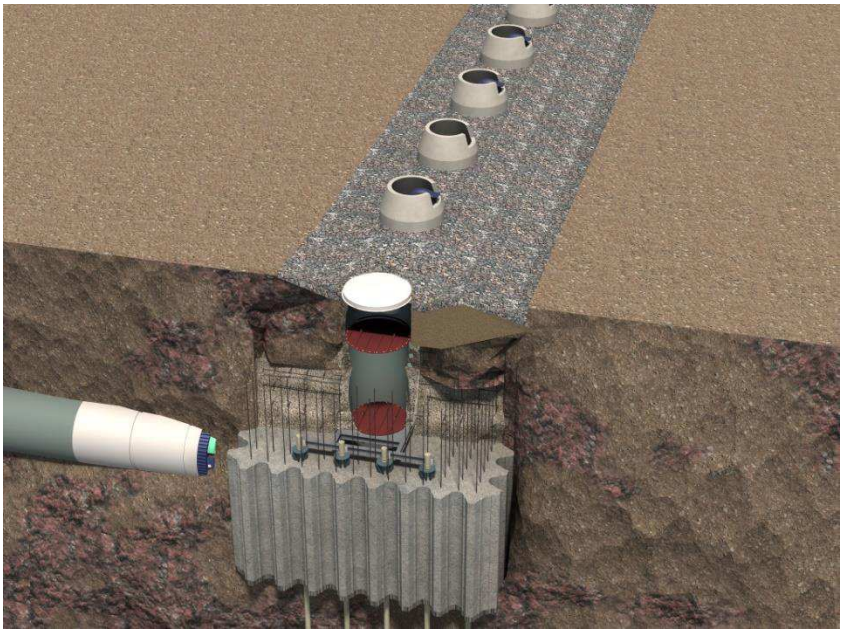
APPENDIX G
DREDGING STUDIES

G.2: Sediment Characterization Report

Annacis Island WWTP New Outfall System

Vancouver Fraser Port Authority
Project and Environmental Review Application



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REPORT

7 November 2017

ANNACIS ISLAND WASTEWATER TREATMENT PLANT TRANSIENT MITIGATION AND OUTFALL PROJECT

Sediment Characterization Report to Support a Potential Disposal at Sea Application

Submitted to:
Metro Vancouver
4330 Kingsway
Burnaby, BC
V5H 4G8

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1 e-copy: Environment and Climate Change Canada
1 e-copy: Metro Vancouver
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Golder Associates

Executive Summary

Background

Metro Vancouver (MV), through the Greater Vancouver Sewerage and Drainage District, owns and operates three secondary wastewater treatment plants that discharge to the lower Fraser River. The largest plant, Annacis Island Waste Water Treatment Plant (AIWWTP; 1299 Derwent Way in Delta, British Columbia), provides secondary treatment of wastewater to over one million people from 14 municipalities in the Greater Vancouver region. The plant is currently being expanded to increase treatment capacity to approximately 1,250,000 people and is being upgraded to meet current seismic standards. CDM Smith Canada ULC (CDM Smith) has been retained by MV to provide consulting engineering services for the AIWWTP Transient Mitigation and Outfall Project (henceforth referred to as the project). Dredging of Fraser River sediment within a delineated dredge pocket will be required to accommodate the installation of a new effluent diffuser. On-land sediment disposal options are currently being evaluated, however, it is possible that disposal at sea (DAS) might be required should alternative on-land disposal options not prove feasible.

Golder Associates Ltd. (Golder) was retained by CDM Smith on behalf of MV to undertake sampling to characterize sediment from within the boundaries of the dredge pocket delineated for the new diffuser installation. Consistent with Environment and Climate Change Canada (ECCC) Pre-Application Phase guidance for a permit pursuant to the DAS Regulations (SOR/2001-275), Golder prepared a Sampling and Analysis Plan (SAP) for the collection and analysis of sediment within the boundaries of the proposed dredge pocket. The SAP was drafted in consideration of further guidance provided by ECCC at a pre-application meeting attended by representatives of ECCC, MV, CDM Smith, and Golder on 21 December 2016. Discussion at the meeting focussed on the project description, DAS application requirements, and the content of the SAP. The SAP was subsequently submitted to ECCC in February 2017 and following ECCC approval was implemented during a pre-freshet sediment program from 28 to 30 March 2017. Sediment data collected during the sediment program are reported in this Sediment Characterization Report, intended for inclusion in a potential DAS permit application pursuant to the DAS Regulations, providing the application is submitted before March 2022 (i.e., within five years of the 2017 Sediment Characterization Program).

Sediment Characterization Program

Fraser River sediments were sampled in March 2017 at locations distributed throughout the dredge pocket proposed to accommodate installation of the replacement AIWWTP outfall diffuser. The proposed location for the dredge pocket is within the mid-channel, adjacent to the navigation channel that is periodically dredged by the Port of Vancouver. As expected from a review of existing information, surficial sediments within the dredge pocket primarily comprised of unconsolidated sand with little spatial variation. This physical characterization was consistent with the findings of recent surficial sediment sampling close to the dredge pocket and recent geotechnical studies at depth. The geotechnical studies suggested that homogeneous unconsolidated sand at the sediment surface extended with depth to relatively shallow depths relevant to the dredge pocket (i.e., 0 to 6 m but predominantly 0 to 3 m).

In 2017, the predominance of unconsolidated sand within the dredge pocket precluded the successful collection of vibracore samples, despite repeated attempts. As discussed with ECCC during implementation of the 2017 program, it is reasonable to expect that characteristics of the upper sediment layer would be representative of underlying sediment down to depths relevant to the dredge pocket, based on a review of existing information summarized in the SAP and information documented during the 2017 program.

Constituent concentrations in surface sediments met the regulated DAS Regulation lower level concentrations for cadmium, mercury, total polycyclic aromatic hydrocarbons, and total polychlorinated biphenyls. Concentrations of these and other sediment constituents not regulated under DAS were at or below applicable Canadian Council of Ministers of the Environment interim sediment quality guidelines. This characterization of sediment chemistry within the dredge pocket was consistent with surface and sub-surface sampling recently undertaken by MV within the vicinity of the dredge pocket and was typical of mid-channel sediment chemistry documented in the lower Fraser River.

Collectively, data collected by the 2017 Sediment Characterization Program and existing information summarized in the SAP provide a physical and chemical characterization that meets pre-application sampling requirements for a potential DAS permit application pursuant to the DAS Regulations. Therefore, no further sediment collection is proposed within the dredge area for this purpose.

Statement of Limitations

This report was prepared for the exclusive use of Metro Vancouver and CDM Smith Canada ULC. No other party may use or rely on this report or any portion thereof without Golder's express written consent. Golder will consent to any reasonable request by the Client to approve the use of this report by other parties as Approved Users. Regulators are considered Approved Users. Any use that a third party may make of this report, or any reliance on or decisions made based on it, is the responsibility of the third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. We disclaim responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

In preparing this report, we have relied in good faith on information provided by others. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiency, mis-statement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

The services performed as described in this report were conducted in a manner consistent with the level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services. The content of this report is based on information compiled during preparation of the report, our present understanding of site conditions, the assumptions stated in this report, and our professional judgement in light of such information at the time of preparation of this report. This report provides a professional opinion and, therefore, no warranty is expressed, implied, or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

The findings and conclusions of this report are valid only as of the date of the report. If new information is discovered in future work, or if the assumptions stated in this report are not met, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

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TABLES

FIGURES

APPENDICES

List of Abbreviations and Acronyms

AIWWTP	Annacis Island Wastewater Treatment Plant
ALS	ALS Environmental Ltd
Axys	Axys Analytical Services Ltd
BC	British Columbia
CCME	Canadian Council of Ministers of the Environment
CRM	certified reference material
CDM Smith	CDM Smith Canada ULC
DAS	disposal at sea
DQO	data quality objectives
ECCC	Environment and Climate Change Canada
Golder	Golder Associates Ltd
GVS&DD	Greater Vancouver Sewerage and Drainage District
ISQG	Interim Sediment Quality Guidelines
L/HEPH	light/heavy extractable hydrocarbons
MV	Metro Vancouver
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCDD/F	polychlorinated dibenzo-p-dioxin and furan
PEL	probable effects level
QA/QC	quality assurance / quality control
RDL	reported detection limit
RPD	relative percent difference
TEQ	toxic equivalent quotient
TOC	total organic carbon

LIST OF UNITS

%	percent
cm	centimeters
kg	kilogram
mm	millimeter

1.0 INTRODUCTION

Metro Vancouver (MV), through the Greater Vancouver Sewerage and Drainage District (GVS&DD), owns and operates three secondary wastewater treatment plants that discharge to the lower Fraser River. The largest plant, Annacis Island Waste Water Treatment Plant (AIWWTP; 1299 Derwent Way in Delta, British Columbia), currently provides secondary treatment of wastewater to over one million people from 14 municipalities in the Greater Vancouver region. The plant is currently being expanded to increase treatment capacity to approximately 1,250,000 people and is being upgraded to meet current seismic standards. Once complete, the AIWWTP Stage 5 expansion will increase treatment capacity to accommodate the region's future population growth, provide additional reliability in maintaining sewage treatment capabilities in the event of a large earthquake, take advantage of green energy captured on-site, and better manage odour issues. A major component of the Stage 5 Expansion is the replacement of the AIWWTP outfall in the lower Fraser River. The current conceptual design for the replacement outfall consists of a tunnel system to convey treated effluent from the plant to a diffuser structure to be constructed in the Fraser River downstream of the existing outfall and the Alex Fraser Bridge. Dredging of Fraser River sediment will be required to accommodate installation of the new effluent diffuser. On-land sediment disposal options are currently being evaluated, however, it is possible that disposal at sea (DAS) might be required should alternative on-land disposal options not prove feasible.

Golder Associates Ltd. (Golder) was retained by CDM Smith Canada ULC (CDM Smith) on behalf of MV to undertake sampling to characterize sediment from within the boundaries of the dredge pocket delineated for the new diffuser installation. Consistent with Pre-Application Phase guidance from Environment and Climate Change Canada (ECCC) for a permit pursuant to the Disposal at Sea Regulations (SOR/2001-275), Golder prepared a Sampling and Analysis Plan (SAP) for the collection and analysis of sediment within the proposed dredge pocket (included as Appendix A in this report). The SAP was drafted in consideration of further guidance provided by ECCC at a pre-application meeting attended by representatives of ECCC, MV, CDM Smith, and Golder on 21 December 2016. Discussion at the meeting focussed on the project description, DAS application requirements, and the content of the SAP. The SAP was subsequently submitted to ECCC in February 2017 and following ECCC approval was implemented during a pre-freshet sediment program from 28 to 30 March 2017 (Lewis S, pers. comm 2017a). Sediment data collected during the sediment program are reported in this Sediment Characterization Report, intended for inclusion in a potential DAS permit application pursuant to the Disposal at Sea Regulations, providing the application is submitted before March 2022 (i.e., within five years of the 2017 Sediment Characterization Program).

1.1 Description of Proposed Dredge Pocket

As shown on Figure 1, the proposed location for the dredge pocket is below the high-tide line in the lower Fraser River downstream from the Alex Fraser Bridge; adjacent to the navigational channel to the south of Annacis Island, Delta, BC (49°09'29.6"N 122°57'04.3"W). The dredge pocket is downstream of the existing AIWWTP outfall in an area on the inside of St. Mungo's Bend (Figure 1). In this area, currents tend to be lower than those in the adjacent mid-channel due to the river configuration and the flow diversion provided by the ship collision structures on the north anchor of the Alex Fraser Bridge. Lower flows in this location can result in the temporary local deposition of sediment but a recent study by Northwest Hydraulic Consultants (2016) for the project indicated that long-term (or permanent) changes in bathymetry have not been observed, suggesting that fine material continuous to be transported downstream during high flow periods such as storm events or the annual freshet. The dredge pocket location is also within the potential influence of the salt wedge as it migrates upstream from the mouth under seasonal low flow conditions, as recently documented by Golder (2017a).

The proposed location for the dredge pocket is within the jurisdiction of the Vancouver Fraser Port Authority (doing business as Port of Vancouver). As shown on Figure 1, three water lot lease boundaries are situated within the vicinity; the closest water lot is located between the proposed dredged pocket and Annacis Island and is held by Southern Railway of British Columbia Ltd. under lease from Port of Vancouver. This water lot is bordered to the east by a water lot held by Delta Cedar Products Ltd., and to the west by a water lot held by Turning Point Brewery (shown as BC LTD on Figure 1).

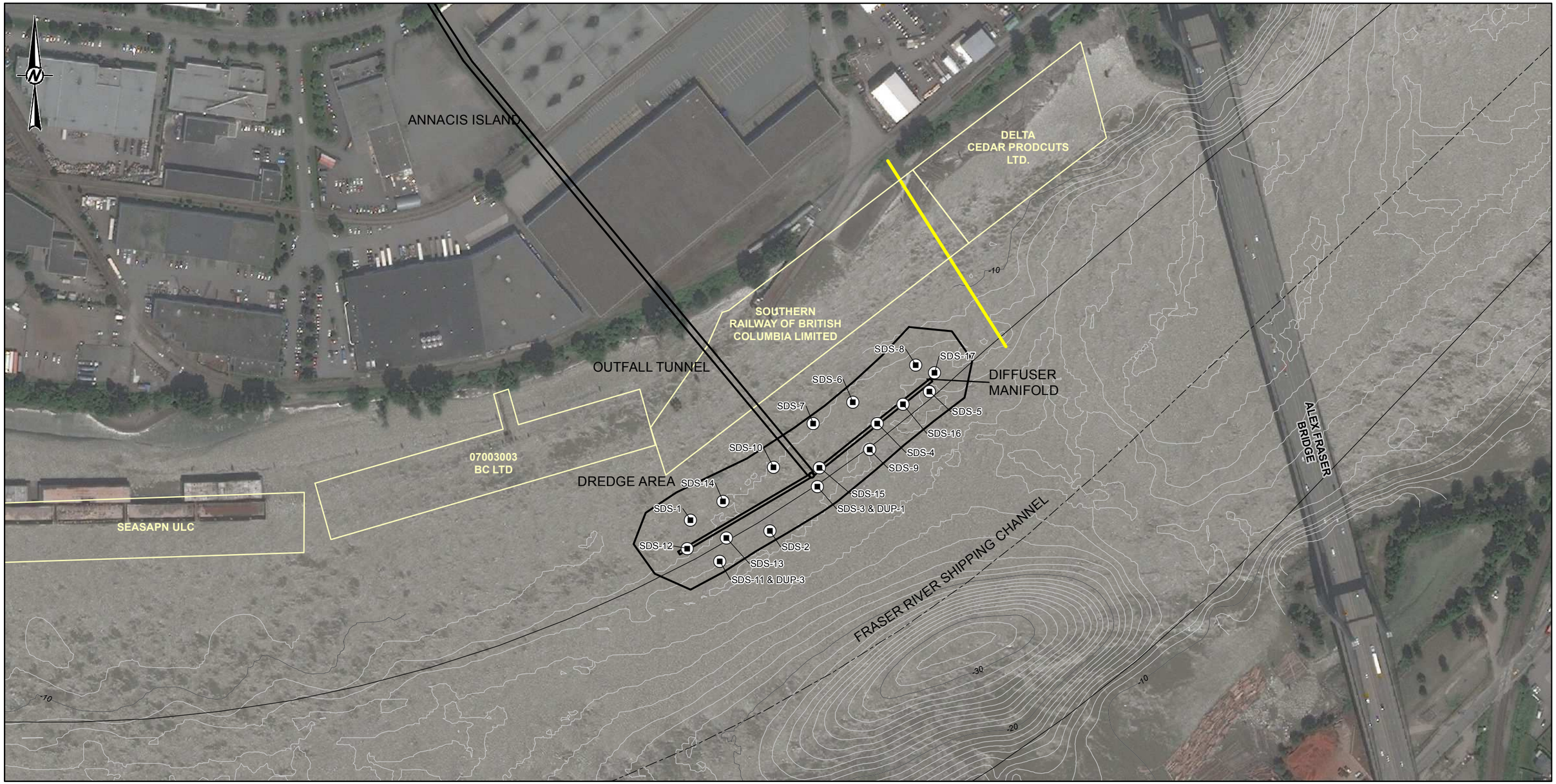
As described in the SAP provided in Appendix A, the proposed dredge pocket is angular in shape to facilitate slope stability during construction. The gentle grade of the dredge pocket sides means that for the most part the proposed dredge pocket will be shallower than 3 m. The maximum depth of approximately 6 m will only occur within a relatively small area where the diffuser is intended to be connected to the riser shaft. Further details regarding proposed dimensions of the dredge pocket and other aspects of the planned dredging are provided in the SAP (Appendix A).

2.0 OBJECTIVES

This report is intended to provide a physical and chemical characterization of sediment within the proposed dredge pocket that could potentially be considered for DAS, should other disposal options currently under evaluation not prove to be feasible.

The specific objectives of the report are outlined below.

- Describe implementation of the Sediment Characterization Program outlined in SAP and document any modifications made during implementation that were approved by ECCC.
- Report and summarize sediment data collected by the program, including concentrations of constituents regulated under the Disposal at Sea Regulations (i.e., Cd, Hg, total polycyclic aromatic hydrocarbons [PAHs], and total polychlorinated biphenyls [PCBs]), organic carbon, grain size, metals, dioxins and furans, and other relevant constituents listed in the SAP.
- Provide a summary of the quality assurance / quality control (QA/QC) measures taken during the sampling program and report results of the QA/QC assessment.
- Provide a physical and chemical characterization of sediments within the proposed dredge pocket to meet pre-application sampling requirements for a potential DAS application.



LEGEND

- PROPOSED INFRASTRUCTURE (APPROXIMATE)
- WATERLOT LEASE
- EXISTING WWPT OUTFALL
- CENTRE OF CHANNEL
- OUTER CHANNEL BOUNDARY
- BATHYMETRY - 1m
- BATHYMETRY - 10m
- SURFICIAL SEDIMENT SAMPLE

LOCATION	SAMPLE TYPE	EASTING	NORTHING	LATITUDE	LONGITUDE
SDS-1	SURFICIAL SEDIMENT	503725	5445053	49.158284	-122.948914
SDS-2	SURFICIAL SEDIMENT	503787	5445045	49.158209	-122.948064
SDS-3 & DUP-1	SURFICIAL SEDIMENT	503824	5445079	49.158517	-122.947555
SDS-4	SURFICIAL SEDIMENT	503871	5445128	49.158962	-122.946913
SDS-5	SURFICIAL SEDIMENT	503911	5445153	49.159186	-122.946353
SDS-6	SURFICIAL SEDIMENT	503852	5445145	49.159111	-122.947172
SDS-7	SURFICIAL SEDIMENT	503821	5445128	49.15896	-122.947598
SDS-8	SURFICIAL SEDIMENT	503901	5445174	49.159371	-122.946499
SDS-9	SURFICIAL SEDIMENT	503865	5445108	49.158776	-122.946991
SDS-10	SURFICIAL SEDIMENT	503790	5445094	49.158653	-122.948022
SDS-11 & DUP-3	SURFICIAL SEDIMENT	503748	5445021	49.157993	-122.948598
SDS-12	SURFICIAL SEDIMENT	503722	5445031	49.158083	-122.948949
SDS-13	SURFICIAL SEDIMENT	503753	5445039	49.158158	-122.948529
SDS-14	SURFICIAL SEDIMENT	503750	5445067	49.158414	-122.948564
SDS-15	SURFICIAL SEDIMENT	503825	5445094	49.158652	-122.947534
SDS-16	SURFICIAL SEDIMENT	503891	5445143	49.159094	-122.946635
SDS-17	SURFICIAL SEDIMENT	503915	5445168	49.159317	-122.946299

0 30 60 90 120

1:3,000 METRES

REFERENCES

1. SHIPPING CHANNEL SUPPLIED BY BLACK & VEATCH
3. IMAGERY COPYRIGHT © 20090925 ESRI AND ITS LICENSORS. SOURCE:DIGITALGLOBE WV01. USED UNDER LICENSE, ALL RIGHTS RESERVED.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
CDM SMITH CANADA ULC

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-11-08
DESIGNED	PM
PREPARED	JP
REVIEWED	PM
APPROVED	EI

PROJECT
ANNACIS ISLAND WWTP TRANSIENT MITIGATION & OUTFALL UPGRADE
DELTA, B.C.

TITLE
SEDIMENT CHARACTERIZATION PROJECT LOCATIONS SAMPLED WITHIN THE DREDGE POCKET PROPOSED FOR THE AIWWTP IN-RIVER DIFFUSER

PROJECT NO.	CONTROL	REV.	FIGURE
1525010	3400/3400.2	0	1

PATH: Y:\burnaby\CAD-GIS\Client\CDM_Smith\Annacis_Island\99_PROJECTS\1525010_WWTP\02_PRODUCTION\3400\MXD\Report\3400_2\Figure_01_WWTP_Dredge_Pocket_Sample_Locations.mxd

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0 25mm

3.0 STUDY DESIGN AND METHODS

This section provides an update to the study design and methods described in the SAP with respect to the methodologies implemented during the sampling program and any modifications made during implementation that were approved by ECCC.

3.1 Project Permits

For the sediment program to go ahead two permits were required through the Vancouver Fraser Port Authority for the Sediment Characterization Program: a Marine Events Permit (2017-081; Appendix C) and a Category A Project Permit (17-045; Appendix C). Both permits were obtained by Golder prior to the commencement of the sampling program.

3.2 Initial Sampling

In consideration of the relatively shallow depth of the proposed dredge pocket, the SAP proposed that a combination of surficial (7) and sub-surface core (12) sediment samples be collected to provide spatial coverage, both at the surface and at shallow depths down to approximately 2 to 3 m. Surface grab samples were successfully collected as planned whereas it was not feasible to collect samples at depth given the unconsolidated coarse sand substrate (as documented in Table 1 and Appendix B. The vibracore coring device was able to penetrate to an approximate depth of up to 2 m; however, the vibracore was unable to retain the coarse sand samples and therefore core samples were not retrieved. Sampling effort involved repeated sampling in multiple locations using variations in both sampling technique and equipment as described in Table 1.

Table 1: Summary of Sampling Effort for Sub-Surface Vibracore Sampling within the Boundaries of the Proposed Dredge Pocket for the AWTTP In-River Diffuser, 29 March 2017

Attempt Number	Location	UTM Coordinates	Sampling Time	Vibracore Push Depth into the Sediment (m)	Recovery Quantity (% of Total Push)	Sampling Notes and Observations[1]
1	VS-4	E503896 N5445172	7:50	2.1	0	No recovery so the cutterhead was changed for next attempt
2	VS-4	E503893 N5445169	8:30	1.5	0	Crew observed acceptable recovery until the vibracore tube reached the sediment surface, whereupon, the unconsolidated sample was lost out the bottom. The core catcher was changed to one with stiffer catching fingers
3	VS-4	E503894 N5445172	8:45	1.5	0	Vibracore collection tube length was changed from 2 to 3 m
4	VS-4	E503897 N5445172	9:30	1.6	0	Target depth was reduced to 1.5 m to improve force
6	VS-2	E503785 N5445093	10:30	2	0	Method of pushing the core varied (i.e., using two separate pushes rather than one)
7	VS-2	E503784 N5445508	11:00	2.12	0	Same sampling technique as Attempt 6 but used a plastic bag with slits to assist the core catcher.

3.3 Modified Study Design

Based on a review of the unsuccessful sub-surface sampling effort with ECCC and the information previously available from recent sediment and geotechnical sampling as documented in the SAP, a decision was made to focus on the collection of a larger number of surficial samples (17 samples) (Lewis S, pers. comm. 2017b). It was concluded with ECCC that the available information supported the expectation that characteristics of the upper sediment layer would be representative of underlying sediment down to depths relevant to the dredge pocket.

The collection of 17 surface samples exceeds the ECCC minimum sampling requirement of 15 samples for the proposed dredge pocket volume (69,600 m^3) in order to meet the pre-application sampling requirements of a potential DAS application for the project (ECCC 2014). The 17 sampling locations were evenly dispersed throughout the proposed dredge pocket width (560 m) and length (2,500 m), as shown on Figure 1.

3.4 Sample Collection and Handling

The *Miscou Banks* vessel operated Coastline Technologies Inc., equipped with a bow-mounted winch, was used to collect surface sediment samples. Samples were collected using a vessel-deployed, weighted Van Veen grab sampler (36 cm x 33 cm x 20 cm, weighing 36 kg). Sample collection and processing methods were consistent with the BC Field Sampling Manual (BC MoE 2013a) and instructions provided by the two analytical laboratories.

Consistent with guidance provided by BC MoE (2013a), only grab samples that met the following acceptability criteria were retained for analysis:

- sampler was fully closed and did not contain large rocks or other debris
- sampler achieved adequate penetration depth (i.e., at least 15 cm to retrieve an undisturbed 10 cm upper horizon)
- sampler was not deployed on an angle (sediment surface did not touch the top of the sampler, and was relatively flat)
- sample was not overfilled or disturbed
- sampler did not leak (overlying water was present and no visible leaks)

After the collection of each sediment sample, the following were measured and/or documented at each sampling station in field data sheets:

- site name
- date and time
- station water depth
- sampling location (GPS)
- number of successful and unsuccessful grabs taken
- photos of all sediment samples and sampling locations
- where applicable, description of adjacent habitat conditions

Once a grab met the acceptable criteria, overlying water present in each grab was removed through siphoning using disposable silicon tubing and an aspirator. The grab contents were then visually examined, photos obtained, and observations of the colour, odour, texture as well as other characteristics recorded in the field data sheets.

The successful collection of a single grab at each sample location provided sufficient material for chemical analyses of the parameters listed in Section 3.6. The top 10 cm from each grab was removed and homogenized using a mixing spoon in a steel bowl, then distributed to the labelled sample container appropriate for each analyses. Each container was completely filled with sediment to limit headspace and stored in the dark in a cooler chilled with ice packs, prior to delivery to the appropriate analytical laboratory.

3.5 Equipment Decontamination

Equipment in contact with the sample was decontaminated as follows before being reused:

- The corer and grab sampler were pressure-washed using site water, then swabbed with a solution of site water and laboratory-grade detergent (e.g., Liquinox®), before being rinsed with site water.
- Bowls and spoons were washed with a scrub-brush and laboratory-grade detergent (e.g., Liquinox®) followed by a distilled water rinse.

3.6 Laboratory Analysis

Samples were submitted to ALS Environmental Ltd (ALS; Burnaby, BC) and Axys Analytical Services Ltd (Axys; Sidney, BC) for physicochemical analysis as described below and in Table 2.

- **ALS Environmental Ltd (ALS; Burnaby, BC)** analyzed each sample collected for grain size distribution, moisture content, total organic carbon (TOC), polycyclic aromatic hydrocarbons (PAHs), and metals. Saturated paste extractables[1] and light/heavy extractable hydrocarbons (L/HEPH) were analyzed on a subset of samples[2].
- **Axys Analytical Services Ltd (Axys; Sidney, BC)** analyzed each sample collected for PCBs. A subset of samples were analysed for polychlorinated dibenzo-p-dioxins and furans (PCDD/Fs), herein referred to as dioxins and furans.

[1] To provide a measure of salinity

[2] Phenolics and organotins were also analysed on a subset of samples to supplement a dataset reported by Golder (2017b). These parameters were not proposed for analysis in the SAP and the data are not reported in this Sediment Characterization Report.

Table 2: Summary of the Dredge Pocket Sediment Characterization Program

Parameter	Analytical Laboratory	# of Locations Where Samples were Collected	# of Duplicate Split Samples	Rationale for Inclusion
PAHs	ALS	17	2	Regulated parameter
LEPH-HEPH		5	1[2]	To be used for evaluation of land-based disposal options
Metals		17	2	Regulated parameters and other contaminants of potential concern
TOC		17	2	Minimum sampling requirement (used to interpret other parameters)
Particle size		17	2	Minimum sampling requirement (used to interpret other parameters)
Salinity (saturated paste extractables)		17	2	To be used for evaluation of land-based disposal options
Dioxins and Furans	Axys	6[1]	1[2]	Identified as a contaminant of potential concern
PCBs		17	2	Regulated parameter

Notes

[1] – Number of locations where sediment samples were submitted for analysis Sediment samples collected from the other locations were archived.

[2] – Due to a sample processing oversight the duplicate sample was not submitted for analysis (see Section 4.2.1)

ALS = ALS Environmental Ltd

Axys = Axys Analytical Services Ltd

PAHs = polycyclic aromatic hydrocarbons

LEPH-HEPH = light and heavy extractable petroleum hydrocarbons (parameter defined by British Columbia Ministry of Environment)

PCBs = polychlorinated biphenyls

TOC = total organic carbon

3.7 Data Screening

Sediment chemistry data were screened against lower level concentrations in the Disposal at Sea Regulations for cadmium, mercury, total PAHs, and total PCBs (Table 3). Data were also screened against the lower of either the marine and freshwater Canadian Council of Ministers of the Environment (CCME) sediment quality guidelines, given that the salt wedge has been documented to extend up to Annacis Island under seasonal low flow conditions (Golder 2017a). The Interim Sediment Quality Guideline (ISQG) is intended to represent a concentration below which adverse biological effects are expected to only rarely occur, whereas, the Probable Effects Level (PEL) is intended to represent a concentration below which adverse effects may occasionally occur (CCME 1999).

Total PAH values were calculated for each sediment sample as the sum of 16 detected PAHs in a given sample: acenaphthene, naphthalene, acenaphthylene, anthracene, phenanthrene, fluorene, fluoranthene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, benzo[ghi]perylene, dibenz[a,h]anthracene, indeno[1,2,-cd]pyrene, and pyrene.

The dioxin and furan toxic equivalent quotients (TEQs) for each sample was calculated as the sum of individual PCDD/F congener concentrations multiplied by their respective toxicity equivalency factors referenced for fish in CCME (2001).

Spreadsheets were systematically checked for errors by a person other than the person who entered the data. The sediment data were also tabulated separately in spreadsheets specifically formatted in accordance with DAS data requirements for dredging projects for submission to ECCC (ECCC 2014b).

3.8 Quality Assurance / Quality Control

3.8.1 Field

The QA/QC measures listed in Section 4.6 of the SAP (Appendix A) were implemented during the sediment program. With respect to the collection of duplicate samples, two duplicates were collected as split samples of the original homogenized composite sample (i.e., SDS-3 for all constituents listed in Table 2 and SDS-11 only for constituents that were measured in the 17 sediment samples). These two QA/QC samples were equivalent to 11.7% of the total number of primary samples, thus meeting the relevant standard data quality objective of >10% recommend by BC MoE (2013b).

To assess variability between each field duplicate and the original sample, the relative percent difference (RPD) was calculated as follows:

$$RPD = \left(\frac{sample - duplicate}{(sample + duplicate)/2}\right) \times 100$$

In accordance with the BC Field Sampling Manual (BC MoE 2013a), an RPD value of ±20% for values ≥ 5 times the reported detection limit (RDL) was used to identify possible differences between original and duplicate samples. An RPD value of ±50% was used to identify definite differences between the original and duplicate samples. Analytical variability increases near the RDL and so only RPDs calculated between duplicate values less than 5 times the RDL were reported to provide a more reliable measure of variability associated with the collection of field samples.

3.8.2 Laboratory

Laboratory QA/QC undertaken by both ALS and Axys, included the analysis of laboratory replicates, method blanks, and reference samples (a certified reference standard, spike or control standard), as applicable for the analysis of sediment. Both laboratories are accredited by the Canadian Association for Laboratory Accreditation (CALA) and analysis was undertaken as per their standard operating procedures (SOPs).

Laboratory data were reviewed upon receipt to verify that specified data quality objectives (DQOs) were met. Potential inconsistencies were noted and where appropriate analyses were re-run to confirm results.

For grain size, TOC, PAHs, metals, saturated paste extractables, and L/HEPH data, ALS assigned “less than” (<) signs to indicate when a reported concentration was below the RDL (Appendix D). For PCBs and dioxins and furans, Axys assigned the following qualifiers to data flagged in the laboratory reports issued to Golder (Appendix D).

- **NDR or R**: peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration
- **C**: co-eluting congener, concentration is estimated
- **ND**: analyte was not detected at the reporting limit

For this sediment assessment, PCBs and dioxins and furans data flagged with the above qualifiers were assigned a “less than” (<) sign and treated as <RDL for the purpose of data analysis to denote reduced quantitative reliability.

4.0 RESULTS

Sediment data summarized in Table 3 include grain size, conventional parameters, TOC, metals, PAHs, PCBs (those with CCME sediment guidelines), organotins, saturated paste extractables, chlorophenols, L/HEPHs and dioxins and furans. Data for the remaining PCB compounds where CCME sediment guidelines were not available are presented separately in Appendix E. With the exception of moisture content, sediment data were reported on a dry weight (dry wt) basis.

Analytical laboratory reports from ALS and Axys are provided in Appendix D and results of the QA/QC assessment of field duplicates are provided in Appendix F.

TABLE 3:

Surficial Sediment Quality Data from the Proposed Dredge Pocket Screened against Lower Level Concentrations Specified in Disposal at Sea Regulations and Applicable Federal Sediment Quality Guidelines, March 2017

Parameter	Disposal at Sea Lower Level Concentration[1]	Notes	CCME PEL[2]	Notes	CCME ISQG[2]	Notes	Method Reporting Limit	Units	Sample Name	SDS-1	SDS-2	SDS-3[8]	SDS-4	SDS-5	SDS-6	SDS-7	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
									Date Sampled	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017
									SCN	L1906730-1/L27039-1	L1906730-2/L27039-2	L1906730-3/L27039-3	L1906730-4/L27039-4	L1906730-5/L27039-5	L1906730-6/L27039-6	L1906730-7/L27039-7	L1907291-1/L27039-11	L1907291-2/L27039-12	L1907291-3/L27039-13	L1907291-4/L27039-14	L1907291-5/L27039-15	L1907291-6/L27039-16	L1907291-7/L27039-17	L1907291-8/L27039-18	L1907291-9/L27039-19	L1907291-10/L27039-20
									QA/QC			FDA								FDA						
Physical Tests																										
Moisture							0.25	%		16.6	18.7	18.9	18.1	20.9	19.8	20.5	19.8	19.3	15.9	20	21.1	19	19.4	20.5	18.6	19.9
pH (1:2 soil:water)							0.1	pH		7.65	7.49	7.60	7.45	7.40	7.32	8.00	7.53	7.62	7.48	7.57	7.56	7.49	7.39	7.86	7.57	7.38
Particle Size																										
% Gravel (>2mm)							0.1	%		<1.0	1.20	<1.0	2.90	<1.0	<1.0	1.20	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0
% Sand (2.0mm - 0.063mm)							0.1	%		98.8	98.3	99.4	96.8	99.0	99.5	98.3	99.5	99.2	98.4	98.9	99.2	99.5	98.9	98.1	99.7	99.7
% Silt (0.063mm - 4µm)							0.1	%		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
% Clay (<4µm)							0.1	%		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Texture							-	-		Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon																										
Total Organic Carbon							0.1	%		0.272	0.20	0.137	<0.050	0.115	0.136	<0.050	0.099	<0.050	0.063	0.059	0.051	0.055	0.058	0.071	0.116	<0.050
Metals																										
Aluminum (Al)							50	mg/kg		10200	11000	10300	11100	9890	9590	9450	8050	8360	7920	8060	8610	9060	9510	8630	8700	8900
Antimony (Sb)							0.1	mg/kg		0.21	0.2	0.18	0.22	0.18	0.19	0.18	0.16	0.16	0.16	0.16	0.18	0.19	0.18	0.17	0.17	0.18
Arsenic (As)			17	FS	5.9	FS	0.1	mg/kg		3.52	3.7	3.25	4	3.32	3.14	3.39	3.16	3.02	2.96	3.17	3.18	3.24	3.43	3.31	3.33	3.12
Barium (Ba)							0.5	mg/kg		47.3	46.3	46.2	54	42	41	46	41.5	40.3	35.8	42.8	49.2	46.3	47.5	38.3	62.6	49.1
Beryllium (Be)							0.1	mg/kg		0.19	0.21	0.21	0.22	0.19	0.19	0.18	0.16	0.17	0.16	0.17	0.18	0.18	0.18	0.18	0.18	0.18
Bismuth (Bi)							0.2	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron (B)							5	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd)	**0.6**		3.5	FS	0.6	FS	0.02	mg/kg		0.113	0.119	0.113	0.124	0.107	0.107	0.105	0.093	0.112	0.112	0.104	0.103	0.107	0.103	0.101	0.107	0.097
Calcium (Ca)							50	mg/kg		5570	6160	6210	6370	5520	5330	4660	3920	4520	3680	4140	4610	5270	5020	4620	4640	5120
Chromium (Cr)			90	FS	37.3	FS	0.5	mg/kg		31.9	28.8	25.3	31.3	26.3	21.3	18.5	14.5	17.8	18	14.4	19.7	25.5	19.3	20.6	21.5	22.5
Cobalt (Co)							0.1	mg/kg		8.69	8.85	7.88	9.13	7.77	7.6	7.38	6.14	6.59	6.72	6.19	6.73	6.81	7.26	6.81	6.8	7.1
Copper (Cu)			108	M/ES	18.7	M/ES	0.5	mg/kg		15.6	15.3	14.4	14.9	13.5	14.2	13.2	11.2	11.6	12.5	12.3	11.7	12.4	12.4	11.8	12.4	13.1
Iron (Fe)							50	mg/kg		21800	21300	19000	21400	18700	17800	17500	15300	15900	16200	15500	16300	16500	17400	16200	16500	16900
Lead (Pb)			91.3	FS	30.2	M/ES	0.5	mg/kg		2.29	2.46	2.17	2.4	2.08	2.03	2.03	1.87	1.88	1.94	1.87	1.95	1.89	2.01	2.04	2.06	1.96
Lithium (Li)							2	mg/kg		8.3	8.6	7.8	8.8	8.1	7.7	8	8	8	7.9	7.8	8	7.9	8.6	8.2	8.1	7.4
Magnesium (Mg)							20	mg/kg		7590	7430	6960	7950	6850	6460	6230	5030	5530	5510	5450	5970	6270	6210	5940	6210	6170
Manganese (Mn)							1	mg/kg		437	471	415	485	413	410	430	374	382	380	380	390	403	409	378	388	379
Mercury (Hg)	**0.75**		0.486	FS	0.13	M/ES	0.005	mg/kg		0.0196	0.0149	0.017	0.0134	0.0157	0.0162	0.0157	0.0178	0.0197	0.0168	0.0142	0.0186	0.0197	0.0156	0.0164	0.016	0.0231
Molybdenum (Mo)							0.1	mg/kg		0.33	0.32	0.28	0.39	0.27	0.29	0.28	0.24	0.25	0.27	0.28	0.3	0.31	0.32	0.3	0.31	0.28
Nickel (Ni)							0.5	mg/kg		35.6	32.6	29.3	37.8	29.5	27	25.8	21.3	23	23.8	22.4	26	27.3	25.7	26.3	26.9	27.2
Phosphorus (P)							50	mg/kg		491	516	529	589	485	455	462	355	461	440	386	417	400	406	390	396	375
Potassium (K)							100	mg/kg		500	490	470	520	450	430	450	370	390	340	390	430	460	510	460	430	390
Selenium (Se)							0.2	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver (Ag)							0.1	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium (Na)							50	mg/kg		315	251	244	280	219	220	294	-	-	-	-	-	-	-	-	-	-
Strontium (Sr)							0.5	mg/kg		24	23	24	25	21	20	20	18	18	18	21	23	22	22	20	21	22
Thallium (Tl)							0.05	mg/kg		<0.050	<0.050	<0.050	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tin (Sn)							2	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium (Ti)							1	mg/kg		850	988	878	938	815	855	773	562	617	546	640	758	834	849	770	745	770
Uranium (U)							0.05	mg/kg		0.328	0.289	0.284	0.273	0.252	0.25	0.23	0.207	0.207	0.228	0.255	0.254	0.24	0.276	0.255	0.248	0.226
Vanadium (V)							0.2	mg/kg		58.4	56.8	48.3	53.2	46.5	44.3	43.4	36.1	38.0	36.7	35.5	38.9	40.8	43.0	39.6	39.7	41.1
Zinc (Zn)			271	M/ES	123	FS	2	mg/kg		41.5	41.1	38.9	42.1	37.6	37	37.4	32.3	34.3	34.2	32.9	34.3	33.4	35.8	33.7	34.4	35.7
Zirconium (Zr)							1	mg/kg		5.1	5.6	5.3	5.7	5	5.3	4.7	3.8	3.9	3.7	4.2	4.5	4.9	5.2	4.5	4.5	4.9
Polycyclic Aromatic Hydrocarbons (PAHs)																										
Acenaphthene			0.0889	FS, M/ES, I	0.00671	FS, M/ES, I	0.005	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene			0.128	FS, M/ES, I	0.00587	FS, M/ES, I	0.005	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0076	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene			0.245	FS, M/ES, I	0.0469	FS, M/ES, I	0.004	mg/kg		<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0059	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Benz(a)anthracene			0.385	FS	0.0317	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.034	0.018	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene			0.763	M/ES	0.0319	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.031	0.019	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.043	0.022	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j+k)fluoranthene							0.015	mg/kg		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.062	0.036	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.019	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene			0.846	M/ES	0.0571	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.044	0.022	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene			0.135	FS, M/ES, I	0.00622	FS, M/ES, I	0.005	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene			1.494	M/ES	0.111	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.023	0.018	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Fluorene			0.144	FS, M/ES	0.0212	FS, M/ES	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.015	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2-Methylnaphthalene			0.201	FS, M/ES, I	0.0202	FS, M/ES, I	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene			0.391	FS, M/ES, I	0.0346	FS, M/ES, I	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene			0.515	FS	0.0419	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Pyrene			0.875	FS	0.053	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.028	0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Total Benzofluroanthenes[3,4]							-	mg/kg		<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	0.124	0.071	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035
Low MW PAH[3,5]							-	mg/kg		<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	0.049	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044	<0.044
High MW PAH[3,6]							-	mg/kg		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	0.32	0.20	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
Total[3] PAHs	**2.5**						-	mg/kg		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.376	0.253	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

TABLE 3:

Surficial Sediment Quality Data from the Proposed Dredge Pocket Screened against Lower Level Concentrations Specified in Disposal at Sea Regulations and Applicable Federal Sediment Quality Guidelines, March 2017

	Disposal at Sea Lower Level Concentration[1]	Notes	CCME PEL[2]	Notes	CCME ISQG[2]	Notes	Sample Name	SDS-1	SDS-2	SDS-3[8]	SDS-4	SDS-5	SDS-6	SDS-7	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
							Date Sampled	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017
							SCN	L1906730-1/L27039-1	L1906730-2/L27039-2	L1906730-3/L27039-3	L1906730-4/L27039-4	L1906730-5/L27039-5	L1906730-6/L27039-6	L1906730-7/L27039-7	L1907291-1/L27039-11	L1907291-2/L27039-12	L1907291-3/L27039-13	L1907291-4/L27039-14	L1907291-5/L27039-15	L1907291-6/L27039-16	L1907291-7/L27039-17	L1907291-8/L27039-18	L1907291-9/L27039-19	L1907291-10/L27039-20
							QA/QC			FDA								FDA						
Parameter							**Method Reporting Limit** / **Units**																		
Dioxins and Furans																								
2,3,7,8-TCDF (225)							0.0474 pg/g	0.109	0.108	0.122	-	-	0.109	-	-	0.109	0.126	-	-	-	-	-	-	-
2,3,7,8-TCDD							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,7,8-PECDD							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,4,7,8-HXCDD							0.0474 pg/g	<0.0772	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0578	-	-	-	-	-	-	-
1,2,3,6,7,8-HXCDD							0.0474 pg/g	<0.0772	0.060	<0.0508	-	-	0.050	-	-	<0.0506	0.070	-	-	-	-	-	-	-
1,2,3,7,8,9-HXCDD							0.0474 pg/g	<0.0772	<0.0481	<0.0508	-	-	0.052	-	-	<0.0506	0.087	-	-	-	-	-	-	-
1,2,3,4,6,7,8-HPCDD							0.0474 pg/g	<0.0495	<0.0481	0.264	-	-	0.307	-	-	0.263	0.381	-	-	-	-	-	-	-
OCDD							0.0474 pg/g	2.42	1.45	1.69	-	-	1.83	-	-	1.39	1.71	-	-	-	-	-	-	-
2,3,7,8-TCDF							0.0474 pg/g	0.147	0.153	0.20	-	-	0.143	-	-	0.184	<0.0473	-	-	-	-	-	-	-
1,2,3,7,8-PECDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
2,3,4,7,8-PECDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,4,7,8-HXCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,6,7,8-HXCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,7,8,9-HXCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
2,3,4,6,7,8-HXCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,4,6,7,8-HPCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
1,2,3,4,7,8,9-HPCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
OCDF							0.0474 pg/g	<0.0495	<0.0481	<0.0508	-	-	<0.0488	-	-	<0.0506	<0.0473	-	-	-	-	-	-	-
Dioxins and Furans TEQ[7]			21.5	FS, M/ES	0.85	FS, M/ES	- pg/g	0.195	0.176	0.188	-	-	0.178	-	-	0.186	0.174	-	-	-	-	-	-	-
Saturated Paste Extractables																								
Chloride (Cl)							0.46 mg/kg	11.8	1.99	2.18	1.93	2.79	2.28	2.68	1.79	1.32	1.42	1.34	1.40	1.20	1.20	23.3	1.32	1.57
% Saturation							1 %	27.3	24.5	25.9	26.4	25.1	26.7	24.6	23.7	23.0	23.5	24.6	24.3	24.8	25.7	25.2	24.8	24.3
Sodium (Na)							1 mg/kg	19.0	4.30	5.40	5.80	4.80	4.60	11.9	3.60	2.70	3.50	4.20	3.80	3.00	2.90	19.0	3.70	3.10
Hydrocarbons																								
Extractable Petroleum Hydrocarbons 10-19							200 mg/kg	-	<200	<200	-	-	<200	-	-	<200	<200	-	-	-	-	-	-	-
Extractable Petroleum Hydrocarbons 19-32							200 mg/kg	-	<200	<200	-	-	<200	-	-	<200	<200	-	-	-	-	-	-	-
Light extractable petroleum hydrocarbons							200 mg/kg	-	<200	<200	-	-	<200	-	-	<200	<200	-	-	-	-	-	-	-
Heavy extractable petroleum hydrocarbons							200 mg/kg	-	<200	<200	-	-	<200	-	-	<200	<200	-	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs)																								
Aroclor 1254			340	FS, P	60	FS, P	0.226 ng/g	<0.206	<0.163	<0.226	<0.184	<0.193	<0.248	<0.198	<0.168	<0.183	<0.148	<0.124	<0.205	<0.144	<0.135	<0.196	<0.164	<0.176
Total[3] PCBs	**100**		189	M/ES	21.5	M/ES	- ng/g	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226	<0.226

Notes:

All concentrations presented as dry weight.

The most conservative guideline between freshwater and marine/estuarine guidelines was selected where both were available.

< = below laboratory detection limit or less than; > = greater than; "**-**" = not measured; µm = micron; CCME = Canadian Council of Ministers of the Environment; FD = field duplicate; FDA = field duplicate available; FS = freshwater; I = interim guideline; ISQG = interim sediment quality guideline; M/ES = marine and/or estuarine water; mm = millimetre; MW = molecular weight; PEL = probable effect level; mg/kg = milligram per kilogram; ng/g = nanogram per gram; P = provisional sediment quality guideline; QA/QC = quality assurance/quality control; pg/g = picogram per gram; SCN = sample control number, TEQ = toxic equivalent quotient

[1] Government of Canada Disposal at Sea Regulations - SOR/2001-275. Accessed February 2017. Available at http://laws-lois.justice.gc.ca/PDF/SOR-2001-275.pdf

[2] Canadian Council of Ministers of the Environment (CCME) Sediment Guidelines for the Protection of Aquatic Life in Marine/Estuarine and Freshwater. Accessed May 2016. Available online at: http://st-ts.ccme.ca/en/index.html?chems=all&chapters=3.

[3] Sum of all compounds analyzed in the chemical class, values below the method detection limit were assigned a value of the detection limit.

[4] Total benzofluroanthenes are the sum of benzo(b)fluoranthene, benzo(b+j+k)fluoranthene and benzo(k)fluoranthene

[5] Low MW PAHs are: acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

[6] High MW PAHs are: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+j+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene and indeno(1,2,3-c,d)pyrene

[7] TEQs for fish tissue were calculated using toxic equivalency factors referenced in the CCME Sediment Quality Guideline for Dioxins and Furans (fact sheet) available at: http://ceqg-rcqe.ccme.ca/download/en/245, accessed June 12

[8] Due to a sample processing oversight the duplicate sample of SDS-3 was selected for the analysis of dioxins, furans and hydrocarbons but the original sample was not. Data from the analysis of the duplicate sample (DUP-1) is presented in this table as SDS-3 for these parameters.

4.1 Sediment Characterization

Sediment samples collected from throughout the dredge pocket were homogeneous with respect to physical characteristics. Samples were comprised predominantly of sand (96.8 to 99.5%) with low TOC (< 0.050 to 0.272%) (Table 3). All of the 17 samples had <1% fine sediments (i.e., <0.063 mm). Concentrations of chemical parameters of interest were also relatively consistent among the samples. The following was noted:

- Cadmium and mercury concentrations were below lower level concentrations specified in the Regulations.
- Total PAH and total PCB concentrations were below lower level concentrations specified in the Regulations.
- Concentrations of metals and individual PAH compounds were at or below the ISQG (the highest exceedance was for acenaphthylene at location SDS-8, which was 1.29 times the ISQG).
- Dioxin and furan TEQs were below the ISQG.
- Concentrations of L/HEPHs, chlorophenols and individual PCB congeners were non-detectable.

This characterization of sediment chemistry within the dredge pocket was consistent with surface and sub-surface sampling recently undertaken by MV within the vicinity of the dredge pocket and was typical of mid-channel sediment chemistry documented in the lower Fraser River by Bull (2004) and more recently by the Fraser River Monitoring Program (ENKON 2016). Recent sampling by MV close to the dredge pocket and in near-shore areas showed that relative to the mid-channel, higher constituent concentrations were primarily associated with finer sediments in areas of reduced-flow located closer to shore (summarized in Appendix A).

4.2 Quality Assurance / Quality Control

4.2.1 Field

The QA/QC assessment summarized in Appendix F indicated that for most constituents, the duplicate split sample were similar in concentration to the original sample, with the exception of mercury (SDS-3; 110.9%), chromium (SDS-11; 23.9%) and chloride (SDS-11; 28.2%). Some variability among duplicate samples is commonplace in sediment programs because sediments tend to be more heterogeneous than other media such as water. Although some variability was observed for three constituents, the reported concentrations were low relative to the guidelines used in this assessment[3] and the noted variability did not influence the outcome of this study.

[3] Reported concentrations in the QA/QC assessment for mercury were approximately an order of magnitude below the CCME ISQG; for chromium reported concentrations in the QA/QC assessment were more than two times lower than the CCME ISQG. No sediment guidelines were available for chloride.

Due to a sample processing oversight the duplicate split sample of SDS-3 was selected for analysis of dioxins, furans and hydrocarbons but the original sample was not. Data from the analysis of the duplicate split sample (DUP-1) were therefore considered to be the original sample for location SDS-3 in the sediment assessment for these constituents. For the purpose of the QA/QC assessment, an assessment of variability for dioxin and furan TEQs reported in Table 3 was undertaken by calculating an RPD value for the highest (0.195 pg/g) and lowest (0.174 pg/g) TEQs. The TEQs were similar with an RPD of 11.4%. Hydrocarbon concentrations were below the RDL in all samples analyzed.

4.2.2 Laboratory

Although ALS reported the laboratory duplicate was outside of their DQOs for four parameters in the DUP-1 sample (i.e., barium, chromium, mercury and molybdenum), detected results were qualified and considered reliable by ALS (Appendix D). Method blanks were occasionally above laboratory DQOs; as a result, samples with concentrations below five times the method blank were adjusted by ALS and flagged in the final data report. Data for samples greater than five times the method blank were considered reliable.

AXYS also considered the PCB and dioxin and furan data to be reliable given the qualifiers applied to the data as described in Section 3.8.2 and shown in the laboratory reports included in Appendix D.

5.0 SUMMARY

Fraser River sediments were sampled in March 2017 at locations distributed throughout the dredge pocket proposed to accommodate installation of the replacement AIWWTP outfall diffuser. Surficial sediments within the dredge pocket primarily comprised of unconsolidated sand with little spatial variation. This physical characterization is consistent with the findings of recent surficial sediment sampling close to the dredge pocket and recent geotechnical studies at depth. The geotechnical studies suggested that homogeneous unconsolidated sand at the sediment surface extended with depth to relatively shallow depths relevant to the dredge pocket (i.e., 0 to 6 m but predominantly 0 to 3 m).

In 2017, the predominance of unconsolidated sand within the dredge pocket precluded the successful collection of vibracore samples, despite repeated attempts. As discussed with ECCC during implementation of the 2017 program, it is reasonable to expect that characteristics of the upper sediment layer would be representative of underlying sediment down to depths relevant to the dredge pocket, based on a review of existing information summarized in the SAP and information documented during the 2017 program.

Constituent concentrations in surface sediments met the Disposal at Sea Regulations lower level concentrations for cadmium, mercury, total PAHs, and total PCBs. Concentrations of these and other sediment constituents not regulated under DAS were at or below applicable CCME ISQGs. Collectively, data collected by the 2017 Sediment Characterization Program and existing information summarized in the SAP provide a physical and chemical characterization that meets pre-application sampling requirements for a potential DAS permit application pursuant to the DAS Regulations. Therefore, no further sediment collection is proposed within the dredge area for this purpose.

6.0 CLOSURE

We trust that the information presented in this report is sufficient for your immediate requirements. If you have any questions or comments, please do not hesitate to contact the undersigned at 604-296-4200.

GOLDER ASSOCIATES LTD.

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Environmental Scientist

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PM/EI/BGW/asd/lmk

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7.0 REFERENCES

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NHC (Northwest Hydraulic Consultants). 2016. Annacis WWTP Transient Mitigation and Outfall Project Overview of Fluvial Geomorphology – Draft Report. Prepared for CDM Smith ULC.

7.2 Personal Communication

Lewis S. 2017a. Senior Program Officer. Marine Program, Environmental Assessment and Marine Programs, Environment and Climate Change Canada, Vancouver, BC. Electronic mail to Ken Masse, Senior Project Engineer, Project Delivery, Liquid Waste Services, Metro Vancouver, Vancouver, BC. 10 March 2017.

Lewis S. 2017b. Senior Program Officer. Marine Program, Environmental Assessment and Marine Programs, Environment and Climate Change Canada, Vancouver, BC. Electronic mail to Elaine Irving, Golder Associates Ltd., Vancouver, BC. 29 March 2017.

APPENDIX A

Proposed Dredge Pocket Sediment Sampling and Analysis Plan

22 February 2017

METRO VANCOUVER ANNACIS ISLAND WWTP

Sampling and Analysis Plan for Characterizing Fraser River Sediment Proposed to be Dredged

Submitted to:
CDM Smith Canada ULC
Suite 1001, 4710 Kingsway
Burnaby, BC V5H 4M2

Report Number: 1525010-072-R-Rev0-3400

Distribution:

1 e-copy: Environment and Climate Change Canada
1 e-copy: Metro Vancouver
1 e-copy: CDM Smith Canada ULC
1 e-copy: Golder Associates

REPORT

Golder Associates

Executive Summary

Metro Vancouver (MV), through the Greater Vancouver Sewerage and Drainage District, owns and operates three secondary wastewater treatment plants that discharge to the lower Fraser River. The largest plant, Annacis Island Waste Water Treatment Plant (AIWWTP; 1299 Derwent Way in Delta, British Columbia), currently provides secondary treatment of wastewater to over one million people from 14 municipalities in the Greater Vancouver region. The plant is currently being expanded to increase treatment capacity to approximately 1,250,000 people and is being upgraded to meet current seismic standards. CDM Smith Canada ULC (CDM Smith) has been retained by MV to provide consulting engineering services for the AIWWTP Transient Mitigation and Outfall Project (henceforth referred to as the project). Dredging of Fraser River sediment will be required to accommodate the installation of a new effluent diffuser. At this time land-based and disposal at sea (DAS) options will be evaluated for the dredged sediment.

Golder Associates Ltd. (Golder) was retained by CDM Smith on behalf of MV to prepare a sampling and analysis plan (SAP) for submission to Environment and Climate Change Canada (ECCC) for review and approval. The purpose of the sampling is to obtain information that may be used in support a potential application for a permit pursuant to the DAS Regulations (SOR/2001-275). The SAP summarizes existing sediment, geotechnical, and geo-environmental sampling programs undertaken for the project in 2015 and 2016 and outlines additional environmental sampling to be undertaken prior to the Fraser River 2017 freshet.

To characterize spatial variability in sediment quality within the proposed dredge pocket, the initial collection and submission of a total of 19 (surface and sub-surface) sediment samples is proposed for physiochemical analysis. This number of samples exceeds ECCC guidance on minimum sampling requirements with an assumed maximum dredge volume estimate of 69,600 m^3. A grab sampler will be used to collect seven surficial sediment samples and a Vibracore sampler will be used to collect four sub-surface cores. In actuality, more than 19 sediment samples will be collected and the additional samples will be archived pending the results of the 19 samples initially submitted for analysis. Sediment samples will be submitted for physical and chemical analysis of metals, salinity, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, dioxins, furans, grain size and total organic carbon on all or a subset of samples depending on the parameter.

Statement of Limitations

This report was prepared for the exclusive use of Metro Vancouver and CDM Smith Canada ULC. No other party may use or rely on this report or any portion thereof without Golder's express written consent. Golder will consent to any reasonable request by the Client to approve the use of this report by other parties as Approved Users. Regulators are considered Approved Users. Any use that a third party may make of this report, or any reliance on or decisions made based on it, is the responsibility of the third parties. Golder Associates Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. We disclaim responsibility for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

In preparing this report, we have relied in good faith on information provided by others. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiency, mis-statement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

The services performed as described in this report were conducted in a manner consistent with the level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services. The content of this report is based on information compiled during preparation of the report, our present understanding of site conditions, the assumptions stated in this report, and our professional judgement in light of such information at the time of preparation of this report. This report provides a professional opinion and, therefore, no warranty is expressed, implied, or made as to the conclusions, advice and recommendations offered in this report. This report does not provide a legal opinion regarding compliance with applicable laws. With respect to regulatory compliance issues, it should be noted that regulatory statutes and the interpretation of regulatory statutes are subject to change.

The findings and conclusions of this report are valid only as of the date of the report. If new information is discovered in future work, or if the assumptions stated in this report are not met, Golder Associates Ltd. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

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APPENDIX C
Sediment Data from the 2016 Surficial Sediment Sampling Survey for the AIWWTP Transient Mitigation and Outfall Project

1.0 INTRODUCTION

Metro Vancouver (MV), through the Greater Vancouver Sewerage and Drainage District (GVS&DD), owns and operates three secondary wastewater treatment plants that discharge to the lower Fraser River. The largest plant, Annacis Island Waste Water Treatment Plant (AIWWTP; 1299 Derwent Way in Delta, British Columbia), currently provides secondary treatment of wastewater to over one million people from 14 municipalities in the Greater Vancouver region. The plant is currently being expanded to increase treatment capacity to approximately 1,250,000 people and is being upgraded to meet current seismic standards. Once complete, the AIWWTP Stage 5 expansion will increase treatment capacity to accommodate the region's future population growth, provide additional reliability in maintaining sewage treatment capabilities in the event of a large earthquake, take advantage of green energy captured on-site, and better manage odour issues. A major component of the Stage 5 Expansion is the replacement of the AIWWTP outfall in the lower Fraser River. The current conceptual design for the replacement outfall consists of a tunnel system to convey treated effluent from the plant to a diffuser structure to be constructed in the Fraser River downstream of the existing outfall, located downstream of the Alex Fraser Bridge. Dredging of Fraser River sediment will be required to accommodate the installation of a new effluent diffuser.

CDM Smith Canada ULC (CDM Smith) has been retained by MV to provide consulting engineering services for the AIWWTP Transient Mitigation and Outfall Project (henceforth referred to as the project). The project is currently in the detailed design phase and although further changes to the design may occur during this stage, major changes with respect to proposed construction and design are not anticipated.

At this time land-based and disposal at sea (DAS) options will be evaluated for the dredged sediment. Golder Associates Ltd. (Golder) was retained by CDM Smith on behalf of MV to prepare a sampling and analysis plan (SAP) for submission to Environment and Climate Change Canada (ECCC) for review and approval. The purpose of the sampling is to obtain information that may be used in support a potential application for a permit pursuant to the DAS Regulations (SOR/2001-275). The SAP is for environmental sampling to be undertaken prior to the Fraser River 2017 freshet.

Prior to preparation of this SAP, a pre-application meeting (attended by representatives of ECCC, MV, CDM Smith and Golder) was held on 21 December 2016 to discuss the project, the application requirements for a DAS application, and the content of the SAP.

1.1 Overview of Planned Project Construction Activities

Several structures on-land and in-river are planned for construction as part of the project as illustrated in Figure 1.

Two in-river components are planned:

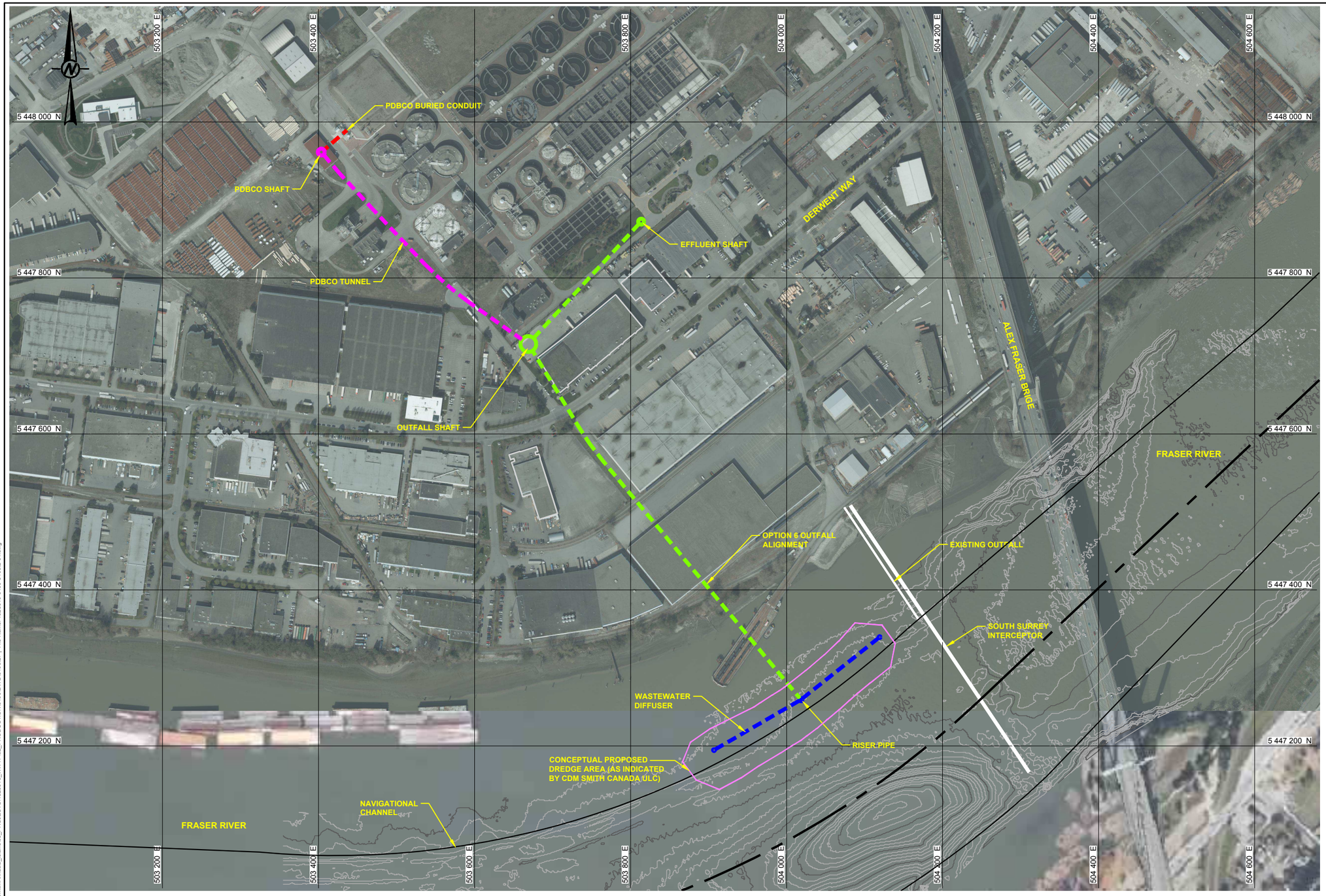
- **Riser Shaft**: a 3.8-m diameter shaft located in the Fraser River will connect the tunnel to the in-river diffuser.
- **Diffuser**: An approximately 250-m long, 2.5-m diameter structure located within the Fraser River; embedded at a depth of approximately 5 m below mudline (bml).

Planned on-land components include:

- **Tunnel**: A tunnel system (approximately 1,200 m long, 4.2-m diameter, and 30 m below ground) will connect on-land shafts and AIWWTP facilities to an in-river diffuser system.
- **Outfall Shaft**: 16-m diameter shaft located within a private property to the south of the AIWWTP property. The shaft will connect to the tunnel and to two other shaft sites.
- **Effluent Shaft**: 9-m diameter shaft located on the AIWWTP property and to the northeast of the Outfall Shaft. The Effluent Shaft will also connect to the underground tunnel.
- **Post Disaster Bypass Conduit (PDBCO) Shaft**: 9-m diameter shaft located on the AIWWTP property and to the northwest of the Outfall Shaft. The PDBCO Shaft will connect the tunnel to the PDBCO connection trench system on the AIWWTP site.
- **PDBCO Trench**: An 11-m wide trench (approximately 150 m in length) connecting the PDBCO Shaft to on-site AIWWTP facilities.

In order to construct these facilities, removal and handling of both onshore excavated material and dredged sediment will be required. This SAP is focussed on addressing data requirements to characterize sediments to be dredged to accommodate installation of the in-river diffuser component.

It is less likely but still possible that excavated material from construction of the on-land components might also be included in a DAS application. Data requirements to support potential inclusion of the excavated material will be addressed separately with ECCC should disposal of excavated material need to be considered.



NOTE(S)

1. COORDINATES ARE IN UTM NAD83 ZONE 10 AND CONVERTED TO GROUND LEVEL USING A COMBINED SCALE FACTOR OF 1.000397558.

REFERENCE(S)

1. BASE DRAWING AND ORTHOPHOTO PROVIDED BY BLACK & VEATCH
   FILE: ANNACISNAD27Z10GRND.TIF, ANNACIS-RIVER.TIF, C000A_XXXXX-1.DWG
2. 2016 CCG BATHYMETRY SURVEY AND OPTION 6 ALIGNMENT PROVIDED BY CDM SMITH CANADA ULC ON MAY 19, 2016
   FILE: C201072016.DWG

CLIENT
CDM SMITH

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-02-22
DESIGNED	P. McMANUS
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REVIEWED	E. IRVING
APPROVED	B. WERNICK

PROJECT
ANNACIS ISLAND WWTP TRANSIENT MITIGATION AND OUTFALL DELTA, B.C.

TITLE
PROPOSED LOCATION FOR IN-RIVER DIFFUSER FOR THE AIWWTP TRANSIENT MITIGATION AND OUTFALL PROJECT

PROJECT NO.	PHASE/TASK	REV.	FIGURE
1525010	3400/3400.2	0	1

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1.2 Project Schedule

The anticipated timelines for project activities potentially requiring DAS are listed in Table 1. The project schedule is under development and so these timelines are subject to change. The earliest date that a DAS permit is expected to be required is mid-2019. The expected duration of DAS for the in-river work is at least 19 months based on the current schedule.

Table 1: Preliminary Project Timeline

Activity	Component Type	Anticipated Timeline
Tunnel Excavation	on-land	December 2019 – October 2020
Outfall (Launch) Shaft Excavation	on-land	March 2019 – October 2019
Effluent (Receiving) Shaft Excavation	on-land	April 2019 – October 2019
Post Disaster Bypass Conduit (PDBCO) Shaft	on-land	July 2019 – January 2020
PDBCO Trench Excavation	on-land	July 2019 – January 2020
Riser Shaft Installation/Excavation	in-river	August 2019 – February 2020
Effluent Diffuser Installation	in-river	August 2020 – February 2021

1.3 Primary Contact Information

The primary contact for the AIWWTP Project is:

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eirving@golder.com

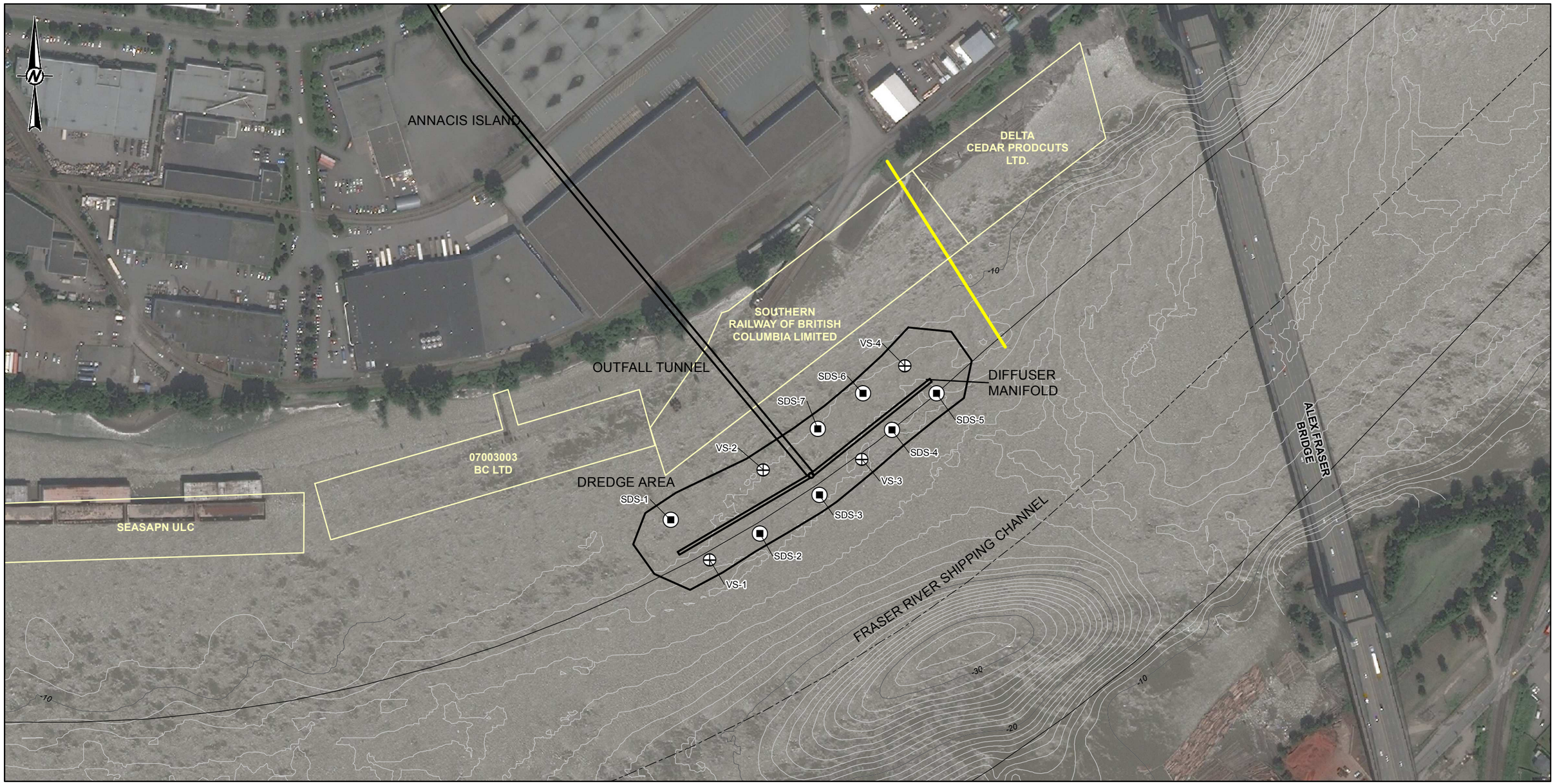
2.0 EVALUATION OF EXISTING INFORMATION

2.1 Outfall Diffuser Location

The proposed dredge pocket is currently planned to be located below the high-tide line in the lower Fraser River, adjacent to the navigational channel (St. Mungo's Bend) to the south of Annacis Island, Delta, BC (49°09'29.6"N 122°57'04.3"W; Figure 1). The location is downstream of the existing AIWWTP outfall and within the potential influence of the salt wedge as it migrates upstream from the mouth under seasonal low flow conditions.

The dredge pocket is within the jurisdiction of the Vancouver Fraser Port Authority (VFPA) doing business as Port of Vancouver (PoV). As shown on Figure 2, three water lot lease boundaries are situated within the vicinity; the closest water lot is located between the proposed dredged pocket and Annacis Island and is held by Southern Railway of British Columbia Ltd. under lease from PoV. This water lot is bordered to the east by a water lot held by Delta Cedar Products Ltd., and to the west by a water lot held by Turning Point Brewery (shown as BC LTD on Figure 1).

The proposed dredge pocket is an approximate rectangular prism in shape. Further details regarding the dimensions of the dredge pocket are shown in plan and sections in Appendix A.



LEGEND

- PROPOSED INFRASTRUCTURE (APPROXIMATE)
- WATERLOT LEASE
- EXISTING WWPT OUTFALL
- CENTRE OF CHANNEL
- OUTER CHANNEL BOUNDARY
- BATHYMETRY - 1m
- BATHYMETRY - 10m
- PROPOSED SURFICIAL SEDIMENT SAMPLE (APPROXIMATE)
- PROPOSED VIBRACORE SAMPLE (APPROXIMATE)

LABEL	SAMPLE TYPE	EASTING	NORTHING	LATITUDE	LONGITUDE
SDS-1	SURFICIAL SEDIMENT	503710	5445053	49.15829	-122.94912
SDS-2	SURFICIAL SEDIMENT	503779	5445043	49.15819	-122.94816
SDS-3	SURFICIAL SEDIMENT	503826	5445073	49.15846	-122.94752
SDS-4	SURFICIAL SEDIMENT	503883	5445124	49.15892	-122.94675
SDS-5	SURFICIAL SEDIMENT	503917	5445152	49.15917	-122.94627
SDS-6	SURFICIAL SEDIMENT	503860	5445152	49.15917	-122.94706
SDS-7	SURFICIAL SEDIMENT	503825	5445124	49.15893	-122.94754
VS-1	VIBRACORE	503740	5445022	49.15801	-122.94870
VS-2	VIBRACORE	503782	5445093	49.15864	-122.94813
VS-3	VIBRACORE	503859	5445101	49.15871	-122.94707
VS-4	VIBRACORE	503892	5445174	49.15937	-122.94661

0 30 60 90 120

1:3000 METRES

REFERENCES

1. SHIPPING CHANNEL SUPPLIED BY BLACK & VEATCH
3. IMAGERY COPYRIGHT © 20090925 ESRI AND ITS LICENSORS. SOURCE:DIGITALGLOBE WV01. USED UNDER LICENSE, ALL RIGHTS RESERVED.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
CDM SMITH CANADA ULC

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-02-22
DESIGNED	PM
PREPARED	JW
REVIEWED	EI
APPROVED	BW

PROJECT
ANNACIS ISLAND WWTP TRANSIENT MITIGATION & OUTFALL UPGRADE
DELTA, B.C.

TITLE
PROPOSED SAMPLE LOCATIONS TO INFORM A DISPOSAL AT SEA PERMIT APPLICATION FOR CAPITAL DREDGING REQUIRED FOR THE AIWWTP UPGRADES

PROJECT NO.	CONTROL	REV.	FIGURE
1525010	3400/3400.2	0	**2**

PATH: Y:\burnaby\CAD-GIS\Client\CDM_Smith\Annacis_Island\99_PROJECTS\1525010_WWTP\02_PRODUCTION\3400\MXD\Report\3400_2\Figure_0'2_Proposed_Sample_Locations.mxd

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25mm

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2.2 Physical Setting

Bottom substrates in the lower Fraser River bottom are a mix of Pleistocene marine, glacial and glaciofluvial sediments. River flows transport sediment downstream from the upper and middle reaches of the river into the lower reaches and then further down into the Fraser River estuary. Historically, these suspended loads have ranged from 12.3 million to 31.0 million tonnes per year (NHC 2016). Peak river flows occur from May to July ("freshet"), resulting in substantial sediment scour and bedload movement during this time. Throughout the year the center of the Fraser River channel where flow velocity is highest (the "thalweg") is also subject to scouring, thus coarse sand tends to dominate bottom substrates close to the middle of the river. Maintenance dredging of the navigational channel also occurs along the main channel. Finer sediments that are transported more readily downstream can form permanent or temporary depositional zones in areas where currents are substantially lower than the main channel.

The proposed dredge pocket is located in an area on the inside of St. Mungo's Bend (Figure 1) downstream from the Alex Fraser Bridge. In this area currents tend to be lower than those in the mid-channel due to the river configuration and the flow diversion provided by the ship collision structures on the north anchor of the Alex Fraser Bridge. Lower flows in this location can result in the temporary local deposition of sediment but a recent study by NHS (2016) for the project indicated that long-term (or permanent) changes in bathymetry of this area have not been observed, suggesting that fine material is still being transported downstream during high flow periods, such as storm events or the annual freshet.

Sediment sampling to inform the Environmental Impact Study (EIS) prepared to support provincial waste discharge permitting pursuant to the *Environmental Management Act* (([SBC 2003] Chapter 53) for the proposed outfall was undertaken in March 2016, prior to freshet (Golder 2017). Grain size characterization of sediments collected in this section of the river indicated that sediment sampled close to the dredge pocket location were predominantly sand, whereas sediments collected closer to the Annacis Island shoreline were finer in nature and primarily comprised of sand and silt.

2.3 Ecologically-Sensitive Areas

There are no formally documented ecologically-sensitive areas within the proposed dredge pocket. The Fraser River at this location is, however, a migratory corridor for several fish species including Pacific salmon, an important commercial, recreational and Aboriginal species, as well as white sturgeon (*Acipenser transmontanus*), which is a provincially and federally listed species[1].

The shoreline in the vicinity of the Site is comprised of sand and silt which does not provide suitable spawning habitat for Pacific salmon. Juvenile salmon, however, are known to forage in the estuarine environments of the Fraser River so it is possible that areas in the vicinity of the Site are used in such a way (McPhail 2007).

[1] *Acipenser transmontanus* pop. 4 (Lower Fraser River population)
Committee on the Status of Endangered Wildlife in Canada Status: T (Threatened)
BC Conservation Data Center Status – S2/Red (Imperiled/Extirpated, Endangered, or Threatened Species)

River bottom elevations at and close to the location of the dredge pocket are approximately 10 m chart datum (CD) and available information indicates that the salt wedge extends up to the existing AIWTTP outfall during low river discharge. Therefore, although the nearshore subtidal and intertidal areas between Annacis Island and the dredge pocket are characterized by relatively slower flows and fine bottom sediments known to be preferred habitat of juvenile white sturgeon (*Acipenser transmontanus*) (Glova et al. 2008, 2009), it is unlikely that juvenile sturgeon would occupy this area except occasionally for the following reasons:

- Glova et al. (2008, 2009) typically captured juvenile sturgeon in the lower Fraser River at water depths of less the 10 m, which would be shallower than 10 m CD for most river stage levels.
- Glova et al. (2008) also reported that juvenile sturgeon were not captured where salinity levels were greater than 0.6 ppt. This is consistent with young juvenile sturgeon being intolerant of saline waters (Amiri et al. 2009). This would pre-empt juvenile sturgeon during at least part of the year at and in proximity to the proposed dredge pocket.

MV is currently undertaking in-situ monitoring under low river discharge to further characterize the occurrence of the salt wedge at the proposed dredge pocket location, which will provide additional information with regard to the potential seasonal occurrence of juvenile sturgeon within nearshore environments.

2.4 Site Use

An initial review of environmental information from available sources was undertaken to assess site conditions as part of a preliminary geo-environmental assessment for the project by Golder (2015). Information considered relevant to this SAP is summarized below.

2.4.1 Current Land Use and Industrial Activities

As shown in Figure 1 and Appendix B, Figure B-1, existing infrastructure between the Fraser River navigational channel and the foreshore area in the vicinity of the proposed dredge pocket includes:

- the existing AIWWTP outfall
- a wastewater outfall from Turning Point Brewery
- a mooring area for barges owned by Seaspan ULC
- a barge loading pier upstream of the AIWWTP outfall

The wastewater effluent released from the existing AIWWTP outfall into the Fraser River is a potential source of trace metals, total suspended solids, bacteriological parameters, nutrients, and organic constituents associated with wastewater discharge (MV 2015; Enkon 2016). These constituents are regularly monitored by MV in both the effluent and the receiving environment, as per the Greater Vancouver Sewerage and Drainage District Integrated Liquid Waste Management Plan and Operational Certificate ME-00387 under the BC Municipal Wastewater Regulation (BC Reg 87/2012; OC 230/2012).

With the exception of the operation of the AIWWTP, there are no current land uses or industrial activities within the proposed dredge pocket (Figure 1). The lower Fraser River navigational channel undergoes periodic maintenance dredging as commissioned by PoV but the riverbed in the channel adjacent to the project is below design grade and so it is likely not dredged (NHC 2016).

The main arm of the lower Fraser River is used for industrial, commercial, and residential purposes. The Musqueam, Tsawwassen, Tsleil-Waututh and New Westminster First Nations fish in the lower Fraser River with drift nets from the Port Mann Bridge into the Strait of Georgia (DFO 2016). The navigational channel within the main arm of the lower Fraser River adjacent to the AIWWTP provides an important means of commercial transportation for the movement of raw materials, including logs, fish, and construction aggregates, as well as finished products (FREMP 2003). Park (2014) estimated that the lower Fraser River ships 25.7 million tonnes of cargo annually.

2.4.2 Historical Land Use and Industrial Activities

Industrial activities such as manufacturing, shipping, and pulp and paper milling have historically occurred on the lower Fraser River, both upstream and downstream of the AIWWTP. With reference to the proposed dredge pocket, the only documented historical activity is the operation of the AIWWTP and discharge of wastewater via the existing outfall.

Review of historical aerial photographs for the AIWWTP and surrounding area, obtained for a subset of years between 1947 and 2009 from the University of British Columbia's Geographical Information Centre, were reviewed by Golder (2015) and the following sequence of events noted:

- Much of Annacis Island was either undeveloped or historically used for agriculture during the first half of the 20th century.
- Initial development on Annacis Island started in the mid to late 20th century and progressed from east to west.
- Commencement of preload (dredged fill) or landfill placement in the area of the future site of AIWWTP was observed in the 1963 aerial photographs, and by 1974, most of the site area had been preloaded.
- Construction of the Annacis Island Waste Water Treatment Plant was observed in the latter half of the 20th Century (through the 1970s, and came online in 1975).
- By 1986, industrial development of Annacis Island was clearly visible, and expanding, from east to west.
- By 1991, the landward area at and surrounding the AIWWTP site had been developed with warehouse-type facilities, and the treatment plant had also undergone a series of upgrades and expansions.

2.5 Previous Sediment Characterization

2.5.1 Historic Monitoring on the Lower Fraser River

Sediment quality in the lower Fraser River has been characterized by several sampling programs since the 1990s, including: Fraser River Estuary Management Program (FREMP) bi-annual surveys (1997-2012), the Fraser River Action Plan (FRAP) in 1999, and the Fraser River Ambient Monitoring Program (FRAMP). The FRAMP is the only program still active and has collected sediment collected every five years since 2006 (i.e., 2011 and 2016). The closest FRAMP station to the dredge pocket is on the north side of the island in Annacis Channel.

A review of sediment data and information available for the lower Fraser River indicates that several constituents are typically observed at elevated concentrations, as a result of either the geology of the upstream environment or due to historical industrial activity within the lower reaches. These constituents include:

- **Metals:** Due to the geophysical and geochemical environment of the greater Fraser River watershed, natural sources of metals (such as weathering of the mineral constituents of the sediment substrate) can be mobilized and travel downstream. Metals measured at similar concentrations in recently deposited sediments throughout the Fraser River may be attributed to natural sources. Arsenic, chromium, copper, manganese, iron, and nickel are metals that have been measured at concentrations that consistently approach or exceed ambient guidelines throughout the Fraser River (Environment Canada 1999, Thomas 2007, Keystone 2011, Bull 2004).
- **Dioxins and Furans**: Associated with historical pulp and paper industrial operations on the lower Fraser River (Environment Canada 1999, Thomas 2007, Keystone 2011, Bull 2004).
- **Polychlorinated Biphenyls (PCBs):** Associated with consumer products and industrial activities, these compounds have been historically detected on the north arm of the Fraser River (Environment Canada 1999).
- **Polycyclic Aromatic Hydrocarbons (PAHs):** Generally associated with industrial activities, these compounds have been historically detected on the lower Fraser River including in the vicinity of the AIWWTP (Environment Canada 1999; Norecol, Dames and Moore 1998).

2.5.2 Contemporary Monitoring at the Proposed Outfall Location

2.5.2.1 Surficial Sediment Sampling

Sampling near the AIWWTP was most recently undertaken in March 2016 by Golder (2017). As shown in Figure C-1 of Appendix C, the sampling locations were mostly located downstream of the proposed dredge pocket, in both mid-channel and near-shore areas. One station, NF-DS, was located within several metres of the proposed dredge pocket.

As expected, samples collected from near-shore locations consisted of finer sediments typical of reduced-flow areas in the lower Fraser River (Appendix C, Table C-1). Mid-channel samples collected closer to the navigational channel, including at NF-DS, were predominantly sandy. The dredge pocket is to be located closer to the mid-channel than the nearshore and so dredge pocket sediments are expected to primarily consist of sand. In all sediment samples taken from the mid-channel stations, concentrations in “Table Lower Level” of the Disposal at Sea Regulations were met for regulated parameters (cadmium, mercury, total PAHs, total PCBs), as were

Canadian Council of Ministries of the Environment (CCME)[2] sediment quality guidelines (probable effect levels [PELs] and interim sediment quality guidelines [ISQGs]; CCME 2017) for other constituents of potential concern. Conversely, finer-grained sediment samples taken from the two nearshore stations NF-2 and FF-2 (located outside of the proposed dredge pocket) had concentrations higher than ISQGs for arsenic, chromium, and copper, with the concentration of the PAH acenaphthene at NF-2 also higher than the ISQG. However, concentrations of all parameters measured at stations NF-2 and FF-2 were below the CCME PEL[3] and for regulated parameters were below Disposal at Sea Regulations.

Sediment samples from both mid-channel and nearshore stations in 2016 were also submitted for analysis of parameter groups not regulated by the Disposal at Sea Regulation and for which ambient sediment quality guidelines may not available. These supplementary data are provided in Appendix C, Tables C-2 and C-3. Parameters analysed included: extractable metals, acid volatile sulphide (AVS), alkylphenols, polybrominated diphenyl ethers, pesticides, sterols, hormones, dioxins and furans, and bacteriology parameters (fecal coliforms, enterococci and *Escherichia coli*). All parameters reported in Appendix C, Tables C-2 and C-3 were below available CCME sediment quality guidelines (SQGs), with the exception of dioxins and furan total TEQ[4] concentrations in sediment from NF-2 and FF-2 that were slightly higher than the ISQG (by less than 20%) and below the PEL.

In Q3 of 2016, the proposed location for the new outfall was re-positioned further upstream, closer to the existing AIWWTP outfall and therefore additional sampling and analysis is proposed to characterize the new dredge pocket area.

2.5.2.2 Sub-Surface Sediment Sampling

As part of the ongoing geotechnical investigation for the project, subsurface sediment sampling was undertaken at the previously proposed outfall location (2015 survey) and at the revised outfall location (2016). Findings and observations relevant to the DAS are summarized below.

2015 Survey: Sampling Adjacent to the Proposed Dredge Pocket

Sediment samples from a cone penetration test (SCPT15-11; Appendix B, Figures B-1 and B-2) and a mud-rotary borehole (BH15-09 Appendix B, Figures B-1 and B-3) were collected from a location approximately 20 m from the proposed dredge area. Visual observations of and analytical data from these subsurface sampling methods indicated the following:

- Borehole log data for BH15-09 showed that the riverbed generally comprised of fine to coarse loose sand with trace fines for the first 2.5 m bml, followed by compact fine to coarse sand with trace fines for the next 12 m (Appendix B, Figure B-3). These findings are consistent with the SCPT15-11 (Appendix B, Figure B-2) measurements and grain size analysis (Appendix B, Figure B-4).

[2] The lowest of the freshwater and marine sediment quality guidelines were used because of the periodic presence of the salt wedge within the Fraser River channel.

[3] The ISQG is intended to represent a concentration below which adverse biological effects are expected to occur only rarely, whereas the PEL is intended to represent a concentration below which adverse effects may occasionally occur (CCME 1999).

[4] TEQ – toxicity equivalency quotient – calculated as the sum of fish-based toxicity equivalency factors (TEFs) for individual dioxin and furan compounds.

- Surficial (0.15 m) and a subsurface (1.22 to 1.42 m bml) samples were collected from the borehole and submitted for analysis of metals, total organic carbon, PAHs, and PCBs. Analyzed borehole data were then screened against the Disposal at Sea Regulation lower level concentrations and CCME SQGs (CCME 2017; Appendix B, Table B-1). Both samples met the regulated lower level concentrations. CCME SQGs were also met with the exception of the chromium concentration in the sub-surface sample that was higher than the CCME ISQG.

2016 Survey: Sampling within the Proposed Dredge Pocket

In December 2016, Golder carried out a cone penetration test (SCPT16-10; Appendix B, Figure B-1 and B-5) and drilled a mud-rotary borehole (BH16-08 Appendix B, Figures B-1 and B-6) at the proposed riser shaft location in the middle of the proposed dredge pocket. The following findings and observations relevant to this SAP were made from this survey.

- Though the sample yield was low at depths down to approximately 6 to 7 m bml, borehole log data for BH16-08 indicated the riverbed comprised of sands of varying texture for approximately 5.5 bml. The sands were very loose near the surface but became more compact with depth.
- Below 5.5 m, the Fraser River Sand deposit continued to increase in relative density with depth, with trace amounts of silt. The results of the SCPT16-10 cone penetration test included in Appendix B supported these findings.
- Borehole log data for BH16-08 indicated that at depths ≥25 m bml the sand layer was underlain by a marine deposit mostly comprised of silty clay material.
- Split-spoon samples were collected from the mud rotary borehole where the sample yield allowed collection of sufficient sample volume. Samples were selected for grain size analysis from depths ≥4.6 m bml and samples were collected for chemical analysis starting from depths ≥7.6 m bml. The results of both sets of analyses are pending.

3.0 CONCEPTUAL OVERVIEW OF PLANNED DREDGING

3.1 Dredge Volume

The preliminary design of the footprint and dimensions of the proposed dredge pocket are provided in Appendix A, with preliminary estimates of area and volume for the dredge pocket provided in Table 2. The actual dredge pocket dimensions will be determined in the final detailed engineering design by CDM Smith and the construction methods employed by the contractor retained for the dredging work. The volume estimates are conservative and based on assumptions discussed with ECCC at the pre-application meeting on 21 December 2016.

Table 2: Preliminary Estimated Area and Volume Specifications of AIWWTP Outfall Dredge Pocket (Data provided by CDM Smith)

Parameter	Units	Quantity
Design area to be dredged, measured at mudline	m^2	19,600
Cross-sectional area to be dredged, measured at the riser shaft-diffuser junction	m^2	225
Maximum depth of design dredge cut below mudline	m	6
Typical depth of design dredge cut below mudline	m	3
Estimated dredge prism width	m	560
Estimated dredge prism length	m	2,500
Estimated dredge volume	m^3	58,000
Allowance for over-dredging	%	20
Place measure capital volume, with allowance for over-dredging	**m^3**	**69,600**

3.2 Dredge Methods

The following conceptual description of the planned dredging operation is preliminary because the detailed engineering design of the dredging operation has not yet been developed.

1) Material unsuitable for DAS will be removed from within the boundaries of the proposed dredge pocket, by a method to be selected by the dredge contractor in accordance with the Environmental Protection Plan to be prepared for the project. The material will be delivered to a suitable onshore disposal facility.

2) Confirmatory sampling will be then be conducted to verify that material unsuitable for DAS has been removed from within the boundaries of the dredge pocket.

3) The material suitable for DAS will be removed by a method to be selected by the contractor and transported to a permitted DAS site via barge.

3.3 Potential Disposal at Sea Locations

Two sites in the vicinity of Vancouver would be considered for DAS: the Point Grey Disposal site (49.25667° N, 123.36500° W; depth 240 m) and the Sand Heads Disposal Site (49.10200° N, 123.34033° W; depth 66 m). Disposal site selection will be undertaken in consultation with ECCC and will depend on the results of the proposed sediment sampling program.

4.0 PROPOSED SEDIMENT SAMPLING AND ANALYSIS PLAN

4.1 Health, Safety and Environmental Protection

Field work will be performed in accordance with health and safety and environmental management plans prepared specifically for this program.

4.2 Permits and Authorizations

Two permits are required through the VFPA for the proposed in-river sampling: a Marine Events Permit and a Category A Project Permit. Both permits will both be obtained by Golder prior to the commencement of the sampling program.

4.3 Sample Numbers and Locations

Based on the volume estimate for the proposed dredge pocket of 69,600 m^3, ECCC guidance on minimum sampling requirements indicates that at least 15 samples must be collected and analyzed (ECCC 2013). As shown in Appendix A, most of the dredge pocket is shallower than the maximum depth of 6 m; the maximum depth only occurs within a relatively small area where the diffuser connects to the riser shaft.

Proposed sample locations are shown on Figure 2. Sampling will be conducted by sub-surface vibracoring at four locations and by surficial grab sampling at seven locations. These locations have been selected to achieve spatial coverage of the proposed dredge pocket.

- **Sub-Surface Samples**: Twelve samples will be taken from four cores collected by vibracoring. The samples will consist of a subset of 0.5-m long sections of the core. Samples from core sections not selected for analysis will be archived for subsequent analysis, if needed, based on the results from the first round of analysis.
- **Surficial Samples:** Seven samples will be collected using a grab sampler.

4.4 Collection and Processing of Samples

4.4.1 Grab Samples

The surficial sample collection of lower Fraser River sediments in areas of high-flow velocity can be challenging. Sediments tend to consist mostly of hard packed scoured sand which is resistant to collection with a surficial sediment sampler (Keystone 2011; Golder 2017). For the March 2016 sediment collection program, a standard Van Veen was used for sediment collection further weighted with four 10 lb metal plates. The additional weight reduced the effect of the current on the Van Veen and increased the depth of the sediment grab. It is Golder's intention to use similar equipment for this DAS sampling program.

As described in the BC Field Sampling Manual (BC MoE 2013a), only those grab samples that meet the following acceptability criteria will be retained for analysis:

- The sampler is fully closed and does not contain large rocks or other debris.
- There is adequate penetration depth (*i.e.,* at least 15 cm to retrieve an undisturbed 10 cm upper horizon).
- The sample is not overfilled or disturbed, and sampler was not deployed on an angle (sediment surface does not touch the top of the sampler, and is relatively flat).
- The sampler is not leaking (there is overlying water present and no visible leaks).

After a sediment sample has been collected, the following will be measured and/or documented at each sampling station:

- site name
- date and time
- station water depth
- sampling location (GPS)
- number of successful and unsuccessful grabs taken
- photographs of all sediment samples and sampling locations
- where applicable, description of adjacent habitat conditions

Sample processing will be consistent with the BC Field Sampling Manual (BC MoE 2013a) and instructions provided by the analytical laboratory.

4.4.2 Subsurficial Sampling (Core Samples)

Subsurface sampling will be conducted with a boat-mounted vibracore drilling rig, comprised of a weighted motor supported by legs housed on a collection tube. The motor vibrates the sample collection tube into the sediment layer. The tube advances through a combination of vibration and the weight of the motor. The vibracore has a maximum penetration depth of 6 m, but in dense substrate, as expected in the proposed dredge pocket, the penetration depth might be less. “Loss-of-core” issues will be discussed with the driller and recorded in the field log. In consideration of the geotechnical data provided by Golder (Section 2.5.2.2), it is unlikely that substantial compression of sediments will occur. If compression does occur, the location in the coring tube at which samples are collected will be “standardized” using the distance that the vibracore was driven below the mudline.

Each core sample will consist of an interval of 0.5 m of core. The rationale for sampling over a 0.5 m interval of core is that this is a reasonable approximation of the vertical precision that can be achieved with dredging technology. The 0.5-m core intervals to be submitted for laboratory analysis will be selected to represent the proposed dredge pocket both by area and depth, with a greater number of samples collected from longer cores (i.e., representing deeper portions of the dredge pocket) and fewer samples will be collected from shorter cores. This decision will be made at the time of sampling because some cores may also be longer or shorter depending on the penetration depth of the vibracore. In addition, interval(s) with suspected presence of contamination (on the basis of visual observations such as an oily sheen) will also be sampled.

Sediment cores, in liners, will be laid on a table covered in clean plastic to prevent cross-contamination. The liners will be cut longitudinally, using a task-specific tool. The core will be split (e.g., with a plaster spreader) and laid open for logging.

Photographs will be taken, with a label showing the vibracore location, depth, and date. The following sampling information will be recorded in the field log:

- sample description details not captured by the stratigraphic layer description
- rationale for core sectioning, other than at pre-established depth intervals
- sample interval relative to the top of the core
- sample identifier code
- sampler's initials

A description of the sediment in each stratigraphic layer will also be recorded, including observations of the following:

- colour
- material according to estimated grain size distribution
- density
- presence of materials such as shell fragments, wood fragments, biota
- potential presence of visible contamination (e.g., hydrocarbon-like sheen, staining, debris)

Pre-cleaned stainless steel tools will be used to transfer sediment into pre-cleaned stainless steel bowls for sample homogenization. Typically, for each sample, four 125-mL glass sample jars (provided by the analytical laboratory) and a 500 mL bag (for grain size analysis) will be filled with sediment, sealed immediately, and placed in a cooler with ice packs. The total volume per sample would therefore be approximately 1,000 mL.

Each sample jar will be labeled with the following information:

- client
- project number
- sample date and time
- sample identifier code
- jar number and number of jars comprising the sample (e.g., “1 of 4”)
- sampler's initials

Samples will be stored and shipped in coolers with ice packs and protective material (e.g., bubble wrap).

4.4.3 Laboratory Analysis

Collected samples will be analyzed for the parameters summarized in Table 3. In addition to addressing the minimum analytical requirements for DAS, a subset of sediments will be analysed for dioxins/furans, as well as light and heavy extractable petroleum hydrocarbons (LEPH-HEPH) on a subset of samples. The latter analyses will be used for the purpose of selecting potential land-based disposal options. Samples not submitted for analysis will be archived for potential analysis at a later date (within laboratory specified hold time), if warranted based on the results of the first round of analysis. Salinity will be measured in all samples, to assist in informing onshore disposal options.

Table 3 – Proposed Sediment Drilling Program: Analytical Parameters and Estimated Number of Analyses

Analytical Parameter	Percentage of Samples to be Analyzed	Estimated Number of Analyses (excluding duplicates)	Rationale for Inclusion
PAHs	100%	19	Regulated parameter
LEPH-HEPH	50%	9	To be used for evaluation of land-based disposal options
Metals	100%	19	Regulated parameters and contaminants of potential concern
PCBs	100%	19	Regulated parameter
Salinity	100%	19	To be used for evaluation of land-based disposal options
Dioxins and furans	~25%	5	Identified as a contaminant of potential concern
TOC	100%	19	Minimum sampling requirement (used to interpret other parameters)
Particle size	100%	19	Minimum sampling requirement (used to interpret other parameters)

PAHs = polycyclic aromatic hydrocarbons
LEPH-HEPH = light and heavy extractable petroleum hydrocarbons (parameter defined by British Columbia Ministry of Environment)
PCBs = polychlorinated biphenyls
TOC = total organic carbon

Chemical and physical analyses will be performed by a laboratory(s) accredited by the Canadian Association for Laboratory Accreditation (CALA). Analytical detection limits (DLs) will be selected to allow for comparison to the lower level concentrations in the Disposal at Sea Regulations and CCME (2017) SQGs, where available.

4.5 Equipment Decontamination

Equipment in contact with the sample will be decontaminated as follows before being reused:

- The corer and grab sampler will be pressure-washed using site water, then swabbed with a solution of site water and laboratory-grade detergent (e.g., Liquinox®), before being rinsed with site water.
- Bowls and spoons will be washed with a scrub-brush and laboratory-grade detergent (e.g., Liquinox®) followed by a distilled water rinse.

4.6 Quality Assurance/Quality Control (QA/QC) Measures

The following QA/QC measures will be undertaken:

- Samples will be collected and processed by qualified experienced personnel.
- Samples will be collected in such a way that no foreign material is introduced to the sample and no material of interest escapes from the sample prior to analysis.
- Sample handling or contact with contaminating materials/surfaces will be minimized.
- Samples will be placed in clean containers and preserved (where appropriate) so that loss of material due to adsorption, degradation, or volatilization is minimized.
- Sufficient sediment volumes will be collected so that required detection limits can be met and quality control samples can be analyzed.
- Field data sheets will be reviewed by the field supervisor at the end of each day for completeness and accuracy.
- A chain-of-custody record will accompany each sample to its final destination. The receiving laboratory will accept custody of the shipped samples at their final destination, verify that the samples received match those on the chain-of-custody records, and document the condition of the samples and temperature of the cooler upon receipt.
- Samples will be packaged and shipped to the laboratory by appropriate means, so that holding times and storage conditions for the analyses are met.

Field duplicates, as a split of one homogenized sample, will be collected for approximately 10% of the total number of samples. For each pair of field duplicate samples, the Relative Percent Difference (RPD) will be calculated using the following equation:

$$RPD = 100 \left| \frac{(Rep1 - Rep2)}{[(Rep1 + Rep2)/2]} \right|$$

In accordance with the BC Field Sampling Manual (BC MOE 2013), an RPD value of ±20% for values greater and equal to five times the reported detection limit (RDL) will be used to identify possible differences between original and duplicate samples. An RPD value ±50% will be used to identify definite differences between the original and duplicate samples. Values less than five times the RDL will not be included in the RPD calculations because analytical variability near the RDL is higher and does not provide a good measure of variability associated with the collection of field samples.

4.6.1 Laboratory QA/QC

Laboratory duplicates, blanks and reference samples (a certified reference standard, spike or control standard) will be analyzed per the laboratories standard operating procedures (SOPs).

Laboratory data will be reviewed upon receipt to verify that specified data quality objectives (DQOs) are met. Potential inconsistencies (if any) will be noted and where possible necessary analyses were re-run to confirm results.

4.7 Data Screening

Data collected from this sampling program will be tabulated in spreadsheets formatted in accordance with DAS data requirements for dredging projects (ECCC 2014b). Total PAH will be calculated as the sum of 16 detected PAHs in a given sample: acenaphthene, naphthalene, acenaphthylene, anthracene, phenanthrene, fluorene, fluoranthene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, benzo[ghi]perylene, dibenz[a,h]anthracene, indeno[1,2,-cd]pyrene, and pyrene. TEQs for dioxins and furans will be calculated using World Health Organization 1998 TEFs for fish (Van den Berg 1998), as described in CCME (1999). The data will be screened against the lower level concentrations in the Disposal at Sea Regulations and CCME SQGs.

Spreadsheets will be systematically checked for errors by a person other than the person who entered the data.

5.0 CLOSURE

We trust this report meet your requirements, should you have any questions please do not hesitate to contact either of the undersigned.

GOLDER ASSOCIATES LTD.

Paddy McManus, MSc
Environmental Scientist

Elaine Irving, PhD, RPBio
Senior Environmental Scientist

Barbara Wernick, MSc, RPBio
Principal, Senior Environmental Scientist

PM/EI/BGW/asd

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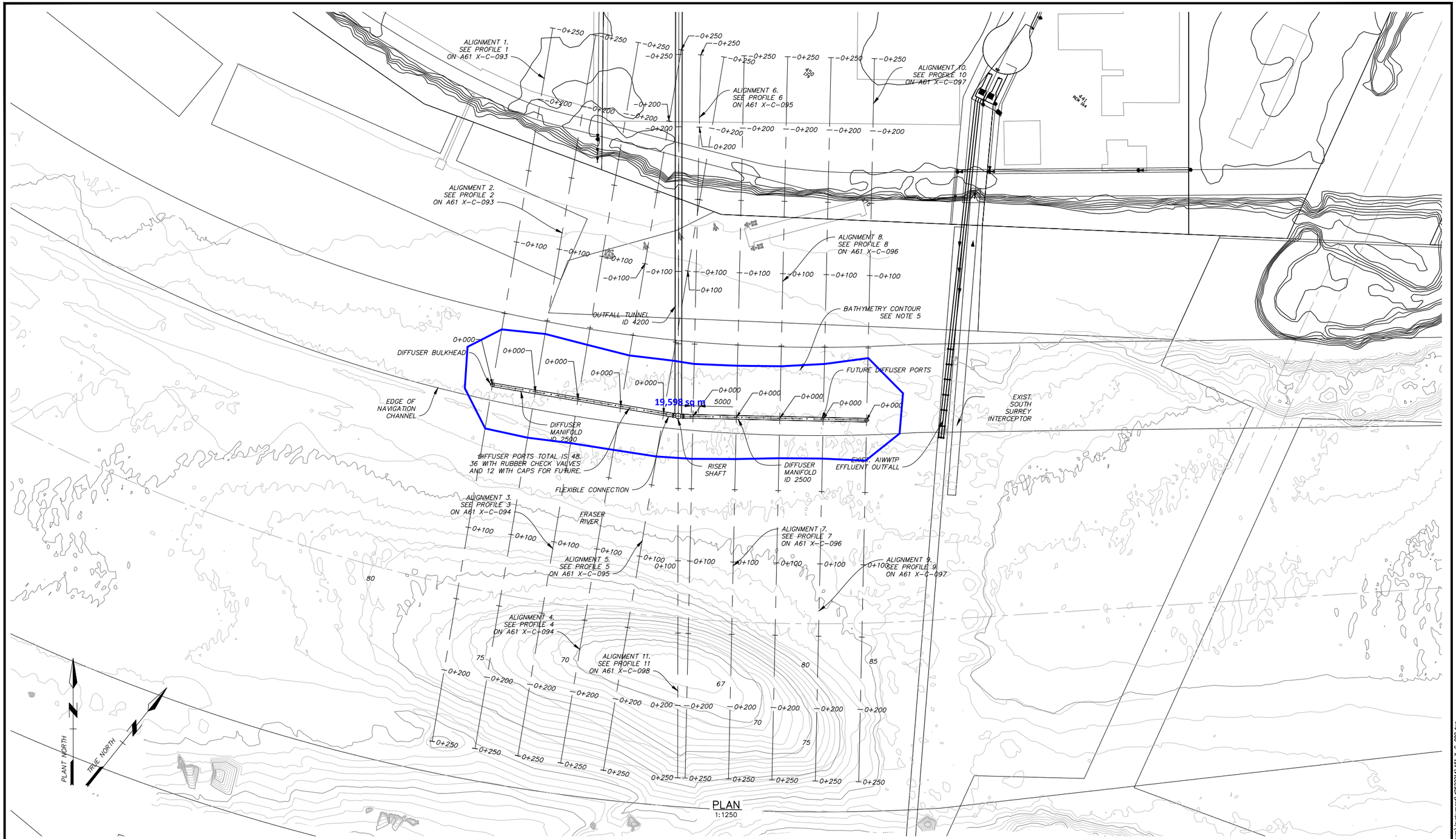
APPENDIX A

Diffuser Prism Figures (Provided by CDM Smith)



PLAN
1:1250

NOTES:
1. COORDINATES ARE UTM NAD83 GROUND UNITS.
   COMBINED SCALE FACTOR = 0.9996026.
2. ELEVATIONS ARE IN METERS AND REFER TO GEODETIC DATUM. 100M HAS BEEN ADDED TO ALL ELEVATIONS.
3. TOPOGRAPHICAL SURVEY PROVIDED BY PROTECH ON JANUARY 2013.
4. RIVER BATHYMETRY IS VARIABLE. CCG BATHYMETRY SURVEY DATA FROM JANUARY 2016.
5. STRUCTURES ARE IN AIWWTP DATUM (CGVD28GVRD2005). FRAZER RIVER BATHYMETRY CONTOURS (IN PLAN) ARE SHOWN IN CHART DATUM, WHICH IS 1.59 M LOWER THAN GEODETIC DATUM (REFERENCE ELEVATION 98.41).

CDM Smith
1001-4710 Kingsway
Burnaby, BC V5H 4M2
Canada
Phone: 778-374-1949

CHECK PRINT
THIS DRAWING HAS NOT BEEN APPROVED, AND MAY CONTAIN ERRORS AND OMISSIONS.

Professional Seal

Issue	Date	Desn	Dr'n	Chkd	App'd	Description
P2	DEC. 2016	?	?	?	?	ISSUED FOR 60% DESIGN REVIEW
P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

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ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
TUNNEL PLAN AND PROFILE 4

SCALE: 1:500
DISTRICT FILE SF-1933
DRAWING NUMBER A61 X-C-092

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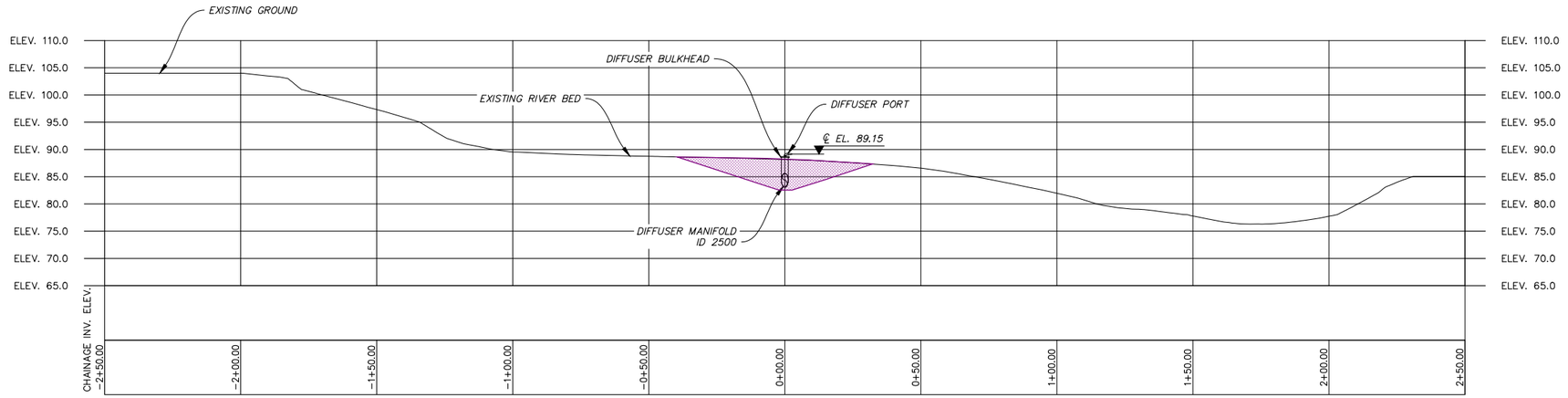

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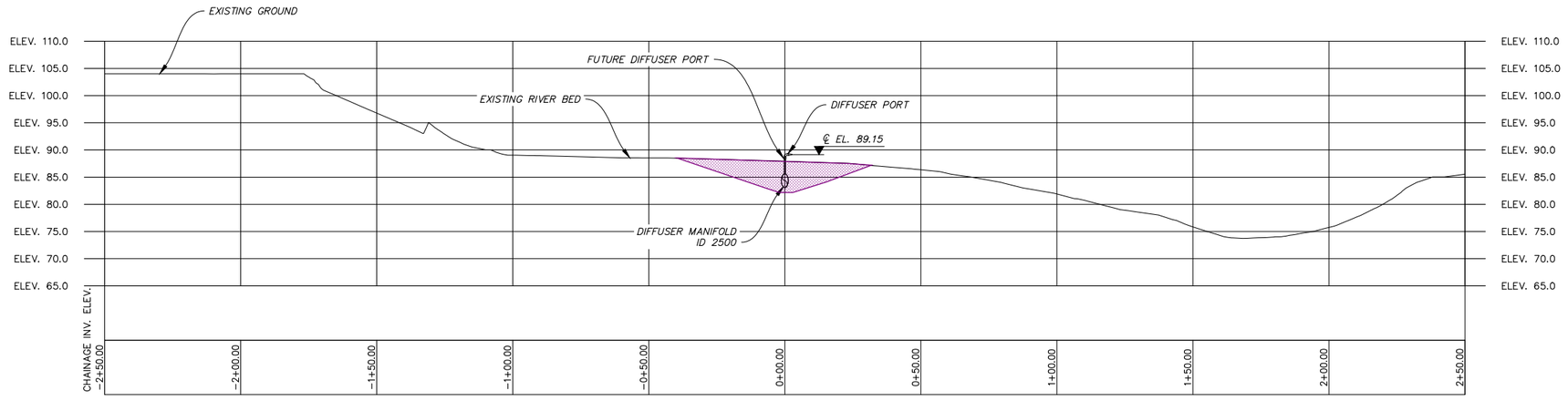

PROFILE 2
HORIZ. – 1:1000
VERT. – 1:500

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P2	DEC. 2016	?	?	?	?	ISSUED FOR 60% DESIGN REVIEW
P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

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ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
DIFFUSER MANIFOLD PROFILE

SCALE: 1:500
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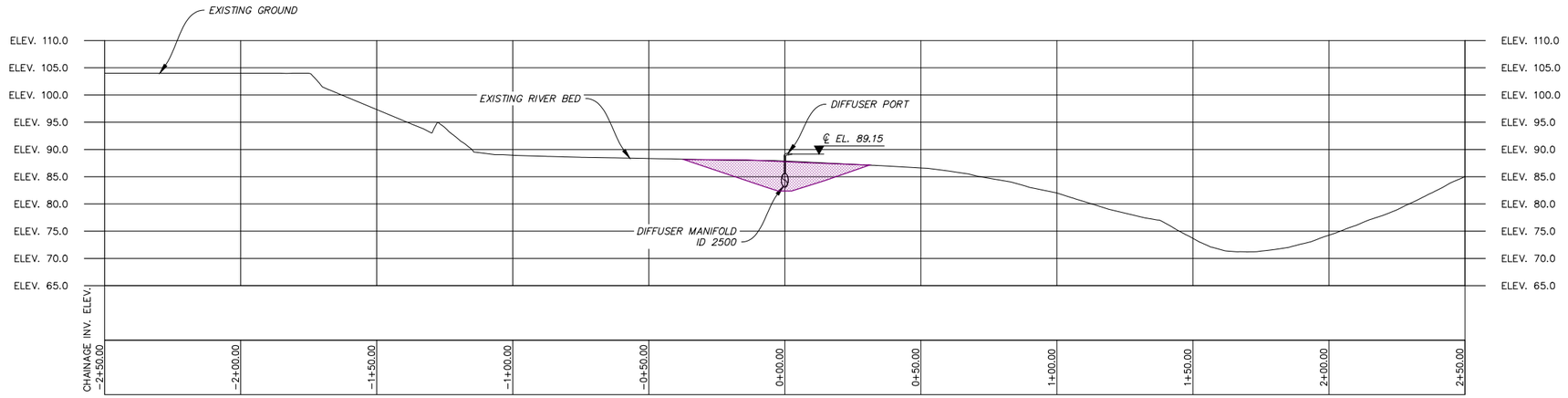

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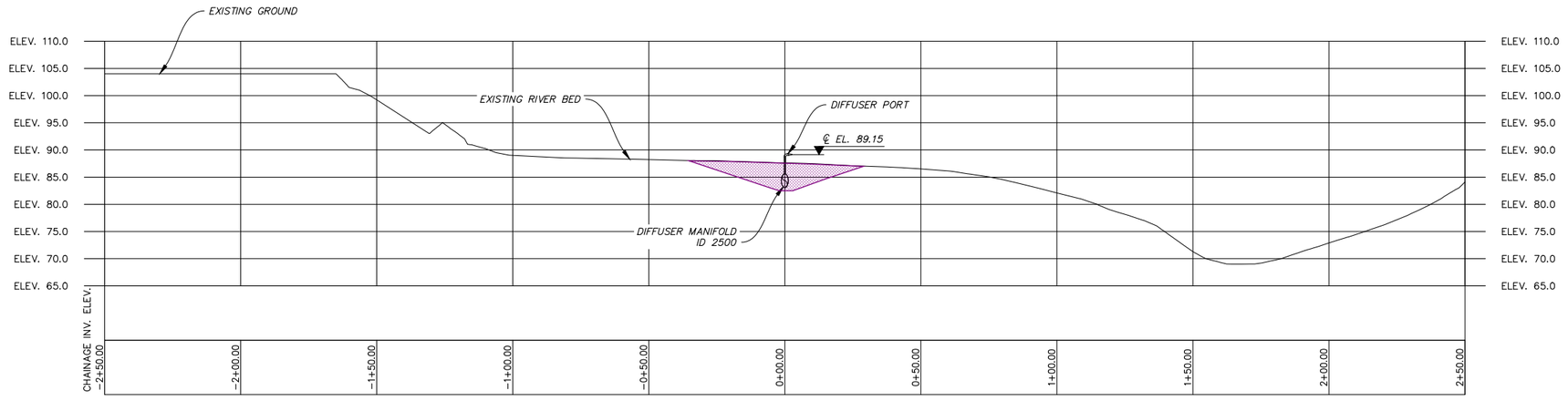

PROFILE 4
HORIZ. – 1:1000
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1001–4710 Kingsway
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Issue	Date	Desn	Dr'n	Chkd	Appd	Description
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P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

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ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
DIFFUSER MANIFOLD PROFILE

SCALE: 1:500
DISTRICT FILE SF-1933
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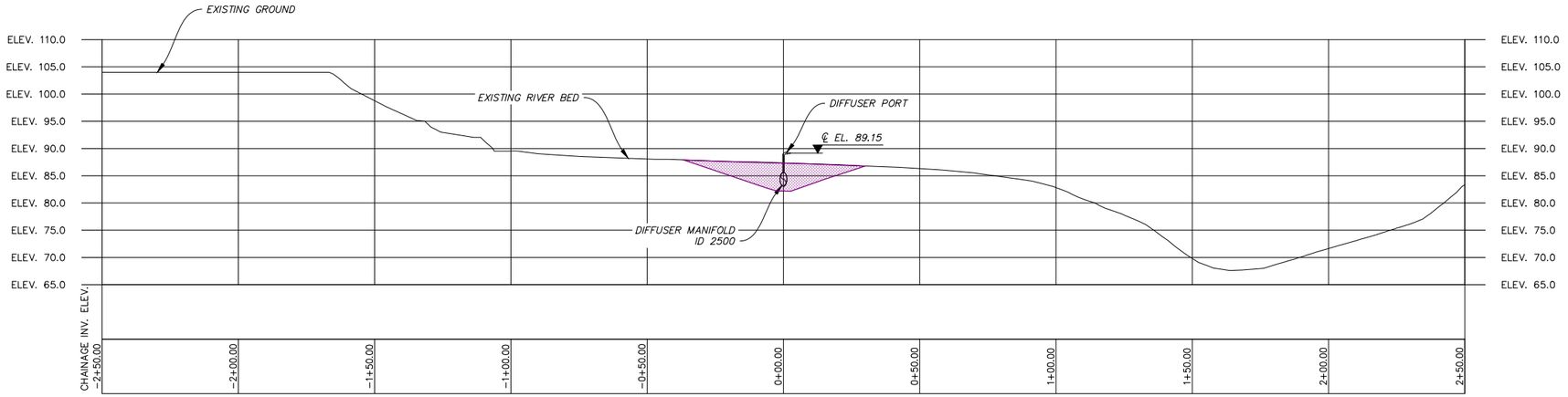

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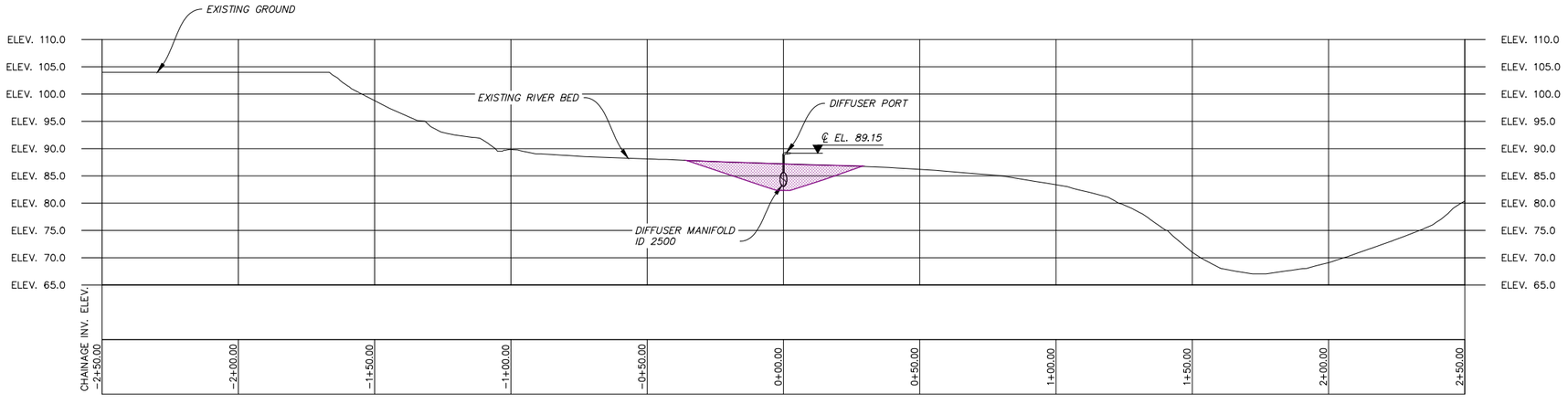

PROFILE 6
HORIZ. – 1:1000
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CDM Smith
1001–4710 Kingsway
Burnaby, BC V5H 4M2
Canada
Phone: 778–374–1949

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Issue	Date	Desin	Dr'n	Chkd	Appd	Description
P2	DEC. 2016	?	?	?	?	ISSUED FOR 60% DESIGN REVIEW
P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

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ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
DIFFUSER MANIFOLD PROFILE

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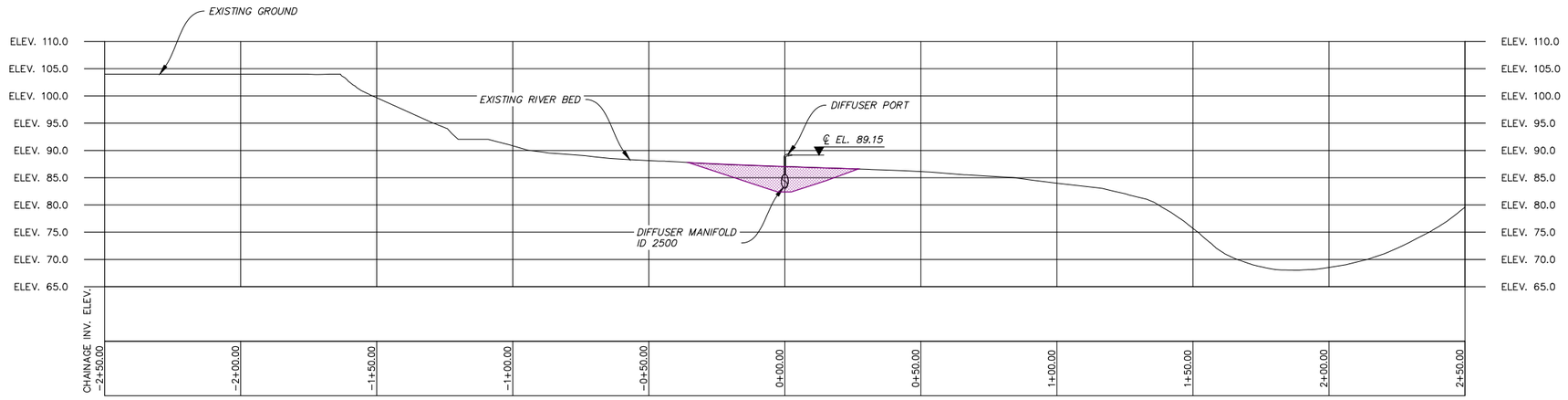

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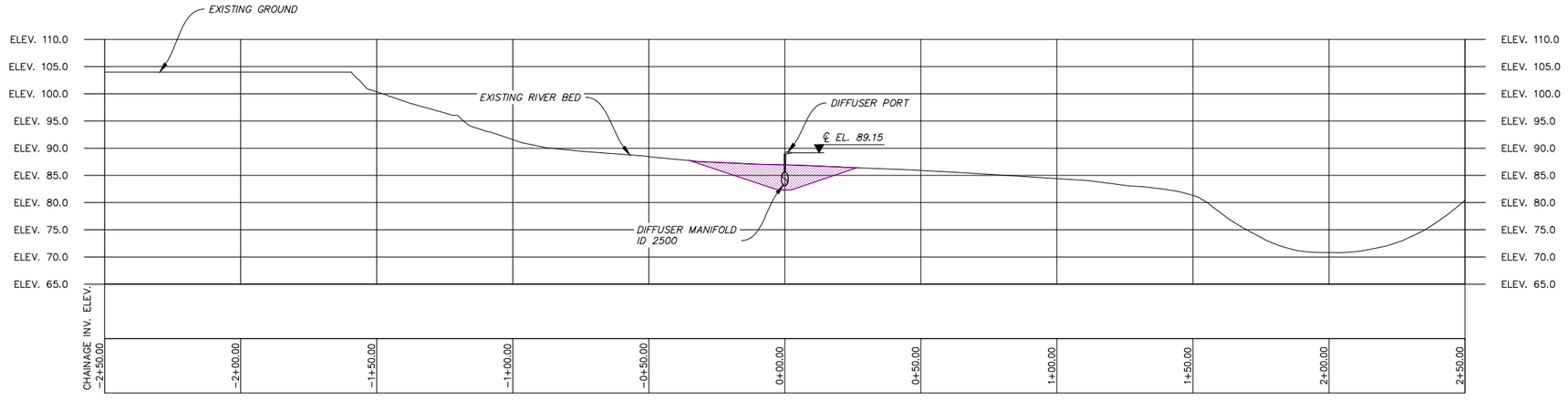

PROFILE 8
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CDM Smith
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Issue	Date	Desin	Dr'n	Chkd	Appd	Description
P2	DEC. 2016	?	?	?	?	ISSUED FOR 60% DESIGN REVIEW
P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

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ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
DIFFUSER MANIFOLD PROFILE

SCALE: 1:500
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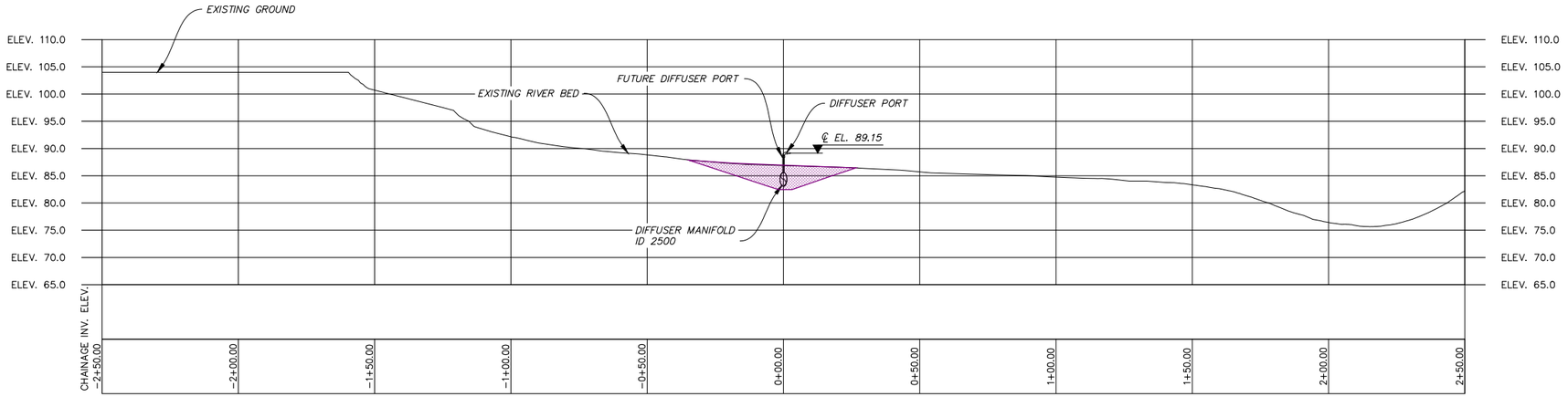

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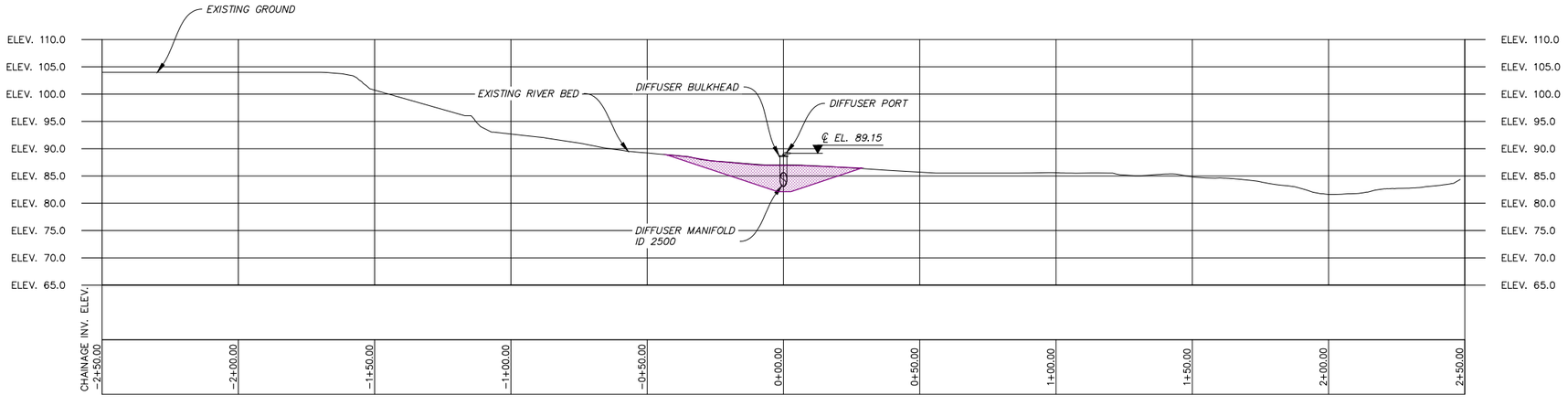

PROFILE 10
HORIZ. – 1:1000
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CDM Smith
1001–4710 Kingsway
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Canada
Phone: 778–374–1949

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Professional Seal

Issue	Date	Desin	Dr'n	Chkd	Appd	Description
P2	DEC. 2016	?	?	?	?	ISSUED FOR 60% DESIGN REVIEW
P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

0 20 Bar is 20mm On Original Drawing. If Not On This Sheet, Adjust Scales Accordingly.

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Design: INT.
Drawn: INT.
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INT. Manager

ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
DIFFUSER MANIFOLD PROFILE

SCALE: 1:500
DISTRICT FILE SF-1933
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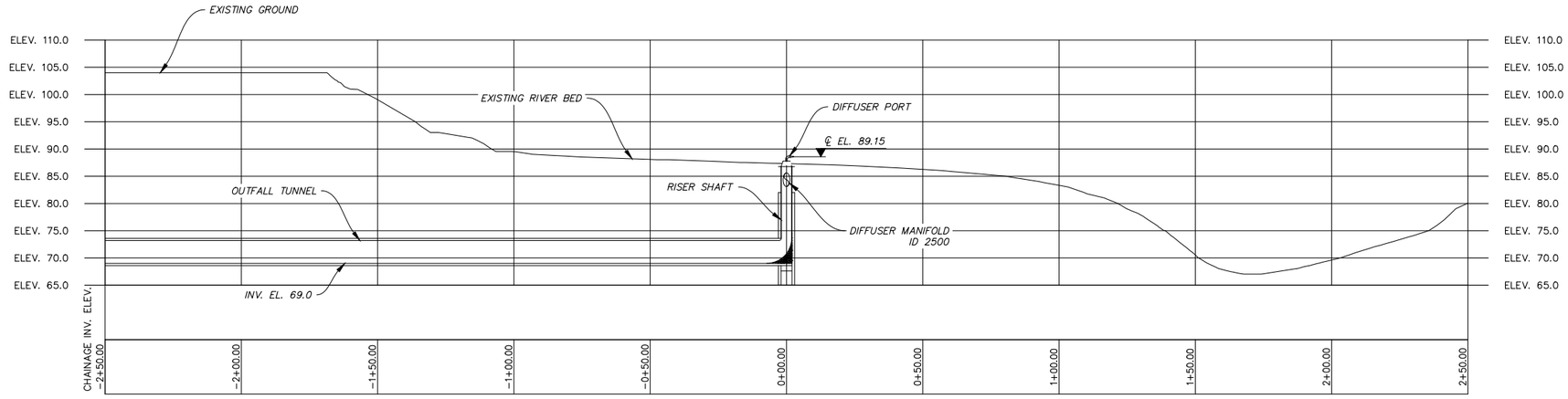

PROFILE 11

HORIZ. – 1:1000
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CDM Smith
1001–4710 Kingsway
Burnaby, BC V5H 4M2
Canada
Phone: 778–374–1949

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Professional Seal

Issue	Date	Desn	Dr'n	Chkd	Appd	Description
P2	DEC. 2016	?	?	?	?	ISSUED FOR 60% DESIGN REVIEW
P1	AUG. 2016	?	?	?	?	ISSUED FOR PRELIMINARY DESIGN REVIEW

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GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

Design: INT.
Drawn: INT.
Checked: INT.
INT. Approved
INT. Manager

ANNACIS ISLAND WWTP
TRANSIENT MITIGATION AND OUTFALL
CONTRACT XXXX – NEW OUTFALL SYSTEM
PACKAGE 5

A61 – NOS
DIFFUSER MANIFOLD PROFILE

SCALE: 1:500
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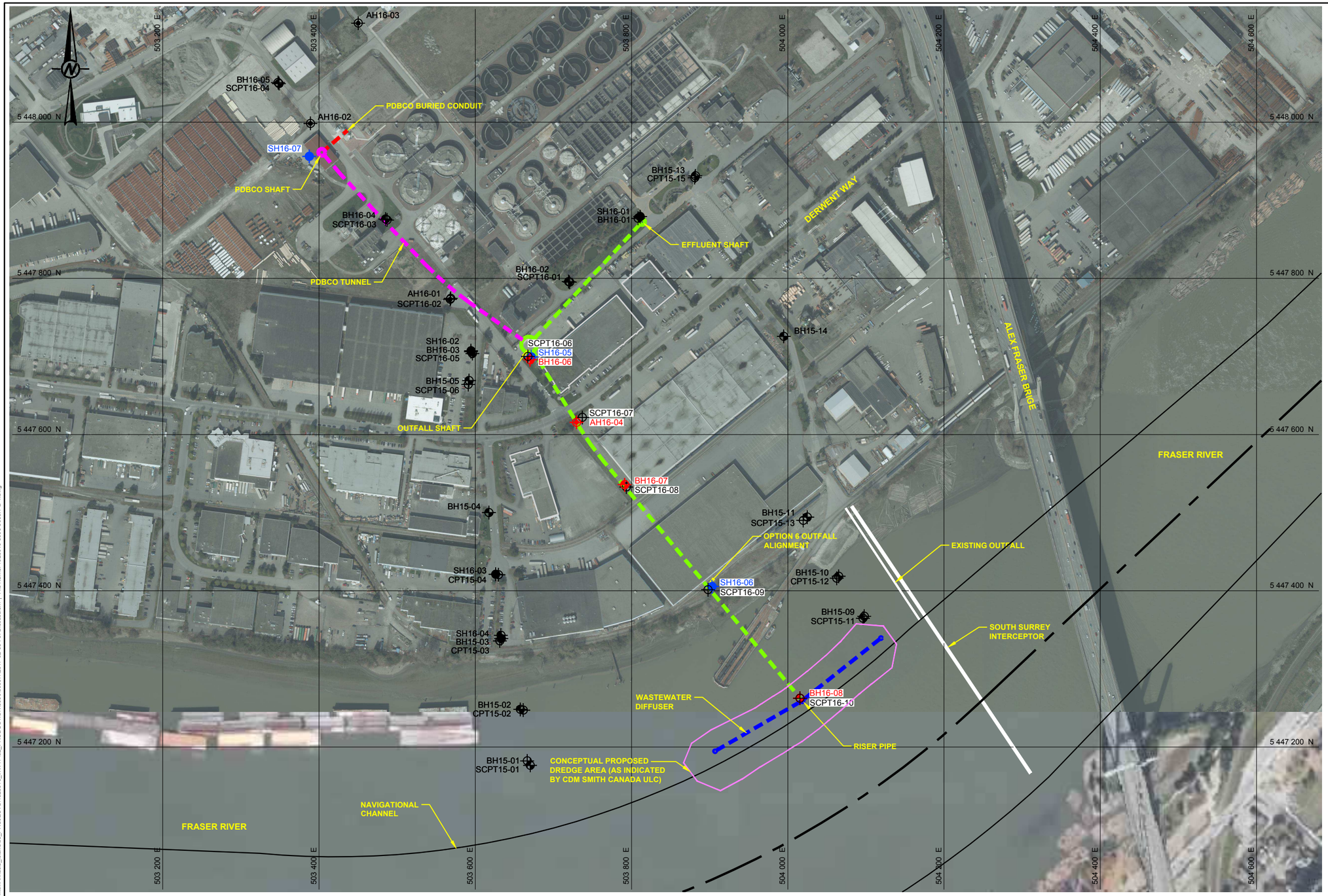
xref files:

APPENDIX B

Sediment Data from the Geotechnical and Environmental Investigation for the AIWWTP Transient Mitigation and Outfall Project

Borehole logs and figures are in draft so are not to be used for geotechnical purposes.



DRAFT

0 100 200
1:2,500 METRES

LEGEND

- SONIC HOLE LOCATION
- BOREHOLE LOCATION
- AUGERHOLE LOCATION
- (SONIC) CONE PENETRATION TEST LOCATION
- SONIC HOLE LOCATION
- BOREHOLE LOCATION
- (SONIC) CONE PENETRATION TEST LOCATION

NOTE(S)

1. COORDINATES ARE IN UTM NAD83 ZONE 10 AND CONVERTED TO GROUND LEVEL USING A COMBINED SCALE FACTOR OF 1.000397558.

REFERENCE(S)

1. BASE DRAWING AND ORTHOPHOTO PROVIDED BY BLACK & VEATCH
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2. 2016 CCG BATHYMETRY SURVEY AND OPTION 6 ALIGNMENT PROVIDED BY CDM SMITH CANADA ULC ON MAY 19, 2016
   FILE: C201072016.DWG

CLIENT
CDM SMITH CANADA ULC

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-10-17
DESIGNED	Y. WITTWER
PREPARED	S. REDDY
REVIEWED	
APPROVED	

PROJECT
ANNACIS ISLAND WWTP TRANSIENT MITIGATION AND OUTFALL DELTA, B.C.

TITLE
GEOTECHNICAL AND ENVIRONMENTAL TEST HOLE LOCATION PLAN

PROJECT NO.	PHASE/TASK	REV.	FIGURE
1525010	3000	A	B-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

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Parameter	Disposal at Sea Lower Level Concentration[1]	Notes	CCME PEL[2]	Notes	CCME ISQG[2]	Notes	Location	BH15-09	BH15-09
							SCN	01011-02	01011-04
							Sample Date	9/23/2015	9/23/2015
							Sample Depth (m bgs)	0.0-0.15	1.22-1.42
							QA/QC		
							Lowest Detection Limit	Units	
Physical Tests									
Moisture							0.25	%	18.9	21
pH (1:2 soil:water)							0.1	pH	7.65	8.29
Organic / Inorganic Carbon									
Total Organic Carbon							0.1	%	<0.10	<0.10
Metals									
Antimony (Sb)							0.1	mg/kg	0.16	0.21
Arsenic (As)			17	FS	5.9	FS	0.1	mg/kg	3.31	2.46
Barium (Ba)							0.5	mg/kg	37	44.9
Beryllium (Be)							0.1	mg/kg	0.17	0.19
Cadmium (Cd)	**0.6**		3.5	FS	0.6	FS	0.02	mg/kg	0.119	0.172
Chromium (Cr)			90	FS	37.3	FS	0.5	mg/kg	17.6	37.6
Cobalt (Co)							0.1	mg/kg	6.8	8.61
Copper (Cu)			108	M/ES	18.7	M/ES	0.5	mg/kg	12.3	14.4
Lead (Pb)			91.3	FS	30.2	M/ES	0.5	mg/kg	1.94	1.99
Mercury (Hg)	**0.75**		0.486	FS	0.13	M/ES	0.005	mg/kg	0.0136	0.017
Molybdenum (Mo)							0.1	mg/kg	0.3	1.84
Nickel (Ni)							0.5	mg/kg	24.7	36.2
Selenium (Se)							0.2	mg/kg	<0.20	<0.20
Silver (Ag)							0.1	mg/kg	<0.10	<0.10
Sodium (Na)							50	mg/kg	-	-
Thallium (Tl)							0.05	mg/kg	<0.050	<0.050
Tin (Sn)							2	mg/kg	<2.0	<2.0
Uranium (U)							0.05	mg/kg	0.217	0.287
Vanadium (V)							0.2	mg/kg	38.5	45.2
Zinc (Zn)			271	M/ES	123	FS	2	mg/kg	34.7	36.7
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene			0.0889	FS, M/ES, I	0.00671	FS, M/ES, I	0.0050	mg/kg	<0.0050	<0.0050
Acenaphthylene			0.128	FS, M/ES, I	0.00587	FS, M/ES, I	0.0050	mg/kg	<0.0050	<0.0050
Anthracene			0.245	FS, M/ES, I	0.0469	FS, M/ES, I	0.0040	mg/kg	<0.0040	<0.0040
Benz(a)anthracene			0.385	FS	0.0317	FS	0.010	mg/kg	<0.010	<0.010
Benzo(a)pyrene			0.763	M/ES	0.0319	FS	0.010	mg/kg	<0.010	<0.010
Benzo(b)fluoranthene							0.010	mg/kg	<0.010	<0.010
Benzo(b+j+k)fluoranthene							0.015	mg/kg	<0.015	<0.015
Benzo(g,h,i)perylene							0.010	mg/kg	<0.010	<0.010
Benzo(k)fluoranthene							0.010	mg/kg	<0.010	<0.010
Chrysene			0.846	M/ES	0.0571	FS	0.010	mg/kg	<0.010	<0.010
Dibenz(a,h)anthracene			0.135	FS, M/ES, I	0.00622	FS, M/ES, I	0.005	mg/kg	<0.0050	<0.0050
Fluoranthene			1.494	M/ES	0.111	FS	0.010	mg/kg	<0.010	<0.010
Fluorene			0.144	FS, M/ES	0.0212	FS, M/ES	0.010	mg/kg	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene							0.010	mg/kg	<0.010	<0.010
Naphthalene			0.391	FS, M/ES, I	0.0346	FS, M/ES, I	0.010	mg/kg	<0.010	<0.010
Phenanthrene			0.515	FS	0.0419	FS	0.010	mg/kg	<0.010	<0.010
Pyrene			0.875	FS	0.053	FS	0.010	mg/kg	<0.010	<0.010
2-Methylnaphthalene			0.201	FS, M/ES, I	0.0202	FS, M/ES, I	0.010	mg/kg	<0.010	<0.010
Total PAH Lower Bound (PAH<DL=0)[3]	**2.5**						-	mg/kg	-	-
Total PAH Upper Bound (PAH<DL=DL)[3]	**2.5**						-	mg/kg	0.139	0.139
Polychlorinated Biphenyls (PCBs)									
Total PCBs	**0.1**		0.189	M/ES	0.0215	M/ES		mg/kg	<0.020	<0.020
Aroclor 1016							0.020	mg/kg	<0.020	<0.020
Aroclor 1242							0.020	mg/kg	<0.020	<0.020
Aroclor 1254			0.34	FS	0.06	FS	0.020	mg/kg	<0.020	<0.020
Aroclor 1260							0.020	mg/kg	<0.020	<0.020

Notes:

All concentrations presented as dry weight

The most conservative guideline between freshwater and marine/estuarine guidelines was selected where both were available

CCME = Canadian Council of Ministers of the Environment; DL = detection limit; FS = freshwater, ISQG = interim sediment quality guideline; M/ES = marine and/or estuarine water; PEL = probable effect level; mg/kg = milligram per kilogram; % = percent; SCN = sample control number; I = interim guideline.

[1] Government of Canada Disposal at Sea Regulations - SOR/2001-275. Accessed February 2017. Available at http://laws-lois.justice.gc.ca/PDF/SOR-2001-275.pdf

[2] Canadian Council of Ministers of the Environment (CCME) Sediment Guidelines for the Protection of Aquatic Life in Marine/Estuarine and Freshwater. Accessed January 2017. Available online at: http://st-ts.ccme.ca/en/index.html?chems=all&chapters=3

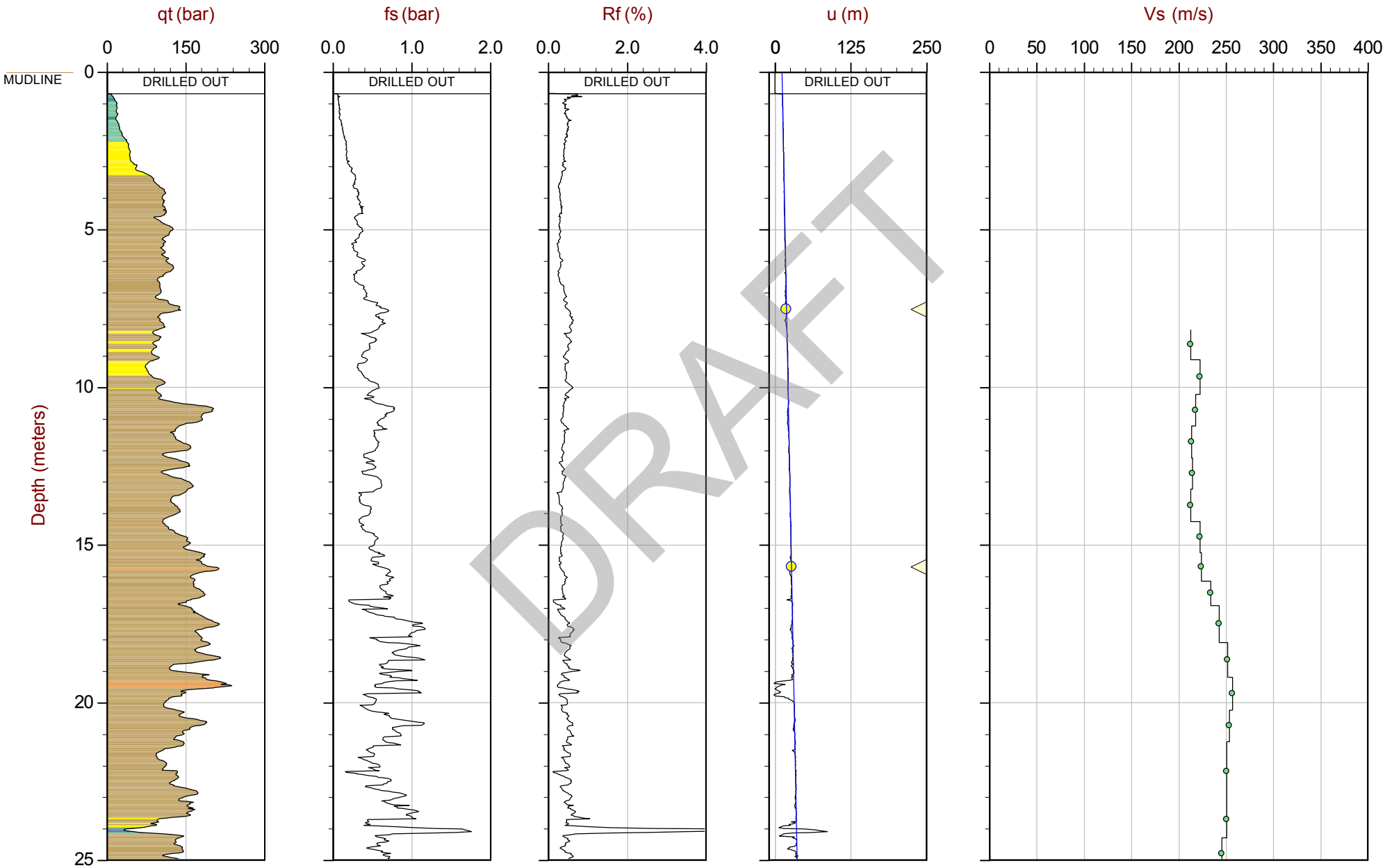
[3]Total PAHs calculated for Disposal at Sea Lower Level Concentration as the sum of the following 16 detected PAHs in a given sample: acenaphthene, naphthalene, acenapthylene, anthracene, phenanthrene, fluorene, fluoranthene, benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, benzo[ghi]perylene, dibenz[a,h]anthracene, indeno[1,2,-cd]pyrene, and pyrene.

CONETEC

Golder Associates

Job No: 15-02048
Date: 09:17:15 08:02
Site: Fraser River near Annacis Island

Sounding: SCPT15-11
Cone: 408:T1500F15U500



Max Depth: 55.150 m / 180.94 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 15-02048_SP11.COR
Unit Wt: SBT Zones

SBT: Robertson and Campanella, 1986
Coords: N: 5445202.58 E: 503897.45 Elev: -10.91m

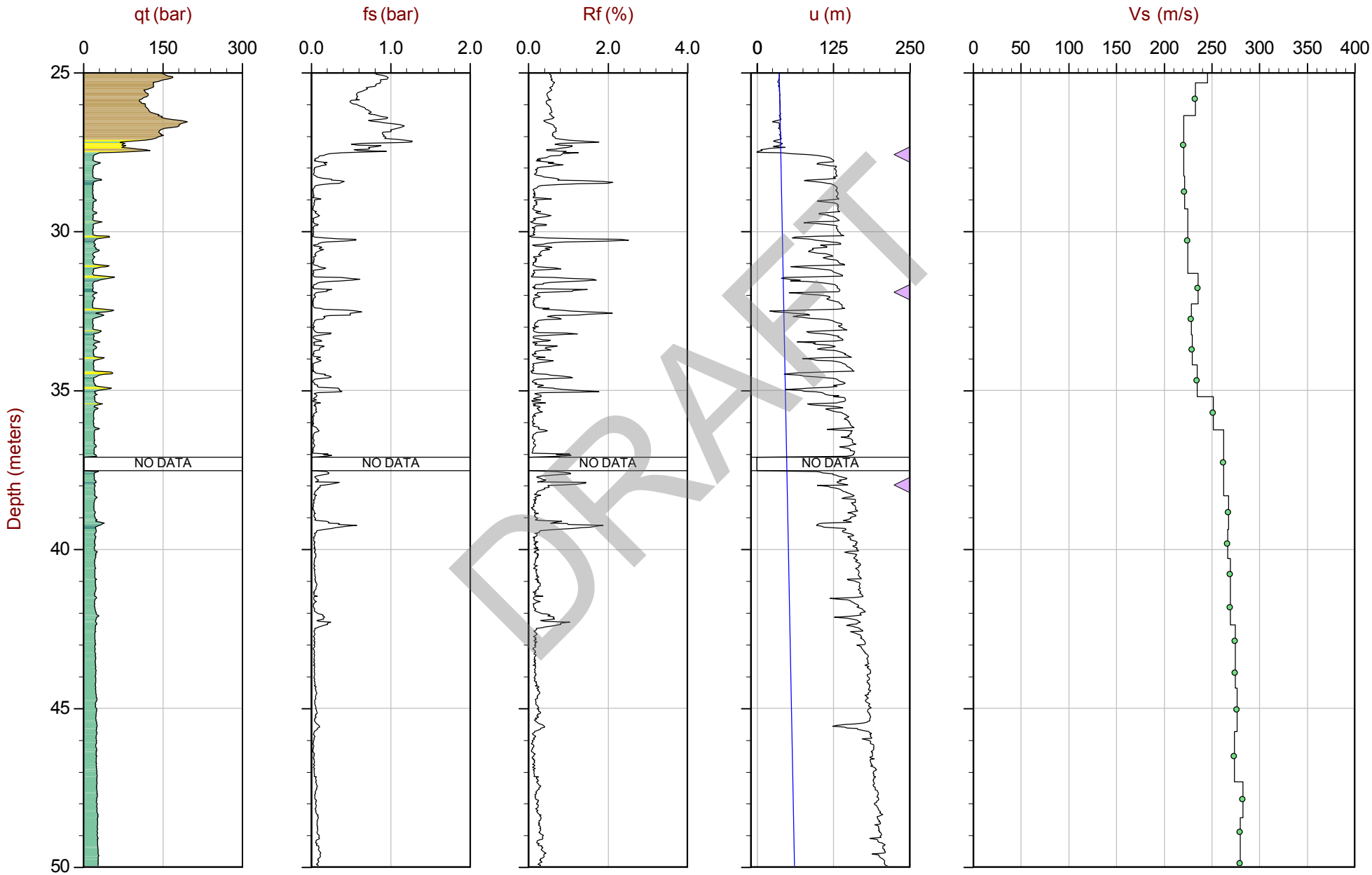
Equilibrium Pore Pressure (Ueq)
Dissipation, Ueq achieved
Assumed Ueq
Dissipation, Ueq not achieved
Hydrostatic Line

CONETEC

Golder Associates

Job No: 15-02048
Date: 09:17:15 08:02
Site: Fraser River near Annacis Island

Sounding: SCPT15-11
Cone: 408:T1500F15U500



Max Depth: 55.150 m / 180.94 ft
Depth Inc: 0.025 m / 0.082 ft
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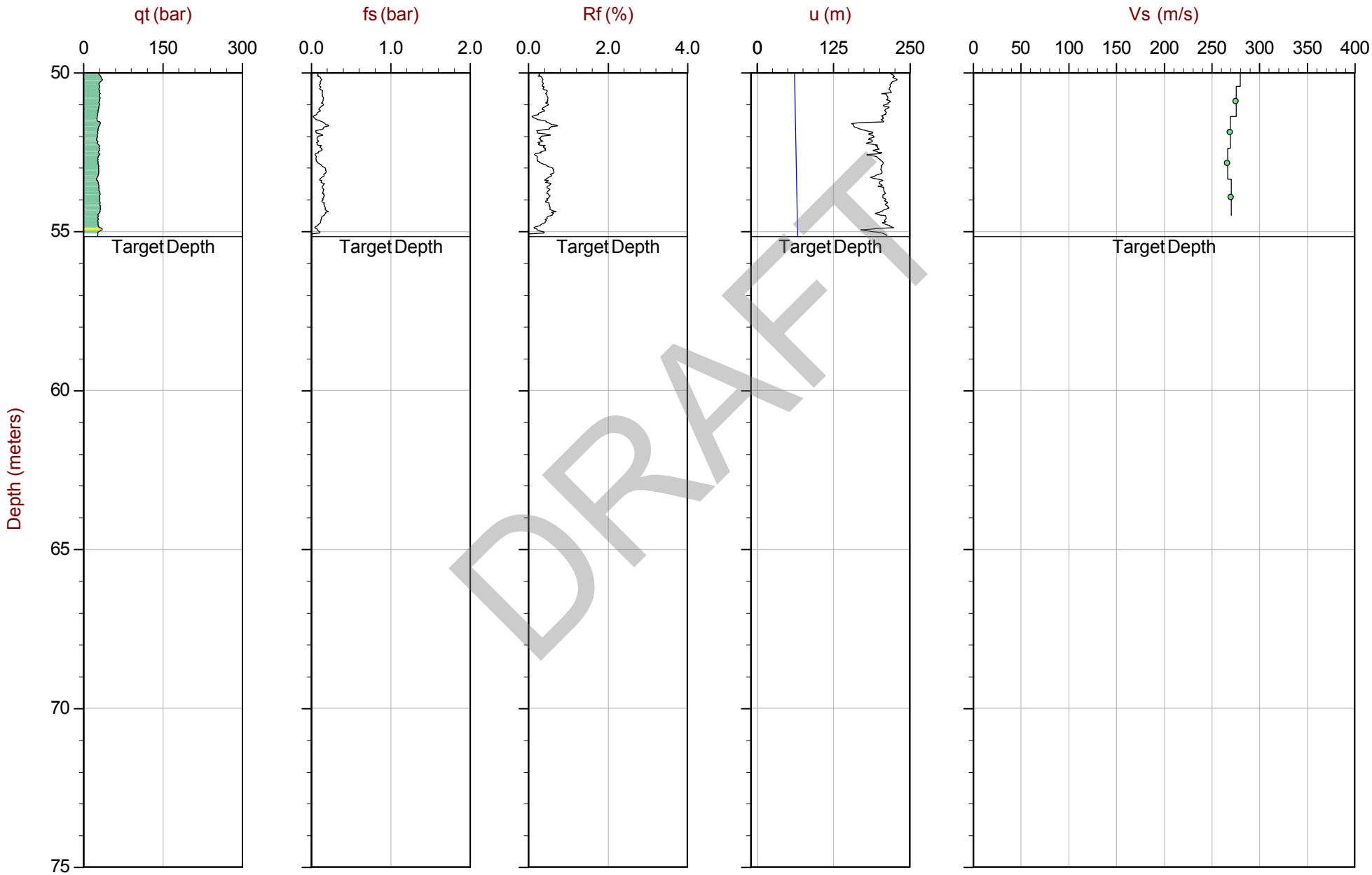
Dissipation, Ueq achieved
Assumed Ueq
Dissipation, Ueq not achieved
Hydrostatic Line

CONETEC

Golder Associates

Job No: 15-02048
Date: 09:17:15 08:02
Site: Fraser River near Annacis Island

Sounding: SCPT15-11
Cone: 408:T1500F15U500



Max Depth: 55.150 m / 180.94 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point

File: 15-02048_SP11.COR
Unit Wt: SBT Zones

SBT: Robertson and Campanella, 1986
Coords: N: 5445202.58 E: 503897.45 Elev: -10.91m

Equilibrium Pore Pressure (Ueq)
Dissipation, Ueq achieved
Assumed Ueq
Dissipation, Ueq not achieved
Hydrostatic Line

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 1 OF 9
DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Pocket Pen -; Q -, U -)	GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
		Mudline		88.87															
0	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	**(SP)** SAND, fine to coarse, trace fines; grey; wet, very loose.		0.00	1	SS	4	WH											
1																			
2					2	SS	50	1			0	98	2						
				86.27															
		(SP) SAND, fine to coarse, trace fines; grey; wet, compact.		2.59															
3					3	SS	67	12			0	97	3						
4																			
5					4	SS	67	19											Cementitious Grout
6																			
					5	SS	67	11			0	95	5						
7																			
8					6	SS	67	12											
9																			
					7	SS	71	19			0	95	5						
10		*CONTINUED NEXT PAGE*																	

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: VT
CHECKED: DRAFT

REV: A

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 2 OF 9

DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q -, U -)	GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
10	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	**(SP)** SAND, fine to coarse, trace fines; grey; wet, compact. *(continued)*			8	SS	67	29										
11																		
12					9	SS	83	24										
13																		
14					10	SS	71	17		2	96	2						
15		**(SP)** SAND, fine to coarse, trace fines; grey; wet, compact to dense.		74.08 14.78														Cementitious Grout
		- trace gravel from 15.24 to 15.85m depth.			11	SS	83	30										
16																		
17					12	SS	96	35		0	97	3						
18																		
19		- layer of sandy SILT to CLAYEY SILT from 18.54 to 22.89m depth.			13	SS	83	31										
20					14	SS	79	28										
		CONTINUED NEXT PAGE																

SOIL CLASSIFICATION SYSTEM: GACS

DEPTH SCALE
1 : 50

LOGGED: VT
CHECKED: DRAFT

REV: A

Golder Associates

PROJECT No.: 1525010 / 601

RECORD OF BOREHOLE: BH15-09

SHEET 3 OF 9

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

DATUM: CVD28GVRD

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q -, U -)	GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
20	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	**(SP)** SAND, fine to coarse, trace fines; grey; wet, compact to dense. *(continued)*			14	SS	79	28		0	97	3						
21					15	SS	63	15		0	97	3						
22																		
23					16	SS	67	33		0	94	6						
24																		
25					17	SS	58	20										Cementitious Grout
26					18	SS	58	23		0	95	5						
27		**(CL/Cl)** SILTY CLAY, trace fine sand; grey; cohesive, wet, firm to stiff.		61.74 / 27.13	19	SS	100	WR							12			
28																		
29		- thin layers of SILT, some sand to sandy SILT from 27.13m to 37.19m depth.			20	SS	100	WR										
30		*CONTINUED NEXT PAGE*																

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: VT
CHECKED: DRAFT

REV: A

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 4 OF 9

DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q - ●, U - ◐)	GRADATION % CLAY PARTICLE SIZE <= 0.002: GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
30	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	**(CL/Cl)** SILTY CLAY, trace fine sand; grey; cohesive, wet, firm to stiff. *(continued)*																
31					21	SS	100	WR										
32					22	SS	100	WR										
33					23	SS	100	WR										
34		- seams of SILT, some sand to sandy SILT from 27.13m to 37.19m depth.																
35					24	SS	100	WR										Cementitious Grout
36																		
37					25	SS	100	WR							5			
38					26	SS	100	WR										
39																		
40		*CONTINUED NEXT PAGE*																

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: VT
CHECKED: DRAFT

REV: A

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 5 OF 9

DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic)	SHEAR STRENGTH Cu, kPa (nat V., rem V., Pocket Pen)	GRADATION % (CLAY PARTICLE SIZE <= 0.002): GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
40	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	**(CL/Cl)** SILTY CLAY, trace fine sand; grey; cohesive, wet, firm to stiff. *(continued)*																	
41					27	TP	100												
42																			
43																			
44																			
45					28	TP	88												Cementitious Grout
46					29	SS	100	WR											
47																			
48					30	SS	100	WR								11			
49					31	TP	100												
50		*CONTINUED NEXT PAGE*																	

DEPTH SCALE
1 : 50

Golder Associates

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: VT

CHECKED: DRAFT

REV: A

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 6 OF 9

DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl, NP - Non-Plastic)	SHEAR STRENGTH Cu, kPa (nat V. +, rem V. ⊕, Pocket Pen -, Q -, U -)	GRADATION % CLAY PARTICLE SIZE <= 0.002: GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
50	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	**(CL/Cl)** SILTY CLAY, trace fine sand; grey; cohesive, wet, firm to stiff. *(continued)*																	
					32	SS	100	WR											
51																			
52					33	SS	100	WR											
53				35.53															
		(CL/Cl) SILTY CLAY; grey; cohesive, wet, stiff.		53.34	34	SS	100	WR											
54																			
55					35	SS	100	WR								12			Cementitious Grout
				33.39															
		Drilled Out. (Possible SILTY CLAY)		55.47															
56																			
57																			
58																			
59																			
				29.13															
				59.74															
60		*CONTINUED NEXT PAGE*																	

SOIL CLASSIFICATION SYSTEM: GACS

DEPTH SCALE
1 : 50

Golder Associates

LOGGED: VT
CHECKED: DRAFT

REV: A

PROJECT No.: 1525010 / 601

RECORD OF BOREHOLE: BH15-09

SHEET 7 OF 9

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

DATUM: CVD28GVRD

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: RECOVERY %	SAMPLES: BLOWS/0.3m	WATER CONTENT PERCENT / SHEAR STRENGTH Cu, kPa	GRADATION % (CLAY PARTICLE SIZE <= 0.002): GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
60	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	Drilled Out. (Possible SILTY CLAY, occasional gravelly and silty sand layers up to 0.75 m in thickness) *(continued)*																
61																		
62																		
63																		
64																		
65																		Cementitious Grout
66																		
67																		
68																		
69																		
70		*CONTINUED NEXT PAGE*																

WATER CONTENT PERCENT: Wp — W — Wl; NP - Non-Plastic; 10 20 30 40
SHEAR STRENGTH Cu, kPa: nat V. + Q - ●; rem V. ⊕ U - ◐; Pocket Pen - ■; 20 40 60 80
GRADATION % CLAY PARTICLE SIZE <= 0.002

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: VT
CHECKED: DRAFT

REV: A

Golder Associates

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 8 OF 9

DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl, NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q -, U -)	GRADATION % CLAY PARTICLE SIZE <= 0.002: GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
70	Fraste Mud Rotary Track Mounted on Spudded Barge / Mud Rotary	Drilled Out. (Possible SILTY CLAY, occasional gravelly and silty sand layers up to 0.75 m in thickness) *(continued)*																Cementitious Grout
71																		
72																		
73																		
74																		
75																		
76																		
77																		
78																		
79				9.36														
		(SM) SILTY SAND, fine sand; grey; moist to wet; very dense.		79.50	36	SS	100	>50		0	83	17						
80		*CONTINUED NEXT PAGE*																

DEPTH SCALE
1 : 50

Golder Associates

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: VT

CHECKED: DRAFT

REV: A

PROJECT No.: 1525010 / 601

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Fraser River
N: 5447364.85 E: 504096.16 UTM (Ground) Zone: 10

RECORD OF BOREHOLE: BH15-09

SHEET 9 OF 9

DATUM: CVD28GVRD

DRILLING DATE: September 20, 2015
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT: Wp W Wl, NP - Non-Plastic; SHEAR STRENGTH Cu, kPa: nat V. + Q - ●, rem V. ⊕ U - ◐, Pocket Pen - ■	GRADATION % (CLAY PARTICLE SIZE <= 0.002): GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
80				8.75	36	SS	100	>50										
		End of Borehole.		80.11														
81																		
82																		
83																		
84																		
85																		
86																		
87																		
88																		
89																		
90																		

DEPTH SCALE
1 : 50

Golder Associates

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: VT

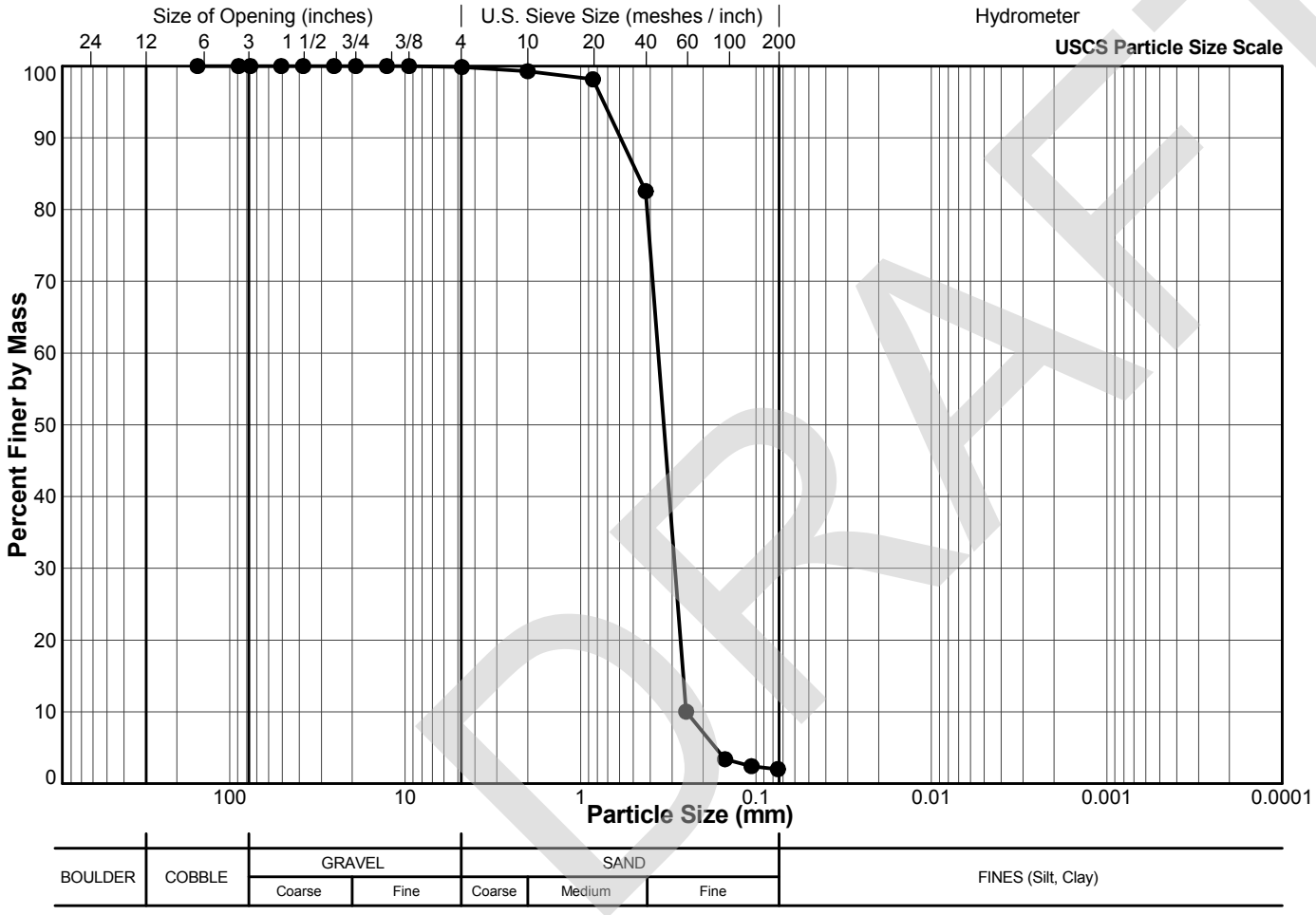
CHECKED: DRAFT

REV: A

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)
ASTM C136

Client:	CDM Smith	**Sample Location:**	BH15-09
Project:	Annacis Outfall	**Sample No.:**	2
Location:	Fraser River	**Depth Interval (m):**	1.52 to 2.13
Project No.:	1525010 **Phase:** 1401	**Lab Schedule No.:**	



Legend

Sieve Size (USS)	(mm)	Particle Size (mm)	Percent Passing
6"	152.4		100.0
3.5"	88.9		100.0
3"	76.2		100.0
2"	50.8		100.0
1 1/2"	38.1		100.0
1"	25.4		100.0
3/4"	19.1		100.0
1/2"	12.7		100.0
3/8"	9.5		100.0
#4 US MESH	4.75		99.9
#10 US MESH	2		99.3
#20 US MESH	0.85		98.2
#40 US MESH	0.425		82.6
#60 US MESH	0.25		10.0
#100 US MESH	0.15		3.4
#140 US MESH	0.106		2.4
#200 US MESH	0.075		2.0

	AZ/DC	10/30/2015	LH	11/4/2015	
	Tech	Date	Checked	Date	

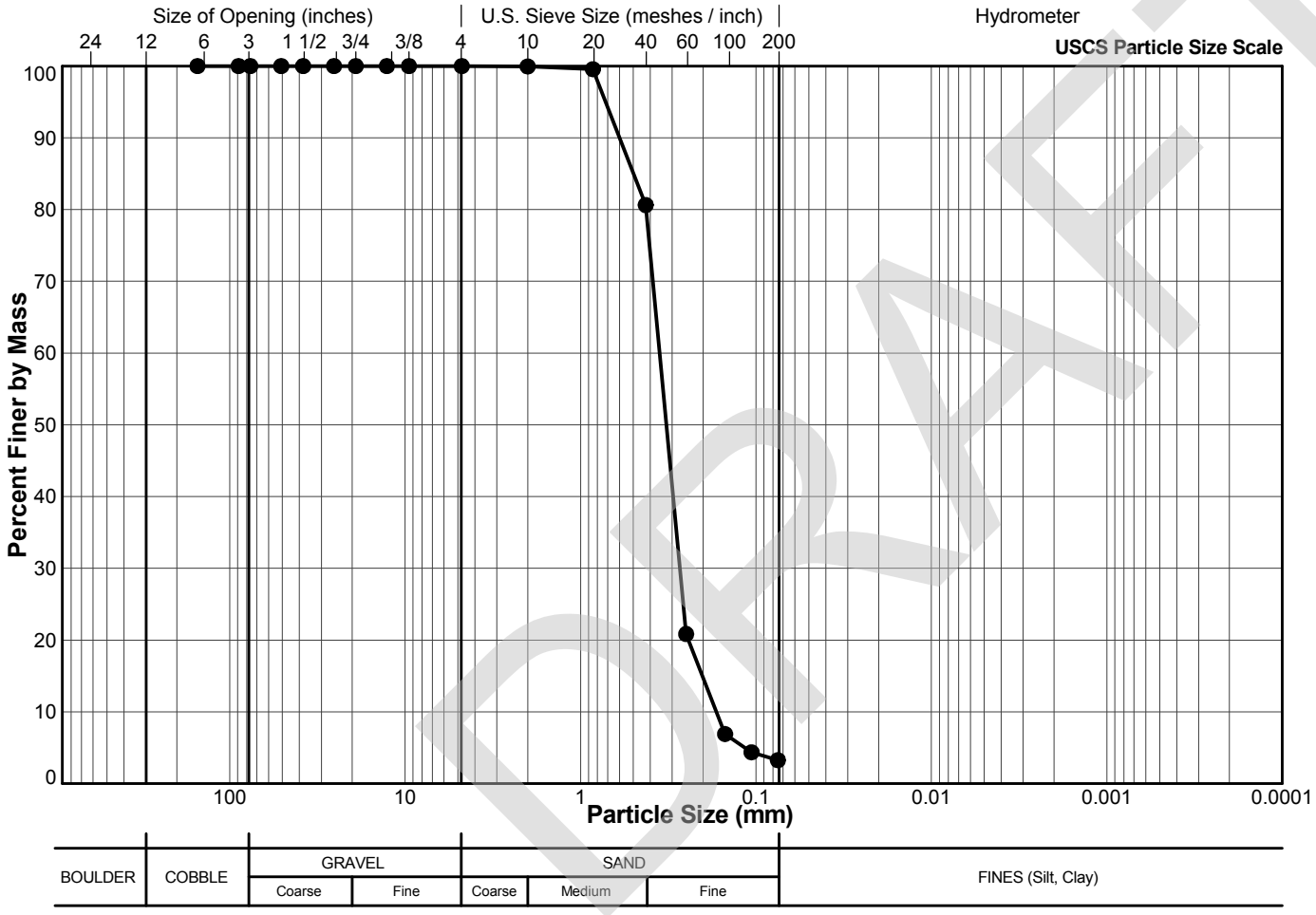
National IM Server:GINT_GAL_NATIONALIM Unique Project ID:1063 Output Form:_LAB_PARTICLE SIZE (W/ GRADATIONS) lhu 11/4/15

Golder Associates Ltd.
300-3811 North Fraser Way Burnaby, British Columbia Canada V5J 5J2
Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)
ASTM C136

Client:	CDM Smith	**Sample Location:**	BH15-09
Project:	Annacis Outfall	**Sample No.:**	3
Location:	Fraser River	**Depth Interval (m):**	3.05 to 3.66
Project No.:	1525010 **Phase:** 1401	**Lab Schedule No.:**	



Legend

Sieve Size (USS)	(mm)	Particle Size (mm)	Percent Passing
6"	152.4		100.0
3.5"	88.9		100.0
3"	76.2		100.0
2"	50.8		100.0
1 1/2"	38.1		100.0
1"	25.4		100.0
3/4"	19.1		100.0
1/2"	12.7		100.0
3/8"	9.5		100.0
#4 US MESH	4.75		100.0
#10 US MESH	2		99.9
#20 US MESH	0.85		99.6
#40 US MESH	0.425		80.6
#60 US MESH	0.25		20.8
#100 US MESH	0.15		6.9
#140 US MESH	0.106		4.4
#200 US MESH	0.075		3.3

AZ/DC	10/30/2015	LH	11/4/2015
Tech	Date	Checked	Date

National IM Server:GINT_GAL_NATIONALIM Unique Project ID:1063 Output Form:_LAB_PARTICLE SIZE (W/ GRADATIONS) lhu 11/4/15

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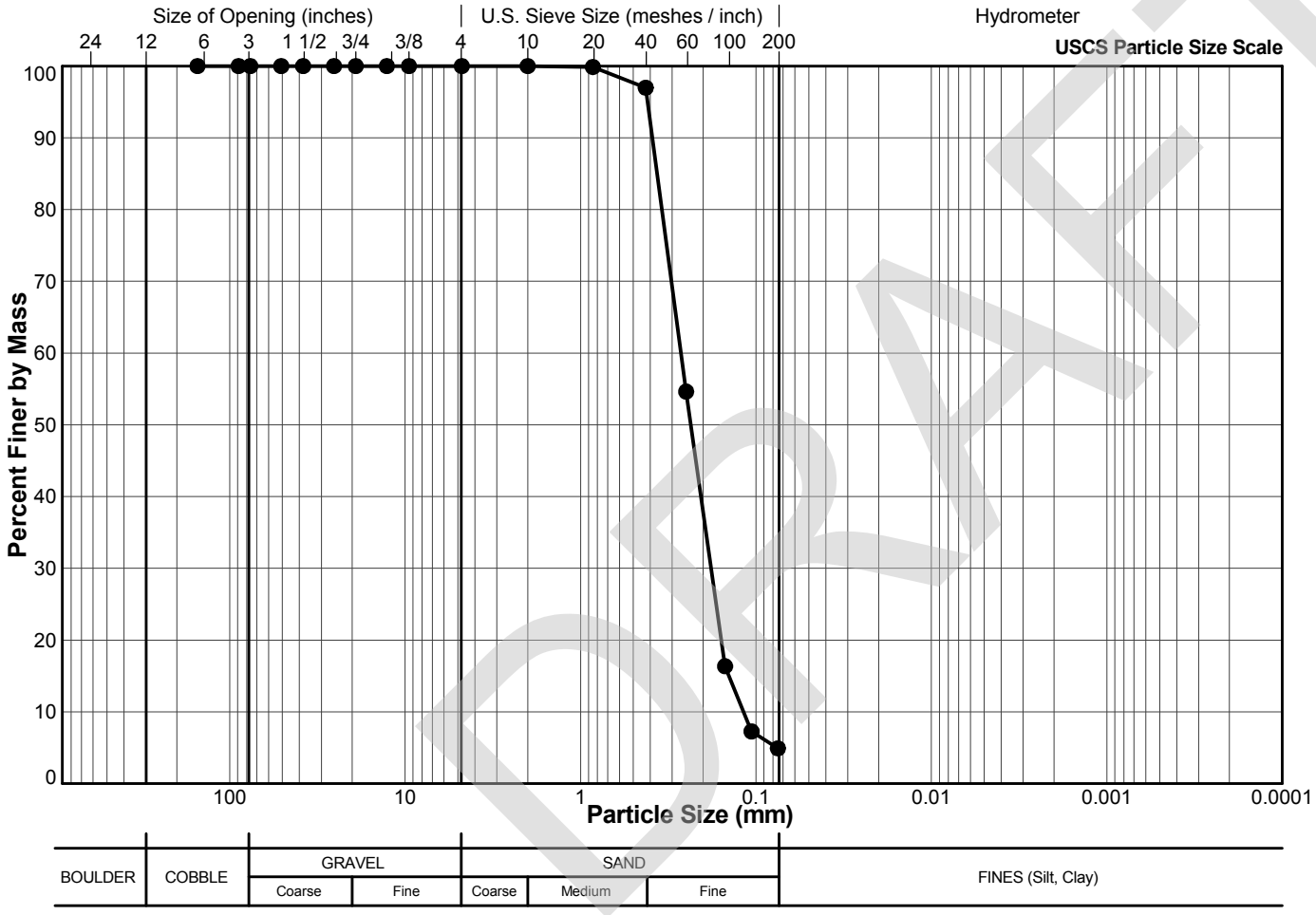
SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)
ASTM C136

Client:	CDM Smith	**Sample Location:**	BH15-09
Project:	Annacis Outfall	**Sample No.:**	5
Location:	Fraser River	**Depth Interval (m):**	6.10 to 6.71
Project No.:	1525010 **Phase:** 1401	**Lab Schedule No.:**	



Legend

Sieve Size (USS)	(mm)	Particle Size (mm)	Percent Passing
6"	152.4		100.0
3.5"	88.9		100.0
3"	76.2		100.0
2"	50.8		100.0
1 1/2"	38.1		100.0
1"	25.4		100.0
3/4"	19.1		100.0
1/2"	12.7		100.0
3/8"	9.5		100.0
#4 US MESH	4.75		100.0
#10 US MESH	2		100.0
#20 US MESH	0.85		99.9
#40 US MESH	0.425		97.0
#60 US MESH	0.25		54.6
#100 US MESH	0.15		16.4
#140 US MESH	0.106		7.3
#200 US MESH	0.075		4.9

	AZ/DC	10/30/2015	LH	11/4/2015	
	Tech	Date	Checked	Date	

National IM Server:GINT_GAL_NATIONALIM Unique Project ID:1063 Output Form:_LAB_PARTICLE SIZE (W/ GRADATIONS) lhu 11/4/15

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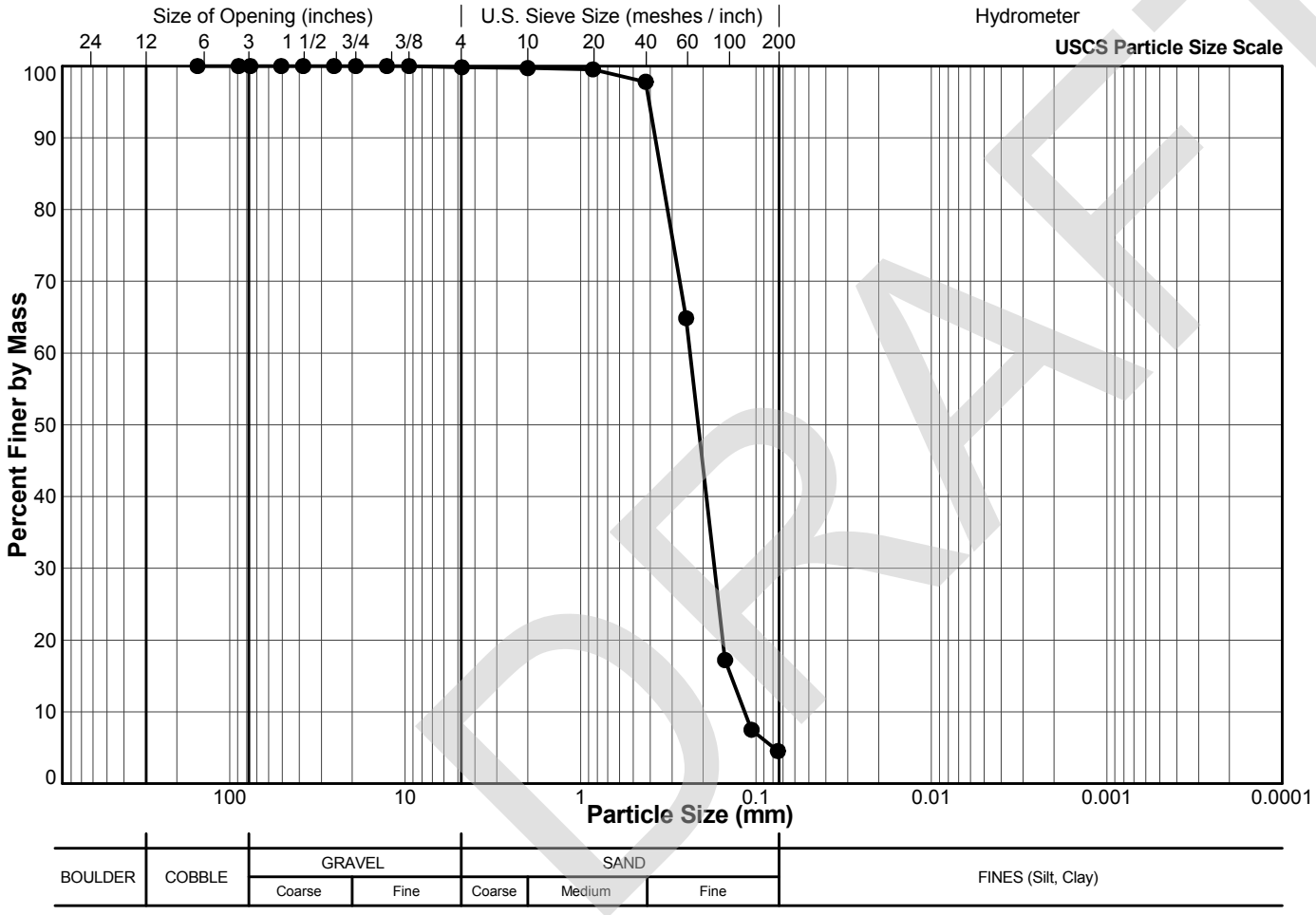
SUMMARY OF PARTICLE SIZE DISTRIBUTION

Reference(s)
ASTM C136

Client:	CDM Smith	**Sample Location:**	BH15-09
Project:	Annacis Outfall	**Sample No.:**	7
Location:	Fraser River	**Depth Interval (m):**	9.14 to 9.75
Project No.:	1525010 **Phase:** 1401	**Lab Schedule No.:**	



Legend

Sieve Size (USS)	(mm)	Particle Size (mm)	Percent Passing
6"	152.4		100.0
3.5"	88.9		100.0
3"	76.2		100.0
2"	50.8		100.0
1 1/2"	38.1		100.0
1"	25.4		100.0
3/4"	19.1		100.0
1/2"	12.7		100.0
3/8"	9.5		100.0
#4 US MESH	4.75		99.8
#10 US MESH	2		99.7
#20 US MESH	0.85		99.5
#40 US MESH	0.425		97.8
#60 US MESH	0.25		64.9
#100 US MESH	0.15		17.2
#140 US MESH	0.106		7.5
#200 US MESH	0.075		4.5

	AZ/DC	10/30/2015	LH	11/4/2015	
	Tech	Date	Checked	Date	

National IM Server:GINT_GAL_NATIONALIM Unique Project ID:1063 Output Form:_LAB_PARTICLE SIZE (W/ GRADATIONS) lhu 11/4/15

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Tel: (604) 412 6899 Fax: (604) 412 6816 www.golder.com

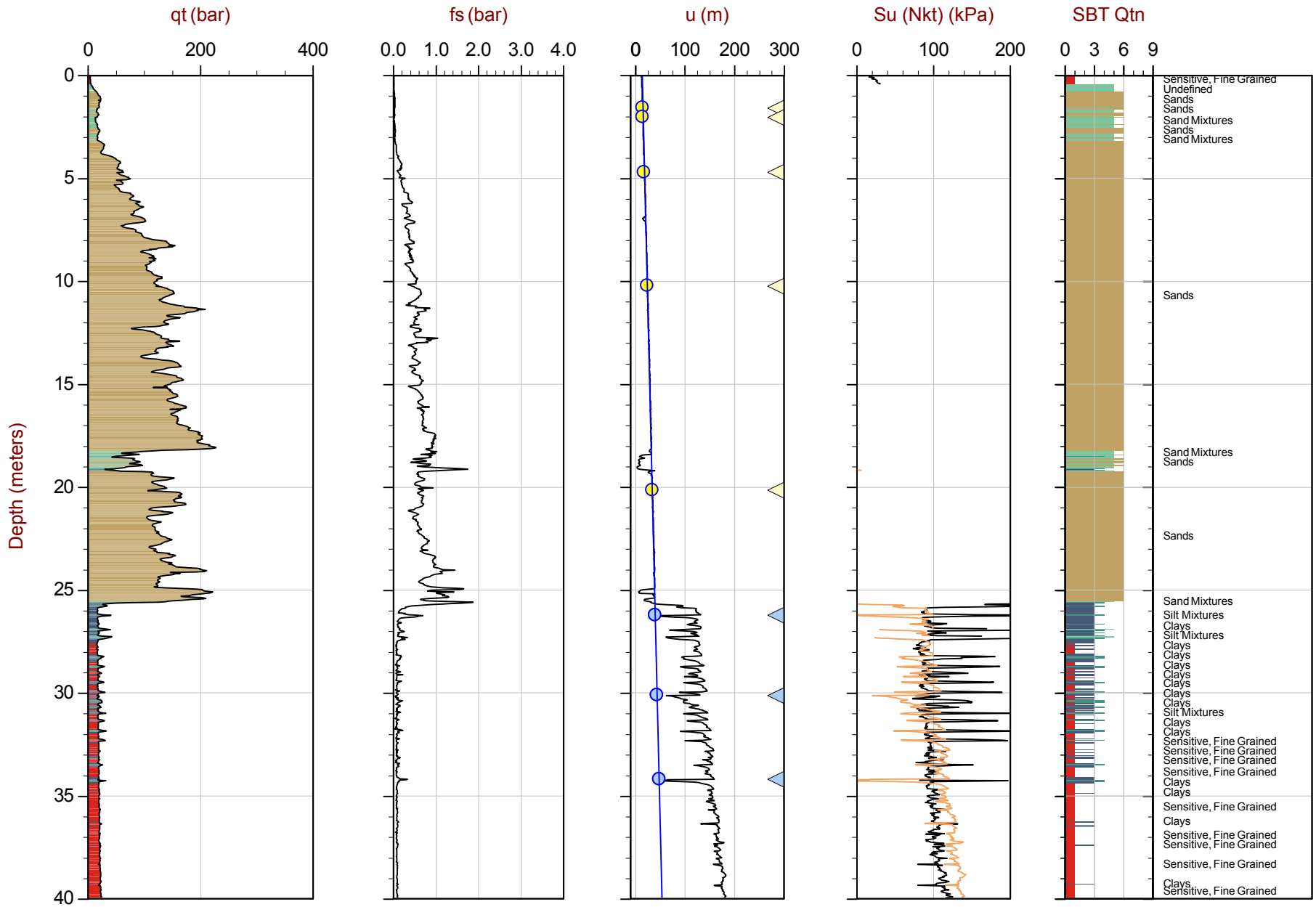
Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

CONETEC

Golder

Job No: 16-02063
Date: 2016/12/15 11:11
Site: Annacis Island Wastewater Treatment Plant

Sounding: SCPT16-10
Cone: 477:T1500F15U1K



Max Depth: 51.725 m / 169.70 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point
Overplot Item:

File: 16-02063_SP10.COR
Unit Wt: SBT Zones
Su Nkt/Ndu: 12.0 / 9.0

SBT: Robertson, 2009 and 2010
Coords: UTM10N N: 5445097.745m E: 503815.306m Elev: -12.75m
Sheet No: 1 of 2

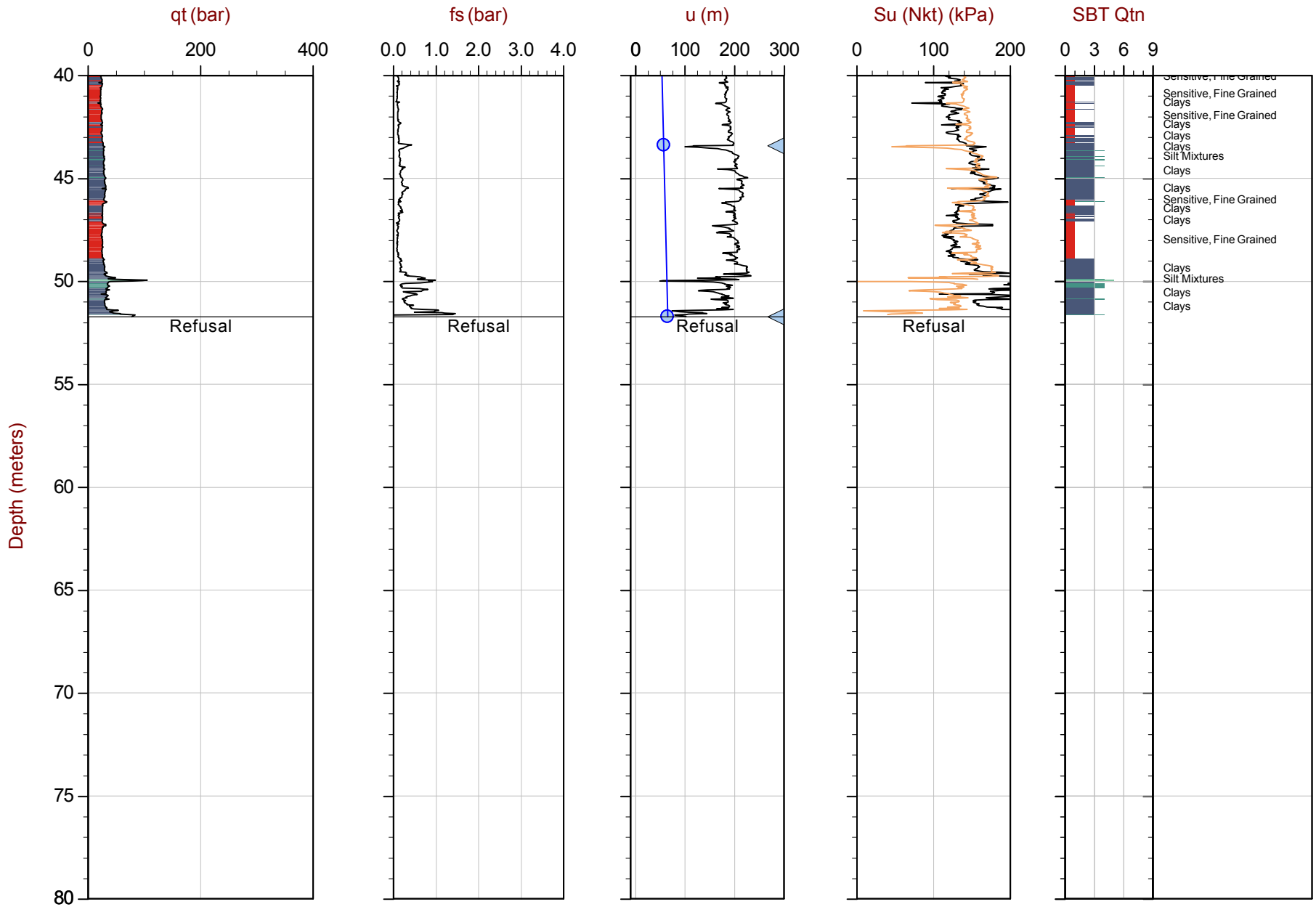
Ueq
Assumed Ueq
Dissipation, equilibrium achieved
Dissipation, equilibrium not achieved
Hydrostatic Line
Dissipation, equilibrium assumed
Su (Ndu)
Su (peak)

CONETEC

Golder

Job No: 16-02063
Date: 2016/12/15 11:11
Site: Annacis Island Wastewater Treatment Plant

Sounding: SCPT16-10
Cone: 477:T1500F15U1K



Max Depth: 51.725 m / 169.70 ft
Depth Inc: 0.025 m / 0.082 ft
Avg Int: Every Point
Overplot Item:

File: 16-02063_SP10.COR
Unit Wt: SBT Zones
Su Nkt/Ndu: 12.0 / 9.0

SBT: Robertson, 2009 and 2010
Coords: UTM10N N: 5445097.745m E: 503815.306m Elev: -12.75m
Sheet No: 2 of 2

Ueq
Assumed Ueq
Dissipation, equilibrium achieved
Dissipation, equilibrium not achieved
Hydrostatic Line
Dissipation, equilibrium assumed
Su (Ndu)
Su (peak)

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 1 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG	DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl, NP - Non-Plastic; SHEAR STRENGTH Cu, kPa: nat V. +, rem V. ⊕, Pocket Pen -, Q - ●, U - ◐)	GRADATION % CLAY PARTICLE SIZE <= 0.002: GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
			Ground Surface															
0	Fraste ML	Mud Rotary	**(SP)** SAND, fine to coarse; grey; wet, very loose to compact.		0.00													
1																		
2						1	SS	0	WH									
3						2	SS	17	4									
4																		
5						3	SS	33	11									
6			**(SP-SM)** SAND, fine to medium, trace to some silt, trace fine sub-angular gravel; grey; non-cohesive, compact.		5.64	4	SS	42	16									
7																		
8						5	SS	58	21									
9																		
10			*CONTINUED NEXT PAGE*			6	SS	42	27									

DEPTH SCALE
1 : 50

Golder Associates

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: DGM/DW
CHECKED: DRAFT

REV:
#.1

National IM Server:GINT_GAL_NATIONALIM Unique Project ID: Output Form:BC_BOREHOLE_GRADATION (AUTO) sreddy 30/12/16

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 2 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG	DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q - ●, U - ◐)	GRADATION % CLAY PARTICLE SIZE <= 0.002 GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
10	Fraste ML	Mud Rotary	**(SP)** SAND, fine to coarse, trace silt, trace sub-angular gravel; grey; non-cohesive, compact.		10.21													
11						7	SS	58	15									
12						8	SS	46	24									
13			- gravelly layer from 13.11m to 13.56m depth.															
14						9	SS	58	25									
15			**(SP)** SAND, fine to coarse grained, trace silt, trace sub-angular gravel; grey; dense.		15.24													
16						10	SS	54	33									
17						11	SS	71	36									
18			**(SP-SM)** SAND, fine to coarse grained, trace to some silt, trace sub-angular gravel; grey; compact.		17.98													
19			- 127mm silt seams with fine sand partings at 18.44m depth.			12	SS	58	17									
20						13	SS	67	22									
			CONTINUED NEXT PAGE															

DEPTH SCALE
1 : 50

Golder Associates

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: DGM/DW
CHECKED: DRAFT

REV:
#.1

National IM Server:GINT_GAL_NATIONALIM Unique Project ID: Output Form:BC_BOREHOLE_GRADATION (AUTO) sreddy 30/12/16

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 3 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG	DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl, NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q - ●, U - ◐)	GRADATION % CLAY PARTICLE SIZE <= 0.002 (GRAVEL, SAND, FINES, SILT, CLAY)	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
20	Fraste ML	Mud Rotary	**(SP-SM)** SAND, fine to coarse grained, trace to some silt, trace sub-angular gravel; grey; compact. *(continued)*			13	SS	67	22						
21			**(SP)** SAND, fine to medium grained, trace silt, trace fine sub-angular gravel; grey; compact to dense.		20.88	14	SS	46	28						
22															
23						15	SS	8	44						
24															
25						16	SS	71	25						
26			**(CL)** SILTY CLAY, trace fine sand; grey; cohesive, w>PL, firm.		25.91	17	SS	100	WH						
27															
28						18	SS	100	WR						
29						19	TO	100							
30			*CONTINUED NEXT PAGE*												

DEPTH SCALE
1 : 50

Golder Associates

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: DGM/DW
CHECKED: DRAFT

REV:
#.1

National IM Server:GINT_GAL_NATIONALIM Unique Project ID: Output Form:BC_BOREHOLE_GRADATION (AUTO) sreddy 30/12/16

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 4 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG	DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT (Wp, W, Wl; NP - Non-Plastic; SHEAR STRENGTH Cu, kPa; nat V. +, rem V. ⊕, Pocket Pen -; Q - ●, U - ◐)	GRADATION % CLAY PARTICLE SIZE <= 0.002 (GRAVEL, SAND, FINES, SILT, CLAY)	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
30	Fraste ML	Mud Rotary	**(CL)** SILTY CLAY, trace fine sand; grey; cohesive, w>PL, firm. *(continued)*												
			(CL) SILTY CLAY, trace to some fine sand; grey; cohesive, w>PL, firm.		30.48	20	SS	100	WR						
31															
32						21	TO	100							
33															
34						22	SS	92	WR						
35						23	TO	100							
36															
37						24	TO	100							
38			**(CL)** SILTY CLAY, trace fine sand; grey; cohesive, w>PL, firm to stiff.		38.10	25	TO	88							
39															
40			*CONTINUED NEXT PAGE*												

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: DGM/DW
CHECKED: DRAFT

REV: #.1

Golder Associates

National IM Server:GINT_GAL_NATIONALIM Unique Project ID: Output Form:BC_BOREHOLE_GRADATION (AUTO) sreddy 30/12/16

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 5 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	WATER CONTENT PERCENT: Wp W Wl, NP - Non-Plastic; SHEAR STRENGTH Cu, kPa: nat V. +, rem V. ⊕, Pocket Pen - ■, Q - ●, U - ◐	GRADATION % CLAY PARTICLE SIZE <= 0.002: GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
40	Fraste ML / Mud Rotary	**(CL)** SILTY CLAY, trace fine sand; grey; cohesive, w>PL, firm to stiff. *(continued)*															
41					26	SS	100	WR									
42																	
43																	
44																	
45																	
46					27	SS	100	WR									
47		**(ML)** sandy SILT, some sub-angular gravel, slightly clayey; moist, compact.		47.24													
48																	
49																	
50		*CONTINUED NEXT PAGE*															

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: DGM/DW
CHECKED: DRAFT

REV:
#.1

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 6 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG	DRILLING METHOD	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: RECOVERY %	SAMPLES: BLOWS/0.3m	WATER CONTENT PERCENT / SHEAR STRENGTH Cu, kPa	GRADATION % (CLAY PARTICLE SIZE <= 0.002): GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
50			**(ML)** sandy SILT, some sub-angular gravel, slightly clayey; moist, compact. *(continued)*																
						28	SS	100	24										
51																			
52																			
53																			
			(ML) CLAYEY SILT to SILT, some sand and trace sub-angular gravel; grey; moist, vey dense.		53.34														
54																			
55	Fraste ML	Mud Rotary				29	SS	71	>50										
			End of Borehole.		55.47														
56																			
57																			
58																			
59																			
60			*CONTINUED NEXT PAGE*																

WATER CONTENT PERCENT: Wp — W — Wl; NP - Non-Plastic; 10 20 30 40
SHEAR STRENGTH Cu, kPa: nat V. + Q - ●; rem V. ⊕ U - ◐; Pocket Pen - ■; 20 40 60 80

GRADATION % CLAY PARTICLE SIZE <= 0.002

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: DGM/DW

CHECKED: DRAFT

REV: #.1

Golder Associates

National IM Server:GINT_GAL_NATIONALIM Unique Project ID: Output Form:BC_BOREHOLE_GRADATION (AUTO) sreddy 30/12/16

PROJECT No.: 1525010 / 2000

CLIENT: CDM Smith
PROJECT: Annacis Outfall
LOCATION: Annacis Island

RECORD OF BOREHOLE: BH16-08

SHEET 7 OF 7

DATUM:

DRILLING DATE: December 16, 2016
DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG / DRILLING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: RECOVERY %	SAMPLES: BLOWS/0.3m	WATER CONTENT PERCENT: Wp, W, Wl, NP - Non-Plastic (10 20 30 40)	SHEAR STRENGTH Cu, kPa: nat V. +, rem V. ⊕, Pocket Pen - ■, Q - ●, U - ◐ (20 40 60 80)	GRADATION % (CLAY PARTICLE SIZE <= 0.002): GRAVEL	SAND	FINES	SILT	CLAY	PLASTICITY INDEX %	ORGANIC CONTENT %	ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION
60																			
61																			
62																			
63																			
64																			
65																			
66																			
67																			
68																			
69																			
70																			

DEPTH SCALE
1 : 50

SOIL CLASSIFICATION SYSTEM: GACS
LOGGED: DGM/DW
CHECKED: DRAFT

REV:
#.1

APPENDIX C

Sediment Data from the 2016 Surficial Sediment Sampling Survey for the AIWWTP Transient Mitigation and Outfall Project

SAMPLING LOCATION	UTM ZONE 10N	
	EASTING (m)	NORTHING (m)
FF-1	501,365	5,444,886
FF-2	501,436	5,445,148
MF-1	502,608	5,444,884
NF-1	503,410	5,444,963
NF-2	503,299	5,445,075
NF-DS	503,864	5,445,175

LEGEND

- PROPOSED INFRASTRUCTURE (APPROXIMATE)
- SEDIMENT CHEMISTRY SAMPLE LOCATION
- EXISTING WWPT OUTFALL
- WATER
- WATERCOURSE
- FRASER RIVER SHIPPING CHANNEL
- CENTRE OF CHANNEL
- OUTER CHANNEL BOUNDARY
- HIGHWAY
- MAJOR ROAD

0 200 400
1:10000 METRES

REFERENCES

1. SHIPPING CHANNEL SUPPLIED BY BLACK & VEATCH
2. ROADS, WATERCOURSE AND WATERBODY DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED
3. IMAGERY LICENCED UNDER THE OPEN GOVERNMENT LICENCE – BRITISH COLUMBIA

COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
CDM SMITH INC.

PROJECT
ANNACIS ISLAND WWTP TRANSIENT MITIGATION & OUTFALL UPGRADE
DELTA, B.C.

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-02-22
DESIGNED	PM
PREPARED	JP
REVIEWED	EI
APPROVED	BW

TITLE
ANNACIS ISLAND WWTP WINTER 2016 SEDIMENT SAMPLING LOCATIONS

PROJECT NO.	CONTROL	REV.	FIGURE
1525010	702 - 702.4	0	**C-1**

PATH: Y:\burnaby\CAD-GIS\Client\CDM_Smith\Annacis_Island99_PROJECTS\1525010_WWTP\02_PRODUCTION\3400\MXD\Report\3400_2\Figure_C-1_Sediment_Sampling.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

Table C-1 - Surficial Sediment Quality Screening Table of Parameter Groups With a Disposal at Sea Reference Criteria

Parameter	Disposal at Sea Lower Level Concentration[1]	Notes	CCME PEL[2]	Notes	CCME ISQG[2]	Notes	Lowest Detection Limit	Units	Sample Name	NF-1	NF-DS	NF-2	MF-1	FF-1	FF-2
									Date Sampled	10-Mar-2016	10-Mar-2016	9-Mar-2016	9-Mar-2016	9-Mar-2016	9-Mar-2016
									SCN	L1743752-1	L1743752-2	L1743161-1	L1743161-2	L1743161-3	L1743161-4
Physical Tests															
Moisture							0.25	%		25.3	20.7	36.1	20.3	23.4	32.3
pH (1:2 soil:water)							0.1	pH		7.82	7.82	7.65	7.68	8.16	7.69
Particle Size															
% Gravel (>2mm)							0.1	%		<0.10	<0.10	<0.10	0.48	<0.10	<0.10
% Sand (2.0mm - 0.063mm)							0.1	%		99.4	99.6	37.9	99	99.6	49
% Silt (0.063mm - 4um)							0.1	%		0.60	0.38	51.8	0.41	0.34	43.7
% Clay (<4um)							0.1	%		<0.10	<0.10	10.4	0.1	<0.10	7.25
Texture							-	-		Sand	Sand	Silt loam	Sand	Sand	Sandy loam
Organic / Inorganic Carbon															
Total Organic Carbon							0.1	%		0.12	<0.10	0.99	<0.10	<0.10	0.68
Metals															
Aluminum (Al)							50	mg/kg		7350	8470	15000	9310	8640	12700
Antimony (Sb)							0.1	mg/kg		0.22	0.17	0.54	0.19	0.20	0.47
Arsenic (As)			17	FS	5.9	FS	0.1	mg/kg		2.71	3.31	5.94	3.21	3.07	6.58
Cadmium (Cd)	**0.6**		3.5	FS	0.6	FS	0.02	mg/kg		0.11	0.11	0.23	0.09	0.08	0.20
Chromium (Cr)			90	FS	37.3	FS	0.5	mg/kg		19.1	14.6	43.7	25.8	29.8	35.5
Copper (Cu)			108	M/ES	18.7	M/ES	0.5	mg/kg		11.0	12.0	30.0	12.0	12.5	27.0
Iron (Fe)							50	mg/kg		14600	15500	30000	16000	16700	25200
Lead (Pb)			91.3	FS	30.2	M/ES	0.5	mg/kg		2.08	1.94	6.92	1.90	1.94	6.67
Mercury (Hg)	**0.75**		0.486	FS	0.13	M/ES	0.005	mg/kg		0.0255	0.0129	0.0596	0.0155	0.017	0.0423
Molybdenum (Mo)							0.1	mg/kg		0.25	0.26	0.80	0.31	0.30	0.71
Nickel (Ni)							0.5	mg/kg		24.3	24.9	44.9	28.5	28.8	37.3
Phosphorus (P)							50	mg/kg		376	388	749	409	387	658
Potassium (K)							100	mg/kg		360	380	1090	460	450	880
Selenium (Se)							0.2	mg/kg		<0.20	<0.20	0.33	<0.20	<0.20	0.29
Silver (Ag)							0.1	mg/kg		<0.10	<0.10	0.12	<0.10	<0.10	<0.10
Sodium (Na)							50	mg/kg		172	205	373	218	232	353
Strontium (Sr)							0.5	mg/kg		16.2	17.7	49.6	24.8	23.7	44.9
Thallium (Tl)							0.05	mg/kg		<0.050	<0.050	0.090	<0.050	<0.050	0.078
Tin (Sn)							2	mg/kg		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium (Ti)							1	mg/kg		576	606	988	805	810	856
Uranium (U)							0.05	mg/kg		0.215	0.217	0.792	0.263	0.279	0.706
Vanadium (V)							0.2	mg/kg		33.7	36.7	59.2	42.3	43.5	49.8
Zinc (Zn)			271	M/ES	123	FS	2	mg/kg		32.1	33.6	71.3	34.2	34.2	59.7
Zirconium (Zr)							1	mg/kg		3.60	3.10	7.90	5.40	5.00	6.80
Polycyclic Aromatic Hydrocarbons (PAHs)															
Acenaphthene			0.0889	FS, M/ES, I	0.00671	FS, M/ES, I	0.005	mg/kg		<0.0050	<0.0050	0.010	<0.0050	<0.0050	0.007
Acenaphthylene			0.128	FS, M/ES, I	0.00587	FS, M/ES, I	0.005	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene			0.245	FS, M/ES, I	0.0469	FS, M/ES, I	0.004	mg/kg		<0.0040	<0.0040	0.008	<0.0040	<0.0040	0.007
Benz(a)anthracene			0.385	FS	0.0317	FS	0.01	mg/kg		<0.010	<0.010	0.013	<0.010	<0.010	0.012
Benzo(a)pyrene			0.763	M/ES	0.0319	FS	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene							0.01	mg/kg		<0.010	<0.010	0.016	<0.010	<0.010	0.021
Benzo(b+j+k)fluoranthene							0.015	mg/kg		<0.015	<0.015	0.016	<0.015	<0.015	0.021
Benzo(g,h,i)perylene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene			0.846	M/ES	0.0571	FS	0.01	mg/kg		<0.010	<0.010	0.015	<0.010	<0.010	<0.020
Dibenz(a,h)anthracene			0.135	FS, M/ES, I	0.00622	FS, M/ES, I	0.005	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene			1.494	M/ES	0.111	FS	0.01	mg/kg		<0.010	<0.010	0.043	<0.010	<0.010	0.046
Fluorene			0.144	FS, M/ES	0.0212	FS, M/ES	0.01	mg/kg		<0.010	<0.010	0.012	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene							0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2-Methylnaphthalene			0.201	FS, M/ES, I	0.0202	FS, M/ES, I	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Naphthalene			0.391	FS, M/ES, I	0.0346	FS, M/ES, I	0.01	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene			0.515	FS	0.0419	FS	0.01	mg/kg		<0.010	<0.010	0.041	<0.010	<0.010	0.039
Pyrene			0.875	FS	0.053	FS	0.01	mg/kg		<0.010	<0.010	0.033	<0.010	<0.010	0.040
Total[3] PAHs	**2.5**						-	mg/kg		<0.015	<0.015	0.19	<0.015	<0.015	0.17
Polychlorinated Biphenyls (PCBs)															
Total[3] PCBs	**0.1**		0.189	M/ES	0.0215	M/ES	-	mg/kg		-	0.00003	0.00325	-	-	0.01633

Notes:

All concentrations presented as dry weight

The most conservative guideline between freshwater and marine/estuarine guidelines was selected where both were available

CCME = Canadian Council of Ministers of the Environment; FS = freshwater, ISQG = interim sediment quality guideline; M/ES = marine and/or estuarine water; PEL = probable effect level; mg/kg = milligram per kilogram; pg/g = picogram per gram; SCN = sample control number; I = interim guideline.

[1] Government of Canada Disposal at Sea Regulations - SOR/2001-275. Accessed February 2017. Available at http://laws-lois.justice.gc.ca/PDF/SOR-2001-275.pdf

[2] Canadian Council of Ministers of the Environment (CCME) Sediment Guidelines for the Protection of Aquatic Life in Marine/Estuarine and Freshwater. Accessed May 2016. Available online at: http://st-ts.ccme.ca/en/index.html?chems=all&chapters=3

[3] Sum of all analyzed in the chemical class, values below the method detection limit were assigned a value of 0

Parameter	CCME PEL[1]	Notes	CCME ISQG[1]	Notes	Lowest Detection Limit	Units	NF-1 10-Mar-2016	NF-DS 10-Mar-2016	NF-2 9-Mar-2016	MF-1 9-Mar-2016	FF-1 9-Mar-2016	FF-2 9-Mar-2016
Inorganic Parameters												
Acid Volatile Sulphides					0.2	umol/g	<0.20	<0.20	1.8	<0.20	<0.20	0.2
Extractable Metals												
Cadmium (Cd)-Extractable					0.005	umol/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Copper (Cu)-Extractable					0.01	umol/g	0.041	0.033	0.217	0.043	0.047	0.221
Lead (Pb)-Extractable					0.02	umol/g	<0.020	<0.020	0.029	<0.020	<0.020	0.027
Mercury (Hg)-Extractable					0.00005	umol/g	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Nickel (Ni)-Extractable					0.05	umol/g	0.056	<0.050	0.181	0.060	0.065	0.145
Zinc (Zn)-Extractable					0.005	umol/g	0.079	0.059	0.323	0.076	0.083	0.290
Alkylphenols												
4-Nonylphenols					0.294	ng/g	-	<0.294	20.10	-	-	115.00
4-Nonylphenol monoethoxylates					0.664	ng/g	-	<0.664	<1.92	-	-	10.30
4-Nonylphenol diethoxylates					0.264	ng/g	-	<1.64	<0.264	-	-	<2.14
4-n-Octylphenol					0.151	ng/g	-	<0.175	386.00	-	-	<0.216
Nonylphenols TEQ			1000	I, M/ES	-	ng/g	-	1.62	407.19	-	-	121.44
Polybrominated Diphenyl Ethers (PBDEs)												
2,4-DiBDE					0.0941	pg/g	-	<0.0949	3.72	-	-	<0.0941
2,4'-DiBDE + 3,3'-DiBDE					0.0941	pg/g	-	<0.0949	1.71	-	-	<0.0941
2,6-DiBDE					0.0941	pg/g	-	<0.0949	<0.0945	-	-	<0.0941
3,4-DiBDE + 3,4'-DiBDE					0.0941	pg/g	-	<0.0949	0.73	-	-	<0.0941
4,4'-DiBDE					0.0941	pg/g	-	0.12	0.72	-	-	0.13
2,2',4-TriBDE + 2,3',4-TriBDE					0.0941	pg/g	-	<0.0949	22.80	-	-	0.82
2,4,4'-TriBDE + 2',3,4-TriBDE					0.0941	pg/g	-	0.25	5.18	-	-	0.87
2,4,6-TriBDE					0.0941	pg/g	-	<0.0949	<0.0963	-	-	<0.0941
2,4',6-TriBDE					0.0941	pg/g	-	<0.0949	<0.0945	-	-	<0.0941
3,3',4-TriBDE					0.0941	pg/g	-	<0.0949	<0.0945	-	-	<0.0941
3,4,4'-TriBDE					0.0941	pg/g	-	<0.0949	0.21	-	-	<0.0941
2,2',4,4'-TeBDE					0.0941	pg/g	-	4.40	135.00	-	-	38.60
2,2',4,5'-TeBDE					0.0941	pg/g	-	0.23	51.40	-	-	2.23
2,2',4,6'-TeBDE					0.0941	pg/g	-	<0.0949	4.28	-	-	0.13
2,3',4,4'-TeBDE					0.0941	pg/g	-	0.24	4.33	-	-	1.01
2,3',4',6-TeBDE					0.0941	pg/g	-	<0.0949	<0.0945	-	-	<0.0941
2,4,4',6-TeBDE					0.0941	pg/g	-	<0.0949	0.27	-	-	<0.0941
3,3',4,4'-TeBDE					0.0941	pg/g	-	<0.0949	<0.0945	-	-	<0.0941
3,3',4,5'-TeBDE					0.0941	pg/g	-	0.11	1.38	-	-	0.17
2,2',3,4,4'-PeBDE					0.145	pg/g	-	<0.196	3.18	-	-	1.80
2,2',4,4',5-PeBDE			400	2	0.103	pg/g	-	3.55	102.00	-	-	42.40
2,2',4,4',6-PeBDE			400	2	0.0941	pg/g	-	0.67	30.70	-	-	9.08
2,3,3',4,4'-PeBDE					0.187	pg/g	-	<0.251	<0.437	-	-	<0.187
2,3,4,5,6-PeBDE					0.251	pg/g	-	<0.338	1.72	-	-	<0.251
2,3',4,4',6-PeBDE + 2,3',4,5,5'-PeBDE					0.15	pg/g	-	<0.202	0.60	-	-	<0.15
3,3',4,4',5-PeBDE					0.0941	pg/g	-	<0.123	<0.213	-	-	<0.0941
2,2',3,3',4,4'-HxBDE					0.0969	pg/g	-	<2.01	<1.27	-	-	<1.14
2,2',3,4,4',5'-HxBDE + 2,3,4,4',5,6-HxBDE					0.0969	pg/g	-	<0.528	1.32	-	-	0.53
2,2',3,4,4',6'-HxBDE					0.0944	pg/g	-	<0.319	0.49	-	-	<0.198
2,2',4,4',5,5'-HxBDE					0.0969	pg/g	-	0.47	15.50	-	-	4.67
2,2',4,4',5,6'-HxBDE					0.0944	pg/g	-	0.34	13.20	-	-	3.66
2,2',4,4',6,6'-HxBDE					0.0944	pg/g	-	<0.217	1.66	-	-	0.42
2,2',3,4,4',5,6-HpBDE					0.0941	pg/g	-	<0.0949	0.20	-	-	<0.0941
2,2',3,4,4',5',6-HpBDE					0.0941	pg/g	-	0.16	5.13	-	-	1.17
2,3,3',4,4',5,6-HpBDE					0.0941	pg/g	-	<0.13	0.71	-	-	<0.0941
2,2',3,4,4',5,5',6-OcBDE					0.0941	pg/g	-	0.21	5.86	-	-	2.13
2,2',3,3',4,4',5,5',6-NoBDE					0.172	pg/g	-	0.96	41.20	-	-	12.50
2,2',3,3',4,4',5,6,6'-NoBDE					0.231	pg/g	-	2.53	51.30	-	-	19.40
2,2',3,3',4,5,5',6,6'-NoBDE					0.248	pg/g	-	2.34	30.20	-	-	11.60
2,2',3,3',4,4',5,5',6,6'-DeBDE					2.29	pg/g	-	19.5	424	-	-	146
Total[3] triBDE			44,000	2	-	pg/g	-	0.25	28.19	-	-	1.69
Total[3] tetraBDE			39,000	2	-	pg/g	-	4.98	196.66	-	-	42.15
Total[3] pentaBDE			400	2	-	pg/g	-	4.22	138.20	-	-	53.28
Total[3] hexaBDE			440,000	2	-	pg/g	-	0.81	32.17	-	-	9.28
Total[3] heptaBDE					-	pg/g	-	0.16	6.04	-	-	1.17
Total[3] octaBDE			5,600,000	2	-	pg/g	-	0.21	5.86	-	-	2.13
Total[3] nonaBDE					-	pg/g	-	5.83	122.7	-	-	43.5
Total[3] decaBDE			19,000	2	-	pg/g	-	19.5	424	-	-	146

Parameter	CCME PEL[1]	Notes	CCME ISQG[1]	Notes	Sample Name / Date Sampled: Lowest Detection Limit	Units	NF-1 10-Mar-2016	NF-DS 10-Mar-2016	NF-2 9-Mar-2016	MF-1 9-Mar-2016	FF-1 9-Mar-2016	FF-2 9-Mar-2016
Pesticides												
Tecnazene					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Hexachlorobenzene					0.0019	ng/g	-	0.01	0.02	-	-	0.03
Quintozene					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Heptachlor	2.74	FS, M/ES	0.6	FS, M/ES	0.0019	ng/g	-	<0.0019	<0.0038	-	-	0.004
HCH, alpha					0.002	ng/g	-	0.003	0.007	-	-	0.02
HCH, gamma					0.0049	ng/g	-	<0.0051	0.007	-	-	<0.0078
HCH, beta					0.0037	ng/g	-	<0.0037	<0.0061	-	-	<0.0059
HCH, delta					0.0033	ng/g	-	0.004	0.007	-	-	<0.0053
Chlorothalonil					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Aldrin					0.0019	ng/g	-	0.014	0.004	-	-	0.012
Dacthal					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Octachlorostyrene					0.002	ng/g	-	<0.0031	<0.0038	-	-	<0.0032
Chlordane, oxy-	4.79	M/ES	2.26	M/ES	0.0045	ng/g	-	<0.0045	<0.0161	-	-	<0.0094
Heptachlor Epoxide	2.74	FS, M/ES	0.6	FS, M/ES	0.0064	ng/g	-	<0.0077	<0.0136	-	-	<0.0104
Chlordane, gamma (trans)	4.79	M/ES	2.26	M/ES	0.0081	ng/g	-	<0.0097	<0.0184	-	-	<0.0139
Chlordane, alpha (cis)	4.79	M/ES	2.26	M/ES	0.0075	ng/g	-	<0.0089	<0.017	-	-	0.02
Nonachlor, trans-					0.008	ng/g	-	<0.0089	<0.0174	-	-	<0.0122
Nonachlor, cis-					0.0069	ng/g	-	<0.0069	<0.0153	-	-	<0.0118
alpha-Endosulphan					0.0148	ng/g	-	0.09	0.105	-	-	0.101
beta-Endosulphan					0.0174	ng/g	-	0.039	0.064	-	-	<0.0354
Dieldrin	4.3	M/ES	0.71	M/ES	0.0044	ng/g	-	<0.0049	<0.0088	-	-	<0.0067
2,4'-DDD	7.81	M/ES	1.22	M/ES	0.0086	ng/g	-	<0.0117	0.01	-	-	0.02
4,4'-DDD	7.81	M/ES	1.22	M/ES	0.0072	ng/g	-	<0.0072	0.04	-	-	0.07
2,4'-DDE	6.75	FS	1.42	FS	0.0054	ng/g	-	<0.0092	<0.0054	-	-	<0.0078
4,4'-DDE	6.75	FS	1.42	FS	0.0068	ng/g	-	<0.0116	0.06	-	-	0.081
2,4'-DDT	4.77	FS, M/ES	1.19	FS, M/ES	0.0127	ng/g	-	<0.0127	<0.0161	-	-	<0.0152
4,4'-DDT	4.77	FS, M/ES	1.19	FS, M/ES	0.011	ng/g	-	<0.011	<0.014	-	-	<0.014
Captan					0.219	ng/g	-	<0.246	<0.219	-	-	<0.236
Perthane					0.1	ng/g	-	<0.1	<0.296	-	-	<0.473
Endrin	62.4	FS, M/ES	2.67	FS, M/ES	0.0051	ng/g	-	<0.0091	<0.0118	-	-	<0.0093
Endosulphan Sulphate					0.0128	ng/g	-	<0.0128	<0.0314	-	-	<0.026
Mirex					0.0019	ng/g	-	<0.0019	<0.0042	-	-	<0.0043
Methoxychlor					0.0399	ng/g	-	<0.0399	<0.141	-	-	<0.104
Endrin Ketone					0.0019	ng/g	-	0.002	<0.0303	-	-	<0.0318
Desethylatrazine					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Simazine					0.0656	ng/g	-	<0.0656	<0.122	-	-	<0.159
Atrazine					0.0994	ng/g	-	<0.0994	<0.155	-	-	<0.158
Ametryn					0.019	ng/g	-	<0.019	<0.0336	-	-	<0.028
Metribuzin					0.0831	ng/g	-	<0.0831	<0.11	-	-	<0.101
Cyanazine					0.273	ng/g	-	<0.327	<0.294	-	-	<0.273
Hexazinone					0.178	ng/g	-	<0.211	<0.178	-	-	<0.204
Phorate					0.032	ng/g	-	<0.0387	<0.0362	-	-	<0.032
Terbufos					0.0223	ng/g	-	<0.0607	<0.0585	-	-	<0.0655
Diazinon-Oxon					0.156	ng/g	-	<0.171	<0.187	-	-	<0.156
Diazinon					0.0718	ng/g	-	<0.0718	<0.0871	-	-	<0.107
Disulfoton					0.0792	ng/g	-	<0.0792	<0.08	-	-	<0.108
Fonofos					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Dimethoate					0.267	ng/g	-	<0.533	<0.267	-	-	<0.282
Chlorpyriphos-Methyl					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Parathion-Methyl					0.342	ng/g	-	<0.374	<0.378	-	-	<0.342
Pirimiphos-Methyl					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Chlorpyriphos					0.019	ng/g	-	<0.0228	<0.019	-	-	<0.0249
Fenitrothion					0.041	ng/g	-	<0.0475	<0.041	-	-	<0.0446
Malathion					0.129	ng/g	-	<0.129	<0.133	-	-	<0.143
Parathion-Ethyl					0.0667	ng/g	-	<0.0667	<0.0733	-	-	<0.111
Chlorpyriphos-Oxon					0.0363	ng/g	-	<0.0363	<0.0388	-	-	<0.0392
Disulfoton Sulfone					0.019	ng/g	-	<0.019	<0.019	-	-	<0.0191
Ethion					0.0368	ng/g	-	<0.0368	<0.0478	-	-	<0.0584
Phosmet					0.0818	ng/g	-	<0.0818	<0.0916	-	-	<0.145
Azinphos-Methyl					0.17	ng/g	-	<0.17	<0.421	-	-	<0.429
Permethrin					0.0412	ng/g	-	<0.0412	<0.0723	-	-	<0.104
Cypermethrin					0.0966	ng/g	-	<0.0966	<0.123	-	-	<0.137
Total[3] DDT	4.77	FS, M/ES	1.19	FS, M/ES	-	ng/g	-	<0.0127	<0.0161	-	-	<0.0152
Total[3] DDD	7.81	M/ES	1.22	M/ES	-	ng/g	-	<0.0117	0.05	-	-	0.10
Total[3] DDE	6.75	FS	1.42	FS	-	ng/g	-	<0.0116	0.06	-	-	0.08
Total[3] HCH/BCH					-	ng/g	-	0.02	0.04	-	-	0.05
Total[3] Chlordane	4.79	M/ES	2.26	M/ES	-	ng/g	-	<0.0097	<0.0184	-	-	0.02

Parameter	CCME PEL[1]	Notes	CCME ISQG[1]	Notes	Sample Name / Date Sampled: Lowest Detection Limit	Units	NF-1 10-Mar-2016	NF-DS 10-Mar-2016	NF-2 9-Mar-2016	MF-1 9-Mar-2016	FF-1 9-Mar-2016	FF-2 9-Mar-2016
Sterols												
Coprostanol					2.38	ng/g	-	6.69	340.0	-	-	358.0
Epicoprostanol					2.18	ng/g	-	<2.18	52.80	-	-	45.30
Cholesterol					4.38	ng/g	-	225	949	-	-	1340
Cholestanol					0.757	ng/g	-	6.94	436	-	-	337
Desmosterol					2.91	ng/g	-	6.13	153	-	-	160
Ergosterol					2.38	ng/g	-	<2.38	181	-	-	196
Campesterol					3.68	ng/g	-	9.9	673	-	-	628
Stigmasterol					1.89	ng/g	-	25.4	417	-	-	393
beta-Sitosterol					1.71	ng/g	-	122	6340	-	-	5670
beta Stigmastanol					2.07	ng/g	-	10.5	2890	-	-	1250
Hormones												
Androsterone					0.119	ng/g	-	<0.147	0.162	-	-	0.27
Desogestrel					0.156	ng/g	-	0.727	1.03	-	-	0.683
17 alpha-Estradiol					0.0742	ng/g	-	<0.0742	<0.154	-	-	<0.123
Estrone					0.239	ng/g	-	<0.239	<0.486	-	-	0.527
Equilin					0.305	ng/g	-	<0.305	<0.582	-	-	<0.499
Androstenedione					4.04	ng/g	-	<4.04	<4.77	-	-	<6.67
17 alpha-Dihydroequilin					0.229	ng/g	-	<0.261	<0.229	-	-	<0.288
17 beta-Estradiol					0.0691	ng/g	-	0.8	0.9	-	-	0.865
Testosterone					1.61	ng/g	-	<1.61	<2	-	-	<3.36
Equilenin					0.119	ng/g	-	0.528	0.669	-	-	0.559
Mestranol					0.293	ng/g	-	0.71	0.64	-	-	0.69
Norethindrone					1.26	ng/g	-	<1.81	<1.8	-	-	<3.22
17 alpha-Ethinyl-Estradiol					0.125	ng/g	-	1.3	1.5	-	-	1.49
Progesterone					2.56	ng/g	-	<2.56	<4.98	-	-	<3.97
Norgestrel					0.885	ng/g	-	<1.39	<2.1	-	-	<3.33
Estriol					0.205	ng/g	-	<0.336	<0.405	-	-	<0.491
beta-Estradiol 3-benzoate					1.33	ng/g	-	<1.86	<3.24	-	-	<2.61
Dioxins and Furans												
Dioxins and Furans TEQ	21.5	FS, M/ES	0.85	FS, M/ES	-	pg/g	-	0.17	0.90	-	-	1.00

Notes:
All concentrations presented as dry weight
The most conservative guideline between freshwater and marine/estuarine guidelines was selected where both were available
CCME = Canadian Council of Ministers of the Environment; FS = freshwater, ISQG = interim sediment quality guideline; M/ES = marine and/or estuarine water; PEL = probable effect level; ng/g = nanogram per gram; pg/g = picogram per gram; umol/g = micromole per gram; % = percent; SCN = sample control number; TEQ = toxic equivalency quotient; I = interim guideline.

[1] Canadian Council of Ministers of the Environment (CCME) Sediment Guidelines for the Protection of Aquatic Life in Marine/Estuarine and Freshwater. Accessed May 2016. Available online at: http://st-ts.ccme.ca/en/index.html?chems=all&chapters=3

[2] Environment Canada. 2013. Canadian Environmental Protection Act, 1999. Federal Environmental Quality Guidelines: Polybrominated Diphenyl Ethers (PBDEs). February 2013. Available at https://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=05DF7A37-1

[3] Sum of all analyzed in the chemical class, values at the method detection limit were assigned a value of 0

Sample Name	Units	FF-1	FF 2	MF-1	NF-2	NF-1	NF-DS
Project Number		163360	163360	163360	163360	163379	163379
Sample Date		3/9/2016	3/9/2016	3/9/2016	3/9/2016	3/10/2016	3/10/2016
Bacteriological Parameters							
Escherichia coli	MPN/g-ww	<0.18	33	0.45	49	2.3	1.3
Enterococci	MPN/g-ww	0.45	170	1.4	790	0.45	1.3
Fecal Coliforms	MPN/g-ww	<0.18	49	0.45	110	3.1	2.3

Notes:
Results are expressed most probable number per gram of sample (MPN/g wet weight).

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

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South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

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Vancouver, BC, V5M 0C4
Canada
T: +1 (604) 296 4200

Golder Associates

APPENDIX B

Sediment Sampling Program Photos

Photo 1: The Van Veen Sampler and Boom Used for the Sediment Collection Program

Photo 2: Coastline Technologies Sediment Sampling Vessel the Miscou Banks

Photo 3: Representative Sediment Substrate Collected from SDS-1

Photo 4: Representative Sediment Substrate Collected from SDS-2

Photo 5: Representative Sediment Substrate Collected from SDS-3

Photo 6: Representative Sediment Substrate Collected from SDS-4

Photo 7: Representative Sediment Substrate Collected from SDS-5

Photo 8: Representative Sediment Substrate Collected from SDS-6

Photo 9: Representative Sediment Substrate Collected from SDS-7

Photo 10: Representative Sediment Substrate Collected from SDS-8

Photo 11: Representative Sediment Substrate Collected from SDS-9

Photo 12: Representative Sediment Substrate Collected from SDS-10

Photo 13: Representative Sediment Substrate Collected from SDS-11

Photo 14: Representative Sediment Substrate Collected from SDS-12

Photo 15: Representative Sediment Substrate Collected from SDS-13

Photo 16: Representative Sediment Substrate Collected from SDS-14

Photo 17: Sediment from SDS-14 with thin layer of fines at surface

Photo 18: Representative Sediment Substrate Collected from SDS-15

Photo 19: Representative Sediment Substrate Collected from SDS-16

Photo 20: Representative Sediment Substrate Collected from SDS-17

Photo 21: Sample Processing Layout

Photo 22: View of Sampling Area from Mid-channel

Photo 23: Vibracore Apparatus

Photo 24: Depiction of a Failed Sampling Attempt with the Vibracore Apparatus

APPENDIX C

Vancouver Fraser Port Authority Marine Events Permit and Category A Project Permit

Printed: 3/27/2017 11:24:39 AM

Port Metro Vancouver

Tel: 604.665.9000
Toll Free Fax: 1.866.284.4271
Toll Free Tel: 1.888.PORTVAN
www.portmetrovancouver.com

Your event has been approved by Port Metro Vancouver, please note any additional comments/requirements listed by Harbour Master

Event Name: Annacis Island Sampling to Inform a Disposal at Sea Permit Application

Event ID: 2017-081

Event Type: Assessment / Survey

Status: Approved

Event Organizer: mcmanus, paddy

604-354-2370 ext.(____)

paddy_mcmanus@golder.com

GOLDER ASSOCIATES, LTD.

On Site Contact: mcmanus, paddy

604-354-2370

Location: Fraser River - East

Harbour Master Comments:

Event Date(s) & Time(s):

Start Date & Time	End Date & Time
3/28/2017 12:00:00 AM	3/29/2017 12:00:00 AM

PORT of vancouver

Vancouver Fraser Port Authority
100 The Pointe, 999 Canada Place
Vancouver, B.C. Canada V6C 3T4
portvancouver.com

March 9, 2017

Paddy McManus
Golder Associates Ltd.
4th Floor, 2920 Virtual Way
Vancouver, BC V5M 0C4

Dear Mr. McManus:

Re: Annacis Island Outfall: Sampling and Analysis Program to Inform a Disposal at Sea Permit Application – Offshore near Derwent Place, Delta, BC
PROJECT PERMIT 17-045

Reference is made to your February 27 and 28, 2017 emails re: *Category A Permit Application for Annacis Island Outfall: Sampling and Analysis Program to Inform a Disposal at Sea Permit Application*, and attachments. The Vancouver Fraser Port Authority (VFPA) understands Golder Associates Ltd. on behalf of Metro Vancouver (the "Applicant") proposes to collect pre-freshet subsurface sediment samples to inform a Disposal at Sea permit application for Environment and Climate Change Canada (the Project). The Project consists of collecting sediment samples from a boat, specifically using a weighted Van Veen for grab samples and a boat-mounted vibracore drilling rig for core samples to a maximum depth of 6m. The Project is related to works conducted by the Applicant for VFPA permits 16-042 and 17-009. VFPA has undertaken and completed a review of these works.

Pursuant to the Port Authorities Operations Regulations under the *Canada Marine Act*, by way of this letter, the Project is authorized to proceed **provided that all of the Conditions outlined on the attached Schedule of Environmental Conditions are adhered to**. In the event of any breach of any of the Conditions, or of any of the background information being determined by VFPA to be incorrect or misleading, then VFPA, acting at its sole discretion, may arbitrarily cancel this Project Permit. This Project Permit may also be cancelled for any other reasons set out in Section 29 of the Port Authorities Operations Regulations. **This Project Permit is valid until August 31, 2017**. Please contact the undersigned, at 604-665-9389 with any questions regarding the Conditions.

Sincerely,

Spencer Chaisson
Environmental Coordinator, Project Review and Monitoring

cc: Guy Kirby, VFPA Real Estate
Sean Baxter, VFPA Marine Operations

Canada

Reference is made to the physical activities ("the **Project**") described in the permitting letter that these conditions are attached to. VFPA has undertaken and completed a review of the Project in accordance with Section 5 of the Port Authorities Operations Regulations and, as applicable, Section 67 of the *Canadian Environmental Assessment Act, 2012*.

The Project Permit is based on the understanding that the Project consists of conducting in-water subsurface geotechnical and/or environmental investigations using a standard methodology with proven mitigation measures and that species at risk and archaeological resources are not known to be present in the Project area.

The Project Permit is conditional on a valid tenure agreement with respect to the subject premises being in place. No physical activities may commence in the absence of a valid tenure agreement.

The Project Permit in no way endorses or warrants the design, engineering, or construction of the Project and no person may rely upon the Permit for any purpose other than the fact that VFPA has permitted the Project, in accordance with the terms and conditions of the Project Permit.

If at any time the Applicant fails to comply with any of the environmental conditions set out below, or if VFPA determines that the Applicant has provided any incomplete, incorrect or misleading information in relation to the Project, VFPA may, in its sole and absolute discretion, cancel its authorization for the Project or change the conditions to which such authorization is subject.

Pursuant to Section 29 of the Port Authorities Operations Regulations, VFPA may also cancel its authorization for the Project, or change the conditions to which such authorization is subject, if new information is made available to VFPA at any time in relation to the potential adverse environmental effects of the Project.

The following are the minimum conditions that must be followed by the Applicant to mitigate potential adverse environmental and other effects:

1. The Applicant shall undertake and deliver the Project to total completion in a professional, timely and diligent manner in accordance with the applicable standards and specifications described in the application document(s) referenced in the permitting letter. The Applicant shall not carry out any other physical activities unless expressly authorized by VFPA.

2. The Applicant shall at all times and in all respects comply with and abide by all applicable federal, provincial and municipal laws, statutes, by-laws, regulations, orders and policies from time to time in force and effect including, without limiting the generality of the foregoing, all rules and directions established by VFPA from time to time (collectively, "**Applicable Law**"). Any reference below to a specific law, statute, by-law, regulation, order or policy is for clarity only and in no way limits the generality of the foregoing.

3. The Applicant shall not, directly or indirectly: (a) deposit or permit the deposit of a deleterious substance of any type in water frequented by fish in a manner contrary to Section 36(3) of the *Fisheries Act*; or (b) adversely affect fish or fish habitat in a manner contrary to Section 35(1) of the *Fisheries Act*.

4. The Applicant shall ensure that any drilling fluids or mud used in this project are contained within drill casings and are not discharged to the aquatic environment. Debris and waste material resulting from the Project, including excess sediment, drill cuttings, and drilling fluids/mud shall be contained, collected, and disposed of at suitable upland locations using standards, practices, methods and procedures to a good commercial standard, conforming to Applicable Law and using that degree of skill and care, diligence, prudence and foresight which would be reasonably and ordinarily expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances.

5. The Applicant shall not permit barges, or other vessels used during the Project to ground on the foreshore or riverbed or otherwise disturb the foreshore or riverbed (including disturbance as a result of vessel propeller wash), excepting only such disturbance as is reasonably required resulting from the use of barge spuds.

6. There shall be no disturbance to the riverbed, except for the minimum disturbance required within the area where the works are to be conducted.

7. The induced sedimentation or turbidity of foreshore and nearshore areas and the induced turbidity of local waters, and the release of sediment, sediment-laden waters, and turbid waters to the aquatic environment is to be minimized during the works. In this regard, reference should be made to the applicable water quality criteria as described in the British Columbia Water Quality Guidelines (Criteria): May 2015 Edition produced by the BC Ministry of Environment.

8. Prior to commencing any physical activities, the Applicant shall establish a spill prevention, containment and clean-up plan for hydrocarbon products (including fuel, oil and hydraulic fluid) and any other deleterious substances using standards, practices, methods and procedures to a good commercial standard, conforming to Applicable Law and using that degree of skill and care, diligence, prudence and foresight which would be reasonably and ordinarily expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances. The Applicant shall ensure that appropriate spill containment and clean-up supplies are available on site at all times and that all personnel working on the Project are familiar with the spill prevention, containment and clean-up plan.

9. In the event that evidence of what is suspected to be an archaeological resource is encountered, the Applicant shall:
    a) Immediately stop any activities that might disturb the archaeological resource or the site in which it is contained ("Site").
    b) Not move or otherwise disturb the artifacts or other remains present at the Site.
    c) Immediately notify VFPA Environmental Programs at EnvironmentalPrograms@portvancouver.com.

10. Equipment shall be in good mechanical condition and shall be maintained free of fluid leaks, invasive species, and noxious weeds.

11. At least two days prior to commencing any physical works, the Applicant shall notify the Fisheries and Oceans Canada (DFO), Conservation and Protection Field Supervisor for Fraser Valley West in Langley, British Columbia (telephone: 604-607-4150; fax: 604-607-4199). The Applicant shall copy VFPA Environmental Programs and the Harbour Master on this notification (email: EnvironmentalPrograms@portvancouver.com and Harbour_Master@portmetrovancouver.com; fax: 1-866-284-4271).

12. The Applicant shall be solely responsible for reviewing DFO's Projects Near Water website (http://www.pac.dfo-mpo.gc.ca/habitat/know-savoir-eng.htm) to assess whether the Project requires DFO's involvement. Responsibility for submitting any necessary information through DFO's Project Review Process rests solely with the Applicant.

13. The Applicant shall cooperate fully with VFPA in respect of any review by VFPA of the Applicant's compliance with these conditions including, without limitation, providing any information or documentation required by VFPA.

14. The Applicant shall make a copy of this Schedule available to all employees, agents, contractors, licensees and invitees prior to commencing any physical activities. The Applicant shall be solely responsible for ensuring that all such employees, agents, contractors, licensees and invitees comply with these conditions.

15. The Applicant shall make available upon request by any regulatory authority (such as a Fishery Officer) a copy of this Schedule.

16. Prior to the commencement of any vessel-related activities, the Applicant shall contact the appropriate Canadian Coast Guard ("CCG") Marine Communications and Traffic Services ("MCTS") centre regarding the issuance of a Notice to Shipping ("NOTSHIP") to advise the marine community of potential hazards associated with the Project.

17. During any vessel-related activities, the Applicant shall:
    a) Position vessels and equipment associated with the Project in such a manner so as not to obstruct line of sight to navigational aids or markers.
    b) As per the International Regulations for Preventing Collisions at Sea, exhibit the appropriate lights and day shapes at all times.
    c) Monitor the VHF channel used for MCTS communications in the respective area at all times and participate as necessary.
    d) Be familiar with vessel movements in areas affected by the Project. The Applicant shall plan and execute the Project in a manner that will not impede navigation or interfere with vessel operations.

The above conditions are based solely upon VFPA's review of the Project and in no way limits the authority of, or constitutes any form of permit, authorization or approval by, any other governmental authority having jurisdiction. The Applicant is solely responsible for obtaining any and all required permits, authorizations and approvals from any other governmental authority having jurisdiction.

APPENDIX D

Analytical Chemistry Data Reports (ALS, Axys)

GOLDER ASSOCIATES LTD.
ATTN: Paddy McManus
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 29-MAR-17
Report Date: 31-MAY-17 15:34 (MT)
Version: FINAL REV. 3

Client Phone: 604-298-6623

Certificate of Analysis

Lab Work Order #: L1906730

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3400/3400.4
C of C Numbers: 15-587507
Legal Site Desc:

Comments:

31-MAY-2017 Report with complete metals list for all 10 samples.

Amber Springer, B.Sc
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID: L1906730-1	L1906730-2	L1906730-3	L1906730-4	L1906730-5
	Description:	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	Sampled Date:	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
	Sampled Time:	14:00	14:00	14:00	14:00	14:00
	Client ID:	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5
SOIL						
Physical Tests	Moisture (%)	16.6	18.7	18.9	18.1	20.9
	pH (1:2 soil:water) (pH)	7.65	7.49	7.60	7.45	7.40
Particle Size	% Gravel (>2mm) (%)	<1.0	1.2	<1.0	2.9	<1.0
	% Sand (2.0mm - 0.063mm) (%)	98.8	98.3	99.4	96.8	99.0
	% Silt (0.063mm - 4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	% Clay (<4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	Texture	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.272	0.200	0.137	<0.050	0.115
Inorganic Parameters	Acid Volatile Sulphides (umol/g)					
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	11.8	1.99	2.18	1.93	2.79
	% Saturation (%)	27.3	24.5	25.9	26.4	25.1
	Sodium (Na) (mg/kg)	19.0	4.3	5.4	5.8	4.8
Bacteriological Tests	E. coli (MPN/g)					
	Enterococcus (MPN/g)					
	Coliform Bacteria - Fecal (MPN/g)					
Metals	Aluminum (Al) (mg/kg)	10200	11000	10300	11100	9890
	Antimony (Sb) (mg/kg)	0.21	0.20	0.18	0.22	0.18
	Arsenic (As) (mg/kg)	3.52	3.70	3.25	4.00	3.32
	Barium (Ba) (mg/kg)	47.3	46.3	46.2	54.0	42.0
	Beryllium (Be) (mg/kg)	0.19	0.21	0.21	0.22	0.19
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.113	0.119	0.113	0.124	0.107
	Calcium (Ca) (mg/kg)	5570	6160	6210	6370	5520
	Chromium (Cr) (mg/kg)	31.9	28.8	25.3	31.3	26.3
	Cobalt (Co) (mg/kg)	8.69	8.85	7.88	9.13	7.77
	Copper (Cu) (mg/kg)	15.6	15.3	14.4	14.9	13.5
	Iron (Fe) (mg/kg)	21800	21300	19000	21400	18700
	Lead (Pb) (mg/kg)	2.29	2.46	2.17	2.40	2.08
	Lithium (Li) (mg/kg)	8.3	8.6	7.8	8.8	8.1
	Magnesium (Mg) (mg/kg)	7590	7430	6960	7950	6850
	Manganese (Mn) (mg/kg)	437	471	415	485	413
	Mercury (Hg) (mg/kg)	0.0196	0.0149	0.0170	0.0134	0.0157
	Molybdenum (Mo) (mg/kg)	0.33	0.32	0.28	0.39	0.27
	Nickel (Ni) (mg/kg)	35.6	32.6	29.3	37.8	29.5

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1906730-6	L1906730-7	L1906730-8	L1906730-9	L1906730-10
Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
Sampled Time	14:00	14:00	14:00	14:00	14:00
Client ID	SDS-6	SDS-7	NF-3	DUP-1	DUP-2
Grouping / **Analyte**					
SOIL					
Physical Tests Moisture (%)	19.8	20.5	37.6	19.1	33.4
pH (1:2 soil:water) (pH)	7.32	8.00	7.79	7.68	7.82
Particle Size % Gravel (>2mm) (%)	<1.0	1.2	<1.0	<1.0	<1.0
% Sand (2.0mm - 0.063mm) (%)	99.5	98.3	64.2	98.9	63.0
% Silt (0.063mm - 4um) (%)	<1.0	<1.0	30.8	<1.0	31.9
% Clay (<4um) (%)	<1.0	<1.0	5.1	<1.0	5.1
Texture	Sand	Sand	Sandy loam	Sand	Sandy loam
Organic / Inorganic Carbon Total Organic Carbon (%)	0.136	<0.050	0.631	0.075	0.608
Inorganic Parameters Acid Volatile Sulphides (umol/g)			<0.20		<0.20
Saturated Paste Extractables Chloride (Cl) (mg/kg)	2.28	2.68		1.91	
% Saturation (%)	26.7	24.6		27.7	
Sodium (Na) (mg/kg)	4.6	11.9		4.9	
Bacteriological Tests E. coli (MPN/g)			530		1190
Enterococcus (MPN/g)			87		81
Coliform Bacteria - Fecal (MPN/g)			530		1190
Metals Aluminum (Al) (mg/kg)	9590	9450	12600	9620	12800
Antimony (Sb) (mg/kg)	0.19	0.18	0.46	0.19	0.47
Arsenic (As) (mg/kg)	3.14	3.39	5.80	3.33	5.75
Barium (Ba) (mg/kg)	41.0	46.0	90.9	42.2	92.9
Beryllium (Be) (mg/kg)	0.19	0.18	0.31	0.19	0.30
Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd) (mg/kg)	0.107	0.105	0.178	0.107	0.186
Calcium (Ca) (mg/kg)	5330	4660	7540	5490	7550
Chromium (Cr) (mg/kg)	21.3	18.5	43.0	26.6	44.0
Cobalt (Co) (mg/kg)	7.60	7.38	12.5	7.14	12.6
Copper (Cu) (mg/kg)	14.2	13.2	26.4	12.9	27.3
Iron (Fe) (mg/kg)	17800	17500	30500	17200	31400
Lead (Pb) (mg/kg)	2.03	2.03	5.36	2.19	5.38
Lithium (Li) (mg/kg)	7.7	8.0	13.2	7.8	13.0
Magnesium (Mg) (mg/kg)	6460	6230	9620	6320	9720
Manganese (Mn) (mg/kg)	410	430	484	411	481
Mercury (Hg) (mg/kg)	0.0162	0.0157	0.100	0.0593	0.0363
Molybdenum (Mo) (mg/kg)	0.29	0.28	0.75	0.58	0.74
Nickel (Ni) (mg/kg)	27.0	25.8	43.8	28.5	44.5

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1906730-1	L1906730-2	L1906730-3	L1906730-4	L1906730-5
	Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
	Sampled Time	14:00	14:00	14:00	14:00	14:00
	Client ID	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5
Grouping	**Analyte**					
SOIL						
Metals	Phosphorus (P) (mg/kg)	491	516	529	589	485
	Potassium (K) (mg/kg)	500	490	470	520	450
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	315	251	244	280	219
	Strontium (Sr) (mg/kg)	23.7	22.5	24.1	25.0	21.0
	Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	850	988	878	938	815
	Uranium (U) (mg/kg)	0.328	0.289	0.284	0.273	0.252
	Vanadium (V) (mg/kg)	58.4	56.8	48.3	53.2	46.5
	Zinc (Zn) (mg/kg)	41.5	41.1	38.9	42.1	37.6
	Zirconium (Zr) (mg/kg)	5.1	5.6	5.3	5.7	5.0
Extractable Metals	Cadmium (Cd)-Extractable (umol/g)					
	Copper (Cu)-Extractable (umol/g)					
	Lead (Pb)-Extractable (umol/g)					
	Mercury (Hg)-Extractable (umol/g)					
	Nickel (Ni)-Extractable (umol/g)					
	Zinc (Zn)-Extractable (umol/g)					
Organometallics	Dibutyltin (ug/kg)		<1			
	Dioctyltin (ug/kg)		<1			
	Diphenyltin (ug/kg)		<1			
	Monobutyltin (ug/kg)		<1			
	Monooctyltin (ug/kg)		<1			
	Monophenyltin (ug/kg)		<1			
	Tetrabutyltin (ug/kg)		<1			
	Tributyltin (ug/kg)		<1			
	Tricyclohexyltin (ug/kg)		<1			
	Triphenyltin (ug/kg)		<1			
Hydrocarbons	EPH10-19 (mg/kg)		<200			
	EPH19-32 (mg/kg)		<200			
	LEPH (mg/kg)		<200			
	HEPH (mg/kg)		<200			
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1906730-6 SEDIMENT 28-MAR-17 14:00 SDS-6	L1906730-7 SEDIMENT 28-MAR-17 14:00 SDS-7	L1906730-8 SEDIMENT 28-MAR-17 14:00 NF-3	L1906730-9 SEDIMENT 28-MAR-17 14:00 DUP-1	L1906730-10 SEDIMENT 28-MAR-17 14:00 DUP-2
SOIL						
Metals	Phosphorus (P) (mg/kg)	455	462	722	466	781
	Potassium (K) (mg/kg)	430	450	950	490	960
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.28	<0.20	0.30
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	220	294	344	237	354
	Strontium (Sr) (mg/kg)	19.6	19.9	43.4	21.2	43.8
	Thallium (Tl) (mg/kg)	<0.050	<0.050	0.076	<0.050	0.072
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	855	773	1020	792	1040
	Uranium (U) (mg/kg)	0.250	0.230	0.683	0.266	0.689
	Vanadium (V) (mg/kg)	44.3	43.4	64.5	41.5	66.4
	Zinc (Zn) (mg/kg)	37.0	37.4	65.2	36.5	68.2
	Zirconium (Zr) (mg/kg)	5.3	4.7	5.6	4.9	5.3
Extractable Metals	Cadmium (Cd)-Extractable (umol/g)			<0.0050		<0.0050
	Copper (Cu)-Extractable (umol/g)			0.120		0.110
	Lead (Pb)-Extractable (umol/g)			0.028		0.026
	Mercury (Hg)-Extractable (umol/g)			<0.000050		<0.000050
	Nickel (Ni)-Extractable (umol/g)			0.082		0.074
	Zinc (Zn)-Extractable (umol/g)			0.188		0.173
Organometallics	Dibutyltin (ug/kg)	<1				
	Dioctyltin (ug/kg)	<1				
	Diphenyltin (ug/kg)	<1				
	Monobutyltin (ug/kg)	<1				
	Monooctyltin (ug/kg)	<1				
	Monophenyltin (ug/kg)	<1				
	Tetrabutyltin (ug/kg)	<1				
	Tributyltin (ug/kg)	<1				
	Tricyclohexyltin (ug/kg)	<1				
	Triphenyltin (ug/kg)	<1				
Hydrocarbons	EPH10-19 (mg/kg)	<200			<200	
	EPH19-32 (mg/kg)	<200			<200	
	LEPH (mg/kg)	<200			<200	
	HEPH (mg/kg)	<200			<200	
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	0.0070	<0.0050	0.0081
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)	<0.0040	<0.0040	0.0053	<0.0040	0.0073

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1906730-1 SEDIMENT 28-MAR-17 14:00 SDS-1	L1906730-2 SEDIMENT 28-MAR-17 14:00 SDS-2	L1906730-3 SEDIMENT 28-MAR-17 14:00 SDS-3	L1906730-4 SEDIMENT 28-MAR-17 14:00 SDS-4	L1906730-5 SEDIMENT 28-MAR-17 14:00 SDS-5
SOIL						
Polycyclic Aromatic Hydrocarbons	Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	<0.015	<0.015	<0.015
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Chrysene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)	84.5	87.1	88.4	85.9	98.9
	Surrogate: Chrysene d12 (%)	95.9	89.6	92.9	93.0	103.2
	Surrogate: Naphthalene d8 (%)	77.9	79.3	83.7	81.8	91.4
	Surrogate: Phenanthrene d10 (%)	84.0	83.7	86.8	83.2	97.5
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	IACR (CCME) (mg/kg)	<0.15	<0.15	<0.15	<0.15	<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)		<0.020			
	2-Chlorophenol (mg/kg)		<0.020			
	3-Chlorophenol (mg/kg)		<0.020			
	4-Chlorophenol (mg/kg)		<0.020			
	2,3-Dichlorophenol (mg/kg)		<0.020			
	2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020			
	2,6-Dichlorophenol (mg/kg)		<0.020			
	3,4-Dichlorophenol (mg/kg)		<0.020			
	3,5-Dichlorophenol (mg/kg)		<0.020			
	Pentachlorophenol (mg/kg)		<0.020			
	2,3,4,5-Tetrachlorophenol (mg/kg)		<0.020			
	2,3,4,6-Tetrachlorophenol (mg/kg)		<0.020			
	2,3,5,6-Tetrachlorophenol (mg/kg)		<0.020			
	2,3,4-Trichlorophenol (mg/kg)		<0.020			
	2,3,5-Trichlorophenol (mg/kg)		<0.020			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1906730-6 SEDIMENT 28-MAR-17 14:00 SDS-6	L1906730-7 SEDIMENT 28-MAR-17 14:00 SDS-7	L1906730-8 SEDIMENT 28-MAR-17 14:00 NF-3	L1906730-9 SEDIMENT 28-MAR-17 14:00 DUP-1	L1906730-10 SEDIMENT 28-MAR-17 14:00 DUP-2
SOIL						
Polycyclic Aromatic Hydrocarbons	Benz(a)anthracene (mg/kg)	<0.010	<0.010	0.011	<0.010	0.020
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.013
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	0.025	<0.010	0.032
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	0.037	<0.015	0.044
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	0.012	<0.010	0.013
	Chrysene (mg/kg)	<0.010	<0.010	<0.020 DLCI	<0.010	<0.020 DLCI
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)	<0.010	<0.010	0.050	<0.010	0.060
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.012
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.013
	Phenanthrene (mg/kg)	<0.010	<0.010	0.037	<0.010	0.038
	Pyrene (mg/kg)	<0.010	<0.010	0.043	<0.010	0.046
	Surrogate: Acenaphthene d10 (%)	85.6	91.2	92.5	85.3	95.1
	Surrogate: Chrysene d12 (%)	92.3	84.8	85.9	92.3	97.3
	Surrogate: Naphthalene d8 (%)	80.7	88.3	88.6	83.2	91.2
	Surrogate: Phenanthrene d10 (%)	83.2	90.5	93.5	84.4	94.5
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020	0.023
	IACR (CCME) (mg/kg)	<0.15	<0.15	0.29	<0.15	0.39
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020				
	2-Chlorophenol (mg/kg)	<0.020				
	3-Chlorophenol (mg/kg)	<0.020				
	4-Chlorophenol (mg/kg)	<0.020				
	2,3-Dichlorophenol (mg/kg)	<0.020				
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020				
	2,6-Dichlorophenol (mg/kg)	<0.020				
	3,4-Dichlorophenol (mg/kg)	<0.020				
	3,5-Dichlorophenol (mg/kg)	<0.020				
	Pentachlorophenol (mg/kg)	<0.020				
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020				
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020				
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020				
	2,3,4-Trichlorophenol (mg/kg)	<0.020				
	2,3,5-Trichlorophenol (mg/kg)	<0.020				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1906730-1	L1906730-2	L1906730-3	L1906730-4	L1906730-5
Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
Sampled Time	14:00	14:00	14:00	14:00	14:00
Client ID	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5
Grouping **Analyte**					
SOIL					
Phenolics 2,3,6-Trichlorophenol (mg/kg)		<0.020			
2,4,5-Trichlorophenol (mg/kg)		<0.020			
2,4,6-Trichlorophenol (mg/kg)		<0.020			
3,4,5-Trichlorophenol (mg/kg)		<0.020			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1906730-6	L1906730-7	L1906730-8	L1906730-9	L1906730-10
	Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
	Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
	Sampled Time	14:00	14:00	14:00	14:00	14:00
	Client ID	SDS-6	SDS-7	NF-3	DUP-1	DUP-2
Grouping	**Analyte**					
SOIL						
Phenolics	2,3,6-Trichlorophenol (mg/kg)	<0.020				
	2,4,5-Trichlorophenol (mg/kg)	<0.020				
	2,4,6-Trichlorophenol (mg/kg)	<0.020				
	3,4,5-Trichlorophenol (mg/kg)	<0.020				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Mercury (Hg)	DUP-H	L1906730-9
Duplicate	Barium (Ba)	DUP-H	L1906730-9
Duplicate	Chromium (Cr)	DUP-H	L1906730-9
Duplicate	Molybdenum (Mo)	DUP-H,J	L1906730-9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. Duplicate results and limits are expressed in terms of absolute difference.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AVS-COL-VA	Soil	Acid volatile sulphide by colourimetric	EPA 821/R-91-100

This analysis is carried out in accordance with the method described in EPA 821/R-91-100. Hydrochloric acid is added to sediment samples within a purge and trap system. The evolved hydrogen sulphide (H2S) is carried into a basic solution by argon gas. The acid volatile sulfide is then determined colourimetrically.

C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217

A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.

C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2

Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)

C-TOT-LECO-SK	Soil	Total Carbon by combustion method	CSSS (2008) 21.2

The sample is ignited in a combustion analyzer where carbon in the reduced CO2 gas is determined using a thermal conductivity detector.

CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.

CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

ECOLI-COLI-VA	Soil	E. coli by MPN	TMECC 07.00 PATHOGENS

This analysis is carried out using procedures adapted from TMECC 07.00 PATHOGENS. This method describes multiple-tube fermentation technique for the detection and enumeration of Escherichia coli. Serial dilutions of the sample are incubated with the appropriate growth medium, and Escherichia coli are quantified by a statistical estimation of bacteria density (most probable number). The test involves initial 48 hour incubation (presumptive test); positive results are further tested (up to an additional 24 hours) to confirm and quantify Escherichia coli.

ENTERO-MF-VA	Soil	Enterococci by MPN	TMECC 07.00 PATHOGENS

This analysis is carried out using procedures adapted from TMECC 07.00 PATHOGENS. This method describes multiple-tube fermentation technique for the detection and enumeration of enterococcus. Serial dilutions of the sample are incubated with the appropriate growth medium, and enterococcus is quantified by a statistical estimation of bacteria density (most probable number). The test involves initial 24 hour incubation (presumptive test); positive results are further tested (up to an additional 24 hours) to confirm and quantify enterococcus.

EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID

Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).

FCOLI-DRY-MTF-VA	Soil	Fecal coliform by MPN	EPA Method 1680

This analysis is carried out using procedures adapted from EPA Method 1680 "Fecal Coliforms in Sewage Sludge (Biosolids) by Multiple Tube Fermentation using Lauryl Tryptose Broth (LTB) and EC medium". Serial dilutions of the sample are incubated with the appropriate growth medium, and fecal coliforms are quantified by a statistical estimation of bacteria density (most probable number). The test involves initial 48 hour incubation (presumptive test), positive results are further tested (up to an additional 24 hours) to confirm and quantify fecal coliforms.

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

HG-SEM-CVAFS-VA	Soil	Simultaneously Extracted Metals in Soil	EPA 821/R-91-100; EPA245.7

Reference Information

This analysis is carried out in accordance with the method described in EPA 821/R-91-100. Hydrochloric acid is added to sediment samples within a purge and trap system.
The extract produced from the addition of the acid is then analyzed for simultaneously extracted metals (SEM) using atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA 245.7).

IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO3 Equivalent	Calculation
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)

Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated
by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene
are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

This method uses a heated strong acid digestion with HNO3 and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.

MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.

MET-SEM-ICP-VA	Soil	Simultaneously Extracted Metals (ICPOES)	EPA 821/R-91-100; EPA 6010B

This analysis is carried out in accordance with the method described in EPA 821/R-91-100. Hydrochloric acid is added to sediment samples within a purge and trap system. The extract produced from the addition of the acid is then analyzed for simultaneously extracted metals (SEM) using inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).

MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

ORGANOTINS-FULL-LE	Soil	Organotins full standard	GC-ICPMS according to SS-EN 23161 (mod).

The analysis is carried out by GC-ICPMS according to SS-EN 23161 (mod).

PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-TMB-MS-VA	Soil	Phenolics by Tumbler/GC-MS	EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PSA-PIPET+GRAVEL-SK	Soil	Particle size - Sieve and Pipette	SSIR-51 METHOD 3.2.1

Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

SAT-PCNT-VA	Soil	Saturation Percentage	Carter-CSSS

Reference Information

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
LE	ALS ENVIRONMENTAL - LULE$\bar{}$, SWEDEN

Chain of Custody Numbers:

15-587507

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: GOLDER ASSOCIATES LTD.
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4
Contact: Paddy McManus

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AVS-COL-VA	**Soil**							
Batch R3692311								
WG2502727-3 LCS								
Acid Volatile Sulphides			85.5		%		70-130	30-MAR-17
WG2502727-8 LCS								
Acid Volatile Sulphides			91.8		%		70-130	30-MAR-17
WG2502727-1 MB								
Acid Volatile Sulphides			<0.20		umol/g		0.2	30-MAR-17
WG2502727-6 MB								
Acid Volatile Sulphides			<0.20		umol/g		0.2	30-MAR-17
C-TIC-PCT-SK	**Soil**							
Batch R3692814								
WG2503081-2 LCS								
Inorganic Carbon			106.1		%		80-120	05-APR-17
WG2503081-3 MB								
Inorganic Carbon			<0.050		%		0.05	05-APR-17
C-TOT-LECO-SK	**Soil**							
Batch R3692732								
WG2503039-1 DUP		**L1906730-10**						
Total Carbon by Combustion		0.68	0.80		%	15	20	04-APR-17
WG2503039-2 IRM		**08-109 SOIL**						
Total Carbon by Combustion			103.4		%		80-120	04-APR-17
WG2503039-3 MB								
Total Carbon by Combustion			<0.05		%		0.05	04-APR-17
CL-PASTE-IC-VA	**Soil**							
Batch R3694612								
WG2502858-4 DUP		**L1906730-1**						
Chloride (Cl)		11.8	11.2		mg/kg	4.6	30	06-APR-17
WG2502858-2 LCS								
Chloride (Cl)			95.6		%		70-130	04-APR-17
WG2502858-1 MB								
Chloride (Cl)			<1.0		mg/kg		1	04-APR-17
CLPHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-3 CRM		**CRM 143**						
2,4,5-Trichlorophenol			114.3		%		60-130	05-APR-17
2,4,6-Trichlorophenol			114.1		%		60-130	05-APR-17
Pentachlorophenol			121.6		%		60-130	05-APR-17
WG2502917-4 DUP		**L1906730-2**						

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-4 DUP		**L1906730-2**						
2,3,4,5-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,4,6-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,4-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,5,6-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,6-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,4,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,4,6-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3,4,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
Pentachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
WG2502917-2 LCS								
2,3,4,5-Tetrachlorophenol			92.3		%		60-130	05-APR-17
2,3,4,6-Tetrachlorophenol			94.5		%		60-130	05-APR-17
2,3,4-Trichlorophenol			93.2		%		60-130	05-APR-17
2,3,5,6-Tetrachlorophenol			89.3		%		60-130	05-APR-17
2,3,5-Trichlorophenol			92.0		%		60-130	05-APR-17
2,3,6-Trichlorophenol			91.5		%		60-130	05-APR-17
2,4,5-Trichlorophenol			91.8		%		60-130	05-APR-17
2,4,6-Trichlorophenol			91.7		%		60-130	05-APR-17
3,4,5-Trichlorophenol			95.3		%		60-130	05-APR-17
Pentachlorophenol			93.1		%		60-130	05-APR-17
WG2502917-1 MB								
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
Pentachlorophenol			<0.020		mg/kg		0.02	05-APR-17
ECOLI-COLI-VA	**Soil**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ECOLI-COLI-VA	**Soil**							
Batch R3691625								
WG2502493-2 MB								
E. coli			<2		MPN/g		2	29-MAR-17
ENTERO-MF-VA	**Soil**							
Batch R3691640								
WG2502498-2 MB								
Enterococcus			<2		MPN/g		2	29-MAR-17
EPH-TUMB-FID-VA	**Soil**							
Batch R3691888								
WG2503939-3 IRM		**ALS PHC2 RM**						
EPH10-19			85.6		%		70-130	04-APR-17
EPH19-32			82.9		%		70-130	04-APR-17
WG2503939-1 MB								
EPH10-19			<200		mg/kg		200	04-APR-17
EPH19-32			<200		mg/kg		200	04-APR-17
Batch R3693056								
WG2504912-3 IRM		**ALS PHC2 RM**						
EPH10-19			86.1		%		70-130	05-APR-17
EPH19-32			88.9		%		70-130	05-APR-17
WG2504912-1 MB								
EPH10-19			<200		mg/kg		200	05-APR-17
EPH19-32			<200		mg/kg		200	05-APR-17
FCOLI-DRY-MTF-VA	**Soil**							
Batch R3691614								
WG2502496-2 MB								
Coliform Bacteria - Fecal			<2		MPN/g		2	29-MAR-17
HG-200.2-CVAF-VA	**Soil**							
Batch R3690684								
WG2503941-4 CRM		**VA-NRC-STSD-3**						
Mercury (Hg)			89.3		%		70-130	02-APR-17
WG2503941-2 DUP		**L1906730-9**						
Mercury (Hg)		0.0593	0.0997	DUP-H	mg/kg	51	40	02-APR-17
WG2503941-3 LCS								
Mercury (Hg)			101.2		%		70-130	02-APR-17
WG2503941-1 MB								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA	**Soil**							
Batch R3690684								
WG2503941-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	02-APR-17
Batch R3691842								
WG2503936-4 CRM		**VA-NRC-STSD-3**						
Mercury (Hg)			85.9		%		70-130	03-APR-17
WG2503936-3 LCS								
Mercury (Hg)			99.8		%		70-130	03-APR-17
WG2503936-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	03-APR-17
Batch R3696800								
WG2508944-4 CRM		**VA-NRC-STSD-3**						
Mercury (Hg)			83.7		%		70-130	11-APR-17
WG2508944-3 LCS								
Mercury (Hg)			95.6		%		70-130	11-APR-17
WG2508944-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	11-APR-17
HG-SEM-CVAFS-VA	**Soil**							
Batch R3689180								
WG2502727-2 CRM		**VA-NRC-MESS3**						
Mercury (Hg)-Extractable			89.0		%		70-130	31-MAR-17
WG2502727-7 CRM		**VA-NRC-MESS3**						
Mercury (Hg)-Extractable			93.0		%		70-130	31-MAR-17
WG2502727-1 MB								
Mercury (Hg)-Extractable			<0.000050		umol/g		0.00005	31-MAR-17
WG2502727-6 MB								
Mercury (Hg)-Extractable			<0.000050		umol/g		0.00005	31-MAR-17
MET-200.2-CCMS-VA	**Soil**							
Batch R3691103								
WG2503941-4 CRM		**VA-NRC-STSD-3**						
Aluminum (Al)			109.3		%		70-130	01-APR-17
Antimony (Sb)			111.8		%		70-130	01-APR-17
Arsenic (As)			96.1		%		70-130	01-APR-17
Barium (Ba)			107.1		%		70-130	01-APR-17
Beryllium (Be)			110.8		%		70-130	01-APR-17
Bismuth (Bi)			111.3		%		70-130	01-APR-17
Boron (B)			119.3		%		70-130	01-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3691103								
WG2503941-4 CRM		**VA-NRC-STSD-3**						
Cadmium (Cd)			117.4		%		70-130	01-APR-17
Calcium (Ca)			107.9		%		70-130	01-APR-17
Chromium (Cr)			107.8		%		70-130	01-APR-17
Cobalt (Co)			104.6		%		70-130	01-APR-17
Copper (Cu)			97.7		%		70-130	01-APR-17
Iron (Fe)			101.5		%		70-130	01-APR-17
Lead (Pb)			111.1		%		70-130	01-APR-17
Lithium (Li)			98.6		%		70-130	01-APR-17
Magnesium (Mg)			111.1		%		70-130	01-APR-17
Manganese (Mn)			95.9		%		70-130	01-APR-17
Molybdenum (Mo)			108.6		%		70-130	01-APR-17
Nickel (Ni)			98.0		%		70-130	01-APR-17
Phosphorus (P)			111.1		%		70-130	01-APR-17
Potassium (K)			115.7		%		70-130	01-APR-17
Selenium (Se)			103.8		%		70-130	01-APR-17
Silver (Ag)			104.1		%		70-130	01-APR-17
Sodium (Na)			106.9		%		70-130	01-APR-17
Strontium (Sr)			112.6		%		70-130	01-APR-17
Thallium (Tl)			116.2		%		70-130	01-APR-17
Titanium (Ti)			124.9		%		70-130	01-APR-17
Uranium (U)			108.8		%		70-130	01-APR-17
Vanadium (V)			109.5		%		70-130	01-APR-17
Zinc (Zn)			101.7		%		70-130	01-APR-17
WG2503941-2 DUP		**L1906730-9**						
Aluminum (Al)		9620	8990		mg/kg	6.7	40	01-APR-17
Antimony (Sb)		0.19	0.18		mg/kg	3.4	30	01-APR-17
Arsenic (As)		3.33	3.32		mg/kg	0.0	30	01-APR-17
Barium (Ba)		42.2	66.8	DUP-H	mg/kg	45	40	01-APR-17
Beryllium (Be)		0.19	0.17		mg/kg	10	30	01-APR-17
Bismuth (Bi)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	01-APR-17
Boron (B)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	01-APR-17
Cadmium (Cd)		0.107	0.099		mg/kg	8.1	30	01-APR-17
Calcium (Ca)		5490	4870		mg/kg	12	30	01-APR-17
Chromium (Cr)		26.6	18.3	DUP-H	mg/kg	37	30	01-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3691103								
WG2503941-2 DUP		**L1906730-9**						
Cobalt (Co)		7.14	7.19		mg/kg	0.7	30	01-APR-17
Copper (Cu)		12.9	13.2		mg/kg	1.7	30	01-APR-17
Iron (Fe)		17200	16500		mg/kg	3.8	30	01-APR-17
Lead (Pb)		2.19	1.98		mg/kg	10	40	01-APR-17
Lithium (Li)		7.8	7.7		mg/kg	1.1	30	01-APR-17
Magnesium (Mg)		6320	6090		mg/kg	3.7	30	01-APR-17
Manganese (Mn)		411	407		mg/kg	0.9	30	01-APR-17
Molybdenum (Mo)		0.58	0.27	DUP-H,J	mg/kg	0.31	0.2	01-APR-17
Nickel (Ni)		28.5	26.1		mg/kg	8.7	30	01-APR-17
Phosphorus (P)		466	437		mg/kg	6.5	30	01-APR-17
Potassium (K)		490	470		mg/kg	4.4	40	01-APR-17
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	01-APR-17
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	01-APR-17
Sodium (Na)		237	206		mg/kg	14	40	01-APR-17
Strontium (Sr)		21.2	20.1		mg/kg	5.5	40	01-APR-17
Thallium (Tl)		<0.050	0.050	RPD-NA	mg/kg	N/A	30	01-APR-17
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	01-APR-17
Titanium (Ti)		792	749		mg/kg	5.5	40	01-APR-17
Uranium (U)		0.266	0.229		mg/kg	15	30	01-APR-17
Vanadium (V)		41.5	38.5		mg/kg	7.5	30	01-APR-17
Zinc (Zn)		36.5	35.1		mg/kg	3.9	30	01-APR-17
Zirconium (Zr)		4.9	4.7		mg/kg	5.6	30	01-APR-17
WG2503941-3 LCS								
Aluminum (Al)			98.0		%		80-120	01-APR-17
Antimony (Sb)			100.2		%		80-120	01-APR-17
Arsenic (As)			101.1		%		80-120	01-APR-17
Barium (Ba)			102.5		%		80-120	01-APR-17
Beryllium (Be)			99.2		%		80-120	01-APR-17
Bismuth (Bi)			98.9		%		80-120	01-APR-17
Boron (B)			95.6		%		80-120	01-APR-17
Cadmium (Cd)			98.0		%		80-120	01-APR-17
Calcium (Ca)			97.9		%		80-120	01-APR-17
Chromium (Cr)			98.6		%		80-120	01-APR-17
Cobalt (Co)			97.2		%		80-120	01-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3691103								
WG2503941-3 LCS								
Copper (Cu)			94.0		%		80-120	01-APR-17
Iron (Fe)			96.2		%		80-120	01-APR-17
Lead (Pb)			100.6		%		80-120	01-APR-17
Lithium (Li)			91.8		%		80-120	01-APR-17
Magnesium (Mg)			97.8		%		80-120	01-APR-17
Manganese (Mn)			99.9		%		80-120	01-APR-17
Molybdenum (Mo)			99.3		%		80-120	01-APR-17
Nickel (Ni)			95.5		%		80-120	01-APR-17
Phosphorus (P)			110.9		%		80-120	01-APR-17
Potassium (K)			103.4		%		80-120	01-APR-17
Selenium (Se)			98.5		%		80-120	01-APR-17
Silver (Ag)			96.7		%		80-120	01-APR-17
Sodium (Na)			98.5		%		80-120	01-APR-17
Strontium (Sr)			108.6		%		80-120	01-APR-17
Thallium (Tl)			99.3		%		80-120	01-APR-17
Tin (Sn)			98.4		%		80-120	01-APR-17
Titanium (Ti)			95.7		%		80-120	01-APR-17
Uranium (U)			103.8		%		80-120	01-APR-17
Vanadium (V)			98.7		%		80-120	01-APR-17
Zinc (Zn)			92.5		%		80-120	01-APR-17
Zirconium (Zr)			97.2		%		70-130	01-APR-17
WG2503941-1 MB								
Aluminum (Al)			<50		mg/kg		50	01-APR-17
Antimony (Sb)			<0.10		mg/kg		0.1	01-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	01-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	01-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	01-APR-17
Bismuth (Bi)			<0.20		mg/kg		0.2	01-APR-17
Boron (B)			<5.0		mg/kg		5	01-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	01-APR-17
Calcium (Ca)			<50		mg/kg		50	01-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	01-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	01-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	01-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3691103								
WG2503941-1 MB								
Iron (Fe)			<50		mg/kg		50	01-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	01-APR-17
Lithium (Li)			<2.0		mg/kg		2	01-APR-17
Magnesium (Mg)			<20		mg/kg		20	01-APR-17
Manganese (Mn)			<1.0		mg/kg		1	01-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	01-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	01-APR-17
Phosphorus (P)			<50		mg/kg		50	01-APR-17
Potassium (K)			<100		mg/kg		100	01-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	01-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	01-APR-17
Sodium (Na)			<50		mg/kg		50	01-APR-17
Strontium (Sr)			<0.50		mg/kg		0.5	01-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	01-APR-17
Tin (Sn)			<2.0		mg/kg		2	01-APR-17
Titanium (Ti)			<1.0		mg/kg		1	01-APR-17
Uranium (U)			<0.050		mg/kg		0.05	01-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	01-APR-17
Zinc (Zn)			<2.0		mg/kg		2	01-APR-17
Zirconium (Zr)			<1.0		mg/kg		1	01-APR-17
Batch R3692059								
WG2503936-4 CRM		**VA-NRC-STSD-3**						
Aluminum (Al)			108.8		%		70-130	03-APR-17
Antimony (Sb)			103.6		%		70-130	03-APR-17
Arsenic (As)			91.8		%		70-130	03-APR-17
Barium (Ba)			101.2		%		70-130	03-APR-17
Beryllium (Be)			103.8		%		70-130	03-APR-17
Bismuth (Bi)			109.1		%		70-130	03-APR-17
Boron (B)			109.5		%		70-130	03-APR-17
Cadmium (Cd)			110.9		%		70-130	03-APR-17
Calcium (Ca)			102.6		%		70-130	03-APR-17
Chromium (Cr)			102.1		%		70-130	03-APR-17
Cobalt (Co)			101.2		%		70-130	03-APR-17
Copper (Cu)			97.4		%		70-130	03-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3692059								
WG2503936-4 CRM		**VA-NRC-STSD-3**						
Iron (Fe)			98.1		%		70-130	03-APR-17
Lead (Pb)			101.2		%		70-130	03-APR-17
Lithium (Li)			100.4		%		70-130	03-APR-17
Magnesium (Mg)			105.7		%		70-130	03-APR-17
Manganese (Mn)			92.6		%		70-130	03-APR-17
Molybdenum (Mo)			101.9		%		70-130	03-APR-17
Nickel (Ni)			96.3		%		70-130	03-APR-17
Phosphorus (P)			108.8		%		70-130	03-APR-17
Potassium (K)			108.3		%		70-130	03-APR-17
Selenium (Se)			96.2		%		70-130	03-APR-17
Silver (Ag)			97.2		%		70-130	03-APR-17
Sodium (Na)			103.3		%		70-130	03-APR-17
Strontium (Sr)			104.9		%		70-130	03-APR-17
Thallium (Tl)			105.8		%		70-130	03-APR-17
Titanium (Ti)			118.2		%		70-130	03-APR-17
Uranium (U)			101.1		%		70-130	03-APR-17
Vanadium (V)			106.3		%		70-130	03-APR-17
Zinc (Zn)			98.0		%		70-130	03-APR-17
WG2503936-1 MB								
Aluminum (Al)			<50		mg/kg		50	03-APR-17
Antimony (Sb)			<0.10		mg/kg		0.1	03-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	03-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	03-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	03-APR-17
Bismuth (Bi)			<0.20		mg/kg		0.2	03-APR-17
Boron (B)			<5.0		mg/kg		5	03-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	03-APR-17
Calcium (Ca)			<50		mg/kg		50	03-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	03-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	03-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	03-APR-17
Iron (Fe)			<50		mg/kg		50	03-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	03-APR-17
Lithium (Li)			<2.0		mg/kg		2	03-APR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3692059								
WG2503936-1 MB								
Magnesium (Mg)			<20		mg/kg		20	03-APR-17
Manganese (Mn)			<1.0		mg/kg		1	03-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	03-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	03-APR-17
Phosphorus (P)			<50		mg/kg		50	03-APR-17
Potassium (K)			<100		mg/kg		100	03-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	03-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	03-APR-17
Sodium (Na)			<50		mg/kg		50	03-APR-17
Strontium (Sr)			<0.50		mg/kg		0.5	03-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	03-APR-17
Tin (Sn)			<2.0		mg/kg		2	03-APR-17
Titanium (Ti)			<1.0		mg/kg		1	03-APR-17
Uranium (U)			<0.050		mg/kg		0.05	03-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	03-APR-17
Zinc (Zn)			<2.0		mg/kg		2	03-APR-17
Zirconium (Zr)			<1.0		mg/kg		1	03-APR-17
Batch R3692429								
WG2503936-3 LCS								
Aluminum (Al)			99.9		%		80-120	04-APR-17
Antimony (Sb)			96.7		%		80-120	04-APR-17
Arsenic (As)			98.1		%		80-120	04-APR-17
Barium (Ba)			99.1		%		80-120	04-APR-17
Beryllium (Be)			94.1		%		80-120	04-APR-17
Bismuth (Bi)			96.8		%		80-120	04-APR-17
Boron (B)			91.4		%		80-120	04-APR-17
Cadmium (Cd)			94.9		%		80-120	04-APR-17
Calcium (Ca)			95.1		%		80-120	04-APR-17
Chromium (Cr)			94.0		%		80-120	04-APR-17
Cobalt (Co)			96.1		%		80-120	04-APR-17
Copper (Cu)			93.7		%		80-120	04-APR-17
Iron (Fe)			109.0		%		80-120	04-APR-17
Lead (Pb)			97.2		%		80-120	04-APR-17
Lithium (Li)			94.9		%		80-120	04-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3692429								
WG2503936-3 LCS								
Magnesium (Mg)			92.8		%		80-120	04-APR-17
Manganese (Mn)			96.3		%		80-120	04-APR-17
Molybdenum (Mo)			94.1		%		80-120	04-APR-17
Nickel (Ni)			94.4		%		80-120	04-APR-17
Phosphorus (P)			99.0		%		80-120	04-APR-17
Potassium (K)			96.9		%		80-120	04-APR-17
Selenium (Se)			91.8		%		80-120	04-APR-17
Silver (Ag)			95.5		%		80-120	04-APR-17
Sodium (Na)			96.2		%		80-120	04-APR-17
Strontium (Sr)			102.1		%		80-120	04-APR-17
Thallium (Tl)			94.7		%		80-120	04-APR-17
Tin (Sn)			94.8		%		80-120	04-APR-17
Titanium (Ti)			95.6		%		80-120	04-APR-17
Uranium (U)			101.7		%		80-120	04-APR-17
Vanadium (V)			96.4		%		80-120	04-APR-17
Zinc (Zn)			91.0		%		80-120	04-APR-17
Zirconium (Zr)			94.0		%		70-130	04-APR-17
Batch R3696841								
WG2508944-4 CRM		**VA-NRC-STSD-3**						
Aluminum (Al)			105.5		%		70-130	11-APR-17
Antimony (Sb)			108.8		%		70-130	11-APR-17
Arsenic (As)			93.1		%		70-130	11-APR-17
Barium (Ba)			99.8		%		70-130	11-APR-17
Beryllium (Be)			105.9		%		70-130	11-APR-17
Bismuth (Bi)			109.5		%		70-130	11-APR-17
Boron (B)			112.2		%		70-130	11-APR-17
Cadmium (Cd)			109.4		%		70-130	11-APR-17
Calcium (Ca)			106.2		%		70-130	11-APR-17
Chromium (Cr)			103.7		%		70-130	11-APR-17
Cobalt (Co)			101.0		%		70-130	11-APR-17
Copper (Cu)			95.8		%		70-130	11-APR-17
Iron (Fe)			98.3		%		70-130	11-APR-17
Lead (Pb)			105.8		%		70-130	11-APR-17
Lithium (Li)			103.1		%		70-130	11-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3696841								
WG2508944-4 CRM		**VA-NRC-STSD-3**						
Magnesium (Mg)			104.1		%		70-130	11-APR-17
Manganese (Mn)			93.8		%		70-130	11-APR-17
Molybdenum (Mo)			104.6		%		70-130	11-APR-17
Nickel (Ni)			94.0		%		70-130	11-APR-17
Phosphorus (P)			101.5		%		70-130	11-APR-17
Potassium (K)			109.9		%		70-130	11-APR-17
Selenium (Se)			95.7		%		70-130	11-APR-17
Silver (Ag)			101.3		%		70-130	11-APR-17
Sodium (Na)			104.5		%		70-130	11-APR-17
Strontium (Sr)			108.0		%		70-130	11-APR-17
Thallium (Tl)			110.7		%		70-130	11-APR-17
Titanium (Ti)			117.0		%		70-130	11-APR-17
Uranium (U)			106.3		%		70-130	11-APR-17
Vanadium (V)			104.8		%		70-130	11-APR-17
Zinc (Zn)			97.0		%		70-130	11-APR-17
WG2508944-3 LCS								
Aluminum (Al)			101.1		%		80-120	11-APR-17
Antimony (Sb)			100.0		%		80-120	11-APR-17
Arsenic (As)			101.1		%		80-120	11-APR-17
Barium (Ba)			100.6		%		80-120	11-APR-17
Beryllium (Be)			97.0		%		80-120	11-APR-17
Bismuth (Bi)			96.2		%		80-120	11-APR-17
Boron (B)			93.7		%		80-120	11-APR-17
Cadmium (Cd)			96.5		%		80-120	11-APR-17
Calcium (Ca)			98.4		%		80-120	11-APR-17
Chromium (Cr)			97.3		%		80-120	11-APR-17
Cobalt (Co)			95.7		%		80-120	11-APR-17
Copper (Cu)			95.8		%		80-120	11-APR-17
Iron (Fe)			102.9		%		80-120	11-APR-17
Lead (Pb)			97.6		%		80-120	11-APR-17
Lithium (Li)			96.2		%		80-120	11-APR-17
Magnesium (Mg)			94.0		%		80-120	11-APR-17
Manganese (Mn)			99.8		%		80-120	11-APR-17
Molybdenum (Mo)			100.1		%		80-120	11-APR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3696841								
WG2508944-3 LCS								
Nickel (Ni)			95.3		%		80-120	11-APR-17
Phosphorus (P)			104.4		%		80-120	11-APR-17
Potassium (K)			99.6		%		80-120	11-APR-17
Selenium (Se)			95.2		%		80-120	11-APR-17
Silver (Ag)			99.3		%		80-120	11-APR-17
Sodium (Na)			97.7		%		80-120	11-APR-17
Strontium (Sr)			107.0		%		80-120	11-APR-17
Thallium (Tl)			97.1		%		80-120	11-APR-17
Tin (Sn)			95.5		%		80-120	11-APR-17
Titanium (Ti)			95.6		%		80-120	11-APR-17
Uranium (U)			99.7		%		80-120	11-APR-17
Vanadium (V)			97.9		%		80-120	11-APR-17
Zinc (Zn)			93.4		%		80-120	11-APR-17
Zirconium (Zr)			97.5		%		70-130	11-APR-17
WG2508944-1 MB								
Aluminum (Al)			<50		mg/kg		50	11-APR-17
Antimony (Sb)			<0.10		mg/kg		0.1	11-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	11-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	11-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	11-APR-17
Bismuth (Bi)			<0.20		mg/kg		0.2	11-APR-17
Boron (B)			<5.0		mg/kg		5	11-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	11-APR-17
Calcium (Ca)			<50		mg/kg		50	11-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	11-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	11-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	11-APR-17
Iron (Fe)			<50		mg/kg		50	11-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	11-APR-17
Lithium (Li)			<2.0		mg/kg		2	11-APR-17
Magnesium (Mg)			<20		mg/kg		20	11-APR-17
Manganese (Mn)			<1.0		mg/kg		1	11-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	11-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	11-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3696841								
WG2508944-1 MB								
Phosphorus (P)			<50		mg/kg		50	11-APR-17
Potassium (K)			<100		mg/kg		100	11-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	11-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	11-APR-17
Sodium (Na)			<50		mg/kg		50	11-APR-17
Strontium (Sr)			<0.50		mg/kg		0.5	11-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	11-APR-17
Tin (Sn)			<2.0		mg/kg		2	11-APR-17
Titanium (Ti)			<1.0		mg/kg		1	11-APR-17
Uranium (U)			<0.050		mg/kg		0.05	11-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	11-APR-17
Zinc (Zn)			<2.0		mg/kg		2	11-APR-17
Zirconium (Zr)			<1.0		mg/kg		1	11-APR-17
MET-PASTE-ICP-VA	**Soil**							
Batch R3692072								
WG2502858-4 DUP		**L1906730-1**						
Sodium (Na)		19.0	18.0		mg/kg	5.7	30	03-APR-17
WG2502858-2 LCS								
Sodium (Na)			99.8		%		80-120	03-APR-17
WG2502858-1 MB								
Sodium (Na)			<0.50		mg/kg		0.5	03-APR-17
MET-SEM-ICP-VA	**Soil**							
Batch R3689066								
WG2502727-2 CRM		**VA-NRC-MESS3**						
Copper (Cu)-Extractable			92.3		%		70-130	30-MAR-17
Lead (Pb)-Extractable			117.5		%		70-130	30-MAR-17
Nickel (Ni)-Extractable			86.1		%		70-130	30-MAR-17
Zinc (Zn)-Extractable			93.9		%		70-130	30-MAR-17
WG2502727-7 CRM		**VA-NRC-MESS3**						
Copper (Cu)-Extractable			91.4		%		70-130	30-MAR-17
Lead (Pb)-Extractable			109.4		%		70-130	30-MAR-17
Nickel (Ni)-Extractable			76.0		%		70-130	30-MAR-17
Zinc (Zn)-Extractable			88.7		%		70-130	30-MAR-17
WG2502727-1 MB								
Cadmium (Cd)-Extractable			<0.0050		umol/g		0.005	30-MAR-17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-SEM-ICP-VA	**Soil**							
Batch R3689066								
WG2502727-1 MB								
Copper (Cu)-Extractable			<0.010		umol/g		0.01	30-MAR-17
Lead (Pb)-Extractable			<0.020		umol/g		0.02	30-MAR-17
Nickel (Ni)-Extractable			<0.050		umol/g		0.05	30-MAR-17
Zinc (Zn)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
WG2502727-6 MB								
Cadmium (Cd)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
Copper (Cu)-Extractable			<0.010		umol/g		0.01	30-MAR-17
Lead (Pb)-Extractable			<0.020		umol/g		0.02	30-MAR-17
Nickel (Ni)-Extractable			<0.050		umol/g		0.05	30-MAR-17
Zinc (Zn)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
MOISTURE-VA	**Soil**							
Batch R3690334								
WG2503940-2 LCS								
Moisture			99.1		%		90-110	31-MAR-17
WG2503940-1 MB								
Moisture			<0.25		%		0.25	31-MAR-17
Batch R3690412								
WG2503918-3 DUP		**L1906730-2**						
Moisture		18.7	19.5		%	3.7	20	01-APR-17
WG2503918-2 LCS								
Moisture			97.7		%		90-110	01-APR-17
WG2503918-6 LCS								
Moisture			99.5		%		90-110	01-APR-17
WG2503918-1 MB								
Moisture			<0.25		%		0.25	01-APR-17
WG2503918-5 MB								
Moisture			<0.25		%		0.25	01-APR-17
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3689509								
WG2503938-2 LCS								
Acenaphthene			88.0		%		60-130	03-APR-17
Acenaphthylene			86.8		%		60-130	03-APR-17
Anthracene			79.7		%		60-130	03-APR-17
Benz(a)anthracene			76.3		%		60-130	03-APR-17
Benzo(a)pyrene			86.8		%		60-130	03-APR-17
Benzo(b)fluoranthene			89.6		%		60-130	03-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3689509								
WG2503938-2 LCS								
Benzo(g,h,i)perylene			83.5		%		60-130	03-APR-17
Benzo(k)fluoranthene			109.2		%		60-130	03-APR-17
Chrysene			91.5		%		60-130	03-APR-17
Dibenz(a,h)anthracene			88.0		%		60-130	03-APR-17
Fluoranthene			90.8		%		60-130	03-APR-17
Fluorene			86.7		%		60-130	03-APR-17
Indeno(1,2,3-c,d)pyrene			79.3		%		60-130	03-APR-17
2-Methylnaphthalene			89.1		%		60-130	03-APR-17
Naphthalene			91.1		%		50-130	03-APR-17
Phenanthrene			87.3		%		60-130	03-APR-17
Pyrene			92.1		%		60-130	03-APR-17
WG2503938-1 MB								
Acenaphthene			<0.0050		mg/kg		0.005	03-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	03-APR-17
Anthracene			<0.0040		mg/kg		0.004	03-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	03-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	03-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	03-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	03-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	03-APR-17
Chrysene			<0.010		mg/kg		0.01	03-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	03-APR-17
Fluoranthene			<0.010		mg/kg		0.01	03-APR-17
Fluorene			<0.010		mg/kg		0.01	03-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	03-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	03-APR-17
Naphthalene			<0.010		mg/kg		0.01	03-APR-17
Phenanthrene			<0.010		mg/kg		0.01	03-APR-17
Pyrene			<0.010		mg/kg		0.01	03-APR-17
Surrogate: Naphthalene d8			81.2		%		50-130	03-APR-17
Surrogate: Acenaphthene d10			82.9		%		60-130	03-APR-17
Surrogate: Phenanthrene d10			80.9		%		60-130	03-APR-17
Surrogate: Chrysene d12			75.1		%		60-130	03-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3691897								
WG2503939-2 LCS								
Acenaphthene			88.7		%		60-130	04-APR-17
Acenaphthylene			88.2		%		60-130	04-APR-17
Anthracene			80.9		%		60-130	04-APR-17
Benz(a)anthracene			88.3		%		60-130	04-APR-17
Benzo(a)pyrene			96.4		%		60-130	04-APR-17
Benzo(b)fluoranthene			92.2		%		60-130	04-APR-17
Benzo(g,h,i)perylene			90.2		%		60-130	04-APR-17
Benzo(k)fluoranthene			103.6		%		60-130	04-APR-17
Chrysene			98.4		%		60-130	04-APR-17
Dibenz(a,h)anthracene			90.3		%		60-130	04-APR-17
Fluoranthene			91.1		%		60-130	04-APR-17
Fluorene			88.6		%		60-130	04-APR-17
Indeno(1,2,3-c,d)pyrene			84.7		%		60-130	04-APR-17
2-Methylnaphthalene			92.0		%		60-130	04-APR-17
Naphthalene			93.2		%		50-130	04-APR-17
Phenanthrene			90.9		%		60-130	04-APR-17
Pyrene			93.2		%		60-130	04-APR-17
WG2503939-1 MB								
Acenaphthene			<0.0050		mg/kg		0.005	04-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	04-APR-17
Anthracene			<0.0040		mg/kg		0.004	04-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	04-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	04-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	04-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	04-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	04-APR-17
Chrysene			<0.010		mg/kg		0.01	04-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	04-APR-17
Fluoranthene			<0.010		mg/kg		0.01	04-APR-17
Fluorene			<0.010		mg/kg		0.01	04-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	04-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	04-APR-17
Naphthalene			<0.010		mg/kg		0.01	04-APR-17
Phenanthrene			<0.010		mg/kg		0.01	04-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3691897								
WG2503939-1 MB								
Pyrene			<0.010		mg/kg		0.01	04-APR-17
Surrogate: Naphthalene d8			79.6		%		50-130	04-APR-17
Surrogate: Acenaphthene d10			84.7		%		60-130	04-APR-17
Surrogate: Phenanthrene d10			80.3		%		60-130	04-APR-17
Surrogate: Chrysene d12			84.8		%		60-130	04-APR-17
Batch R3692892								
WG2504912-2 LCS								
Acenaphthene			90.6		%		60-130	05-APR-17
Acenaphthylene			89.4		%		60-130	05-APR-17
Anthracene			86.2		%		60-130	05-APR-17
Benz(a)anthracene			81.1		%		60-130	05-APR-17
Benzo(a)pyrene			81.6		%		60-130	05-APR-17
Benzo(b)fluoranthene			96.9		%		60-130	05-APR-17
Benzo(g,h,i)perylene			79.6		%		60-130	05-APR-17
Benzo(k)fluoranthene			109.3		%		60-130	05-APR-17
Chrysene			89.8		%		60-130	05-APR-17
Dibenz(a,h)anthracene			81.5		%		60-130	05-APR-17
Fluoranthene			94.5		%		60-130	05-APR-17
Fluorene			90.9		%		60-130	05-APR-17
Indeno(1,2,3-c,d)pyrene			84.1		%		60-130	05-APR-17
2-Methylnaphthalene			91.4		%		60-130	05-APR-17
Naphthalene			93.8		%		50-130	05-APR-17
Phenanthrene			92.1		%		60-130	05-APR-17
Pyrene			96.7		%		60-130	05-APR-17
WG2504912-1 MB								
Acenaphthene			<0.0050		mg/kg		0.005	05-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	05-APR-17
Anthracene			<0.0040		mg/kg		0.004	05-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	05-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	05-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	05-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	05-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	05-APR-17
Chrysene			<0.010		mg/kg		0.01	05-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	05-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3692892								
WG2504912-1 MB								
Fluoranthene			<0.010		mg/kg		0.01	05-APR-17
Fluorene			<0.010		mg/kg		0.01	05-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	05-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	05-APR-17
Naphthalene			<0.010		mg/kg		0.01	05-APR-17
Phenanthrene			<0.010		mg/kg		0.01	05-APR-17
Pyrene			<0.010		mg/kg		0.01	05-APR-17
Surrogate: Naphthalene d8			80.1		%		50-130	05-APR-17
Surrogate: Acenaphthene d10			81.8		%		60-130	05-APR-17
Surrogate: Phenanthrene d10			81.6		%		60-130	05-APR-17
Surrogate: Chrysene d12			77.3		%		60-130	05-APR-17
PH-1:2-VA	**Soil**							
Batch R3692221								
WG2503936-5 IRM		**VA-ALP-SRS1507**						
pH (1:2 soil:water)			6.49		pH		6.2-6.8	04-APR-17
Batch R3692224								
WG2503941-2 DUP		**L1906730-9**						
pH (1:2 soil:water)		7.68	7.65	J	pH	0.03	0.2	04-APR-17
Batch R3696628								
WG2508944-5 IRM		**VA-ALP-SRS1507**						
pH (1:2 soil:water)			6.42		pH		6.2-6.8	11-APR-17
PHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-3 CRM		**CRM 143**						
4-Chloro-3-methylphenol			110.1		%		60-130	05-APR-17
2-Chlorophenol			111.7		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			119.1		%		60-130	05-APR-17
WG2502917-4 DUP		**L1906730-2**						
4-Chloro-3-methylphenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
4-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-4 DUP		**L1906730-2**						
2,3-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,4 & 2,5-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,6-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3,4-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3,5-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
WG2502917-2 LCS								
4-Chloro-3-methylphenol			92.4		%		60-130	05-APR-17
2-Chlorophenol			88.0		%		60-130	05-APR-17
3-Chlorophenol			89.1		%		60-130	05-APR-17
4-Chlorophenol			89.8		%		60-130	05-APR-17
2,3-Dichlorophenol			90.5		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			90.5		%		60-130	05-APR-17
2,6-Dichlorophenol			91.8		%		60-130	05-APR-17
3,4-Dichlorophenol			91.6		%		60-130	05-APR-17
3,5-Dichlorophenol			92.9		%		60-130	05-APR-17
WG2502917-1 MB								
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	05-APR-17
2-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
3-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
4-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,6-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
PSA-PIPET+GRAVEL-SK	**Soil**							
Batch R3693123								
WG2504437-1 DUP		**L1906730-5**						
% Gravel (>2mm)		<1.0	<1.0	RPD-NA	%	N/A	25	05-APR-17
% Sand (2.0mm - 0.063mm)		99.0	98.9	J	%	0.1	5	05-APR-17
% Silt (0.063mm - 4um)		<1.0	<1.0	RPD-NA	%	N/A	5	05-APR-17
% Clay (<4um)		<1.0	<1.0	RPD-NA	%	N/A	5	05-APR-17
WG2504437-2 IRM		**10-105**						
% Sand (2.0mm - 0.063mm)			35.7		%		30-40	05-APR-17
% Silt (0.063mm - 4um)			49.7		%		45-55	05-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PSA-PIPET+GRAVEL-SK	**Soil**							
Batch R3693123								
WG2504437-2 IRM		**10-105**						
% Clay (<4um)			14.6		%		10-20	05-APR-17
SAT-PCNT-VA	**Soil**							
Batch R3691875								
WG2502858-4 DUP		**L1906730-1**						
% Saturation		27.3	26.0		%	N/A	20	03-APR-17
WG2502858-3 IRM		**VA-ALP-SRS1507**						
% Saturation			101.3		%		80-120	03-APR-17
WG2502858-1 MB								
% Saturation			50.0		%		50	03-APR-17

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. Duplicate results and limits are expressed in terms of absolute difference.
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Report

Ackred. nr 2030
Provning
ISO/IEC 17025

L1708130

2IFDX9NUA4A

Date received **2017-04-04**
Issued **2017-04-10**

ALS Vancouver
Amber Springer
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Burnaby
British Columbia V5A 1W9
Canada

Project **L1906730**

Analysis: OJ19A

Your ID	**L1906730-2** **SDS-2**					
LabID	U11307283					
Analysis	**Results**	**Uncertainty (±)**	**Unit**	**Method**	**Issuer**	**Sign**
TS 105°C	**83.2**	2%	%	1	V	JOGR
monobutyltin	**<1**		µg/kg DW	2	T	ELEN
dibutyltin	**<1**		µg/kg DW	2	T	ELEN
tributyltin	**<1**		µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**		µg/kg DW	2	T	ELEN
monooctyltin	**<1**		µg/kg DW	2	T	ELEN
dioctyltin	**<1**		µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**		µg/kg DW	2	T	ELEN
monophenyltin	**<1**		µg/kg DW	2	T	ELEN
diphenyltin	**<1**		µg/kg DW	2	T	ELEN
triphenyltin	**<1**		µg/kg DW	2	T	ELEN

Your ID	**L1906730-6** **SDS-6**					
LabID	U11307284					
Analysis	**Results**	**Uncertainty (±)**	**Unit**	**Method**	**Issuer**	**Sign**
TS 105°C	**83.5**	2%	%	1	V	JOGR
monobutyltin	**<1**		µg/kg DW	2	T	ELEN
dibutyltin	**<1**		µg/kg DW	2	T	ELEN
tributyltin	**<1**		µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**		µg/kg DW	2	T	ELEN
monooctyltin	**<1**		µg/kg DW	2	T	ELEN
dioctyltin	**<1**		µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**		µg/kg DW	2	T	ELEN
monophenyltin	**<1**		µg/kg DW	2	T	ELEN
diphenyltin	**<1**		µg/kg DW	2	T	ELEN
triphenyltin	**<1**		µg/kg DW	2	T	ELEN

Your ID	**L1906730-6 Duplicate SDS-6**
LabID	U11307285

Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
TS 105°C	**83.5**	2%	%	1	V	JOGR
monobutyltin	**<1**		µg/kg DW	2	T	ELEN
dibutyltin	**<1**		µg/kg DW	2	T	ELEN
tributyltin	**<1**		µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**		µg/kg DW	2	T	ELEN
monooctyltin	**<1**		µg/kg DW	2	T	ELEN
dioctyltin	**<1**		µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**		µg/kg DW	2	T	ELEN
monophenyltin	**<1**		µg/kg DW	2	T	ELEN
diphenyltin	**<1**		µg/kg DW	2	T	ELEN
triphenyltin	**<1**		µg/kg DW	2	T	ELEN

Your ID	**QC**
LabID	U11307286

Analysis	Results	Unit	Method	Issuer	Sign
monobutyltin recovery*	**107**	%	2	U	ELEN
dibutyltin recovery*	**97.3**	%	2	U	ELEN
tributyltin recovery*	**109**	%	2	U	ELEN
tetrabutyltin recovery*	**91.1**	%	2	U	ELEN
monooctyltin recovery*	**110**	%	2	U	ELEN
dioctyltin recovery*	**108**	%	2	U	ELEN
tricyclohexyltin recovery*	**129**	%	2	U	ELEN
monophenyltin recovery*	**106**	%	2	U	ELEN
diphenyltin recovery*	**90.2**	%	2	U	ELEN
triphenyltin recovery*	**94.9**	%	2	U	ELEN
Acceptance criteria for recovery is 50-150%.					

Your ID	**Blank**
LabID	U11307287

Analysis	Results	Unit	Method	Issuer	Sign
monobutyltin	**<1**	µg/kg DW	2	T	ELEN
dibutyltin	**<1**	µg/kg DW	2	T	ELEN
tributyltin	**<1**	µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**	µg/kg DW	2	T	ELEN
monooctyltin	**<1**	µg/kg DW	2	T	ELEN
dioctyltin	**<1**	µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**	µg/kg DW	2	T	ELEN
monophenyltin	**<1**	µg/kg DW	2	T	ELEN
diphenyltin	**<1**	µg/kg DW	2	T	ELEN
triphenyltin	**<1**	µg/kg DW	2	T	ELEN

	Method specification
1	Analysed according to SS 028113.
2	Determination of organotin compounds according to ISO 23161:2011 with acidic extraction. The analyses are performed using GC-ICP-SFMS.

	Approver
ELEN	Elina Engström
JOGR	Jonna Grundström

	Issuer[1]
T	GC-ICP-QMS
U	GC-ICP-QMS
V	Våtkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in ”Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.
Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

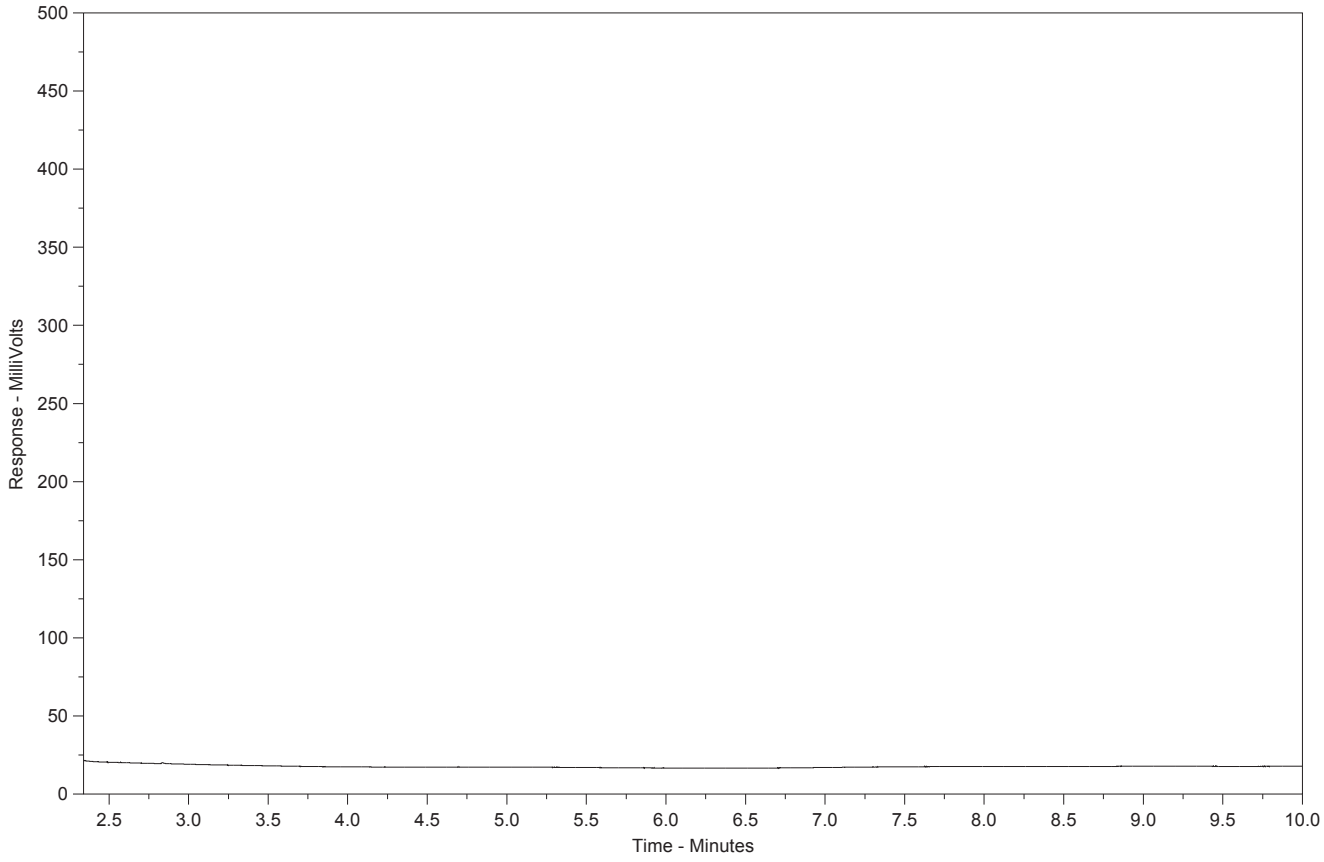
The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

[1] The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

Hydrocarbon Distribution Report

ALS Sample ID: L1906730-2
Client Sample ID: SDS-2



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Motor Oils / Lube Oils / Grease →	
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

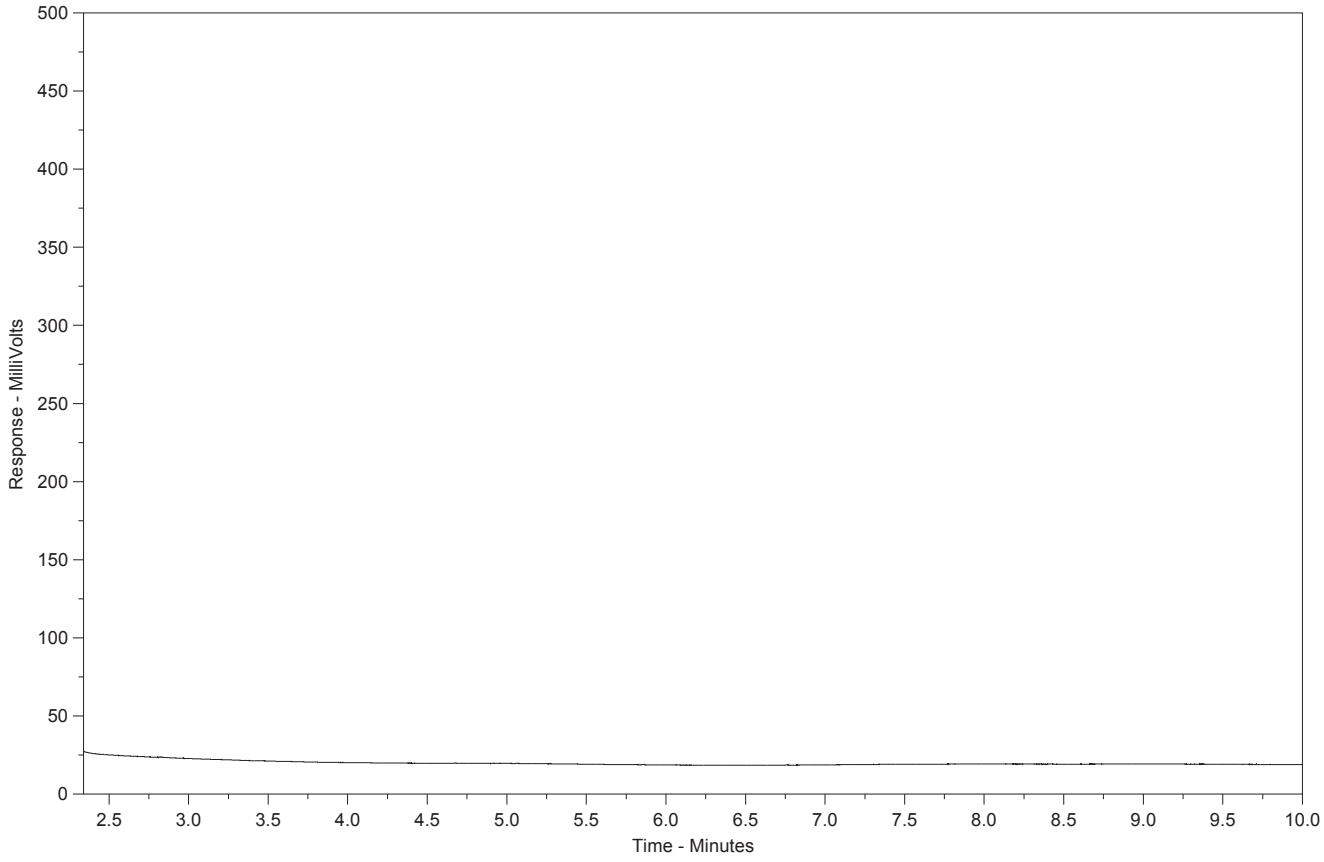
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report

ALS Sample ID: L1906730-6
Client Sample ID: SDS-6



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Motor Oils / Lube Oils / Grease →	
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

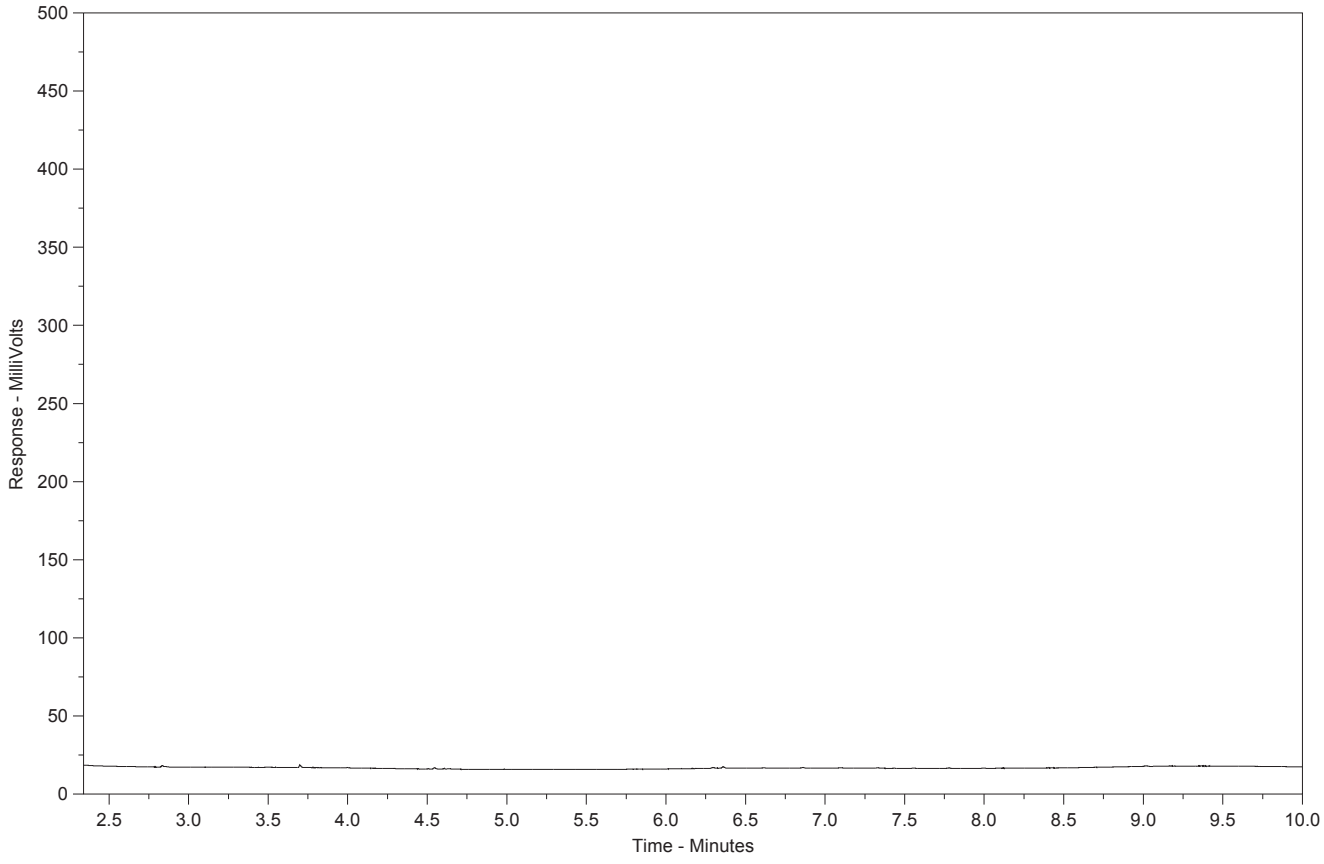
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report

ALS Sample ID: L1906730-9
Client Sample ID: DUP-1



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Motor Oils / Lube Oils / Grease →	
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1906730-COFC

COC Number: 15 - 587507

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	Golder Associates LTD
Contact:	Peddy McManus, Elaine Irving
Phone:	604-296-4200
Company address below will appear on the final report	
Street:	2920 Virtual Way Unit 200
City/Province:	Vancouver BC
Postal Code:	V5M 4X3
Invoice To	Same as Report To: YES
	Copy of Invoice with Report: YES
Company:	
Contact:	

Report Format / Distribution

Select Report Format: PDF, EXCEL, EDD (DIGITAL)
Quality Control (QC) Report with Report: YES
Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: EMAIL
Email 1 or Fax: peddy_mcmanus@golder.com
Email 2: elaine_irving@golder.com
Email 3

Invoice Distribution

Select Invoice Distribution: EMAIL
Email 1 or Fax: same as report
Email 2

Project Information

ALS Account # / Quote #: Q60179
Job #: 1525010/3800/3400.4
PO / AFE:
LSD:
ALS Lab Work Order # (lab use only):

[redacted] Oil and Gas Required Fields (client use) [redacted]

AFE/Cost Center: | PO#
Major/Minor Code: | Routing Code:
Requisitioner:
Location:
ALS Contact: A. Spriyor | Sampler: PM/ AGG

Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply

Regular [R]: Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4]; 3 day [P3]; 2 day [P2]
EMERGENCY: 1 Business day [E1]; Same Day, Weekend or Statutory holiday [E0]

[redacted] Date and Time Required for all E&P TATs: [redacted]

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Grain size	TOC	Moisture	PAHs	LEPH, HEPH, PAHs	Bacteriology	Metals	AVS/SEM	Salinity	Tot. Ext. Pet. Hyd.	Poly chlorinated phenols			Number of Containers (B = Bag, J = Jar)
	SDS-1	28-Mar-17	14:00	Sediment	X	X	X	X			X		X					4J 1B
	SDS-2								X					X	X			
	SDS-3							X										
	SDS-4																	
	SDS-5																	
	SDS-6								X					X	X			
	SDS-7																	
	DF-3									X		X						5J OB
	DUP-1								X				X					4J 1B
	DUP-2							X		X		X						4J OB

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? YES NO
Are samples for human drinking water use? YES NO

Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)

Samples for bacteriology: AVS/SEM are specifically marked on the jars for DF-3 / DUP-2, please use those jars. Please use granulometry g.s. if enough sample. Please see email on priority of PAHs.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen | SIF Observations: Yes | No
Ice Packs | Ice Cubes | Custody seal intact: Yes | No
Cooling Initiated

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			4°C		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date: 29-Mar-17	Time:	Received by:	Date:	Time:	Received by: DJ	Date: Mar 29/17	Time: 15:35

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2016 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

GOLDER ASSOCIATES LTD.
ATTN: Paddy McManus
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 30-MAR-17
Report Date: 12-IUN-17 13:27 (MT)
Version: FINAL REV. 2

Client Phone: 604-298-6623

Certificate of Analysis

Lab Work Order #: L1907291

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3400/3400.4
C of C Numbers: 15-587506
Legal Site Desc:

Comments:

12-JUN-2017 Additional Metals data is included.

Amber Springer, B.Sc
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1907291-1 Sediment 30-MAR-17 10:00 SDS-8	L1907291-2 Sediment 30-MAR-17 10:00 SDS-9	L1907291-3 Sediment 30-MAR-17 10:00 SDS-10	L1907291-4 Sediment 30-MAR-17 10:00 SDS-11	L1907291-5 Sediment 30-MAR-17 10:00 SDS-12
SOIL						
Physical Tests	Moisture (%)	19.8	19.3	15.9	20.0	21.1
	pH (1:2 soil:water) (pH)	7.53	7.62	7.48	7.57	7.56
Particle Size	% Gravel (>2mm) (%)	<1.0	<1.0	1.5	<1.0	<1.0
	% Sand (2.0mm - 0.063mm) (%)	99.5	99.2	98.4	98.9	99.2
	% Silt (0.063mm - 4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	% Clay (<4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	Texture	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.099	<0.050	0.063	0.059	0.051
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	1.79	1.32	1.42	1.34	1.40
	% Saturation (%)	23.7	23.0	23.5	24.6	24.3
	Sodium (Na) (mg/kg)	3.6	2.7	3.5	4.2	3.8
Metals	Aluminum (Al) (mg/kg)	8050	8360	7920	8060	8610
	Antimony (Sb) (mg/kg)	0.16	0.16	0.16	0.16	0.18
	Arsenic (As) (mg/kg)	3.16	3.02	2.96	3.17	3.18
	Barium (Ba) (mg/kg)	41.5	40.3	35.8	42.8	49.2
	Beryllium (Be) (mg/kg)	0.16	0.17	0.16	0.17	0.18
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.093	0.112	0.112	0.104	0.103
	Calcium (Ca) (mg/kg)	3920	4520	3680	4140	4610
	Chromium (Cr) (mg/kg)	14.5	17.8	18.0	14.4	19.7
	Cobalt (Co) (mg/kg)	6.14	6.59	6.72	6.19	6.73
	Copper (Cu) (mg/kg)	11.2	11.6	12.5	12.3	11.7
	Iron (Fe) (mg/kg)	15300	15900	16200	15500	16300
	Lead (Pb) (mg/kg)	1.87	1.88	1.94	1.87	1.95
	Lithium (Li) (mg/kg)	8.0	8.0	7.9	7.8	8.0
	Magnesium (Mg) (mg/kg)	5030	5530	5510	5450	5970
	Manganese (Mn) (mg/kg)	374	382	380	380	390
	Mercury (Hg) (mg/kg)	0.0178	0.0197	0.0168	0.0142	0.0186
	Molybdenum (Mo) (mg/kg)	0.24	0.25	0.27	0.28	0.30
	Nickel (Ni) (mg/kg)	21.3	23.0	23.8	22.4	26.0
	Phosphorus (P) (mg/kg)	355	461	440	386	417
	Potassium (K) (mg/kg)	370	390	340	390	430
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Strontium (Sr) (mg/kg)	17.7	18.4	18.2	21.0	23.1

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1907291-6	L1907291-7	L1907291-8	L1907291-9	L1907291-10
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17
Sampled Time	10:00	10:00	10:00	10:00	10:00
Client ID	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
Grouping / **Analyte**					
SOIL					
Physical Tests Moisture (%)	19.0	19.4	20.5	18.6	19.9
pH (1:2 soil:water) (pH)	7.49	7.39	7.86	7.57	7.38
Particle Size % Gravel (>2mm) (%)	<1.0	<1.0	1.6	<1.0	<1.0
% Sand (2.0mm - 0.063mm) (%)	99.5	98.9	98.1	99.7	99.7
% Silt (0.063mm - 4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
% Clay (<4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
Texture	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon Total Organic Carbon (%)	0.055	0.058	0.071	0.116	<0.050
Saturated Paste Extractables Chloride (Cl) (mg/kg)	1.20	1.20	23.3	1.32	1.57
% Saturation (%)	24.8	25.7	25.2	24.8	24.3
Sodium (Na) (mg/kg)	3.0	2.9	19.0	3.7	3.1
Metals Aluminum (Al) (mg/kg)	9060	9510	8630	8700	8900
Antimony (Sb) (mg/kg)	0.19	0.18	0.17	0.17	0.18
Arsenic (As) (mg/kg)	3.24	3.43	3.31	3.33	3.12
Barium (Ba) (mg/kg)	46.3	47.5	38.3	62.6	49.1
Beryllium (Be) (mg/kg)	0.18	0.18	0.18	0.18	0.18
Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd) (mg/kg)	0.107	0.103	0.101	0.107	0.097
Calcium (Ca) (mg/kg)	5270	5020	4620	4640	5120
Chromium (Cr) (mg/kg)	25.5	19.3	20.6	21.5	22.5
Cobalt (Co) (mg/kg)	6.81	7.26	6.81	6.80	7.10
Copper (Cu) (mg/kg)	12.4	12.4	11.8	12.4	13.1
Iron (Fe) (mg/kg)	16500	17400	16200	16500	16900
Lead (Pb) (mg/kg)	1.89	2.01	2.04	2.06	1.96
Lithium (Li) (mg/kg)	7.9	8.6	8.2	8.1	7.4
Magnesium (Mg) (mg/kg)	6270	6210	5940	6210	6170
Manganese (Mn) (mg/kg)	403	409	378	388	379
Mercury (Hg) (mg/kg)	0.0197	0.0156	0.0164	0.0160	0.0231
Molybdenum (Mo) (mg/kg)	0.31	0.32	0.30	0.31	0.28
Nickel (Ni) (mg/kg)	27.3	25.7	26.3	26.9	27.2
Phosphorus (P) (mg/kg)	400	406	390	396	375
Potassium (K) (mg/kg)	460	510	460	430	390
Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
Strontium (Sr) (mg/kg)	22.3	21.6	20.3	20.7	21.7

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1907291-11				
	Description	Sediment				
	Sampled Date	30-MAR-17				
	Sampled Time	10:00				
	Client ID	DUP-3				
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	20.9				
	pH (1:2 soil:water) (pH)	7.50				
Particle Size	% Gravel (>2mm) (%)	1.4				
	% Sand (2.0mm - 0.063mm) (%)	98.3				
	% Silt (0.063mm - 4um) (%)	<1.0				
	% Clay (<4um) (%)	<1.0				
	Texture	Sand				
Organic / Inorganic Carbon	Total Organic Carbon (%)	<0.050				
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	1.78				
	% Saturation (%)	24.9				
	Sodium (Na) (mg/kg)	4.4				
Metals	Aluminum (Al) (mg/kg)	8530				
	Antimony (Sb) (mg/kg)	0.38				
	Arsenic (As) (mg/kg)	3.55				
	Barium (Ba) (mg/kg)	40.2				
	Beryllium (Be) (mg/kg)	0.17				
	Bismuth (Bi) (mg/kg)	<0.20				
	Boron (B) (mg/kg)	<5.0				
	Cadmium (Cd) (mg/kg)	0.109				
	Calcium (Ca) (mg/kg)	4290				
	Chromium (Cr) (mg/kg)	18.3				
	Cobalt (Co) (mg/kg)	6.89				
	Copper (Cu) (mg/kg)	12.4				
	Iron (Fe) (mg/kg)	16500				
	Lead (Pb) (mg/kg)	2.10				
	Lithium (Li) (mg/kg)	8.1				
	Magnesium (Mg) (mg/kg)	5810				
	Manganese (Mn) (mg/kg)	394				
	Mercury (Hg) (mg/kg)	0.0143				
	Molybdenum (Mo) (mg/kg)	0.45				
	Nickel (Ni) (mg/kg)	24.7				
	Phosphorus (P) (mg/kg)	392				
	Potassium (K) (mg/kg)	400				
	Selenium (Se) (mg/kg)	<0.20				
	Silver (Ag) (mg/kg)	<0.10				
	Strontium (Sr) (mg/kg)	19.2				

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1907291-1	L1907291-2	L1907291-3	L1907291-4	L1907291-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17
Sampled Time	10:00	10:00	10:00	10:00	10:00
Client ID	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12
Grouping / **Analyte**					
SOIL					
Metals Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium (Ti) (mg/kg)	562	617	546	640	758
Uranium (U) (mg/kg)	0.207	0.207	0.228	0.255	0.254
Vanadium (V) (mg/kg)	36.1	38.0	36.7	35.5	38.9
Zinc (Zn) (mg/kg)	32.3	34.3	34.2	32.9	34.3
Zirconium (Zr) (mg/kg)	3.8	3.9	3.7	4.2	4.5
Organometallics Dibutyltin (ug/kg)		<1	<1		
Dioctyltin (ug/kg)		<1	<1		
Diphenyltin (ug/kg)		<1	<1		
Monobutyltin (ug/kg)		<1	<1		
Monooctyltin (ug/kg)		<1	<1		
Monophenyltin (ug/kg)		<1	<1		
Tetrabutyltin (ug/kg)		<1	<1		
Tributyltin (ug/kg)		<1	<1		
Tricyclohexyltin (ug/kg)		<1	<1		
Triphenyltin (ug/kg)		<1	<1		
Hydrocarbons EPH10-19 (mg/kg)		<200	<200		
EPH19-32 (mg/kg)		<200	<200		
LEPH (mg/kg)		<200	<200		
HEPH (mg/kg)		<200	<200		
Polycyclic Aromatic Hydrocarbons Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene (mg/kg)	0.0076	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene (mg/kg)	0.0059	<0.0040	<0.0040	<0.0040	<0.0040
Benz(a)anthracene (mg/kg)	0.034	0.018	<0.010	<0.010	<0.010
Benzo(a)pyrene (mg/kg)	0.031	0.019	<0.010	<0.010	<0.010
Benzo(b)fluoranthene (mg/kg)	0.043	0.022	<0.010	<0.010	<0.010
Benzo(b+j+k)fluoranthene (mg/kg)	0.062	0.036	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene (mg/kg)	0.013	0.013	<0.010	<0.010	<0.010
Benzo(k)fluoranthene (mg/kg)	0.019	0.013	<0.010	<0.010	<0.010
Chrysene (mg/kg)	0.044	0.022	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene (mg/kg)	0.023	0.018	<0.010	<0.010	<0.010
Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene (mg/kg)	0.015	0.013	<0.010	<0.010	<0.010
2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1907291-6	L1907291-7	L1907291-8	L1907291-9	L1907291-10
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17
Sampled Time	10:00	10:00	10:00	10:00	10:00
Client ID	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
Grouping / **Analyte**					
SOIL					
Metals Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
Titanium (Ti) (mg/kg)	834	849	770	745	770
Uranium (U) (mg/kg)	0.240	0.276	0.255	0.248	0.226
Vanadium (V) (mg/kg)	40.8	43.0	39.6	39.7	41.1
Zinc (Zn) (mg/kg)	33.4	35.8	33.7	34.4	35.7
Zirconium (Zr) (mg/kg)	4.9	5.2	4.5	4.5	4.9
Organometallics Dibutyltin (ug/kg)					
Dioctyltin (ug/kg)					
Diphenyltin (ug/kg)					
Monobutyltin (ug/kg)					
Monooctyltin (ug/kg)					
Monophenyltin (ug/kg)					
Tetrabutyltin (ug/kg)					
Tributyltin (ug/kg)					
Tricyclohexyltin (ug/kg)					
Triphenyltin (ug/kg)					
Hydrocarbons EPH10-19 (mg/kg)					
EPH19-32 (mg/kg)					
LEPH (mg/kg)					
HEPH (mg/kg)					
Polycyclic Aromatic Hydrocarbons Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene (mg/kg)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	<0.015	<0.015	<0.015
Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Chrysene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1907291-11				
	Description	Sediment				
	Sampled Date	30-MAR-17				
	Sampled Time	10:00				
	Client ID	DUP-3				
Grouping	**Analyte**					
SOIL						
Metals	Thallium (Tl) (mg/kg)	<0.050				
	Tin (Sn) (mg/kg)	<2.0				
	Titanium (Ti) (mg/kg)	704				
	Uranium (U) (mg/kg)	0.212				
	Vanadium (V) (mg/kg)	38.8				
	Zinc (Zn) (mg/kg)	35.6				
	Zirconium (Zr) (mg/kg)	4.5				
Organometallics	Dibutyltin (ug/kg)					
	Dioctyltin (ug/kg)					
	Diphenyltin (ug/kg)					
	Monobutyltin (ug/kg)					
	Monooctyltin (ug/kg)					
	Monophenyltin (ug/kg)					
	Tetrabutyltin (ug/kg)					
	Tributyltin (ug/kg)					
	Tricyclohexyltin (ug/kg)					
	Triphenyltin (ug/kg)					
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					
	HEPH (mg/kg)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050				
	Acenaphthylene (mg/kg)	<0.0050				
	Anthracene (mg/kg)	<0.0040				
	Benz(a)anthracene (mg/kg)	<0.010				
	Benzo(a)pyrene (mg/kg)	<0.010				
	Benzo(b)fluoranthene (mg/kg)	<0.010				
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015				
	Benzo(g,h,i)perylene (mg/kg)	<0.010				
	Benzo(k)fluoranthene (mg/kg)	<0.010				
	Chrysene (mg/kg)	<0.010				
	Dibenz(a,h)anthracene (mg/kg)	<0.0050				
	Fluoranthene (mg/kg)	<0.010				
	Fluorene (mg/kg)	<0.010				
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010				
	2-Methylnaphthalene (mg/kg)	<0.010				

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1907291-1	L1907291-2	L1907291-3	L1907291-4	L1907291-5
Description	Sediment	Sediment	Sediment	Sediment	Sediment
Sampled Date	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17	30-MAR-17
Sampled Time	10:00	10:00	10:00	10:00	10:00
Client ID	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12
Grouping / **Analyte**					
SOIL					
Polycyclic Aromatic Hydrocarbons — Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Pyrene (mg/kg)	0.028	0.020	<0.010	<0.010	<0.010
Surrogate: Acenaphthene d10 (%)	89.9	86.7	81.3	88.5	79.2
Surrogate: Chrysene d12 (%)	97.8	94.7	85.2	93.6	85.8
Surrogate: Naphthalene d8 (%)	88.1	85.1	80.4	87.9	78.6
Surrogate: Phenanthrene d10 (%)	90.1	87.6	80.9	87.2	78.6
B(a)P Total Potency Equivalent (mg/kg)	0.045	0.028	<0.020	<0.020	<0.020
IACR (CCME) (mg/kg)	0.61	0.36	<0.15	<0.15	<0.15
Phenolics — 4-Chloro-3-methylphenol (mg/kg)		<0.020	<0.020		
2-Chlorophenol (mg/kg)		<0.020	<0.020		
3-Chlorophenol (mg/kg)		<0.020	<0.020		
4-Chlorophenol (mg/kg)		<0.020	<0.020		
2,3-Dichlorophenol (mg/kg)		<0.020	<0.020		
2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020	<0.020		
2,6-Dichlorophenol (mg/kg)		<0.020	<0.020		
3,4-Dichlorophenol (mg/kg)		<0.020	<0.020		
3,5-Dichlorophenol (mg/kg)		<0.020	<0.020		
Pentachlorophenol (mg/kg)		<0.020	<0.020		
2,3,4,5-Tetrachlorophenol (mg/kg)		<0.020	<0.020		
2,3,4,6-Tetrachlorophenol (mg/kg)		<0.020	<0.020		
2,3,5,6-Tetrachlorophenol (mg/kg)		<0.020	<0.020		
2,3,4-Trichlorophenol (mg/kg)		<0.020	<0.020		
2,3,5-Trichlorophenol (mg/kg)		<0.020	<0.020		
2,3,6-Trichlorophenol (mg/kg)		<0.020	<0.020		
2,4,5-Trichlorophenol (mg/kg)		<0.020	<0.020		
2,4,6-Trichlorophenol (mg/kg)		<0.020	<0.020		
3,4,5-Trichlorophenol (mg/kg)		<0.020	<0.020		

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1907291-6 Sediment 30-MAR-17 10:00 SDS-13	L1907291-7 Sediment 30-MAR-17 10:00 SDS-14	L1907291-8 Sediment 30-MAR-17 10:00 SDS-15	L1907291-9 Sediment 30-MAR-17 10:00 SDS-16	L1907291-10 Sediment 30-MAR-17 10:00 SDS-17
SOIL						
Polycyclic Aromatic Hydrocarbons	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)	82.3	83.5	87.0	83.9	87.2
	Surrogate: Chrysene d12 (%)	86.7	88.8	93.4	87.0	88.7
	Surrogate: Naphthalene d8 (%)	81.0	82.4	83.7	83.2	88.6
	Surrogate: Phenanthrene d10 (%)	81.1	84.1	86.2	84.1	85.3
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	IACR (CCME) (mg/kg)	<0.15	<0.15	<0.15	<0.15	<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1907291-11				
	Description	Sediment				
	Sampled Date	30-MAR-17				
	Sampled Time	10:00				
	Client ID	DUP-3				
Grouping	**Analyte**					
SOIL						
Polycyclic Aromatic Hydrocarbons	Naphthalene (mg/kg)	<0.010				
	Phenanthrene (mg/kg)	<0.010				
	Pyrene (mg/kg)	<0.010				
	Surrogate: Acenaphthene d10 (%)	86.1				
	Surrogate: Chrysene d12 (%)	82.6				
	Surrogate: Naphthalene d8 (%)	84.5				
	Surrogate: Phenanthrene d10 (%)	82.2				
	B(a)P Total Potency Equivalent (mg/kg)	<0.020				
	IACR (CCME) (mg/kg)	<0.15				
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					
	2,3-Dichlorophenol (mg/kg)					
	2,4 & 2,5-Dichlorophenol (mg/kg)					
	2,6-Dichlorophenol (mg/kg)					
	3,4-Dichlorophenol (mg/kg)					
	3,5-Dichlorophenol (mg/kg)					
	Pentachlorophenol (mg/kg)					
	2,3,4,5-Tetrachlorophenol (mg/kg)					
	2,3,4,6-Tetrachlorophenol (mg/kg)					
	2,3,5,6-Tetrachlorophenol (mg/kg)					
	2,3,4-Trichlorophenol (mg/kg)					
	2,3,5-Trichlorophenol (mg/kg)					
	2,3,6-Trichlorophenol (mg/kg)					
	2,4,5-Trichlorophenol (mg/kg)					
	2,4,6-Trichlorophenol (mg/kg)					
	3,4,5-Trichlorophenol (mg/kg)					

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217

A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.

C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2

Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)

C-TOT-LECO-SK	Soil	Total Carbon by combustion method	CSSS (2008) 21.2

The sample is ignited in a combustion analyzer where carbon in the reduced CO2 gas is determined using a thermal conductivity detector.

CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.

CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID

Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO3 Equivalent	Calculation
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)

Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated
by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene
are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

This method uses a heated strong acid digestion with HNO3 and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.

MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.

MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

ORGANOTINS-FULL-LE	Soil	Organotins full standard	GC-ICPMS according to SS-EN 23161 (mod).

The analysis is carried out by GC-ICPMS according to SS-EN 23161 (mod).

PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B

Reference Information

Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60□C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-TMB-MS-VA Soil Phenolics by Tumbler/GC-MS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PSA-PIPET+GRAVEL-SK Soil Particle size - Sieve and Pipette SSIR-51 METHOD 3.2.1

Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
LE	ALS ENVIRONMENTAL - LULE¯, SWEDEN

Chain of Custody Numbers:

15-587506

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: GOLDER ASSOCIATES LTD.
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4
Contact: Paddy McManus

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
C-TIC-PCT-SK	**Soil**							
Batch R3695225								
WG2503807-1 DUP		**L1907291-1**						
Inorganic Carbon		0.051	0.051		%	0.8	20	07-APR-17
WG2503807-2 LCS								
Inorganic Carbon			93.2		%		80-120	07-APR-17
WG2503807-3 MB								
Inorganic Carbon			<0.050		%		0.05	07-APR-17
C-TOT-LECO-SK	**Soil**							
Batch R3694992								
WG2504555-1 DUP		**L1907291-7**						
Total Carbon by Combustion		0.13	0.19	J	%	0.07	0.1	06-APR-17
WG2504555-2 IRM		**08-109 SOIL**						
Total Carbon by Combustion			105.2		%		80-120	06-APR-17
WG2504555-3 MB								
Total Carbon by Combustion			<0.05		%		0.05	06-APR-17
CL-PASTE-IC-VA	**Soil**							
Batch R3696331								
WG2506067-4 DUP		**L1907291-1**						
Chloride (Cl)		1.79	1.58		mg/kg	13	30	08-APR-17
WG2506067-2 LCS								
Chloride (Cl)			98.3		%		70-130	08-APR-17
WG2506067-1 MB								
Chloride (Cl)			<1.0		mg/kg		1	08-APR-17
CLPHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-3 CRM		**CRM 143**						
2,4,5-Trichlorophenol			114.3		%		60-130	05-APR-17
2,4,6-Trichlorophenol			114.1		%		60-130	05-APR-17
Pentachlorophenol			121.6		%		60-130	05-APR-17
WG2502917-2 LCS								
2,3,4,5-Tetrachlorophenol			92.3		%		60-130	05-APR-17
2,3,4,6-Tetrachlorophenol			94.5		%		60-130	05-APR-17
2,3,4-Trichlorophenol			93.2		%		60-130	05-APR-17
2,3,5,6-Tetrachlorophenol			89.3		%		60-130	05-APR-17
2,3,5-Trichlorophenol			92.0		%		60-130	05-APR-17
2,3,6-Trichlorophenol			91.5		%		60-130	05-APR-17
2,4,5-Trichlorophenol			91.8		%		60-130	05-APR-17
2,4,6-Trichlorophenol			91.7		%		60-130	05-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-2 LCS								
3,4,5-Trichlorophenol			95.3		%		60-130	05-APR-17
Pentachlorophenol			93.1		%		60-130	05-APR-17
WG2502917-1 MB								
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
Pentachlorophenol			<0.020		mg/kg		0.02	05-APR-17
EPH-TUMB-FID-VA	**Soil**							
Batch R3694875								
WG2505653-3 IRM		**ALS PHC2 RM**						
EPH10-19			84.1		%		70-130	06-APR-17
EPH19-32			98.8		%		70-130	06-APR-17
WG2505653-1 MB								
EPH10-19			<200		mg/kg		200	06-APR-17
EPH19-32			<200		mg/kg		200	06-APR-17
HG-200.2-CVAF-VA	**Soil**							
Batch R3694635								
WG2505656-4 CRM		**VA-NRC-STSD-3**						
Mercury (Hg)			89.3		%		70-130	06-APR-17
WG2505656-2 DUP		**L1907291-1**						
Mercury (Hg)		0.0178	0.0144		mg/kg	21	40	06-APR-17
WG2505656-3 LCS								
Mercury (Hg)			103.3		%		70-130	06-APR-17
WG2505656-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	06-APR-17
Batch R3695250								
WG2505665-4 CRM		**VA-NRC-STSD-3**						
Mercury (Hg)			86.5		%		70-130	07-APR-17
WG2505665-3 LCS								
Mercury (Hg)			100.8		%		70-130	07-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA	**Soil**							
Batch R3695250								
WG2505665-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	07-APR-17
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505656-4 CRM		**VA-NRC-STSD-3**						
Aluminum (Al)			97.6		%		70-130	06-APR-17
Antimony (Sb)			109.4		%		70-130	06-APR-17
Arsenic (As)			89.9		%		70-130	06-APR-17
Barium (Ba)			99.7		%		70-130	06-APR-17
Beryllium (Be)			101.7		%		70-130	06-APR-17
Bismuth (Bi)			101.6		%		70-130	06-APR-17
Boron (B)			102.1		%		70-130	06-APR-17
Cadmium (Cd)			112.9		%		70-130	06-APR-17
Calcium (Ca)			99.5		%		70-130	06-APR-17
Chromium (Cr)			97.5		%		70-130	06-APR-17
Cobalt (Co)			94.9		%		70-130	06-APR-17
Copper (Cu)			92.3		%		70-130	06-APR-17
Iron (Fe)			92.8		%		70-130	06-APR-17
Lead (Pb)			102.7		%		70-130	06-APR-17
Lithium (Li)			96.8		%		70-130	06-APR-17
Magnesium (Mg)			99.1		%		70-130	06-APR-17
Manganese (Mn)			85.4		%		70-130	06-APR-17
Molybdenum (Mo)			102.9		%		70-130	06-APR-17
Nickel (Ni)			89.9		%		70-130	06-APR-17
Phosphorus (P)			100.0		%		70-130	06-APR-17
Potassium (K)			97.4		%		70-130	06-APR-17
Selenium (Se)			97.3		%		70-130	06-APR-17
Silver (Ag)			98.8		%		70-130	06-APR-17
Strontium (Sr)			104.3		%		70-130	06-APR-17
Thallium (Tl)			107.0		%		70-130	06-APR-17
Titanium (Ti)			107.5		%		70-130	06-APR-17
Uranium (U)			104.1		%		70-130	06-APR-17
Vanadium (V)			98.3		%		70-130	06-APR-17
Zinc (Zn)			91.0		%		70-130	06-APR-17
WG2505665-4 CRM		**VA-NRC-STSD-3**						

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505665-4 CRM		**VA-NRC-STSD-3**						
Aluminum (Al)			95.7		%		70-130	06-APR-17
Antimony (Sb)			105.3		%		70-130	06-APR-17
Arsenic (As)			86.2		%		70-130	06-APR-17
Barium (Ba)			96.2		%		70-130	06-APR-17
Beryllium (Be)			101.4		%		70-130	06-APR-17
Bismuth (Bi)			102.1		%		70-130	06-APR-17
Boron (B)			100.2		%		70-130	06-APR-17
Cadmium (Cd)			110.1		%		70-130	06-APR-17
Calcium (Ca)			95.8		%		70-130	06-APR-17
Chromium (Cr)			94.4		%		70-130	06-APR-17
Cobalt (Co)			92.6		%		70-130	06-APR-17
Copper (Cu)			90.3		%		70-130	06-APR-17
Iron (Fe)			90.5		%		70-130	06-APR-17
Lead (Pb)			92.5		%		70-130	06-APR-17
Lithium (Li)			97.8		%		70-130	06-APR-17
Magnesium (Mg)			97.9		%		70-130	06-APR-17
Manganese (Mn)			85.3		%		70-130	06-APR-17
Molybdenum (Mo)			98.4		%		70-130	06-APR-17
Nickel (Ni)			88.3		%		70-130	06-APR-17
Phosphorus (P)			95.8		%		70-130	06-APR-17
Potassium (K)			97.8		%		70-130	06-APR-17
Selenium (Se)			98.2		%		70-130	06-APR-17
Silver (Ag)			94.7		%		70-130	06-APR-17
Strontium (Sr)			100.7		%		70-130	06-APR-17
Thallium (Tl)			98.7		%		70-130	06-APR-17
Titanium (Ti)			104.8		%		70-130	06-APR-17
Uranium (U)			100.1		%		70-130	06-APR-17
Vanadium (V)			96.8		%		70-130	06-APR-17
Zinc (Zn)			90.2		%		70-130	06-APR-17
WG2505656-2 DUP		**L1907291-1**						
Aluminum (Al)		8050	7610		mg/kg	5.7	40	06-APR-17
Antimony (Sb)		0.16	0.16		mg/kg	3.1	30	06-APR-17
Arsenic (As)		3.16	3.09		mg/kg	2.3	30	06-APR-17
Barium (Ba)		41.5	38.8		mg/kg	6.6	40	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505656-2 DUP		**L1907291-1**						
Beryllium (Be)		0.16	0.16		mg/kg	4.1	30	06-APR-17
Bismuth (Bi)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	06-APR-17
Boron (B)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	06-APR-17
Cadmium (Cd)		0.093	0.093		mg/kg	0.5	30	06-APR-17
Calcium (Ca)		3920	3670		mg/kg	6.4	30	06-APR-17
Chromium (Cr)		14.5	16.7		mg/kg	14	30	06-APR-17
Cobalt (Co)		6.14	6.04		mg/kg	1.6	30	06-APR-17
Copper (Cu)		11.2	10.6		mg/kg	5.4	30	06-APR-17
Iron (Fe)		15300	15100		mg/kg	1.5	30	06-APR-17
Lead (Pb)		1.87	1.84		mg/kg	1.6	40	06-APR-17
Lithium (Li)		8.0	7.3		mg/kg	8.8	30	06-APR-17
Magnesium (Mg)		5030	5400		mg/kg	7.0	30	06-APR-17
Manganese (Mn)		374	359		mg/kg	4.0	30	06-APR-17
Molybdenum (Mo)		0.24	0.29		mg/kg	20	40	06-APR-17
Nickel (Ni)		21.3	23.0		mg/kg	8.0	30	06-APR-17
Phosphorus (P)		355	371		mg/kg	4.3	30	06-APR-17
Potassium (K)		370	370		mg/kg	0.5	40	06-APR-17
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	06-APR-17
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	06-APR-17
Strontium (Sr)		17.7	16.1		mg/kg	9.2	40	06-APR-17
Thallium (Tl)		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	06-APR-17
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	06-APR-17
Titanium (Ti)		562	573		mg/kg	1.9	40	06-APR-17
Uranium (U)		0.207	0.199		mg/kg	4.1	30	06-APR-17
Vanadium (V)		36.1	33.7		mg/kg	7.0	30	06-APR-17
Zinc (Zn)		32.3	31.4		mg/kg	2.8	30	06-APR-17
Zirconium (Zr)		3.8	3.8		mg/kg	0.7	30	06-APR-17
WG2505656-3 LCS								
Aluminum (Al)			96.2		%		80-120	06-APR-17
Antimony (Sb)			100.8		%		80-120	06-APR-17
Arsenic (As)			101.6		%		80-120	06-APR-17
Barium (Ba)			103.5		%		80-120	06-APR-17
Beryllium (Be)			99.0		%		80-120	06-APR-17
Bismuth (Bi)			96.8		%		80-120	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505656-3 LCS								
Boron (B)			92.2		%		80-120	06-APR-17
Cadmium (Cd)			103.9		%		80-120	06-APR-17
Calcium (Ca)			96.9		%		80-120	06-APR-17
Chromium (Cr)			98.1		%		80-120	06-APR-17
Cobalt (Co)			97.5		%		80-120	06-APR-17
Copper (Cu)			98.0		%		80-120	06-APR-17
Iron (Fe)			94.9		%		80-120	06-APR-17
Lead (Pb)			98.8		%		80-120	06-APR-17
Lithium (Li)			95.2		%		80-120	06-APR-17
Magnesium (Mg)			96.0		%		80-120	06-APR-17
Manganese (Mn)			97.4		%		80-120	06-APR-17
Molybdenum (Mo)			99.2		%		80-120	06-APR-17
Nickel (Ni)			97.3		%		80-120	06-APR-17
Phosphorus (P)			100.4		%		80-120	06-APR-17
Potassium (K)			98.2		%		80-120	06-APR-17
Selenium (Se)			99.4		%		80-120	06-APR-17
Silver (Ag)			98.3		%		80-120	06-APR-17
Strontium (Sr)			107.6		%		80-120	06-APR-17
Thallium (Tl)			97.3		%		80-120	06-APR-17
Tin (Sn)			97.1		%		80-120	06-APR-17
Titanium (Ti)			95.6		%		80-120	06-APR-17
Uranium (U)			103.3		%		80-120	06-APR-17
Vanadium (V)			101.2		%		80-120	06-APR-17
Zinc (Zn)			92.6		%		80-120	06-APR-17
Zirconium (Zr)			95.9		%		70-130	06-APR-17
WG2505665-3 LCS								
Aluminum (Al)			97.8		%		80-120	06-APR-17
Antimony (Sb)			103.8		%		80-120	06-APR-17
Arsenic (As)			99.8		%		80-120	06-APR-17
Barium (Ba)			99.8		%		80-120	06-APR-17
Beryllium (Be)			102.0		%		80-120	06-APR-17
Bismuth (Bi)			95.1		%		80-120	06-APR-17
Boron (B)			95.9		%		80-120	06-APR-17
Cadmium (Cd)			100.9		%		80-120	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505665-3 LCS								
Calcium (Ca)			98.3		%		80-120	06-APR-17
Chromium (Cr)			95.8		%		80-120	06-APR-17
Cobalt (Co)			95.1		%		80-120	06-APR-17
Copper (Cu)			94.8		%		80-120	06-APR-17
Iron (Fe)			97.5		%		80-120	06-APR-17
Lead (Pb)			93.6		%		80-120	06-APR-17
Lithium (Li)			99.1		%		80-120	06-APR-17
Magnesium (Mg)			94.7		%		80-120	06-APR-17
Manganese (Mn)			96.9		%		80-120	06-APR-17
Molybdenum (Mo)			101.3		%		80-120	06-APR-17
Nickel (Ni)			95.3		%		80-120	06-APR-17
Phosphorus (P)			102.1		%		80-120	06-APR-17
Potassium (K)			97.0		%		80-120	06-APR-17
Selenium (Se)			98.1		%		80-120	06-APR-17
Silver (Ag)			98.3		%		80-120	06-APR-17
Strontium (Sr)			108.6		%		80-120	06-APR-17
Thallium (Tl)			96.0		%		80-120	06-APR-17
Tin (Sn)			100.2		%		80-120	06-APR-17
Titanium (Ti)			94.8		%		80-120	06-APR-17
Uranium (U)			100.1		%		80-120	06-APR-17
Vanadium (V)			98.4		%		80-120	06-APR-17
Zinc (Zn)			91.6		%		80-120	06-APR-17
Zirconium (Zr)			95.9		%		70-130	06-APR-17
WG2505656-1 MB								
Aluminum (Al)			<50		mg/kg		50	06-APR-17
Antimony (Sb)			<0.10		mg/kg		0.1	06-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	06-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	06-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	06-APR-17
Bismuth (Bi)			<0.20		mg/kg		0.2	06-APR-17
Boron (B)			<5.0		mg/kg		5	06-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	06-APR-17
Calcium (Ca)			<50		mg/kg		50	06-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505656-1 MB								
Cobalt (Co)			<0.10		mg/kg		0.1	06-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	06-APR-17
Iron (Fe)			<50		mg/kg		50	06-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	06-APR-17
Lithium (Li)			<2.0		mg/kg		2	06-APR-17
Magnesium (Mg)			<20		mg/kg		20	06-APR-17
Manganese (Mn)			<1.0		mg/kg		1	06-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	06-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	06-APR-17
Phosphorus (P)			<50		mg/kg		50	06-APR-17
Potassium (K)			<100		mg/kg		100	06-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	06-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	06-APR-17
Strontium (Sr)			<0.50		mg/kg		0.5	06-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	06-APR-17
Tin (Sn)			<2.0		mg/kg		2	06-APR-17
Titanium (Ti)			<1.0		mg/kg		1	06-APR-17
Uranium (U)			<0.050		mg/kg		0.05	06-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	06-APR-17
Zinc (Zn)			<2.0		mg/kg		2	06-APR-17
Zirconium (Zr)			<1.0		mg/kg		1	06-APR-17
WG2505665-1 MB								
Aluminum (Al)			<50		mg/kg		50	06-APR-17
Antimony (Sb)			<0.10		mg/kg		0.1	06-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	06-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	06-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	06-APR-17
Bismuth (Bi)			<0.20		mg/kg		0.2	06-APR-17
Boron (B)			<5.0		mg/kg		5	06-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	06-APR-17
Calcium (Ca)			<50		mg/kg		50	06-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	06-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	06-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	**Soil**							
Batch R3695364								
WG2505665-1 MB								
Iron (Fe)			<50		mg/kg		50	06-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	06-APR-17
Lithium (Li)			<2.0		mg/kg		2	06-APR-17
Magnesium (Mg)			<20		mg/kg		20	06-APR-17
Manganese (Mn)			<1.0		mg/kg		1	06-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	06-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	06-APR-17
Phosphorus (P)			<50		mg/kg		50	06-APR-17
Potassium (K)			<100		mg/kg		100	06-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	06-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	06-APR-17
Strontium (Sr)			<0.50		mg/kg		0.5	06-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	06-APR-17
Tin (Sn)			<2.0		mg/kg		2	06-APR-17
Titanium (Ti)			<1.0		mg/kg		1	06-APR-17
Uranium (U)			<0.050		mg/kg		0.05	06-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	06-APR-17
Zinc (Zn)			<2.0		mg/kg		2	06-APR-17
Zirconium (Zr)			<1.0		mg/kg		1	06-APR-17
MET-PASTE-ICP-VA	**Soil**							
Batch R3695129								
WG2506067-4 DUP		**L1907291-1**						
Sodium (Na)		3.6	3.6		mg/kg	2.3	30	06-APR-17
WG2506067-2 LCS								
Sodium (Na)			101.3		%		80-120	06-APR-17
WG2506067-1 MB								
Sodium (Na)			<0.50		mg/kg		0.5	06-APR-17
MOISTURE-VA	**Soil**							
Batch R3692608								
WG2505617-2 LCS								
Moisture			96.5		%		90-110	04-APR-17
WG2505617-6 LCS								
Moisture			97.2		%		90-110	04-APR-17
WG2505617-1 MB								
Moisture			<0.25		%		0.25	04-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA	**Soil**							
Batch R3692608								
WG2505617-5 MB								
Moisture			<0.25		%		0.25	04-APR-17
Batch R3692615								
WG2505654-3 DUP		**L1907291-3**						
Moisture		15.9	13.1		%	20	20	04-APR-17
WG2505654-4 DUP		**L1907291-10**						
Moisture		19.9	20.0		%	0.7	20	04-APR-17
WG2505654-2 LCS								
Moisture			97.4		%		90-110	04-APR-17
WG2505654-1 MB								
Moisture			<0.25		%		0.25	04-APR-17
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3692261								
WG2505666-2 LCS								
Acenaphthene			85.6		%		60-130	06-APR-17
Acenaphthylene			89.4		%		60-130	06-APR-17
Anthracene			63.5		%		60-130	06-APR-17
Benz(a)anthracene			89.9		%		60-130	06-APR-17
Benzo(a)pyrene			78.3		%		60-130	06-APR-17
Benzo(b)fluoranthene			92.3		%		60-130	06-APR-17
Benzo(g,h,i)perylene			68.8		%		60-130	06-APR-17
Benzo(k)fluoranthene			103.4		%		60-130	06-APR-17
Chrysene			96.0		%		60-130	06-APR-17
Dibenz(a,h)anthracene			76.0		%		60-130	06-APR-17
Fluoranthene			95.3		%		60-130	06-APR-17
Fluorene			91.8		%		60-130	06-APR-17
Indeno(1,2,3-c,d)pyrene			72.6		%		60-130	06-APR-17
2-Methylnaphthalene			90.8		%		60-130	06-APR-17
Naphthalene			97.3		%		50-130	06-APR-17
Phenanthrene			91.3		%		60-130	06-APR-17
Pyrene			92.1		%		60-130	06-APR-17
WG2505666-1 MB								
Acenaphthene			<0.0050		mg/kg		0.005	06-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	06-APR-17
Anthracene			<0.0040		mg/kg		0.004	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3692261								
WG2505666-1 MB								
Benz(a)anthracene			<0.010		mg/kg		0.01	06-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	06-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	06-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Chrysene			<0.010		mg/kg		0.01	06-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	06-APR-17
Fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Fluorene			<0.010		mg/kg		0.01	06-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	06-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	06-APR-17
Naphthalene			<0.010		mg/kg		0.01	06-APR-17
Phenanthrene			<0.010		mg/kg		0.01	06-APR-17
Pyrene			<0.010		mg/kg		0.01	06-APR-17
Surrogate: Naphthalene d8			73.6		%		50-130	06-APR-17
Surrogate: Acenaphthene d10			74.5		%		60-130	06-APR-17
Surrogate: Phenanthrene d10			73.0		%		60-130	06-APR-17
Surrogate: Chrysene d12			72.3		%		60-130	06-APR-17
Batch R3693656								
WG2505653-2 LCS								
Acenaphthene			83.2		%		60-130	06-APR-17
Acenaphthylene			90.2		%		60-130	06-APR-17
Anthracene			64.1		%		60-130	06-APR-17
Benz(a)anthracene			95.8		%		60-130	06-APR-17
Benzo(a)pyrene			96.6		%		60-130	06-APR-17
Benzo(b)fluoranthene			90.2		%		60-130	06-APR-17
Benzo(g,h,i)perylene			82.8		%		60-130	06-APR-17
Benzo(k)fluoranthene			99.4		%		60-130	06-APR-17
Chrysene			100.6		%		60-130	06-APR-17
Dibenz(a,h)anthracene			86.4		%		60-130	06-APR-17
Fluoranthene			101.4		%		60-130	06-APR-17
Fluorene			90.9		%		60-130	06-APR-17
Indeno(1,2,3-c,d)pyrene			86.8		%		60-130	06-APR-17
2-Methylnaphthalene			88.0		%		60-130	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA	**Soil**							
Batch R3693656								
WG2505653-2 LCS								
Naphthalene			91.9		%		50-130	06-APR-17
Phenanthrene			92.3		%		60-130	06-APR-17
Pyrene			101.0		%		60-130	06-APR-17
WG2505653-1 MB								
Acenaphthene			<0.0050		mg/kg		0.005	06-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	06-APR-17
Anthracene			<0.0040		mg/kg		0.004	06-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	06-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	06-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	06-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Chrysene			<0.010		mg/kg		0.01	06-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	06-APR-17
Fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Fluorene			<0.010		mg/kg		0.01	06-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	06-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	06-APR-17
Naphthalene			<0.010		mg/kg		0.01	06-APR-17
Phenanthrene			<0.010		mg/kg		0.01	06-APR-17
Pyrene			<0.010		mg/kg		0.01	06-APR-17
Surrogate: Naphthalene d8			70.8		%		50-130	06-APR-17
Surrogate: Acenaphthene d10			71.5		%		60-130	06-APR-17
Surrogate: Phenanthrene d10			71.2		%		60-130	06-APR-17
Surrogate: Chrysene d12			85.0		%		60-130	06-APR-17
PH-1:2-VA	**Soil**							
Batch R3692986								
WG2505656-2 DUP		**L1907291-1**						
pH (1:2 soil:water)		7.53	7.56	J	pH	0.03	0.2	05-APR-17
WG2505656-5 IRM		**VA-ALP-SRS1507**						
pH (1:2 soil:water)			6.44		pH		6.2-6.8	05-APR-17
Batch R3694285								
WG2505665-5 IRM		**VA-ALP-SRS1507**						
pH (1:2 soil:water)			6.48		pH		6.2-6.8	06-APR-17

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA	**Soil**							
Batch R3692694								
WG2502917-3 CRM		**CRM 143**						
4-Chloro-3-methylphenol			110.1		%		60-130	05-APR-17
2-Chlorophenol			111.7		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			119.1		%		60-130	05-APR-17
WG2502917-2 LCS								
4-Chloro-3-methylphenol			92.4		%		60-130	05-APR-17
2-Chlorophenol			88.0		%		60-130	05-APR-17
3-Chlorophenol			89.1		%		60-130	05-APR-17
4-Chlorophenol			89.8		%		60-130	05-APR-17
2,3-Dichlorophenol			90.5		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			90.5		%		60-130	05-APR-17
2,6-Dichlorophenol			91.8		%		60-130	05-APR-17
3,4-Dichlorophenol			91.6		%		60-130	05-APR-17
3,5-Dichlorophenol			92.9		%		60-130	05-APR-17
WG2502917-1 MB								
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	05-APR-17
2-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
3-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
4-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,6-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
PSA-PIPET+GRAVEL-SK	**Soil**							
Batch R3694971								
WG2505423-1 DUP		**L1907291-6**						
% Gravel (>2mm)		<1.0	<1.0	RPD-NA	%	N/A	25	07-APR-17
% Sand (2.0mm - 0.063mm)		99.5	99.4	J	%	0.1	5	07-APR-17
% Silt (0.063mm - 4um)		<1.0	<1.0	RPD-NA	%	N/A	5	07-APR-17
% Clay (<4um)		<1.0	<1.0	RPD-NA	%	N/A	5	07-APR-17
WG2505423-2 IRM		**10-105**						
% Sand (2.0mm - 0.063mm)			37.3		%		30-40	07-APR-17
% Silt (0.063mm - 4um)			46.8		%		45-55	07-APR-17
% Clay (<4um)			15.9		%		10-20	07-APR-17
SAT-PCNT-VA	**Soil**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAT-PCNT-VA	**Soil**							
Batch R3694761								
WG2506067-4 DUP		**L1907291-1**						
% Saturation		23.7	23.8		%	N/A	20	06-APR-17
WG2506067-3 IRM		**VA-ALP-SRS1507**						
% Saturation			101.5		%		80-120	06-APR-17
WG2506067-1 MB								
% Saturation			50.0		%		50	06-APR-17

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Report

SWEDAC ACKREDITERING
Ackred. nr 2030
Provning
ISO/IEC 17025

L1708025

2IF2S4J4ECX

ALS

Date received **2017-04-03**
Issued **2017-04-10**

ALS Vancouver
Amber Springer
8081 Lougheed Highway
Burnaby
British Columbia V5A 1W9
Canada

Project **L1907291**

Analysis: OJ19A

Your ID	**L1907291-2** **SDS-9**					
LabID	U11307055					
Analysis	**Results**	**Uncertainty (±)**	**Unit**	**Method**	**Issuer**	**Sign**
TS 105°C	**80.8**	2%	%	1	V	JOGR
monobutyltin	**<1**		µg/kg DW	2	T	ELEN
dibutyltin	**<1**		µg/kg DW	2	T	ELEN
tributyltin	**<1**		µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**		µg/kg DW	2	T	ELEN
monooctyltin	**<1**		µg/kg DW	2	T	ELEN
dioctyltin	**<1**		µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**		µg/kg DW	2	T	ELEN
monophenyltin	**<1**		µg/kg DW	2	T	ELEN
diphenyltin	**<1**		µg/kg DW	2	T	ELEN
triphenyltin	**<1**		µg/kg DW	2	T	ELEN

Your ID	**L1907291-3** **SDS-10**					
LabID	U11307056					
Analysis	**Results**	**Uncertainty (±)**	**Unit**	**Method**	**Issuer**	**Sign**
TS 105°C	**85.4**	2%	%	1	V	JOGR
monobutyltin	**<1**		µg/kg DW	2	T	ELEN
dibutyltin	**<1**		µg/kg DW	2	T	ELEN
tributyltin	**<1**		µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**		µg/kg DW	2	T	ELEN
monooctyltin	**<1**		µg/kg DW	2	T	ELEN
dioctyltin	**<1**		µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**		µg/kg DW	2	T	ELEN
monophenyltin	**<1**		µg/kg DW	2	T	ELEN
diphenyltin	**<1**		µg/kg DW	2	T	ELEN
triphenyltin	**<1**		µg/kg DW	2	T	ELEN

Your ID	**L1907291-3 Duplicate SDS-10**
LabID	U11307057

Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
TS 105°C	**85.4**	2%	%	1	V	JOGR
monobutyltin	**<1**		µg/kg DW	2	T	ELEN
dibutyltin	**<1**		µg/kg DW	2	T	ELEN
tributyltin	**<1**		µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**		µg/kg DW	2	T	ELEN
monooctyltin	**<1**		µg/kg DW	2	T	ELEN
dioctyltin	**<1**		µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**		µg/kg DW	2	T	ELEN
monophenyltin	**<1**		µg/kg DW	2	T	ELEN
diphenyltin	**<1**		µg/kg DW	2	T	ELEN
triphenyltin	**<1**		µg/kg DW	2	T	ELEN

Your ID	**QC**
LabID	U11307058

Analysis	Results	Unit	Method	Issuer	Sign
monobutyltin recovery*	**107**	%	2	U	ELEN
dibutyltin recovery*	**97.3**	%	2	U	ELEN
tributyltin recovery*	**109**	%	2	U	ELEN
tetrabutyltin recovery*	**91.1**	%	2	U	ELEN
monooctyltin recovery*	**110**	%	2	U	ELEN
dioctyltin recovery*	**108**	%	2	U	ELEN
tricyclohexyltin recovery*	**129**	%	2	U	ELEN
monophenyltin recovery*	**106**	%	2	U	ELEN
diphenyltin recovery*	**90.2**	%	2	U	ELEN
triphenyltin recovery*	**94.9**	%	2	U	ELEN
Acceptance criteria for recovery is 50-150%.					

Your ID	**Blank**
LabID	U11307059

Analysis	Results	Unit	Method	Issuer	Sign
monobutyltin	**<1**	µg/kg DW	2	T	ELEN
dibutyltin	**<1**	µg/kg DW	2	T	ELEN
tributyltin	**<1**	µg/kg DW	2	T	ELEN
tetrabutyltin	**<1**	µg/kg DW	2	T	ELEN
monooctyltin	**<1**	µg/kg DW	2	T	ELEN
dioctyltin	**<1**	µg/kg DW	2	T	ELEN
tricyclohexyltin	**<1**	µg/kg DW	2	T	ELEN
monophenyltin	**<1**	µg/kg DW	2	T	ELEN
diphenyltin	**<1**	µg/kg DW	2	T	ELEN
triphenyltin	**<1**	µg/kg DW	2	T	ELEN

	Method specification
1	Analysed according to SS 028113.
2	Determination of organotin compounds according to ISO 23161:2011 with acidic extraction. The analyses are performed using GC-ICP-SFMS.

	Approver
ELEN	Elina Engström
JOGR	Jonna Grundström

	Issuer[1]
T	GC-ICP-QMS
U	GC-ICP-QMS
V	Våtkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in ”Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.
Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

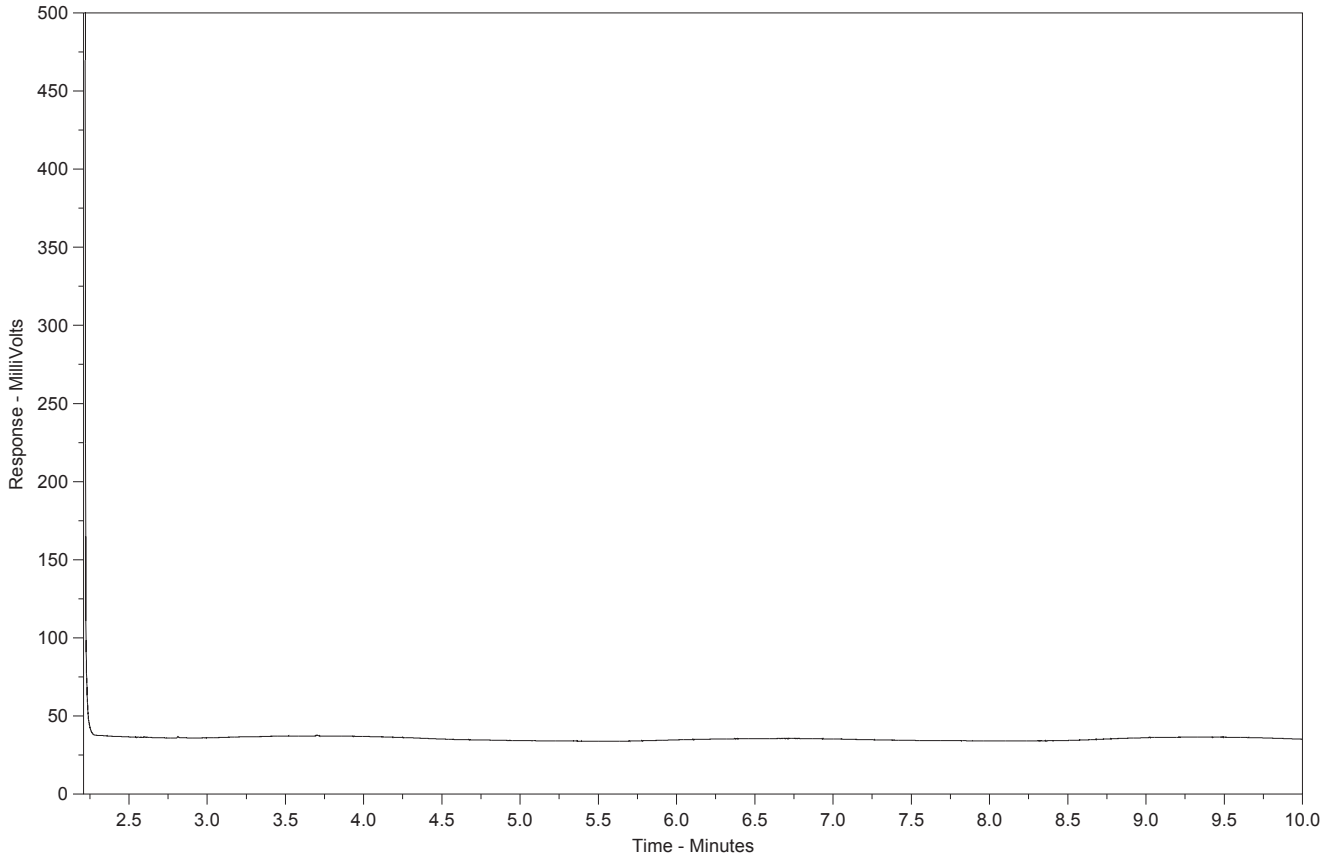
The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

[1] The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

Hydrocarbon Distribution Report

ALS Sample ID: L1907291-3
Client Sample ID: SDS-10



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Motor Oils / Lube Oils / Grease →	
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1907291-COFC

COC Number: 15 - 587506

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	Golder Associates LTD
Contact:	Paddy McManus / Elaine Irving
Phone:	604-296-4200
	Company address below will appear on the final report
Street:	2920 Virtual Way
City/Province:	Vancouver, BC
Postal Code:	V5M 4X3
Invoice To	Same as Report To: YES NO
	Copy of Invoice with Report: YES NO
Company:	
Contact:	

Report Format / Distribution	
Select Report Format:	PDF EXCEL EDD (DIGITAL)
Quality Control (QC) Report with Report	YES NO
Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	EMAIL MAIL FAX
Email 1 or Fax	paddy-mcmanus@golder.com
Email 2	elaine-Irving@golder.com
Email 3	

Invoice Distribution	
Select Invoice Distribution:	EMAIL MAIL FAX
Email 1 or Fax	
Email 2	

Project Information	
ALS Account # / Quote #:	Q60179
Job #:	1525010/3400/3400.4
PO / AFE:	
LSD:	
ALS Lab Work Order # (lab use only)	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: A. Springer	Sampler: PM

Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply

Regular [R]: Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4]; 3 day [P3]; 2 day [P2]

EMERGENCY: 1 Business day [E1]; Same Day, Weekend or Statutory holiday [E0]

[redacted] Date and Time Required for all E&P TATs: [redacted]

For tests that can not be performed according to the service level selected, you will be contacted.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Grainsize	TOC	Moisture	PAHs	LEPH, HEPH, PAHs	Metals	Salinity	Tributyl tin	Poly chlorinated phenols	Number of Containers (1 Bag + 4 Jars)
	SDS-8	30-Mar-17	10:00	Sediment	X	X	X	X		X	X			1 Bag 4 Jars
	SDS-9								X			X	X	
	SDS-10								X			X	X	
	SDS-11							X						
	SDS-12													
	SDS-13													
	SDS-14													
	SDS-15													
	SDS-16													
	SDS-17													
	DUP-3													

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)
Are samples taken from a Regulated DW System? YES NO	Please use parameter as if enough volume.
Are samples for human drinking water use? YES NO	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen; SIF Observations Yes No; Ice Packs; Ice Cubes; Custody seal intact Yes No; Cooling Initiated

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
-7	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date: 30 Mar 17	Time:	Received by: JK	Date: 03/30/17	Time: 14:00	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCTOBER 2015 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

SGS AXYS

2045 Mills Road West
Sidney, BC, Canada V8L5X2

TEL: (250) 655-5800
TOLL-FREE: 1-888-373-0881

SGS AXYS Client No.: 9989

Client Address: Golder Associates Ltd.
Suite 200 - 2920 Virtual Way
Vancouver, BC, CANADA, V5M 0C4

The SGS AXYS contact for these data is Andrew Porat.

BATCH SUMMARY

Batch ID: WG59129	***Date:*** 29-May-2017
Analysis Type: Dioxin/Furan	***Matrix Type:*** Solid

BATCH MAKEUP

Contract: 9989

Samples:

L27039-1	SDS-1
L27039-2	SDS-2
L27039-6	SDS-6
L27039-8	NF-3
L27039-9	Dup-1
L27039-10	Dup-2
L27039-12	SDS-9
L27039-13	SDS-10

Blank: WG59129-101

Reference or Spike: WG59129-102

Duplicate: WG59129-103

Comments:

1. Data are considered final.
2. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data.
3. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples.

AXYS METHOD MLA-017 Rev 20

Form 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 03-Apr-2017

Instrument ID: HR GC/MS

GC Column ID: DB225

CS0 Data Filename: N/A
CS1 Data Filename: DB73_059B S: 4
CS2 Data Filename: DB73_059B S: 5
CS3 Data Filename: DB73_059B S: 6
CS4 Data Filename: DB73_059B S: 8
CS5 Data Filename: DB73_059B S: 7
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
2,3,7,8-TCDF			0.78	0.79	0.90	0.90	0.89		0.85	7.35

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 29-May-2017 10:16:30; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_03-Apr-2017_DB73__Form3A_GS69832.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3C

PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

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

Initial Calibration Date: 03-Apr-2017

Instrument ID: HR GC/MS

GC Column ID: DB225

CS0 Data Filename: N/A

CS1 Data Filename: DB73_059B S: 4

CS2 Data Filename: DB73_059B S: 5

CS3 Data Filename: DB73_059B S: 6

CS4 Data Filename: DB73_059B S: 8

CS5 Data Filename: DB73_059B S: 7

CS6 Data Filename: N/A

COMPOUND	LAB FLAG [1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
2,3,7,8-TCDF		**M/M+2**		0.76	0.75	0.76	0.77	0.77		0.65-0.89

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Brian Watson_____

For Axys Internal Use Only [XSL Template: Form3C.xsl; Created: 29-May-2017 10:16:30; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_03-Apr-2017_DB73__Form3C_GS69832.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 17-Feb-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A
CS1 Data Filename: DX7M_017 S: 3
CS2 Data Filename: DX7M_017 S: 4
CS3 Data Filename: DX7M_017 S: 7
CS4 Data Filename: DX7M_017 S: 6
CS5 Data Filename: DX7M_017 S: 5
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
2,3,7,8-TCDD			1.01	0.91	1.02	0.99	1.00		0.99	4.36
1,2,3,7,8-PECDD [3]			1.00	0.93	0.98	0.99	1.00		0.98	2.75
1,2,3,4,7,8-HXCDD			1.00	0.94	0.99	0.97	0.97		0.97	2.37
1,2,3,6,7,8-HXCDD			0.90	0.87	0.89	0.93	0.91		0.90	2.49
1,2,3,7,8,9-HXCDD [4]			0.90	0.84	0.90	0.89	0.90		0.89	2.93
1,2,3,4,6,7,8-HPCDD			0.97	0.91	0.96	0.94	0.95		0.95	2.31
OCDD			0.95	0.91	1.03	0.99	0.96		0.97	4.66
2,3,7,8-TCDF			0.87	0.84	0.91	0.85	0.86		0.87	2.91
1,2,3,7,8-PECDF			0.88	0.83	0.91	0.88	0.88		0.88	3.38
2,3,4,7,8-PECDF			0.89	0.85	0.91	0.89	0.92		0.89	3.03
1,2,3,4,7,8-HXCDF			1.09	1.02	1.12	1.10	1.09		1.08	3.59
1,2,3,6,7,8-HXCDF			1.04	1.00	1.04	1.02	1.06		1.03	2.01
1,2,3,7,8,9-HXCDF			0.95	0.92	0.94	0.96	0.97		0.95	1.91
2,3,4,6,7,8-HXCDF			1.09	1.02	1.15	1.14	1.12		1.10	4.61
1,2,3,4,6,7,8-HPCDF			1.23	1.10	1.20	1.21	1.17		1.18	4.30
1,2,3,4,7,8,9-HPCDF			1.22	1.16	1.22	1.19	1.23		1.21	2.46
OCDF [5]			1.04	1.02	1.17	1.17	1.11		1.10	6.48

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(4) Response ratios are calculated relative to the labeled analogs of the other two HXCDDs (Section 17.1.2, Method 1613).
(5) Response ratios are calculated relative to the labeled analog of OCDD (Section 17.1.1, Method 1613).

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_17-Feb-2017_DX7M__Form3A_GS69821.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 17-Feb-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX7M_017 S: 3

CS2 Data Filename: DX7M_017 S: 4

CS3 Data Filename: DX7M_017 S: 7

CS4 Data Filename: DX7M_017 S: 6

CS5 Data Filename: DX7M_017 S: 5

CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
LABELED COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
13C-2,3,7,8-TCDD			0.95	0.99	0.98	1.00	1.07		1.00	4.55
13C-1,2,3,7,8-PECDD [3]			0.60	0.70	0.58	0.65	0.74		0.65	10.5
13C-1,2,3,4,7,8-HXCDD			0.95	0.94	0.95	0.96	0.96		0.95	1.16
13C-1,2,3,6,7,8-HXCDD			1.08	1.09	1.14	1.11	1.14		1.11	2.62
13C-1,2,3,4,6,7,8-HPCDD			0.79	0.82	0.78	0.78	0.83		0.80	2.96
13C-OCDD			0.73	0.71	0.70	0.72	0.83		0.74	7.54
13C-2,3,7,8-TCDF			1.38	1.41	1.39	1.42	1.50		1.42	3.23
13C-1,2,3,7,8-PECDF			0.94	1.00	0.96	1.05	1.20		1.03	10.2
13C-2,3,4,7,8-PECDF			0.91	0.97	0.91	1.04	1.17		1.00	10.8
13C-1,2,3,4,7,8-HXCDF			1.10	1.12	1.14	1.10	1.10		1.11	1.33
13C-1,2,3,6,7,8-HXCDF			1.27	1.28	1.34	1.32	1.30		1.30	2.12
13C-1,2,3,7,8,9-HXCDF			1.06	1.05	1.10	1.10	1.09		1.08	2.03
13C-2,3,4,6,7,8-HXCDF			1.11	1.12	1.13	1.12	1.12		1.12	0.76
13C-1,2,3,4,6,7,8-HPCDF			0.86	0.88	0.86	0.87	0.89		0.87	1.22
13C-1,2,3,4,7,8,9-HPCDF			0.68	0.72	0.69	0.71	0.71		0.70	2.53
CLEANUP STANDARD										
37CL-2,3,7,8-TCDD			1.13	0.98	1.01	1.07	1.15		1.07	6.83

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form3B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_17-Feb-2017_DX7M__Form3B_GS69821.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3C

PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

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

Initial Calibration Date: 17-Feb-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX7M_017 S: 3

CS2 Data Filename: DX7M_017 S: 4

CS3 Data Filename: DX7M_017 S: 7

CS4 Data Filename: DX7M_017 S: 6

CS5 Data Filename: DX7M_017 S: 5

CS6 Data Filename: N/A

COMPOUND	LAB FLAG [1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
2,3,7,8-TCDD		**M/M+2**		0.75	0.77	0.75	0.77	0.77		0.65-0.89
1,2,3,7,8-PECDD [4]		**M/M+2**		0.59	0.62	0.62	0.63	0.64		0.52-0.70
1,2,3,4,7,8-HXCDD		**M+2/M+4**		1.23	1.27	1.20	1.19	1.19		1.05-1.43
1,2,3,6,7,8-HXCDD		**M+2/M+4**		1.28	1.24	1.28	1.22	1.24		1.05-1.43
1,2,3,7,8,9-HXCDD		**M+2/M+4**		1.20	1.25	1.25	1.20	1.22		1.05-1.43
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**		1.03	1.04	1.08	1.01	1.06		0.88-1.20
OCDD		**M+2/M+4**		0.77	0.86	0.86	0.88	0.88		0.76-1.02
2,3,7,8-TCDF		**M/M+2**		0.76	0.76	0.75	0.76	0.78		0.65-0.89
1,2,3,7,8-PECDF		**M+2/M+4**		1.59	1.56	1.55	1.52	1.51		1.32-1.78
2,3,4,7,8-PECDF		**M+2/M+4**		1.49	1.55	1.55	1.55	1.49		1.32-1.78
1,2,3,4,7,8-HXCDF		**M+2/M+4**		1.29	1.20	1.24	1.20	1.18		1.05-1.43
1,2,3,6,7,8-HXCDF		**M+2/M+4**		1.29	1.25	1.22	1.20	1.22		1.05-1.43
1,2,3,7,8,9-HXCDF		**M+2/M+4**		1.23	1.25	1.21	1.27	1.22		1.05-1.43
2,3,4,6,7,8-HXCDF		**M+2/M+4**		1.21	1.23	1.16	1.28	1.22		1.05-1.43
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**		0.97	1.00	1.03	1.04	1.04		0.88-1.20
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**		1.13	1.04	1.03	1.01	1.02		0.88-1.20
OCDF		**M+2/M+4**		0.86	0.89	0.86	0.89	0.91		0.76-1.02

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form3C.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_17-Feb-2017_DX7M__Form3C_GS69821.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

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

Initial Calibration Date: 17-Feb-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX7M_017 S: 3

CS2 Data Filename: DX7M_017 S: 4

CS3 Data Filename: DX7M_017 S: 7

CS4 Data Filename: DX7M_017 S: 6

CS5 Data Filename: DX7M_017 S: 5

CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG[1]	M/Z's FORMING RATIO[2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
13C-2,3,7,8-TCDD		M/M+2		0.76	0.79	0.78	0.78	0.76		0.65-0.89
13C-1,2,3,7,8-PECDD[4]		M/M+2		0.66	0.65	0.65	0.65	0.65		0.52-0.70
13C-1,2,3,4,7,8-HXCDD		M+2/M+4		1.24	1.31	1.27	1.25	1.27		1.05-1.43
13C-1,2,3,6,7,8-HXCDD		M+2/M+4		1.30	1.24	1.25	1.23	1.23		1.05-1.43
13C-1,2,3,4,6,7,8-HPCDD		M+2/M+4		1.06	1.02	1.05	1.03	1.00		0.88-1.20
13C-OCDD		M+2/M+4		0.89	0.88	0.87	0.87	0.90		0.76-1.02
13C-2,3,7,8-TCDF		M/M+2		0.79	0.76	0.78	0.78	0.74		0.65-0.89
13C-1,2,3,7,8-PECDF		M+2/M+4		1.56	1.54	1.61	1.60	1.56		1.32-1.78
13C-2,3,4,7,8-PECDF		M+2/M+4		1.57	1.55	1.63	1.62	1.55		1.32-1.78
13C-1,2,3,4,7,8-HXCDF		M/M+2		0.52	0.55	0.51	0.51	0.53		0.43-0.59
13C-1,2,3,6,7,8-HXCDF		M/M+2		0.52	0.52	0.50	0.49	0.51		0.43-0.59
13C-1,2,3,7,8,9-HXCDF		M/M+2		0.51	0.51	0.52	0.51	0.53		0.43-0.59
13C-2,3,4,6,7,8-HXCDF		M/M+2		0.52	0.51	0.52	0.51	0.53		0.43-0.59
13C-1,2,3,4,6,7,8-HPCDF		M/M+2		0.44	0.45	0.46	0.46	0.45		0.37-0.51
13C-1,2,3,4,7,8,9-HPCDF		M/M+2		0.46	0.43	0.43	0.45	0.45		0.37-0.51

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form3D.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_17-Feb-2017_DX7M__Form3D_GS69821.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 25-Apr-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A
CS1 Data Filename: DX7B_088A S: 3
CS2 Data Filename: DX7B_088A S: 5
CS3 Data Filename: DX7B_088A S: 8
CS4 Data Filename: DX7B_088A S: 7
CS5 Data Filename: DX7B_088A S: 6
CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
2,3,7,8-TCDD			1.10	1.08	1.24	1.09	1.08		1.12	6.17
1,2,3,7,8-PECDD [3]			1.08	1.07	1.08	1.06	1.05		1.07	1.21
1,2,3,4,7,8-HXCDD			1.14	1.06	1.14	1.11	1.08		1.10	3.13
1,2,3,6,7,8-HXCDD			1.04	1.02	1.09	1.04	1.02		1.04	2.72
1,2,3,7,8,9-HXCDD [4]			1.09	0.99	1.06	1.02	1.00		1.03	4.16
1,2,3,4,6,7,8-HPCDD			1.15	1.10	1.16	1.14	1.10		1.13	2.68
OCDD			1.17	1.09	1.19	1.14	1.11		1.14	3.55
2,3,7,8-TCDF			1.06	1.00	1.09	1.00	1.00		1.03	4.18
1,2,3,7,8-PECDF			1.06	1.01	1.06	1.01	0.99		1.03	3.07
2,3,4,7,8-PECDF			1.09	1.00	1.06	1.04	1.02		1.04	3.40
1,2,3,4,7,8-HXCDF			1.25	1.20	1.27	1.23	1.21		1.23	2.45
1,2,3,6,7,8-HXCDF			1.18	1.12	1.21	1.17	1.13		1.16	3.25
1,2,3,7,8,9-HXCDF			1.12	1.06	1.10	1.09	1.07		1.09	1.87
2,3,4,6,7,8-HXCDF			1.28	1.21	1.30	1.27	1.23		1.26	2.72
1,2,3,4,6,7,8-HPCDF			1.35	1.30	1.38	1.33	1.30		1.33	2.42
1,2,3,4,7,8,9-HPCDF			1.40	1.32	1.41	1.36	1.33		1.36	2.97
OCDF [5]			1.48	1.43	1.59	1.59	1.55		1.53	4.46

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(4) Response ratios are calculated relative to the labeled analogs of the other two HXCDDs (Section 17.1.2, Method 1613).
(5) Response ratios are calculated relative to the labeled analog of OCDD (Section 17.1.1, Method 1613).

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_25-Apr-2017_DX7B__Form3A_GS69909.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 25-Apr-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX7B_088A S: 3

CS2 Data Filename: DX7B_088A S: 5

CS3 Data Filename: DX7B_088A S: 8

CS4 Data Filename: DX7B_088A S: 7

CS5 Data Filename: DX7B_088A S: 6

CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
LABELED COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
13C-2,3,7,8-TCDD			0.93	0.93	0.96	0.98	1.03		0.96	4.10
13C-1,2,3,7,8-PECDD [3]			0.71	0.72	0.74	0.77	0.89		0.76	9.59
13C-1,2,3,4,7,8-HXCDD			0.96	1.00	0.96	0.98	1.01		0.98	2.46
13C-1,2,3,6,7,8-HXCDD			1.08	1.11	1.13	1.11	1.09		1.10	1.40
13C-1,2,3,4,6,7,8-HPCDD			0.85	0.84	0.84	0.85	0.87		0.85	1.43
13C-OCDD			0.64	0.62	0.63	0.66	0.74		0.66	7.06
13C-2,3,7,8-TCDF			1.45	1.47	1.53	1.51	1.58		1.51	3.50
13C-1,2,3,7,8-PECDF			1.12	1.16	1.24	1.25	1.43		1.24	9.45
13C-2,3,4,7,8-PECDF			1.14	1.16	1.23	1.26	1.45		1.25	9.76
13C-1,2,3,4,7,8-HXCDF			1.27	1.29	1.30	1.23	1.26		1.27	2.14
13C-1,2,3,6,7,8-HXCDF			1.46	1.51	1.49	1.46	1.47		1.48	1.52
13C-1,2,3,7,8,9-HXCDF			1.20	1.21	1.23	1.23	1.28		1.23	2.42
13C-2,3,4,6,7,8-HXCDF			1.27	1.30	1.27	1.26	1.26		1.27	1.28
13C-1,2,3,4,6,7,8-HPCDF			1.15	1.17	1.16	1.16	1.16		1.16	0.74
13C-1,2,3,4,7,8,9-HPCDF			0.88	0.87	0.89	0.91	0.94		0.90	2.95
CLEANUP STANDARD										
37CL-2,3,7,8-TCDD			1.15	1.05	1.09	1.02	1.13		1.09	4.77

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form3B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_25-Apr-2017_DX7B__Form3B_GS69909.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3C

PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

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

Initial Calibration Date: 25-Apr-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX7B_088A S: 3

CS2 Data Filename: DX7B_088A S: 5

CS3 Data Filename: DX7B_088A S: 8

CS4 Data Filename: DX7B_088A S: 7

CS5 Data Filename: DX7B_088A S: 6

CS6 Data Filename: N/A

COMPOUND	LAB FLAG [1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
2,3,7,8-TCDD		**M/M+2**		0.82	0.82	0.75	0.78	0.79		0.65-0.89
1,2,3,7,8-PECDD [4]		**M/M+2**		0.61	0.62	0.63	0.62	0.62		0.52-0.70
1,2,3,4,7,8-HXCDD		**M+2/M+4**		1.22	1.27	1.25	1.25	1.26		1.05-1.43
1,2,3,6,7,8-HXCDD		**M+2/M+4**		1.27	1.23	1.25	1.26	1.26		1.05-1.43
1,2,3,7,8,9-HXCDD		**M+2/M+4**		1.23	1.23	1.26	1.25	1.25		1.05-1.43
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**		1.04	1.06	1.06	1.06	1.06		0.88-1.20
OCDD		**M+2/M+4**		0.91	0.89	0.90	0.90	0.90		0.76-1.02
2,3,7,8-TCDF		**M/M+2**		0.80	0.81	0.76	0.79	0.79		0.65-0.89
1,2,3,7,8-PECDF		**M+2/M+4**		1.56	1.56	1.54	1.56	1.55		1.32-1.78
2,3,4,7,8-PECDF		**M+2/M+4**		1.50	1.53	1.52	1.56	1.54		1.32-1.78
1,2,3,4,7,8-HXCDF		**M+2/M+4**		1.26	1.24	1.24	1.26	1.25		1.05-1.43
1,2,3,6,7,8-HXCDF		**M+2/M+4**		1.24	1.25	1.24	1.24	1.25		1.05-1.43
1,2,3,7,8,9-HXCDF		**M+2/M+4**		1.31	1.26	1.25	1.26	1.25		1.05-1.43
2,3,4,6,7,8-HXCDF		**M+2/M+4**		1.30	1.27	1.24	1.25	1.25		1.05-1.43
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**		1.04	1.05	1.05	1.05	1.05		0.88-1.20
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**		1.05	1.05	1.05	1.07	1.05		0.88-1.20
OCDF		**M+2/M+4**		0.91	0.90	0.91	0.91	0.91		0.76-1.02

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form3C.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_25-Apr-2017_DX7B__Form3C_GS69909.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

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

Initial Calibration Date: 25-Apr-2017

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX7B_088A S: 3

CS2 Data Filename: DX7B_088A S: 5

CS3 Data Filename: DX7B_088A S: 8

CS4 Data Filename: DX7B_088A S: 7

CS5 Data Filename: DX7B_088A S: 6

CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
13C-2,3,7,8-TCDD		M/M+2		0.82	0.81	0.81	0.80	0.79		0.65-0.89
13C-1,2,3,7,8-PECDD [4]		M/M+2		0.64	0.64	0.64	0.66	0.64		0.52-0.70
13C-1,2,3,4,7,8-HXCDD		M+2/M+4		1.27	1.27	1.27	1.27	1.28		1.05-1.43
13C-1,2,3,6,7,8-HXCDD		M+2/M+4		1.26	1.25	1.25	1.26	1.26		1.05-1.43
13C-1,2,3,4,6,7,8-HPCDD		M+2/M+4		1.02	1.03	1.02	1.02	1.02		0.88-1.20
13C-OCDD		M+2/M+4		0.91	0.91	0.91	0.92	0.91		0.76-1.02
13C-2,3,7,8-TCDF		M/M+2		0.79	0.79	0.80	0.80	0.79		0.65-0.89
13C-1,2,3,7,8-PECDF		M+2/M+4		1.56	1.55	1.56	1.58	1.58		1.32-1.78
13C-2,3,4,7,8-PECDF		M+2/M+4		1.59	1.61	1.59	1.58	1.60		1.32-1.78
13C-1,2,3,4,7,8-HXCDF		M/M+2		0.53	0.53	0.53	0.53	0.53		0.43-0.59
13C-1,2,3,6,7,8-HXCDF		M/M+2		0.54	0.54	0.54	0.54	0.54		0.43-0.59
13C-1,2,3,7,8,9-HXCDF		M/M+2		0.53	0.54	0.54	0.53	0.53		0.43-0.59
13C-2,3,4,6,7,8-HXCDF		M/M+2		0.53	0.53	0.54	0.54	0.53		0.43-0.59
13C-1,2,3,4,6,7,8-HPCDF		M/M+2		0.46	0.46	0.46	0.46	0.45		0.37-0.51
13C-1,2,3,4,7,8,9-HPCDF		M/M+2		0.45	0.45	0.46	0.46	0.46		0.37-0.51

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Robert Tones_____

For Axys Internal Use Only [XSL Template: Form3D.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_25-Apr-2017_DX7B__Form3D_GS69909.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-1
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-1
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 12:17:30	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 19**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	17.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	ND		0.0495 (Q)		
1,2,3,7,8-PECDD [4]	ND		0.0495 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0772 (S)		
1,2,3,6,7,8-HXCDD	ND		0.0772 (S)		
1,2,3,7,8,9-HXCDD	ND		0.0772 (S)		
1,2,3,4,6,7,8-HPCDD	NDR	0.444	0.0495 (Q)	1.46	1.000
OCDD		2.42	0.0495 (Q)	0.80	1.000
2,3,7,8-TCDF		0.147	0.0495 (Q)	0.82	1.002
1,2,3,7,8-PECDF	ND		0.0495 (Q)		
2,3,4,7,8-PECDF	ND		0.0495 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0495 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0495 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0495 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0495 (Q)		
1,2,3,4,6,7,8-HPCDF	NDR	0.061	0.0495 (Q)	0.82	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.0495 (Q)		
OCDF	ND		0.0495 (Q)		
TOTAL TETRA-DIOXINS		0.156	0.0495 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0495 (Q)		
TOTAL HEXA-DIOXINS	ND		0.0772 (S)		
TOTAL HEPTA-DIOXINS		0.426	0.0495 (Q)		
TOTAL TETRA-FURANS		0.215	0.0495 (Q)		
TOTAL PENTA-FURANS	ND		0.0495 (Q)		
TOTAL HEXA-FURANS	ND		0.0495 (Q)		
TOTAL HEPTA-FURANS	ND		0.0495 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-1_Form1A_DX7M_046S19_SJ2200436.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-1
Sample Collection:
28-Mar-2017 14:00

Form 2

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-1
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 12:17:30	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 19**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg absolute	**% Moisture:**	17.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1860	92.8	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	2140	107	0.65	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1740	86.8	1.26	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1820	90.8	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1820	91.2	1.06	1.096
13C-OCDD		4000	3490	87.2	0.90	1.181
13C-2,3,7,8-TCDF		2000	1880	93.8	0.77	0.967
13C-1,2,3,7,8-PECDF		2000	1980	99.0	1.57	1.280
13C-2,3,4,7,8-PECDF		2000	1890	94.5	1.54	1.347
13C-1,2,3,4,7,8-HXCDF		2000	1850	92.6	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1910	95.4	0.53	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1800	89.9	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1790	89.7	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1880	93.9	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1830	91.5	0.45	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	185	92.4		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-1_Form2_DX7M_046S19_SJ2200436.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-2
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-2
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 13:12:36	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 20**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	18.9

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	ND		0.0481 (Q)		
1,2,3,7,8-PECDD [4]	ND		0.0481 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0481 (Q)		
1,2,3,6,7,8-HXCDD		0.060	0.0481 (Q)	1.40	1.001
1,2,3,7,8,9-HXCDD	ND		0.0481 (Q)		
1,2,3,4,6,7,8-HPCDD	NDR	0.229	0.0481 (Q)	1.26	1.000
OCDD		1.45	0.0481 (Q)	0.98	1.000
2,3,7,8-TCDF		0.153	0.0481 (Q)	0.76	1.001
1,2,3,7,8-PECDF	ND		0.0481 (Q)		
2,3,4,7,8-PECDF	ND		0.0481 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0481 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0481 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0481 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0481 (Q)		
1,2,3,4,6,7,8-HPCDF	ND		0.0481 (Q)		
1,2,3,4,7,8,9-HPCDF	ND		0.0481 (Q)		
OCDF	ND		0.0481 (Q)		
TOTAL TETRA-DIOXINS		0.142	0.0481 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0481 (Q)		
TOTAL HEXA-DIOXINS		0.308	0.0481 (Q)		
TOTAL HEPTA-DIOXINS	ND		0.0481 (Q)		
TOTAL TETRA-FURANS		0.153	0.0481 (Q)		
TOTAL PENTA-FURANS	ND		0.0481 (Q)		
TOTAL HEXA-FURANS	ND		0.0481 (Q)		
TOTAL HEPTA-FURANS	ND		0.0481 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-2_Form1A_DX7M_046S20_SJ2200437.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-2
Sample Collection:
28-Mar-2017 14:00

Form 2

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-2
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 13:12:36	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 20**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg absolute	**% Moisture:**	18.9

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1590	79.6	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	2010	101	0.64	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1630	81.6	1.27	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1670	83.6	1.29	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1800	90.0	1.06	1.096
13C-OCDD		4000	3440	86.0	0.89	1.181
13C-2,3,7,8-TCDF		2000	1620	81.2	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1730	86.7	1.57	1.281
13C-2,3,4,7,8-PECDF		2000	1640	81.9	1.57	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1730	86.5	0.51	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1740	86.8	0.51	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1710	85.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1710	85.4	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1800	90.2	0.45	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1820	91.2	0.45	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	160	79.8		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-2_Form2_DX7M_046S20_SJ2200437.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-6
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-6 (A)
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 14:07:45	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 21**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	18.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	ND		0.0488 (Q)		
1,2,3,7,8-PECDD [4]	ND		0.0488 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0488 (Q)		
1,2,3,6,7,8-HXCDD		0.050	0.0488 (Q)	1.37	1.001
1,2,3,7,8,9-HXCDD		0.052	0.0488 (Q)	1.07	1.011
1,2,3,4,6,7,8-HPCDD		0.307	0.0488 (Q)	0.94	1.000
OCDD		1.83	0.0488 (Q)	0.92	1.000
2,3,7,8-TCDF		0.143	0.0488 (Q)	0.84	1.000
1,2,3,7,8-PECDF	ND		0.0488 (Q)		
2,3,4,7,8-PECDF	ND		0.0488 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0488 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0488 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0488 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0488 (Q)		
1,2,3,4,6,7,8-HPCDF	ND		0.0488 (Q)		
1,2,3,4,7,8,9-HPCDF	ND		0.0488 (Q)		
OCDF	NDR	0.054	0.0488 (Q)	1.21	1.002
TOTAL TETRA-DIOXINS	ND		0.0488 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0488 (Q)		
TOTAL HEXA-DIOXINS		0.103	0.0488 (Q)		
TOTAL HEPTA-DIOXINS		0.751	0.0488 (Q)		
TOTAL TETRA-FURANS		0.257	0.0488 (Q)		
TOTAL PENTA-FURANS	ND		0.0488 (Q)		
TOTAL HEXA-FURANS	ND		0.0488 (Q)		
TOTAL HEPTA-FURANS	ND		0.0488 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-6_Form1A_DX7M_046S21_SJ2200438.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-6 (A)
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 14:07:45	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 21**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg absolute	**% Moisture:**	18.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1670	83.4	0.78	1.014
13C-1,2,3,7,8-PECDD [4]		2000	1930	96.3	0.67	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1630	81.3	1.26	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1670	83.7	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1660	83.2	1.01	1.096
13C-OCDD		4000	3130	78.1	0.89	1.181
13C-2,3,7,8-TCDF		2000	1680	84.1	0.78	0.968
13C-1,2,3,7,8-PECDF		2000	1770	88.3	1.52	1.281
13C-2,3,4,7,8-PECDF		2000	1690	84.6	1.57	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1690	84.6	0.50	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1710	85.5	0.52	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1640	81.9	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1680	84.0	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1730	86.3	0.44	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1720	86.1	0.46	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	171	85.7		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-6_Form2_DX7M_046S21_SJ2200438.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
NF-3
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-8
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 15:58:01	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 23**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	38.3

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	NDR	0.083	0.0653 (S)	0.62	1.001
1,2,3,7,8-PECDD [4]	NDR	0.151	0.136 (S)	0.85	1.001
1,2,3,4,7,8-HXCDD	NDR	0.220	0.199 (S)	0.80	1.001
1,2,3,6,7,8-HXCDD	NDR	0.750	0.199 (S)	1.00	1.000
1,2,3,7,8,9-HXCDD		1.21	0.199 (S)	1.07	1.011
1,2,3,4,6,7,8-HPCDD		30.1	0.117 (S)	1.12	1.000
OCDD		151	0.273 (S)	0.86	1.000
2,3,7,8-TCDF		0.201	0.0562 (S)	0.71	1.002
1,2,3,7,8-PECDF	NDR	0.052	0.0507 (S)	0.92	1.000
2,3,4,7,8-PECDF	ND		0.0507 (S)		
1,2,3,4,7,8-HXCDF	NDR	0.058	0.0489 (Q)	0.95	1.002
1,2,3,6,7,8-HXCDF		0.084	0.0489 (Q)	1.21	1.001
1,2,3,7,8,9-HXCDF	ND		0.0489 (Q)		
2,3,4,6,7,8-HXCDF		0.055	0.0489 (Q)	1.10	1.000
1,2,3,4,6,7,8-HPCDF		1.57	0.155 (S)	0.97	1.000
1,2,3,4,7,8,9-HPCDF		0.198	0.155 (S)	1.19	1.000
OCDF		5.85	0.0565 (S)	0.77	1.002
TOTAL TETRA-DIOXINS		1.08	0.0653 (S)		
TOTAL PENTA-DIOXINS		0.318	0.136 (S)		
TOTAL HEXA-DIOXINS		13.9	0.199 (S)		
TOTAL HEPTA-DIOXINS		84.9	0.117 (S)		
TOTAL TETRA-FURANS		0.806	0.0562 (S)		
TOTAL PENTA-FURANS		0.322	0.0507 (S)		
TOTAL HEXA-FURANS		1.91	0.0489 (Q)		
TOTAL HEPTA-FURANS		5.56	0.155 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-8_Form1A_DX7M_046S23_SJ2200440.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
NF-3
Sample Collection:
28-Mar-2017 14:00

Form 2

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-8
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 15:58:01	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 23**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg absolute	**% Moisture:**	38.3

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1710	85.6	0.79	1.014
13C-1,2,3,7,8-PECDD [4]		2000	1840	92.1	0.66	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1620	81.0	1.27	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1620	81.0	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1800	90.2	1.08	1.096
13C-OCDD		4000	3510	87.8	0.91	1.181
13C-2,3,7,8-TCDF		2000	1680	84.0	0.78	0.968
13C-1,2,3,7,8-PECDF		2000	1740	87.1	1.58	1.281
13C-2,3,4,7,8-PECDF		2000	1680	83.8	1.56	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1700	84.9	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1700	84.9	0.52	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1660	82.9	0.53	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1670	83.6	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1770	88.5	0.44	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	1780	89.2	0.45	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	167	83.3		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-8_Form2_DX7M_046S23_SJ2200440.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
Dup-1
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-9 i2
Matrix:	SOLID	**Sample Size:**	9.84 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	25-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Apr-2017 **Time:** 14:16:00	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_091 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_091 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	19.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	ND		0.0508 (Q)		
1,2,3,7,8-PECDD [4]	ND		0.0508 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0508 (Q)		
1,2,3,6,7,8-HXCDD	NDR	0.059	0.0508 (Q)	1.51	1.000
1,2,3,7,8,9-HXCDD	NDR	0.057	0.0508 (Q)	0.80	1.010
1,2,3,4,6,7,8-HPCDD		0.264	0.0508 (Q)	0.89	1.000
OCDD		1.69	0.0508 (Q)	0.90	1.000
2,3,7,8-TCDF		0.200	0.0508 (Q)	0.69	1.001
1,2,3,7,8-PECDF	ND		0.0508 (Q)		
2,3,4,7,8-PECDF	ND		0.0508 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0508 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0508 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0508 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0508 (Q)		
1,2,3,4,6,7,8-HPCDF	ND		0.0508 (Q)		
1,2,3,4,7,8,9-HPCDF	ND		0.0508 (Q)		
OCDF	ND		0.0508 (Q)		
TOTAL TETRA-DIOXINS	ND		0.0508 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0508 (Q)		
TOTAL HEXA-DIOXINS		0.147	0.0508 (Q)		
TOTAL HEPTA-DIOXINS		0.633	0.0508 (Q)		
TOTAL TETRA-FURANS		0.495	0.0508 (Q)		
TOTAL PENTA-FURANS	ND		0.0508 (Q)		
TOTAL HEXA-FURANS	ND		0.0508 (Q)		
TOTAL HEPTA-FURANS	ND		0.0508 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-9_Form1A_DX7B_091S6_SJ2203576.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Dup-1
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-9 i2
Matrix:	SOLID	**Sample Size:**	9.84 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	25-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Apr-2017 **Time:** 14:16:00	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_091 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_091 S: 1
Concentration Units:	pg absolute	**% Moisture:**	19.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1850	92.5	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1840	92.1	0.64	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1750	87.6	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1720	86.2	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1690	84.3	1.02	1.094
13C-OCDD		4000	3360	84.1	0.90	1.179
13C-2,3,7,8-TCDF		2000	1900	95.1	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	1910	95.6	1.59	1.286
13C-2,3,4,7,8-PECDF		2000	1800	90.1	1.57	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1770	88.5	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1730	86.6	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1670	83.4	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1720	86.0	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1630	81.4	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1590	79.7	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	190	94.8		1.015

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-9_Form2_DX7B_091S6_SJ2203576.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Dup-2
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-10
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Apr-2017 **Time:** 00:43:00	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_047A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_047A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	38.7

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD		0.073	0.0470 (Q)	0.70	1.001
1,2,3,7,8-PECDD [4]		0.186	0.0615 (S)	0.64	1.001
1,2,3,4,7,8-HXCDD		0.153	0.0751 (S)	1.37	1.000
1,2,3,6,7,8-HXCDD	NDR	0.581	0.0751 (S)	1.44	1.000
1,2,3,7,8,9-HXCDD		1.76	0.0751 (S)	1.34	1.011
1,2,3,4,6,7,8-HPCDD		14.0	0.0666 (S)	1.01	1.000
OCDD		112	0.0642 (S)	0.87	1.000
2,3,7,8-TCDF		0.252	0.0470 (Q)	0.70	1.001
1,2,3,7,8-PECDF	ND		0.0470 (Q)		
2,3,4,7,8-PECDF	ND		0.0470 (Q)		
1,2,3,4,7,8-HXCDF	NDR	0.080	0.0470 (Q)	0.96	1.001
1,2,3,6,7,8-HXCDF	NDR	0.067	0.0470 (Q)	1.64	1.001
1,2,3,7,8,9-HXCDF	ND		0.0470 (Q)		
2,3,4,6,7,8-HXCDF	NDR	0.067	0.0470 (Q)	1.44	1.000
1,2,3,4,6,7,8-HPCDF		1.53	0.0470 (Q)	1.05	1.000
1,2,3,4,7,8,9-HPCDF		0.223	0.0470 (Q)	0.99	1.000
OCDF		2.79	0.0470 (Q)	0.86	1.002
TOTAL TETRA-DIOXINS		1.22	0.0470 (Q)		
TOTAL PENTA-DIOXINS		0.518	0.0615 (S)		
TOTAL HEXA-DIOXINS		7.73	0.0751 (S)		
TOTAL HEPTA-DIOXINS		35.8	0.0666 (S)		
TOTAL TETRA-FURANS		0.787	0.0470 (Q)		
TOTAL PENTA-FURANS	ND		0.0470 (Q)		
TOTAL HEXA-FURANS		1.46	0.0470 (Q)		
TOTAL HEPTA-FURANS		3.84	0.0470 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-10_Form1A_DX7M_047AS6_SJ2200447.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Dup-2
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-10
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Apr-2017 **Time:** 00:43:00	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_047A S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_047A S: 1
Concentration Units:	pg absolute	**% Moisture:**	38.7

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1720	85.8	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1680	84.0	0.67	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1560	77.8	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1460	72.9	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2450	122	1.05	1.096
13C-OCDD		4000	3260	81.4	0.89	1.182
13C-2,3,7,8-TCDF		2000	1740	87.1	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1600	80.0	1.59	1.280
13C-2,3,4,7,8-PECDF		2000	1420	71.1	1.57	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1510	75.6	0.51	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1470	73.7	0.53	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1540	77.2	0.51	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1510	75.3	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1930	96.5	0.46	1.063
13C-1,2,3,4,7,8,9-HPCDF		2000	2340	117	0.44	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	173	86.3		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-10_Form2_DX7M_047AS6_SJ2200447.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-9
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-12 i2
Matrix:	SOLID	**Sample Size:**	9.88 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	25-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Apr-2017 **Time:** 15:10:50	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_091 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_091 S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	21.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	NDR	0.064	0.0506 (Q)	0.29	1.001
1,2,3,7,8-PECDD [4]	ND		0.0506 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0506 (Q)		
1,2,3,6,7,8-HXCDD	ND		0.0506 (Q)		
1,2,3,7,8,9-HXCDD	ND		0.0506 (Q)		
1,2,3,4,6,7,8-HPCDD		0.263	0.0506 (Q)	1.00	1.000
OCDD		1.39	0.0506 (Q)	0.95	1.000
2,3,7,8-TCDF		0.184	0.0506 (Q)	0.84	1.001
1,2,3,7,8-PECDF	ND		0.0506 (Q)		
2,3,4,7,8-PECDF	ND		0.0506 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0506 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0506 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0506 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0506 (Q)		
1,2,3,4,6,7,8-HPCDF	ND		0.0506 (Q)		
1,2,3,4,7,8,9-HPCDF	ND		0.0506 (Q)		
OCDF	ND		0.0506 (Q)		
TOTAL TETRA-DIOXINS		0.137	0.0506 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0506 (Q)		
TOTAL HEXA-DIOXINS		0.268	0.0506 (Q)		
TOTAL HEPTA-DIOXINS		0.566	0.0506 (Q)		
TOTAL TETRA-FURANS		0.502	0.0506 (Q)		
TOTAL PENTA-FURANS	ND		0.0506 (Q)		
TOTAL HEXA-FURANS	ND		0.0506 (Q)		
TOTAL HEPTA-FURANS	ND		0.0506 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-12_Form1A_DX7B_091S7_SJ2203577.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-9
Sample Collection:
30-Mar-2017 10:00

Form 2

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-12 i2
Matrix:	SOLID	**Sample Size:**	9.88 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	25-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	27-Apr-2017 **Time:** 15:10:50	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7B_091 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7B_091 S: 1
Concentration Units:	pg absolute	**% Moisture:**	21.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1780	89.1	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1950	97.5	0.64	1.387
13C-1,2,3,4,7,8-HXCDD		2000	1730	86.7	1.28	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1730	86.7	1.27	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1570	78.7	1.00	1.095
13C-OCDD		4000	2940	73.4	0.91	1.179
13C-2,3,7,8-TCDF		2000	1840	91.8	0.80	0.966
13C-1,2,3,7,8-PECDF		2000	2060	103	1.56	1.286
13C-2,3,4,7,8-PECDF		2000	1930	96.3	1.57	1.355
13C-1,2,3,4,7,8-HXCDF		2000	1770	88.3	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1750	87.7	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1600	79.8	0.54	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1670	83.6	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1560	78.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1480	74.2	0.45	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	177	88.7		1.014

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-12_Form2_DX7B_091S7_SJ2203577.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-10
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-13
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Apr-2017 **Time:** 02:33:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_047A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_047A S: 1
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	12.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	NDR	0.059	0.0473 (Q)	0.56	1.000
1,2,3,7,8-PECDD [4]	ND		0.0473 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0578 (S)		
1,2,3,6,7,8-HXCDD		0.070	0.0578 (S)	1.16	1.000
1,2,3,7,8,9-HXCDD		0.087	0.0578 (S)	1.20	1.011
1,2,3,4,6,7,8-HPCDD		0.381	0.0473 (Q)	1.16	1.000
OCDD		1.71	0.0473 (Q)	0.90	1.000
2,3,7,8-TCDF	NDR	0.139	0.0473 (Q)	0.65	1.000
1,2,3,7,8-PECDF	NDR	0.061	0.0473 (Q)	0.71	1.001
2,3,4,7,8-PECDF	ND		0.0473 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0473 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0473 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0473 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0473 (Q)		
1,2,3,4,6,7,8-HPCDF	ND		0.0473 (Q)		
1,2,3,4,7,8,9-HPCDF	ND		0.0473 (Q)		
OCDF	ND		0.0473 (Q)		
TOTAL TETRA-DIOXINS	ND		0.0473 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0473 (Q)		
TOTAL HEXA-DIOXINS		0.402	0.0578 (S)		
TOTAL HEPTA-DIOXINS		0.748	0.0473 (Q)		
TOTAL TETRA-FURANS		0.264	0.0473 (Q)		
TOTAL PENTA-FURANS	ND		0.0473 (Q)		
TOTAL HEXA-FURANS	ND		0.0473 (Q)		
TOTAL HEPTA-FURANS	ND		0.0473 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-13_Form1A_DX7M_047AS8_SJ2200449.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-10
Sample Collection:
30-Mar-2017 10:00

Form 2

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-13
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	21-Apr-2017 **Time:** 02:33:14	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_047A S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_047A S: 1
Concentration Units:	pg absolute	**% Moisture:**	12.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1510	75.3	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1470	73.7	0.66	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1490	74.3	1.25	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1390	69.4	1.29	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1620	81.0	1.04	1.097
13C-OCDD		4000	2700	67.5	0.91	1.182
13C-2,3,7,8-TCDF		2000	1550	77.4	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1460	72.8	1.59	1.281
13C-2,3,4,7,8-PECDF		2000	1290	64.6	1.58	1.349
13C-1,2,3,4,7,8-HXCDF		2000	1510	75.5	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1480	74.0	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1440	72.2	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1460	73.1	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1500	75.2	0.46	1.064
13C-1,2,3,4,7,8,9-HPCDF		2000	1470	73.5	0.46	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	154	77.2		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_L27039-13_Form2_DX7M_047AS8_SJ2200449.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

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

Form 1A

PCDD/PCDF ANALYSIS REPORT

SGS 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.:	9989	**Lab Sample I.D.:**	WG59129-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 11:22:21	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 18**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg/g		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	ND		0.0500 (Q)		
1,2,3,7,8-PECDD [4]	NDR	0.053	0.0500 (Q)	1.03	1.000
1,2,3,4,7,8-HXCDD	ND		0.0500 (Q)		
1,2,3,6,7,8-HXCDD	NDR	0.050	0.0500 (Q)	0.65	1.001
1,2,3,7,8,9-HXCDD	ND		0.0500 (Q)		
1,2,3,4,6,7,8-HPCDD	NDR	0.055	0.0500 (Q)	1.45	1.000
OCDD	NDR	0.066	0.0500 (Q)	1.04	1.000
2,3,7,8-TCDF		0.073	0.0500 (Q)	0.79	1.003
1,2,3,7,8-PECDF		0.065	0.0500 (Q)	1.48	1.001
2,3,4,7,8-PECDF	ND		0.0500 (Q)		
1,2,3,4,7,8-HXCDF		0.056	0.0500 (Q)	1.06	1.001
1,2,3,6,7,8-HXCDF		0.069	0.0500 (Q)	1.37	1.000
1,2,3,7,8,9-HXCDF	ND		0.0500 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0500 (Q)		
1,2,3,4,6,7,8-HPCDF	NDR	0.061	0.0500 (Q)	0.80	1.001
1,2,3,4,7,8,9-HPCDF	ND		0.0500 (Q)		
OCDF	NDR	0.129	0.0821 (S)	0.68	1.003
TOTAL TETRA-DIOXINS	ND		0.0500 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0500 (Q)		
TOTAL HEXA-DIOXINS	ND		0.0500 (Q)		
TOTAL HEPTA-DIOXINS	ND		0.0500 (Q)		
TOTAL TETRA-FURANS		0.414	0.0500 (Q)		
TOTAL PENTA-FURANS		0.065	0.0500 (Q)		
TOTAL HEXA-FURANS		0.125	0.0500 (Q)		
TOTAL HEPTA-FURANS	ND		0.0500 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_WG59129-101_Form1A_DX7M_046S18_SJ2200434.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

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

Form 2

PCDD/PCDF ANALYSIS REPORT

SGS 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.:	9989	**Lab Sample I.D.:**	WG59129-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 11:22:21	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 18**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1770	88.6	0.77	1.014
13C-1,2,3,7,8-PECDD [4]		2000	2100	105	0.67	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1800	89.9	1.24	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1760	87.8	1.28	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1810	90.4	1.07	1.096
13C-OCDD		4000	3440	85.9	0.89	1.181
13C-2,3,7,8-TCDF		2000	1740	87.1	0.79	0.968
13C-1,2,3,7,8-PECDF		2000	1900	95.0	1.57	1.281
13C-2,3,4,7,8-PECDF		2000	1770	88.3	1.58	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1840	91.8	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1870	93.5	0.53	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1710	85.4	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1760	88.0	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1860	92.9	0.45	1.064
13C-1,2,3,4,7,8,9-HPCDF		2000	1810	90.4	0.46	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	168	84.2		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_WG59129-101_Form2_DX7M_046S18_SJ2200434.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.: 9989 **OPR Data Filename:** **DX7M_046 S: 15**

Matrix: SOLID **Lab Sample I.D.:** WG59129-102 i

Extraction Date: 10-Apr-2017 **Analysis Date:** 20-Apr-2017 **Time:** 08:38:35

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	10.0	10.3	6.70 - 15.8	103
1,2,3,7,8-PECDD [4]		0.61	50.0	50.8	35.0 - 71.0	102
1,2,3,4,7,8-HXCDD		1.26	50.0	51.6	35.0 - 82.0	103
1,2,3,6,7,8-HXCDD		1.25	50.0	54.7	38.0 - 67.0	109
1,2,3,7,8,9-HXCDD		1.20	50.0	55.1	32.0 - 81.0	110
1,2,3,4,6,7,8-HPCDD		1.01	50.0	51.5	35.0 - 70.0	103
OCDD		0.90	100	105	78.0 - 144	105
2,3,7,8-TCDF		0.74	10.0	10.6	7.50 - 15.8	106
1,2,3,7,8-PECDF		1.53	50.0	51.5	40.0 - 67.0	103
2,3,4,7,8-PECDF		1.53	50.0	52.5	34.0 - 80.0	105
1,2,3,4,7,8-HXCDF		1.19	50.0	51.7	36.0 - 67.0	103
1,2,3,6,7,8-HXCDF		1.23	50.0	52.8	42.0 - 65.0	106
1,2,3,7,8,9-HXCDF		1.26	50.0	55.8	39.0 - 65.0	112
2,3,4,6,7,8-HXCDF		1.20	50.0	53.1	35.0 - 78.0	106
1,2,3,4,6,7,8-HPCDF		1.01	50.0	56.5	41.0 - 61.0	113
1,2,3,4,7,8,9-HPCDF		1.03	50.0	53.3	39.0 - 69.0	107
OCDF		0.92	100	104	63.0 - 170	104

(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.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_WG59129-102_Form8A_SJ2200430.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.: 9989 **OPR Data Filename:** **DX7M_046 S: 15**

Matrix: SOLID **Lab Sample I.D.:** WG59129-102 i

Extraction Date: 10-Apr-2017 **Analysis Date:** 20-Apr-2017 **Time:** 08:38:35

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		0.77	100	56.9	20.0-175	56.9
13C-1,2,3,7,8-PECDD [4]		0.66	100	68.8	21.0-227	68.8
13C-1,2,3,4,7,8-HXCDD		1.27	100	58.6	21.0-193	58.6
13C-1,2,3,6,7,8-HXCDD		1.26	100	57.3	25.0-163	57.3
13C-1,2,3,4,6,7,8-HPCDD		1.03	100	62.9	26.0-166	62.9
13C-OCDD		0.91	200	117	26.0-397	58.7
13C-2,3,7,8-TCDF		0.78	100	56.8	22.0-152	56.8
13C-1,2,3,7,8-PECDF		1.55	100	62.5	21.0-192	62.5
13C-2,3,4,7,8-PECDF		1.58	100	59.5	13.0-328	59.5
13C-1,2,3,4,7,8-HXCDF		0.51	100	62.5	19.0-202	62.5
13C-1,2,3,6,7,8-HXCDF		0.52	100	62.8	21.0-159	62.8
13C-1,2,3,7,8,9-HXCDF		0.51	100	57.2	17.0-205	57.2
13C-2,3,4,6,7,8-HXCDF		0.51	100	59.5	22.0-176	59.5
13C-1,2,3,4,6,7,8-HPCDF		0.45	100	63.0	21.0-158	63.0
13C-1,2,3,4,7,8,9-HPCDF		0.44	100	62.1	20.0-186	62.1
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	8.20	3.10-19.1	82.0

(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.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_WG59129-102_Form8B_SJ2200430.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6 (Duplicate)
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	WG59129-103 (DUP L27039-6)
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 15:02:52	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 22**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	19.9

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	NDR	0.059	0.0495 (Q)	0.34	1.001
1,2,3,7,8-PECDD [4]	ND		0.0495 (Q)		
1,2,3,4,7,8-HXCDD	ND		0.0711 (S)		
1,2,3,6,7,8-HXCDD	ND		0.0711 (S)		
1,2,3,7,8,9-HXCDD	ND		0.0711 (S)		
1,2,3,4,6,7,8-HPCDD	NDR	0.284	0.0495 (Q)	0.69	1.000
OCDD		1.71	0.0495 (Q)	0.76	1.000
2,3,7,8-TCDF		0.149	0.0495 (Q)	0.70	1.001
1,2,3,7,8-PECDF	ND		0.0495 (Q)		
2,3,4,7,8-PECDF	ND		0.0495 (Q)		
1,2,3,4,7,8-HXCDF	ND		0.0495 (Q)		
1,2,3,6,7,8-HXCDF	ND		0.0495 (Q)		
1,2,3,7,8,9-HXCDF	ND		0.0495 (Q)		
2,3,4,6,7,8-HXCDF	ND		0.0495 (Q)		
1,2,3,4,6,7,8-HPCDF	ND		0.0495 (Q)		
1,2,3,4,7,8,9-HPCDF	ND		0.0495 (Q)		
OCDF	NDR	0.059	0.0495 (Q)	0.28	1.001
TOTAL TETRA-DIOXINS	ND		0.0495 (Q)		
TOTAL PENTA-DIOXINS	ND		0.0495 (Q)		
TOTAL HEXA-DIOXINS		0.206	0.0711 (S)		
TOTAL HEPTA-DIOXINS		0.354	0.0495 (Q)		
TOTAL TETRA-FURANS		0.149	0.0495 (Q)		
TOTAL PENTA-FURANS	ND		0.0495 (Q)		
TOTAL HEXA-FURANS	ND		0.0495 (Q)		
TOTAL HEPTA-FURANS	ND		0.0495 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_WG59129-103_Form1A_DX7M_046S22_SJ2200439.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6 (Duplicate)
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	WG59129-103 (DUP L27039-6)
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	17-Feb-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 15:02:52	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX7M_046 S: 22**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX7M_046 S: 18
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX7M_046 S: 14
Concentration Units:	pg absolute	**% Moisture:**	19.9

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LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1710	85.5	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1990	99.3	0.65	1.379
13C-1,2,3,4,7,8-HXCDD		2000	1700	84.8	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1660	83.2	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1730	86.6	1.04	1.096
13C-OCDD		4000	3280	82.1	0.90	1.181
13C-2,3,7,8-TCDF		2000	1680	84.0	0.78	0.967
13C-1,2,3,7,8-PECDF		2000	1870	93.5	1.56	1.280
13C-2,3,4,7,8-PECDF		2000	1720	86.2	1.54	1.348
13C-1,2,3,4,7,8-HXCDF		2000	1800	90.0	0.52	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1840	92.0	0.53	0.957
13C-1,2,3,7,8,9-HXCDF		2000	1620	81.2	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1720	86.1	0.53	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1710	85.7	0.44	1.064
13C-1,2,3,4,7,8,9-HPCDF		2000	1660	83.0	0.47	1.106
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	154	77.1		1.001

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB5_WG59129-103_Form2_DX7M_046S22_SJ2200439.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-1
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-1
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Apr-2017 **Time:** 22:48:41	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 6**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	17.5

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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.109	0.0549 (S)	0.67	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-1_Form1A_DB73_067S6_SJ2201008.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-2
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-2
Matrix:	SOLID	**Sample Size:**	10.4 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Apr-2017 **Time:** 23:25:34	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 7**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	18.9

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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.108	0.0481 (Q)	0.85	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-2_Form1A_DB73_067S7_SJ2201009.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-6 (A)
Matrix:	SOLID	**Sample Size:**	10.3 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 00:02:28	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 8**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	18.5

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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.109	0.0488 (Q)	0.69	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-6_Form1A_DB73_067S8_SJ2201010.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NF-3
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-8
Matrix:	SOLID	**Sample Size:**	10.2 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 01:16:15	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 10**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	38.3

This page is part of a total report that contains information necessary for accreditation compliance.
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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.158	0.0489 (Q)	0.84	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-8_Form1A_DB73_067S10_SJ2201012.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
Dup-1
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-9
Matrix:	SOLID	**Sample Size:**	9.84 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 01:53:06	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 11**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	19.0

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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.122	0.0508 (Q)	0.70	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-9_Form1A_DB73_067S11_SJ2201013.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
Dup-2
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-10
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 02:29:55	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 12**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	38.7

This page is part of a total report that contains information necessary for accreditation compliance.
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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.168	0.0470 (Q)	0.71	1.000

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-10_Form1A_DB73_067S12_SJ2201014.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-9
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-12
Matrix:	SOLID	**Sample Size:**	9.88 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 03:06:45	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 13**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	21.0

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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.109	0.0506 (Q)	0.66	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-12_Form1A_DB73_067S13_SJ2201015.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
SDS-10
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCDD/PCDF ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-13
Matrix:	SOLID	**Sample Size:**	10.6 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 03:43:35	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 14**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	12.0

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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.126	0.0473 (Q)	0.70	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

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Report Filename: 1613_DIOXINS_1613DB225_L27039-13_Form1A_DB73_067S14_SJ2201016.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

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

Form 1A

PCDD/PCDF ANALYSIS REPORT

SGS 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.:	9989	**Lab Sample I.D.:**	WG59129-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	19-Apr-2017 **Time:** 22:11:46	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g		

This page is part of a total report that contains information necessary for accreditation compliance.
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COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF	ND		0.0500 (Q)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:16:30; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB225_WG59129-101_Form1A_DB73_067S5_SJ2201006.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6 (Duplicate)
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	WG59129-103 (DUP L27039-6)
Matrix:	SOLID	**Sample Size:**	10.1 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	03-Apr-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	HR GC/MS
Analysis Date:	20-Apr-2017 **Time:** 00:39:22	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB73_067 S: 9**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB73_067 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB73_067 S: 2
Concentration Units:	pg/g (dry weight basis)	**% Moisture:**	19.9

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDF		0.109	0.0495 (Q)	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Jason MacKenzie_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 29-May-2017 10:16:30; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_1613DB225_WG59129-103_Form1A_DB73_067S9_SJ2201011.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		03-Apr-2017
RT Window Data Filename:		**Analysis Date:**		**Time:**
DB-5 IS Data Filename:		**Analysis Date:**		**Time:**
DB-225 IS Data Filename:	DB73_059B S: 1	**Analysis Date:**	03-Apr-2017	**Time:** 10:01:53

DB225 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	N/A	**1,3,6,8-TCDF (F)**	N/A
1,2,8,9-TCDD (L)	N/A	**1,2,8,9-TCDF (L)**	N/A
1,2,4,7,9-PECDD (F)	N/A	**1,3,4,6,8-PECDF (F)**	N/A
1,2,3,8,9-PECDD (L)	N/A	**1,2,3,8,9-PECDF (L)**	N/A
1,2,4,6,7,9-HXCDD (F)	N/A	**1,2,3,4,6,8-HXCDF (F)**	N/A
1,2,3,4,6,7-HXCDD (L)	N/A	**1,2,3,4,8,9-HXCDF (L)**	N/A
1,2,3,4,6,7,9-HPCDD (F)	N/A	**1,2,3,4,6,7,8-HPCDF (F)**	N/A
1,2,3,4,6,7,8-HPCDD (L)	N/A	**1,2,3,4,7,8,9-HPCDF (L)**	N/A

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	N/A	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	N/A
1,2,7,8-TCDD **1,4,7,8-TCDD**	N/A	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	4
1,4,7,8-TCDD **1,2,3,7-TCDD**	N/A	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	5
1,2,3,7-TCDD **1,2,3,8-TCDD**	N/A		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 29-May-2017 10:16:30; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS__DB73_059BS1_Form5_SJ2193675.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		03-Apr-2017
RT Window Data Filename:		**Analysis Date:**		**Time:**
DB-5 IS Data Filename:		**Analysis Date:**		**Time:**
DB-225 IS Data Filename:	DB73_067 S: 1	**Analysis Date:**	19-Apr-2017	**Time:** 19:44:12

DB225 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	N/A	**1,3,6,8-TCDF (F)**	N/A
1,2,8,9-TCDD (L)	N/A	**1,2,8,9-TCDF (L)**	N/A
1,2,4,7,9-PECDD (F)	N/A	**1,3,4,6,8-PECDF (F)**	N/A
1,2,3,8,9-PECDD (L)	N/A	**1,2,3,8,9-PECDF (L)**	N/A
1,2,4,6,7,9-HXCDD (F)	N/A	**1,2,3,4,6,8-HXCDF (F)**	N/A
1,2,3,4,6,7-HXCDD (L)	N/A	**1,2,3,4,8,9-HXCDF (L)**	N/A
1,2,3,4,6,7,9-HPCDD (F)	N/A	**1,2,3,4,6,7,8-HPCDF (F)**	N/A
1,2,3,4,6,7,8-HPCDD (L)	N/A	**1,2,3,4,7,8,9-HPCDF (L)**	N/A

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	N/A	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	N/A
1,2,7,8-TCDD **1,4,7,8-TCDD**	N/A	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	4
1,4,7,8-TCDD **1,2,3,7-TCDD**	N/A	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	6
1,2,3,7-TCDD **1,2,3,8-TCDD**	N/A		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 29-May-2017 10:16:30; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS__DB73_067S1_Form5_SJ2200423.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		25-Apr-2017
RT Window Data Filename:	DX7B_088A S: 8	**Analysis Date:**	26-Apr-2017	**Time:** 04:15:50
DB-5 IS Data Filename:	DX7B_088A S: 8	**Analysis Date:**	26-Apr-2017	**Time:** 04:15:50
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:48	**1,3,6,8-TCDF (F)**	21:16
1,2,8,9-TCDD (L)	28:09	**1,2,8,9-TCDF (L)**	28:01
1,2,4,7,9-PECDD (F)	31:52	**1,3,4,6,8-PECDF (F)**	28:41
1,2,3,8,9-PECDD (L)	36:59	**1,2,3,8,9-PECDF (L)**	37:03
1,2,4,6,7,9-HXCDD (F)	39:59	**1,2,3,4,6,8-HXCDF (F)**	38:55
1,2,3,4,6,7-HXCDD (L)	42:39	**1,2,3,4,8,9-HXCDF (L)**	42:59
1,2,3,4,6,7,9-HPCDD (F)	45:46	**1,2,3,4,6,7,8-HPCDF (F)**	45:18
1,2,3,4,6,7,8-HPCDD (L)	46:42	**1,2,3,4,7,8,9-HPCDF (L)**	47:06

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	22
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		25-Apr-2017
RT Window Data Filename:	DX7B_091 S: 1	**Analysis Date:**	27-Apr-2017	**Time:** 09:40:34
DB-5 IS Data Filename:	DX7B_091 S: 1	**Analysis Date:**	27-Apr-2017	**Time:** 09:40:34
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:55	**1,3,6,8-TCDF (F)**	21:23
1,2,8,9-TCDD (L)	28:19	**1,2,8,9-TCDF (L)**	28:10
1,2,4,7,9-PECDD (F)	32:04	**1,3,4,6,8-PECDF (F)**	28:52
1,2,3,8,9-PECDD (L)	37:06	**1,2,3,8,9-PECDF (L)**	37:10
1,2,4,6,7,9-HXCDD (F)	40:06	**1,2,3,4,6,8-HXCDF (F)**	39:02
1,2,3,4,6,7-HXCDD (L)	42:45	**1,2,3,4,8,9-HXCDF (L)**	43:05
1,2,3,4,6,7,9-HPCDD (F)	45:51	**1,2,3,4,6,7,8-HPCDF (F)**	45:23
1,2,3,4,6,7,8-HPCDD (L)	46:46	**1,2,3,4,7,8,9-HPCDF (L)**	47:11

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	21.4
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Thong Do_____

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AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		17-Feb-2017
RT Window Data Filename:	DX7M_017 S: 7	**Analysis Date:**	17-Feb-2017	**Time:** 13:38:05
DB-5 IS Data Filename:	DX7M_017 S: 7	**Analysis Date:**	17-Feb-2017	**Time:** 13:38:05
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:01	**1,3,6,8-TCDF (F)**	21:31
1,2,8,9-TCDD (L)	28:19	**1,2,8,9-TCDF (L)**	28:11
1,2,4,7,9-PECDD (F)	32:00	**1,3,4,6,8-PECDF (F)**	28:52
1,2,3,8,9-PECDD (L)	37:02	**1,2,3,8,9-PECDF (L)**	37:05
1,2,4,6,7,9-HXCDD (F)	40:03	**1,2,3,4,6,8-HXCDF (F)**	39:00
1,2,3,4,6,7-HXCDD (L)	42:44	**1,2,3,4,8,9-HXCDF (L)**	43:04
1,2,3,4,6,7,9-HPCDD (F)	45:54	**1,2,3,4,6,7,8-HPCDF (F)**	45:25
1,2,3,4,6,7,8-HPCDD (L)	46:49	**1,2,3,4,7,8,9-HPCDF (L)**	47:15

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	17.5
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Robert Tones_____

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AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		17-Feb-2017
RT Window Data Filename:	DX7M_046 S: 14	**Analysis Date:**	20-Apr-2017	**Time:** 07:44:21
DB-5 IS Data Filename:	DX7M_046 S: 14	**Analysis Date:**	20-Apr-2017	**Time:** 07:44:21
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:01	**1,3,6,8-TCDF (F)**	21:31
1,2,8,9-TCDD (L)	28:15	**1,2,8,9-TCDF (L)**	28:06
1,2,4,7,9-PECDD (F)	31:55	**1,3,4,6,8-PECDF (F)**	28:48
1,2,3,8,9-PECDD (L)	36:56	**1,2,3,8,9-PECDF (L)**	37:00
1,2,4,6,7,9-HXCDD (F)	39:57	**1,2,3,4,6,8-HXCDF (F)**	38:54
1,2,3,4,6,7-HXCDD (L)	42:38	**1,2,3,4,8,9-HXCDF (L)**	42:58
1,2,3,4,6,7,9-HPCDD (F)	45:47	**1,2,3,4,6,7,8-HPCDF (F)**	45:19
1,2,3,4,6,7,8-HPCDD (L)	46:42	**1,2,3,4,7,8,9-HPCDF (L)**	47:07

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	24
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

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

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		17-Feb-2017
RT Window Data Filename:	DX7M_047A S: 1	**Analysis Date:**	20-Apr-2017	**Time:** 20:09:54
DB-5 IS Data Filename:	DX7M_047A S: 1	**Analysis Date:**	20-Apr-2017	**Time:** 20:09:54
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:02	**1,3,6,8-TCDF (F)**	21:32
1,2,8,9-TCDD (L)	28:18	**1,2,8,9-TCDF (L)**	28:10
1,2,4,7,9-PECDD (F)	31:57	**1,3,4,6,8-PECDF (F)**	28:50
1,2,3,8,9-PECDD (L)	36:59	**1,2,3,8,9-PECDF (L)**	37:03
1,2,4,6,7,9-HXCDD (F)	40:01	**1,2,3,4,6,8-HXCDF (F)**	38:57
1,2,3,4,6,7-HXCDD (L)	42:42	**1,2,3,4,8,9-HXCDF (L)**	43:02
1,2,3,4,6,7,9-HPCDD (F)	45:53	**1,2,3,4,6,7,8-HPCDF (F)**	45:24
1,2,3,4,6,7,8-HPCDD (L)	46:48	**1,2,3,4,7,8,9-HPCDF (L)**	47:14

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	22
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS__DX7M_047AS1_Form5_SJ2200939.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	03-Apr-2017	**VER Data Filename:**	DB73_067 S: 2
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Apr-2017
GC Column ID:	DB225	**Analysis Time:**	20:21:05

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDF		**M/M+2**	0.76	0.65-0.89	10.5	8.4 - 12

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DB73_067S2__Form4A_SJ2201003.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	03-Apr-2017	**VER Data Filename:**	DB73_067 S: 2
Instrument ID:	HR GC/MS	**Analysis Date:**	19-Apr-2017
GC Column ID:	DB225	**Analysis Time:**	20:21:05

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	03-Apr-2017	**VER Data Filename:**	DB73_067 S: 15
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB225	**Analysis Time:**	04:20:28

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	10.6	8.4 - 12

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DB73_067S15__Form4A_SJ2201017.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	03-Apr-2017	**VER Data Filename:**	DB73_067 S: 15
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB225	**Analysis Time:**	04:20:28

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	09:40:34

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.82	0.65-0.89	11.1	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.63	0.52-0.70	52.2	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.31	1.05-1.43	51.7	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.23	1.05-1.43	49.4	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.27	1.05-1.43	51.1	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.06	0.88-1.20	49.9	43 - 58
OCDD		**M+2/M+4**	0.90	0.76-1.02	99.7	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	10.4	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.54	1.32-1.78	51.4	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	50.6	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.24	1.05-1.43	51.5	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	49.8	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.26	1.05-1.43	49.3	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	50.4	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.06	0.88-1.20	51.3	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.06	0.88-1.20	50.9	43 - 58
OCDF		**M+2/M+4**	0.91	0.76-1.02	93.2	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7B_091S1__Form4A_SJ2203575.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	09:40:34

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.80	0.65-0.89	101	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.64	0.52-0.70	96.8	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.30	1.05-1.43	95.1	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.29	1.05-1.43	101	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.99	0.88-1.20	84.7	72 - 138
13C-OCDD		**M+2/M+4**	0.92	0.76-1.02	164	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.80	0.65-0.89	106	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.56	1.32-1.78	102	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.58	1.32-1.78	101	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	100	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	101	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.54	0.43-0.59	99.1	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.54	0.43-0.59	99.3	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.46	0.37-0.51	92.3	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	80.5	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					10.3	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7B_091S1__Form4B_SJ2203575.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	09:40:34

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.001	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.000	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.001	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	09:40:34

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.014	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.387	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.986	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.179	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.967	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.287	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.355	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.015	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7B_091S1__Form6B_SJ2203575.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	18:50:22

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.80	0.65-0.89	11.3	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.63	0.52-0.70	51.1	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.31	1.05-1.43	50.9	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	48.7	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.28	1.05-1.43	49.7	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.07	0.88-1.20	50.5	43 - 58
OCDD		**M+2/M+4**	0.89	0.76-1.02	98.2	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.79	0.65-0.89	10.3	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.55	1.32-1.78	51.6	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.57	1.32-1.78	50.9	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	51.8	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	49.8	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.24	1.05-1.43	47.1	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.24	1.05-1.43	49.5	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.05	0.88-1.20	50.3	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.06	0.88-1.20	50.8	43 - 58
OCDF		**M+2/M+4**	0.92	0.76-1.02	92.0	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	18:50:22

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.82	0.65-0.89	102	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.65	0.52-0.70	95.1	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.28	1.05-1.43	93.8	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.28	1.05-1.43	104	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.01	0.88-1.20	85.0	72 - 138
13C-OCDD		**M+2/M+4**	0.91	0.76-1.02	143	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.79	0.65-0.89	104	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.56	1.32-1.78	99.4	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.58	1.32-1.78	98.6	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.54	0.43-0.59	99.0	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	102	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.54	0.43-0.59	97.1	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.54	0.43-0.59	101	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.45	0.37-0.51	91.0	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.46	0.37-0.51	78.6	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					10.1	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7B_091S11__Form4B_SJ2203578.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	18:50:22

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.001	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.000	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.001	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	25-Apr-2017	**VER Data Filename:**	DX7B_091 S: 11
Instrument ID:	HR GC/MS	**Analysis Date:**	27-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	18:50:22

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.386	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.986	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.179	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.286	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.355	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.014	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	07:44:21

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	9.84	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.61	0.52-0.70	50.7	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.24	1.05-1.43	51.8	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.28	1.05-1.43	54.1	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.21	1.05-1.43	54.4	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.04	0.88-1.20	52.8	43 - 58
OCDD		**M+2/M+4**	0.89	0.76-1.02	103	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.79	0.65-0.89	10.5	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.57	1.32-1.78	52.8	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.56	1.32-1.78	51.6	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	52.9	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	53.9	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.25	1.05-1.43	51.6	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.24	1.05-1.43	52.0	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.03	0.88-1.20	52.0	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.04	0.88-1.20	53.7	43 - 58
OCDF		**M+2/M+4**	0.88	0.76-1.02	105	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7M_046S14__Form4A_SJ2200429.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	07:44:21

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.75	0.65-0.89	98.7	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.64	0.52-0.70	105	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.26	1.05-1.43	98.7	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.27	1.05-1.43	95.7	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.07	0.88-1.20	109	72 - 138
13C-OCDD		**M+2/M+4**	0.90	0.76-1.02	214	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	97.3	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.54	1.32-1.78	103	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.52	1.32-1.78	103	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	108	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	104	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.51	0.43-0.59	100	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	102	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.45	0.37-0.51	109	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.46	0.37-0.51	112	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					9.59	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_DX7M_046S14__Form4B_SJ2200429.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	07:44:21

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.001	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7M_046S14__Form6A_SJ2200429.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 14
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	07:44:21

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.379	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.097	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.181	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.967	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.280	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.347	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.953	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.064	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.106	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7M_046S14__Form6B_SJ2200429.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 25
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	17:48:16

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	10.6	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.61	0.52-0.70	52.8	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.23	1.05-1.43	51.3	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.26	1.05-1.43	52.8	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.27	1.05-1.43	55.0	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.08	0.88-1.20	50.8	43 - 58
OCDD		**M+2/M+4**	0.89	0.76-1.02	105	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	10.6	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	52.8	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.55	1.32-1.78	51.8	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.22	1.05-1.43	54.4	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.24	1.05-1.43	53.0	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.22	1.05-1.43	48.6	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	53.1	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.04	0.88-1.20	52.1	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.03	0.88-1.20	52.8	43 - 58
OCDF		**M+2/M+4**	0.89	0.76-1.02	107	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7M_046S25__Form4A_SJ2200442.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 25
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	17:48:16

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.80	0.65-0.89	98.4	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.67	0.52-0.70	95.1	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.25	1.05-1.43	98.1	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.22	1.05-1.43	94.4	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.04	0.88-1.20	103	72 - 138
13C-OCDD		**M+2/M+4**	0.90	0.76-1.02	197	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.78	0.65-0.89	99.2	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.59	1.32-1.78	102	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.56	1.32-1.78	101	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	99.8	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	98.1	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.51	0.43-0.59	100	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	97.7	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.43	0.37-0.51	105	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.46	0.37-0.51	105	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					9.70	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7M_046S25__Form4B_SJ2200442.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 25
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	17:48:16

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.001	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.000	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.000	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.001	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_046 S: 25
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	17:48:16

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.014	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.380	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.097	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.181	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.968	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.281	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.349	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.953	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.957	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.064	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.106	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	20:09:54

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	10.4	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.63	0.52-0.70	52.0	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.23	1.05-1.43	51.9	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.19	1.05-1.43	53.3	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.18	1.05-1.43	56.1	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.01	0.88-1.20	50.4	43 - 58
OCDD		**M+2/M+4**	0.87	0.76-1.02	103	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.76	0.65-0.89	10.3	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.55	1.32-1.78	53.4	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	52.7	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	54.0	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.25	1.05-1.43	53.0	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.24	1.05-1.43	50.9	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.27	1.05-1.43	52.7	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.02	0.88-1.20	52.1	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.08	0.88-1.20	51.6	43 - 58
OCDF		**M+2/M+4**	0.90	0.76-1.02	102	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_DX7M_047AS1__Form4A_SJ2200444.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	20:09:54

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.79	0.65-0.89	100	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.66	0.52-0.70	85.1	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.28	1.05-1.43	99.3	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.27	1.05-1.43	94.5	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	0.99	0.88-1.20	105	72 - 138
13C-OCDD		**M+2/M+4**	0.91	0.76-1.02	218	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.78	0.65-0.89	103	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.55	1.32-1.78	101	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.54	1.32-1.78	91.5	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	106	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	99.8	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.51	0.43-0.59	104	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	102	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.45	0.37-0.51	107	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	112	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					9.47	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_DX7M_047AS1__Form4B_SJ2200444.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	20:09:54

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.001	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7M_047AS1__Form6A_SJ2200444.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	20-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	20:09:54

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.380	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.096	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.182	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.967	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.280	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.348	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.953	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.957	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.063	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.106	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7M_047AS1__Form6B_SJ2200444.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	21-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	06:13:46

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.81	0.65-0.89	10.9	7.8 - 12.9
1,2,3,7,8-PECDD [5]		**M/M+2**	0.62	0.52-0.70	53.1	39 - 65
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.27	1.05-1.43	52.0	39 - 64
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.22	1.05-1.43	54.3	39 - 64
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.19	1.05-1.43	56.6	41 - 61
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.03	0.88-1.20	51.7	43 - 58
OCDD		**M+2/M+4**	0.90	0.76-1.02	102	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.78	0.65-0.89	10.6	8.4 - 12
1,2,3,7,8-PECDF		**M+2/M+4**	1.52	1.32-1.78	54.9	41 - 60
2,3,4,7,8-PECDF		**M+2/M+4**	1.51	1.32-1.78	53.0	41 - 61
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.26	1.05-1.43	54.3	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.31	1.05-1.43	52.4	44 - 57
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.23	1.05-1.43	50.8	45 - 56
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.26	1.05-1.43	52.5	44 - 57
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.02	0.88-1.20	54.9	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.03	0.88-1.20	55.1	43 - 58
OCDF		**M+2/M+4**	0.92	0.76-1.02	84.6	63 - 159

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

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Report Filename: 1613_DIOXINS_DX7M_047AS12__Form4A_SJ2200443.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	21-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	06:13:46

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.79	0.65-0.89	102	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.66	0.52-0.70	84.7	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.26	1.05-1.43	98.3	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.26	1.05-1.43	92.6	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.05	0.88-1.20	109	72 - 138
13C-OCDD		**M+2/M+4**	0.91	0.76-1.02	205	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	105	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.52	1.32-1.78	97.9	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	92.1	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	103	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.53	0.43-0.59	101	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.52	0.43-0.59	103	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.54	0.43-0.59	101	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.44	0.37-0.51	103	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	101	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					10.2	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6;
Report Filename: 1613_DIOXINS_DX7M_047AS12__Form4B_SJ2200443.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	21-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	06:13:46

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.011	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.001	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7M_047AS12__Form6A_SJ2200443.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

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

Initial Calibration Date:	17-Feb-2017	**VER Data Filename:**	DX7M_047A S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	21-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	06:13:46

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.013	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.380	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.986	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.096	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.182	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.967	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.280	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.348	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.953	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.957	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.064	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.106	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Kristen Bowes_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 29-May-2017 10:15:44; Application: XMLTransformer-1.16.6; Report Filename: 1613_DIOXINS_DX7M_047AS12__Form6B_SJ2200443.html; Workgroup: WG59129; Design ID: 867]

AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

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

Project No. ANNACIS ISLAND DAS SAMPLING PROGRAM

Contract No.: 9989

Client ID: SDS-6

Concentration Units: pg/g (dry weight basis)

COMPOUND	L27039-6 (A)		WG59129-103		MEAN	RELATIVE PERCENT DIFFERENCE
	LAB FLAG [1]	CONC. FOUND	LAB FLAG [1]	CONC. FOUND		
2,3,7,8-TCDD	ND		NDR	0.059		
1,2,3,7,8-PECDD	ND		ND			
1,2,3,4,7,8-HXCDD	ND		ND			
1,2,3,6,7,8-HXCDD		0.050	ND			
1,2,3,7,8,9-HXCDD		0.052	ND			
1,2,3,4,6,7,8-HPCDD		0.307	NDR	0.284		
OCDD		1.83		1.71	1.77	6.64
2,3,7,8-TCDF		0.109		0.109	0.109	0
1,2,3,7,8-PECDF	ND		ND			
2,3,4,7,8-PECDF	ND		ND			
1,2,3,4,7,8-HXCDF	ND		ND			
1,2,3,6,7,8-HXCDF	ND		ND			
1,2,3,7,8,9-HXCDF	ND		ND			
2,3,4,6,7,8-HXCDF	ND		ND			
1,2,3,4,6,7,8-HPCDF	ND		ND			
1,2,3,4,7,8,9-HPCDF	ND		ND			
OCDF	NDR	0.054	NDR	0.059		

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Jason MacKenzie_____

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

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 29-May-2017 10:17:03; Application: XMLTransformer-1.16.6;
Report Filename: RPD_DIOXINS_1613-RPD_WG59129-103_L27039-6_.html; Workgroup: WG59129; Design ID: 867]

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
BFR	BTBPE	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
	DBDPE	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
	HBB	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
	PBEB	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059																			Y											
FTS	4:2 fluorotelomer sulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081																													YD	
		SGS AXYS MLA-089	MLA-089												YD																		
	6:2 fluorotelomer sulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																													YD	
		SGS AXYS MLA-089	MLA-089												YD																		
	8:2 fluorotelomer sulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																													YD	
		SGS AXYS MLA-089	MLA-089												YD																		
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070		Y																												
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070		Y																												
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070		Y																												
OC Pesticides	2,4'-DDD	EPA 625	MLA-007																					Y									
		EPA 8270	MLA-007					Y					Y																					
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y	Y									
	2,4'-DDE	EPA 625	MLA-007																					Y									
		EPA 8270	MLA-007					Y					Y																					
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y	Y									
	2,4'-DDT	EPA 625	MLA-007																					Y									
		EPA 8270	MLA-007					Y					Y																					
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y	Y									
	4,4'-DDD	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y	Y								Y	
	4,4'-DDE	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y	Y								Y	
	4,4'-DDT	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																	
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Aldrin	EPA 625	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Alpha-HCH	EPA 625	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Beta-HCH	EPA 625	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Chlordane, technical	EPA 625	MLA-007																				Y								Y	
		EPA 8270	MLA-007				Y	Y			Y	Y		Y	Y										Y				Y	Y		Y	Y	
		EPA 1699	MLA-028												Y																	Y	
		SGS AXYS MLA-007	MLA-007					Y							Y										Y							Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007					Y			Y		Y	Y	Y										Y			Y			Y	Y	
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	cis-Nonachlor	EPA 8270	MLA-007					Y					Y												Y								
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y						Y	Y		Y							Y	
	Delta-HCH	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007					Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Dieldrin	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Endosulphan I	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Endosulphan II	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007		Y	Y		Y						Y	Y							Y		Y							Y	
	Endosulphan sulphate	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Endrin	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Endrin aldehyde	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y								Y		Y							Y	
	Endrin ketone	EPA 8081	MLA-007					Y			Y		Y		Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y			
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Gamma-HCH (Lindane)	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Heptachlor	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Heptachlor epoxide	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Hexachlorobenzene	EPA 1625	MLA-007																					Y	Y			Y				Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Methoxychlor	EPA 608	MLA-007																					Y				Y	Y			Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Mirex	EPA 8270	MLA-007					Y			Y		Y		Y										Y				Y	Y		Y	Y	
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Oxychlordane	EPA 8270	MLA-007					Y					Y												Y								

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 1699	MLA-028					Y							Y									Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y							Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y										
	Toxaphene	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007					Y			Y		Y	Y	Y									Y				Y			Y	Y	
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y							Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y	Y							Y		
	trans-Nonachlor	EPA 8270	MLA-007					Y					Y											Y									
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y							Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y	Y										
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,4-Dimethyldibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2/3-Methyldibenzothiophenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2-methylnaphthalene	EPA 1625	MLA-021																													Y	
		EPA 8270	MLA-021					Y			Y													Y										
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y									Y	
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	Acenaphthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y		Y							Y	
	Acenaphthylene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y		Y							Y	
	Anthracene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y		Y							Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Benz[a]anthracene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	Y
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021			Y										Y							Y										
	Benzo[ghi]perylene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021																				Y										
	Benzo[k]fluoranthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	Y
		EPA 8270	MLA-021						Y			Y				Y	Y																
		SGS AXYS MLA-021	MLA-021						Y							Y							Y			Y							Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	Chrysene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Dibenz[ah]anthracene	SGS AXYS MLA-021	MLA-021			Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Dibenzo[ah]anthracene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021					Y							Y										Y							Y	
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	Fluoranthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Fluorene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Naphthalene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Perylene	SGS AXYS MLA-021	MLA-021			Y										Y							Y										
	Phenanthrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Pyrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Retene	SGS AXYS MLA-021	MLA-021			Y																	Y										
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 140 2,2',3,4,4',6'-hexabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE-183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
PCB Aroclors	PCB Aroclor 1016	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y			Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007										Y																				
	PCB Aroclor 1221	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1232	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1242	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y			Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1248	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1254	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1260	EPA 1668	MLA-010					Y						Y	Y										Y						Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y							Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y							Y	
	PCB Aroclor 1268	SGS AXYS MLA-007	MLA-007			Y										Y							Y										
PCB congeners	PCB 1 2-Chlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 10 2,6-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 100 2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 101/90/89	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 105/127	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 107/109	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 108 2,3,3',4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 111/117	EPA 8270	MLA-007										Y																				
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 118/106	EPA 8270	MLA-007										Y																				

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 12/13	EPA 8270	MLA-007										Y																				
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 121 2,3',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 125 2,3',4',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 130 2,2',3,3',4,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 131/142	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 132/168	EPA 8270	MLA-007										Y																				

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 134/143	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 138/163/164	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 144/135	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 149/139	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 15 4,4'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 157 2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 158/160	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y			YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 16/32	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 161 2,3,3',4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 162 2,3,3',4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 168 2,3',4,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 170/190	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 172/192	EPA 8270	MLA-007										Y																				

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 174/181	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 175 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 177 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 182 2,2',3,4,4',5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 183 2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				

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SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 187/182	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 191 2,3,3',4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 193 2,3,3',4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 196 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 196/203	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y						Y											

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 199 2,2',3,3',4,5,5',6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	

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SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 23/34	EPA 8270	MLA-007										Y																				
	PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 24/27	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 33/20/21	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 4/10	EPA 8270	MLA-007										Y																				
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 41/71/64/68	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 42/59	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 47/48/75	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 49/43	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 52/73	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 56/60	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 62/65	EPA 8270	MLA-007										Y																				
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 66/80	EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-007	MLA-007			Y										Y							Y											
	PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 7/9	EPA 8270	MLA-007										Y																					
	PCB 70 2,3',4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 70/76	EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-007	MLA-007			Y										Y							Y											
	PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 73 2,3',5',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
		SGS AXYS MLA-901	MLA-901		Y																													
	PCB 74/61	EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-007	MLA-007			Y										Y							Y											
	PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 76 2,3',4',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y											
	PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 8/5	EPA 8270	MLA-007										Y																					
		SGS AXYS MLA-007	MLA-007			Y										Y							Y											
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y		YD	Y

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 83/108	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 85/120	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 87/115/116	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 88/121	EPA 8270	MLA-007										Y																				
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 95/93	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 97/86	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 98/102	EPA 8270	MLA-007										Y																				
	PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB congeners, total	EPA 1668	MLA-010								Y																		Y				
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Total Dichlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Heptachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Hexachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Monochlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
	Total Nonachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Total Octachlorobiphenyls	EPA 1668	MLA-010												YD					YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total PCBs	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Trichlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
PCDDF	1,2,3,4,6,7,8-HpCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,7,8-TCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,7,8-TCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	OCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	OCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	Total HpCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
	Total HpCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
	Total HxCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
	Total HxCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
	Total PCDD	EPA 1613	MLA-017												YD						YD												YD	
		EPA 8290	MLA-017												YD						YD												YD	
		SGS AXYS MLA-017	MLA-017												YD						YD												YD	
	Total PCDD+PCDF	EPA 1613	MLA-017												YD						YD												YD	
		EPA 8290	MLA-017												YD						YD												YD	
		SGS AXYS MLA-017	MLA-017												YD						YD												YD	
	Total PCDF	EPA 1613	MLA-017												YD						YD												YD	
		EPA 8290	MLA-017												YD						YD												YD	
		SGS AXYS MLA-017	MLA-017												YD						YD												YD	
	Total PeCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
	Total PeCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
	Total TCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y						Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Total TCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017						Y		Y		Y		Y YD		Y		Y	Y	YD				Y					Y			YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y								YD	
PFC	Perfluorobutanesulfonate (PFBS)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																													
	Perfluorobutanoate (PFBA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																													
	Perfluorodecanoate (PFDA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																													
	Perfluorododecanoate (PFDoA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																													
	Perfluoroheptanoate (PFHpA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																													
	Perfluorohexanesulfonate (PFHxS)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																													
	Perfluorohexanoate (PFHxA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y						YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		

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SGS AXYS Analytical Services Ltd.
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorononanoate (PFNA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorooctane sulfonamide (PFOSA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorooctanesulfonate (PFOS)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorooctanoate (PFOA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluoropentanoate (PFPeA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluoroundecanoate (PFUnA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075											Y																	Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075			Y																	Y										
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075			Y																	Y										
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075											Y																	Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										

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SGS AXYS Analytical Services Ltd.
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	4-Epitetracycline (ETC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Acetaminophen	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Albuterol	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Alprazolam	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Amitriptyline	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Amlodipine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Amphetamine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Atenolol	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Atorvastatin	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Azithromycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Benzoylecgonine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Benztropine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Betamethasone	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Bisphenol A	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Caffeine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Carbadox	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Carbamazepine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Cefotaxime	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Chlortetracycline (CTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Cimetidine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Ciprofloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Clarithromycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Clinafloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Clonidine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Cloxacillin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Cocaine	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Codeine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Cotinine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Dehydronifedipine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Demeclocycline	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Diazepam	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Digoxigenin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Digoxin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Diltiazem	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Diphenhydramine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Doxycycline	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Enalapril	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Enrofloxacin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Erythromycin	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Erythromycin anydrate	EPA 1694	MLA-075											Y																		Y		
	Flumequine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Fluocinonide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Fluoxetine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Furosemide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Gemfibrozil	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Glipizide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Glyburide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Hydrocodone	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Hydrocortisone	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Ibuprofen	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Lincomycin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Lomefloxacin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										

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(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids									Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Meprobamate	SGS AXYS MLA-075	MLA-075			Y																Y										
	Metformin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Methylprednisolone	SGS AXYS MLA-075	MLA-075			Y																Y										
	Metoprolol	SGS AXYS MLA-075	MLA-075			Y																Y										
	Miconazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Minocycline	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Naproxen	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Norfloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Norfluoxetine	SGS AXYS MLA-075	MLA-075			Y																Y										
	Norgestimate	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Norverapamil	SGS AXYS MLA-075	MLA-075			Y																Y										
	Ofloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Ormetoprim	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxacillin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxolinic acid	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxycodone	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxytetracycline (OTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Paroxetine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Penicillin G	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Penicillin V	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Prednisolone	SGS AXYS MLA-075	MLA-075			Y																Y										
	Prednisone	SGS AXYS MLA-075	MLA-075			Y																Y										
	Promethazine	SGS AXYS MLA-075	MLA-075			Y																Y										
	Propoxyphene	SGS AXYS MLA-075	MLA-075			Y																Y										
	Propranolol	SGS AXYS MLA-075	MLA-075			Y																Y										
	Ranitidine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Roxithromycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sarafloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sertraline	SGS AXYS MLA-075	MLA-075			Y																Y										
	Simvastatin	SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfachloropyridazine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfadiazine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfadimethoxine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfamerazine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfamethazine	EPA 1694	MLA-075											Y																	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfamethizole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfamethoxazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfanilamide	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfathiazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Tetracycline (TC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Theophylline	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Thiabendazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Trenbolone	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Triamterene	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Triclocarban	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Triclosan	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Trimethoprim	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Tylosin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Valsartan	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Verapamil	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Virginiamycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Warfarin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001													Y																
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001													Y																
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Acetylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Acetylornithine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Alanine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	alpha-Aminoadipic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Arginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Asparagine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Aspartate	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																
	C22:5 ISOMER 2 (all-cis-7,10,13,16,19-docosapentaenoic acid (DPA)	SGS AXYS MLM-001	MLM-001													Y																
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Carnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Carnosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	cholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Citrulline	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Creatinine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001													Y																
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	deoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Dopamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001													Y																
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001													Y																
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glutamate	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glutamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glutarylcarnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glycine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	glycocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexanoylcarnitine (Fumarylcarnitine)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Histamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Histidine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyproline	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Isoleucine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Kynurenine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Leucine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lithocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Lysine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Methionine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Ornithine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phenylalanine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phenylethylamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Proline	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Putrescine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sarcosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Serine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Serotonin	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Spermidine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Spermine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Taurine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	taurocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE*	Maine DOH	ANAB	Pennsylvania DEP
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	tauroursodexoycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Threonine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tryptophan	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tyrosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Valine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079		Y																												

Note*
Analysis of pesticides and PCBs in non-potable water samples by AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Legend

Y	Accreditation scope
YD	Accreditation scope, including US DOD scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
FTS	Fluorotelomer sulfonates
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/furans
PFC	Perfluorinated Compounds
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
California DPH	California Department of Public Health, Lab ID 2911 (target analytes shown are those approved 2014)
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

CALA — Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)

CALA Testing Accreditation No. A 2637

ANAB — ANSI-ASQ National Accreditation Board, certificate ADE-1861, (ISO/IEC 17025:2005 and US DOD Standards)

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP Certificate ADE-1861

SGS AXYS

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Sidney, BC, Canada V8L5X2

TEL: (250) 655-5800
TOLL-FREE: 1-888-373-0881

SGS AXYS Client No.: 9989

Client Address: Golder Associates Ltd.
Suite 200 - 2920 Virtual Way
Vancouver, BC, CANADA, V5M 0C4

The SGS AXYS contact for these data is Andrew Porat.

BATCH SUMMARY

Batch ID: WG59144	***Date:*** 25-May-2017
Analysis Type: PCB Congener	***Matrix Type:*** Solid

BATCH MAKEUP

Contract: 9989

Samples:

L27039-1	SDS-1
L27039-2	SDS-2
L27039-3	SDS-3
L27039-4	SDS-4
L27039-5	SDS-5
L27039-6	SDS-6
L27039-7	SDS-7
L27039-9	Dup-1
L27039-11	SDS-8
L27039-12	SDS-9
L27039-13	SDS-10
L27039-14	SDS-11
L27039-15	SDS-12
L27039-16	SDS-13
L27039-17	SDS-14
L27039-18	SDS-15
L27039-19	SDS-16
L27039-20	SDS-17
L27039-21	DUP-3

Blank: WG59144-101

Reference or Spike: WG59144-102

Duplicate: WG59144-103

Comments:

1. Data are considered final.
2. Data are not blank corrected. Blank data should be taken into consideration when evaluating sample data.
3. Blank data should be evaluated against specifications using the same blank sample size as the size of the client samples.
4. For the closing Calibration Verification standard run after the bracket containing the OPR, lab blank, samples SDS-1, SDS-2, SDS-3, SDS-4, SDS-5, SDS-6, SDS-7 and Analysis Duplicate (AXYS IDs WG59144-102 and -101, L27039-1 to -7 and WG59144-103, respectively) the determined values for labeled surrogates 13C-PCB-206 and 13C-PCB-209 fell slightly below the lower method control limits. The determined values for the related native analytes were within the method control criteria and showed the instrument to be in a state of control for those compounds. It is AXYS' experience that analyte data would not be affected by this variance.

AXYS METHOD MLA-007 Rev 13

Form 3A
INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 15-Mar-2017

Instrument ID: LR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: CL7A0973.D

CS2 Data Filename: CL7A0974.D

CS3 Data Filename: CL7A0975.D

CS4 Data Filename: CL7A0979.D

CS5 Data Filename: CL7A0976.D

CS6 Data Filename: N/A

				RELATIVE RESPONSE (RR)								
				CS0	CS1	CS2	CS3	CS4	CS5	CS6	MEAN RR	CV[2] (%RSD)
COMPOUND	**IUPAC NO.**	**CO-ELUTIONS**	**LAB FLAG[1]**									
2-MoCB	1				1.15	1.15	1.20	1.19	1.11		1.16	3.22
3-MoCB	2				1.09	1.14	1.16	1.18	1.12		1.14	2.79
4-MoCB	3				1.09	1.14	1.16	1.18	1.12		1.14	2.79
2,2'-DiCB	4	4 + 10	C		0.60	0.61	0.63	0.63	0.61		0.62	2.07
2,3-DiCB	5	5 + 8	C		1.05	1.07	1.08	1.07	1.06		1.06	0.78
2,3'-DiCB	6				1.05	1.07	1.08	1.07	1.06		1.06	0.78
2,4-DiCB	7	7 + 9	C		1.05	1.07	1.08	1.07	1.06		1.06	0.78
2,4'-DiCB	8	5 + 8	C5									
2,5-DiCB	9	7 + 9	C7									
2,6-DiCB	10	4 + 10	C4									
3,3'-DiCB	11				1.05	1.07	1.08	1.07	1.06		1.06	0.78
3,4-DiCB	12	12 + 13	C		1.05	1.07	1.08	1.07	1.06		1.06	0.78
3,4'-DiCB	13	12 + 13	C12									
3,5-DiCB	14				1.05	1.07	1.08	1.07	1.06		1.06	0.78
4,4'-DiCB	15				0.71	0.81	0.88	0.99	1.01		0.88	14.3
2,2',3-TriCB	16	16 + 32	C		0.64	0.64	0.68	0.64	0.62		0.64	2.97
2,2',4-TriCB	17				0.64	0.64	0.68	0.64	0.62		0.64	2.97
2,2',5-TriCB	18				0.64	0.64	0.68	0.64	0.62		0.64	2.97
2,2',6-TriCB	19				0.62	0.60	0.62	0.59	0.56		0.60	3.83
2,3,3'-TriCB	20	20 + 21 + 33	C		0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,3,4-TriCB	21	20 + 21 + 33	C20									
2,3,4'-TriCB	22				0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,3,5-TriCB	23	23 + 34	C		0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,3,6-TriCB	24	24 + 27	C		0.64	0.64	0.68	0.64	0.62		0.64	2.97
2,3',4-TriCB	25				0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,3',5-TriCB	26				0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,3',6-TriCB	27	24 + 27	C24									
2,4,4'-TriCB	28				1.04	1.08	0.99	0.95	1.01		1.01	5.14
2,4,5-TriCB	29				0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,4,6-TriCB	30				0.64	0.64	0.68	0.64	0.62		0.64	2.97
2,4',5-TriCB	31				0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,4',6-TriCB	32	16 + 32	C16									
2',3,4-TriCB	33	20 + 21 + 33	C20									
2',3,5-TriCB	34	23 + 34	C23									
3,3',4-TriCB	35				0.63	0.84	0.88	1.00	1.03		0.88	18.3
3,3',5-TriCB	36				0.92	0.92	1.04	1.05	0.97		0.98	6.40
3,4,4'-TriCB	37				0.63	0.84	0.88	1.00	1.03		0.88	18.3
3,4,5-TriCB	38				0.63	0.84	0.88	1.00	1.03		0.88	18.3
3,4',5-TriCB	39				0.92	0.92	1.04	1.05	0.97		0.98	6.40
2,2',3,3'-TeCB	40				0.58	0.56	0.56	0.57	0.56		0.56	1.68
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C		0.68	0.68	0.68	0.68	0.67		0.68	0.82
2,2',3,4'-TeCB	42	42 + 59	C		0.68	0.68	0.68	0.68	0.67		0.68	0.82
2,2',3,5-TeCB	43	43 + 49	C		0.88	0.90	0.91	0.90	0.90		0.90	1.42
2,2',3,5'-TeCB	44				0.68	0.68	0.68	0.68	0.67		0.68	0.82

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG[1]	RELATIVE RESPONSE (RR) CS0	CS1	CS2	CS3	CS4	CS5	CS6	MEAN RR	CV[2] (%RSD)
2,2',3,6-TeCB	45				0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,2',3,6'-TeCB	46				0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,2',4,4'-TeCB	47	47 + 48 + 75	C		0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,2',4,5-TeCB	48	47 + 48 + 75	C47									
2,2',4,5'-TeCB	49	43 + 49	C43									
2,2',4,6-TeCB	50				1.03	1.04	1.06	1.05	0.99		1.03	2.59
2,2',4,6'-TeCB	51				0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,2',5,5'-TeCB	52	52 + 73	C		0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,2',5,6'-TeCB	53				0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,2',6,6'-TeCB	54				1.03	1.04	1.06	1.05	0.99		1.03	2.59
2,3,3',4-TeCB	55				0.91	1.02	1.02	1.10	1.12		1.03	7.86
2,3,3',4'-TeCB	56	56 + 60	C		0.91	1.02	1.02	1.10	1.12		1.03	7.86
2,3,3',5-TeCB	57				0.58	0.56	0.56	0.57	0.56		0.56	1.68
2,3,3',5'-TeCB	58				0.58	0.56	0.56	0.57	0.56		0.56	1.68
2,3,3',6-TeCB	59	42 + 59	C42									
2,3,4,4'-TeCB	60	56 + 60	C56									
2,3,4,5-TeCB	61	61 + 74	C		1.00	1.06	1.04	1.09	1.09		1.06	3.54
2,3,4,6-TeCB	62	62 + 65	C		0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,3,4',5-TeCB	63				1.00	1.06	1.04	1.09	1.09		1.06	3.54
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41									
2,3,5,6-TeCB	65	62 + 65	C62									
2,3',4,4'-TeCB	66	66 + 80	C		1.00	1.06	1.04	1.09	1.09		1.06	3.54
2,3',4,5-TeCB	67				0.58	0.56	0.56	0.57	0.56		0.56	1.68
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41									
2,3',4,6-TeCB	69				0.79	0.80	0.80	0.78	0.77		0.79	1.69
2,3',4',5-TeCB	70	70 + 76	C		1.00	1.06	1.04	1.09	1.09		1.06	3.54
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41									
2,3',5,5'-TeCB	72				0.68	0.68	0.68	0.68	0.67		0.68	0.82
2,3',5',6-TeCB	73	52 + 73	C52									
2,4,4',5-TeCB	74	61 + 74	C61									
2,4,4',6-TeCB	75	47 + 48 + 75	C47									
2',3,4,5-TeCB	76	70 + 76	C70									
3,3',4,4'-TeCB	77				0.91	1.02	1.02	1.10	1.12		1.03	7.86
3,3',4,5-TeCB	78				0.91	1.02	1.02	1.10	1.12		1.03	7.86
3,3',4,5'-TeCB	79				0.91	1.02	1.02	1.10	1.12		1.03	7.86
3,3',5,5'-TeCB	80	66 + 80	C66									
3,4,4',5-TeCB	81				0.91	1.02	1.02	1.10	1.12		1.03	7.86
2,2',3,3',4-PeCB	82				0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,2',3,3',5-PeCB	83	83 + 108	C		0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,2',3,3',6-PeCB	84				0.98	0.94	0.94	0.94	0.95		0.95	1.87
2,2',3,4,4'-PeCB	85	85 + 120	C		0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,2',3,4,5-PeCB	86	86 + 97	C		0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C		0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,2',3,4,6-PeCB	88	88 + 121	C		1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C		0.98	0.94	0.94	0.94	0.95		0.95	1.87
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89									
2,2',3,4',6-PeCB	91				1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',3,5,5'-PeCB	92				0.98	0.94	0.94	0.94	0.95		0.95	1.87
2,2',3,5,6-PeCB	93	93 + 95	C		1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',3,5,6'-PeCB	94				1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',3,5',6-PeCB	95	93 + 95	C93									
2,2',3,6,6'-PeCB	96				1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',3',4,5-PeCB	97	86 + 97	C86									
2,2',3',4,6-PeCB	98	98 + 102	C		1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',4,4',5-PeCB	99				1.03	1.03	1.02	1.06	1.06		1.04	1.76
2,2',4,4',6-PeCB	100				1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89									
2,2',4,5,6'-PeCB	102	98 + 102	C98									
2,2',4,5',6-PeCB	103				1.03	1.04	1.02	1.05	1.04		1.04	1.12
2,2',4,6,6'-PeCB	104				1.24	1.25	1.28	1.26	1.21		1.25	2.22
2,3,3',4,4'-PeCB	105	105 + 127	C		1.07	1.12	1.09	1.28	1.30		1.17	9.49
2,3,3',4,5-PeCB	106	106 + 118	C		1.03	1.04	1.02	1.04	1.01		1.03	1.09

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG[1]	RELATIVE RESPONSE (RR) CS0	CS1	CS2	CS3	CS4	CS5	CS6	MEAN RR	CV[2] (%RSD)
2,3,3',4',5-PeCB	107	107 + 109	C		1.16	1.17	1.14	1.19	1.21		1.17	2.32
2,3,3',4,5'-PeCB	108	83 + 108	C83									
2,3,3',4,6-PeCB	109	107 + 109	C107									
2,3,3',4',6-PeCB	110				1.16	1.17	1.14	1.19	1.21		1.17	2.32
2,3,3',5,5'-PeCB	111	111 + 117	C		0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,3,3',5,6-PeCB	112				0.77	0.79	0.81	0.84	0.85		0.81	4.20
2,3,3',5',6-PeCB	113				0.98	0.94	0.94	0.94	0.95		0.95	1.87
2,3,4,4',5-PeCB	114				1.07	1.17	1.15	1.31	1.32		1.20	9.12
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87									
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87									
2,3,4',5,6-PeCB	117	111 + 117	C111									
2,3',4,4',5-PeCB	118	106 + 118	C106									
2,3',4,4',6-PeCB	119				1.03	1.03	1.02	1.06	1.06		1.04	1.76
2,3',4,5,5'-PeCB	120	85 + 120	C85									
2,3',4,5',6-PeCB	121	88 + 121	C88									
2',3,3',4,5-PeCB	122				1.07	1.17	1.15	1.31	1.32		1.20	9.12
2',3,4,4',5-PeCB	123				1.03	1.04	1.02	1.04	1.01		1.03	1.09
2',3,4,5,5'-PeCB	124				1.16	1.17	1.14	1.19	1.21		1.17	2.32
2',3,4,5,6'-PeCB	125				0.77	0.79	0.81	0.84	0.85		0.81	4.20
3,3',4,4',5-PeCB	126				0.86	1.00	0.97	1.23	1.28		1.07	16.7
3,3',4,5,5'-PeCB	127	105 + 127	C105									
2,2',3,3',4,4'-HxCB	128				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,2',3,3',4,5-HxCB	129				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,2',3,3',4,5'-HxCB	130				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,2',3,3',4,6-HxCB	131	131 + 142	C		0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,3',4,6'-HxCB	132	132 + 168	C		1.25	1.23	1.32	1.26	1.25		1.26	2.72
2,2',3,3',5,5'-HxCB	133				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,3',5,6-HxCB	134	134 + 143	C		0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,3',5,6'-HxCB	135	135 + 144	C		0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,3',6,6'-HxCB	136				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,4,4',5-HxCB	137				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C		1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,2',3,4,4',6-HxCB	139	139 + 149	C		0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,4,4',6'-HxCB	140				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,4,5,5'-HxCB	141				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,2',3,4,5,6-HxCB	142	131 + 142	C131									
2,2',3,4,5,6'-HxCB	143	134 + 143	C134									
2,2',3,4,5',6-HxCB	144	135 + 144	C135									
2,2',3,4,6,6'-HxCB	145				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,4',5,5'-HxCB	146				0.77	0.79	0.81	0.86	0.87		0.82	5.36
2,2',3,4',5,6-HxCB	147				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,4',5,6'-HxCB	148				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,4',5',6-HxCB	149	139 + 149	C139									
2,2',3,4',6,6'-HxCB	150				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',3,5,5',6-HxCB	151				0.65	0.67	0.65	0.67	0.68		0.66	2.32
2,2',3,5,6,6'-HxCB	152				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',4,4',5,5'-HxCB	153				1.25	1.23	1.32	1.26	1.25		1.26	2.72
2,2',4,4',5,6'-HxCB	154				0.70	0.73	0.71	0.74	0.76		0.73	3.39
2,2',4,4',6,6'-HxCB	155				1.11	1.15	1.16	1.17	1.13		1.14	2.23
2,3,3',4,4',5-HxCB	156				1.34	1.36	1.38	1.53	1.54		1.43	6.69
2,3,3',4,4',5'-HxCB	157				1.26	1.28	1.36	1.50	1.50		1.38	8.57
2,3,3',4,4',6-HxCB	158	158 + 160	C		1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,3,3',4,5,5'-HxCB	159				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,3,3',4,5,6-HxCB	160	158 + 160	C158									
2,3,3',4,5',6-HxCB	161				0.77	0.79	0.81	0.86	0.87		0.82	5.36
2,3,3',4',5,5'-HxCB	162				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138									
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138									
2,3,3',5,5',6-HxCB	165				0.77	0.79	0.81	0.86	0.87		0.82	5.36
2,3,4,4',5,6-HxCB	166				1.14	1.14	1.13	1.09	1.09		1.12	2.13
2,3',4,4',5,5'-HxCB	167				1.39	1.43	1.47	1.55	1.54		1.47	4.78
2,3',4,4',5',6-HxCB	168	132 + 168	C132									

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG[1]	RELATIVE RESPONSE (RR) CS0	CS1	CS2	CS3	CS4	CS5	CS6	MEAN RR	CV[2] (%RSD)
3,3',4,4',5,5'-HxCB	169				1.18	1.26	1.27	1.48	1.49		1.33	10.5
2,2',3,3',4,4',5-HpCB	170	170 + 190	C		0.67	0.73	0.75	0.81	0.79		0.75	7.61
2,2',3,3',4,4',6-HpCB	171				0.88	0.93	0.94	0.97	0.95		0.93	3.82
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C		0.88	0.93	0.94	0.97	0.95		0.93	3.82
2,2',3,3',4,5,6-HpCB	173				0.88	0.93	0.94	0.97	0.95		0.93	3.82
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C		1.04	1.03	0.99	0.98	0.99		1.01	2.62
2,2',3,3',4,5',6-HpCB	175				0.97	0.95	0.97	0.98	0.95		0.96	1.58
2,2',3,3',4,6,6'-HpCB	176				1.25	1.25	1.37	1.29	1.25		1.28	4.02
2,2',3,3',4',5,6-HpCB	177				1.04	1.03	0.99	0.98	0.99		1.01	2.62
2,2',3,3',5,5',6-HpCB	178				0.97	0.95	0.97	0.98	0.95		0.96	1.58
2,2',3,3',5,6,6'-HpCB	179				1.25	1.25	1.37	1.29	1.25		1.28	4.02
2,2',3,4,4',5,5'-HpCB	180				0.88	0.93	0.94	0.97	0.95		0.93	3.82
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174									
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C		0.97	0.95	0.97	0.98	0.95		0.96	1.58
2,2',3,4,4',5',6-HpCB	183				1.04	1.03	0.99	0.98	0.99		1.01	2.62
2,2',3,4,4',6,6'-HpCB	184				1.25	1.25	1.37	1.29	1.25		1.28	4.02
2,2',3,4,5,5',6-HpCB	185				1.04	1.03	0.99	0.98	0.99		1.01	2.62
2,2',3,4,5,6,6'-HpCB	186				0.97	0.95	0.97	0.98	0.95		0.96	1.58
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182									
2,2',3,4',5,6,6'-HpCB	188				1.25	1.25	1.37	1.29	1.25		1.28	4.02
2,3,3',4,4',5,5'-HpCB	189				1.03	1.14	1.09	1.21	1.19		1.13	6.59
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170									
2,3,3',4,4',5',6-HpCB	191				0.88	0.93	0.94	0.97	0.95		0.93	3.82
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172									
2,3,3',4',5,5',6-HpCB	193				0.88	0.93	0.94	0.97	0.95		0.93	3.82
2,2',3,3',4,4',5,5'-OcCB	194				0.57	0.64	0.61	0.70	0.70		0.64	8.94
2,2',3,3',4,4',5,6-OcCB	195				0.57	0.64	0.61	0.70	0.70		0.64	8.94
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C		0.64	0.65	0.64	0.68	0.69		0.66	3.84
2,2',3,3',4,4',6,6'-OcCB	197				1.06	1.00	1.08	1.13	1.15		1.09	5.39
2,2',3,3',4,5,5',6-OcCB	198				0.64	0.65	0.64	0.68	0.69		0.66	3.84
2,2',3,3',4,5,5',6'-OcCB	199				0.64	0.65	0.64	0.68	0.69		0.66	3.84
2,2',3,3',4,5,6,6'-OcCB	200				1.06	1.00	1.08	1.13	1.15		1.09	5.39
2,2',3,3',4,5',6,6'-OcCB	201				1.06	1.00	1.08	1.13	1.15		1.09	5.39
2,2',3,3',5,5',6,6'-OcCB	202				0.86	0.87	0.88	0.88	0.87		0.87	1.05
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196									
2,2',3,4,4',5,6,6'-OcCB	204				1.06	1.00	1.08	1.13	1.15		1.09	5.39
2,3,3',4,4',5,5',6-OcCB	205				0.76	0.83	0.82	0.94	0.94		0.86	9.48
2,2',3,3',4,4',5,5',6-NoCB	206				0.88	0.93	0.88	0.93	0.90		0.90	2.54
2,2',3,3',4,4',5,6,6'-NoCB	207				1.17	1.03	1.09	1.08	1.07		1.09	4.38
2,2',3,3',4,5,5',6,6'-NoCB	208				1.17	1.03	1.09	1.08	1.07		1.09	4.38
2,2',3,3',4,4',5,5',6,6'-DeCB	209				1.08	0.99	1.02	1.04	1.02		1.03	3.13

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(2) % RSD QC limits are 20%.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Elaine Wu_____

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AXYS METHOD MLA-007 Rev 13

Form 3B
INITIAL CALIBRATION RELATIVE RESPONSES

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

Initial Calibration Date: 15-Mar-2017

Instrument ID: LR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A
CS1 Data Filename: CL7A0973.D
CS2 Data Filename: CL7A0974.D
CS3 Data Filename: CL7A0975.D
CS4 Data Filename: CL7A0979.D
CS5 Data Filename: CL7A0976.D
CS6 Data Filename: N/A

				RELATIVE RESPONSE (RR)								
COMPOUND	**IUPAC NO.[1]**	**CO-ELUTIONS**	**LAB FLAG[2]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV[3] (%RSD)**
13C12-4-MoCB	3L				2.90	2.79	2.89	2.91	2.82		2.86	1.88
13C12-2,4'-DiCB	8L				2.47	2.38	2.44	2.42	2.33		2.41	2.29
13C12-2,4,4'-TriCB	28L				1.87	1.84	1.87	1.92	1.90		1.88	1.65
13C12-2,2',4,5,5'-PeCB	101L				1.30	1.26	1.32	1.21	1.18		1.25	4.66
13C12-2,3',4,4',5-PeCB	118L				1.53	1.52	1.54	1.54	1.55		1.53	0.83
13C12-2,2',3,4,4',5,5'-HpCB	180L				0.80	0.81	0.81	0.83	0.83		0.82	1.17
13C12-2,2',3,3',5,5',6,6'-OcCB	202L				0.83	0.84	0.84	0.83	0.82		0.83	1.09
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L				0.47	0.51	0.49	0.53	0.52		0.50	4.53
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L				0.53	0.57	0.54	0.58	0.57		0.56	4.18

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
(3) % RSD QC limits are 20%.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Elaine Wu_____

For Axys Internal Use Only [XSL Template: Form16683B.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_15-Mar-2017_CL7A__Form3B_GS69893.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-1
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-1
Matrix:	SOLID	**Sample Size:**	8.33 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 13:28:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1416.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0678
Aroclor 1242	53469-21-9	ND		0.0859
Aroclor 1254	11097-69-1	ND		0.206
Aroclor 1260	11096-82-5	ND		0.0894

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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

For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-1_Aroclor_SJ2203020.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-2
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-2
Matrix:	SOLID	**Sample Size:**	8.13 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 14:22:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1417.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	18.9

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0741
Aroclor 1242	53469-21-9	ND		0.0939
Aroclor 1254	11097-69-1	ND		0.163
Aroclor 1260	11096-82-5	ND		0.161

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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

For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-2_Aroclor_SJ2203021.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-3
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-3
Matrix:	SOLID	**Sample Size:**	8.23 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 15:16:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1418.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.7

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0777
Aroclor 1242	53469-21-9	ND		0.0984
Aroclor 1254	11097-69-1	ND		0.226
Aroclor 1260	11096-82-5	ND		0.104

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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

For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-3_Aroclor_SJ2203022.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-4
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-4
Matrix:	SOLID	**Sample Size:**	8.00 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 16:10:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1419.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	20.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0873
Aroclor 1242	53469-21-9	ND		0.111
Aroclor 1254	11097-69-1	ND		0.184
Aroclor 1260	11096-82-5	ND		0.106

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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Signed: _____Victoria Reesor_____

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-4_Aroclor_SJ2203023.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-5
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-5
Matrix:	SOLID	**Sample Size:**	8.04 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 17:04:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1420.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.6

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0825
Aroclor 1242	53469-21-9	ND		0.105
Aroclor 1254	11097-69-1	ND		0.193
Aroclor 1260	11096-82-5	ND		0.106

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-5_Aroclor_SJ2203024.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-6
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-6 (A)
Matrix:	SOLID	**Sample Size:**	8.26 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 17:59:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1421.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	18.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0558
Aroclor 1242	53469-21-9	ND		0.0707
Aroclor 1254	11097-69-1	ND		0.248
Aroclor 1260	11096-82-5	ND		0.0960

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-6_Aroclor_SJ2203025.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-7
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-7
Matrix:	SOLID	**Sample Size:**	8.12 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 19:47:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1423.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	18.9

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0933
Aroclor 1242	53469-21-9	ND		0.118
Aroclor 1254	11097-69-1	ND		0.198
Aroclor 1260	11096-82-5	ND		0.0978

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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Signed: _____Victoria Reesor_____

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Report Filename: PCB_PCB_LO_Aroclors_L27039-7_Aroclor_SJ2203027.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
Dup-1
Sample Collection:
28-Mar-2017 14:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-9 i
Matrix:	SOLID	**Sample Size:**	8.14 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 14:20:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1443.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.0

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0786
Aroclor 1242	53469-21-9	ND		0.0996
Aroclor 1254	11097-69-1	ND		0.154
Aroclor 1260	11096-82-5	ND		0.0684

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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Report Filename: PCB_PCB_LO_Aroclors_L27039-9_Aroclor_SJ2203090.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-8
Sample Collection:
30-Mar-2017 09:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-11 i
Matrix:	SOLID	**Sample Size:**	8.46 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 15:14:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1444.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.7

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0444
Aroclor 1242	53469-21-9	ND		0.0562
Aroclor 1254	11097-69-1	ND		0.168
Aroclor 1260	11096-82-5	ND		0.109

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-11_Aroclor_SJ2203091.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-9
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-12 i
Matrix:	SOLID	**Sample Size:**	7.90 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 16:08:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1445.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	21.0

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.105
Aroclor 1242	53469-21-9	ND		0.133
Aroclor 1254	11097-69-1	ND		0.183
Aroclor 1260	11096-82-5	ND		0.0864

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-12_Aroclor_SJ2203092.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-10
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-13 i
Matrix:	SOLID	**Sample Size:**	8.81 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 17:02:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1446.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	12.0

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0408
Aroclor 1242	53469-21-9	ND		0.0517
Aroclor 1254	11097-69-1	ND		0.148
Aroclor 1260	11096-82-5	ND		0.0954

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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Report Filename: PCB_PCB_LO_Aroclors_L27039-13_Aroclor_SJ2203093.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-11
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-14 i
Matrix:	SOLID	**Sample Size:**	9.08 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 17:56:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1447.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.1

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0477
Aroclor 1242	53469-21-9	ND		0.0604
Aroclor 1254	11097-69-1	ND		0.124
Aroclor 1260	11096-82-5	ND		0.102

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-14_Aroclor_SJ2203094.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-12
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-15 i
Matrix:	SOLID	**Sample Size:**	8.68 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 18:50:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1448.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.8

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0654
Aroclor 1242	53469-21-9	ND		0.0828
Aroclor 1254	11097-69-1	ND		0.205
Aroclor 1260	11096-82-5	ND		0.0954

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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

For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-15_Aroclor_SJ2203095.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-13
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-16 i
Matrix:	SOLID	**Sample Size:**	8.88 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 19:44:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1449.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0768
Aroclor 1242	53469-21-9	ND		0.0973
Aroclor 1254	11097-69-1	ND		0.144
Aroclor 1260	11096-82-5	ND		0.0834

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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Signed: _____Victoria Reesor_____

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-16_Aroclor_SJ2203096.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-14
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-17 i
Matrix:	SOLID	**Sample Size:**	9.45 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 20:38:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1450.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	11.2

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0630
Aroclor 1242	53469-21-9	ND		0.0798
Aroclor 1254	11097-69-1	ND		0.135
Aroclor 1260	11096-82-5	ND		0.100

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-17_Aroclor_SJ2203097.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-15
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-18 i
Matrix:	SOLID	**Sample Size:**	8.14 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 21:33:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1451.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	22.9

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0810
Aroclor 1242	53469-21-9	ND		0.103
Aroclor 1254	11097-69-1	ND		0.196
Aroclor 1260	11096-82-5	ND		0.0792

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-18_Aroclor_SJ2203098.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-16
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-19
Matrix:	SOLID	**Sample Size:**	8.83 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 22:27:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1452.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.3

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0711
Aroclor 1242	53469-21-9	ND		0.0901
Aroclor 1254	11097-69-1	ND		0.164
Aroclor 1260	11096-82-5	ND		0.0828

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
(2) PCB Aroclor equivalents were calculated from individual PCB congener concentrations using empirically determined conversion factors. Where the PCB pattern was not identifiable as a unique Aroclor formation, the Aroclor has been reported as a 1242/1254/1260 mixture.
(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-19_Aroclor_SJ2203099.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-17
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-20
Matrix:	SOLID	**Sample Size:**	8.39 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	26-Apr-2017 **Time:** 08:47:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1454.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.3

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0426
Aroclor 1242	53469-21-9	ND		0.0540
Aroclor 1254	11097-69-1	ND		0.176
Aroclor 1260	11096-82-5	ND		0.104

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-20_Aroclor_SJ2203100.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
DUP-3
Sample Collection:
30-Mar-2017 10:00

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-21
Matrix:	SOLID	**Sample Size:**	8.11 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	26-Apr-2017 **Time:** 09:41:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1454.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.5

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0435
Aroclor 1242	53469-21-9	ND		0.0551
Aroclor 1254	11097-69-1	ND		0.272
Aroclor 1260	11096-82-5	ND		0.0690

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
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(3) All header information pertains to the initial instrumental analysis of the sample extract. Additional sample datafiles listed refer to secondary analysis of the sample extract.

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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_L27039-21_Aroclor_SJ2203101.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

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

Form 1A
PCB AROCLOR EQUIVALENT ANALYSIS REPORT

SGS 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.:	9989	**Lab Sample I.D.:**	WG59144-101
Matrix:	SOLID	**Sample Size:**	10.0 g
Sample Receipt Date:	N/A	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 12:34:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1415.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g		

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.0552
Aroclor 1242	53469-21-9	ND		0.0699
Aroclor 1254	11097-69-1	ND		0.142
Aroclor 1260	11096-82-5	ND		0.0684

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_WG59144-101_Aroclor_SJ2203018.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A

PCB AROCLOR EQUIVALENT ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6 (Duplicate)
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	WG59144-103 (DUP L27039-6)
Matrix:	SOLID	**Sample Size:**	8.13 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 18:53:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1422.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	20.0

COMPOUND	CAS NO.	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)
Aroclor 1016	12674-11-2	ND		0.103
Aroclor 1242	53469-21-9	ND		0.130
Aroclor 1254	11097-69-1	ND		0.181
Aroclor 1260	11096-82-5	ND		0.155

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL.
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For Axys Internal Use Only [XSL Template: 1668Aroclor.xsl; Created: 25-May-2017 15:17:47; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_Aroclors_WG59144-103_Aroclor_SJ2203026.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4A
CALIBRATION VERIFICATION

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

Initial Calibration Date: 15-Mar-2017
VER Data Filename: CL7A1412.D
Instrument ID: LR GC/MS
Analysis Date: 24-Apr-2017
GC Column ID: DB5
Analysis Time: 09:51:00

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**188/190**	0.33	0.26-0.39	412	320 - 480
4-MoCB	3			**188/190**	0.32	0.26-0.39	416	316 - 474
2,2'-DiCB	4	4 + 10	C	**222/224**	0.65	0.51-0.77	409	321 - 482
2,3-DiCB	5	5 + 8	C	**222/224**	0.64	0.51-0.77	400	318 - 478
2,4'-DiCB	8	5 + 8	C5					
2,6-DiCB	10	4 + 10	C4					
4,4'-DiCB	15			**222/224**	0.65	0.51-0.77	454	320 - 480
2,2',5-TriCB	18			**256/258**	0.96	0.77-1.15	401	322 - 483
2,2',6-TriCB	19			**256/258**	0.97	0.77-1.15	401	322 - 483
2,4,4'-TriCB	28			**256/258**	0.96	0.77-1.15	369	321 - 481
2,4',5-TriCB	31			**256/258**	0.96	0.77-1.15	448	321 - 481
3,4,4'-TriCB	37			**256/258**	0.96	0.77-1.15	461	321 - 481
2,2',3,3'-TeCB	40			**290/292**	1.27	1.04-1.56	412	319 - 479
2,2',3,5-TeCB	43	43 + 49	C	**290/292**	1.28	1.04-1.56	403	320 - 481
2,2',3,5'-TeCB	44			**290/292**	1.27	1.04-1.56	411	318 - 477
2,2',4,5'-TeCB	49	43 + 49	C43					
2,2',5,5'-TeCB	52	52 + 73	C	**290/292**	1.29	1.04-1.56	414	320 - 480
2,2',6,6'-TeCB	54			**290/292**	1.27	1.04-1.56	420	320 - 480
2,3,3',4'-TeCB	56	56 + 60	C	**290/292**	1.28	1.04-1.56	419	320 - 481
2,3,4,4'-TeCB	60	56 + 60	C56					
2,3',4,4'-TeCB	66	66 + 80	C	**290/292**	1.27	1.04-1.56	419	320 - 480
2,3',5',6-TeCB	73	52 + 73	C52					
3,3',4,4'-TeCB	77			**290/292**	1.26	1.04-1.56	447	321 - 482
3,3',5,5'-TeCB	80	66 + 80	C66					
3,4,4',5-TeCB	81			**290/292**	1.27	1.04-1.56	450	321 - 482
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C	**326/328**	0.64	0.52-0.77	421	320 - 481
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C	**326/328**	0.63	0.52-0.77	405	320 - 480
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89					
2,2',3,5,6-PeCB	93	93 + 95	C	**326/328**	0.64	0.52-0.77	415	320 - 480
2,2',3,5',6-PeCB	95	93 + 95	C93					
2,2',4,4',5-PeCB	99			**326/328**	0.64	0.52-0.77	412	320 - 480
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89					
2,2',4,6,6'-PeCB	104			**326/328**	0.64	0.52-0.77	423	317 - 476
2,3,3',4,4'-PeCB	105	105 + 127	C	**326/328**	0.64	0.52-0.77	423	317 - 476
2,3,3',4,5-PeCB	106	106 + 118	C	**326/328**	0.64	0.52-0.77	419	322 - 483
2,3,3',4',6-PeCB	110			**326/328**	0.63	0.52-0.77	412	320 - 480
2,3,4,4',5-PeCB	114			**326/328**	0.64	0.52-0.77	430	322 - 483
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87					
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87					
2,3',4,4',5-PeCB	118	106 + 118	C106					
2',3,4,4',5-PeCB	123			**326/328**	0.64	0.52-0.77	393	321 - 481
3,3',4,4',5-PeCB	126			**326/328**	0.63	0.52-0.77	437	320 - 480
3,3',4,5,5'-PeCB	127	105 + 127	C105					
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C	**360/362**	0.80	0.64-0.97	419	320 - 480
2,2',3,4,4',6-HxCB	139	139 + 149	C	**360/362**	0.79	0.64-0.97	402	317 - 475
2,2',3,4',5',6-HxCB	149	139 + 149	C139					
2,2',3,5,5',6-HxCB	151			**360/362**	0.79	0.64-0.97	401	323 - 484
2,2',4,4',5,5'-HxCB	153			**360/362**	0.79	0.64-0.97	432	320 - 480
2,2',4,4',6,6'-HxCB	155			**360/362**	0.79	0.64-0.97	405	317 - 475
2,3,3',4,4',5-HxCB	156			**360/362**	0.79	0.64-0.97	439	319 - 478

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2,3,3',4,4',5'-HxCB	157			**360/362**	0.80	0.64-0.97	445	320 - 480
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138					
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138					
2,3',4,4',5,5'-HxCB	167			**360/362**	0.80	0.64-0.97	424	317 - 475
3,3',4,4',5,5'-HxCB	169			**360/362**	0.79	0.64-0.97	435	321 - 482
2,2',3,3',4,4',5-HpCB	170	170 + 190	C	**394/396**	0.96	0.76-1.14	409	317 - 475
2,2',3,4,4',5,5'-HpCB	180			**394/396**	0.95	0.76-1.14	413	320 - 480
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C	**394/396**	0.95	0.76-1.14	824	636 - 953
2,2',3,4,4',5',6-HpCB	183			**394/396**	0.96	0.76-1.14	400	320 - 480
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182					
2,2',3,4',5,6,6'-HpCB	188			**394/369**	0.95	0.76-1.14	435	320 - 480
2,3,3',4,4',5,5'-HpCB	189			**394/396**	0.98	0.76-1.14	392	321 - 482
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170					
2,2',3,3',4,4',5,5'-OcCB	194			**428/430**	1.13	0.90-1.35	379	321 - 481
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C	**428/430**	1.11	0.90-1.35	382	319 - 479
2,2',3,3',5,5',6,6'-OcCB	202			**428/430**	1.10	0.90-1.35	400	314 - 471
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196					
2,2',3,4,4',5,6,6'-OcCB	204			**428/430**	1.10	0.90-1.35	413	321 - 482
2,3,3',4,4',5,5',6-OcCB	205			**428/430**	1.12	0.90-1.35	388	319 - 478
2,2',3,3',4,4',5,5',6-NoCB	206			**462/464**	1.27	1.03-1.54	413	317 - 476
2,2',3,3',4,5,5',6,6'-NoCB	208			**462/464**	1.26	1.03-1.54	435	321 - 481
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**500/468**	1.19	0.94-1.40	418	319 - 479

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6; Report Filename: PCB_PCB_LO_CL7A1412.D__Form4A_SJ2200935.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4B
CALIBRATION VERIFICATION

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

Initial Calibration Date:	15-Mar-2017	**VER Data Filename:**	CL7A1412.D
Instrument ID:	LR GC/MS	**Analysis Date:**	24-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	09:51:00

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-4-MoCB	3L			**200/202**	0.32	0.26-0.38	407	320 - 480
13C12-2,4'-DiCB	8L			**234/236**	0.63	0.51-0.77	404	320 - 480
13C12-2,4,4'-TriCB	28L			**268/270**	0.95	0.77-1.15	410	320 - 480
13C12-2,2',4,5,5'-PeCB	101L			**338/340**	0.64	0.51-0.77	408	320 - 480
13C12-2,3',4,4',5-PeCB	118L			**338/340**	0.63	0.51-0.77	414	320 - 480
13C12-2,2',3,4,4',5,5'-HpCB	180L			**406/408**	0.93	0.76-1.14	383	320 - 480
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**440/442**	1.10	0.90-1.34	382	320 - 480
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**474/476**	1.26	1.02-1.54	341	320 - 480
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**512/510**	1.22	0.94-1.40	332	320 - 480

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_CL7A1412.D__Form4B_SJ2200935.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4A
CALIBRATION VERIFICATION

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

Initial Calibration Date: 15-Mar-2017
VER Data Filename: CL7A1425.D
Instrument ID: LR GC/MS
Analysis Date: 24-Apr-2017
GC Column ID: DB5
Analysis Time: 21:02:00

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**188/190**	0.33	0.26-0.39	409	320 - 480
4-MoCB	3			**188/190**	0.33	0.26-0.39	409	316 - 474
2,2'-DiCB	4	4 + 10	C	**222/224**	0.65	0.51-0.77	413	321 - 482
2,3-DiCB	5	5 + 8	C	**222/224**	0.64	0.51-0.77	398	318 - 478
2,4'-DiCB	8	5 + 8	C5					
2,6-DiCB	10	4 + 10	C4					
4,4'-DiCB	15			**222/224**	0.65	0.51-0.77	442	320 - 480
2,2',5-TriCB	18			**256/258**	0.96	0.77-1.15	417	322 - 483
2,2',6-TriCB	19			**256/258**	0.96	0.77-1.15	423	322 - 483
2,4,4'-TriCB	28			**256/258**	0.98	0.77-1.15	378	321 - 481
2,4',5-TriCB	31			**256/258**	0.95	0.77-1.15	440	321 - 481
3,4,4'-TriCB	37			**256/258**	0.96	0.77-1.15	432	321 - 481
2,2',3,3'-TeCB	40			**290/292**	1.28	1.04-1.56	429	319 - 479
2,2',3,5-TeCB	43	43 + 49	C	**290/292**	1.27	1.04-1.56	412	320 - 481
2,2',3,5'-TeCB	44			**290/292**	1.29	1.04-1.56	420	318 - 477
2,2',4,5'-TeCB	49	43 + 49	C43					
2,2',5,5'-TeCB	52	52 + 73	C	**290/292**	1.28	1.04-1.56	435	320 - 480
2,2',6,6'-TeCB	54			**290/292**	1.29	1.04-1.56	451	320 - 480
2,3,3',4'-TeCB	56	56 + 60	C	**290/292**	1.29	1.04-1.56	410	320 - 481
2,3,4,4'-TeCB	60	56 + 60	C56					
2,3',4,4'-TeCB	66	66 + 80	C	**290/292**	1.26	1.04-1.56	417	320 - 480
2,3',5',6-TeCB	73	52 + 73	C52					
3,3',4,4'-TeCB	77			**290/292**	1.26	1.04-1.56	415	321 - 482
3,3',5,5'-TeCB	80	66 + 80	C66					
3,4,4',5-TeCB	81			**290/292**	1.28	1.04-1.56	419	321 - 482
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C	**326/328**	0.64	0.52-0.77	411	320 - 481
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C	**326/328**	0.64	0.52-0.77	394	320 - 480
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89					
2,2',3,5,6-PeCB	93	93 + 95	C	**326/328**	0.64	0.52-0.77	422	320 - 480
2,2',3,5',6-PeCB	95	93 + 95	C93					
2,2',4,4',5-PeCB	99			**326/328**	0.65	0.52-0.77	405	320 - 480
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89					
2,2',4,6,6'-PeCB	104			**326/328**	0.63	0.52-0.77	440	317 - 476
2,3,3',4,4'-PeCB	105	105 + 127	C	**326/328**	0.63	0.52-0.77	394	317 - 476
2,3,3',4,5-PeCB	106	106 + 118	C	**326/328**	0.65	0.52-0.77	415	322 - 483
2,3,3',4',6-PeCB	110			**326/328**	0.63	0.52-0.77	398	320 - 480
2,3,4,4',5-PeCB	114			**326/328**	0.62	0.52-0.77	405	322 - 483
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87					
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87					
2,3',4,4',5-PeCB	118	106 + 118	C106					
2',3,4,4',5-PeCB	123			**326/328**	0.65	0.52-0.77	395	321 - 481
3,3',4,4',5-PeCB	126			**326/328**	0.63	0.52-0.77	389	320 - 480
3,3',4,5,5'-PeCB	127	105 + 127	C105					
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C	**360/362**	0.80	0.64-0.97	429	320 - 480
2,2',3,4,4',6-HxCB	139	139 + 149	C	**360/362**	0.79	0.64-0.97	387	317 - 475
2,2',3,4',5',6-HxCB	149	139 + 149	C139					
2,2',3,5,5',6-HxCB	151			**360/362**	0.79	0.64-0.97	386	323 - 484
2,2',4,4',5,5'-HxCB	153			**360/362**	0.80	0.64-0.97	448	320 - 480
2,2',4,4',6,6'-HxCB	155			**360/362**	0.79	0.64-0.97	404	317 - 475
2,3,3',4,4',5-HxCB	156			**360/362**	0.79	0.64-0.97	435	319 - 478

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2,3,3',4,4',5'-HxCB	157			**360/362**	0.79	0.64-0.97	455	320 - 480
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138					
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138					
2,3',4,4',5,5'-HxCB	167			**360/362**	0.78	0.64-0.97	435	317 - 475
3,3',4,4',5,5'-HxCB	169			**360/362**	0.79	0.64-0.97	415	321 - 482
2,2',3,3',4,4',5-HpCB	170	170 + 190	C	**394/396**	0.97	0.76-1.14	400	317 - 475
2,2',3,4,4',5,5'-HpCB	180			**394/396**	0.95	0.76-1.14	415	320 - 480
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C	**394/396**	0.97	0.76-1.14	859	636 - 953
2,2',3,4,4',5',6-HpCB	183			**394/396**	0.95	0.76-1.14	420	320 - 480
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182					
2,2',3,4',5,6,6'-HpCB	188			**394/369**	0.95	0.76-1.14	477	320 - 480
2,3,3',4,4',5,5'-HpCB	189			**394/396**	0.96	0.76-1.14	376	321 - 482
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170					
2,2',3,3',4,4',5,5'-OcCB	194			**428/430**	1.12	0.90-1.35	341	321 - 481
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C	**428/430**	1.12	0.90-1.35	355	319 - 479
2,2',3,3',5,5',6,6'-OcCB	202			**428/430**	1.11	0.90-1.35	404	314 - 471
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196					
2,2',3,4,4',5,6,6'-OcCB	204			**428/430**	1.13	0.90-1.35	408	321 - 482
2,3,3',4,4',5,5',6-OcCB	205			**428/430**	1.11	0.90-1.35	339	319 - 478
2,2',3,3',4,4',5,5',6-NoCB	206			**462/464**	1.28	1.03-1.54	409	317 - 476
2,2',3,3',4,5,5',6,6'-NoCB	208			**462/464**	1.28	1.03-1.54	454	321 - 481
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**500/468**	1.18	0.94-1.40	415	319 - 479

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6; Report Filename: PCB_PCB_LO_CL7A1425.D__Form4A_SJ2201490.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4B
CALIBRATION VERIFICATION

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

Initial Calibration Date:	15-Mar-2017	**VER Data Filename:**	CL7A1425.D
Instrument ID:	LR GC/MS	**Analysis Date:**	24-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	21:02:00

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-4-MoCB	3L			**200/202**	0.32	0.26-0.38	420	320 - 480
13C12-2,4'-DiCB	8L			**234/236**	0.64	0.51-0.77	415	320 - 480
13C12-2,4,4'-TriCB	28L			**268/270**	0.95	0.77-1.15	407	320 - 480
13C12-2,2',4,5,5'-PeCB	101L			**338/340**	0.64	0.51-0.77	442	320 - 480
13C12-2,3',4,4',5-PeCB	118L			**338/340**	0.63	0.51-0.77	419	320 - 480
13C12-2,2',3,4,4',5,5'-HpCB	180L			**406/408**	0.94	0.76-1.14	365	320 - 480
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**440/442**	1.11	0.90-1.34	382	320 - 480
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**474/476**	1.24	1.02-1.54	299	320 - 480
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**512/510**	1.20	0.94-1.40	291	320 - 480

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_CL7A1425.D__Form4B_SJ2201490.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4A
CALIBRATION VERIFICATION

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

Initial Calibration Date: 15-Mar-2017
VER Data Filename: CL7A1441.D
Instrument ID: LR GC/MS
Analysis Date: 25-Apr-2017
GC Column ID: DB5
Analysis Time: 12:32:00

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**188/190**	0.33	0.26-0.39	405	320 - 480
4-MoCB	3			**188/190**	0.33	0.26-0.39	408	316 - 474
2,2'-DiCB	4	4 + 10	C	**222/224**	0.64	0.51-0.77	410	321 - 482
2,3-DiCB	5	5 + 8	C	**222/224**	0.65	0.51-0.77	396	318 - 478
2,4'-DiCB	8	5 + 8	C5					
2,6-DiCB	10	4 + 10	C4					
4,4'-DiCB	15			**222/224**	0.65	0.51-0.77	451	320 - 480
2,2',5-TriCB	18			**256/258**	0.97	0.77-1.15	399	322 - 483
2,2',6-TriCB	19			**256/258**	0.96	0.77-1.15	403	322 - 483
2,4,4'-TriCB	28			**256/258**	0.97	0.77-1.15	405	321 - 481
2,4',5-TriCB	31			**256/258**	0.96	0.77-1.15	410	321 - 481
3,4,4'-TriCB	37			**256/258**	0.97	0.77-1.15	454	321 - 481
2,2',3,3'-TeCB	40			**290/292**	1.26	1.04-1.56	402	319 - 479
2,2',3,5-TeCB	43	43 + 49	C	**290/292**	1.28	1.04-1.56	385	320 - 481
2,2',3,5'-TeCB	44			**290/292**	1.27	1.04-1.56	399	318 - 477
2,2',4,5'-TeCB	49	43 + 49	C43					
2,2',5,5'-TeCB	52	52 + 73	C	**290/292**	1.30	1.04-1.56	401	320 - 480
2,2',6,6'-TeCB	54			**290/292**	1.27	1.04-1.56	410	320 - 480
2,3,3',4'-TeCB	56	56 + 60	C	**290/292**	1.26	1.04-1.56	416	320 - 481
2,3,4,4'-TeCB	60	56 + 60	C56					
2,3',4,4'-TeCB	66	66 + 80	C	**290/292**	1.28	1.04-1.56	409	320 - 480
2,3',5',6-TeCB	73	52 + 73	C52					
3,3',4,4'-TeCB	77			**290/292**	1.27	1.04-1.56	437	321 - 482
3,3',5,5'-TeCB	80	66 + 80	C66					
3,4,4',5-TeCB	81			**290/292**	1.26	1.04-1.56	442	321 - 482
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C	**326/328**	0.64	0.52-0.77	413	320 - 481
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C	**326/328**	0.64	0.52-0.77	393	320 - 480
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89					
2,2',3,5,6-PeCB	93	93 + 95	C	**326/328**	0.63	0.52-0.77	404	320 - 480
2,2',3,5',6-PeCB	95	93 + 95	C93					
2,2',4,4',5-PeCB	99			**326/328**	0.63	0.52-0.77	407	320 - 480
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89					
2,2',4,6,6'-PeCB	104			**326/328**	0.63	0.52-0.77	408	317 - 476
2,3,3',4,4'-PeCB	105	105 + 127	C	**326/328**	0.64	0.52-0.77	430	317 - 476
2,3,3',4,5-PeCB	106	106 + 118	C	**326/328**	0.64	0.52-0.77	407	322 - 483
2,3,3',4',6-PeCB	110			**326/328**	0.64	0.52-0.77	403	320 - 480
2,3,4,4',5-PeCB	114			**326/328**	0.64	0.52-0.77	432	322 - 483
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87					
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87					
2,3',4,4',5-PeCB	118	106 + 118	C106					
2',3,4,4',5-PeCB	123			**326/328**	0.63	0.52-0.77	394	321 - 481
3,3',4,4',5-PeCB	126			**326/328**	0.64	0.52-0.77	442	320 - 480
3,3',4,5,5'-PeCB	127	105 + 127	C105					
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C	**360/362**	0.80	0.64-0.97	399	320 - 480
2,2',3,4,4',6-HxCB	139	139 + 149	C	**360/362**	0.79	0.64-0.97	398	317 - 475
2,2',3,4',5',6-HxCB	149	139 + 149	C139					
2,2',3,5,5',6-HxCB	151			**360/362**	0.78	0.64-0.97	406	323 - 484
2,2',4,4',5,5'-HxCB	153			**360/362**	0.79	0.64-0.97	407	320 - 480
2,2',4,4',6,6'-HxCB	155			**360/362**	0.79	0.64-0.97	402	317 - 475
2,3,3',4,4',5-HxCB	156			**360/362**	0.79	0.64-0.97	433	319 - 478

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2,3,3',4,4',5'-HxCB	157			**360/362**	0.80	0.64-0.97	442	320 - 480
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138					
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138					
2,3',4,4',5,5'-HxCB	167			**360/362**	0.80	0.64-0.97	413	317 - 475
3,3',4,4',5,5'-HxCB	169			**360/362**	0.79	0.64-0.97	436	321 - 482
2,2',3,3',4,4',5-HpCB	170	170 + 190	C	**394/396**	0.95	0.76-1.14	426	317 - 475
2,2',3,4,4',5,5'-HpCB	180			**394/396**	0.96	0.76-1.14	420	320 - 480
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C	**394/396**	0.97	0.76-1.14	813	636 - 953
2,2',3,4,4',5',6-HpCB	183			**394/396**	0.95	0.76-1.14	395	320 - 480
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182					
2,2',3,4',5,6,6'-HpCB	188			**394/369**	0.96	0.76-1.14	415	320 - 480
2,3,3',4,4',5,5'-HpCB	189			**394/396**	0.97	0.76-1.14	419	321 - 482
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170					
2,2',3,3',4,4',5,5'-OcCB	194			**428/430**	1.11	0.90-1.35	424	321 - 481
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C	**428/430**	1.11	0.90-1.35	411	319 - 479
2,2',3,3',5,5',6,6'-OcCB	202			**428/430**	1.12	0.90-1.35	406	314 - 471
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196					
2,2',3,4,4',5,6,6'-OcCB	204			**428/430**	1.12	0.90-1.35	425	321 - 482
2,3,3',4,4',5,5',6-OcCB	205			**428/430**	1.11	0.90-1.35	427	319 - 478
2,2',3,3',4,4',5,5',6-NoCB	206			**462/464**	1.26	1.03-1.54	406	317 - 476
2,2',3,3',4,5,5',6,6'-NoCB	208			**462/464**	1.29	1.03-1.54	409	321 - 481
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**500/468**	1.19	0.94-1.40	407	319 - 479

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

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AXYS METHOD MLA-007 Rev 13

Form 4B
CALIBRATION VERIFICATION

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

Initial Calibration Date:	15-Mar-2017	**VER Data Filename:**	CL7A1441.D
Instrument ID:	LR GC/MS	**Analysis Date:**	25-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	12:32:00

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-4-MoCB	3L			**200/202**	0.32	0.26-0.38	407	320 - 480
13C12-2,4'-DiCB	8L			**234/236**	0.63	0.51-0.77	404	320 - 480
13C12-2,4,4'-TriCB	28L			**268/270**	0.96	0.77-1.15	409	320 - 480
13C12-2,2',4,5,5'-PeCB	101L			**338/340**	0.64	0.51-0.77	391	320 - 480
13C12-2,3',4,4',5-PeCB	118L			**338/340**	0.63	0.51-0.77	401	320 - 480
13C12-2,2',3,4,4',5,5'-HpCB	180L			**406/408**	0.94	0.76-1.14	397	320 - 480
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**440/442**	1.12	0.90-1.34	392	320 - 480
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**474/476**	1.24	1.02-1.54	404	320 - 480
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**512/510**	1.19	0.94-1.40	401	320 - 480

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_CL7A1441.D__Form4B_SJ2201692.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4A
CALIBRATION VERIFICATION

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

Initial Calibration Date: 15-Mar-2017
VER Data Filename: CL7A1454.D
Instrument ID: LR GC/MS
Analysis Date: 25-Apr-2017
GC Column ID: DB5
Analysis Time: 23:42:00

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**188/190**	0.32	0.26-0.39	399	320 - 480
4-MoCB	3			**188/190**	0.33	0.26-0.39	397	316 - 474
2,2'-DiCB	4	4 + 10	C	**222/224**	0.64	0.51-0.77	411	321 - 482
2,3-DiCB	5	5 + 8	C	**222/224**	0.64	0.51-0.77	399	318 - 478
2,4'-DiCB	8	5 + 8	C5					
2,6-DiCB	10	4 + 10	C4					
4,4'-DiCB	15			**222/224**	0.65	0.51-0.77	450	320 - 480
2,2',5-TriCB	18			**256/258**	0.97	0.77-1.15	398	322 - 483
2,2',6-TriCB	19			**256/258**	0.96	0.77-1.15	405	322 - 483
2,4,4'-TriCB	28			**256/258**	0.97	0.77-1.15	393	321 - 481
2,4',5-TriCB	31			**256/258**	0.95	0.77-1.15	420	321 - 481
3,4,4'-TriCB	37			**256/258**	0.97	0.77-1.15	458	321 - 481
2,2',3,3'-TeCB	40			**290/292**	1.27	1.04-1.56	403	319 - 479
2,2',3,5-TeCB	43	43 + 49	C	**290/292**	1.29	1.04-1.56	387	320 - 481
2,2',3,5'-TeCB	44			**290/292**	1.30	1.04-1.56	396	318 - 477
2,2',4,5'-TeCB	49	43 + 49	C43					
2,2',5,5'-TeCB	52	52 + 73	C	**290/292**	1.29	1.04-1.56	404	320 - 480
2,2',6,6'-TeCB	54			**290/292**	1.27	1.04-1.56	410	320 - 480
2,3,3',4'-TeCB	56	56 + 60	C	**290/292**	1.29	1.04-1.56	412	320 - 481
2,3,4,4'-TeCB	60	56 + 60	C56					
2,3',4,4'-TeCB	66	66 + 80	C	**290/292**	1.28	1.04-1.56	411	320 - 480
2,3',5',6-TeCB	73	52 + 73	C52					
3,3',4,4'-TeCB	77			**290/292**	1.25	1.04-1.56	440	321 - 482
3,3',5,5'-TeCB	80	66 + 80	C66					
3,4,4',5-TeCB	81			**290/292**	1.27	1.04-1.56	442	321 - 482
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C	**326/328**	0.65	0.52-0.77	411	320 - 481
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C	**326/328**	0.63	0.52-0.77	399	320 - 480
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89					
2,2',3,5,6-PeCB	93	93 + 95	C	**326/328**	0.63	0.52-0.77	404	320 - 480
2,2',3,5',6-PeCB	95	93 + 95	C93					
2,2',4,4',5-PeCB	99			**326/328**	0.64	0.52-0.77	402	320 - 480
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89					
2,2',4,6,6'-PeCB	104			**326/328**	0.65	0.52-0.77	403	317 - 476
2,3,3',4,4'-PeCB	105	105 + 127	C	**326/328**	0.64	0.52-0.77	421	317 - 476
2,3,3',4,5-PeCB	106	106 + 118	C	**326/328**	0.64	0.52-0.77	400	322 - 483
2,3,3',4',6-PeCB	110			**326/328**	0.64	0.52-0.77	403	320 - 480
2,3,4,4',5-PeCB	114			**326/328**	0.64	0.52-0.77	427	322 - 483
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87					
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87					
2,3',4,4',5-PeCB	118	106 + 118	C106					
2',3,4,4',5-PeCB	123			**326/328**	0.64	0.52-0.77	379	321 - 481
3,3',4,4',5-PeCB	126			**326/328**	0.63	0.52-0.77	434	320 - 480
3,3',4,5,5'-PeCB	127	105 + 127	C105					
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C	**360/362**	0.80	0.64-0.97	421	320 - 480
2,2',3,4,4',6-HxCB	139	139 + 149	C	**360/362**	0.80	0.64-0.97	398	317 - 475
2,2',3,4',5',6-HxCB	149	139 + 149	C139					
2,2',3,5,5',6-HxCB	151			**360/362**	0.80	0.64-0.97	401	323 - 484
2,2',4,4',5,5'-HxCB	153			**360/362**	0.79	0.64-0.97	431	320 - 480
2,2',4,4',6,6'-HxCB	155			**360/362**	0.80	0.64-0.97	402	317 - 475
2,3,3',4,4',5-HxCB	156			**360/362**	0.80	0.64-0.97	441	319 - 478

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2,3,3',4,4',5'-HxCB	157			**360/362**	0.80	0.64-0.97	460	320 - 480
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138					
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138					
2,3',4,4',5,5'-HxCB	167			**360/362**	0.79	0.64-0.97	431	317 - 475
3,3',4,4',5,5'-HxCB	169			**360/362**	0.79	0.64-0.97	435	321 - 482
2,2',3,3',4,4',5-HpCB	170	170 + 190	C	**394/396**	0.96	0.76-1.14	425	317 - 475
2,2',3,4,4',5,5'-HpCB	180			**394/396**	0.95	0.76-1.14	430	320 - 480
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C	**394/396**	0.96	0.76-1.14	865	636 - 953
2,2',3,4,4',5',6-HpCB	183			**394/396**	0.94	0.76-1.14	418	320 - 480
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182					
2,2',3,4',5,6,6'-HpCB	188			**394/369**	0.96	0.76-1.14	445	320 - 480
2,3,3',4,4',5,5'-HpCB	189			**394/396**	0.96	0.76-1.14	403	321 - 482
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170					
2,2',3,3',4,4',5,5'-OcCB	194			**428/430**	1.12	0.90-1.35	383	321 - 481
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C	**428/430**	1.14	0.90-1.35	375	319 - 479
2,2',3,3',5,5',6,6'-OcCB	202			**428/430**	1.12	0.90-1.35	403	314 - 471
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196					
2,2',3,4,4',5,6,6'-OcCB	204			**428/430**	1.11	0.90-1.35	422	321 - 482
2,3,3',4,4',5,5',6-OcCB	205			**428/430**	1.12	0.90-1.35	380	319 - 478
2,2',3,3',4,4',5,5',6-NoCB	206			**462/464**	1.26	1.03-1.54	410	317 - 476
2,2',3,3',4,5,5',6,6'-NoCB	208			**462/464**	1.29	1.03-1.54	432	321 - 481
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**500/468**	1.20	0.94-1.40	412	319 - 479

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

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AXYS METHOD MLA-007 Rev 13

Form 4B
CALIBRATION VERIFICATION

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

Initial Calibration Date:	15-Mar-2017	**VER Data Filename:**	CL7A1454.D
Instrument ID:	LR GC/MS	**Analysis Date:**	25-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	23:42:00

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-4-MoCB	3L			**200/202**	0.32	0.26-0.38	405	320 - 480
13C12-2,4'-DiCB	8L			**234/236**	0.64	0.51-0.77	397	320 - 480
13C12-2,4,4'-TriCB	28L			**268/270**	0.96	0.77-1.15	404	320 - 480
13C12-2,2',4,5,5'-PeCB	101L			**338/340**	0.64	0.51-0.77	403	320 - 480
13C12-2,3',4,4',5-PeCB	118L			**338/340**	0.63	0.51-0.77	420	320 - 480
13C12-2,2',3,4,4',5,5'-HpCB	180L			**406/408**	0.95	0.76-1.14	376	320 - 480
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**440/442**	1.10	0.90-1.34	390	320 - 480
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**474/476**	1.24	1.02-1.54	349	320 - 480
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**512/510**	1.19	0.94-1.40	344	320 - 480

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_CL7A1454.D__Form4B_SJ2203076.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 4A
CALIBRATION VERIFICATION

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

Initial Calibration Date: 15-Mar-2017
VER Data Filename: CL7A1467.D
Instrument ID: LR GC/MS
Analysis Date: 26-Apr-2017
GC Column ID: DB5
Analysis Time: 10:56:00

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2-MoCB	1			**188/190**	0.33	0.26-0.39	395	320 - 480
4-MoCB	3			**188/190**	0.33	0.26-0.39	398	316 - 474
2,2'-DiCB	4	4 + 10	C	**222/224**	0.65	0.51-0.77	403	321 - 482
2,3-DiCB	5	5 + 8	C	**222/224**	0.64	0.51-0.77	394	318 - 478
2,4'-DiCB	8	5 + 8	C5					
2,6-DiCB	10	4 + 10	C4					
4,4'-DiCB	15			**222/224**	0.64	0.51-0.77	460	320 - 480
2,2',5-TriCB	18			**256/258**	0.96	0.77-1.15	396	322 - 483
2,2',6-TriCB	19			**256/258**	0.96	0.77-1.15	396	322 - 483
2,4,4'-TriCB	28			**256/258**	0.98	0.77-1.15	368	321 - 481
2,4',5-TriCB	31			**256/258**	0.95	0.77-1.15	447	321 - 481
3,4,4'-TriCB	37			**256/258**	0.97	0.77-1.15	468	321 - 481
2,2',3,3'-TeCB	40			**290/292**	1.28	1.04-1.56	393	319 - 479
2,2',3,5-TeCB	43	43 + 49	C	**290/292**	1.29	1.04-1.56	378	320 - 481
2,2',3,5'-TeCB	44			**290/292**	1.28	1.04-1.56	389	318 - 477
2,2',4,5'-TeCB	49	43 + 49	C43					
2,2',5,5'-TeCB	52	52 + 73	C	**290/292**	1.27	1.04-1.56	396	320 - 480
2,2',6,6'-TeCB	54			**290/292**	1.28	1.04-1.56	395	320 - 480
2,3,3',4'-TeCB	56	56 + 60	C	**290/292**	1.26	1.04-1.56	414	320 - 481
2,3,4,4'-TeCB	60	56 + 60	C56					
2,3',4,4'-TeCB	66	66 + 80	C	**290/292**	1.28	1.04-1.56	405	320 - 480
2,3',5',6-TeCB	73	52 + 73	C52					
3,3',4,4'-TeCB	77			**290/292**	1.26	1.04-1.56	451	321 - 482
3,3',5,5'-TeCB	80	66 + 80	C66					
3,4,4',5-TeCB	81			**290/292**	1.26	1.04-1.56	448	321 - 482
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C	**326/328**	0.64	0.52-0.77	412	320 - 481
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C	**326/328**	0.64	0.52-0.77	389	320 - 480
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89					
2,2',3,5,6-PeCB	93	93 + 95	C	**326/328**	0.64	0.52-0.77	397	320 - 480
2,2',3,5',6-PeCB	95	93 + 95	C93					
2,2',4,4',5-PeCB	99			**326/328**	0.63	0.52-0.77	399	320 - 480
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89					
2,2',4,6,6'-PeCB	104			**326/328**	0.64	0.52-0.77	395	317 - 476
2,3,3',4,4'-PeCB	105	105 + 127	C	**326/328**	0.64	0.52-0.77	430	317 - 476
2,3,3',4,5-PeCB	106	106 + 118	C	**326/328**	0.64	0.52-0.77	407	322 - 483
2,3,3',4',6-PeCB	110			**326/328**	0.64	0.52-0.77	401	320 - 480
2,3,4,4',5-PeCB	114			**326/328**	0.64	0.52-0.77	429	322 - 483
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87					
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87					
2,3',4,4',5-PeCB	118	106 + 118	C106					
2',3,4,4',5-PeCB	123			**326/328**	0.64	0.52-0.77	387	321 - 481
3,3',4,4',5-PeCB	126			**326/328**	0.64	0.52-0.77	450	320 - 480
3,3',4,5,5'-PeCB	127	105 + 127	C105					
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C	**360/362**	0.79	0.64-0.97	401	320 - 480
2,2',3,4,4',6-HxCB	139	139 + 149	C	**360/362**	0.80	0.64-0.97	396	317 - 475
2,2',3,4',5',6-HxCB	149	139 + 149	C139					
2,2',3,5,5',6-HxCB	151			**360/362**	0.79	0.64-0.97	397	323 - 484
2,2',4,4',5,5'-HxCB	153			**360/362**	0.80	0.64-0.97	406	320 - 480
2,2',4,4',6,6'-HxCB	155			**360/362**	0.80	0.64-0.97	388	317 - 475
2,3,3',4,4',5-HxCB	156			**360/362**	0.80	0.64-0.97	437	319 - 478

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
2,3,3',4,4',5'-HxCB	157			**360/362**	0.78	0.64-0.97	460	320 - 480
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138					
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138					
2,3',4,4',5,5'-HxCB	167			**360/362**	0.80	0.64-0.97	422	317 - 475
3,3',4,4',5,5'-HxCB	169			**360/362**	0.80	0.64-0.97	447	321 - 482
2,2',3,3',4,4',5-HpCB	170	170 + 190	C	**394/396**	0.97	0.76-1.14	427	317 - 475
2,2',3,4,4',5,5'-HpCB	180			**394/396**	0.96	0.76-1.14	420	320 - 480
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C	**394/396**	0.95	0.76-1.14	822	636 - 953
2,2',3,4,4',5',6-HpCB	183			**394/396**	0.96	0.76-1.14	400	320 - 480
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182					
2,2',3,4',5,6,6'-HpCB	188			**394/369**	0.96	0.76-1.14	415	320 - 480
2,3,3',4,4',5,5'-HpCB	189			**394/396**	0.96	0.76-1.14	419	321 - 482
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170					
2,2',3,3',4,4',5,5'-OcCB	194			**428/430**	1.13	0.90-1.35	409	321 - 481
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C	**428/430**	1.13	0.90-1.35	396	319 - 479
2,2',3,3',5,5',6,6'-OcCB	202			**428/430**	1.13	0.90-1.35	399	314 - 471
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196					
2,2',3,4,4',5,6,6'-OcCB	204			**428/430**	1.10	0.90-1.35	418	321 - 482
2,3,3',4,4',5,5',6-OcCB	205			**428/430**	1.11	0.90-1.35	416	319 - 478
2,2',3,3',4,4',5,5',6-NoCB	206			**462/464**	1.25	1.03-1.54	416	317 - 476
2,2',3,3',4,5,5',6,6'-NoCB	208			**462/464**	1.28	1.03-1.54	418	321 - 481
2,2',3,3',4,4',5,5',6,6'-DeCB	209			**500/468**	1.19	0.94-1.40	410	319 - 479

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

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AXYS METHOD MLA-007 Rev 13

Form 4B
CALIBRATION VERIFICATION

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

Initial Calibration Date:	15-Mar-2017	**VER Data Filename:**	CL7A1467.D
Instrument ID:	LR GC/MS	**Analysis Date:**	26-Apr-2017
GC Column ID:	DB5	**Analysis Time:**	10:56:00

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	m/e ION CHANNELS	ION ABUND. RATIO	QC LIMITS	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL)
13C12-4-MoCB	3L			**200/202**	0.32	0.26-0.38	406	320 - 480
13C12-2,4'-DiCB	8L			**234/236**	0.63	0.51-0.77	398	320 - 480
13C12-2,4,4'-TriCB	28L			**268/270**	0.96	0.77-1.15	407	320 - 480
13C12-2,2',4,5,5'-PeCB	101L			**338/340**	0.63	0.51-0.77	388	320 - 480
13C12-2,3',4,4',5-PeCB	118L			**338/340**	0.63	0.51-0.77	402	320 - 480
13C12-2,2',3,4,4',5,5'-HpCB	180L			**406/408**	0.95	0.76-1.14	388	320 - 480
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			**440/442**	1.09	0.90-1.34	391	320 - 480
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			**474/476**	1.23	1.02-1.54	382	320 - 480
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			**512/510**	1.18	0.94-1.40	386	320 - 480

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Anita Riggs_____

For Axys Internal Use Only [XSL Template: Form16684B.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_CL7A1467.D__Form4B_SJ2202300.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-1
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-1
Matrix:	SOLID	**Sample Size:**	8.33 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 13:28:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1416.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.5

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0125 (S)		
3-MoCB	2		ND		0.0127 (S)		
4-MoCB	3		NDR	0.027	0.0127 (S)	0.06	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0276 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0160 (S)		
2,3'-DiCB	6		ND		0.0160 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0160 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0160 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0160 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0160 (S)		
4,4'-DiCB	15		ND		0.0194 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0226 (S)		
2,2',4-TriCB	17		ND		0.0226 (S)		
2,2',5-TriCB	18		ND		0.0226 (S)		
2,2',6-TriCB	19		ND		0.0243 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0409 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0409 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0148 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0226 (S)		
2,3',4-TriCB	25		ND		0.0148 (S)		
2,3',5-TriCB	26		ND		0.0148 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0143 (S)		
2,4,5-TriCB	29		ND		0.0148 (S)		
2,4,6-TriCB	30		ND		0.0226 (S)		
2,4',5-TriCB	31		ND		0.0148 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0458 (S)		
3,3',5-TriCB	36		ND		0.0409 (S)		
3,4,4'-TriCB	37		ND		0.0458 (S)		
3,4,5-TriCB	38		ND		0.0458 (S)		
3,4',5-TriCB	39		ND		0.0409 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0447 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0182 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0182 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0137 (S)		
2,2',3,5'-TeCB	44		ND		0.0182 (S)		
2,2',3,6-TeCB	45		ND		0.0157 (S)		
2,2',3,6'-TeCB	46		ND		0.0157 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0157 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0119 (S)		
2,2',4,6'-TeCB	51		ND		0.0157 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0157 (S)		
2,2',5,6'-TeCB	53		ND		0.0157 (S)		
2,2',6,6'-TeCB	54		ND		0.0119 (S)		
2,3,3',4-TeCB	55		ND		0.0244 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0244 (S)		
2,3,3',5-TeCB	57		ND		0.0447 (S)		
2,3,3',5'-TeCB	58		ND		0.0447 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0238 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0157 (S)		
2,3,4',5-TeCB	63		ND		0.0238 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0238 (S)		
2,3',4,5-TeCB	67		ND		0.0447 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0157 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0238 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0182 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0130 (S)		
3,3',4,5-TeCB	78		ND		0.0130 (S)		
3,3',4,5'-TeCB	79		ND		0.0130 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0130 (S)		
2,2',3,3',4-PeCB	82		ND		0.0206 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0180 (S)		
2,2',3,3',6-PeCB	84		ND		0.0153 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0206 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0206 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0206 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0141 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0153 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0141 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0153 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0141 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0141 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0141 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0141 (S)		
2,2',4,4',5-PeCB	99		ND		0.0140 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0141 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0141 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0117 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0143 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0137 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0143 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0143 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0206 (S)		
2,3,3',5,6-PeCB	112		ND		0.0180 (S)		
2,3,3',5',6-PeCB	113		ND		0.0153 (S)		
2,3,4,4',5-PeCB	114		ND		0.0139 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0140 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0139 (S)		
2',3,4,4',5-PeCB	123		ND		0.0137 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0143 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0206 (S)		
3,3',4,4',5-PeCB	126		ND		0.0157 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0139 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0139 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0139 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0169 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0123 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0169 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0169 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0169 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0169 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0139 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0139 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0169 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0169 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0139 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0169 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0150 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0169 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0169 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0169 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0185 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0169 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0123 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0169 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0108 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0109 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0113 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0139 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0139 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0150 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0139 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0150 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0139 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0105 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0116 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0149 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0120 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0120 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0120 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0111 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0116 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0087 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0111 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0116 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0087 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0120 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0116 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0111 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0087 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0111 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0116 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0087 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0099 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0120 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0120 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0173 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0173 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0169 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0102 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0169 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0169 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0102 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0102 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0128 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0102 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0130 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0282 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0234 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0234 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0120 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-1_Form1A_CL7A1416.D_SJ2203020.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-1
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-1
Matrix:	SOLID	**Sample Size:**	8.33 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 13:28:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1416.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	17.5

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	18.4	46.1	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	22.8	57.1	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	30.9	77.2	0.97	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.1	85.2	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.3	90.7	0.63	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	37.4	93.6	0.96	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	36.4	91.1	1.08	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	35.8	89.5	1.28	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	35.5	88.8	1.18	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-1_Form2_CL7A1416.D_SJ2203020.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-2
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-2
Matrix:	SOLID	**Sample Size:**	8.13 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 14:22:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1417.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	18.9

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0139 (S)		
3-MoCB	2		ND		0.0141 (S)		
4-MoCB	3		NDR	0.036	0.0141 (S)	0.04	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0238 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0137 (S)		
2,3'-DiCB	6		ND		0.0137 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0137 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0137 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0137 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0137 (S)		
4,4'-DiCB	15		ND		0.0166 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0247 (S)		
2,2',4-TriCB	17		ND		0.0247 (S)		
2,2',5-TriCB	18		ND		0.0247 (S)		
2,2',6-TriCB	19		ND		0.0266 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0271 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0271 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0162 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0247 (S)		
2,3',4-TriCB	25		ND		0.0162 (S)		
2,3',5-TriCB	26		ND		0.0162 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0157 (S)		
2,4,5-TriCB	29		ND		0.0162 (S)		
2,4,6-TriCB	30		ND		0.0247 (S)		
2,4',5-TriCB	31		ND		0.0162 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0303 (S)		
3,3',5-TriCB	36		ND		0.0271 (S)		
3,4,4'-TriCB	37		ND		0.0303 (S)		
3,4,5-TriCB	38		ND		0.0303 (S)		
3,4',5-TriCB	39		ND		0.0271 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0271 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0214 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0214 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0162 (S)		
2,2',3,5'-TeCB	44		ND		0.0214 (S)		
2,2',3,6-TeCB	45		ND		0.0185 (S)		
2,2',3,6'-TeCB	46		ND		0.0185 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0185 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0141 (S)		
2,2',4,6'-TeCB	51		ND		0.0185 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0185 (S)		
2,2',5,6'-TeCB	53		ND		0.0185 (S)		
2,2',6,6'-TeCB	54		ND		0.0141 (S)		
2,3,3',4-TeCB	55		ND		0.0148 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0148 (S)		
2,3,3',5-TeCB	57		ND		0.0271 (S)		
2,3,3',5'-TeCB	58		ND		0.0271 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0144 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0185 (S)		
2,3,4',5-TeCB	63		ND		0.0144 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0144 (S)		
2,3',4,5-TeCB	67		ND		0.0271 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0185 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0144 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0214 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0133 (S)		
3,3',4,5-TeCB	78		ND		0.0133 (S)		
3,3',4,5'-TeCB	79		ND		0.0133 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0133 (S)		
2,2',3,3',4-PeCB	82		ND		0.0163 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0164 (S)		
2,2',3,3',6-PeCB	84		ND		0.0140 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0163 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0163 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0163 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0129 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0140 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0129 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0140 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0129 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0129 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0129 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0129 (S)		
2,2',4,4',5-PeCB	99		ND		0.0128 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0129 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0129 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0107 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0113 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0114 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0112 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0112 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0163 (S)		
2,3,3',5,6-PeCB	112		ND		0.0164 (S)		
2,3,3',5',6-PeCB	113		ND		0.0140 (S)		
2,3,4,4',5-PeCB	114		ND		0.0110 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0128 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0110 (S)		
2',3,4,4',5-PeCB	123		ND		0.0114 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0112 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0163 (S)		
3,3',4,4',5-PeCB	126		ND		0.0124 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0187 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0187 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0187 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0140 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0166 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0140 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0140 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0140 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0140 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0187 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0187 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0140 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0140 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0187 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0140 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0124 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0140 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0140 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0140 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0154 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0140 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0166 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0140 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0089 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0146 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0151 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0187 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0187 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0124 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0187 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0124 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0187 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0142 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0157 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0268 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0216 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0216 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0216 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0200 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0209 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0157 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0200 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0209 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0157 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0216 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0209 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0200 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0157 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0200 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0209 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0157 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0178 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0216 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0216 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0172 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0172 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0168 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0102 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0168 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0168 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0102 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0102 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0127 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0102 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0129 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0250 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0207 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0207 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0088 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-2_Form1A_CL7A1417.D_SJ2203021.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-2
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-2
Matrix:	SOLID	**Sample Size:**	8.13 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 14:22:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1417.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	18.9

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	14.3	35.6	0.31	0.649
13C12-2,4'-DiCB	8L			40.0	20.0	50.1	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	28.8	72.1	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.1	85.4	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	35.6	89.0	0.63	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	34.6	86.4	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	34.0	85.1	1.11	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	31.9	79.7	1.26	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	30.6	76.4	1.23	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-2_Form2_CL7A1417.D_SJ2203021.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-3
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-3
Matrix:	SOLID	**Sample Size:**	8.23 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 15:16:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1418.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.7

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0213 (S)		
3-MoCB	2		ND		0.0217 (S)		
4-MoCB	3		NDR	0.039	0.0217 (S)	0.04	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0301 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0174 (S)		
2,3'-DiCB	6		ND		0.0174 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0174 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0174 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0174 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0174 (S)		
4,4'-DiCB	15		ND		0.0211 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0259 (S)		
2,2',4-TriCB	17		ND		0.0259 (S)		
2,2',5-TriCB	18		ND		0.0259 (S)		
2,2',6-TriCB	19		ND		0.0279 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0136 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0136 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0170 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0259 (S)		
2,3',4-TriCB	25		ND		0.0170 (S)		
2,3',5-TriCB	26		ND		0.0170 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0164 (S)		
2,4,5-TriCB	29		ND		0.0170 (S)		
2,4,6-TriCB	30		ND		0.0259 (S)		
2,4',5-TriCB	31		ND		0.0170 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0152 (S)		
3,3',5-TriCB	36		ND		0.0136 (S)		
3,4,4'-TriCB	37		ND		0.0152 (S)		
3,4,5-TriCB	38		ND		0.0152 (S)		
3,4',5-TriCB	39		ND		0.0136 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0241 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0168 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0168 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0127 (S)		
2,2',3,5'-TeCB	44		ND		0.0168 (S)		
2,2',3,6-TeCB	45		ND		0.0145 (S)		
2,2',3,6'-TeCB	46		ND		0.0145 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0145 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0110 (S)		
2,2',4,6'-TeCB	51		ND		0.0145 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0145 (S)		
2,2',5,6'-TeCB	53		ND		0.0145 (S)		
2,2',6,6'-TeCB	54		ND		0.0110 (S)		
2,3,3',4-TeCB	55		ND		0.0132 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0132 (S)		
2,3,3',5-TeCB	57		ND		0.0241 (S)		
2,3,3',5'-TeCB	58		ND		0.0241 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0128 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0145 (S)		
2,3,4',5-TeCB	63		ND		0.0128 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0128 (S)		
2,3',4,5-TeCB	67		ND		0.0241 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0145 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0128 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0168 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0120 (S)		
3,3',4,5-TeCB	78		ND		0.0120 (S)		
3,3',4,5'-TeCB	79		ND		0.0120 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0120 (S)		
2,2',3,3',4-PeCB	82		ND		0.0226 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0203 (S)		
2,2',3,3',6-PeCB	84		ND		0.0173 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0226 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0226 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0226 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0159 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0173 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0159 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0173 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0159 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0159 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0159 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0159 (S)		
2,2',4,4',5-PeCB	99		ND		0.0158 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0159 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0159 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0132 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0157 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0157 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0156 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0156 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0226 (S)		
2,3,3',5,6-PeCB	112		ND		0.0203 (S)		
2,3,3',5',6-PeCB	113		ND		0.0173 (S)		
2,3,4,4',5-PeCB	114		ND		0.0153 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0158 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0153 (S)		
2',3,4,4',5-PeCB	123		ND		0.0157 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0156 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0226 (S)		
3,3',4,4',5-PeCB	126		ND		0.0172 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0130 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0130 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0130 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0126 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0115 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0126 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0126 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0126 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0126 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0130 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0130 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0126 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0126 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0130 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0126 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0112 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0126 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0126 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0126 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0138 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0126 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0115 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0126 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0080 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0102 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0105 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0130 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0130 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0112 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0130 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0112 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0130 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0099 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0109 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0173 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0139 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0139 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0139 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0129 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0135 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0101 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0129 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0135 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0101 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0139 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0135 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0129 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0101 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0129 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0135 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0101 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0115 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0139 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0139 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0158 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0158 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0154 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0093 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0154 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0154 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0093 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0093 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0117 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0093 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0118 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0244 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0203 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0203 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0118 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-3_Form1A_CL7A1418.D_SJ2203022.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-3
Sample Collection:
28-Mar-2017 14:00

Form 2

ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-3
Matrix:	SOLID	**Sample Size:**	8.23 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 15:16:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1418.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	19.7

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	9.73	24.3	0.32	0.649
13C12-2,4'-DiCB	8L			40.0	14.6	36.5	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	23.7	59.3	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	31.9	79.9	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	33.6	84.1	0.64	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	33.3	83.2	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	33.3	83.3	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	31.4	78.5	1.24	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	31.1	77.8	1.21	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-3_Form2_CL7A1418.D_SJ2203022.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-4
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-4
Matrix:	SOLID	**Sample Size:**	8.00 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 16:10:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1419.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	20.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0189 (S)		
3-MoCB	2		ND		0.0192 (S)		
4-MoCB	3		NDR	0.049	0.0192 (S)	0.05	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0287 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0166 (S)		
2,3'-DiCB	6		ND		0.0166 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0166 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0166 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0166 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0166 (S)		
4,4'-DiCB	15		ND		0.0201 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0291 (S)		
2,2',4-TriCB	17		ND		0.0291 (S)		
2,2',5-TriCB	18		ND		0.0291 (S)		
2,2',6-TriCB	19		ND		0.0314 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0298 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0298 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0191 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0291 (S)		
2,3',4-TriCB	25		ND		0.0191 (S)		
2,3',5-TriCB	26		ND		0.0191 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0185 (S)		
2,4,5-TriCB	29		ND		0.0191 (S)		
2,4,6-TriCB	30		ND		0.0291 (S)		
2,4',5-TriCB	31		ND		0.0191 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0334 (S)		
3,3',5-TriCB	36		ND		0.0298 (S)		
3,4,4'-TriCB	37		ND		0.0334 (S)		
3,4,5-TriCB	38		ND		0.0334 (S)		
3,4',5-TriCB	39		ND		0.0298 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0225 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0138 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0138 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0104 (S)		
2,2',3,5'-TeCB	44		ND		0.0138 (S)		
2,2',3,6-TeCB	45		ND		0.0119 (S)		
2,2',3,6'-TeCB	46		ND		0.0119 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0119 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0091 (S)		
2,2',4,6'-TeCB	51		ND		0.0119 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0119 (S)		
2,2',5,6'-TeCB	53		ND		0.0119 (S)		
2,2',6,6'-TeCB	54		ND		0.0091 (S)		
2,3,3',4-TeCB	55		ND		0.0123 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0123 (S)		
2,3,3',5-TeCB	57		ND		0.0225 (S)		
2,3,3',5'-TeCB	58		ND		0.0225 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0120 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0119 (S)		
2,3,4',5-TeCB	63		ND		0.0120 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0120 (S)		
2,3',4,5-TeCB	67		ND		0.0225 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0119 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0120 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0138 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0158 (S)		
3,3',4,5-TeCB	78		ND		0.0158 (S)		
3,3',4,5'-TeCB	79		ND		0.0158 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0158 (S)		
2,2',3,3',4-PeCB	82		ND		0.0184 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0196 (S)		
2,2',3,3',6-PeCB	84		ND		0.0167 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0184 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0184 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0184 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0153 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0167 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0153 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0167 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0153 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0153 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0153 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0153 (S)		
2,2',4,4',5-PeCB	99		ND		0.0153 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0153 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0153 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0127 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0128 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0130 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0127 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0127 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0184 (S)		
2,3,3',5,6-PeCB	112		ND		0.0196 (S)		
2,3,3',5',6-PeCB	113		ND		0.0167 (S)		
2,3,4,4',5-PeCB	114		ND		0.0124 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0153 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0124 (S)		
2',3,4,4',5-PeCB	123		ND		0.0130 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0127 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0184 (S)		
3,3',4,4',5-PeCB	126		ND		0.0140 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0173 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0173 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0173 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0143 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0153 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0143 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0143 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0143 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0143 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0173 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0173 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0143 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0143 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0173 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0143 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0127 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0143 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0143 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0143 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0157 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0143 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0153 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0143 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0091 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0136 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0140 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0173 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0173 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0127 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0173 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0127 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0173 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0131 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0145 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0176 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0141 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0141 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0141 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0131 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0137 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0103 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0131 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0137 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0103 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0141 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0137 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0131 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0103 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0131 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0137 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0103 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0117 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0141 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0141 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0216 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0216 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0211 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0128 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0211 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0211 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0128 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0128 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0160 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0128 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0162 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0212 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0176 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0176 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0101 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-4_Form1A_CL7A1419.D_SJ2203023.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-4
Sample Collection:
28-Mar-2017 14:00

Form 2

ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-4
Matrix:	SOLID	**Sample Size:**	8.00 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 16:10:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1419.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	20.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	12.2	30.6	0.32	0.649
13C12-2,4'-DiCB	8L			40.0	16.8	41.9	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	25.1	62.6	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.6	86.4	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	35.7	89.3	0.64	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	34.9	87.3	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.1	87.9	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	30.8	76.9	1.26	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	30.5	76.3	1.18	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-4_Form2_CL7A1419.D_SJ2203023.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-5
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-5
Matrix:	SOLID	**Sample Size:**	8.04 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 17:04:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1420.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.6

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0152 (S)		
3-MoCB	2		ND		0.0155 (S)		
4-MoCB	3		NDR	0.036	0.0155 (S)	0.05	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0211 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0122 (S)		
2,3'-DiCB	6		ND		0.0122 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0122 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0122 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0122 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0122 (S)		
4,4'-DiCB	15		ND		0.0148 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0275 (S)		
2,2',4-TriCB	17		ND		0.0275 (S)		
2,2',5-TriCB	18		ND		0.0275 (S)		
2,2',6-TriCB	19		ND		0.0296 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0143 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0143 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0180 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0275 (S)		
2,3',4-TriCB	25		ND		0.0180 (S)		
2,3',5-TriCB	26		ND		0.0180 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0175 (S)		
2,4,5-TriCB	29		ND		0.0180 (S)		
2,4,6-TriCB	30		ND		0.0275 (S)		
2,4',5-TriCB	31		ND		0.0180 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0160 (S)		
3,3',5-TriCB	36		ND		0.0143 (S)		
3,4,4'-TriCB	37		ND		0.0160 (S)		
3,4,5-TriCB	38		ND		0.0160 (S)		
3,4',5-TriCB	39		ND		0.0143 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0265 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0190 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0190 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0143 (S)		
2,2',3,5'-TeCB	44		ND		0.0190 (S)		
2,2',3,6-TeCB	45		ND		0.0164 (S)		
2,2',3,6'-TeCB	46		ND		0.0164 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0164 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0125 (S)		
2,2',4,6'-TeCB	51		ND		0.0164 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0164 (S)		
2,2',5,6'-TeCB	53		ND		0.0164 (S)		
2,2',6,6'-TeCB	54		ND		0.0125 (S)		
2,3,3',4-TeCB	55		ND		0.0145 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0145 (S)		
2,3,3',5-TeCB	57		ND		0.0265 (S)		
2,3,3',5'-TeCB	58		ND		0.0265 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0141 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0164 (S)		
2,3,4',5-TeCB	63		ND		0.0141 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0141 (S)		
2,3',4,5-TeCB	67		ND		0.0265 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0164 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0141 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0190 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0152 (S)		
3,3',4,5-TeCB	78		ND		0.0152 (S)		
3,3',4,5'-TeCB	79		ND		0.0152 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0152 (S)		
2,2',3,3',4-PeCB	82		ND		0.0193 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0158 (S)		
2,2',3,3',6-PeCB	84		ND		0.0135 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0193 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0193 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0193 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0124 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0135 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0124 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0135 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0124 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0124 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0124 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0124 (S)		
2,2',4,4',5-PeCB	99		ND		0.0124 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0124 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0124 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0103 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0134 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0135 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0133 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0133 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0193 (S)		
2,3,3',5,6-PeCB	112		ND		0.0158 (S)		
2,3,3',5',6-PeCB	113		ND		0.0135 (S)		
2,3,4,4',5-PeCB	114		ND		0.0130 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0124 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0130 (S)		
2',3,4,4',5-PeCB	123		ND		0.0135 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0133 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0193 (S)		
3,3',4,4',5-PeCB	126		ND		0.0147 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0154 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0154 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0154 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0134 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0136 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0134 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0134 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0134 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0134 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0154 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0154 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0134 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0134 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0154 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0134 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0119 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0134 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0134 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0134 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0147 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0134 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0136 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0134 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0085 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0120 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0124 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0154 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0154 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0119 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0154 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0119 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0154 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0116 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0129 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0176 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0141 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0141 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0141 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0131 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0137 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0103 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0131 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0137 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0103 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0141 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0137 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0131 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0103 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0131 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0137 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0103 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0117 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0141 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0141 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0146 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0146 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0143 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0087 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0143 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0143 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0087 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0087 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0108 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0087 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0110 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0130 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0107 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0107 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0113 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-5_Form1A_CL7A1420.D_SJ2203024.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-5
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-5
Matrix:	SOLID	**Sample Size:**	8.04 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 17:04:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1420.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	19.6

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	15.6	39.1	0.32	0.649
13C12-2,4'-DiCB	8L			40.0	20.3	50.7	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	27.5	68.7	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.7	86.8	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	35.7	89.2	0.63	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	34.1	85.3	0.96	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	34.2	85.6	1.12	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	31.4	78.5	1.25	1.219
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	30.6	76.5	1.20	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-5_Form2_CL7A1420.D_SJ2203024.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-6 (A)
Matrix:	SOLID	**Sample Size:**	8.26 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 17:59:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1421.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	18.5

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0120 (S)		
3-MoCB	2		ND		0.0122 (S)		
4-MoCB	3		NDR	0.041	0.0122 (S)	0.15	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0322 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0186 (S)		
2,3'-DiCB	6		ND		0.0186 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.027	0.0186 (S)	1.92	0.958
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0186 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0186 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0186 (S)		
4,4'-DiCB	15		ND		0.0226 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0185 (S)		
2,2',4-TriCB	17		ND		0.0185 (S)		
2,2',5-TriCB	18		ND		0.0185 (S)		
2,2',6-TriCB	19		ND		0.0199 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0153 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0153 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0121 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0185 (S)		
2,3',4-TriCB	25		ND		0.0121 (S)		
2,3',5-TriCB	26		ND		0.0121 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0118 (S)		
2,4,5-TriCB	29		ND		0.0121 (S)		
2,4,6-TriCB	30		ND		0.0185 (S)		
2,4',5-TriCB	31		ND		0.0121 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0172 (S)		
3,3',5-TriCB	36		ND		0.0153 (S)		
3,4,4'-TriCB	37		ND		0.0172 (S)		
3,4,5-TriCB	38		ND		0.0172 (S)		
3,4',5-TriCB	39		ND		0.0153 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0505 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0220 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0220 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0166 (S)		
2,2',3,5'-TeCB	44		ND		0.0220 (S)		
2,2',3,6-TeCB	45		ND		0.0189 (S)		
2,2',3,6'-TeCB	46		ND		0.0189 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0189 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0144 (S)		
2,2',4,6'-TeCB	51		ND		0.0189 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0189 (S)		
2,2',5,6'-TeCB	53		ND		0.0189 (S)		
2,2',6,6'-TeCB	54		ND		0.0144 (S)		
2,3,3',4-TeCB	55		ND		0.0276 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0276 (S)		
2,3,3',5-TeCB	57		ND		0.0505 (S)		
2,3,3',5'-TeCB	58		ND		0.0505 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0269 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0189 (S)		
2,3,4',5-TeCB	63		ND		0.0269 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0269 (S)		
2,3',4,5-TeCB	67		ND		0.0505 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0189 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0269 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0220 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0135 (S)		
3,3',4,5-TeCB	78		ND		0.0135 (S)		
3,3',4,5'-TeCB	79		ND		0.0135 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0135 (S)		
2,2',3,3',4-PeCB	82		ND		0.0248 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0151 (S)		
2,2',3,3',6-PeCB	84		ND		0.0129 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0248 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0248 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0248 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0118 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0129 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0118 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0129 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0118 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0118 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0118 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0118 (S)		
2,2',4,4',5-PeCB	99		ND		0.0118 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0118 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0118 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0098 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0172 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0169 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0172 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0172 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0248 (S)		
2,3,3',5,6-PeCB	112		ND		0.0151 (S)		
2,3,3',5',6-PeCB	113		ND		0.0129 (S)		
2,3,4,4',5-PeCB	114		ND		0.0167 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0118 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0167 (S)		
2',3,4,4',5-PeCB	123		ND		0.0169 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0172 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0248 (S)		
3,3',4,4',5-PeCB	126		ND		0.0189 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0165 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0165 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0165 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0132 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0146 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0132 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0132 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0132 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0132 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0165 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0165 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0132 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0132 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0165 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0132 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0117 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0132 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0132 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0132 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0145 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0132 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0146 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0132 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0084 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0130 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0134 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0165 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0165 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0117 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0165 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0117 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0165 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0125 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0139 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0160 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0129 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0129 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0129 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0119 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0125 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0094 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0119 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0125 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0094 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0129 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0125 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0119 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0094 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0119 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0125 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0094 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0106 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0129 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0129 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0162 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0162 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0158 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0096 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0158 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0158 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0096 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0096 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0120 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0096 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0122 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0131 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0109 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0109 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0145 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-6_Form1A_CL7A1421.D_SJ2203025.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-6
Sample Collection:
28-Mar-2017 14:00

Form 2

ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-6 (A)
Matrix:	SOLID	**Sample Size:**	8.26 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 17:59:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1421.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	18.5

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	14.8	37.1	0.32	0.649
13C12-2,4'-DiCB	8L			40.0	20.7	51.7	0.63	0.755
13C12-2,4,4'-TriCB	28L			40.0	27.8	69.4	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	35.9	89.7	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.8	92.0	0.63	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	34.6	86.6	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.7	89.2	1.09	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	30.2	75.4	1.27	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	29.8	74.5	1.16	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-6_Form2_CL7A1421.D_SJ2203025.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-7
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-7
Matrix:	SOLID	**Sample Size:**	8.12 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 19:47:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1423.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	18.9

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0128 (S)		
3-MoCB	2		ND		0.0130 (S)		
4-MoCB	3		NDR	0.029	0.0130 (S)	0.12	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0207 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0120 (S)		
2,3'-DiCB	6		ND		0.0120 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0120 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0120 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0120 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0120 (S)		
4,4'-DiCB	15		ND		0.0145 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0311 (S)		
2,2',4-TriCB	17		ND		0.0311 (S)		
2,2',5-TriCB	18		ND		0.0311 (S)		
2,2',6-TriCB	19		ND		0.0335 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0197 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0197 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0204 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0311 (S)		
2,3',4-TriCB	25		ND		0.0204 (S)		
2,3',5-TriCB	26		ND		0.0204 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0197 (S)		
2,4,5-TriCB	29		ND		0.0204 (S)		
2,4,6-TriCB	30		ND		0.0311 (S)		
2,4',5-TriCB	31		ND		0.0204 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0220 (S)		
3,3',5-TriCB	36		ND		0.0197 (S)		
3,4,4'-TriCB	37		ND		0.0220 (S)		
3,4,5-TriCB	38		ND		0.0220 (S)		
3,4',5-TriCB	39		ND		0.0197 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0275 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0215 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0215 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0163 (S)		
2,2',3,5'-TeCB	44		ND		0.0215 (S)		
2,2',3,6-TeCB	45		ND		0.0186 (S)		
2,2',3,6'-TeCB	46		ND		0.0186 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0186 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0141 (S)		
2,2',4,6'-TeCB	51		ND		0.0186 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0186 (S)		
2,2',5,6'-TeCB	53		ND		0.0186 (S)		
2,2',6,6'-TeCB	54		ND		0.0141 (S)		
2,3,3',4-TeCB	55		ND		0.0150 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0150 (S)		
2,3,3',5-TeCB	57		ND		0.0275 (S)		
2,3,3',5'-TeCB	58		ND		0.0275 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0146 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0186 (S)		
2,3,4',5-TeCB	63		ND		0.0146 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0146 (S)		
2,3',4,5-TeCB	67		ND		0.0275 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0186 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0146 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0215 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0127 (S)		
3,3',4,5-TeCB	78		ND		0.0127 (S)		
3,3',4,5'-TeCB	79		ND		0.0127 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0127 (S)		
2,2',3,3',4-PeCB	82		ND		0.0198 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0177 (S)		
2,2',3,3',6-PeCB	84		ND		0.0151 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0198 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0198 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0198 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0139 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0151 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0139 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0151 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0139 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0139 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0139 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0139 (S)		
2,2',4,4',5-PeCB	99		ND		0.0139 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0139 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0139 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0116 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0137 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0149 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0137 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0137 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0198 (S)		
2,3,3',5,6-PeCB	112		ND		0.0177 (S)		
2,3,3',5',6-PeCB	113		ND		0.0151 (S)		
2,3,4,4',5-PeCB	114		ND		0.0133 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0139 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0133 (S)		
2',3,4,4',5-PeCB	123		ND		0.0149 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0137 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0198 (S)		
3,3',4,4',5-PeCB	126		ND		0.0150 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0191 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0191 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0191 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0166 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0169 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0166 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0166 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0166 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0166 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0191 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0191 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0166 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0166 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0191 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0166 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0146 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0166 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0166 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0166 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0181 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0166 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0169 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0166 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0105 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0149 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0154 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0191 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0191 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0146 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0191 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0146 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0191 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0145 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0160 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0163 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0131 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0131 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0131 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0122 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0127 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0095 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0122 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0127 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0095 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0131 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0127 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0122 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0095 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0122 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0127 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0095 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0108 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0131 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0131 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0156 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0156 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0152 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0092 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0152 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0152 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0092 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0092 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0115 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0092 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0117 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0461 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0383 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0383 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0255 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-7_Form1A_CL7A1423.D_SJ2203027.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-7
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-7
Matrix:	SOLID	**Sample Size:**	8.12 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 19:47:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1423.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	18.9

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	18.7	46.7	0.32	0.649
13C12-2,4'-DiCB	8L			40.0	22.5	56.2	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	27.8	69.6	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	37.0	92.6	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.7	91.7	0.63	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	33.4	83.5	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	34.8	86.9	1.09	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	26.4	66.1	1.29	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	25.3	63.3	1.20	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-7_Form2_CL7A1423.D_SJ2203027.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
Dup-1
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-9 i
Matrix:	SOLID	**Sample Size:**	8.14 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 14:20:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1443.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.0

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0120 (S)		
3-MoCB	2		ND		0.0122 (S)		
4-MoCB	3		NDR	0.046	0.0122 (S)	0.03	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0237 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0137 (S)		
2,3'-DiCB	6		ND		0.0137 (S)		
2,4-DiCB	7	7 + 9	C ND		0.0137 (S)		
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0137 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0137 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0137 (S)		
4,4'-DiCB	15		ND		0.0166 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0262 (S)		
2,2',4-TriCB	17		ND		0.0262 (S)		
2,2',5-TriCB	18		ND		0.0262 (S)		
2,2',6-TriCB	19		ND		0.0283 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0136 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0136 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0172 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0262 (S)		
2,3',4-TriCB	25		ND		0.0172 (S)		
2,3',5-TriCB	26		ND		0.0172 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0167 (S)		
2,4,5-TriCB	29		ND		0.0172 (S)		
2,4,6-TriCB	30		ND		0.0262 (S)		
2,4',5-TriCB	31		ND		0.0172 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0152 (S)		
3,3',5-TriCB	36		ND		0.0136 (S)		
3,4,4'-TriCB	37		ND		0.0152 (S)		
3,4,5-TriCB	38		ND		0.0152 (S)		
3,4',5-TriCB	39		ND		0.0136 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0260 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0232 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0232 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0175 (S)		
2,2',3,5'-TeCB	44		ND		0.0232 (S)		
2,2',3,6-TeCB	45		ND		0.0200 (S)		
2,2',3,6'-TeCB	46		ND		0.0200 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0200 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0152 (S)		
2,2',4,6'-TeCB	51		ND		0.0200 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0200 (S)		
2,2',5,6'-TeCB	53		ND		0.0200 (S)		
2,2',6,6'-TeCB	54		ND		0.0152 (S)		
2,3,3',4-TeCB	55		ND		0.0142 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0142 (S)		
2,3,3',5-TeCB	57		ND		0.0260 (S)		
2,3,3',5'-TeCB	58		ND		0.0260 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0138 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0200 (S)		
2,3,4',5-TeCB	63		ND		0.0138 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0138 (S)		
2,3',4,5-TeCB	67		ND		0.0260 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0200 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0138 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0232 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0243 (S)		
3,3',4,5-TeCB	78		ND		0.0243 (S)		
3,3',4,5'-TeCB	79		ND		0.0243 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0243 (S)		
2,2',3,3',4-PeCB	82		ND		0.0154 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0172 (S)		
2,2',3,3',6-PeCB	84		ND		0.0147 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0154 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0154 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0154 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0135 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0147 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0135 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0147 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0135 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0135 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0135 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0135 (S)		
2,2',4,4',5-PeCB	99		ND		0.0135 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0135 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0135 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0112 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0107 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0098 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0106 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0106 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0154 (S)		
2,3,3',5,6-PeCB	112		ND		0.0172 (S)		
2,3,3',5',6-PeCB	113		ND		0.0147 (S)		
2,3,4,4',5-PeCB	114		ND		0.0104 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0135 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0104 (S)		
2',3,4,4',5-PeCB	123		ND		0.0098 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0106 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0154 (S)		
3,3',4,4',5-PeCB	126		ND		0.0117 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0119 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0119 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0119 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0087 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0105 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0087 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0087 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0087 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0087 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0119 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0119 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0087 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0087 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0119 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0087 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0077 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0087 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0087 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0087 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0096 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0087 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0105 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0087 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0055 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0093 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0096 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0119 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0119 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0077 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0119 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0077 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0119 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0090 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0100 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0114 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0092 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0092 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0092 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0085 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0089 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0067 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0085 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0089 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0067 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0092 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0089 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0085 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0067 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0085 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0089 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0067 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0076 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0092 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0092 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0125 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0125 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0122 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0074 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0122 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0122 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0074 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0074 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0093 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0074 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0094 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0188 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0156 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0156 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0109 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-9_Form1A_CL7A1443.D_SJ2203090.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
Dup-1
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-9 i
Matrix:	SOLID	**Sample Size:**	8.14 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 14:20:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1443.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	19.0

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	15.5	38.8	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	19.8	49.5	0.65	0.754
13C12-2,4,4'-TriCB	28L			40.0	27.1	67.7	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	32.6	81.5	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	34.7	86.7	0.63	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	35.3	88.2	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	34.7	86.7	1.11	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	33.3	83.1	1.25	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	33.2	83.0	1.20	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-9_Form2_CL7A1443.D_SJ2203090.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-8
Sample Collection:
30-Mar-2017 09:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-11 i
Matrix:	SOLID	**Sample Size:**	8.46 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 15:14:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1444.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.7

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0343 (S)		
3-MoCB	2		ND		0.0350 (S)		
4-MoCB	3		NDR	0.074	0.0350 (S)	0.07	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0247 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0143 (S)		
2,3'-DiCB	6		ND		0.0143 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.055	0.0143 (S)	0.10	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0143 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0143 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0143 (S)		
4,4'-DiCB	15		ND		0.0173 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0148 (S)		
2,2',4-TriCB	17		ND		0.0148 (S)		
2,2',5-TriCB	18		ND		0.0148 (S)		
2,2',6-TriCB	19		ND		0.0160 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0118 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0118 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0097 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0148 (S)		
2,3',4-TriCB	25		ND		0.0097 (S)		
2,3',5-TriCB	26		ND		0.0097 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0094 (S)		
2,4,5-TriCB	29		ND		0.0097 (S)		
2,4,6-TriCB	30		ND		0.0148 (S)		
2,4',5-TriCB	31		ND		0.0097 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0132 (S)		
3,3',5-TriCB	36		ND		0.0118 (S)		
3,4,4'-TriCB	37		ND		0.0132 (S)		
3,4,5-TriCB	38		ND		0.0132 (S)		
3,4',5-TriCB	39		ND		0.0118 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0333 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0136 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0136 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0103 (S)		
2,2',3,5'-TeCB	44		ND		0.0136 (S)		
2,2',3,6-TeCB	45		ND		0.0117 (S)		
2,2',3,6'-TeCB	46		ND		0.0117 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0117 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0089 (S)		
2,2',4,6'-TeCB	51		ND		0.0117 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0117 (S)		
2,2',5,6'-TeCB	53		ND		0.0117 (S)		
2,2',6,6'-TeCB	54		ND		0.0089 (S)		
2,3,3',4-TeCB	55		ND		0.0182 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0182 (S)		
2,3,3',5-TeCB	57		ND		0.0333 (S)		
2,3,3',5'-TeCB	58		ND		0.0333 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0177 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0117 (S)		
2,3,4',5-TeCB	63		ND		0.0177 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0177 (S)		
2,3',4,5-TeCB	67		ND		0.0333 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0117 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0177 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0136 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0217 (S)		
3,3',4,5-TeCB	78		ND		0.0217 (S)		
3,3',4,5'-TeCB	79		ND		0.0217 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0217 (S)		
2,2',3,3',4-PeCB	82		ND		0.0121 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0215 (S)		
2,2',3,3',6-PeCB	84		ND		0.0184 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0121 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0121 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0121 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0169 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0184 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0169 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0184 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0169 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0169 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0169 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0169 (S)		
2,2',4,4',5-PeCB	99		ND		0.0168 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0169 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0169 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0140 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0084 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0082 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0084 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0084 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0121 (S)		
2,3,3',5,6-PeCB	112		ND		0.0215 (S)		
2,3,3',5',6-PeCB	113		ND		0.0184 (S)		
2,3,4,4',5-PeCB	114		ND		0.0082 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0168 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0082 (S)		
2',3,4,4',5-PeCB	123		ND		0.0082 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0084 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0121 (S)		
3,3',4,4',5-PeCB	126		ND		0.0092 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0130 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0130 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0130 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0121 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0115 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0121 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0121 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0121 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0121 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0130 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0130 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0121 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0121 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0130 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0121 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0107 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0121 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0121 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0121 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0132 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0121 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0115 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0121 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0077 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0101 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0105 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0130 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0130 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0107 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0130 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0107 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0130 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0098 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0109 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0181 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0146 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0146 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0146 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0135 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0141 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0106 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0135 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0141 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0106 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0146 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0141 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0135 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0106 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0135 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0141 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0106 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0120 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0146 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0146 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0129 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0129 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0126 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0076 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0126 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0126 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0076 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0076 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0095 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0076 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0097 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0282 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0234 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0234 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0114 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-11_Form1A_CL7A1444.D_SJ2203091.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-8
Sample Collection:
30-Mar-2017 09:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-11 i
Matrix:	SOLID	**Sample Size:**	8.46 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 15:14:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1444.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	19.7

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	9.13	22.8	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	15.9	39.9	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	26.6	66.5	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	33.9	84.6	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.3	90.7	0.63	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	36.8	92.0	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	36.4	91.0	1.11	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	35.4	88.5	1.25	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	35.1	87.7	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-11_Form2_CL7A1444.D_SJ2203091.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-9
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-12 i
Matrix:	SOLID	**Sample Size:**	7.90 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 16:08:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1445.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	21.0

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0167 (S)		
3-MoCB	2		ND		0.0170 (S)		
4-MoCB	3		NDR	0.083	0.0170 (S)	0.02	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0385 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0222 (S)		
2,3'-DiCB	6		ND		0.0222 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.067	0.0222 (S)	0.11	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0222 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0222 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0222 (S)		
4,4'-DiCB	15		ND		0.0269 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0351 (S)		
2,2',4-TriCB	17		ND		0.0351 (S)		
2,2',5-TriCB	18		ND		0.0351 (S)		
2,2',6-TriCB	19		ND		0.0378 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0277 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0277 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0230 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0351 (S)		
2,3',4-TriCB	25		ND		0.0230 (S)		
2,3',5-TriCB	26		ND		0.0230 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0223 (S)		
2,4,5-TriCB	29		ND		0.0230 (S)		
2,4,6-TriCB	30		ND		0.0351 (S)		
2,4',5-TriCB	31		ND		0.0230 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0310 (S)		
3,3',5-TriCB	36		ND		0.0277 (S)		
3,4,4'-TriCB	37		ND		0.0310 (S)		
3,4,5-TriCB	38		ND		0.0310 (S)		
3,4',5-TriCB	39		ND		0.0277 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0247 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0168 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0168 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0127 (S)		
2,2',3,5'-TeCB	44		ND		0.0168 (S)		
2,2',3,6-TeCB	45		ND		0.0145 (S)		
2,2',3,6'-TeCB	46		ND		0.0145 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0145 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0110 (S)		
2,2',4,6'-TeCB	51		ND		0.0145 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0145 (S)		
2,2',5,6'-TeCB	53		ND		0.0145 (S)		
2,2',6,6'-TeCB	54		ND		0.0110 (S)		
2,3,3',4-TeCB	55		ND		0.0135 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0135 (S)		
2,3,3',5-TeCB	57		ND		0.0247 (S)		
2,3,3',5'-TeCB	58		ND		0.0247 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0131 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0145 (S)		
2,3,4',5-TeCB	63		ND		0.0131 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0131 (S)		
2,3',4,5-TeCB	67		ND		0.0247 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0145 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0131 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0168 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0140 (S)		
3,3',4,5-TeCB	78		ND		0.0140 (S)		
3,3',4,5'-TeCB	79		ND		0.0140 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0140 (S)		
2,2',3,3',4-PeCB	82		ND		0.0183 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0189 (S)		
2,2',3,3',6-PeCB	84		ND		0.0161 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0183 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0183 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0183 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0148 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0161 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0148 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0161 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0148 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0148 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0148 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0148 (S)		
2,2',4,4',5-PeCB	99		ND		0.0148 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0148 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0148 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0123 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0127 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0125 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0127 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0127 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0183 (S)		
2,3,3',5,6-PeCB	112		ND		0.0189 (S)		
2,3,3',5',6-PeCB	113		ND		0.0161 (S)		
2,3,4,4',5-PeCB	114		ND		0.0124 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0148 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0124 (S)		
2',3,4,4',5-PeCB	123		ND		0.0125 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0127 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0183 (S)		
3,3',4,4',5-PeCB	126		ND		0.0140 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0141 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0141 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0141 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0122 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0125 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0122 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0122 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0122 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0122 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0141 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0141 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0122 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0122 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0141 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0122 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0107 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0122 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0122 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0122 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0133 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0122 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0125 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0122 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0077 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0111 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0115 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0141 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0141 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0107 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0141 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0107 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0141 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0107 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0119 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0144 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0116 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0116 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0116 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0107 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0112 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0084 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0107 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0112 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0084 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0116 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0112 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0107 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0084 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0107 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0112 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0084 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0095 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0116 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0116 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0158 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0158 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0154 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0094 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0154 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0154 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0094 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0094 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0117 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0094 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0119 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0149 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0124 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0124 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0112 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-12_Form1A_CL7A1445.D_SJ2203092.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-9
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-12 i
Matrix:	SOLID	**Sample Size:**	7.90 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 16:08:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1445.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	21.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	14.6	36.5	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	20.7	51.8	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	29.2	73.1	0.96	0.927
13C12-2,2',4,5,5'-PeCB	101L			40.0	31.8	79.4	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	33.9	84.8	0.64	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	33.2	83.0	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	33.6	84.0	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	32.0	80.1	1.27	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	32.3	80.8	1.18	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-12_Form2_CL7A1445.D_SJ2203092.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-10
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-13 i
Matrix:	SOLID	**Sample Size:**	8.81 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 17:02:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1446.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	12.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0130 (S)		
3-MoCB	2		ND		0.0133 (S)		
4-MoCB	3		NDR	0.057	0.0133 (S)	0.07	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0234 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0136 (S)		
2,3'-DiCB	6		ND		0.0136 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.047	0.0136 (S)	0.11	0.963
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0136 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0136 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0136 (S)		
4,4'-DiCB	15		ND		0.0164 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0112 (S)		
2,2',4-TriCB	17		ND		0.0112 (S)		
2,2',5-TriCB	18		ND		0.0112 (S)		
2,2',6-TriCB	19		ND		0.0121 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0169 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0169 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0073 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0112 (S)		
2,3',4-TriCB	25		ND		0.0073 (S)		
2,3',5-TriCB	26		ND		0.0073 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0071 (S)		
2,4,5-TriCB	29		ND		0.0073 (S)		
2,4,6-TriCB	30		ND		0.0112 (S)		
2,4',5-TriCB	31		ND		0.0073 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0189 (S)		
3,3',5-TriCB	36		ND		0.0169 (S)		
3,4,4'-TriCB	37		ND		0.0189 (S)		
3,4,5-TriCB	38		ND		0.0189 (S)		
3,4',5-TriCB	39		ND		0.0169 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0267 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0160 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0160 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0121 (S)		
2,2',3,5'-TeCB	44		ND		0.0160 (S)		
2,2',3,6-TeCB	45		ND		0.0138 (S)		
2,2',3,6'-TeCB	46		ND		0.0138 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0138 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0105 (S)		
2,2',4,6'-TeCB	51		ND		0.0138 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0138 (S)		
2,2',5,6'-TeCB	53		ND		0.0138 (S)		
2,2',6,6'-TeCB	54		ND		0.0105 (S)		
2,3,3',4-TeCB	55		ND		0.0146 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0146 (S)		
2,3,3',5-TeCB	57		ND		0.0267 (S)		
2,3,3',5'-TeCB	58		ND		0.0267 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0142 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0138 (S)		
2,3,4',5-TeCB	63		ND		0.0142 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0142 (S)		
2,3',4,5-TeCB	67		ND		0.0267 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0138 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0142 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0160 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0122 (S)		
3,3',4,5-TeCB	78		ND		0.0122 (S)		
3,3',4,5'-TeCB	79		ND		0.0122 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0122 (S)		
2,2',3,3',4-PeCB	82		ND		0.0123 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0189 (S)		
2,2',3,3',6-PeCB	84		ND		0.0161 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0123 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0123 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0123 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0148 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0161 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0148 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0161 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0148 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0148 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0148 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0148 (S)		
2,2',4,4',5-PeCB	99		ND		0.0148 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0148 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0148 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0123 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0085 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0080 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0085 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0085 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0123 (S)		
2,3,3',5,6-PeCB	112		ND		0.0189 (S)		
2,3,3',5',6-PeCB	113		ND		0.0161 (S)		
2,3,4,4',5-PeCB	114		ND		0.0083 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0148 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0083 (S)		
2',3,4,4',5-PeCB	123		ND		0.0080 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0085 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0123 (S)		
3,3',4,4',5-PeCB	126		ND		0.0094 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0109 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0109 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0109 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0149 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0097 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0149 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0149 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0149 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0149 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0109 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0109 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0149 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0149 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0109 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0149 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0132 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0149 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0149 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0149 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0163 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0149 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0097 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0149 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0095 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0086 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0089 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0109 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0109 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0132 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0109 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0132 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0109 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0083 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0092 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0159 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0128 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0128 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0128 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0119 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0124 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0093 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0119 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0124 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0093 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0128 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0124 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0119 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0093 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0119 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0124 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0093 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0105 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0128 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0128 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0127 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0127 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0124 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0075 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0124 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0124 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0075 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0075 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0094 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0075 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0096 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0153 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0127 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0127 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0088 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-13_Form1A_CL7A1446.D_SJ2203093.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-10
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-13 i
Matrix:	SOLID	**Sample Size:**	8.81 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 17:02:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1446.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	12.0

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	16.6	41.6	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	20.9	52.3	0.65	0.754
13C12-2,4,4'-TriCB	28L			40.0	28.5	71.3	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	33.2	83.0	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.0	90.1	0.63	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	37.4	93.5	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	33.8	84.5	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	36.1	90.3	1.26	1.221
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	33.0	82.4	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-13_Form2_CL7A1446.D_SJ2203093.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-11
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-14 i
Matrix:	SOLID	**Sample Size:**	9.08 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 17:56:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1447.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.1

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0147 (S)		
3-MoCB	2		ND		0.0150 (S)		
4-MoCB	3		NDR	0.059	0.0150 (S)	0.05	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0275 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0159 (S)		
2,3'-DiCB	6		ND		0.0159 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.037	0.0159 (S)	0.18	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0159 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0159 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0159 (S)		
4,4'-DiCB	15		ND		0.0192 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0154 (S)		
2,2',4-TriCB	17		ND		0.0154 (S)		
2,2',5-TriCB	18		ND		0.0154 (S)		
2,2',6-TriCB	19		ND		0.0165 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0157 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0157 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0101 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0154 (S)		
2,3',4-TriCB	25		ND		0.0101 (S)		
2,3',5-TriCB	26		ND		0.0101 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0098 (S)		
2,4,5-TriCB	29		ND		0.0101 (S)		
2,4,6-TriCB	30		ND		0.0154 (S)		
2,4',5-TriCB	31		ND		0.0101 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0176 (S)		
3,3',5-TriCB	36		ND		0.0157 (S)		
3,4,4'-TriCB	37		ND		0.0176 (S)		
3,4,5-TriCB	38		ND		0.0176 (S)		
3,4',5-TriCB	39		ND		0.0157 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0211 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0161 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0161 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0121 (S)		
2,2',3,5'-TeCB	44		ND		0.0161 (S)		
2,2',3,6-TeCB	45		ND		0.0139 (S)		
2,2',3,6'-TeCB	46		ND		0.0139 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0139 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0106 (S)		
2,2',4,6'-TeCB	51		ND		0.0139 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0139 (S)		
2,2',5,6'-TeCB	53		ND		0.0139 (S)		
2,2',6,6'-TeCB	54		ND		0.0106 (S)		
2,3,3',4-TeCB	55		ND		0.0115 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0115 (S)		
2,3,3',5-TeCB	57		ND		0.0211 (S)		
2,3,3',5'-TeCB	58		ND		0.0211 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0112 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0139 (S)		
2,3,4',5-TeCB	63		ND		0.0112 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0112 (S)		
2,3',4,5-TeCB	67		ND		0.0211 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0139 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0112 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0161 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0125 (S)		
3,3',4,5-TeCB	78		ND		0.0125 (S)		
3,3',4,5'-TeCB	79		ND		0.0125 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0125 (S)		
2,2',3,3',4-PeCB	82		ND		0.0124 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0137 (S)		
2,2',3,3',6-PeCB	84		ND		0.0117 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0124 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0124 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0124 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0107 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0117 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0107 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0117 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0107 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0107 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0107 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0107 (S)		
2,2',4,4',5-PeCB	99		ND		0.0107 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0107 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0107 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0089 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0086 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0083 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0086 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0086 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0124 (S)		
2,3,3',5,6-PeCB	112		ND		0.0137 (S)		
2,3,3',5',6-PeCB	113		ND		0.0117 (S)		
2,3,4,4',5-PeCB	114		ND		0.0084 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0107 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0084 (S)		
2',3,4,4',5-PeCB	123		ND		0.0083 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0086 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0124 (S)		
3,3',4,4',5-PeCB	126		ND		0.0095 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0078 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0078 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0078 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0104 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0069 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0104 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0104 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0104 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0104 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0078 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0078 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0104 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0104 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0078 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0104 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0092 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0104 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0104 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0104 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0114 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0104 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0069 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0104 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0066 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0061 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0064 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0078 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0078 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0092 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0078 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0092 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0078 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0059 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0066 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0170 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0137 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0137 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0137 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0127 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0133 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0099 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0127 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0133 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0099 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0137 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0133 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0127 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0099 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0127 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0133 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0099 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0113 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0137 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0137 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0118 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0118 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0115 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0070 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0115 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0115 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0070 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0070 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0087 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0070 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0088 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0132 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0109 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0109 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0100 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-14_Form1A_CL7A1447.D_SJ2203094.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-11
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-14 i
Matrix:	SOLID	**Sample Size:**	9.08 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 17:56:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1447.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	15.1

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	13.7	34.3	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	18.7	46.8	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	27.4	68.6	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	32.4	81.1	0.65	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	34.7	86.8	0.64	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	35.1	87.8	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	34.8	87.0	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	33.7	84.4	1.28	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	33.6	84.0	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-14_Form2_CL7A1447.D_SJ2203094.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-12
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-15 i
Matrix:	SOLID	**Sample Size:**	8.68 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 18:50:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1448.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.8

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0180 (S)		
3-MoCB	2		ND		0.0184 (S)		
4-MoCB	3		NDR	0.075	0.0184 (S)	0.05	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0303 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0175 (S)		
2,3'-DiCB	6		ND		0.0175 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.046	0.0175 (S)	0.20	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0175 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0175 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0175 (S)		
4,4'-DiCB	15		ND		0.0212 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0218 (S)		
2,2',4-TriCB	17		ND		0.0218 (S)		
2,2',5-TriCB	18		ND		0.0218 (S)		
2,2',6-TriCB	19		ND		0.0235 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0158 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0158 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0143 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0218 (S)		
2,3',4-TriCB	25		ND		0.0143 (S)		
2,3',5-TriCB	26		ND		0.0143 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0138 (S)		
2,4,5-TriCB	29		ND		0.0143 (S)		
2,4,6-TriCB	30		ND		0.0218 (S)		
2,4',5-TriCB	31		ND		0.0143 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0177 (S)		
3,3',5-TriCB	36		ND		0.0158 (S)		
3,4,4'-TriCB	37		ND		0.0177 (S)		
3,4,5-TriCB	38		ND		0.0177 (S)		
3,4',5-TriCB	39		ND		0.0158 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0233 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0233 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0233 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0176 (S)		
2,2',3,5'-TeCB	44		ND		0.0233 (S)		
2,2',3,6-TeCB	45		ND		0.0200 (S)		
2,2',3,6'-TeCB	46		ND		0.0200 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0200 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0153 (S)		
2,2',4,6'-TeCB	51		ND		0.0200 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0200 (S)		
2,2',5,6'-TeCB	53		ND		0.0200 (S)		
2,2',6,6'-TeCB	54		ND		0.0153 (S)		
2,3,3',4-TeCB	55		ND		0.0127 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0127 (S)		
2,3,3',5-TeCB	57		ND		0.0233 (S)		
2,3,3',5'-TeCB	58		ND		0.0233 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0124 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0200 (S)		
2,3,4',5-TeCB	63		ND		0.0124 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0124 (S)		
2,3',4,5-TeCB	67		ND		0.0233 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0200 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0124 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0233 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0132 (S)		
3,3',4,5-TeCB	78		ND		0.0132 (S)		
3,3',4,5'-TeCB	79		ND		0.0132 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0132 (S)		
2,2',3,3',4-PeCB	82		ND		0.0205 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0230 (S)		
2,2',3,3',6-PeCB	84		ND		0.0196 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0205 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0205 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0205 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0180 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0196 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0180 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0196 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0180 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0180 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0180 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0180 (S)		
2,2',4,4',5-PeCB	99		ND		0.0180 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0180 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0180 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0150 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0143 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0136 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0142 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0142 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0205 (S)		
2,3,3',5,6-PeCB	112		ND		0.0230 (S)		
2,3,3',5',6-PeCB	113		ND		0.0196 (S)		
2,3,4,4',5-PeCB	114		ND		0.0139 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0180 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0139 (S)		
2',3,4,4',5-PeCB	123		ND		0.0136 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0142 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0205 (S)		
3,3',4,4',5-PeCB	126		ND		0.0156 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0125 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0125 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0125 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0125 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0111 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0125 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0125 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0125 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0125 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0125 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0125 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0125 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0125 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0125 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0125 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0111 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0125 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0125 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0125 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0137 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0125 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0111 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0125 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0080 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0098 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0101 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0125 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0125 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0111 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0125 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0111 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0125 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0095 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0105 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0159 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0128 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0128 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0128 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0118 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0124 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0093 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0118 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0124 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0093 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0128 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0124 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0118 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0093 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0118 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0124 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0093 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0105 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0128 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0128 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0199 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0199 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0195 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0118 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0195 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0195 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0118 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0118 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0147 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0118 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0150 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0207 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0172 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0172 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0143 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-15_Form1A_CL7A1448.D_SJ2203095.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-12
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-15 i
Matrix:	SOLID	**Sample Size:**	8.68 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 18:50:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1448.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	17.8

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	17.1	42.7	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	21.6	54.0	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	27.7	69.3	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.8	86.9	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.9	92.3	0.62	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	35.8	89.4	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.7	89.2	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	30.4	75.9	1.27	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	30.2	75.5	1.17	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-15_Form2_CL7A1448.D_SJ2203095.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-13
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-16 i
Matrix:	SOLID	**Sample Size:**	8.88 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 19:44:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1449.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.5

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0208 (S)		
3-MoCB	2		ND		0.0212 (S)		
4-MoCB	3		NDR	0.043	0.0212 (S)	0.05	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0339 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0196 (S)		
2,3'-DiCB	6		ND		0.0196 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.059	0.0196 (S)	0.13	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0196 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0196 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0196 (S)		
4,4'-DiCB	15		ND		0.0238 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0256 (S)		
2,2',4-TriCB	17		ND		0.0256 (S)		
2,2',5-TriCB	18		ND		0.0256 (S)		
2,2',6-TriCB	19		ND		0.0275 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0222 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0222 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0168 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0256 (S)		
2,3',4-TriCB	25		ND		0.0168 (S)		
2,3',5-TriCB	26		ND		0.0168 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0162 (S)		
2,4,5-TriCB	29		ND		0.0168 (S)		
2,4,6-TriCB	30		ND		0.0256 (S)		
2,4',5-TriCB	31		ND		0.0168 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0249 (S)		
3,3',5-TriCB	36		ND		0.0222 (S)		
3,4,4'-TriCB	37		ND		0.0249 (S)		
3,4,5-TriCB	38		ND		0.0249 (S)		
3,4',5-TriCB	39		ND		0.0222 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0216 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0213 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0213 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0161 (S)		
2,2',3,5'-TeCB	44		ND		0.0213 (S)		
2,2',3,6-TeCB	45		ND		0.0183 (S)		
2,2',3,6'-TeCB	46		ND		0.0183 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0183 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0140 (S)		
2,2',4,6'-TeCB	51		ND		0.0183 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0183 (S)		
2,2',5,6'-TeCB	53		ND		0.0183 (S)		
2,2',6,6'-TeCB	54		ND		0.0140 (S)		
2,3,3',4-TeCB	55		ND		0.0118 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0118 (S)		
2,3,3',5-TeCB	57		ND		0.0216 (S)		
2,3,3',5'-TeCB	58		ND		0.0216 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0115 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0183 (S)		
2,3,4',5-TeCB	63		ND		0.0115 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0115 (S)		
2,3',4,5-TeCB	67		ND		0.0216 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0183 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0115 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0213 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0129 (S)		
3,3',4,5-TeCB	78		ND		0.0129 (S)		
3,3',4,5'-TeCB	79		ND		0.0129 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0129 (S)		
2,2',3,3',4-PeCB	82		ND		0.0144 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0174 (S)		
2,2',3,3',6-PeCB	84		ND		0.0149 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0144 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0144 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0144 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0137 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0149 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0137 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0149 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0137 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0137 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0137 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0137 (S)		
2,2',4,4',5-PeCB	99		ND		0.0136 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0137 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0137 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0114 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0100 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0093 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0100 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0100 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0144 (S)		
2,3,3',5,6-PeCB	112		ND		0.0174 (S)		
2,3,3',5',6-PeCB	113		ND		0.0149 (S)		
2,3,4,4',5-PeCB	114		ND		0.0097 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0136 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0097 (S)		
2',3,4,4',5-PeCB	123		ND		0.0093 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0100 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0144 (S)		
3,3',4,4',5-PeCB	126		ND		0.0110 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0142 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0142 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0142 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0102 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0126 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0102 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0102 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0102 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0102 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0142 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0142 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0102 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0102 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0142 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0102 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0090 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0102 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0102 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0102 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0111 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0102 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0126 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0102 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0065 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0111 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0115 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0142 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0142 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0090 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0142 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0090 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0142 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0108 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0119 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0139 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0112 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0112 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0112 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0104 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0109 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0082 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0104 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0109 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0082 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0112 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0109 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0104 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0082 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0104 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0109 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0082 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0092 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0112 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0112 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0225 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0225 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0220 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0133 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0220 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0220 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0133 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0133 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0166 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0133 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0169 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0311 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0258 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0258 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0072 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-16_Form1A_CL7A1449.D_SJ2203096.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-13
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-16 i
Matrix:	SOLID	**Sample Size:**	8.88 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 19:44:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1449.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	15.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	10.0	25.1	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	16.0	40.1	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	25.4	63.4	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	32.5	81.3	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	34.7	86.7	0.64	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	33.8	84.4	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	33.7	84.2	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	31.0	77.4	1.27	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	30.5	76.1	1.20	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-16_Form2_CL7A1449.D_SJ2203096.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-14
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-17 i
Matrix:	SOLID	**Sample Size:**	9.45 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 20:38:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1450.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	11.2

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0114 (S)		
3-MoCB	2		ND		0.0116 (S)		
4-MoCB	3		NDR	0.069	0.0116 (S)	0.07	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0316 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0183 (S)		
2,3'-DiCB	6		ND		0.0183 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.045	0.0183 (S)	0.21	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0183 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0183 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0183 (S)		
4,4'-DiCB	15		ND		0.0221 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0210 (S)		
2,2',4-TriCB	17		ND		0.0210 (S)		
2,2',5-TriCB	18		ND		0.0210 (S)		
2,2',6-TriCB	19		ND		0.0226 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0171 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0171 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0138 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0210 (S)		
2,3',4-TriCB	25		ND		0.0138 (S)		
2,3',5-TriCB	26		ND		0.0138 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0133 (S)		
2,4,5-TriCB	29		ND		0.0138 (S)		
2,4,6-TriCB	30		ND		0.0210 (S)		
2,4',5-TriCB	31		ND		0.0138 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0192 (S)		
3,3',5-TriCB	36		ND		0.0171 (S)		
3,4,4'-TriCB	37		ND		0.0192 (S)		
3,4,5-TriCB	38		ND		0.0192 (S)		
3,4',5-TriCB	39		ND		0.0171 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0228 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0125 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0125 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0094 (S)		
2,2',3,5'-TeCB	44		ND		0.0125 (S)		
2,2',3,6-TeCB	45		ND		0.0107 (S)		
2,2',3,6'-TeCB	46		ND		0.0107 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0107 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0082 (S)		
2,2',4,6'-TeCB	51		ND		0.0107 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0107 (S)		
2,2',5,6'-TeCB	53		ND		0.0107 (S)		
2,2',6,6'-TeCB	54		ND		0.0082 (S)		
2,3,3',4-TeCB	55		ND		0.0125 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0125 (S)		
2,3,3',5-TeCB	57		ND		0.0228 (S)		
2,3,3',5'-TeCB	58		ND		0.0228 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0121 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0107 (S)		
2,3,4',5-TeCB	63		ND		0.0121 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0121 (S)		
2,3',4,5-TeCB	67		ND		0.0228 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0107 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0121 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0125 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0113 (S)		
3,3',4,5-TeCB	78		ND		0.0113 (S)		
3,3',4,5'-TeCB	79		ND		0.0113 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0113 (S)		
2,2',3,3',4-PeCB	82		ND		0.0135 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0123 (S)		
2,2',3,3',6-PeCB	84		ND		0.0105 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0135 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0135 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0135 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0096 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0105 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0096 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0105 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0096 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0096 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0096 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0096 (S)		
2,2',4,4',5-PeCB	99		ND		0.0096 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0096 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0096 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0080 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0094 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0088 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0093 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0093 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0135 (S)		
2,3,3',5,6-PeCB	112		ND		0.0123 (S)		
2,3,3',5',6-PeCB	113		ND		0.0105 (S)		
2,3,4,4',5-PeCB	114		ND		0.0091 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0096 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0091 (S)		
2',3,4,4',5-PeCB	123		ND		0.0088 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0093 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0135 (S)		
3,3',4,4',5-PeCB	126		ND		0.0103 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0129 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0129 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0129 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0111 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0114 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0111 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0111 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0111 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0111 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0129 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0129 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0111 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0111 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0129 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0111 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0098 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0111 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0111 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0111 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0122 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0111 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0114 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0111 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0071 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0101 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0105 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0129 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0129 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0098 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0129 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0098 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0129 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0098 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0108 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0167 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0135 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0135 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0135 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0125 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0131 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0098 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0125 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0131 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0098 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0135 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0131 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0125 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0098 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0125 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0131 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0098 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0111 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0135 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0135 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0117 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0117 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0115 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0069 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0115 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0115 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0069 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0069 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0087 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0069 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0088 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0200 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0166 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0166 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0103 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-17_Form1A_CL7A1450.D_SJ2203097.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-14
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-17 i
Matrix:	SOLID	**Sample Size:**	9.45 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 20:38:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1450.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	11.2

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	18.8	47.0	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	22.8	57.1	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	29.6	73.9	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.4	86.1	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.9	92.4	0.63	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	35.3	88.4	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	33.8	84.5	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	30.6	76.4	1.27	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	29.3	73.3	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-17_Form2_CL7A1450.D_SJ2203097.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-15
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-18 i
Matrix:	SOLID	**Sample Size:**	8.14 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 21:33:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1451.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	22.9

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0217 (S)		
3-MoCB	2		ND		0.0221 (S)		
4-MoCB	3		NDR	0.109	0.0221 (S)	0.03	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0413 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0239 (S)		
2,3'-DiCB	6		ND		0.0239 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.059	0.0239 (S)	0.11	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0239 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0239 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0239 (S)		
4,4'-DiCB	15		ND		0.0289 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0270 (S)		
2,2',4-TriCB	17		ND		0.0270 (S)		
2,2',5-TriCB	18		ND		0.0270 (S)		
2,2',6-TriCB	19		ND		0.0291 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0180 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0180 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0177 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0270 (S)		
2,3',4-TriCB	25		ND		0.0177 (S)		
2,3',5-TriCB	26		ND		0.0177 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0172 (S)		
2,4,5-TriCB	29		ND		0.0177 (S)		
2,4,6-TriCB	30		ND		0.0270 (S)		
2,4',5-TriCB	31		ND		0.0177 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0201 (S)		
3,3',5-TriCB	36		ND		0.0180 (S)		
3,4,4'-TriCB	37		ND		0.0201 (S)		
3,4,5-TriCB	38		ND		0.0201 (S)		
3,4',5-TriCB	39		ND		0.0180 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0340 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0125 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0125 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0094 (S)		
2,2',3,5'-TeCB	44		ND		0.0125 (S)		
2,2',3,6-TeCB	45		ND		0.0107 (S)		
2,2',3,6'-TeCB	46		ND		0.0107 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0107 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0082 (S)		
2,2',4,6'-TeCB	51		ND		0.0107 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0107 (S)		
2,2',5,6'-TeCB	53		ND		0.0107 (S)		
2,2',6,6'-TeCB	54		ND		0.0082 (S)		
2,3,3',4-TeCB	55		ND		0.0186 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0186 (S)		
2,3,3',5-TeCB	57		ND		0.0340 (S)		
2,3,3',5'-TeCB	58		ND		0.0340 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0181 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0107 (S)		
2,3,4',5-TeCB	63		ND		0.0181 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0181 (S)		
2,3',4,5-TeCB	67		ND		0.0340 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0107 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0181 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0125 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0191 (S)		
3,3',4,5-TeCB	78		ND		0.0191 (S)		
3,3',4,5'-TeCB	79		ND		0.0191 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0191 (S)		
2,2',3,3',4-PeCB	82		ND		0.0196 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0172 (S)		
2,2',3,3',6-PeCB	84		ND		0.0147 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0196 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0196 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0196 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0135 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0147 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0135 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0147 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0135 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0135 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0135 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0135 (S)		
2,2',4,4',5-PeCB	99		ND		0.0134 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0135 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0135 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0112 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0136 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0136 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0136 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0136 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0196 (S)		
2,3,3',5,6-PeCB	112		ND		0.0172 (S)		
2,3,3',5',6-PeCB	113		ND		0.0147 (S)		
2,3,4,4',5-PeCB	114		ND		0.0133 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0134 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0133 (S)		
2',3,4,4',5-PeCB	123		ND		0.0136 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0136 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0196 (S)		
3,3',4,4',5-PeCB	126		ND		0.0149 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0122 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0122 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0122 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0150 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0108 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0150 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0150 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0150 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0150 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0122 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0122 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0150 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0150 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0122 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0150 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0132 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0150 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0150 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0150 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0164 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0150 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0108 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0150 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0095 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0095 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0099 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0122 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0122 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0132 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0122 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0132 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0122 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0092 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0102 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0132 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0107 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0107 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0107 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0099 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0103 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0078 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0099 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0103 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0078 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0107 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0103 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0099 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0078 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0099 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0103 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0078 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0088 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0107 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0107 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0171 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0171 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0167 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0101 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0167 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0167 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0101 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0101 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0127 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0101 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0129 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0244 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0202 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0202 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0134 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-18_Form1A_CL7A1451.D_SJ2203098.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-15
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-18 i
Matrix:	SOLID	**Sample Size:**	8.14 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 21:33:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1451.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	22.9

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LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	11.7	29.2	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	16.7	41.8	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	25.0	62.5	0.98	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	34.2	85.4	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.3	90.6	0.64	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	34.7	86.7	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.9	89.8	1.10	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	29.0	72.4	1.26	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	28.4	71.0	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-18_Form2_CL7A1451.D_SJ2203098.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-16
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-19
Matrix:	SOLID	**Sample Size:**	8.83 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 22:27:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1452.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	15.3

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0187 (S)		
3-MoCB	2		ND		0.0191 (S)		
4-MoCB	3		NDR	0.055	0.0191 (S)	0.10	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0336 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0194 (S)		
2,3'-DiCB	6		ND		0.0194 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.040	0.0194 (S)	0.12	0.963
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0194 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0194 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0194 (S)		
4,4'-DiCB	15		ND		0.0235 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0237 (S)		
2,2',4-TriCB	17		ND		0.0237 (S)		
2,2',5-TriCB	18		ND		0.0237 (S)		
2,2',6-TriCB	19		ND		0.0255 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0255 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0255 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0155 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0237 (S)		
2,3',4-TriCB	25		ND		0.0155 (S)		
2,3',5-TriCB	26		ND		0.0155 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0150 (S)		
2,4,5-TriCB	29		ND		0.0155 (S)		
2,4,6-TriCB	30		ND		0.0237 (S)		
2,4',5-TriCB	31		ND		0.0155 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0285 (S)		
3,3',5-TriCB	36		ND		0.0255 (S)		
3,4,4'-TriCB	37		ND		0.0285 (S)		
3,4,5-TriCB	38		ND		0.0285 (S)		
3,4',5-TriCB	39		ND		0.0255 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0260 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0218 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0218 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0165 (S)		
2,2',3,5'-TeCB	44		ND		0.0218 (S)		
2,2',3,6-TeCB	45		ND		0.0188 (S)		
2,2',3,6'-TeCB	46		ND		0.0188 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0188 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0143 (S)		
2,2',4,6'-TeCB	51		ND		0.0188 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0188 (S)		
2,2',5,6'-TeCB	53		ND		0.0188 (S)		
2,2',6,6'-TeCB	54		ND		0.0143 (S)		
2,3,3',4-TeCB	55		ND		0.0142 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0142 (S)		
2,3,3',5-TeCB	57		ND		0.0260 (S)		
2,3,3',5'-TeCB	58		ND		0.0260 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0138 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0188 (S)		
2,3,4',5-TeCB	63		ND		0.0138 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0138 (S)		
2,3',4,5-TeCB	67		ND		0.0260 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0188 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0138 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0218 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0163 (S)		
3,3',4,5-TeCB	78		ND		0.0163 (S)		
3,3',4,5'-TeCB	79		ND		0.0163 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0163 (S)		
2,2',3,3',4-PeCB	82		ND		0.0164 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0189 (S)		
2,2',3,3',6-PeCB	84		ND		0.0161 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0164 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0164 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0164 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0148 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0161 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0148 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0161 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0148 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0148 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0148 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0148 (S)		
2,2',4,4',5-PeCB	99		ND		0.0148 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0148 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0148 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0123 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0114 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0112 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0114 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0114 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0164 (S)		
2,3,3',5,6-PeCB	112		ND		0.0189 (S)		
2,3,3',5',6-PeCB	113		ND		0.0161 (S)		
2,3,4,4',5-PeCB	114		ND		0.0111 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0148 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0111 (S)		
2',3,4,4',5-PeCB	123		ND		0.0112 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0114 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0164 (S)		
3,3',4,4',5-PeCB	126		ND		0.0125 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0114 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0114 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0114 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0154 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0101 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0154 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0154 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0154 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0154 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0114 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0114 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0154 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0154 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0114 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0154 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0136 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0154 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0154 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0154 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0169 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0154 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0101 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0154 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0098 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0089 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0092 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0114 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0114 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0136 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0114 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0136 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0114 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0086 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0095 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0138 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0111 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0111 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0111 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0103 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0108 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0081 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0103 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0108 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0081 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0111 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0108 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0103 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0081 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0103 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0108 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0081 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0092 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0111 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0111 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0184 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0184 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0179 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0109 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0179 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0179 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0109 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0109 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0136 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0109 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0138 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0466 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0387 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0387 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0106 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-19_Form1A_CL7A1452.D_SJ2203099.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-16
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-19
Matrix:	SOLID	**Sample Size:**	8.83 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	25-Apr-2017 **Time:** 22:27:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1452.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1441.D
Concentration Units:	ng absolute	**% Moisture:**	15.3

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	14.9	37.2	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	20.2	50.5	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	29.0	72.5	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	35.8	89.6	0.65	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.3	90.7	0.63	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	32.8	82.0	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.0	87.4	1.09	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	26.1	65.3	1.27	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	25.7	64.3	1.20	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-19_Form2_CL7A1452.D_SJ2203099.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-17
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-20
Matrix:	SOLID	**Sample Size:**	8.39 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	26-Apr-2017 **Time:** 08:47:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1454.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	17.3

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0175 (S)		
3-MoCB	2		ND		0.0178 (S)		
4-MoCB	3		NDR	0.142	0.0178 (S)	0.03	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0246 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0142 (S)		
2,3'-DiCB	6		ND		0.0142 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.073	0.0142 (S)	0.08	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0142 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0142 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0142 (S)		
4,4'-DiCB	15		ND		0.0172 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0134 (S)		
2,2',4-TriCB	17		ND		0.0134 (S)		
2,2',5-TriCB	18		ND		0.0134 (S)		
2,2',6-TriCB	19		ND		0.0145 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0121 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0121 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0088 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0134 (S)		
2,3',4-TriCB	25		ND		0.0088 (S)		
2,3',5-TriCB	26		ND		0.0088 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0085 (S)		
2,4,5-TriCB	29		ND		0.0088 (S)		
2,4,6-TriCB	30		ND		0.0134 (S)		
2,4',5-TriCB	31		ND		0.0088 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0135 (S)		
3,3',5-TriCB	36		ND		0.0121 (S)		
3,4,4'-TriCB	37		ND		0.0135 (S)		
3,4,5-TriCB	38		ND		0.0135 (S)		
3,4',5-TriCB	39		ND		0.0121 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0311 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0267 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0267 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0201 (S)		
2,2',3,5'-TeCB	44		ND		0.0267 (S)		
2,2',3,6-TeCB	45		ND		0.0230 (S)		
2,2',3,6'-TeCB	46		ND		0.0230 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0230 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0175 (S)		
2,2',4,6'-TeCB	51		ND		0.0230 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0230 (S)		
2,2',5,6'-TeCB	53		ND		0.0230 (S)		
2,2',6,6'-TeCB	54		ND		0.0175 (S)		
2,3,3',4-TeCB	55		ND		0.0170 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0170 (S)		
2,3,3',5-TeCB	57		ND		0.0311 (S)		
2,3,3',5'-TeCB	58		ND		0.0311 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0165 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0230 (S)		
2,3,4',5-TeCB	63		ND		0.0165 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0165 (S)		
2,3',4,5-TeCB	67		ND		0.0311 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0230 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0165 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0267 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0130 (S)		
3,3',4,5-TeCB	78		ND		0.0130 (S)		
3,3',4,5'-TeCB	79		ND		0.0130 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0130 (S)		
2,2',3,3',4-PeCB	82		ND		0.0176 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0090 (S)		
2,2',3,3',6-PeCB	84		ND		0.0076 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0176 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0176 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0176 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0070 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0076 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0070 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0076 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0070 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0070 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0070 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0070 (S)		
2,2',4,4',5-PeCB	99		ND		0.0070 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0070 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0070 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0058 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0122 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0133 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0122 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0122 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0176 (S)		
2,3,3',5,6-PeCB	112		ND		0.0090 (S)		
2,3,3',5',6-PeCB	113		ND		0.0076 (S)		
2,3,4,4',5-PeCB	114		ND		0.0119 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0070 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0119 (S)		
2',3,4,4',5-PeCB	123		ND		0.0133 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0122 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0176 (S)		
3,3',4,4',5-PeCB	126		ND		0.0134 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0195 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0195 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0195 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0158 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0173 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0158 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0158 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0158 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0158 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0195 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0195 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0158 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0158 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0195 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0158 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0139 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0158 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0158 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0158 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0173 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0158 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0173 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0158 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0100 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0153 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0158 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0195 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0195 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0139 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0195 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0139 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0195 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0148 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0164 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0173 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0139 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0139 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0139 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0129 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0135 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0101 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0129 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0135 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0101 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0139 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0135 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0129 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0101 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0129 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0135 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0101 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0115 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0139 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0139 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0251 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0251 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0245 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0149 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0245 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0245 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0149 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0149 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0186 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0149 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0188 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0300 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0249 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0249 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0162 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-20_Form1A_CL7A1464.D_SJ2203100.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

CLIENT SAMPLE NO.
SDS-17
Sample Collection:
30-Mar-2017 10:00

Form 2

ANALYSIS REPORT

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-20
Matrix:	SOLID	**Sample Size:**	8.39 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	26-Apr-2017 **Time:** 08:47:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1464.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1454.D
Concentration Units:	ng absolute	**% Moisture:**	17.3

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Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	17.0	42.5	0.33	0.648
13C12-2,4'-DiCB	8L			40.0	23.8	59.4	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	32.2	80.4	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	37.6	94.0	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	37.4	93.4	0.63	0.923
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	33.8	84.4	0.94	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.0	87.5	1.11	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	26.6	66.6	1.30	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	26.4	66.0	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-20_Form2_CL7A1464.D_SJ2203100.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
DUP-3
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-21
Matrix:	SOLID	**Sample Size:**	8.11 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	26-Apr-2017 **Time:** 09:41:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1454.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	19.5

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0129 (S)		
3-MoCB	2		ND		0.0131 (S)		
4-MoCB	3		NDR	0.180	0.0131 (S)	0.01	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0226 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0131 (S)		
2,3'-DiCB	6		ND		0.0131 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.081	0.0131 (S)	0.12	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0131 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0131 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0131 (S)		
4,4'-DiCB	15		ND		0.0158 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0145 (S)		
2,2',4-TriCB	17		ND		0.0145 (S)		
2,2',5-TriCB	18		ND		0.0145 (S)		
2,2',6-TriCB	19		ND		0.0156 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0224 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0224 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0095 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0145 (S)		
2,3',4-TriCB	25		ND		0.0095 (S)		
2,3',5-TriCB	26		ND		0.0095 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0092 (S)		
2,4,5-TriCB	29		ND		0.0095 (S)		
2,4,6-TriCB	30		ND		0.0145 (S)		
2,4',5-TriCB	31		ND		0.0095 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0251 (S)		
3,3',5-TriCB	36		ND		0.0224 (S)		
3,4,4'-TriCB	37		ND		0.0251 (S)		
3,4,5-TriCB	38		ND		0.0251 (S)		
3,4',5-TriCB	39		ND		0.0224 (S)		

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0266 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0138 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0138 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0104 (S)		
2,2',3,5'-TeCB	44		ND		0.0138 (S)		
2,2',3,6-TeCB	45		ND		0.0119 (S)		
2,2',3,6'-TeCB	46		ND		0.0119 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0119 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0091 (S)		
2,2',4,6'-TeCB	51		ND		0.0119 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0119 (S)		
2,2',5,6'-TeCB	53		ND		0.0119 (S)		
2,2',6,6'-TeCB	54		ND		0.0091 (S)		
2,3,3',4-TeCB	55		ND		0.0145 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0145 (S)		
2,3,3',5-TeCB	57		ND		0.0266 (S)		
2,3,3',5'-TeCB	58		ND		0.0266 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0142 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0119 (S)		
2,3,4',5-TeCB	63		ND		0.0142 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0142 (S)		
2,3',4,5-TeCB	67		ND		0.0266 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0119 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0142 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0138 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0136 (S)		
3,3',4,5-TeCB	78		ND		0.0136 (S)		
3,3',4,5'-TeCB	79		ND		0.0136 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0136 (S)		
2,2',3,3',4-PeCB	82		ND		0.0272 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0213 (S)		
2,2',3,3',6-PeCB	84		ND		0.0181 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0272 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0272 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0272 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0167 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0181 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0167 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0181 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0167 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0167 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0167 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0167 (S)		
2,2',4,4',5-PeCB	99		ND		0.0166 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0167 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0167 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0139 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0189 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0188 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0188 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0188 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0272 (S)		
2,3,3',5,6-PeCB	112		ND		0.0213 (S)		
2,3,3',5',6-PeCB	113		ND		0.0181 (S)		
2,3,4,4',5-PeCB	114		ND		0.0184 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0166 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0184 (S)		
2',3,4,4',5-PeCB	123		ND		0.0188 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0188 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0272 (S)		
3,3',4,4',5-PeCB	126		ND		0.0207 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0134 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0134 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0134 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0109 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0119 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0109 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0109 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0109 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0109 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0134 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0134 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0109 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0109 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0134 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0109 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0096 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0109 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0109 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0109 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0119 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0109 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0119 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0109 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0069 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0105 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0109 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0134 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0134 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0096 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0134 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0096 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0134 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0102 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0112 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0115 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0092 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0092 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0092 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0085 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0089 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0067 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0085 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0089 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0067 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0092 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0089 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0085 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0067 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0085 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0089 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0067 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0076 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0092 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0092 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0219 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0219 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0214 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0130 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0214 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0214 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0130 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0130 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0162 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0130 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0164 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0227 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0188 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0188 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0082 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-21_Form1A_CL7A1465.D_SJ2203101.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
DUP-3
Sample Collection:
30-Mar-2017 10:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	L27039-21
Matrix:	SOLID	**Sample Size:**	8.11 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	26-Apr-2017 **Time:** 09:41:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1465.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1454.D
Concentration Units:	ng absolute	**% Moisture:**	19.5

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	18.7	46.7	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	23.8	59.4	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	31.4	78.6	0.95	0.927
13C12-2,2',4,5,5'-PeCB	101L			40.0	35.8	89.6	0.63	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	37.4	93.4	0.63	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	35.2	88.0	0.95	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	35.3	88.1	1.12	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	31.9	79.8	1.26	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	31.2	78.1	1.19	1.241

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_L27039-21_Form2_CL7A1465.D_SJ2203101.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

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

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

Contract No.:	9989	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG59144-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	10-Apr-2017	**Initial Calibration Date:**	15-Mar-2017
Analysis Date:	24-Apr-2017 **Time:** 12:34:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7A1415.D**
Dilution Factor:	N/A	**Blank Data Filename:**	CL7A1415.D
Concentration Units:	ng/g	**Cal. Ver. Data Filename:**	CL7A1412.D

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0159 (S)		
3-MoCB	2		ND		0.0162 (S)		
4-MoCB	3		NDR	0.120	0.0162 (S)	0.06	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0183 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0106 (S)		
2,3'-DiCB	6		ND		0.0106 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.067	0.0106 (S)	0.11	0.962
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0106 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0106 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0106 (S)		
4,4'-DiCB	15		ND		0.0128 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0184 (S)		
2,2',4-TriCB	17		ND		0.0184 (S)		
2,2',5-TriCB	18		ND		0.0184 (S)		
2,2',6-TriCB	19		ND		0.0198 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0108 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0108 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0121 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0184 (S)		
2,3',4-TriCB	25		ND		0.0121 (S)		
2,3',5-TriCB	26		ND		0.0121 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0117 (S)		
2,4,5-TriCB	29		ND		0.0121 (S)		
2,4,6-TriCB	30		ND		0.0184 (S)		
2,4',5-TriCB	31		ND		0.0121 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0120 (S)		
3,3',5-TriCB	36		ND		0.0108 (S)		
3,4,4'-TriCB	37		ND		0.0120 (S)		
3,4,5-TriCB	38		ND		0.0120 (S)		
3,4',5-TriCB	39		ND		0.0108 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0203 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0126 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0126 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0095 (S)		
2,2',3,5'-TeCB	44		ND		0.0126 (S)		
2,2',3,6-TeCB	45		ND		0.0108 (S)		
2,2',3,6'-TeCB	46		ND		0.0108 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0108 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0083 (S)		
2,2',4,6'-TeCB	51		ND		0.0108 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0108 (S)		
2,2',5,6'-TeCB	53		ND		0.0108 (S)		
2,2',6,6'-TeCB	54		ND		0.0083 (S)		
2,3,3',4-TeCB	55		ND		0.0111 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0111 (S)		
2,3,3',5-TeCB	57		ND		0.0203 (S)		
2,3,3',5'-TeCB	58		ND		0.0203 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0108 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0108 (S)		
2,3,4',5-TeCB	63		ND		0.0108 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0108 (S)		
2,3',4,5-TeCB	67		ND		0.0203 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0108 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0108 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0126 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0118 (S)		
3,3',4,5-TeCB	78		ND		0.0118 (S)		
3,3',4,5'-TeCB	79		ND		0.0118 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0118 (S)		
2,2',3,3',4-PeCB	82		ND		0.0142 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0159 (S)		
2,2',3,3',6-PeCB	84		ND		0.0136 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0142 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0142 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0142 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0125 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0136 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0125 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0136 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0125 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0125 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0125 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0125 (S)		
2,2',4,4',5-PeCB	99		ND		0.0124 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0125 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0125 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0104 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0099 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0093 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0098 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0098 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0142 (S)		
2,3,3',5,6-PeCB	112		ND		0.0159 (S)		
2,3,3',5',6-PeCB	113		ND		0.0136 (S)		
2,3,4,4',5-PeCB	114		ND		0.0096 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0124 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0096 (S)		
2',3,4,4',5-PeCB	123		ND		0.0093 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0098 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0142 (S)		
3,3',4,4',5-PeCB	126		ND		0.0108 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0092 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0092 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0092 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0093 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0081 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0093 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0093 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0093 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0093 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0092 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0092 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0093 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0093 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0092 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0093 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0082 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0093 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0093 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0093 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0102 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0093 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0081 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0093 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0059 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0072 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0074 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0092 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0092 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

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COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0082 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0092 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0082 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0092 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0070 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0077 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0114 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0092 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0092 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0092 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0085 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0089 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0067 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0085 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0089 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0067 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0092 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0089 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0085 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0067 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0085 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0089 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0067 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0076 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0092 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0092 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0167 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0167 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0163 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0099 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0163 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0163 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0099 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0099 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0124 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0099 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0126 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0222 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0184 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0184 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0113 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_WG59144-101_Form1A_CL7A1415.D_SJ2203018.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

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

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

Contract No.:	9989	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG59144-101
Sample Receipt Date:	N/A	**Sample Size:**	10.0 g
Extraction Date:	10-Apr-2017	**Initial Calibration Date:**	15-Mar-2017
Analysis Date:	24-Apr-2017 **Time:** 12:34:00	**Instrument ID:**	LR GC/MS
Extract Volume (uL):	100	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**CL7A1415.D**
Dilution Factor:	N/A	**Blank Data Filename:**	CL7A1415.D
Concentration Units:	ng absolute	**Cal. Ver. Data Filename:**	CL7A1412.D

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	22.0	54.9	0.32	0.648
13C12-2,4'-DiCB	8L			40.0	26.3	65.7	0.64	0.754
13C12-2,4,4'-TriCB	28L			40.0	33.4	83.6	0.96	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	37.6	94.0	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	38.6	96.5	0.64	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	38.2	95.5	0.93	1.105
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	37.4	93.6	1.11	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	33.9	84.8	1.25	1.219
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	33.0	82.4	1.19	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16682.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_WG59144-101_Form2_CL7A1415.D_SJ2203018.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 8A
ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.:	9989	**Lab Sample I.D.:**	WG59144-102
Matrix:	SOLID	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 10:45:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**OPR Data Filename:**	**CL7A1413.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 100 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
2-MoCB	1			0.38	400	324	240 - 520	80.9
4-MoCB	3			0.32	395	409	237 - 514	104
2,2'-DiCB	4	4 + 10	C	0.64	402	331	241 - 522	82.5
2,3-DiCB	5	5 + 8	C	0.65	373	375	224 - 485	100
2,4'-DiCB	8	5 + 8	C5					
2,6-DiCB	10	4 + 10	C4					
4,4'-DiCB	15			0.64	400	505	240 - 520	126
2,2',5-TriCB	18			0.98	377	334	226 - 490	88.5
2,2',6-TriCB	19			0.96	402	323	241 - 523	80.3
2,3,5-TriCB	23	23 + 34	C	0.97	794	798	476 - 1030	101
2,4,4'-TriCB	28			0.99	376	347	225 - 488	92.3
2,4',5-TriCB	31			0.96	376	398	226 - 489	106
2',3,5-TriCB	34	23 + 34	C23					
3,4,4'-TriCB	37			0.96	401	481	241 - 522	120
2,2',3,3'-TeCB	40			1.29	374	370	262 - 486	99.0
2,2',3,5-TeCB	43	43 + 49	C	1.28	375	365	263 - 488	97.2
2,2',3,5'-TeCB	44			1.29	372	362	261 - 484	97.3
2,2',4,5'-TeCB	49	43 + 49	C43					
2,2',5,5'-TeCB	52	52 + 73	C	1.28	375	357	263 - 488	95.2
2,2',6,6'-TeCB	54			1.29	400	331	280 - 520	82.9
2,3,3',4'-TeCB	56	56 + 60	C	1.27	375	394	263 - 488	105
2,3,4,4'-TeCB	60	56 + 60	C56					
2,3',4,4'-TeCB	66	66 + 80	C	1.29	375	380	263 - 488	101
2,3',5',6-TeCB	73	52 + 73	C52					
3,3',4,4'-TeCB	77		MAX	1.27	402	439	281 - 522	109
3,3',5,5'-TeCB	80	66 + 80	C66					
3,4,4',5-TeCB	81		MAX	1.25	402	439	281 - 522	109
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C	0.63	375	395	263 - 488	105
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C	0.65	375	369	263 - 488	98.5
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89					
2,2',3,5,6-PeCB	93	93 + 95	C	0.64	375	380	263 - 488	101
2,2',3,5',6-PeCB	95	93 + 95	C93					
2,2',4,4',5-PeCB	99			0.65	375	381	263 - 488	102
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89					
2,2',4,6,6'-PeCB	104			0.64	396	384	277 - 515	96.9
2,3,3',4,4'-PeCB	105	105 + 127	C	0.64	397	426	278 - 516	107
2,3,3',4,5-PeCB	106	106 + 118	C	0.64	402	395	282 - 523	98.2
2,3,3',4',6-PeCB	110			0.64	375	387	263 - 488	103
2,3,4,4',5-PeCB	114			0.64	402	427	282 - 523	106
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87					
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87					
2,3',4,4',5-PeCB	118	106 + 118	C106					
2',3,4,4',5-PeCB	123		MAX	0.64	401	380	281 - 521	94.7
3,3',4,4',5-PeCB	126		MAX	0.65	400	443	280 - 520	111

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
3,3',4,5,5'-PeCB	127	105 + 127	C105					
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C	0.79	375	376	263 - 488	100
2,2',3,4,4',6-HxCB	139	139 + 149	C	0.79	371	380	260 - 482	103
2,2',3,4',5',6-HxCB	149	139 + 149	C139					
2,2',3,5,5',6-HxCB	151			0.80	378	378	265 - 491	99.9
2,2',4,4',5,5'-HxCB	153			0.79	375	384	263 - 488	102
2,2',4,4',6,6'-HxCB	155			0.78	396	394	277 - 514	99.6
2,3,3',4,4',5-HxCB	156			0.79	398	421	279 - 518	106
2,3,3',4,4',5'-HxCB	157			0.79	400	437	280 - 520	109
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138					
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138					
2,3',4,4',5,5'-HxCB	167			0.79	396	409	277 - 515	103
3,3',4,4',5,5'-HxCB	169			0.79	402	426	281 - 522	106
2,2',3,3',4,4',5-HpCB	170	170 + 190	C	0.94	396	400	277 - 515	101
2,2',3,4,4',5,5'-HpCB	180			0.94	400	400	280 - 520	100
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C	0.98	794	776	556 - 1030	97.7
2,2',3,4,4',5',6-HpCB	183			0.95	375	368	263 - 488	98.1
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182					
2,2',3,4',5,6,6'-HpCB	188			0.95	400	394	280 - 520	98.5
2,3,3',4,4',5,5'-HpCB	189			0.94	402	396	281 - 522	98.7
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170					
2,2',3,3',4,4',5,5'-OcCB	194			1.11	376	378	263 - 488	101
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C	1.12	374	372	262 - 486	99.4
2,2',3,3',5,5',6,6'-OcCB	202			1.11	393	385	275 - 511	98.1
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196					
2,3,3',4,4',5,5',6-OcCB	205			1.15	398	389	279 - 518	97.7
2,2',3,3',4,4',5,5',6-NoCB	206			1.27	397	398	278 - 516	100
2,2',3,3',4,5,5',6,6'-NoCB	208			1.27	401	413	281 - 521	103
2,2',3,3',4,4',5,5',6,6'-DeCB	209			1.20	399	389	279 - 518	97.4

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener; MAX = concentration is an estimated maximum value.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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

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Report Filename: PCB_PCB_LO_LC_WG59144-102_Form8A_SJ2203016.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 8B
ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.:	9989	**Lab Sample I.D.:**	WG59144-102
Matrix:	SOLID	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 10:45:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**OPR Data Filename:**	**CL7A1413.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 100 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO.[1]	CO-ELUTIONS	LAB FLAG[2]	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
13C12-4-MoCB	3L			0.33	400	213	60.0 - 520	53.3
13C12-2,4'-DiCB	8L			0.64	400	274	80.0 - 520	68.5
13C12-2,4,4'-TriCB	28L			0.96	400	348	160 - 520	87.1
13C12-2,2',4,5,5'-PeCB	101L			0.64	400	376	160 - 520	93.9
13C12-2,3',4,4',5-PeCB	118L			0.63	400	390	160 - 520	97.6
13C12-2,2',3,4,4',5,5'-HpCB	180L			0.93	400	381	160 - 520	95.2
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			1.12	400	370	160 - 520	92.5
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			1.25	400	341	160 - 520	85.3
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			1.19	400	336	160 - 520	84.0

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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

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AXYS METHOD MLA-007 Rev 13

Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6 (Duplicate)
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	WG59144-103 (DUP L27039-6)
Matrix:	SOLID	**Sample Size:**	8.13 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 18:53:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1422.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng/g (dry weight basis)	**% Moisture:**	20.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2-MoCB	1		ND		0.0157 (S)		
3-MoCB	2		ND		0.0161 (S)		
4-MoCB	3		NDR	0.224	0.0161 (S)	0.06	0.999
2,2'-DiCB	4	4 + 10	C ND		0.0591 (S)		
2,3-DiCB	5	5 + 8	C ND		0.0342 (S)		
2,3'-DiCB	6		ND		0.0342 (S)		
2,4-DiCB	7	7 + 9	C NDR	0.069	0.0342 (S)	0.12	0.963
2,4'-DiCB	8	5 + 8	C5				
2,5-DiCB	9	7 + 9	C7				
2,6-DiCB	10	4 + 10	C4				
3,3'-DiCB	11		ND		0.0342 (S)		
3,4-DiCB	12	12 + 13	C ND		0.0342 (S)		
3,4'-DiCB	13	12 + 13	C12				
3,5-DiCB	14		ND		0.0342 (S)		
4,4'-DiCB	15		ND		0.0414 (S)		
2,2',3-TriCB	16	16 + 32	C ND		0.0254 (S)		
2,2',4-TriCB	17		ND		0.0254 (S)		
2,2',5-TriCB	18		ND		0.0254 (S)		
2,2',6-TriCB	19		ND		0.0274 (S)		
2,3,3'-TriCB	20	20 + 21 + 33	C ND		0.0156 (S)		
2,3,4-TriCB	21	20 + 21 + 33	C20				
2,3,4'-TriCB	22		ND		0.0156 (S)		
2,3,5-TriCB	23	23 + 34	C ND		0.0167 (S)		
2,3,6-TriCB	24	24 + 27	C ND		0.0254 (S)		
2,3',4-TriCB	25		ND		0.0167 (S)		
2,3',5-TriCB	26		ND		0.0167 (S)		
2,3',6-TriCB	27	24 + 27	C24				
2,4,4'-TriCB	28		ND		0.0161 (S)		
2,4,5-TriCB	29		ND		0.0167 (S)		
2,4,6-TriCB	30		ND		0.0254 (S)		
2,4',5-TriCB	31		ND		0.0167 (S)		
2,4',6-TriCB	32	16 + 32	C16				
2',3,4-TriCB	33	20 + 21 + 33	C20				
2',3,5-TriCB	34	23 + 34	C23				
3,3',4-TriCB	35		ND		0.0174 (S)		
3,3',5-TriCB	36		ND		0.0156 (S)		
3,4,4'-TriCB	37		ND		0.0174 (S)		
3,4,5-TriCB	38		ND		0.0174 (S)		
3,4',5-TriCB	39		ND		0.0156 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',3,3'-TeCB	40		ND		0.0374 (S)		
2,2',3,4-TeCB	41	41 + 64 + 68 + 71	C ND		0.0244 (S)		
2,2',3,4'-TeCB	42	42 + 59	C ND		0.0244 (S)		
2,2',3,5-TeCB	43	43 + 49	C ND		0.0185 (S)		
2,2',3,5'-TeCB	44		ND		0.0244 (S)		
2,2',3,6-TeCB	45		ND		0.0211 (S)		
2,2',3,6'-TeCB	46		ND		0.0211 (S)		
2,2',4,4'-TeCB	47	47 + 48 + 75	C ND		0.0211 (S)		
2,2',4,5-TeCB	48	47 + 48 + 75	C47				
2,2',4,5'-TeCB	49	43 + 49	C43				
2,2',4,6-TeCB	50		ND		0.0161 (S)		
2,2',4,6'-TeCB	51		ND		0.0211 (S)		
2,2',5,5'-TeCB	52	52 + 73	C ND		0.0211 (S)		
2,2',5,6'-TeCB	53		ND		0.0211 (S)		
2,2',6,6'-TeCB	54		ND		0.0161 (S)		
2,3,3',4-TeCB	55		ND		0.0204 (S)		
2,3,3',4'-TeCB	56	56 + 60	C ND		0.0204 (S)		
2,3,3',5-TeCB	57		ND		0.0374 (S)		
2,3,3',5'-TeCB	58		ND		0.0374 (S)		
2,3,3',6-TeCB	59	42 + 59	C42				
2,3,4,4'-TeCB	60	56 + 60	C56				
2,3,4,5-TeCB	61	61 + 74	C ND		0.0199 (S)		
2,3,4,6-TeCB	62	62 + 65	C ND		0.0211 (S)		
2,3,4',5-TeCB	63		ND		0.0199 (S)		
2,3,4',6-TeCB	64	41 + 64 + 68 + 71	C41				
2,3,5,6-TeCB	65	62 + 65	C62				
2,3',4,4'-TeCB	66	66 + 80	C ND		0.0199 (S)		
2,3',4,5-TeCB	67		ND		0.0374 (S)		
2,3',4,5'-TeCB	68	41 + 64 + 68 + 71	C41				
2,3',4,6-TeCB	69		ND		0.0211 (S)		
2,3',4',5-TeCB	70	70 + 76	C ND		0.0199 (S)		
2,3',4',6-TeCB	71	41 + 64 + 68 + 71	C41				
2,3',5,5'-TeCB	72		ND		0.0244 (S)		
2,3',5',6-TeCB	73	52 + 73	C52				
2,4,4',5-TeCB	74	61 + 74	C61				
2,4,4',6-TeCB	75	47 + 48 + 75	C47				
2',3,4,5-TeCB	76	70 + 76	C70				
3,3',4,4'-TeCB	77		ND		0.0173 (S)		
3,3',4,5-TeCB	78		ND		0.0173 (S)		
3,3',4,5'-TeCB	79		ND		0.0173 (S)		
3,3',5,5'-TeCB	80	66 + 80	C66				
3,4,4',5-TeCB	81		ND		0.0173 (S)		
2,2',3,3',4-PeCB	82		ND		0.0181 (S)		
2,2',3,3',5-PeCB	83	83 + 108	C ND		0.0165 (S)		
2,2',3,3',6-PeCB	84		ND		0.0141 (S)		
2,2',3,4,4'-PeCB	85	85 + 120	C ND		0.0181 (S)		
2,2',3,4,5-PeCB	86	86 + 97	C ND		0.0181 (S)		
2,2',3,4,5'-PeCB	87	87 + 115 + 116	C ND		0.0181 (S)		
2,2',3,4,6-PeCB	88	88 + 121	C ND		0.0130 (S)		
2,2',3,4,6'-PeCB	89	89 + 90 + 101	C ND		0.0141 (S)		
2,2',3,4',5-PeCB	90	89 + 90 + 101	C89				
2,2',3,4',6-PeCB	91		ND		0.0130 (S)		
2,2',3,5,5'-PeCB	92		ND		0.0141 (S)		
2,2',3,5,6-PeCB	93	93 + 95	C ND		0.0130 (S)		
2,2',3,5,6'-PeCB	94		ND		0.0130 (S)		
2,2',3,5',6-PeCB	95	93 + 95	C93				
2,2',3,6,6'-PeCB	96		ND		0.0130 (S)		
2,2',3',4,5-PeCB	97	86 + 97	C86				
2,2',3',4,6-PeCB	98	98 + 102	C ND		0.0130 (S)		
2,2',4,4',5-PeCB	99		ND		0.0129 (S)		

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,2',4,4',6-PeCB	100		ND		0.0130 (S)		
2,2',4,5,5'-PeCB	101	89 + 90 + 101	C89				
2,2',4,5,6'-PeCB	102	98 + 102	C98				
2,2',4,5',6-PeCB	103		ND		0.0130 (S)		
2,2',4,6,6'-PeCB	104		ND		0.0108 (S)		
2,3,3',4,4'-PeCB	105	105 + 127	C ND		0.0126 (S)		
2,3,3',4,5-PeCB	106	106 + 118	C ND		0.0126 (S)		
2,3,3',4',5-PeCB	107	107 + 109	C ND		0.0125 (S)		
2,3,3',4,5'-PeCB	108	83 + 108	C83				
2,3,3',4,6-PeCB	109	107 + 109	C107				
2,3,3',4',6-PeCB	110		ND		0.0125 (S)		
2,3,3',5,5'-PeCB	111	111 + 117	C ND		0.0181 (S)		
2,3,3',5,6-PeCB	112		ND		0.0165 (S)		
2,3,3',5',6-PeCB	113		ND		0.0141 (S)		
2,3,4,4',5-PeCB	114		ND		0.0122 (S)		
2,3,4,4',6-PeCB	115	87 + 115 + 116	C87				
2,3,4,5,6-PeCB	116	87 + 115 + 116	C87				
2,3,4',5,6-PeCB	117	111 + 117	C111				
2,3',4,4',5-PeCB	118	106 + 118	C106				
2,3',4,4',6-PeCB	119		ND		0.0129 (S)		
2,3',4,5,5'-PeCB	120	85 + 120	C85				
2,3',4,5',6-PeCB	121	88 + 121	C88				
2',3,3',4,5-PeCB	122		ND		0.0122 (S)		
2',3,4,4',5-PeCB	123		ND		0.0126 (S)		
2',3,4,5,5'-PeCB	124		ND		0.0125 (S)		
2',3,4,5,6'-PeCB	125		ND		0.0181 (S)		
3,3',4,4',5-PeCB	126		ND		0.0138 (S)		
3,3',4,5,5'-PeCB	127	105 + 127	C105				
2,2',3,3',4,4'-HxCB	128		ND		0.0223 (S)		
2,2',3,3',4,5-HxCB	129		ND		0.0223 (S)		
2,2',3,3',4,5'-HxCB	130		ND		0.0223 (S)		
2,2',3,3',4,6-HxCB	131	131 + 142	C ND		0.0133 (S)		
2,2',3,3',4,6'-HxCB	132	132 + 168	C ND		0.0197 (S)		
2,2',3,3',5,5'-HxCB	133		ND		0.0133 (S)		
2,2',3,3',5,6-HxCB	134	134 + 143	C ND		0.0133 (S)		
2,2',3,3',5,6'-HxCB	135	135 + 144	C ND		0.0133 (S)		
2,2',3,3',6,6'-HxCB	136		ND		0.0133 (S)		
2,2',3,4,4',5-HxCB	137		ND		0.0223 (S)		
2,2',3,4,4',5'-HxCB	138	138 + 163 + 164	C ND		0.0223 (S)		
2,2',3,4,4',6-HxCB	139	139 + 149	C ND		0.0133 (S)		
2,2',3,4,4',6'-HxCB	140		ND		0.0133 (S)		
2,2',3,4,5,5'-HxCB	141		ND		0.0223 (S)		
2,2',3,4,5,6-HxCB	142	131 + 142	C131				
2,2',3,4,5,6'-HxCB	143	134 + 143	C134				
2,2',3,4,5',6-HxCB	144	135 + 144	C135				
2,2',3,4,6,6'-HxCB	145		ND		0.0133 (S)		
2,2',3,4',5,5'-HxCB	146		ND		0.0118 (S)		
2,2',3,4',5,6-HxCB	147		ND		0.0133 (S)		
2,2',3,4',5,6'-HxCB	148		ND		0.0133 (S)		
2,2',3,4',5',6-HxCB	149	139 + 149	C139				
2,2',3,4',6,6'-HxCB	150		ND		0.0133 (S)		
2,2',3,5,5',6-HxCB	151		ND		0.0146 (S)		
2,2',3,5,6,6'-HxCB	152		ND		0.0133 (S)		
2,2',4,4',5,5'-HxCB	153		ND		0.0197 (S)		
2,2',4,4',5,6'-HxCB	154		ND		0.0133 (S)		
2,2',4,4',6,6'-HxCB	155		ND		0.0085 (S)		
2,3,3',4,4',5-HxCB	156		ND		0.0174 (S)		
2,3,3',4,4',5'-HxCB	157		ND		0.0180 (S)		
2,3,3',4,4',6-HxCB	158	158 + 160	C ND		0.0223 (S)		
2,3,3',4,5,5'-HxCB	159		ND		0.0223 (S)		
2,3,3',4,5,6-HxCB	160	158 + 160	C158				

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO	RRT
2,3,3',4,5',6-HxCB	161		ND		0.0118 (S)		
2,3,3',4',5,5'-HxCB	162		ND		0.0223 (S)		
2,3,3',4',5,6-HxCB	163	138 + 163 + 164	C138				
2,3,3',4',5',6-HxCB	164	138 + 163 + 164	C138				
2,3,3',5,5',6-HxCB	165		ND		0.0118 (S)		
2,3,4,4',5,6-HxCB	166		ND		0.0223 (S)		
2,3',4,4',5,5'-HxCB	167		ND		0.0169 (S)		
2,3',4,4',5',6-HxCB	168	132 + 168	C132				
3,3',4,4',5,5'-HxCB	169		ND		0.0187 (S)		
2,2',3,3',4,4',5-HpCB	170	170 + 190	C ND		0.0258 (S)		
2,2',3,3',4,4',6-HpCB	171		ND		0.0208 (S)		
2,2',3,3',4,5,5'-HpCB	172	172 + 192	C ND		0.0208 (S)		
2,2',3,3',4,5,6-HpCB	173		ND		0.0208 (S)		
2,2',3,3',4,5,6'-HpCB	174	174 + 181	C ND		0.0192 (S)		
2,2',3,3',4,5',6-HpCB	175		ND		0.0201 (S)		
2,2',3,3',4,6,6'-HpCB	176		ND		0.0151 (S)		
2,2',3,3',4',5,6-HpCB	177		ND		0.0192 (S)		
2,2',3,3',5,5',6-HpCB	178		ND		0.0201 (S)		
2,2',3,3',5,6,6'-HpCB	179		ND		0.0151 (S)		
2,2',3,4,4',5,5'-HpCB	180		ND		0.0208 (S)		
2,2',3,4,4',5,6-HpCB	181	174 + 181	C174				
2,2',3,4,4',5,6'-HpCB	182	182 + 187	C ND		0.0201 (S)		
2,2',3,4,4',5',6-HpCB	183		ND		0.0192 (S)		
2,2',3,4,4',6,6'-HpCB	184		ND		0.0151 (S)		
2,2',3,4,5,5',6-HpCB	185		ND		0.0192 (S)		
2,2',3,4,5,6,6'-HpCB	186		ND		0.0201 (S)		
2,2',3,4',5,5',6-HpCB	187	182 + 187	C182				
2,2',3,4',5,6,6'-HpCB	188		ND		0.0151 (S)		
2,3,3',4,4',5,5'-HpCB	189		ND		0.0171 (S)		
2,3,3',4,4',5,6-HpCB	190	170 + 190	C170				
2,3,3',4,4',5',6-HpCB	191		ND		0.0208 (S)		
2,3,3',4,5,5',6-HpCB	192	172 + 192	C172				
2,3,3',4',5,5',6-HpCB	193		ND		0.0208 (S)		
2,2',3,3',4,4',5,5'-OcCB	194		ND		0.0229 (S)		
2,2',3,3',4,4',5,6-OcCB	195		ND		0.0229 (S)		
2,2',3,3',4,4',5,6'-OcCB	196	196 + 203	C ND		0.0224 (S)		
2,2',3,3',4,4',6,6'-OcCB	197		ND		0.0136 (S)		
2,2',3,3',4,5,5',6-OcCB	198		ND		0.0224 (S)		
2,2',3,3',4,5,5',6'-OcCB	199		ND		0.0224 (S)		
2,2',3,3',4,5,6,6'-OcCB	200		ND		0.0136 (S)		
2,2',3,3',4,5',6,6'-OcCB	201		ND		0.0136 (S)		
2,2',3,3',5,5',6,6'-OcCB	202		ND		0.0169 (S)		
2,2',3,4,4',5,5',6-OcCB	203	196 + 203	C196				
2,2',3,4,4',5,6,6'-OcCB	204		ND		0.0136 (S)		
2,3,3',4,4',5,5',6-OcCB	205		ND		0.0172 (S)		
2,2',3,3',4,4',5,5',6-NoCB	206		ND		0.0278 (S)		
2,2',3,3',4,4',5,6,6'-NoCB	207		ND		0.0230 (S)		
2,2',3,3',4,5,5',6,6'-NoCB	208		ND		0.0230 (S)		
2,2',3,3',4,4',5,5',6,6'-DeCB	209		ND		0.0117 (S)		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected at RL; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = minimum reporting level.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

For Axys Internal Use Only [XSL Template: Form16681A.xsl; Created: 25-May-2017 15:02:58; Application: XMLTransformer-1.16.6;
Report Filename: PCB_PCB_LO_LC_WG59144-103_Form1A_CL7A1422.D_SJ2203026.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

Form 2

ANALYSIS REPORT

CLIENT SAMPLE NO.
SDS-6 (Duplicate)
Sample Collection:
28-Mar-2017 14:00

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

Project No.	ANNACIS ISLAND DAS SAMPLING PROGRAM		
Contract No.:	9989	**Lab Sample I.D.:**	WG59144-103 (DUP L27039-6)
Matrix:	SOLID	**Sample Size:**	8.13 g (dry)
Sample Receipt Date:	31-Mar-2017	**Initial Calibration Date:**	15-Mar-2017
Extraction Date:	10-Apr-2017	**Instrument ID:**	LR GC/MS
Analysis Date:	24-Apr-2017 **Time:** 18:53:00	**GC Column ID:**	DB5
Extract Volume (uL):	100	**Sample Data Filename:**	**CL7A1422.D**
Injection Volume (uL):	1.0	**Blank Data Filename:**	CL7A1415.D
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	CL7A1412.D
Concentration Units:	ng absolute	**% Moisture:**	20.0

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with CALA accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	IUPAC NO. [1]	CO-ELUTIONS	LAB FLAG [2]	SPIKE CONC.	CONC. FOUND	R(%) [3]	ION ABUND. RATIO	RRT
13C12-4-MoCB	3L			40.0	16.1	40.1	0.31	0.648
13C12-2,4'-DiCB	8L			40.0	22.4	55.9	0.63	0.754
13C12-2,4,4'-TriCB	28L			40.0	30.3	75.7	0.95	0.928
13C12-2,2',4,5,5'-PeCB	101L			40.0	37.8	94.4	0.64	0.826
13C12-2,3',4,4',5-PeCB	118L			40.0	36.2	90.6	0.64	0.922
13C12-2,2',3,4,4',5,5'-HpCB	180L			40.0	32.4	81.1	0.94	1.104
13C12-2,2',3,3',5,5',6,6'-OcCB	202L			40.0	34.2	85.5	1.08	1.076
13C12-2,2',3,3',4,4',5,5',6-NoCB	206L			40.0	24.5	61.2	1.29	1.220
13C12-2,2',3,3',4,4',5,5',6,6'-DeCB	209L			40.0	23.5	58.9	1.20	1.240

(1) Suffix "L" indicates labeled compound.
(2) Where applicable, custom lab flags have been used on this report.
(3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Victoria Reesor_____

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Report Filename: PCB_PCB_LO_LC_WG59144-103_Form2_CL7A1422.D_SJ2203026.html; Workgroup: WG59144; Design ID: 3096]

AXYS METHOD MLA-007 Rev 13

PCB CONGENER ANALYSIS REPORT
RELATIVE PERCENT DIFFERENCE

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

Project No. ANNACIS ISLAND DAS SAMPLING PROGRAM

Contract No.: 9989
Client ID: SDS-6

Concentration Units: ng/g (dry weight basis)

COMPOUND	IUPAC NO.	L27039-6 (A) LAB FLAG [1]	L27039-6 (A) CONC. FOUND	WG59144-103 LAB FLAG [1]	WG59144-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2-MoCB	1	ND		ND			
3-MoCB	2	ND		ND			
4-MoCB	3	NDR	0.041	NDR	0.224		
2,2'-DiCB	4	C ND		C ND			
2,3-DiCB	5	C ND		C ND			
2,3'-DiCB	6	ND		ND			
2,4-DiCB	7	C NDR	0.027	C NDR	0.069		
2,4'-DiCB	8	C5		C5			
2,5-DiCB	9	C7		C7			
2,6-DiCB	10	C4		C4			
3,3'-DiCB	11	ND		ND			
3,4-DiCB	12	C ND		C ND			
3,4'-DiCB	13	C12		C12			
3,5-DiCB	14	ND		ND			
4,4'-DiCB	15	ND		ND			
2,2',3-TriCB	16	C ND		C ND			
2,2',4-TriCB	17	ND		ND			
2,2',5-TriCB	18	ND		ND			
2,2',6-TriCB	19	ND		ND			
2,3,3'-TriCB	20	C ND		C ND			
2,3,4-TriCB	21	C20		C20			
2,3,4'-TriCB	22	ND		ND			
2,3,5-TriCB	23	C ND		C ND			
2,3,6-TriCB	24	C ND		C ND			
2,3',4-TriCB	25	ND		ND			
2,3',5-TriCB	26	ND		ND			
2,3',6-TriCB	27	C24		C24			
2,4,4'-TriCB	28	ND		ND			
2,4,5-TriCB	29	ND		ND			
2,4,6-TriCB	30	ND		ND			
2,4',5-TriCB	31	ND		ND			
2,4',6-TriCB	32	C16		C16			
2',3,4-TriCB	33	C20		C20			
2',3,5-TriCB	34	C23		C23			
3,3',4-TriCB	35	ND		ND			
3,3',5-TriCB	36	ND		ND			
3,4,4'-TriCB	37	ND		ND			
3,4,5-TriCB	38	ND		ND			
3,4',5-TriCB	39	ND		ND			
2,2',3,3'-TeCB	40	ND		ND			
2,2',3,4-TeCB	41	C ND		C ND			
2,2',3,4'-TeCB	42	C ND		C ND			
2,2',3,5-TeCB	43	C ND		C ND			
2,2',3,5'-TeCB	44	ND		ND			
2,2',3,6-TeCB	45	ND		ND			
2,2',3,6'-TeCB	46	ND		ND			
2,2',4,4'-TeCB	47	C ND		C ND			
2,2',4,5-TeCB	48	C47		C47			
2,2',4,5'-TeCB	49	C43		C43			
2,2',4,6-TeCB	50	ND		ND			
2,2',4,6'-TeCB	51	ND		ND			
2,2',5,5'-TeCB	52	C ND		C ND			
2,2',5,6'-TeCB	53	ND		ND			
2,2',6,6'-TeCB	54	ND		ND			
2,3,3',4-TeCB	55	ND		ND			

COMPOUND	IUPAC NO.	L27039-6 (A) LAB FLAG [1]	L27039-6 (A) CONC. FOUND	WG59144-103 LAB FLAG [1]	WG59144-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3,3',4'-TeCB	56	C ND		C ND			
2,3,3',5-TeCB	57	ND		ND			
2,3,3',5'-TeCB	58	ND		ND			
2,3,3',6-TeCB	59	C42		C42			
2,3,4,4'-TeCB	60	C56		C56			
2,3,4,5-TeCB	61	C ND		C ND			
2,3,4,6-TeCB	62	C ND		C ND			
2,3,4',5-TeCB	63	ND		ND			
2,3,4',6-TeCB	64	C41		C41			
2,3,5,6-TeCB	65	C62		C62			
2,3',4,4'-TeCB	66	C ND		C ND			
2,3',4,5-TeCB	67	ND		ND			
2,3',4,5'-TeCB	68	C41		C41			
2,3',4,6-TeCB	69	ND		ND			
2,3',4',5-TeCB	70	C ND		C ND			
2,3',4',6-TeCB	71	C41		C41			
2,3',5,5'-TeCB	72	ND		ND			
2,3',5',6-TeCB	73	C52		C52			
2,4,4',5-TeCB	74	C61		C61			
2,4,4',6-TeCB	75	C47		C47			
2',3,4,5-TeCB	76	C70		C70			
3,3',4,4'-TeCB	77	ND		ND			
3,3',4,5-TeCB	78	ND		ND			
3,3',4,5'-TeCB	79	ND		ND			
3,3',5,5'-TeCB	80	C66		C66			
3,4,4',5-TeCB	81	ND		ND			
2,2',3,3',4-PeCB	82	ND		ND			
2,2',3,3',5-PeCB	83	C ND		C ND			
2,2',3,3',6-PeCB	84	ND		ND			
2,2',3,4,4'-PeCB	85	C ND		C ND			
2,2',3,4,5-PeCB	86	C ND		C ND			
2,2',3,4,5'-PeCB	87	C ND		C ND			
2,2',3,4,6-PeCB	88	C ND		C ND			
2,2',3,4,6'-PeCB	89	C ND		C ND			
2,2',3,4',5-PeCB	90	C89		C89			
2,2',3,4',6-PeCB	91	ND		ND			
2,2',3,5,5'-PeCB	92	ND		ND			
2,2',3,5,6-PeCB	93	C ND		C ND			
2,2',3,5,6'-PeCB	94	ND		ND			
2,2',3,5',6-PeCB	95	C93		C93			
2,2',3,6,6'-PeCB	96	ND		ND			
2,2',3',4,5-PeCB	97	C86		C86			
2,2',3',4,6-PeCB	98	C ND		C ND			
2,2',4,4',5-PeCB	99	ND		ND			
2,2',4,4',6-PeCB	100	ND		ND			
2,2',4,5,5'-PeCB	101	C89		C89			
2,2',4,5,6'-PeCB	102	C98		C98			
2,2',4,5',6-PeCB	103	ND		ND			
2,2',4,6,6'-PeCB	104	ND		ND			
2,3,3',4,4'-PeCB	105	C ND		C ND			
2,3,3',4,5-PeCB	106	C ND		C ND			
2,3,3',4',5-PeCB	107	C ND		C ND			
2,3,3',4,5'-PeCB	108	C83		C83			
2,3,3',4,6-PeCB	109	C107		C107			
2,3,3',4',6-PeCB	110	ND		ND			
2,3,3',5,5'-PeCB	111	C ND		C ND			
2,3,3',5,6-PeCB	112	ND		ND			
2,3,3',5',6-PeCB	113	ND		ND			
2,3,4,4',5-PeCB	114	ND		ND			
2,3,4,4',6-PeCB	115	C87		C87			
2,3,4,5,6-PeCB	116	C87		C87			
2,3,4',5,6-PeCB	117	C111		C111			
2,3',4,4',5-PeCB	118	C106		C106			
2,3',4,4',6-PeCB	119	ND		ND			

COMPOUND	IUPAC NO.	L27039-6 (A) LAB FLAG [1]	L27039-6 (A) CONC. FOUND	WG59144-103 LAB FLAG [1]	WG59144-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,3',4,5,5'-PeCB	120	C85		C85			
2,3',4,5',6-PeCB	121	C88		C88			
2',3,3',4,5-PeCB	122	ND		ND			
2',3,4,4',5-PeCB	123	ND		ND			
2',3,4,5,5'-PeCB	124	ND		ND			
2',3,4,5,6'-PeCB	125	ND		ND			
3,3',4,4',5-PeCB	126	ND		ND			
3,3',4,5,5'-PeCB	127	C105		C105			
2,2',3,3',4,4'-HxCB	128	ND		ND			
2,2',3,3',4,5-HxCB	129	ND		ND			
2,2',3,3',4,5'-HxCB	130	ND		ND			
2,2',3,3',4,6-HxCB	131	C ND		C ND			
2,2',3,3',4,6'-HxCB	132	C ND		C ND			
2,2',3,3',5,5'-HxCB	133	ND		ND			
2,2',3,3',5,6-HxCB	134	C ND		C ND			
2,2',3,3',5,6'-HxCB	135	C ND		C ND			
2,2',3,3',6,6'-HxCB	136	ND		ND			
2,2',3,4,4',5-HxCB	137	ND		ND			
2,2',3,4,4',5'-HxCB	138	C ND		C ND			
2,2',3,4,4',6-HxCB	139	C ND		C ND			
2,2',3,4,4',6'-HxCB	140	ND		ND			
2,2',3,4,5,5'-HxCB	141	ND		ND			
2,2',3,4,5,6-HxCB	142	C131		C131			
2,2',3,4,5,6'-HxCB	143	C134		C134			
2,2',3,4,5',6-HxCB	144	C135		C135			
2,2',3,4,6,6'-HxCB	145	ND		ND			
2,2',3,4',5,5'-HxCB	146	ND		ND			
2,2',3,4',5,6-HxCB	147	ND		ND			
2,2',3,4',5,6'-HxCB	148	ND		ND			
2,2',3,4',5',6-HxCB	149	C139		C139			
2,2',3,4',6,6'-HxCB	150	ND		ND			
2,2',3,5,5',6-HxCB	151	ND		ND			
2,2',3,5,6,6'-HxCB	152	ND		ND			
2,2',4,4',5,5'-HxCB	153	ND		ND			
2,2',4,4',5,6'-HxCB	154	ND		ND			
2,2',4,4',6,6'-HxCB	155	ND		ND			
2,3,3',4,4',5-HxCB	156	ND		ND			
2,3,3',4,4',5'-HxCB	157	ND		ND			
2,3,3',4,4',6-HxCB	158	C ND		C ND			
2,3,3',4,5,5'-HxCB	159	ND		ND			
2,3,3',4,5,6-HxCB	160	C158		C158			
2,3,3',4,5',6-HxCB	161	ND		ND			
2,3,3',4',5,5'-HxCB	162	ND		ND			
2,3,3',4',5,6-HxCB	163	C138		C138			
2,3,3',4',5',6-HxCB	164	C138		C138			
2,3,3',5,5',6-HxCB	165	ND		ND			
2,3,4,4',5,6-HxCB	166	ND		ND			
2,3',4,4',5,5'-HxCB	167	ND		ND			
2,3',4,4',5',6-HxCB	168	C132		C132			
3,3',4,4',5,5'-HxCB	169	ND		ND			
2,2',3,3',4,4',5-HpCB	170	C ND		C ND			
2,2',3,3',4,4',6-HpCB	171	ND		ND			
2,2',3,3',4,5,5'-HpCB	172	C ND		C ND			
2,2',3,3',4,5,6-HpCB	173	ND		ND			
2,2',3,3',4,5,6'-HpCB	174	C ND		C ND			
2,2',3,3',4,5',6-HpCB	175	ND		ND			
2,2',3,3',4,6,6'-HpCB	176	ND		ND			
2,2',3,3',4',5,6-HpCB	177	ND		ND			
2,2',3,3',5,5',6-HpCB	178	ND		ND			
2,2',3,3',5,6,6'-HpCB	179	ND		ND			
2,2',3,4,4',5,5'-HpCB	180	ND		ND			
2,2',3,4,4',5,6-HpCB	181	C174		C174			
2,2',3,4,4',5,6'-HpCB	182	C ND		C ND			
2,2',3,4,4',5',6-HpCB	183	ND		ND			

COMPOUND	IUPAC NO.	L27039-6 (A) LAB FLAG [1]	L27039-6 (A) CONC. FOUND	WG59144-103 LAB FLAG [1]	WG59144-103 CONC. FOUND	MEAN	RELATIVE PERCENT DIFFERENCE
2,2',3,4,4',6,6'-HpCB	184	ND		ND			
2,2',3,4,5,5',6-HpCB	185	ND		ND			
2,2',3,4,5,6,6'-HpCB	186	ND		ND			
2,2',3,4',5,5',6-HpCB	187	C182		C182			
2,2',3,4',5,6,6'-HpCB	188	ND		ND			
2,3,3',4,4',5,5'-HpCB	189	ND		ND			
2,3,3',4,4',5,6-HpCB	190	C170		C170			
2,3,3',4,4',5',6-HpCB	191	ND		ND			
2,3,3',4,5,5',6-HpCB	192	C172		C172			
2,3,3',4',5,5',6-HpCB	193	ND		ND			
2,2',3,3',4,4',5,5'-OcCB	194	ND		ND			
2,2',3,3',4,4',5,6-OcCB	195	ND		ND			
2,2',3,3',4,4',5,6'-OcCB	196	C ND		C ND			
2,2',3,3',4,4',6,6'-OcCB	197	ND		ND			
2,2',3,3',4,5,5',6-OcCB	198	ND		ND			
2,2',3,3',4,5,5',6'-OcCB	199	ND		ND			
2,2',3,3',4,5,6,6'-OcCB	200	ND		ND			
2,2',3,3',4,5',6,6'-OcCB	201	ND		ND			
2,2',3,3',5,5',6,6'-OcCB	202	ND		ND			
2,2',3,4,4',5,5',6-OcCB	203	C196		C196			
2,2',3,4,4',5,6,6'-OcCB	204	ND		ND			
2,3,3',4,4',5,5',6-OcCB	205	ND		ND			
2,2',3,3',4,4',5,5',6-NoCB	206	ND		ND			
2,2',3,3',4,4',5,6,6'-NoCB	207	ND		ND			
2,2',3,3',4,5,5',6,6'-NoCB	208	ND		ND			
2,2',3,3',4,4',5,5',6,6'-DeCB	209	ND		ND			

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

These data are validated and reported as accurate and in accord with SGS AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Victoria Reesor_____

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

For Axys Internal Use Only [XSL Template: RPD.xsl; Created: 25-May-2017 15:17:17; Application: XMLTransformer-1.16.6;
Report Filename: RPD_PCB_LO_LC-RPD_WG59144-103_L27039-6_.html; Workgroup: WG59144; Design ID: 3096]

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
BFR	BTBPE	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
	DBDPE	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
	HBB	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
	PBEB	SGS AXYS MLA-033	MLA-033			Y										Y							Y										
BPA and MPE	4,4'-dihydroxy-2,2-diphenylpropane (Bisphenol A) (BPA)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-(3-carboxypropyl) phthalate (MCPP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-2-ethylhexyl phthalate (MEHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-benzyl phthalate (MBzP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-butyl phthalate (MBP) (n + iso)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-cyclohexyl phthalate (MCHP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-ethyl phthalate (MEP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-iso-nonyl phthalate (MiNP)	SGS AXYS MLA-059	MLA-059																			Y											
	Mono-methyl phthalate (MMP)	SGS AXYS MLA-059	MLA-059																			Y											
FTS	4:2 fluorotelomer sulfonate (4:2 FTS)	SGS AXYS MLA-081	MLA-081																													YD	
		SGS AXYS MLA-089	MLA-089											YD																			
	6:2 fluorotelomer sulfonate (6:2 FTS)	SGS AXYS MLA-081	MLA-081																													YD	
		SGS AXYS MLA-089	MLA-089											YD																			
	8:2 fluorotelomer sulfonate (8:2 FTS)	SGS AXYS MLA-081	MLA-081																													YD	
		SGS AXYS MLA-089	MLA-089											YD																			
HBCDD	alpha-hexabromocyclododecane (a-HBCDD)	SGS AXYS MLA-070	MLA-070		Y																												
	beta-hexabromocyclododecane (b-HBCDD)	SGS AXYS MLA-070	MLA-070		Y																												
	gamma-hexabromocyclododecane (g-HBCDD)	SGS AXYS MLA-070	MLA-070		Y																												
OC Pesticides	2,4'-DDD	EPA 625	MLA-007																						Y								
		EPA 8270	MLA-007					Y					Y																					
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y		Y									
	2,4'-DDE	EPA 625	MLA-007																						Y								
		EPA 8270	MLA-007					Y					Y																					
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y		Y									
	2,4'-DDT	EPA 625	MLA-007																						Y								
		EPA 8270	MLA-007					Y					Y																					
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y		Y									
	4,4'-DDD	EPA 625	MLA-007																						Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y								Y	
	4,4'-DDE	EPA 625	MLA-007																						Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																			
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y						Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y								Y	
	4,4'-DDT	EPA 625	MLA-007																						Y	Y			Y	Y		Y	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																	
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Aldrin	EPA 625	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Alpha-HCH	EPA 625	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Beta-HCH	EPA 625	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Chlordane, technical	EPA 625	MLA-007																				Y							Y		
		EPA 8270	MLA-007				Y	Y			Y	Y		Y	Y										Y			Y	Y		Y	Y	
		EPA 1699	MLA-028												Y																	Y	
		SGS AXYS MLA-007	MLA-007					Y							Y										Y							Y	
	cis-Chlordane (alpha-Chlordane)	EPA 8270	MLA-007					Y			Y		Y	Y	Y										Y			Y			Y	Y	
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	cis-Nonachlor	EPA 8270	MLA-007					Y					Y												Y								
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y						Y	Y		Y							Y	
	Delta-HCH	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007					Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Dieldrin	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Endosulphan I	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y						Y	Y		Y							Y	
	Endosulphan II	EPA 608	MLA-007																				Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y						Y	Y		Y					Y		Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
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file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007		Y	Y		Y						Y	Y							Y		Y							Y	
	Endosulphan sulphate	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Endrin	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Endrin aldehyde	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y								Y		Y							Y	
	Endrin ketone	EPA 8081	MLA-007					Y			Y		Y		Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y			
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Gamma-HCH (Lindane)	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Heptachlor	EPA 625	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Heptachlor epoxide	EPA 608	MLA-007																					Y	Y			Y	Y		Y	Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Hexachlorobenzene	EPA 1625	MLA-007																					Y	Y			Y				Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Methoxychlor	EPA 608	MLA-007																					Y				Y	Y			Y	
		EPA 8081	MLA-007				Y	Y			Y	Y	Y	Y	Y																		
		EPA 1699	MLA-028					Y							Y										Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Mirex	EPA 8270	MLA-007					Y			Y		Y		Y										Y				Y	Y		Y	Y	
		EPA 1699	MLA-028					Y							Y										Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y		Y					Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y		Y							Y	
	Oxychlordane	EPA 8270	MLA-007					Y					Y												Y								

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SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 1699	MLA-028					Y							Y									Y							Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y							Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y										
	Toxaphene	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	trans-Chlordane (gamma-Chlordane)	EPA 8270	MLA-007					Y			Y		Y	Y	Y									Y				Y			Y	Y	
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y							Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y							Y	Y							Y	Y							Y		
	trans-Nonachlor	EPA 8270	MLA-007					Y					Y											Y									
		EPA 1699	MLA-028					Y							Y									Y								Y	
		SGS AXYS MLA-028	MLA-028		Y	Y		Y					Y		Y	Y							Y	Y							Y		Y	
		SGS AXYS MLA-007	MLA-007		Y	Y		Y								Y							Y										
PAH	1,2,6-Trimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,2-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,4,6,7-Tetramethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,7-Dimethylfluorene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,7-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1,8-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1-Methylchrysene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1-Methylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	1-Methylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,3,5-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,3,6-Trimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,4-Dimethyldibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,6-Dimethylnaphthalene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2/3-Methyldibenzothiophenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2-Methylanthracene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2-Methylfluorene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	2-methylnaphthalene	EPA 1625	MLA-021																													Y	
		EPA 8270	MLA-021					Y			Y													Y										
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y									Y	
	2-Methylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	3,6-Dimethylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	3-Methylfluoranthene/ Benzo(a)fluorene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	3-Methylphenanthrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	5,9-Dimethylchrysene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	5/6-Methylchrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	7-Methylbenzo(a)pyrene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	9/4-Methylphenanthrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	Acenaphthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y		Y							Y	
	Acenaphthylene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y		Y							Y	
	Anthracene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																			
		SGS AXYS MLA-021	MLA-021			Y		Y							Y								Y		Y							Y	

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Benz[a]anthracene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[a]pyrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[b]fluoranthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	Y
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[e]pyrene	SGS AXYS MLA-021	MLA-021			Y										Y							Y										
	Benzo[ghi]perylene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Benzo[j/k]fluoranthenes	SGS AXYS MLA-021	MLA-021																				Y										
	Benzo[k]fluoranthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	Y
		EPA 8270	MLA-021						Y			Y				Y	Y																
		SGS AXYS MLA-021	MLA-021						Y							Y							Y			Y							Y	
	Biphenyl	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Acenaphthenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Benz(a)anthracenes/chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Biphenyls	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Fluorenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C1-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Benzofluoranthenes/ Benzopyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Biphenyls	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Fluorenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C2-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Fluorenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C3-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Benz(a)anthracenes/Chrysenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Fluoranthenes/Pyrenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Naphthalenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	C4-Phenanthrenes/Anthracenes	SGS AXYS MLA-021	MLA-021			Y																	Y										
	Chrysene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021					Y	Y			Y	Y			Y	Y																
		SGS AXYS MLA-021	MLA-021			Y			Y							Y							Y			Y							Y	
	Dibenz[ah]anthracene	SGS AXYS MLA-021	MLA-021			Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Dibenzo[ah]anthracene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021					Y							Y										Y							Y	
	Dibenzothiophene	SGS AXYS MLA-021	MLA-021			Y																	Y										
	Fluoranthene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Fluorene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Indeno[1,2,3-cd]pyrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Naphthalene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Perylene	SGS AXYS MLA-021	MLA-021			Y										Y							Y										
	Phenanthrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Pyrene	EPA 1625	MLA-021																					Y	Y			Y	Y			Y	
		EPA 8270	MLA-021				Y	Y			Y	Y		Y	Y																		
		SGS AXYS MLA-021	MLA-021			Y		Y							Y	Y							Y		Y							Y	
	Retene	SGS AXYS MLA-021	MLA-021			Y																	Y										
PBDPE	BDE 10 2,6-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 100 2,2',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 105 2,3,3',4,4'-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 11 3,3'-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 116 2,3,4,5,6-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 119 2,3',4,4',6-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 12 3,4-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 126 3,3',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 13 3,4'-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 140 2,2',3,4,4',6'-hexabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 15 4,4'-dibromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 153 2,2',4,4',5,5'-hexabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 154 2,2',4,4',5',6-hexabromodiphenylether	EPA 1614	MLA-033										Y																		Y		
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										

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SGS AXYS Analytical Services Ltd.
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	BDE 155 2,2',4,4',6,6'-hexabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 166 2,3,4,4',5,6-hexabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 17 2,2',4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 181 2,2',3,4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 190 2,3,3',4,4',5,6-heptabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 206 2,2',3,3',4,4',5,5',6-nonabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 207 2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 208 2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 209 Decabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 25 2,3',4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 28 2,4,4'-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 30 2,4,6-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 35 3,3',4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 37 3,4,4'-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 47 2,2',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 49 2,2',4,5'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 66 2,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 7 2,4-dibromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 75 2,4,4',6-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 77 3,3',4,4'-tetrabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 8 2,4'-dibromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 85 2,2',3,4,4'-pentabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE 99 2,2',4,4',5-pentabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE-183 2,2',3,4,4',5',6-heptabromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										
	BDE-33 2',3,4-tribromodiphenylether	EPA 1614	MLA-033										Y																	Y			
		SGS AXYS MLA-033	MLA-033		Y	Y										Y							Y										

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
PCB Aroclors	PCB Aroclor 1016	EPA 1668	MLA-010					Y						Y	Y									Y							Y	Y	
		EPA 625	MLA-007																				Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y			Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y									Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1016/1242	EPA 8270	MLA-007										Y																				
	PCB Aroclor 1221	EPA 1668	MLA-010					Y						Y	Y										Y							Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1232	EPA 1668	MLA-010					Y						Y	Y										Y							Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1242	EPA 1668	MLA-010					Y						Y	Y										Y							Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y			Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1248	EPA 1668	MLA-010					Y						Y	Y										Y							Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1254	EPA 1668	MLA-010					Y						Y	Y										Y							Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1260	EPA 1668	MLA-010					Y						Y	Y										Y							Y	Y	
		EPA 625	MLA-007																					Y	Y			Y	Y			Y	Y	
		EPA 8270	MLA-007				Y	Y			Y	Y	Y		Y																		
		SGS AXYS MLA-010	MLA-010					Y							Y										Y								Y	
		SGS AXYS MLA-007	MLA-007			Y		Y							Y	Y							Y		Y								Y	
	PCB Aroclor 1268	SGS AXYS MLA-007	MLA-007			Y										Y							Y										
PCB congeners	PCB 1 2-Chlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 10 2,6-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 100 2,2',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 101 2,2',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y								YD	
	PCB 101/90/89	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 102 2,2',4,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 103 2,2',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 104 2,2',4,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 105 2,3,3',4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 105/127	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 106 2,3,3',4,5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 107 2,3,3',4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 107/109	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 108 2,3,3',4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 109 2,3,3',4,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 11 3,3'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 110 2,3,3',4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 111 2,3,3',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 111/117	EPA 8270	MLA-007										Y																				
	PCB 112 2,3,3',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 113 2,3,3',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 114 2,3,4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 115 2,3,4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 116 2,3,4,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 117 2,3,4',5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 118 2,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 118/106	EPA 8270	MLA-007										Y																				

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 119 2,3',4,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 12 3,4-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 12/13	EPA 8270	MLA-007										Y																				
	PCB 120 2,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 121 2,3',4,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 122 2,3,3',4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 123 2,3',4,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 124 2,3',4',5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 125 2,3',4',5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 126 3,3',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 127 3,3',4,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 128 2,2',3,3',4,4'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 129 2,2',3,3',4,5-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 13 3,4'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 130 2,2',3,3',4,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 131 2,2',3,3',4,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 131/142	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 132 2,2',3,3',4,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 132/168	EPA 8270	MLA-007										Y																				

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 133 2,2',3,3',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 134 2,2',3,3',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 134/143	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 135 2,2',3,3',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 136 2,2',3,3',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 137 2,2',3,4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 138 2,2',3,4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 138/163/164	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 139 2,2',3,4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 14 3,5-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 140 2,2',3,4,4',6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 141 2,2',3,4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 142 2,2',3,4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 143 2,2',3,4,5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 144 2,2',3,4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 144/135	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 145 2,2',3,4,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 146 2,2',3,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 147 2,2',3,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 148 2,2',3,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 149 2,2',3,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 149/139	EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 15 4,4'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 150 2,2',3,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 151 2,2',3,5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 152 2,2',3,5,6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 153 2,2',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 154 2,2',4,4',5,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 155 2,2',4,4',6,6'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 156 2,3,3',4,4',5-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 157 2,3,3',4,4',5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 158 2,3,3',4,4',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	
	PCB 158/160	EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 159 2,3,3',4,5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD					Y		Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y			Y						YD	

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 16 2,2',3-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 16/32	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 160 2,3,3',4,5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 161 2,3,3',4,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 162 2,3,3',4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 163 2,3,3',4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 164 2,3,3',4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 165 2,3,3',5,5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 166 2,3,4,4',5,6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 167 2,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 168 2,3',4,4',5',6-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 169 3,3',4,4',5,5'-Hexachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 17 2,2',4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 170 2,2',3,3',4,4',5-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 170/190	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 171 2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 172 2,2',3,3',4,5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 172/192	EPA 8270	MLA-007										Y																				

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 173 2,2',3,3',4,5,6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 174 2,2',3,3',4,5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 174/181	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 175 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 176 2,2',3,3',4,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 177 2,2',3,3',4,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 178 2,2',3,3',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 179 2,2',3,3',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 18 2,2',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 180 2,2',3,4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 181 2,2',3,4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 182 2,2',3,4,4',5,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 183 2,2',3,4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 184 2,2',3,4,4',6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 185 2,2',3,4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 186 2,2',3,4,5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 187 2,2',3,4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 187/182	EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 188 2,2',3,4',5,6,6'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 189 2,3,3',4,4',5,5'-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 19 2,2',6-Trichlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 190 2,3,3',4,4',5,6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 191 2,3,3',4,4',5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 192 2,3,3',4,5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 193 2,3,3',4',5,5',6-Heptachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 194 2,2',3,3',4,4',5,5'-Octachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 195 2,2',3,3',4,4',5,6-Octachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 196 2,2',3,3',4,4',5,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 196/203	EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 197 2,2',3,3',4,4',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y			Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007											Y																			
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 198 2,2',3,3',4,5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 199 2,2',3,3',4,5,5',6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 2 3-Chlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 20 2,3,3'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 200 2,2',3,3',4,5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 201 2,2',3,3',4,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 202 2,2',3,3',5,5',6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 203 2,2',3,4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 204 2,2',3,4,4',5,6,6'-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 205 2,3,3',4,4',5,5',6-Octachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 206 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 207 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 208 2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 209 Decachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 21 2,3,4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 22 2,3,4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 23 2,3,5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 23/34	EPA 8270	MLA-007										Y																				
	PCB 24 2,3,6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 24/27	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 25 2,3',4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 26 2,3',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 27 2,3',6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 28 2,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 29 2,4,5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 3 4-Chlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 30 2,4,6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 31 2,4',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 32 2,4',6-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 33 2,3',4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 33/20/21	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 34 2,3',5'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 35 3,3',4-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 36 3,3',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 37 3,4,4'-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 38 3,4,5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 39 3,4',5-Trichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 4 2,2'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 4/10	EPA 8270	MLA-007										Y																				
	PCB 40 2,2',3,3'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 41 2,2',3,4-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 41/71/64/68	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 42 2,2',3,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 42/59	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 43 2,2',3,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 44 2,2',3,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 45 2,2',3,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 46 2,2',3,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 47 2,2',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 47/48/75	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 48 2,2',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 49 2,2',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 49/43	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 5 2,3-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y

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(formerly AXYS Analytical Services Ltd.)
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 50 2,2',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 51 2,2',4,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 52 2,2',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 52/73	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 53 2,2',5,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 54 2,2',6,6'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 55 2,3,3',4-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 56 2,3,3',4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 56/60	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 57 2,3,3',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 58 2,3,3',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 59 2,3,3',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 6 2,3'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 60 2,3,4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 61 2,3,4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 62 2,3,4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 62/65	EPA 8270	MLA-007										Y																				
	PCB 63 2,3,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 64 2,3,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 65 2,3,5,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	

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(formerly AXYS Analytical Services Ltd.)
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 66 2,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 66/80	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 67 2,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 68 2,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 69 2,3',4,6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 7 2,4-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 7/9	EPA 8270	MLA-007										Y																				
	PCB 70 2,3',4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 70/76	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 71 2,3',4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 72 2,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 73 2,3',5',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 74 2,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB 74/61	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 75 2,4,4',6-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 76 2,3',4',5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 77 3,3',4,4'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 78 3,3',4,5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 79 3,3',4,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 8 2,4'-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 8/5	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 80 3,3',5,5'-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y			Y	Y	Y	Y	YD	Y

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-010	MLA-010		Y	Y		Y						YD	Y					YD		Y		Y							YD	
	PCB 81 3,4,4',5-Tetrachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 82 2,2',3,3',4-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 83 2,2',3,3',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 83/108	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 84 2,2',3,3',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 85 2,2',3,4,4'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 85/120	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 86 2,2',3,4,5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 87/115/116	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 88 2,2',3,4,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 88/121	EPA 8270	MLA-007										Y																				
	PCB 89 2,2',3,4,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 9 2,5-Dichlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y		YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 90 2,2',3,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 91 2,2',3,4',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 92 2,2',3,5,5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 93 2,2',3,5,6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 94 2,2',3,5,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 95 2,2',3,5',6-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 95/93	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	PCB 96 2,2',3,6,6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 97 2,2',3,4',5'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 97/86	EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	PCB 98 2,2',3,4',6'-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
	PCB 98/102	EPA 8270	MLA-007										Y																				
	PCB 99 2,2',4,4',5-Pentachlorobiphenyl	EPA 1668	MLA-010					Y		Y	Y	Y	Y	Y	YD						YD				Y		Y	Y	Y	Y		YD	Y
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y		Y							YD	Y					YD		Y		Y							YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
		SGS AXYS MLA-901	MLA-901		Y																												
	PCB congeners, total	EPA 1668	MLA-010								Y																		Y				
	Sum - Dichlorobiphenyls (BZ-12-+ BZ-13)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Heptachlorobiphenyls (BZ-171 + BZ-173)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Heptachlorobiphenyls (BZ-180 + BZ-193)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Heptachlorobiphenyls (BZ-183 + BZ-185)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-128 + BZ-166)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-129 + BZ-138 + BZ-160 + BZ-163)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-134 + BZ-143)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-135 + BZ-151 + BZ-154)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-139 + BZ-140)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-147 + BZ-149)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-153 + BZ-168)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Hexachlorobiphenyls (BZ-156 + BZ-157)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-107 + BZ-124)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-108 + BZ-124)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-110 + BZ-115)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-83 + BZ-99)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-85 + BZ-116 + BZ-117)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	

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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ 97 + BZ-109 + BZ-119 + BZ-125)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-86 + BZ-87 + BZ-97 + BZ-108 + BZ-119 +BZ-125)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-88 + BZ-91)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-90 + BZ-101 + BZ-113)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Pentachlorobiphenyls (BZ-93 + BZ-95 + BZ-98 + BZ-100 + BZ-102)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-40 + BZ-41 + BZ-71)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-44 + BZ-47 + BZ-65)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-45 + BZ-51)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-49 + BZ-69)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-50 + BZ-53)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-59 + BZ-62 + BZ-75)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Tetrachlorobiphenyls (BZ-61 + BZ-70 + BZ-74 + BZ-76)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-18 + BZ-30)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-20 + BZ-28)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-21 + BZ-33)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Sum - Trichlorobiphenyls (BZ-26 + BZ-29)	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Total Dichlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Heptachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Hexachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Monochlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
	Total Nonachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Total Octachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total PCBs	EPA 1668	MLA-010												YD						YD											YD	
		SGS AXYS MLA-010	MLA-010												YD						YD											YD	
	Total Pentachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Polychlorinated biphenyls	SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Tetrachlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
	Total Trichlorobiphenyls	EPA 1668	MLA-010												YD						YD											YD	
		EPA 8270	MLA-007										Y																				
		SGS AXYS MLA-010	MLA-010		Y	Y									YD	Y					YD		Y									YD	
		SGS AXYS MLA-007	MLA-007			Y										Y							Y										
PCDDF	1,2,3,4,6,7,8-HpCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,6,7,8-HpCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,7,8,9-HpCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,7,8-HxCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,4,7,8-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,6,7,8-HxCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,6,7,8-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8,9-HxCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8,9-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8-PeCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	1,2,3,7,8-PeCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	

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SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,4,6,7,8-HxCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,4,7,8-PeCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,7,8-TCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	2,3,7,8-TCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	OCDD	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	OCDF	EPA 1613	MLA-017										Y		YD						YD			Y	Y		Y	Y	Y	Y	Y	YD	
		EPA 8290	MLA-017				Y	Y		Y	Y	Y		Y	YD		Y		Y	Y	YD				Y			Y	Y			YD	
		SGS AXYS MLA-017	MLA-017	Y	Y	Y		Y							YD	Y	Y				YD		Y		Y							YD	
	Total HpCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
	Total HpCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
	Total HxCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
	Total HxCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
	Total PCDD	EPA 1613	MLA-017												YD						YD											YD	
		EPA 8290	MLA-017												YD						YD											YD	
		SGS AXYS MLA-017	MLA-017												YD						YD											YD	
	Total PCDD+PCDF	EPA 1613	MLA-017												YD						YD											YD	
		EPA 8290	MLA-017												YD						YD											YD	
		SGS AXYS MLA-017	MLA-017												YD						YD											YD	
	Total PCDF	EPA 1613	MLA-017												YD						YD											YD	
		EPA 8290	MLA-017												YD						YD											YD	
		SGS AXYS MLA-017	MLA-017												YD						YD											YD	
	Total PeCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
	Total PeCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
	Total TCDD	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y					Y		YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	

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SGS AXYS Analytical Services Ltd.
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Total TCDF	EPA 1613	MLA-017												YD						YD			Y	Y						Y	YD	
		EPA 8290	MLA-017					Y		Y		Y		Y	YD		Y		Y	Y	YD				Y				Y			YD	
		SGS AXYS MLA-017	MLA-017					Y							YD		Y				YD				Y							YD	
PFC	Perfluorobutanesulfonate (PFBS)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorobutanoate (PFBA)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorodecanoate (PFDA)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorododecanoate (PFDoA)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluoroheptanoate (PFHpA)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorohexanesulfonate (PFHxS)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorohexanoate (PFHxA)	EPA 537 modified	MLA-041												YD																	
			MLA-043																		YD												
			MLA-060																													YD	
		SGS AXYS MLA-060	MLA-060																				Y		Y	Y	Y					YD	
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD																		

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable									
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorononanoate (PFNA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorooctane sulfonamide (PFOSA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorooctanesulfonate (PFOS)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluorooctanoate (PFOA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluoropentanoate (PFPeA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
	Perfluoroundecanoate (PFUnA)	EPA 537 modified	MLA-041												YD																		
			MLA-043																		YD												
			MLA-060																														YD
		SGS AXYS MLA-060	MLA-060																				Y										YD
		SGS AXYS MLA-041	MLA-041			Y		Y	Y	Y					YD										Y	Y	Y						
		SGS AXYS MLA-043	MLA-043													Y	Y	Y	Y		YD												
		SGS AXYS MLA-042	MLA-042		Y																												
PPCP	1,7-Dimethylxanthine	EPA 1694	MLA-075											Y																	Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	10-hydroxy-amitriptyline	SGS AXYS MLA-075	MLA-075			Y																	Y										
	2-hydroxy-ibuprofen	SGS AXYS MLA-075	MLA-075			Y																	Y										
	4-Epianhydrochlortetracycline (EACTC)	EPA 1694	MLA-075											Y																	Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										

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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	4-Epianhydrotetracycline (EATC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	4-Epichlortetracycline (ECTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	4-Epioxytetracycline (EOTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	4-Epitetracycline (ETC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Acetaminophen	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Albuterol	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Alprazolam	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Amitriptyline	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Amlodipine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Amphetamine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Anhydrochlortetracycline (ACTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Anhydrotetracycline (ATC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Atenolol	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Atorvastatin	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Azithromycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Benzoylecgonine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Benztropine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Betamethasone	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Bisphenol A	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Caffeine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Carbadox	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Carbamazepine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Cefotaxime	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Chlortetracycline (CTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Cimetidine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Ciprofloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Clarithromycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Clinafloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Clonidine	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Cloxacillin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Cocaine	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Codeine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Cotinine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	DEET (N,N-diethyl-m-toluamide)	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Dehydronifedipine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Demeclocycline	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Desmethyldiltiazem	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Diazepam	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Digoxigenin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Digoxin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Diltiazem	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Diphenhydramine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Doxycycline	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Enalapril	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Enrofloxacin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Erythromycin	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Erythromycin anydrate	EPA 1694	MLA-075											Y																		Y		
	Flumequine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Fluocinonide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Fluoxetine	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Fluticasone propionate	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Furosemide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Gemfibrozil	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Glipizide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Glyburide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Hydrochlorothiazide	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Hydrocodone	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Hydrocortisone	SGS AXYS MLA-075	MLA-075			Y																	Y										
	Ibuprofen	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Isochlortetracycline (ICTC)	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Lincomycin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										
	Lomefloxacin	EPA 1694	MLA-075											Y																		Y		
		SGS AXYS MLA-075	MLA-075			Y																	Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids									Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Meprobamate	SGS AXYS MLA-075	MLA-075			Y																Y										
	Metformin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Methylprednisolone	SGS AXYS MLA-075	MLA-075			Y																Y										
	Metoprolol	SGS AXYS MLA-075	MLA-075			Y																Y										
	Miconazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Minocycline	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Naproxen	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Norfloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Norfluoxetine	SGS AXYS MLA-075	MLA-075			Y																Y										
	Norgestimate	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Norverapamil	SGS AXYS MLA-075	MLA-075			Y																Y										
	Ofloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Ormetoprim	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxacillin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxolinic acid	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxycodone	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Oxytetracycline (OTC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Paroxetine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Penicillin G	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Penicillin V	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Prednisolone	SGS AXYS MLA-075	MLA-075			Y																Y										
	Prednisone	SGS AXYS MLA-075	MLA-075			Y																Y										
	Promethazine	SGS AXYS MLA-075	MLA-075			Y																Y										
	Propoxyphene	SGS AXYS MLA-075	MLA-075			Y																Y										
	Propranolol	SGS AXYS MLA-075	MLA-075			Y																Y										
	Ranitidine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Roxithromycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sarafloxacin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sertraline	SGS AXYS MLA-075	MLA-075			Y																Y										
	Simvastatin	SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfachloropyridazine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfadiazine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfadimethoxine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfamerazine	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																Y										
	Sulfamethazine	EPA 1694	MLA-075											Y																	Y	

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
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				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfamethizole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfamethoxazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfanilamide	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Sulfathiazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Tetracycline (TC)	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Theophylline	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Thiabendazole	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Trenbolone	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Trenbolone acetate	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Triamterene	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Triclocarban	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Triclosan	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Trimethoprim	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Tylosin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Valsartan	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Verapamil	SGS AXYS MLA-075	MLA-075			Y																	Y									
	Virginiamycin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
	Warfarin	EPA 1694	MLA-075											Y																	Y	
		SGS AXYS MLA-075	MLA-075			Y																	Y									
Targeted Metabolites	11, 14, 17-eicosatrienoic acid (eicosatrienoic acid)	SGS AXYS MLM-001	MLM-001													Y																
	11, 14-eicosadienoic acid	SGS AXYS MLM-001	MLM-001													Y																
	3-hydroxytyrosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Acetylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Acetylornithine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Alanine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	alpha-Aminoadipic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Arginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Asparagine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Aspartate	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Asymmetric dimethylarginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Butenylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Butyrylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	C22:5 ISOMER 1 (tentatively all-cis-4, 8, 12, 15, 19-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																
	C22:5 ISOMER 2 (all-cis-7,10,13,16,19-docosapentaenoic acid (DPA)	SGS AXYS MLM-001	MLM-001													Y																
	C22:5 ISOMER 3 (tentatively all-cis-4, 7, 10, 13, 16-docosapentaenoic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Carnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Carnosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	chenodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	cholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Citrulline	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Creatinine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Decadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	decanoic acid (capric acid)	SGS AXYS MLM-001	MLM-001													Y																
	Decanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Decenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	deoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	docosahexaenoic acid (DHA)	SGS AXYS MLM-001	MLM-001													Y																
	docosatetraenoic acid (adrenic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Dodecanedioylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Dodecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Dodecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Dopamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	eicosapentaenoic acid (EPA)	SGS AXYS MLM-001	MLM-001													Y																
	Eicosatetraenoic acid (arachidonic acid)	SGS AXYS MLM-001	MLM-001													Y																
	eicosatrienoic acid (dihomo-γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Glutaconylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glutamate	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glutamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glutarylcarnitine (Hydroxyhexanoylcarnitine)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Glycine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	glycochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	glycocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	glycodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	hexadecanoic acid (palmitic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Hexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	hexadecenoic acid (palmitoleic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Hexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexanoylcarnitine (Fumarylcarnitine)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hexose (sum isomers)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Histamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Histidine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyhexadecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyhexadecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyhexadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxylbutyrylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyoctadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyproline	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxypropionylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C14:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C16:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C22:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C22:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxysphingomyeline C24:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxytetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxytetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Hydroxyvalerylcarnitine (Methylmalonylcarnitine)	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Isoleucine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Kynurenine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Leucine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lithocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Lysine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C14:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C16:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C16:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C17:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C18:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C18:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C18:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C20:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C20:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C24:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C26:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	lysoPhosphatidylcholine acyl C28:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	lysoPhosphatidylcholine acyl C28:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Methionine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Methioninesulfoxide	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Methylglutarylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Nitrotyrosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Nonaylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	octadecadienoic acid (linoleic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Octadecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	octadecanoic acid (stearic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Octadecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	octadecatrienoic acid (γ-linolenic acid)	SGS AXYS MLM-001	MLM-001													Y																
	Octadecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Octanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Ornithine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phenylalanine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phenylethylamine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C30:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C30:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C30:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C32:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C32:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C34:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C36:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C38:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C40:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C42:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine acyl-alkyl C44:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C24:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C26:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C28:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C30:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
				CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE *	Maine DOH	ANAB	Pennsylvania DEP
	Phosphatidylcholine diacyl C30:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C32:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C34:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C36:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C38:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C40:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:4	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:5	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Phosphatidylcholine diacyl C42:6	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Pimelylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Proline	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Propenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Propionylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Putrescine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sarcosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Serine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Serotonin	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Spermidine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Spermine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C16:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C16:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C18:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C18:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C20:2	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C22:3	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C24:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C24:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C26:0	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Sphingomyeline C26:1	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Symmetric dimethylarginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	Taurine	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	taurochenodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										
	taurocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y										

Accreditation Scope

SGS AXYS Analytical Services Ltd.
(formerly AXYS Analytical Services Ltd.)
file ref.: ACC-101 Rev. 33

				Pulp	Serum	Solids										Tissue						Urine	Water	Water, Non-Potable								
Compound Class	Compound	Accredited Method ID	SGS AXYS Method ID	CALA	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE	Maine DOH	ANAB	CALA	Florida DOH	Minnesota DOH	New Jersey DEP	Virginia DGS	ANAB	CALA	CALA	California DPH	Florida DOH	Minnesota DOH	New Jersey DEP	New York DOH	Virginia DGS	Washington DE*	Maine DOH	ANAB	Pennsylvania DEP
	taurodeoxycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	taurolithocholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	tauroursodexoycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tetradecadienylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	tetradecanoic acid (myristic acid)	SGS AXYS MLM-001	MLM-001													Y																	
	Tetradecanoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tetradecenoylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Threonine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tiglylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Total dimethylarginine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tryptophan	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Tyrosine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	ursodexoycholic acid	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Valerylcarnitine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
	Valine	SGS AXYS MLM-001	MLM-001		Y											Y						Y											
TBBPA	Tetrabromobisphenol A	SGS AXYS MLA-079	MLA-079		Y																												

Note*
Analysis of pesticides and PCBs in non-potable water samples by AXYS method MLA-007, with the exception of NPDES or State permitted discharges and Stormwater applications, may fall within the scope of Washington State Department of Ecology solids matrix accreditation, subject to approval of the Ecology Project Manager.

Legend

Y	Accreditation scope
YD	Accreditation scope, including US DOD scope
BFR	Brominated flame retardants (non-PBDPE)
BPA and mPE	Bisphenol A and mono-Phthalate Esters
FTS	Fluorotelomer sulfonates
HBCDD	Hexabromocyclododecane
OC Pesticides	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PBDPE	Polybrominated diphenylethers
PCB	Polychlorinated Biphenyls
PCDDF	Polychlorinated dibenzodioxins/furans
PFC	Perfluorinated Compounds
PPCP	Pharmaceutical and Personal Care Products
TBBPA	Tetrabromobisphenol A
California DPH	California Department of Public Health, Lab ID 2911 (target analytes shown are those approved 2014)
Florida DOH	Florida Department of Health, Lab ID E871007, (NELAC Standard)
Pennsylvania DEP	Pennsylvania Department of Environmental Protection
Minnesota DOH	Minnesota Department of Health, Lab ID 232-999-430, (NELAC Standard)
New Jersey DEP	New Jersey Department of Environmental Protection, Lab ID CANA005, (NELAC Standard)
New York DOH	New York Department of Health, Lab ID 11674, (NELAC Standard)
Washington DE	Washington Department of Ecology, Lab ID C404
Virginia DGS	Virginia Department of General Services, Division of Consolidated Laboratory Services, Lab ID 460224, (NELAC Standard)
Maine DOH	Maine Center for Disease Control and Prevention, Department of Health and Human Services, Lab ID CN00003

CALA — Canadian Association for Laboratory Accreditation Inc., Lab ID A2637, (ISO/IEC 17025:2005 Standard)

CALA Testing Accreditation No. A 2637

ANAB — ANSI-ASQ National Accreditation Board, certificate ADE-1861, (ISO/IEC 17025:2005 and US DOD Standards)

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP Certificate ADE-1861

APPENDIX E

Polychlorinated Biphenyl (PCB) Surficial Sediment Quality Summary Table

APPENDIX E
Polychlorinated Biphenyl (PCB) Surficial Sediment Quality Summary Table
AIWWTP - Sediment Chemistry Characterization to Support Disposal at Sea Application

	Sample Name	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5	SDS-6	SDS-7	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
	Date Sampled	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017
	SCN	L1906730-1/L27039-1	L1906730-2/L27039-2	L1906730-3/L27039-3	L1906730-4/L27039-4	L1906730-5/L27039-5	L1906730-6/L27039-6	L1906730-7/L27039-7	L1907291-1/L27039-11	L1907291-2/L27039-12	L1907291-3/L27039-13	L1907291-4/L27039-14	L1907291-5/L27039-15	L1907291-6/L27039-16	L1907291-7/L27039-17	L1907291-8/L27039-18	L1907291-9/L27039-19	L1907291-10/L27039-20
	QA/QC	FDA										FDA						
Polychlorinated Biphenyls (PCBs)	**Method Reporting Limit**																	
Aroclor 1016	0.0678	<0.0678	<0.0741	<0.0777	<0.0873	<0.0825	<0.0558	<0.0933	<0.0444	<0.105	<0.0408	<0.0477	<0.0654	<0.0768	<0.063	<0.081	<0.0711	<0.0426
Aroclor 1242	0.0859	<0.0859	<0.0939	<0.0984	<0.111	<0.105	<0.0707	<0.118	<0.0562	<0.133	<0.0517	<0.0604	<0.0828	<0.0973	<0.0798	<0.103	<0.0901	<0.054
Aroclor 1254	0.206	<0.206	<0.163	<0.226	<0.184	<0.193	<0.248	<0.198	<0.168	<0.183	<0.148	<0.124	<0.205	<0.144	<0.135	<0.196	<0.164	<0.176
Aroclor 1260	0.0894	<0.0894	<0.161	<0.104	<0.106	<0.106	<0.096	<0.0978	<0.109	<0.0864	<0.0954	<0.102	<0.0954	<0.0834	<0.1	<0.0792	<0.0828	<0.104
2-MoCB	0.0125	<0.0125	<0.0139	<0.0213	<0.0189	<0.0152	<0.012	<0.0128	<0.0343	<0.0167	<0.013	<0.0147	<0.018	<0.0208	<0.0114	<0.0217	<0.0187	<0.0175
3-MoCB	0.0127	<0.0127	<0.0141	<0.0217	<0.0192	<0.0155	<0.0122	<0.013	<0.035	<0.017	<0.0133	<0.015	<0.0184	<0.0212	<0.0116	<0.0221	<0.0191	<0.0178
4-MoCB	0.0127	<0.0127	<0.0141	<0.0217	<0.0192	<0.0155	<0.0122	<0.013	<0.035	<0.017	<0.0133	<0.015	<0.0184	<0.0212	<0.0116	<0.0221	<0.0191	<0.0178
2,2'-DiCB + 2,6-DiCB	0.0276	<0.0276	<0.0238	<0.0301	<0.0287	<0.0211	<0.0322	<0.0207	<0.0247	<0.0385	<0.0234	<0.0275	<0.0303	<0.0339	<0.0316	<0.0413	<0.0336	<0.0246
2,3-DiCB + 2,4'-DiCB	0.016	<0.016	<0.0137	<0.0174	<0.0166	<0.0122	<0.0186	<0.012	<0.0143	<0.0222	<0.0136	<0.0159	<0.0175	<0.0196	<0.0183	<0.0239	<0.0194	<0.0142
2,3'-DiCB	0.016	<0.016	<0.0137	<0.0174	<0.0166	<0.0122	<0.0186	<0.012	<0.0143	<0.0222	<0.0136	<0.0159	<0.0175	<0.0196	<0.0183	<0.0239	<0.0194	<0.0142
2,4-DiCB + 2,5-DiCB	0.016	<0.016	<0.0137	<0.0174	<0.0166	<0.0122	<0.0186	<0.012	<0.0143	<0.0222	<0.0136	<0.0159	<0.0175	<0.0196	<0.0183	<0.0239	<0.0194	<0.0142
3,3'-DiCB	0.016	<0.016	<0.0137	<0.0174	<0.0166	<0.0122	<0.0186	<0.012	<0.0143	<0.0222	<0.0136	<0.0159	<0.0175	<0.0196	<0.0183	<0.0239	<0.0194	<0.0142
3,4-DiCB + 3,4'-DiCB	0.016	<0.016	<0.0137	<0.0174	<0.0166	<0.0122	<0.0186	<0.012	<0.0143	<0.0222	<0.0136	<0.0159	<0.0175	<0.0196	<0.0183	<0.0239	<0.0194	<0.0142
3,5-DiCB	0.016	<0.016	<0.0137	<0.0174	<0.0166	<0.0122	<0.0186	<0.012	<0.0143	<0.0222	<0.0136	<0.0159	<0.0175	<0.0196	<0.0183	<0.0239	<0.0194	<0.0142
4,4'-DiCB	0.0194	<0.0194	<0.0166	<0.0211	<0.0201	<0.0148	<0.0226	<0.0145	<0.0173	<0.0269	<0.0164	<0.0192	<0.0212	<0.0238	<0.0221	<0.0289	<0.0235	<0.0172
2,2',3-TriCB + 2,4',6-TriCB	0.0226	<0.0226	<0.0247	<0.0259	<0.0291	<0.0275	<0.0185	<0.0311	<0.0148	<0.0351	<0.0112	<0.0154	<0.0218	<0.0256	<0.021	<0.027	<0.0237	<0.0134
2,2',4-TriCB	0.0226	<0.0226	<0.0247	<0.0259	<0.0291	<0.0275	<0.0185	<0.0311	<0.0148	<0.0351	<0.0112	<0.0154	<0.0218	<0.0256	<0.021	<0.027	<0.0237	<0.0134
2,2',5-TriCB	0.0226	<0.0226	<0.0247	<0.0259	<0.0291	<0.0275	<0.0185	<0.0311	<0.0148	<0.0351	<0.0112	<0.0154	<0.0218	<0.0256	<0.021	<0.027	<0.0237	<0.0134
2,2',6-TriCB	0.0243	<0.0243	<0.0266	<0.0279	<0.0314	<0.0296	<0.0199	<0.0335	<0.016	<0.0378	<0.0121	<0.0165	<0.0235	<0.0275	<0.0226	<0.0291	<0.0255	<0.0145
2,3,3'-TriCB + 2,3,4-TriCB + 2',3,4-TriCB	0.0409	<0.0409	<0.0271	<0.0136	<0.0298	<0.0143	<0.0153	<0.0197	<0.0118	<0.0277	<0.0169	<0.0157	<0.0158	<0.0222	<0.0171	<0.018	<0.0255	<0.0121
2,3,4'-TriCB	0.0409	<0.0409	<0.0271	<0.0136	<0.0298	<0.0143	<0.0153	<0.0197	<0.0118	<0.0277	<0.0169	<0.0157	<0.0158	<0.0222	<0.0171	<0.018	<0.0255	<0.0121
2,3,5-TriCB + 2',3,5-TriCB	0.0148	<0.0148	<0.0162	<0.017	<0.0191	<0.018	<0.0121	<0.0204	<0.0097	<0.023	<0.0073	<0.0101	<0.0143	<0.0168	<0.0138	<0.0177	<0.0155	<0.0088
2,3,6-TriCB + 2,3',6-TriCB	0.0226	<0.0226	<0.0247	<0.0259	<0.0291	<0.0275	<0.0185	<0.0311	<0.0148	<0.0351	<0.0112	<0.0154	<0.0218	<0.0256	<0.021	<0.027	<0.0237	<0.0134
2,3',4-TriCB	0.0148	<0.0148	<0.0162	<0.017	<0.0191	<0.018	<0.0121	<0.0204	<0.0097	<0.023	<0.0073	<0.0101	<0.0143	<0.0168	<0.0138	<0.0177	<0.0155	<0.0088
2,3',5-TriCB	0.0148	<0.0148	<0.0162	<0.017	<0.0191	<0.018	<0.0121	<0.0204	<0.0097	<0.023	<0.0073	<0.0101	<0.0143	<0.0168	<0.0138	<0.0177	<0.0155	<0.0088
2,4,4'-TriCB	0.0143	<0.0143	<0.0157	<0.0164	<0.0185	<0.0175	<0.0118	<0.0197	<0.0094	<0.0223	<0.0071	<0.0098	<0.0138	<0.0162	<0.0133	<0.0172	<0.015	<0.0085
2,4,5-TriCB	0.0148	<0.0148	<0.0162	<0.017	<0.0191	<0.018	<0.0121	<0.0204	<0.0097	<0.023	<0.0073	<0.0101	<0.0143	<0.0168	<0.0138	<0.0177	<0.0155	<0.0088
2,4,6-TriCB	0.0226	<0.0226	<0.0247	<0.0259	<0.0291	<0.0275	<0.0185	<0.0311	<0.0148	<0.0351	<0.0112	<0.0154	<0.0218	<0.0256	<0.021	<0.027	<0.0237	<0.0134
2,4',5-TriCB	0.0148	<0.0148	<0.0162	<0.017	<0.0191	<0.018	<0.0121	<0.0204	<0.0097	<0.023	<0.0073	<0.0101	<0.0143	<0.0168	<0.0138	<0.0177	<0.0155	<0.0088
3,3',4-TriCB	0.0458	<0.0458	<0.0303	<0.0152	<0.0334	<0.016	<0.0172	<0.022	<0.0132	<0.031	<0.0189	<0.0176	<0.0177	<0.0249	<0.0192	<0.0201	<0.0285	<0.0135
3,3',5-TriCB	0.0409	<0.0409	<0.0271	<0.0136	<0.0298	<0.0143	<0.0153	<0.0197	<0.0118	<0.0277	<0.0169	<0.0157	<0.0158	<0.0222	<0.0171	<0.018	<0.0255	<0.0121
3,4,4'-TriCB	0.0458	<0.0458	<0.0303	<0.0152	<0.0334	<0.016	<0.0172	<0.022	<0.0132	<0.031	<0.0189	<0.0176	<0.0177	<0.0249	<0.0192	<0.0201	<0.0285	<0.0135
3,4,5-TriCB	0.0458	<0.0458	<0.0303	<0.0152	<0.0334	<0.016	<0.0172	<0.022	<0.0132	<0.031	<0.0189	<0.0176	<0.0177	<0.0249	<0.0192	<0.0201	<0.0285	<0.0135
3,4',5-TriCB	0.0409	<0.0409	<0.0271	<0.0136	<0.0298	<0.0143	<0.0153	<0.0197	<0.0118	<0.0277	<0.0169	<0.0157	<0.0158	<0.0222	<0.0171	<0.018	<0.0255	<0.0121
2,2',3,3'-TeCB	0.0447	<0.0447	<0.0271	<0.0241	<0.0225	<0.0265	<0.0505	<0.0275	<0.0333	<0.0247	<0.0267	<0.0211	<0.0233	<0.0216	<0.0228	<0.034	<0.026	<0.0311
2,2',3,4-TeCB + 2,3,4',6-TeCB + 2,3',4,5'-TeCB + 2,3',4',6-TeCB	0.0182	<0.0182	<0.0214	<0.0168	<0.0138	<0.019	<0.022	<0.0215	<0.0136	<0.0168	<0.016	<0.0161	<0.0233	<0.0213	<0.0125	<0.0125	<0.0218	<0.0267
2,2',3,4'-TeCB + 2,3,3',6-TeCB	0.0182	<0.0182	<0.0214	<0.0168	<0.0138	<0.019	<0.022	<0.0215	<0.0136	<0.0168	<0.016	<0.0161	<0.0233	<0.0213	<0.0125	<0.0125	<0.0218	<0.0267
2,2',3,5-TeCB + 2,2',4,5'-TeCB	0.0137	<0.0137	<0.0162	<0.0127	<0.0104	<0.0143	<0.0166	<0.0163	<0.0103	<0.0127	<0.0121	<0.0121	<0.0176	<0.0161	<0.0094	<0.0094	<0.0165	<0.0201
2,2',3,5'-TeCB	0.0182	<0.0182	<0.0214	<0.0168	<0.0138	<0.019	<0.022	<0.0215	<0.0136	<0.0168	<0.016	<0.0161	<0.0233	<0.0213	<0.0125	<0.0125	<0.0218	<0.0267
2,2',3,6-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,2',3,6'-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,2',4,4'-TeCB + 2,2',4,5-TeCB + 2,4,4',6-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,2',4,6-TeCB	0.0119	<0.0119	<0.0141	<0.011	<0.0091	<0.0125	<0.0144	<0.0141	<0.0089	<0.011	<0.0105	<0.0106	<0.0153	<0.014	<0.0082	<0.0082	<0.0143	<0.0175
2,2',4,6'-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,2',5,5'-TeCB + 2,3',5',6-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,2',5,6'-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,2',6,6'-TeCB	0.0119	<0.0119	<0.0141	<0.011	<0.0091	<0.0125	<0.0144	<0.0141	<0.0089	<0.011	<0.0105	<0.0106	<0.0153	<0.014	<0.0082	<0.0082	<0.0143	<0.0175
2,3,3',4-TeCB	0.0244	<0.0244	<0.0148	<0.0132	<0.0123	<0.0145	<0.0276	<0.015	<0.0182	<0.0135	<0.0146	<0.0115	<0.0127	<0.0118	<0.0125	<0.0186	<0.0142	<0.017
2,3,3',4'-TeCB + 2,3,4,4'-TeCB	0.0244	<0.0244	<0.0148	<0.0132	<0.0123	<0.0145	<0.0276	<0.015	<0.0182	<0.0135	<0.0146	<0.0115	<0.0127	<0.0118	<0.0125	<0.0186	<0.0142	<0.017
2,3,3',5-TeCB	0.0447	<0.0447	<0.0271	<0.0241	<0.0225	<0.0265	<0.0505	<0.0275	<0.0333	<0.0247	<0.0267	<0.0211	<0.0233	<0.0216	<0.0228	<0.034	<0.026	<0.0311
2,3,3',5'-TeCB	0.0447	<0.0447	<0.0271	<0.0241	<0.0225	<0.0265	<0.0505	<0.0275	<0.0333	<0.0247	<0.0267	<0.0211	<0.0233	<0.0216	<0.0228	<0.034	<0.026	<0.0311
2,3,4,5-TeCB + 2,4,4',5-TeCB	0.0238	<0.0238	<0.0144	<0.0128	<0.012	<0.0141	<0.0269	<0.0146	<0.0177	<0.0131	<0.0142	<0.0112	<0.0124	<0.0115	<0.0121	<0.0181	<0.0138	<0.0165
2,3,4,6-TeCB + 2,3,5,6-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,3,4',5-TeCB	0.0238	<0.0238	<0.0144	<0.0128	<0.012	<0.0141	<0.0269	<0.0146	<0.0177	<0.0131	<0.0142	<0.0112	<0.0124	<0.0115	<0.0121	<0.0181	<0.0138	<0.0165
2,3',4,4'-TeCB + 3,3',5,5'-TeCB	0.0238	<0.0238	<0.0144	<0.0128	<0.012	<0.0141	<0.0269	<0.0146	<0.0177	<0.0131	<0.0142	<0.0112	<0.0124	<0.0115	<0.0121	<0.0181	<0.0138	<0.0165

APPENDIX E
Polychlorinated Biphenyl (PCB) Surficial Sediment Quality Summary Table
AIWWTP - Sediment Chemistry Characterization to Support Disposal at Sea Application

	Sample Name	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5	SDS-6	SDS-7	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
	Date Sampled	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017
	SCN	L1906730-1/L27039-1	L1906730-2/L27039-2	L1906730-3/L27039-3	L1906730-4/L27039-4	L1906730-5/L27039-5	L1906730-6/L27039-6	L1906730-7/L27039-7	L1907291-1/L27039-11	L1907291-2/L27039-12	L1907291-3/L27039-13	L1907291-4/L27039-14	L1907291-5/L27039-15	L1907291-6/L27039-16	L1907291-7/L27039-17	L1907291-8/L27039-18	L1907291-9/L27039-19	L1907291-10/L27039-20
	QA/QC	FDA										FDA						
Polychlorinated Biphenyls (PCBs)	**Method Reporting Limit**																	
2,3',4,5-TeCB	0.0447	<0.0447	<0.0271	<0.0241	<0.0225	<0.0265	<0.0505	<0.0275	<0.0333	<0.0247	<0.0267	<0.0211	<0.0233	<0.0216	<0.0228	<0.034	<0.026	<0.0311
2,3',4,6-TeCB	0.0157	<0.0157	<0.0185	<0.0145	<0.0119	<0.0164	<0.0189	<0.0186	<0.0117	<0.0145	<0.0138	<0.0139	<0.02	<0.0183	<0.0107	<0.0107	<0.0188	<0.023
2,3',4',5-TeCB + 2',3,4,5-TeCB	0.0238	<0.0238	<0.0144	<0.0128	<0.012	<0.0141	<0.0269	<0.0146	<0.0177	<0.0131	<0.0142	<0.0112	<0.0124	<0.0115	<0.0121	<0.0181	<0.0138	<0.0165
2,3',5,5'-TeCB	0.0182	<0.0182	<0.0214	<0.0168	<0.0138	<0.019	<0.022	<0.0215	<0.0136	<0.0168	<0.016	<0.0161	<0.0233	<0.0213	<0.0125	<0.0125	<0.0218	<0.0267
3,3',4,4'-TeCB	0.013	<0.013	<0.0133	<0.012	<0.0158	<0.0152	<0.0135	<0.0127	<0.0217	<0.014	<0.0122	<0.0125	<0.0132	<0.0129	<0.0113	<0.0191	<0.0163	<0.013
3,3',4,5-TeCB	0.013	<0.013	<0.0133	<0.012	<0.0158	<0.0152	<0.0135	<0.0127	<0.0217	<0.014	<0.0122	<0.0125	<0.0132	<0.0129	<0.0113	<0.0191	<0.0163	<0.013
3,3',4,5'-TeCB	0.013	<0.013	<0.0133	<0.012	<0.0158	<0.0152	<0.0135	<0.0127	<0.0217	<0.014	<0.0122	<0.0125	<0.0132	<0.0129	<0.0113	<0.0191	<0.0163	<0.013
3,4,4',5-TeCB	0.013	<0.013	<0.0133	<0.012	<0.0158	<0.0152	<0.0135	<0.0127	<0.0217	<0.014	<0.0122	<0.0125	<0.0132	<0.0129	<0.0113	<0.0191	<0.0163	<0.013
2,2',3,3',4-PeCB	0.0206	<0.0206	<0.0163	<0.0226	<0.0184	<0.0193	<0.0248	<0.0198	<0.0121	<0.0183	<0.0123	<0.0124	<0.0205	<0.0144	<0.0135	<0.0196	<0.0164	<0.0176
2,2',3,3',5-PeCB + 2,3,3',4,5'-PeCB	0.018	<0.018	<0.0164	<0.0203	<0.0196	<0.0158	<0.0151	<0.0177	<0.0215	<0.0189	<0.0189	<0.0137	<0.023	<0.0174	<0.0123	<0.0172	<0.0189	<0.009
2,2',3,3',6-PeCB	0.0153	<0.0153	<0.014	<0.0173	<0.0167	<0.0135	<0.0129	<0.0151	<0.0184	<0.0161	<0.0161	<0.0117	<0.0196	<0.0149	<0.0105	<0.0147	<0.0161	<0.0076
2,2',3,4,4'-PeCB + 2,3',4,5,5'-PeCB	0.0206	<0.0206	<0.0163	<0.0226	<0.0184	<0.0193	<0.0248	<0.0198	<0.0121	<0.0183	<0.0123	<0.0124	<0.0205	<0.0144	<0.0135	<0.0196	<0.0164	<0.0176
2,2',3,4,5-PeCB + 2,2',3',4,5-PeCB	0.0206	<0.0206	<0.0163	<0.0226	<0.0184	<0.0193	<0.0248	<0.0198	<0.0121	<0.0183	<0.0123	<0.0124	<0.0205	<0.0144	<0.0135	<0.0196	<0.0164	<0.0176
2,2',3,4,5'-PeCB + 2,3,4,4',6-PeCB + 2,3,4,5,6-PeCB	0.0206	<0.0206	<0.0163	<0.0226	<0.0184	<0.0193	<0.0248	<0.0198	<0.0121	<0.0183	<0.0123	<0.0124	<0.0205	<0.0144	<0.0135	<0.0196	<0.0164	<0.0176
2,2',3,4,6-PeCB + 2,3',4,5',6-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',3,4,6'-PeCB + 2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB	0.0153	<0.0153	<0.014	<0.0173	<0.0167	<0.0135	<0.0129	<0.0151	<0.0184	<0.0161	<0.0161	<0.0117	<0.0196	<0.0149	<0.0105	<0.0147	<0.0161	<0.0076
2,2',3,4',6-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',3,5,5'-PeCB	0.0153	<0.0153	<0.014	<0.0173	<0.0167	<0.0135	<0.0129	<0.0151	<0.0184	<0.0161	<0.0161	<0.0117	<0.0196	<0.0149	<0.0105	<0.0147	<0.0161	<0.0076
2,2',3,5,6-PeCB + 2,2',3,5',6-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',3,5,6'-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',3,6,6'-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',3',4,6-PeCB + 2,2',4,5,6'-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',4,4',5-PeCB	0.014	<0.014	<0.0128	<0.0158	<0.0153	<0.0124	<0.0118	<0.0139	<0.0168	<0.0148	<0.0148	<0.0107	<0.018	<0.0136	<0.0096	<0.0134	<0.0148	<0.007
2,2',4,4',6-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',4,5',6-PeCB	0.0141	<0.0141	<0.0129	<0.0159	<0.0153	<0.0124	<0.0118	<0.0139	<0.0169	<0.0148	<0.0148	<0.0107	<0.018	<0.0137	<0.0096	<0.0135	<0.0148	<0.007
2,2',4,6,6'-PeCB	0.0117	<0.0117	<0.0107	<0.0132	<0.0127	<0.0103	<0.0098	<0.0116	<0.014	<0.0123	<0.0123	<0.0089	<0.015	<0.0114	<0.008	<0.0112	<0.0123	<0.0058
2,3,3',4,4'-PeCB + 3,3',4,5,5'-PeCB	0.0143	<0.0143	<0.0113	<0.0157	<0.0128	<0.0134	<0.0172	<0.0137	<0.0084	<0.0127	<0.0085	<0.0086	<0.0143	<0.01	<0.0094	<0.0136	<0.0114	<0.0122
2,3,3',4,5-PeCB + 2,3',4,4',5-PeCB	0.0137	<0.0137	<0.0114	<0.0157	<0.013	<0.0135	<0.0169	<0.0149	<0.0082	<0.0125	<0.008	<0.0083	<0.0136	<0.0093	<0.0088	<0.0136	<0.0112	<0.0133
2,3,3',4',5-PeCB + 2,3,3',4,6-PeCB	0.0143	<0.0143	<0.0112	<0.0156	<0.0127	<0.0133	<0.0172	<0.0137	<0.0084	<0.0127	<0.0085	<0.0086	<0.0142	<0.01	<0.0093	<0.0136	<0.0114	<0.0122
2,3,3',4',6-PeCB	0.0143	<0.0143	<0.0112	<0.0156	<0.0127	<0.0133	<0.0172	<0.0137	<0.0084	<0.0127	<0.0085	<0.0086	<0.0142	<0.01	<0.0093	<0.0136	<0.0114	<0.0122
2,3,3',5,5'-PeCB	0.0206	<0.0206	<0.0163	<0.0226	<0.0184	<0.0193	<0.0248	<0.0198	<0.0121	<0.0183	<0.0123	<0.0124	<0.0205	<0.0144	<0.0135	<0.0196	<0.0164	<0.0176
2,3,3',5,6-PeCB	0.018	<0.018	<0.0164	<0.0203	<0.0196	<0.0158	<0.0151	<0.0177	<0.0215	<0.0189	<0.0189	<0.0137	<0.023	<0.0174	<0.0123	<0.0172	<0.0189	<0.009
2,3,3',5',6-PeCB	0.0153	<0.0153	<0.014	<0.0173	<0.0167	<0.0135	<0.0129	<0.0151	<0.0184	<0.0161	<0.0161	<0.0117	<0.0196	<0.0149	<0.0105	<0.0147	<0.0161	<0.0076
2,3,4,4',5-PeCB	0.0139	<0.0139	<0.011	<0.0153	<0.0124	<0.013	<0.0167	<0.0133	<0.0082	<0.0124	<0.0083	<0.0084	<0.0139	<0.0097	<0.0091	<0.0133	<0.0111	<0.0119
2,3',4,4',6-PeCB	0.014	<0.014	<0.0128	<0.0158	<0.0153	<0.0124	<0.0118	<0.0139	<0.0168	<0.0148	<0.0148	<0.0107	<0.018	<0.0136	<0.0096	<0.0134	<0.0148	<0.007
2',3,3',4,5-PeCB	0.0139	<0.0139	<0.011	<0.0153	<0.0124	<0.013	<0.0167	<0.0133	<0.0082	<0.0124	<0.0083	<0.0084	<0.0139	<0.0097	<0.0091	<0.0133	<0.0111	<0.0119
2',3,4,4',5-PeCB	0.0137	<0.0137	<0.0114	<0.0157	<0.013	<0.0135	<0.0169	<0.0149	<0.0082	<0.0125	<0.008	<0.0083	<0.0136	<0.0093	<0.0088	<0.0136	<0.0112	<0.0133
2',3,4,5,5'-PeCB	0.0143	<0.0143	<0.0112	<0.0156	<0.0127	<0.0133	<0.0172	<0.0137	<0.0084	<0.0127	<0.0085	<0.0086	<0.0142	<0.01	<0.0093	<0.0136	<0.0114	<0.0122
2',3,4,5,6'-PeCB	0.0206	<0.0206	<0.0163	<0.0226	<0.0184	<0.0193	<0.0248	<0.0198	<0.0121	<0.0183	<0.0123	<0.0124	<0.0205	<0.0144	<0.0135	<0.0196	<0.0164	<0.0176
3,3',4,4',5-PeCB	0.0157	<0.0157	<0.0124	<0.0172	<0.014	<0.0147	<0.0189	<0.015	<0.0092	<0.014	<0.0094	<0.0095	<0.0156	<0.011	<0.0103	<0.0149	<0.0125	<0.0134
2,2',3,3',4,4'-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,2',3,3',4,5-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,2',3,3',4,5'-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,2',3,3',4,6-HxCB + 2,2',3,4,5,6-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,3',4,6'-HxCB + 2,3',4,4',5',6-HxCB	0.0123	<0.0123	<0.0166	<0.0115	<0.0153	<0.0136	<0.0146	<0.0169	<0.0115	<0.0125	<0.0097	<0.0069	<0.0111	<0.0126	<0.0114	<0.0108	<0.0101	<0.0173
2,2',3,3',5,5'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,3',5,6'-HxCB + 2,2',3,4,5',6-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,3',6,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,4,4',5-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB + 2,3,3',4',5',6-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,2',3,4,4',6-HxCB + 2,2',3,4',5',6-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,4,4',6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,4,5,5'-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,2',3,4,6,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158

APPENDIX E
Polychlorinated Biphenyl (PCB) Surficial Sediment Quality Summary Table
AIWWTP - Sediment Chemistry Characterization to Support Disposal at Sea Application

	Sample Name	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5	SDS-6	SDS-7	SDS-8	SDS-9	SDS-10	SDS-11	SDS-12	SDS-13	SDS-14	SDS-15	SDS-16	SDS-17
	Date Sampled	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	28-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017	30-Mar-2017
	SCN	L1906730-1/L27039-1	L1906730-2/L27039-2	L1906730-3/L27039-3	L1906730-4/L27039-4	L1906730-5/L27039-5	L1906730-6/L27039-6	L1906730-7/L27039-7	L1907291-1/L27039-11	L1907291-2/L27039-12	L1907291-3/L27039-13	L1907291-4/L27039-14	L1907291-5/L27039-15	L1907291-6/L27039-16	L1907291-7/L27039-17	L1907291-8/L27039-18	L1907291-9/L27039-19	L1907291-10/L27039-20
	QA/QC	FDA									FDA							
Polychlorinated Biphenyls (PCBs)	**Method Reporting Limit**																	
2,2',3,4',5,5'-HxCB	0.015	<0.015	<0.0124	<0.0112	<0.0127	<0.0119	<0.0117	<0.0146	<0.0107	<0.0107	<0.0132	<0.0092	<0.0111	<0.009	<0.0098	<0.0132	<0.0136	<0.0139
2,2',3,4',5,6-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,4',5,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,4',6,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',3,5,5',6-HxCB	0.0185	<0.0185	<0.0154	<0.0138	<0.0157	<0.0147	<0.0145	<0.0181	<0.0132	<0.0133	<0.0163	<0.0114	<0.0137	<0.0111	<0.0122	<0.0164	<0.0169	<0.0173
2,2',3,5,6,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',4,4',5,5'-HxCB	0.0123	<0.0123	<0.0166	<0.0115	<0.0153	<0.0136	<0.0146	<0.0169	<0.0115	<0.0125	<0.0097	<0.0069	<0.0111	<0.0126	<0.0114	<0.0108	<0.0101	<0.0173
2,2',4,4',5,6'-HxCB	0.0169	<0.0169	<0.014	<0.0126	<0.0143	<0.0134	<0.0132	<0.0166	<0.0121	<0.0122	<0.0149	<0.0104	<0.0125	<0.0102	<0.0111	<0.015	<0.0154	<0.0158
2,2',4,4',6,6'-HxCB	0.0108	<0.0108	<0.0089	<0.008	<0.0091	<0.0085	<0.0084	<0.0105	<0.0077	<0.0077	<0.0095	<0.0066	<0.008	<0.0065	<0.0071	<0.0095	<0.0098	<0.01
2,3,3',4,4',5-HxCB	0.0109	<0.0109	<0.0146	<0.0102	<0.0136	<0.012	<0.013	<0.0149	<0.0101	<0.0111	<0.0086	<0.0061	<0.0098	<0.0111	<0.0101	<0.0095	<0.0089	<0.0153
2,3,3',4,4',5'-HxCB	0.0113	<0.0113	<0.0151	<0.0105	<0.014	<0.0124	<0.0134	<0.0154	<0.0105	<0.0115	<0.0089	<0.0064	<0.0101	<0.0115	<0.0105	<0.0099	<0.0092	<0.0158
2,3,3',4,4',6-HxCB + 2,3,3',4,5,6-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,3,3',4,5,5'-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,3,3',4,5',6-HxCB	0.015	<0.015	<0.0124	<0.0112	<0.0127	<0.0119	<0.0117	<0.0146	<0.0107	<0.0107	<0.0132	<0.0092	<0.0111	<0.009	<0.0098	<0.0132	<0.0136	<0.0139
2,3,3',4',5,5'-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,3,3',5,5',6-HxCB	0.015	<0.015	<0.0124	<0.0112	<0.0127	<0.0119	<0.0117	<0.0146	<0.0107	<0.0107	<0.0132	<0.0092	<0.0111	<0.009	<0.0098	<0.0132	<0.0136	<0.0139
2,3,4,4',5,6-HxCB	0.0139	<0.0139	<0.0187	<0.013	<0.0173	<0.0154	<0.0165	<0.0191	<0.013	<0.0141	<0.0109	<0.0078	<0.0125	<0.0142	<0.0129	<0.0122	<0.0114	<0.0195
2,3',4,4',5,5'-HxCB	0.0105	<0.0105	<0.0142	<0.0099	<0.0131	<0.0116	<0.0125	<0.0145	<0.0098	<0.0107	<0.0083	<0.0059	<0.0095	<0.0108	<0.0098	<0.0092	<0.0086	<0.0148
3,3',4,4',5,5'-HxCB	0.0116	<0.0116	<0.0157	<0.0109	<0.0145	<0.0129	<0.0139	<0.016	<0.0109	<0.0119	<0.0092	<0.0066	<0.0105	<0.0119	<0.0108	<0.0102	<0.0095	<0.0164
2,2',3,3',4,4',5-HpCB + 2,3,3',4,4',5,6-HpCB	0.0149	<0.0149	<0.0268	<0.0173	<0.0176	<0.0176	<0.016	<0.0163	<0.0181	<0.0144	<0.0159	<0.017	<0.0159	<0.0139	<0.0167	<0.0132	<0.0138	<0.0173
2,2',3,3',4,4',6-HpCB	0.012	<0.012	<0.0216	<0.0139	<0.0141	<0.0141	<0.0129	<0.0131	<0.0146	<0.0116	<0.0128	<0.0137	<0.0128	<0.0112	<0.0135	<0.0107	<0.0111	<0.0139
2,2',3,3',4,5,5'-HpCB + 2,3,3',4,5,5',6-HpCB	0.012	<0.012	<0.0216	<0.0139	<0.0141	<0.0141	<0.0129	<0.0131	<0.0146	<0.0116	<0.0128	<0.0137	<0.0128	<0.0112	<0.0135	<0.0107	<0.0111	<0.0139
2,2',3,3',4,5,6-HpCB	0.012	<0.012	<0.0216	<0.0139	<0.0141	<0.0141	<0.0129	<0.0131	<0.0146	<0.0116	<0.0128	<0.0137	<0.0128	<0.0112	<0.0135	<0.0107	<0.0111	<0.0139
2,2',3,3',4,5,6'-HpCB + 2,2',3,4,4',5,6-HpCB	0.0111	<0.0111	<0.02	<0.0129	<0.0131	<0.0131	<0.0119	<0.0122	<0.0135	<0.0107	<0.0119	<0.0127	<0.0118	<0.0104	<0.0125	<0.0099	<0.0103	<0.0129
2,2',3,3',4,5',6-HpCB	0.0116	<0.0116	<0.0209	<0.0135	<0.0137	<0.0137	<0.0125	<0.0127	<0.0141	<0.0112	<0.0124	<0.0133	<0.0124	<0.0109	<0.0131	<0.0103	<0.0108	<0.0135
2,2',3,3',4,6,6'-HpCB	0.0087	<0.0087	<0.0157	<0.0101	<0.0103	<0.0103	<0.0094	<0.0095	<0.0106	<0.0084	<0.0093	<0.0099	<0.0093	<0.0082	<0.0098	<0.0078	<0.0081	<0.0101
2,2',3,3',4',5,6-HpCB	0.0111	<0.0111	<0.02	<0.0129	<0.0131	<0.0131	<0.0119	<0.0122	<0.0135	<0.0107	<0.0119	<0.0127	<0.0118	<0.0104	<0.0125	<0.0099	<0.0103	<0.0129
2,2',3,3',5,5',6-HpCB	0.0116	<0.0116	<0.0209	<0.0135	<0.0137	<0.0137	<0.0125	<0.0127	<0.0141	<0.0112	<0.0124	<0.0133	<0.0124	<0.0109	<0.0131	<0.0103	<0.0108	<0.0135
2,2',3,3',5,6,6'-HpCB	0.0087	<0.0087	<0.0157	<0.0101	<0.0103	<0.0103	<0.0094	<0.0095	<0.0106	<0.0084	<0.0093	<0.0099	<0.0093	<0.0082	<0.0098	<0.0078	<0.0081	<0.0101
2,2',3,4',5,6,6'-HpCB	0.0087	<0.0087	<0.0157	<0.0101	<0.0103	<0.0103	<0.0094	<0.0095	<0.0106	<0.0084	<0.0093	<0.0099	<0.0093	<0.0082	<0.0098	<0.0078	<0.0081	<0.0101
2,3,3',4,4',5,5'-HpCB	0.0099	<0.0099	<0.0178	<0.0115	<0.0117	<0.0117	<0.0106	<0.0108	<0.012	<0.0095	<0.0105	<0.0113	<0.0105	<0.0092	<0.0111	<0.0088	<0.0092	<0.0115
2,3,3',4,4',5,6-HpCB	0.012	<0.012	<0.0216	<0.0139	<0.0141	<0.0141	<0.0129	<0.0131	<0.0146	<0.0116	<0.0128	<0.0137	<0.0128	<0.0112	<0.0135	<0.0107	<0.0111	<0.0139
2,3,3',4',5,5',6-HpCB	0.012	<0.012	<0.0216	<0.0139	<0.0141	<0.0141	<0.0129	<0.0131	<0.0146	<0.0116	<0.0128	<0.0137	<0.0128	<0.0112	<0.0135	<0.0107	<0.0111	<0.0139
2,2',3,3',4,4',5,5'-OcCB	0.0173	<0.0173	<0.0172	<0.0158	<0.0216	<0.0146	<0.0162	<0.0156	<0.0129	<0.0158	<0.0127	<0.0118	<0.0199	<0.0225	<0.0117	<0.0171	<0.0184	<0.0251
2,2',3,3',4,4',5,6-OcCB	0.0173	<0.0173	<0.0172	<0.0158	<0.0216	<0.0146	<0.0162	<0.0156	<0.0129	<0.0158	<0.0127	<0.0118	<0.0199	<0.0225	<0.0117	<0.0171	<0.0184	<0.0251
2,2',3,3',4,4',5,6'-OcCB + 2,2',3,4,4',5,5',6-OcCB	0.0169	<0.0169	<0.0168	<0.0154	<0.0211	<0.0143	<0.0158	<0.0152	<0.0126	<0.0154	<0.0124	<0.0115	<0.0195	<0.022	<0.0115	<0.0167	<0.0179	<0.0245
2,2',3,3',4,4',6,6'-OcCB	0.0102	<0.0102	<0.0102	<0.0093	<0.0128	<0.0087	<0.0096	<0.0092	<0.0076	<0.0094	<0.0075	<0.007	<0.0118	<0.0133	<0.0069	<0.0101	<0.0109	<0.0149
2,2',3,3',4,5,5',6-OcCB	0.0169	<0.0169	<0.0168	<0.0154	<0.0211	<0.0143	<0.0158	<0.0152	<0.0126	<0.0154	<0.0124	<0.0115	<0.0195	<0.022	<0.0115	<0.0167	<0.0179	<0.0245
2,2',3,3',4,5,5',6'-OcCB	0.0169	<0.0169	<0.0168	<0.0154	<0.0211	<0.0143	<0.0158	<0.0152	<0.0126	<0.0154	<0.0124	<0.0115	<0.0195	<0.022	<0.0115	<0.0167	<0.0179	<0.0245
2,2',3,3',4,5,6,6'-OcCB	0.0102	<0.0102	<0.0102	<0.0093	<0.0128	<0.0087	<0.0096	<0.0092	<0.0076	<0.0094	<0.0075	<0.007	<0.0118	<0.0133	<0.0069	<0.0101	<0.0109	<0.0149
2,2',3,3',4,5',6,6'-OcCB	0.0102	<0.0102	<0.0102	<0.0093	<0.0128	<0.0087	<0.0096	<0.0092	<0.0076	<0.0094	<0.0075	<0.007	<0.0118	<0.0133	<0.0069	<0.0101	<0.0109	<0.0149
2,2',3,3',5,5',6,6'-OcCB	0.0128	<0.0128	<0.0127	<0.0117	<0.016	<0.0108	<0.012	<0.0115	<0.0095	<0.0117	<0.0094	<0.0087	<0.0147	<0.0166	<0.0087	<0.0127	<0.0136	<0.0186
2,2',3,4,4',5,6,6'-OcCB	0.0102	<0.0102	<0.0102	<0.0093	<0.0128	<0.0087	<0.0096	<0.0092	<0.0076	<0.0094	<0.0075	<0.007	<0.0118	<0.0133	<0.0069	<0.0101	<0.0109	<0.0149
2,3,3',4,4',5,5',6-OcCB	0.013	<0.013	<0.0129	<0.0118	<0.0162	<0.011	<0.0122	<0.0117	<0.0097	<0.0119	<0.0096	<0.0088	<0.015	<0.0169	<0.0088	<0.0129	<0.0138	<0.0188
2,2',3,3',4,4',5,5',6-NoCB	0.0282	<0.0282	<0.025	<0.0244	<0.0212	<0.013	<0.0131	<0.0461	<0.0282	<0.0149	<0.0153	<0.0132	<0.0207	<0.0311	<0.02	<0.0244	<0.0466	<0.03
2,2',3,3',4,4',5,6,6'-NoCB	0.0234	<0.0234	<0.0207	<0.0203	<0.0176	<0.0107	<0.0109	<0.0383	<0.0234	<0.0124	<0.0127	<0.0109	<0.0172	<0.0258	<0.0166	<0.0202	<0.0387	<0.0249
2,2',3,3',4,5,5',6,6'-NoCB	0.0234	<0.0234	<0.0207	<0.0203	<0.0176	<0.0107	<0.0109	<0.0383	<0.0234	<0.0124	<0.0127	<0.0109	<0.0172	<0.0258	<0.0166	<0.0202	<0.0387	<0.0249
2,2',3,3',4,4',5,5',6,6'-DeCB	0.012	<0.012	<0.0088	<0.0118	<0.0101	<0.0113	<0.0145	<0.0255	<0.0114	<0.0112	<0.0088	<0.01	<0.0143	<0.0072	<0.0103	<0.0134	<0.0106	<0.0162
Total[3] PCBs	-	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206

Notes:
All concentrations presented as ng/g dry weight.
FDA = field duplicate available; QA/QC = quality assurance/quality control; SCN = sample control number

APPENDIX F

Field Quality Assurance / Quality Control

APPENDIX F
Field Quality Assurance/Quality Control Summary Table
AIWWTP - Sediment Characterization to Support a Potential Disposal at Sea Application

Sample Name	Units	SDS-3	DUP-1	Reported Detection Limit	Mean	Relative Percent Difference (%)	SDS-11	DUP-3	Reported Detection Limit	Mean	Relative Percent Difference (%)
Date Sampled		28-Mar-2017	28-Mar-2017				30-Mar-2017	30-Mar-2017			
SCN		L1906730-3/L27039-3	L1906730-9/L27039-9				L1907291-4/L27039-14	L1907291-11/L27039-21			
Physical Tests											
Moisture	%	18.9	19.1	0.25	19.0	1.1%	20.0	20.9	0.25	20.5	4.4%
pH (1:2 soil:water)	pH	7.60	7.68	0.10	7.64	1.0%	7.57	7.50	0.10	7.54	0.9%
Particle Size											
% Gravel (>2mm)	%	<1.0	<1.0	0.10	NA	NA	<1.0	1.4	0.10	NA	NA
% Sand (2.0mm - 0.063mm)	%	99.4	98.9	0.10	99.2	0.5%	98.9	98.3	0.10	98.6	0.6%
% Silt (0.063mm - 4um)	%	<1.0	<1.0	0.10	NA	NA	<1.0	<1.0	0.10	NA	NA
% Clay (<4um)	%	<1.0	<1.0	0.10	NA	NA	<1.0	<1.0	0.10	NA	NA
Texture	-	Sand	Sand	-	NA	NA	Sand	Sand	-	NA	NA
Organic / Inorganic Carbon											
Total Organic Carbon	%	0.137	0.075	0.10	0.106	NC	0.059	<0.050	0.10	NA	NA
Metals											
Aluminum (Al)	mg/kg	10300	9620	50.0	9960	6.8%	8060	8530	50.0	8295	5.7%
Antimony (Sb)	mg/kg	0.18	0.19	0.10	0.185	NC	0.16	0.38	0.10	0.27	NC
Arsenic (As)	mg/kg	3.25	3.33	0.10	3.29	2.4%	3.17	3.55	0.10	3.36	11.3%
Barium (Ba)	mg/kg	46	42	0.50	44	9.0%	42.8	40.2	0.50	41.5	6.3%
Beryllium (Be)	mg/kg	0.21	0.19	0.10	0.20	NC	0.17	0.17	0.10	0.17	NC
Bismuth (Bi)	mg/kg	<0.20	<0.20	0.20	NA	NA	<0.20	<0.20	0.20	NA	NA
Boron (B)	mg/kg	<5.0	<5.0	5.00	NA	NA	<5.0	<5.0	5.00	NA	NA
Cadmium (Cd)	mg/kg	0.113	0.107	0.020	0.11	5.5%	0.104	0.109	0.020	0.107	4.7%
Calcium (Ca)	mg/kg	6210	5490	50.0	5850	12.3%	4140	4290	50.0	4215	3.6%
Chromium (Cr)	mg/kg	25.3	26.6	0.50	26.0	5.0%	14.4	18.3	0.50	16.4	23.9%
Cobalt (Co)	mg/kg	7.9	7.1	0.10	7.5	9.9%	6.2	6.9	0.10	6.5	10.7%
Copper (Cu)	mg/kg	14.4	12.9	0.50	13.7	11.0%	12.3	12.4	0.50	12.4	0.8%
Iron (Fe)	mg/kg	19000	17200	50.0	18100	9.9%	15500	16500	50.0	16000	6.3%
Lead (Pb)	mg/kg	2.17	2.19	0.50	2.18	NC	1.87	2.10	0.50	1.99	NC
Lithium (Li)	mg/kg	7.8	7.8	2.00	7.8	NC	7.8	8.1	2.00	8.0	NC
Magnesium (Mg)	mg/kg	6960	6320	20.0	6640	9.6%	5450	5810	20.0	5630	6.4%
Manganese (Mn)	mg/kg	415	411	1.00	413	1.0%	380	394	1.00	387	3.6%
Mercury (Hg)	mg/kg	0.017	0.0593	0.0050	0.0382	110.9%	0.014	0.0143	0.0050	0.01	NC
Molybdenum (Mo)	mg/kg	0.28	0.58	0.10	0.43	NC	0.28	0.45	0.10	0.37	NC
Nickel (Ni)	mg/kg	29.3	28.5	0.50	28.9	2.8%	22.4	24.7	0.50	23.6	9.8%
Phosphorus (P)	mg/kg	529	466	50.0	498	12.7%	386	392	50.0	389	1.5%
Potassium (K)	mg/kg	470	490	100	480	NC	390	400	100	395	NC
Selenium (Se)	mg/kg	<0.20	<0.20	0.20	NA	NA	<0.20	<0.20	0.20	NA	NA
Silver (Ag)	mg/kg	<0.10	<0.10	0.10	NA	NA	<0.10	<0.10	0.10	NA	NA
Sodium (Na)	mg/kg	244	237	50.0	241	NC	-	-	50.0	NA	NA
Strontium (Sr)	mg/kg	24.1	21.2	0.50	22.7	12.8%	21.0	19.2	0.50	20.1	9.0%
Thallium (Tl)	mg/kg	<0.050	<0.050	0.050	NA	NA	<0.050	<0.050	0.050	NA	NA
Tin (Sn)	mg/kg	<2.0	<2.0	2.00	NA	NA	<2.0	<2.0	2.00	NA	NA
Titanium (Ti)	mg/kg	878	792	1.00	835	10.3%	640	704	1.00	672	9.5%
Uranium (U)	mg/kg	0.284	0.266	0.050	0.275	6.5%	0.255	0.212	0.050	0.234	NC
Vanadium (V)	mg/kg	48.3	41.5	0.20	44.9	15.1%	35.5	38.8	0.20	37.2	8.9%
Zinc (Zn)	mg/kg	38.9	36.5	2.00	37.7	6.4%	32.9	35.6	2.00	34.3	7.9%
Zirconium (Zr)	mg/kg	5.30	4.90	1.00	5.10	7.8%	4.20	4.50	1.00	4.35	NC
Saturated Paste Extractables											
Chloride (Cl)	mg/kg	2.180	1.910	0.0050	2.045	13.2%	1.340	1.780	0.0050	1.56	28.2%
% Saturation	%	25.90	27.70	0.010	26.80	6.7%	24.60	24.90	0.010	24.75	1.2%
Sodium (Na)	mg/kg	5.400	4.900	0.020	5.150	9.7%	4.200	4.400	0.020	4.300	4.7%
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	mg/kg	<0.0050	<0.0050	0.0050	NA	NA	<0.0050	<0.0050	0.0050	NA	NA
Acenaphthylene	mg/kg	<0.0050	<0.0050	0.0050	NA	NA	<0.0050	<0.0050	0.0050	NA	NA
Anthracene	mg/kg	<0.0040	<0.0040	0.0040	NA	NA	<0.0040	<0.0040	0.0040	NA	NA
Benz(a)anthracene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Benzo(a)pyrene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Benzo(b)fluoranthene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Benzo(b+j+k)fluoranthene	mg/kg	<0.015	<0.015	0.015	NA	NA	<0.015	<0.015	0.015	NA	NA
Benzo(g,h,i)perylene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Benzo(k)fluoranthene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Chrysene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Dibenz(a,h)anthracene	mg/kg	<0.0050	<0.0050	0.0050	NA	NA	<0.0050	<0.0050	0.0050	NA	NA
Fluoranthene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Fluorene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
2-Methylnaphthalene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Naphthalene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Phenanthrene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
Pyrene	mg/kg	<0.010	<0.010	0.010	NA	NA	<0.010	<0.010	0.010	NA	NA
B(a)P Total Potency Equivalent	mg/kg	<0.020	<0.020	0.020	NA	NA	<0.020	<0.020	0.020	NA	NA
IACR (CCME)	mg/kg	<0.15	<0.15	0.15	NA	NA	<0.15	<0.15	0.15	NA	NA
Polychlorinated Biphenyls (PCBs)											
Aroclor 1016	pg/g	<0.0777	<0.0786	0.272	NA	NA	<0.0477	<0.0435	0.272	NA	NA
Aroclor 1242	pg/g	<0.0984	<0.0996	0.303	NA	NA	<0.0604	<0.0551	0.303	NA	NA
Aroclor 1254	pg/g	<0.226	<0.154	1.06	NA	NA	<0.124	<0.272	1.06	NA	NA
Aroclor 1260	pg/g	<0.104	<0.0684	0.905	NA	NA	<0.102	<0.069	0.905	NA	NA
2-MoCB	pg/g	<0.0213	<0.012	0.0887	NA	NA	<0.0147	<0.0129	0.0887	NA	NA
3-MoCB	pg/g	<0.0217	<0.0122	0.0687	NA	NA	<0.015	<0.0131	0.0687	NA	NA
4-MoCB	pg/g	<0.0217	<0.0122	0.0714	NA	NA	<0.015	<0.0131	0.0714	NA	NA
2,2'-DiCB + 2,6-DiCB	pg/g	<0.0301	<0.0237	0.0689	NA	NA	<0.0275	<0.0226	0.0689	NA	NA
2,3-DiCB + 2,4'-DiCB	pg/g	<0.0174	<0.0137	0.137	NA	NA	<0.0159	<0.0131	0.137	NA	NA
2,3'-DiCB	pg/g	<0.0174	<0.0137	0.0909	NA	NA	<0.0159	<0.0131	0.0909	NA	NA
2,4-DiCB + 2,5-DiCB	pg/g	<0.0174	<0.0137	0.0833	NA	NA	<0.0159	<0.0131	0.0833	NA	NA
3,3'-DiCB	pg/g	<0.0174	<0.0137	0.0861	NA	NA	<0.0159	<0.0131	0.0861	NA	NA
3,4-DiCB + 3,4'-DiCB	pg/g	<0.0174	<0.0137	0.0789	NA	NA	<0.0159	<0.0131	0.0789	NA	NA
3,5-DiCB	pg/g	<0.0174	<0.0137	0.0802	NA	NA	<0.0159	<0.0131	0.0802	NA	NA
4,4'-DiCB	pg/g	<0.0211	<0.0166	0.0812	NA	NA	<0.0192	<0.0158	0.0812	NA	NA
2,2',3-TriCB + 2,4',6-TriCB	pg/g	<0.0259	<0.0262	0.091	NA	NA	<0.0154	<0.0145	0.091	NA	NA
2,2',4-TriCB	pg/g	<0.0259	<0.0262	0.0918	NA	NA	<0.0154	<0.0145	0.0918	NA	NA
2,2',5-TriCB	pg/g	<0.0259	<0.0262	0.0863	NA	NA	<0.0154	<0.0145	0.0863	NA	NA
2,2',6-TriCB	pg/g	<0.0279	<0.0283	0.0887	NA	NA	<0.0165	<0.0156	0.0887	NA	NA
2,3,3'-TriCB + 2,3,4-TriCB + 2',3,4-TriCB	pg/g	<0.0136	<0.0136	0.141	NA	NA	<0.0157	<0.0224	0.141	NA	NA
2,3,4'-TriCB	pg/g	<0.0136	<0.0136	0.123	NA	NA	<0.0157	<0.0224	0.123	NA	NA
2,3,5-TriCB + 2',3,5-TriCB	pg/g	<0.017	<0.0172	0.101	NA	NA	<0.0101	<0.0095	0.101	NA	NA
2,3,6-TriCB + 2,3',6-TriCB	pg/g	<0.0259	<0.0262	0.139	NA	NA	<0.0154	<0.0145	0.139	NA	NA
2,3',4-TriCB	pg/g	<0.017	<0.0172	0.0827	NA	NA	<0.0101	<0.0095	0.0827	NA	NA
2,3',5-TriCB	pg/g	<0.017	<0.0172	0.0818	NA	NA	<0.0101	<0.0095	0.0818	NA	NA
2,4,4'-TriCB	pg/g	<0.0164	<0.0167	0.0931	NA	NA	<0.0098	<0.0092	0.0931	NA	NA
2,4,5-TriCB	pg/g	<0.017	<0.0172	0.0898	NA	NA	<0.0101	<0.0095	0.0898	NA	NA
2,4,6-TriCB	pg/g	<0.0259	<0.0262	0.0925	NA	NA	<0.0154	<0.0145	0.0925	NA	NA
2,4',5-TriCB	pg/g	<0.017	<0.0172	0.0737	NA	NA	<0.0101	<0.0095	0.0737	NA	NA
3,3',4-TriCB	pg/g	<0.0152	<0.0152	0.0839	NA	NA	<0.0176	<0.0251	0.0839	NA	NA
3,3',5-TriCB	pg/g	<0.0136	<0.0136	0.0847	NA	NA	<0.0157	<0.0224	0.0847	NA	NA
3,4,4'-TriCB	pg/g	<0.0152	<0.0152	0.0786	NA	NA	<0.0176	<0.0251	0.0786	NA	NA
3,4,5-TriCB	pg/g	<0.0152	<0.0152	0.0785	NA	NA	<0.0176	<0.0251	0.0785	NA	NA

APPENDIX F
Field Quality Assurance/Quality Control Summary Table
AIWWTP - Sediment Characterization to Support a Potential Disposal at Sea Application

Sample Name		SDS-3	DUP-1				SDS-11	DUP-3			
Date Sampled	Units	28-Mar-2017	28-Mar-2017	Reported Detection	Mean	Relative Percent Difference	30-Mar-2017	30-Mar-2017	Reported Detection	Mean	Relative Percent
3,4',5-TriCB	pg/g	<0.0136	<0.0136	0.084	NA	NA	<0.0157	<0.0224	0.084	NA	NA
2,2',3,3'-TeCB	pg/g	<0.0241	<0.026	0.092	NA	NA	<0.0211	<0.0266	0.092	NA	NA
2,2',3,4-TeCB + 2,3,4',6-TeCB + 2,3',4,5'-TeCB + 2,3',4',6-T	pg/g	<0.0168	<0.0232	0.0827	NA	NA	<0.0161	<0.0138	0.0827	NA	NA
2,2',3,4'-TeCB + 2,3,3',6-TeCB	pg/g	<0.0168	<0.0232	0.0879	NA	NA	<0.0161	<0.0138	0.0879	NA	NA
2,2',3,5-TeCB + 2,2',4,5'-TeCB	pg/g	<0.0127	<0.0175	0.0832	NA	NA	<0.0121	<0.0104	0.0832	NA	NA
2,2',3,5'-TeCB	pg/g	<0.0168	<0.0232	0.0852	NA	NA	<0.0161	<0.0138	0.0852	NA	NA
2,2',3,6-TeCB	pg/g	<0.0145	<0.02	0.0977	NA	NA	<0.0139	<0.0119	0.0977	NA	NA
2,2',3,6'-TeCB	pg/g	<0.0145	<0.02	0.103	NA	NA	<0.0139	<0.0119	0.103	NA	NA
2,2',4,4'-TeCB + 2,2',4,5-TeCB + 2,4,4',6-TeCB	pg/g	<0.0145	<0.02	0.112	NA	NA	<0.0139	<0.0119	0.112	NA	NA
2,2',4,6-TeCB	pg/g	<0.011	<0.0152	0.0867	NA	NA	<0.0106	<0.0091	0.0867	NA	NA
2,2',4,6'-TeCB	pg/g	<0.0145	<0.02	0.0943	NA	NA	<0.0139	<0.0119	0.0943	NA	NA
2,2',5,5'-TeCB + 2,3',5',6-TeCB	pg/g	<0.0145	<0.02	0.11	NA	NA	<0.0139	<0.0119	0.11	NA	NA
2,2',5,6'-TeCB	pg/g	<0.0145	<0.02	0.0991	NA	NA	<0.0139	<0.0119	0.0991	NA	NA
2,2',6,6'-TeCB	pg/g	<0.011	<0.0152	0.0822	NA	NA	<0.0106	<0.0091	0.0822	NA	NA
2,3,3',4-TeCB	pg/g	<0.0132	<0.0142	0.090	NA	NA	<0.0115	<0.0145	0.090	NA	NA
2,3,3',4'-TeCB + 2,3,4,4'-TeCB	pg/g	<0.0132	<0.0142	0.0895	NA	NA	<0.0115	<0.0145	0.0895	NA	NA
2,3,3',5-TeCB	pg/g	<0.0241	<0.026	0.0746	NA	NA	<0.0211	<0.0266	0.0746	NA	NA
2,3,3',5'-TeCB	pg/g	<0.0241	<0.026	0.14	NA	NA	<0.0211	<0.0266	0.14	NA	NA
2,3,4,5-TeCB + 2,4,4',5-TeCB	pg/g	<0.0128	<0.0138	0.143	NA	NA	<0.0112	<0.0142	0.143	NA	NA
2,3,4,6-TeCB + 2,3,5,6-TeCB	pg/g	<0.0145	<0.02	0.125	NA	NA	<0.0139	<0.0119	0.125	NA	NA
2,3,4',5-TeCB	pg/g	<0.0128	<0.0138	0.133	NA	NA	<0.0112	<0.0142	0.133	NA	NA
2,3',4,4'-TeCB + 3,3',5,5'-TeCB	pg/g	<0.0128	<0.0138	0.0718	NA	NA	<0.0112	<0.0142	0.0718	NA	NA
2,3',4,5-TeCB	pg/g	<0.0241	<0.026	0.14	NA	NA	<0.0211	<0.0266	0.14	NA	NA
2,3',4,6-TeCB	pg/g	<0.0145	<0.02	0.13	NA	NA	<0.0139	<0.0119	0.13	NA	NA
2,3',4',5-TeCB + 2',3,4,5-TeCB	pg/g	<0.0128	<0.0138	0.122	NA	NA	<0.0112	<0.0142	0.122	NA	NA
2,3',5,5'-TeCB	pg/g	<0.0168	<0.0232	0.0705	NA	NA	<0.0161	<0.0138	0.0705	NA	NA
3,3',4,4'-TeCB	pg/g	<0.012	<0.0243	0.131	NA	NA	<0.0125	<0.0136	0.131	NA	NA
3,3',4,5-TeCB	pg/g	<0.012	<0.0243	0.113	NA	NA	<0.0125	<0.0136	0.113	NA	NA
3,3',4,5'-TeCB	pg/g	<0.012	<0.0243	0.122	NA	NA	<0.0125	<0.0136	0.122	NA	NA
3,4,4',5-TeCB	pg/g	<0.012	<0.0243	0.124	NA	NA	<0.0125	<0.0136	0.124	NA	NA
2,2',3,3',4-PeCB	pg/g	<0.0226	<0.0154	0.0735	NA	NA	<0.0124	<0.0272	0.0735	NA	NA
2,2',3,3',5-PeCB + 2,3,3',4,5'-PeCB	pg/g	<0.0203	<0.0172	0.129	NA	NA	<0.0137	<0.0213	0.129	NA	NA
2,2',3,3',6-PeCB	pg/g	<0.0173	<0.0147	0.135	NA	NA	<0.0117	<0.0181	0.135	NA	NA
2,2',3,4,4'-PeCB + 2,3',4,5,5'-PeCB	pg/g	<0.0226	<0.0154	0.109	NA	NA	<0.0124	<0.0272	0.109	NA	NA
2,2',3,4,5-PeCB + 2,2',3',4,5-PeCB	pg/g	<0.0226	<0.0154	0.124	NA	NA	<0.0124	<0.0272	0.124	NA	NA
2,2',3,4,5'-PeCB + 2,3,4,4',6-PeCB + 2,3,4,5,6-PeCB	pg/g	<0.0226	<0.0154	0.133	NA	NA	<0.0124	<0.0272	0.133	NA	NA
2,2',3,4,6-PeCB + 2,3',4,5',6-PeCB	pg/g	<0.0159	<0.0135	0.145	NA	NA	<0.0107	<0.0167	0.145	NA	NA
2,2',3,4,6'-PeCB + 2,2',3,4',5-PeCB + 2,2',4,5,5'-PeCB	pg/g	<0.0173	<0.0147	0.133	NA	NA	<0.0117	<0.0181	0.133	NA	NA
2,2',3,4',6-PeCB	pg/g	<0.0159	<0.0135	0.147	NA	NA	<0.0107	<0.0167	0.147	NA	NA
2,2',3,5,5'-PeCB	pg/g	<0.0173	<0.0147	0.109	NA	NA	<0.0117	<0.0181	0.109	NA	NA
2,2',3,5,6-PeCB + 2,2',3,5',6-PeCB	pg/g	<0.0159	<0.0135	0.113	NA	NA	<0.0107	<0.0167	0.113	NA	NA
2,2',3,5,6'-PeCB	pg/g	<0.0159	<0.0135	0.128	NA	NA	<0.0107	<0.0167	0.128	NA	NA
2,2',3,6,6'-PeCB	pg/g	<0.0159	<0.0135	0.139	NA	NA	<0.0107	<0.0167	0.139	NA	NA
2,2',3',4,6-PeCB + 2,2',4,5,6'-PeCB	pg/g	<0.0159	<0.0135	0.112	NA	NA	<0.0107	<0.0167	0.112	NA	NA
2,2',4,4',5-PeCB	pg/g	<0.0158	<0.0135	0.131	NA	NA	<0.0107	<0.0166	0.131	NA	NA
2,2',4,4',6-PeCB	pg/g	<0.0159	<0.0135	0.125	NA	NA	<0.0107	<0.0167	0.125	NA	NA
2,2',4,5',6-PeCB	pg/g	<0.0159	<0.0135	0.138	NA	NA	<0.0107	<0.0167	0.138	NA	NA
2,2',4,6,6'-PeCB	pg/g	<0.0132	<0.0112	0.0779	NA	NA	<0.0089	<0.0139	0.0779	NA	NA
2,3,3',4,4'-PeCB + 3,3',4,5,5'-PeCB	pg/g	<0.0157	<0.0107	0.113	NA	NA	<0.0086	<0.0189	0.113	NA	NA
2,3,3',4,5-PeCB + 2,3',4,4',5-PeCB	pg/g	<0.0157	<0.0098	0.0781	NA	NA	<0.0083	<0.0188	0.0781	NA	NA
2,3,3',4',5-PeCB + 2,3,3',4,6-PeCB	pg/g	<0.0156	<0.0106	0.207	NA	NA	<0.0086	<0.0188	0.207	NA	NA
2,3,3',4',6-PeCB	pg/g	<0.0156	<0.0106	0.187	NA	NA	<0.0086	<0.0188	0.187	NA	NA
2,3,3',5,5'-PeCB	pg/g	<0.0226	<0.0154	0.207	NA	NA	<0.0124	<0.0272	0.207	NA	NA
2,3,3',5,6-PeCB	pg/g	<0.0203	<0.0172	0.182	NA	NA	<0.0137	<0.0213	0.182	NA	NA
2,3,3',5',6-PeCB	pg/g	<0.0173	<0.0147	0.0988	NA	NA	<0.0117	<0.0181	0.0988	NA	NA
2,3,4,4',5-PeCB	pg/g	<0.0153	<0.0104	0.0966	NA	NA	<0.0084	<0.0184	0.0966	NA	NA
2,3',4,4',6-PeCB	pg/g	<0.0158	<0.0135	0.0966	NA	NA	<0.0107	<0.0166	0.0966	NA	NA
2',3,3',4,5-PeCB	pg/g	<0.0153	<0.0104	0.199	NA	NA	<0.0084	<0.0184	0.199	NA	NA
2',3,4,4',5-PeCB	pg/g	<0.0157	<0.0098	0.199	NA	NA	<0.0083	<0.0188	0.199	NA	NA
2',3,4,5,5'-PeCB	pg/g	<0.0156	<0.0106	0.0893	NA	NA	<0.0086	<0.0188	0.0893	NA	NA
2',3,4,5,6'-PeCB	pg/g	<0.0226	<0.0154	0.101	NA	NA	<0.0124	<0.0272	0.101	NA	NA
3,3',4,4',5-PeCB	pg/g	<0.0172	<0.0117	0.214	NA	NA	<0.0095	<0.0207	0.214	NA	NA
2,2',3,3',4,4'-HxCB	pg/g	<0.013	<0.0119	0.214	NA	NA	<0.0078	<0.0134	0.214	NA	NA
2,2',3,3',4,5-HxCB	pg/g	<0.013	<0.0119	0.216	NA	NA	<0.0078	<0.0134	0.216	NA	NA
2,2',3,3',4,5'-HxCB	pg/g	<0.013	<0.0119	0.194	NA	NA	<0.0078	<0.0134	0.194	NA	NA
2,2',3,3',4,6-HxCB + 2,2',3,4,5,6-HxCB	pg/g	<0.0126	<0.0087	0.148	NA	NA	<0.0104	<0.0109	0.148	NA	NA
2,2',3,3',4,6'-HxCB + 2,3',4,4',5',6-HxCB	pg/g	<0.0115	<0.0105	0.146	NA	NA	<0.0069	<0.0119	0.146	NA	NA
2,2',3,3',5,5'-HxCB	pg/g	<0.0126	<0.0087	0.186	NA	NA	<0.0104	<0.0109	0.186	NA	NA
2,2',3,3',5,6-HxCB + 2,2',3,4,5,6'-HxCB	pg/g	<0.0126	<0.0087	0.175	NA	NA	<0.0104	<0.0109	0.175	NA	NA
2,2',3,3',5,6'-HxCB + 2,2',3,4,5',6-HxCB	pg/g	<0.0126	<0.0087	0.181	NA	NA	<0.0104	<0.0109	0.181	NA	NA
2,2',3,3',6,6'-HxCB	pg/g	<0.0126	<0.0087	0.165	NA	NA	<0.0104	<0.0109	0.165	NA	NA
2,2',3,4,4',5-HxCB	pg/g	<0.013	<0.0119	0.177	NA	NA	<0.0078	<0.0134	0.177	NA	NA
2,2',3,4,4',5'-HxCB + 2,3,3',4',5,6-HxCB + 2,3,3',4',5',6-HxCB	pg/g	<0.013	<0.0119	0.12	NA	NA	<0.0078	<0.0134	0.12	NA	NA
2,2',3,4,4',6-HxCB + 2,2',3,4',5',6-HxCB	pg/g	<0.0126	<0.0087	0.0906	NA	NA	<0.0104	<0.0109	0.0906	NA	NA
2,2',3,4,4',6'-HxCB	pg/g	<0.0126	<0.0087	0.178	NA	NA	<0.0104	<0.0109	0.178	NA	NA
2,2',3,4,5,5'-HxCB	pg/g	<0.013	<0.0119	0.16	NA	NA	<0.0078	<0.0134	0.16	NA	NA
2,2',3,4,6,6'-HxCB	pg/g	<0.0126	<0.0087	0.163	NA	NA	<0.0104	<0.0109	0.163	NA	NA
2,2',3,4',5,5'-HxCB	pg/g	<0.0112	<0.0077	0.18	NA	NA	<0.0092	<0.0096	0.18	NA	NA
2,2',3,4',5,6-HxCB	pg/g	<0.0126	<0.0087	0.123	NA	NA	<0.0104	<0.0109	0.123	NA	NA
2,2',3,4',5,6'-HxCB	pg/g	<0.0126	<0.0087	0.0976	NA	NA	<0.0104	<0.0109	0.0976	NA	NA
2,2',3,4',6,6'-HxCB	pg/g	<0.0126	<0.0087	0.146	NA	NA	<0.0104	<0.0109	0.146	NA	NA
2,2',3,5,5',6-HxCB	pg/g	<0.0138	<0.0096	0.157	NA	NA	<0.0114	<0.0119	0.157	NA	NA
2,2',3,5,6,6'-HxCB	pg/g	<0.0126	<0.0087	0.125	NA	NA	<0.0104	<0.0109	0.125	NA	NA
2,2',4,4',5,5'-HxCB	pg/g	<0.0115	<0.0105	0.0929	NA	NA	<0.0069	<0.0119	0.0929	NA	NA
2,2',4,4',5,6'-HxCB	pg/g	<0.0126	<0.0087	0.0847	NA	NA	<0.0104	<0.0109	0.0847	NA	NA
2,2',4,4',6,6'-HxCB	pg/g	<0.008	<0.0055	0.13	NA	NA	<0.0066	<0.0069	0.13	NA	NA
2,3,3',4,4',5-HxCB	pg/g	<0.0102	<0.0093	0.0749	NA	NA	<0.0061	<0.0105	0.0749	NA	NA
2,3,3',4,4',5'-HxCB	pg/g	<0.0105	<0.0096	0.143	NA	NA	<0.0064	<0.0109	0.143	NA	NA
2,3,3',4,4',6-HxCB + 2,3,3',4,5,6-HxCB	pg/g	<0.013	<0.0119	0.116	NA	NA	<0.0078	<0.0134	0.116	NA	NA
2,3,3',4,5,5'-HxCB	pg/g	<0.013	<0.0119	0.123	NA	NA	<0.0078	<0.0134	0.123	NA	NA
2,3,3',4,5',6-HxCB	pg/g	<0.0112	<0.0077	0.122	NA	NA	<0.0092	<0.0096	0.122	NA	NA
2,3,3',4',5,5'-HxCB	pg/g	<0.013	<0.0119	0.126	NA	NA	<0.0078	<0.0134	0.126	NA	NA
2,3,3',5,5',6-HxCB	pg/g	<0.0112	<0.0077	0.122	NA	NA	<0.0092	<0.0096	0.122	NA	NA
2,3,4,4',5,6-HxCB	pg/g	<0.013	<0.0119	0.139	NA	NA	<0.0078	<0.0134	0.139	NA	NA
2,3',4,4',5,5'-HxCB	pg/g	<0.0099	<0.009	0.12	NA	NA	<0.0059	<0.0102	0.12	NA	NA
3,3',4,4',5,5'-HxCB	pg/g	<0.0109	<0.01	0.127	NA	NA	<0.0066	<0.0112	0.127	NA	NA
2,2',3,3',4,4',5-HpCB + 2,3,3',4,4',5,6-HpCB	pg/g	<0.0173	<0.0114	0.181	NA	NA	<0.017	<0.0115	0.181	NA	NA
2,2',3,3',4,4',6-HpCB	pg/g	<0.0139	<0.0092	0.191	NA	NA	<0.0137	<0.0092	0.191	NA	NA
2,2',3,3',4,5,5'-HpCB + 2,3,3',4,5,5',6-HpCB	pg/g	<0.0139	<0.0092	0.192	NA	NA	<0.0137	<0.0092	0.192	NA	NA
2,2',3,3',4,5,6-HpCB	pg/g	<0.0139	<0.0092	0.182	NA	NA	<0.0137	<0.0092	0.182	NA	NA
2,2',3,3',4,5,6'-HpCB + 2,2',3,4,4',5,6-HpCB	pg/g	<0.0129	<0.0085	0.171	NA	NA	<0.0127	<0.0085	0.171	NA	NA
2,2',3,3',4,5',6-HpCB	pg/g	<0.0135	<0.0089	0.131	NA	NA	<0.0133	<0.0089	0.131	NA	NA
2,2',3,3',4,6,6'-HpCB	pg/g	<0.0101	<0.0067	0.187	NA	NA	<0.0099	<0.0067	0.187	NA	NA
2,2',3,3',4',5,6-HpCB	pg/g	<0.0129	<0.0085	0.175	NA	NA	<0.0127	<0.0085	0.175	NA	NA
2,2',3,3',5,5',6-HpCB	pg/g	<0.0135	<0.0089	0.126	NA	NA	<0.0133	<0.0089	0.126	NA	NA
2,2',3,3',5,6,6'-HpCB	pg/g	<0.0101	<0.0067	0.144	NA	NA	<0.0099	<0.0067	0.144	NA	NA

Field Quality Assurance/Quality Control Summary Table
AIWWTP - Sediment Characterization to Support a Potential Disposal at Sea Application

Sample Name / Date Sampled	Units	SDS-3 28-Mar-2017	DUP-1 28-Mar-2017	Reported Detection	Mean	Relative Percent Difference	SDS-11 30-Mar-2017	DUP-3 30-Mar-2017	Reported Detection	Mean	Relative Percent
2,2',3,4,4',5,5'-HpCB	pg/g	<0.0139	<0.0092	0.183	NA	NA	<0.0137	<0.0092	0.183	NA	NA
2,2',3,4,4',5,6'-HpCB + 2,2',3,4',5,5',6-HpCB	pg/g	<0.0135	<0.0089	0.173	NA	NA	<0.0133	<0.0089	0.173	NA	NA
2,2',3,4,4',5',6-HpCB	pg/g	<0.0129	<0.0085	0.179	NA	NA	<0.0127	<0.0085	0.179	NA	NA
2,2',3,4,4',6,6'-HpCB	pg/g	<0.0101	<0.0067	0.125	NA	NA	<0.0099	<0.0067	0.125	NA	NA
2,2',3,4,5,5',6-HpCB	pg/g	<0.0129	<0.0085	0.138	NA	NA	<0.0127	<0.0085	0.138	NA	NA
2,2',3,4,5,6,6'-HpCB	pg/g	<0.0135	<0.0089	0.171	NA	NA	<0.0133	<0.0089	0.171	NA	NA
2,2',3,4',5,6,6'-HpCB	pg/g	<0.0101	<0.0067	0.119	NA	NA	<0.0099	<0.0067	0.119	NA	NA
2,3,3',4,4',5,5'-HpCB	pg/g	<0.0115	<0.0076	0.143	NA	NA	<0.0113	<0.0076	0.143	NA	NA
2,3,3',4,4',5',6-HpCB	pg/g	<0.0139	<0.0092	0.145	NA	NA	<0.0137	<0.0092	0.145	NA	NA
2,3,3',4',5,5',6-HpCB	pg/g	<0.0139	<0.0092	0.139	NA	NA	<0.0137	<0.0092	0.139	NA	NA
2,2',3,3',4,4',5,5'-OcCB	pg/g	<0.0158	<0.0125	0.16	NA	NA	<0.0118	<0.0219	0.16	NA	NA
2,2',3,3',4,4',5,6-OcCB	pg/g	<0.0158	<0.0125	0.175	NA	NA	<0.0118	<0.0219	0.175	NA	NA
2,2',3,3',4,4',5,6'-OcCB + 2,2',3,4,4',5,5',6-OcCB	pg/g	<0.0154	<0.0122	0.197	NA	NA	<0.0115	<0.0214	0.197	NA	NA
2,2',3,3',4,4',6,6'-OcCB	pg/g	<0.0093	<0.0074	0.154	NA	NA	<0.007	<0.013	0.154	NA	NA
2,2',3,3',4,5,5',6-OcCB	pg/g	<0.0154	<0.0122	0.112	NA	NA	<0.0115	<0.0214	0.112	NA	NA
2,2',3,3',4,5,5',6'-OcCB	pg/g	<0.0154	<0.0122	0.16	NA	NA	<0.0115	<0.0214	0.16	NA	NA
2,2',3,3',4,5,6,6'-OcCB	pg/g	<0.0093	<0.0074	0.113	NA	NA	<0.007	<0.013	0.113	NA	NA
2,2',3,3',4,5',6,6'-OcCB	pg/g	<0.0093	<0.0074	0.128	NA	NA	<0.007	<0.013	0.128	NA	NA
2,2',3,3',5,5',6,6'-OcCB	pg/g	<0.0117	<0.0093	0.15	NA	NA	<0.0087	<0.0162	0.15	NA	NA
2,2',3,4,4',5,6,6'-OcCB	pg/g	<0.0093	<0.0074	0.116	NA	NA	<0.007	<0.013	0.116	NA	NA
2,3,3',4,4',5,5',6-OcCB	pg/g	<0.0118	<0.0094	0.153	NA	NA	<0.0088	<0.0164	0.153	NA	NA
2,2',3,3',4,4',5,5',6-NoCB	pg/g	<0.0244	<0.0188	0.264	NA	NA	<0.0132	<0.0227	0.264	NA	NA
2,2',3,3',4,4',5,6,6'-NoCB	pg/g	<0.0203	<0.0156	0.191	NA	NA	<0.0109	<0.0188	0.191	NA	NA
2,2',3,3',4,5,5',6,6'-NoCB	pg/g	<0.0203	<0.0156	0.201	NA	NA	<0.0109	<0.0188	0.201	NA	NA
2,2',3,3',4,4',5,5',6,6'-DeCB	pg/g	<0.0118	<0.0109	0.173	NA	NA	<0.01	<0.0082	0.173	NA	NA

Notes

RPD = Relative Percent Difference = 100% x [(Difference of replicates)/(mean of replicates)]

Relative Percent Difference (RPD) is calculated when the mean value is greater than five times the lowest detection limit; a target value of 20% is used to identify possible differences between original and duplicate samples while an RPD value of ±50% is used to identify definite differences between the original and duplicate samples.

Reported detection limit indicates the minimum concentration that could be measured by laboratory instrumentation for a specific sample.

Mean indicates the mean or average value calculated of a field duplicate pair (the FDA and the FD).

NA = not applicable; NC = not calculated; SCN = sample control number

Value Indicates the parameter analysed exceeds an RPD of 20%

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