		19.9	0.118		
TOTAL HEPTA-FURANS		51.4	0.0973		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; 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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-6_Form1A_DX82_255AS9_SJ884862.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-37-S
Sample Collection:
04-Sep-2007 10:37

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-6
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 17:58:21	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	52.9

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1100	55.1	0.79	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1200	60.1	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1160	58.2	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1150	57.4	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1080	53.9	1.04	1.094
13C-OCDD		4000	1920	48.1	0.90	1.178
13C-2,3,7,8-TCDF		2000	1200	59.8	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1100	55.0	1.56	1.288
13C-2,3,4,7,8-PECDF		2000	1120	55.9	1.55	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1070	53.4	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1080	53.9	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1120	56.0	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1050	52.3	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1020	50.9	0.46	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1020	50.9	0.46	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	127	63.3		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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-6_Form2_DX82_255AS9_SJ884862.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-37-S
Sample Collection:
04-Sep-2007 10:37

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-6
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 01:17:14	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	52.9

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.26	0.0515	0.86	1.001

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-6_Form1A_DB83_148S10_SJ884349.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-37-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	04-Sep-2007 10:37
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-6
Sample Size:	10.2 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 10** **DX82_255A S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.295	0.0492	1	2.95e-01	2.95e-01	
1,2,3,7,8-PECDD		1.06	0.128	1	1.06e+00	1.06e+00	
1,2,3,4,7,8-HXCDD		1.15	0.187	0.1	1.15e-01	1.15e-01	
1,2,3,6,7,8-HXCDD		4.54	0.187	0.1	4.54e-01	4.54e-01	
1,2,3,7,8,9-HXCDD		3.15	0.187	0.1	3.15e-01	3.15e-01	
1,2,3,4,6,7,8-HPCDD		67.3	0.167	0.01	6.73e-01	6.73e-01	
OCDD		461	0.816	0.0003	1.38e-01	1.38e-01	
2,3,7,8-TCDF		1.26	0.0515	0.1	1.26e-01	1.26e-01	
1,2,3,7,8-PECDF		0.438	0.0944	0.03	1.31e-02	1.31e-02	
2,3,4,7,8-PECDF		0.627	0.0944	0.3	1.88e-01	1.88e-01	
1,2,3,4,7,8-HXCDF		1.19	0.118	0.1	1.19e-01	1.19e-01	
1,2,3,6,7,8-HXCDF		0.770	0.118	0.1	7.70e-02	7.70e-02	
1,2,3,7,8,9-HXCDF	U		0.118	0.1	0.00e+00	5.90e-03	
2,3,4,6,7,8-HXCDF		0.783	0.118	0.1	7.83e-02	7.83e-02	
1,2,3,4,6,7,8-HPCDF		18.7	0.0973	0.01	1.87e-01	1.87e-01	
1,2,3,4,7,8,9-HPCDF		1.06	0.0973	0.01	1.06e-02	1.06e-02	
OCDF		55.5	0.275	0.0003	1.67e-02	1.67e-02	
			TOTAL TEQ		3.87	3.87	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L11365-6_TEQ_SJ884349.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-42-S
Sample Collection:
04-Sep-2007 10:50

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-7
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 18:52:43	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	40.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.252	0.0490	0.70	1.001
1,2,3,7,8-PECDD [3]	J	0.851	0.127	0.59	1.000
1,2,3,4,7,8-HXCDD	J	1.00	0.186	1.19	1.000
1,2,3,6,7,8-HXCDD		4.14	0.186	1.26	1.000
1,2,3,7,8,9-HXCDD		2.81	0.186	1.27	1.010
1,2,3,4,6,7,8-HPCDD		68.0	0.167	1.05	1.000
OCDD		443	0.813	0.89	1.000
2,3,7,8-TCDF		1.20	0.0746	0.75	1.001
1,2,3,7,8-PECDF	J	0.287	0.0940	1.71	1.001
2,3,4,7,8-PECDF	J	0.431	0.0940	1.53	1.001
1,2,3,4,7,8-HXCDF	J	0.975	0.118	1.19	1.000
1,2,3,6,7,8-HXCDF	J	0.620	0.118	1.17	1.001
1,2,3,7,8,9-HXCDF	U		0.118		
2,3,4,6,7,8-HXCDF	J	0.694	0.118	1.17	1.000
1,2,3,4,6,7,8-HPCDF		20.9	0.0970	1.02	1.000
1,2,3,4,7,8,9-HPCDF	J	1.06	0.0970	1.05	1.000
OCDF		65.8	0.274	0.89	1.002
TOTAL TETRA-DIOXINS		15.3	0.0490		
TOTAL PENTA-DIOXINS		14.5	0.127		
TOTAL HEXA-DIOXINS		42.8	0.186		
TOTAL HEPTA-DIOXINS		149	0.167		
TOTAL TETRA-FURANS		8.20	0.0746		
TOTAL PENTA-FURANS		8.35	0.0940		
TOTAL HEXA-FURANS		20.6	0.118		
TOTAL HEPTA-FURANS		59.6	0.0970		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; 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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-7_Form1A_DX82_255AS10_SJ884863.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-42-S
Sample Collection:
04-Sep-2007 10:50

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-7
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 18:52:43	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	40.2

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1180	59.2	0.81	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1400	69.8	0.63	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1310	65.4	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1290	64.4	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1210	60.7	1.03	1.094
13C-OCDD		4000	2170	54.2	0.90	1.178
13C-2,3,7,8-TCDF		2000	1310	65.3	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1270	63.3	1.55	1.288
13C-2,3,4,7,8-PECDF		2000	1290	64.7	1.56	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1200	60.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1220	60.8	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1240	62.1	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1170	58.7	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1150	57.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1140	57.1	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	134	67.0		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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-7_Form2_DX82_255AS10_SJ884863.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-42-S
Sample Collection:
04-Sep-2007 10:50

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-7
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 01:52:53	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	40.2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.663	0.0490	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-7_Form1A_DB83_148S11_SJ884350.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-42-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	04-Sep-2007 10:50
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-7
Sample Size:	10.2 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 11** **DX82_255A S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.252	0.0490	1	2.52e-01	2.52e-01	
1,2,3,7,8-PECDD		0.851	0.127	1	8.51e-01	8.51e-01	
1,2,3,4,7,8-HXCDD		1.00	0.186	0.1	1.00e-01	1.00e-01	
1,2,3,6,7,8-HXCDD		4.14	0.186	0.1	4.14e-01	4.14e-01	
1,2,3,7,8,9-HXCDD		2.81	0.186	0.1	2.81e-01	2.81e-01	
1,2,3,4,6,7,8-HPCDD		68.0	0.167	0.01	6.80e-01	6.80e-01	
OCDD		443	0.813	0.0003	1.33e-01	1.33e-01	
2,3,7,8-TCDF		0.663	0.0490	0.1	6.63e-02	6.63e-02	
1,2,3,7,8-PECDF		0.287	0.0940	0.03	8.61e-03	8.61e-03	
2,3,4,7,8-PECDF		0.431	0.0940	0.3	1.29e-01	1.29e-01	
1,2,3,4,7,8-HXCDF		0.975	0.118	0.1	9.75e-02	9.75e-02	
1,2,3,6,7,8-HXCDF		0.620	0.118	0.1	6.20e-02	6.20e-02	
1,2,3,7,8,9-HXCDF	U		0.118	0.1	0.00e+00	5.90e-03	
2,3,4,6,7,8-HXCDF		0.694	0.118	0.1	6.94e-02	6.94e-02	
1,2,3,4,6,7,8-HPCDF		20.9	0.0970	0.01	2.09e-01	2.09e-01	
1,2,3,4,7,8,9-HPCDF		1.06	0.0970	0.01	1.06e-02	1.06e-02	
OCDF		65.8	0.274	0.0003	1.97e-02	1.97e-02	
			TOTAL TEQ		3.38	3.39	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L11365-7_TEQ_SJ884350.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-03-S
Sample Collection:
04-Sep-2007 13:32

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-8
Matrix:	SOLID	**Sample Size:**	9.70 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 19:47:05	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	51.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		0.536	0.0515	0.76	1.001
1,2,3,7,8-PECDD [3]		2.04	0.134	0.59	1.001
1,2,3,4,7,8-HXCDD		2.56	0.196	1.27	1.000
1,2,3,6,7,8-HXCDD		10.9	0.196	1.25	1.000
1,2,3,7,8,9-HXCDD		7.28	0.196	1.24	1.010
1,2,3,4,6,7,8-HPCDD		203	0.175	1.06	1.000
OCDD		1540	0.856	0.89	1.000
2,3,7,8-TCDF		3.71	0.196	0.79	1.001
1,2,3,7,8-PECDF	J	0.801	0.0990	1.53	1.001
2,3,4,7,8-PECDF		1.16	0.0990	1.54	1.000
1,2,3,4,7,8-HXCDF		2.90	0.124	1.23	1.000
1,2,3,6,7,8-HXCDF		1.75	0.124	1.23	1.001
1,2,3,7,8,9-HXCDF	U		0.124		
2,3,4,6,7,8-HXCDF		1.49	0.124	1.23	1.000
1,2,3,4,6,7,8-HPCDF		50.3	0.102	1.02	1.000
1,2,3,4,7,8,9-HPCDF		2.68	0.102	1.08	1.000
OCDF		140	0.289	0.89	1.002
TOTAL TETRA-DIOXINS		33.3	0.0515		
TOTAL PENTA-DIOXINS		30.5	0.134		
TOTAL HEXA-DIOXINS		94.2	0.196		
TOTAL HEPTA-DIOXINS		537	0.175		
TOTAL TETRA-FURANS		27.3	0.196		
TOTAL PENTA-FURANS		23.8	0.0990		
TOTAL HEXA-FURANS		54.6	0.124		
TOTAL HEPTA-FURANS		146	0.102		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; 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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-8_Form1A_DX82_255AS11_SJ884864.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-03-S
Sample Collection:
04-Sep-2007 13:32

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-8
Matrix:	SOLID	**Sample Size:**	9.70 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 19:47:05	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	51.6

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1030	51.7	0.80	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1160	58.0	0.63	1.386
13C-1,2,3,4,7,8-HXCDD		2000	1110	55.3	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1070	53.6	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	999	49.9	1.04	1.094
13C-OCDD		4000	1850	46.2	0.89	1.178
13C-2,3,7,8-TCDF		2000	1130	56.7	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1040	52.2	1.56	1.288
13C-2,3,4,7,8-PECDF		2000	1060	53.2	1.56	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1010	50.7	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1010	50.7	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1070	53.5	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	978	48.9	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	973	48.7	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	962	48.1	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	123	61.4		1.015

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-8_Form2_DX82_255AS11_SJ884864.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-03-S
Sample Collection:
04-Sep-2007 13:32

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-8
Matrix:	SOLID	**Sample Size:**	9.70 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 02:28:27	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	51.6

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1.99	0.0818	0.70	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-8_Form1A_DB83_148S12_SJ884351.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-03-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	04-Sep-2007 13:32
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-8
Sample Size:	9.70 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 12** **DX82_255A S: 11**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.536	0.0515	1	5.36e-01	5.36e-01	
1,2,3,7,8-PECDD		2.04	0.134	1	2.04e+00	2.04e+00	
1,2,3,4,7,8-HXCDD		2.56	0.196	0.1	2.56e-01	2.56e-01	
1,2,3,6,7,8-HXCDD		10.9	0.196	0.1	1.09e+00	1.09e+00	
1,2,3,7,8,9-HXCDD		7.28	0.196	0.1	7.28e-01	7.28e-01	
1,2,3,4,6,7,8-HPCDD		203	0.175	0.01	2.03e+00	2.03e+00	
OCDD		1540	0.856	0.0003	4.62e-01	4.62e-01	
2,3,7,8-TCDF		1.99	0.0818	0.1	1.99e-01	1.99e-01	
1,2,3,7,8-PECDF		0.801	0.0990	0.03	2.40e-02	2.40e-02	
2,3,4,7,8-PECDF		1.16	0.0990	0.3	3.48e-01	3.48e-01	
1,2,3,4,7,8-HXCDF		2.90	0.124	0.1	2.90e-01	2.90e-01	
1,2,3,6,7,8-HXCDF		1.75	0.124	0.1	1.75e-01	1.75e-01	
1,2,3,7,8,9-HXCDF	U		0.124	0.1	0.00e+00	6.20e-03	
2,3,4,6,7,8-HXCDF		1.49	0.124	0.1	1.49e-01	1.49e-01	
1,2,3,4,6,7,8-HPCDF		50.3	0.102	0.01	5.03e-01	5.03e-01	
1,2,3,4,7,8,9-HPCDF		2.68	0.102	0.01	2.68e-02	2.68e-02	
OCDF		140	0.289	0.0003	4.20e-02	4.20e-02	
			TOTAL TEQ		8.90	8.91	

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 30-Jul-2008 11:59:26; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613-TEQ_L11365-8_TEQ_SJ884351.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-06-S
Sample Collection:
04-Sep-2007 15:20

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-9
Matrix:	SOLID	**Sample Size:**	9.61 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 20:41:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	36.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	0.197	0.0520	0.67	1.001
1,2,3,7,8-PECDD [3]	J	0.397	0.135	0.66	1.000
1,2,3,4,7,8-HXCDD	J	0.291	0.198	1.09	1.000
1,2,3,6,7,8-HXCDD	J	0.981	0.198	1.18	1.000
1,2,3,7,8,9-HXCDD	J	0.814	0.198	1.29	1.010
1,2,3,4,6,7,8-HPCDD		11.7	0.177	1.07	1.000
OCDD		73.7	0.864	0.89	1.000
2,3,7,8-TCDF		1.60	0.0520	0.77	1.002
1,2,3,7,8-PECDF	J	0.314	0.0999	1.54	1.000
2,3,4,7,8-PECDF	J	0.352	0.0999	1.39	1.000
1,2,3,4,7,8-HXCDF	J	0.320	0.125	1.34	1.000
1,2,3,6,7,8-HXCDF	J	0.242	0.125	1.09	1.000
1,2,3,7,8,9-HXCDF	U		0.125		
2,3,4,6,7,8-HXCDF	J	0.202	0.125	1.16	1.000
1,2,3,4,6,7,8-HPCDF		2.48	0.103	1.01	1.000
1,2,3,4,7,8,9-HPCDF	J	0.197	0.103	1.10	1.000
OCDF		5.87	0.291	0.91	1.002
TOTAL TETRA-DIOXINS		19.4	0.0520		
TOTAL PENTA-DIOXINS		11.8	0.135		
TOTAL HEXA-DIOXINS		16.3	0.198		
TOTAL HEPTA-DIOXINS		30.8	0.177		
TOTAL TETRA-FURANS		11.7	0.0520		
TOTAL PENTA-FURANS		4.55	0.0999		
TOTAL HEXA-FURANS		3.46	0.125		
TOTAL HEPTA-FURANS		6.57	0.103		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; 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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 30-Jul-2008 11:57:59; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_L11365-9_Form1A_DX82_255AS12_SJ884865.html; Workgroup: WG25754; Design ID: 699]

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

Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-06-S
Sample Collection:
04-Sep-2007 15:20

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-9
Matrix:	SOLID	**Sample Size:**	9.61 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	17-Jul-2008 **Time:** 20:41:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_255A S: 12**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_255A S: 1
Concentration Units:	pg absolute	**% Moisture:**	36.0

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1270	63.7	0.78	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1440	72.1	0.63	1.388
13C-1,2,3,4,7,8-HXCDD		2000	1290	64.3	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1300	64.9	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1230	61.3	1.05	1.094
13C-OCDD		4000	2140	53.6	0.90	1.178
13C-2,3,7,8-TCDF		2000	1350	67.3	0.79	0.967
13C-1,2,3,7,8-PECDF		2000	1250	62.6	1.56	1.289
13C-2,3,4,7,8-PECDF		2000	1290	64.4	1.55	1.356
13C-1,2,3,4,7,8-HXCDF		2000	1230	61.5	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1190	59.4	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1270	63.7	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1180	58.8	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1160	58.1	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1180	58.9	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	139	69.4		1.015

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_L11365-9_Form2_DX82_255AS12_SJ884865.html; Workgroup: WG25754; Design ID: 699]

These 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

CLIENT SAMPLE NO.
FBA3-06-S
Sample Collection:
04-Sep-2007 15:20

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	FIDALGO BAY SEDIMENT INVESTIGATION
Contract No.:	4406	**Lab Sample I.D.:**	L11365-9
Matrix:	SOLID	**Sample Size:**	9.61 g (dry)
Sample Receipt Date:	30-Jun-2008	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 03:04:02	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_148 S: 13**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_148 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	36.0

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		0.671	0.0520	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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_L11365-9_Form1A_DB83_148S13_SJ884352.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
FBA3-06-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	04-Sep-2007 15:20
Contract No.:	4406	**Project No.**	FIDALGO BAY SEDIMENT INVESTIGATION
Matrix:	SOLID	**Lab Sample I.D.:**	L11365-9
Sample Size:	9.61 g (dry)	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g (dry weight basis)	**Sample Data Filenames:**	**DB83_148 S: 13** **DX82_255A S: 12**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		0.197	0.0520	1	1.97e-01	1.97e-01	
1,2,3,7,8-PECDD		0.397	0.135	1	3.97e-01	3.97e-01	
1,2,3,4,7,8-HXCDD		0.291	0.198	0.1	2.91e-02	2.91e-02	
1,2,3,6,7,8-HXCDD		0.981	0.198	0.1	9.81e-02	9.81e-02	
1,2,3,7,8,9-HXCDD		0.814	0.198	0.1	8.14e-02	8.14e-02	
1,2,3,4,6,7,8-HPCDD		11.7	0.177	0.01	1.17e-01	1.17e-01	
OCDD		73.7	0.864	0.0003	2.21e-02	2.21e-02	
2,3,7,8-TCDF		0.671	0.0520	0.1	6.71e-02	6.71e-02	
1,2,3,7,8-PECDF		0.314	0.0999	0.03	9.42e-03	9.42e-03	
2,3,4,7,8-PECDF		0.352	0.0999	0.3	1.06e-01	1.06e-01	
1,2,3,4,7,8-HXCDF		0.320	0.125	0.1	3.20e-02	3.20e-02	
1,2,3,6,7,8-HXCDF		0.242	0.125	0.1	2.42e-02	2.42e-02	
1,2,3,7,8,9-HXCDF	U		0.125	0.1	0.00e+00	6.25e-03	
2,3,4,6,7,8-HXCDF		0.202	0.125	0.1	2.02e-02	2.02e-02	
1,2,3,4,6,7,8-HPCDF		2.48	0.103	0.01	2.48e-02	2.48e-02	
1,2,3,4,7,8,9-HPCDF		0.197	0.103	0.01	1.97e-03	1.97e-03	
OCDF		5.87	0.291	0.0003	1.76e-03	1.76e-03	
			TOTAL TEQ		1.23	1.24	

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613-TEQ_L11365-9_TEQ_SJ884352.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	N/A
Contract No.:	4406	**Lab Sample I.D.:**	WG25754-101 :4406
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 13:24:21	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	U		0.0500		
1,2,3,7,8-PECDD [3]	U		0.130		
1,2,3,4,7,8-HXCDD	U		0.190		
1,2,3,6,7,8-HXCDD	U		0.190		
1,2,3,7,8,9-HXCDD	U		0.190		
1,2,3,4,6,7,8-HPCDD	U		0.170		
OCDD	U		0.830		
2,3,7,8-TCDF	U		0.0500		
1,2,3,7,8-PECDF	U		0.0960		
2,3,4,7,8-PECDF	U		0.0960		
1,2,3,4,7,8-HXCDF	U		0.120		
1,2,3,6,7,8-HXCDF	U		0.120		
1,2,3,7,8,9-HXCDF	U		0.120		
2,3,4,6,7,8-HXCDF	U		0.120		
1,2,3,4,6,7,8-HPCDF	U		0.0990		
1,2,3,4,7,8,9-HPCDF	U		0.0990		
OCDF	U		0.280		
TOTAL TETRA-DIOXINS	U		0.0500		
TOTAL PENTA-DIOXINS	U		0.130		
TOTAL HEXA-DIOXINS	U		0.190		
TOTAL HEPTA-DIOXINS	U		0.170		
TOTAL TETRA-FURANS	U		0.0500		
TOTAL PENTA-FURANS	U		0.0960		
TOTAL HEXA-FURANS	U		0.120		
TOTAL HEPTA-FURANS	U		0.0990		

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

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_WG25754-101_Form1A_DX82_253S6_SJ883428.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	N/A
Contract No.:	4406	**Lab Sample I.D.:**	WG25754-101 :4406
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	17-Jun-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2008 **Time:** 13:24:21	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX82_253 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX82_253 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX82_253 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	**LAB FLAG [1]**	**SPIKE CONC.**	**CONC. FOUND**	**R(%) [2]**	**ION ABUND. RATIO [3]**	**RRT [3]**
13C-2,3,7,8-TCDD		2000	1380	69.1	0.79	1.015
13C-1,2,3,7,8-PECDD [4]		2000	1550	77.4	0.63	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1530	76.6	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1640	81.8	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1440	71.9	1.05	1.094
13C-OCDD		4000	2680	66.9	0.89	1.178
13C-2,3,7,8-TCDF		2000	1480	74.2	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1380	69.2	1.57	1.289
13C-2,3,4,7,8-PECDF		2000	1380	68.9	1.54	1.357
13C-1,2,3,4,7,8-HXCDF		2000	1440	71.9	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1470	73.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1450	72.3	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1420	70.9	0.53	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1410	70.3	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1340	66.9	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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 30-Jul-2008 13:52:33; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_WG25754-101_Form2_DX82_253S6_SJ883428.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

		Project No.	N/A
Contract No.:	4406	**Lab Sample I.D.:**	WG25754-101 :4406
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	07-Jul-2008
Extraction Date:	04-Jul-2008	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2008 **Time:** 12:08:49	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB83_147 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB83_147 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB83_147 S: 2
Concentration Units:	pg/g		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	U		0.0500		

(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: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB225_WG25754-101_Form1A_DB83_147S6_SJ884320.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

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

		Sample Collection:	N/A
Contract No.:	4406	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG25754-101 :4406
Sample Size:	10.0 g	**GC Column ID(s):**	DB225 DB5
Concentration Units:	pg/g	**Sample Data Filenames:**	**DB83_147 S: 6** **DX82_253 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.0500	1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDD	U		0.130	1	0.00e+00	6.50e-02	
1,2,3,4,7,8-HXCDD	U		0.190	0.1	0.00e+00	9.50e-03	
1,2,3,6,7,8-HXCDD	U		0.190	0.1	0.00e+00	9.50e-03	
1,2,3,7,8,9-HXCDD	U		0.190	0.1	0.00e+00	9.50e-03	
1,2,3,4,6,7,8-HPCDD	U		0.170	0.01	0.00e+00	8.50e-04	
OCDD	U		0.830	0.0003	0.00e+00	1.25e-04	
2,3,7,8-TCDF	U		0.0500	0.1	0.00e+00	2.50e-03	
1,2,3,7,8-PECDF	U		0.0960	0.03	0.00e+00	1.44e-03	
2,3,4,7,8-PECDF	U		0.0960	0.3	0.00e+00	1.44e-02	
1,2,3,4,7,8-HXCDF	U		0.120	0.1	0.00e+00	6.00e-03	
1,2,3,6,7,8-HXCDF	U		0.120	0.1	0.00e+00	6.00e-03	
1,2,3,7,8,9-HXCDF	U		0.120	0.1	0.00e+00	6.00e-03	
2,3,4,6,7,8-HXCDF	U		0.120	0.1	0.00e+00	6.00e-03	
1,2,3,4,6,7,8-HPCDF	U		0.0990	0.01	0.00e+00	4.95e-04	
1,2,3,4,7,8,9-HPCDF	U		0.0990	0.01	0.00e+00	4.95e-04	
OCDF	U		0.280	0.0003	0.00e+00	4.20e-05	
			TOTAL TEQ		0	0.163	

(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: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 30-Jul-2008 11:59:26; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613-TEQ_WG25754-101_TEQ_SJ884320.html; Workgroup: WG25754; Design ID: 699]

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Contact: analytical@axys.com

AXYS METHOD MLA-017 Rev 14

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.:	4406	**OPR Data Filename:**	**DX82_253 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG25754-103 :4406
Extraction Date:	04-Jul-2008	**Analysis Date:**	16-Jul-2008 **Time:** 09:46:41

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.79	10.6	10.1	7.10 - 16.7	95.1
1,2,3,7,8-PECDD [4]		0.62	56.6	53.4	39.6 - 80.4	94.3
1,2,3,4,7,8-HXCDD		1.25	59.2	56.8	41.4 - 97.1	95.9
1,2,3,6,7,8-HXCDD		1.26	51.8	51.9	39.4 - 69.4	100
1,2,3,7,8,9-HXCDD		1.28	56.7	54.8	36.3 - 91.9	96.7
1,2,3,4,6,7,8-HPCDD		1.05	50.0	47.8	35.0 - 70.0	95.6
OCDD		0.89	108	103	84.2 - 155	95.4
2,3,7,8-TCDF		0.78	10.9	11.0	8.18 - 17.2	101
1,2,3,7,8-PECDF		1.53	50.0	47.9	40.0 - 67.0	95.7
2,3,4,7,8-PECDF		1.53	50.0	48.7	34.0 - 80.0	97.4
1,2,3,4,7,8-HXCDF		1.25	54.4	51.2	39.2 - 72.9	94.1
1,2,3,6,7,8-HXCDF		1.24	50.0	49.5	42.0 - 65.0	99.0
1,2,3,7,8,9-HXCDF		1.24	50.0	49.7	39.0 - 65.0	99.4
2,3,4,6,7,8-HXCDF		1.23	53.1	51.4	37.2 - 82.8	96.8
1,2,3,4,6,7,8-HPCDF		1.02	50.0	50.6	41.0 - 61.0	101
1,2,3,4,7,8,9-HPCDF		1.02	50.0	48.3	39.0 - 69.0	96.7
OCDF		0.91	109	100	68.4 - 185	92.5

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under OPR.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 30-Jul-2008 11:57:59; Application: XMLTransformer-1.9.10;
Report Filename: 1613_DIOXINS_1613DB5_WG25754-103_Form8A_SJ883421.html; Workgroup: WG25754; Design ID: 699]

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AXYS METHOD MLA-017 Rev 14

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.:	4406	**OPR Data Filename:**	**DX82_253 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG25754-103 :4406
Extraction Date:	04-Jul-2008	**Analysis Date:**	16-Jul-2008 **Time:** 09:46:41

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	100	38.0	20.0-175	38.0
13C-1,2,3,7,8-PECDD [4]		0.63	100	37.1	21.0-227	37.1
13C-1,2,3,4,7,8-HXCDD		1.26	100	33.9	21.0-193	33.9
13C-1,2,3,6,7,8-HXCDD		1.25	100	36.6	25.0-163	36.6
13C-1,2,3,4,6,7,8-HPCDD		1.03	100	31.9	26.0-166	31.9
13C-OCDD		0.90	200	63.8	26.0-397	31.9
13C-2,3,7,8-TCDF		0.77	100	38.7	22.0-152	38.7
13C-1,2,3,7,8-PECDF		1.55	100	34.3	21.0-192	34.3
13C-2,3,4,7,8-PECDF		1.56	100	32.1	13.0-328	32.1
13C-1,2,3,4,7,8-HXCDF		0.52	100	33.7	19.0-202	33.7
13C-1,2,3,6,7,8-HXCDF		0.53	100	33.5	21.0-159	33.5
13C-1,2,3,7,8,9-HXCDF		0.53	100	34.8	17.0-205	34.8
13C-2,3,4,6,7,8-HXCDF		0.52	100	31.6	22.0-176	31.6
13C-1,2,3,4,6,7,8-HPCDF		0.44	100	33.0	21.0-158	33.0
13C-1,2,3,4,7,8,9-HPCDF		0.45	100	31.7	20.0-186	31.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	6.22	3.10-19.1	62.2

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Jason MacKenzie_____ QA/QC Chemist

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Report Filename: 1613_DIOXINS_1613DB5_WG25754-103_Form8B_SJ883421.html; Workgroup: WG25754; Design ID: 699]

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