VEOLIA WASTE SERVICES ALBERTA INC.

2023 Fish Tissue Monitoring Program

Swan Hills Treatment Centre

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PROJECT 317011-00057-00-EN-REP-00001 : 2023 Fish Tissue Monitoring Program - Swan Hills Treatment Centre					
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Table of contents

List of Tables in Text

List of Figures in Text

Appendices

Executive Summary

The Swan Hills Treatment Centre (the facility), operated by Veolia Waste Services Alberta Inc. (Veolia), is one of two facilities in Canada capable of effectively destroying polychlorinated biphenyls (PCBs) using incineration. Notably, the goal of the Alberta government is to have all PCBs disposed of by 2025, therefore PCB quantities requiring destruction is expected to decrease in upcoming years. As part of its operating approval, Veolia carries out an annual environmental monitoring program that includes collection and analysis of fish tissue from lakes near the facility, as part of the Fish Tissue Monitoring Program (FTMP). Worley Canada Services Ltd. operating as Worley Consulting, was retained by Veolia to sample fish tissue in 2023. The FTMP is summarized below and presented in detail in the following report.

Background Information

The annual monitoring program includes collection and chemical analysis of brook trout tissue from Chrystina Lake and Edith Lake to assess potential fish tissue contamination and fish health. Chrystina Lake is the main study lake since it is closer (1.5 km) and down-wind to the facility, whereas Edith Lake is farther away and upwind. It is used as a local reference for the FTMP. Both lakes are open year-round to recreational fishing and are stocked each spring with brook trout from the Raven Brood Trout Station near Caroline, Alberta. In previous years stocked trout have been provided by the Cold Lake Fish Hatchery (CLFH) but this location has been closed for renovations and was unable to provide fish since 2022. Stocked brook trout have been implanted with coded wire tags (CWTs) each year since 2012 to provide definitive ages. These tags are 1.1 mm long, biologically inert, stainless-steel tags that are imprinted with codes specific to each stocking year and are implanted into the fish snouts before stocking. Tissue samples from both lakes were separated by age and analyzed for contaminants of concern (COC) listed in Table E-1. Historically, PCBs drive toxicity levels in Chrystina Lake brook trout and are the main COC associated with the facility. There currently is an Alberta Health advisory recommending that consumption of brook trout captured from within 20 km of Swan Hills be kept to only two servings (75 grams/serving) per week.

Table E-1: Contaminants of Concern Measured during the 2023 FTMP

Metals	Organics
Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silver, Sodium, Thallium, Uranium, Vanadium, Zinc	Polychlorinated Biphenyls (PCB) Dioxins Furans

2023 Program Objectives

Brook trout were captured from Chrystina and Edith lakes in mid-September. Chemical concentrations in brook trout from Chrystina Lake were compared with applicable guidelines, historical ranges, and concentrations in Edith Lake brook trout (reference condition), to investigate potential effects of the facility on fish in nearby waterbodies. In previous years fish from the hatchery were acquired to act as a control group but these fish were unable to be procured for the 2023 season. Objectives of the 2023 monitoring programs include:

- evaluating brook trout size and condition to detect possible effects of chemical stressors near the facility;
- comparing PCB concentrations among brook trout age classes in Chrystina and Edith lakes to investigate possible COC accumulation and health impacts; and
- identifying key recommendations to improve the effectiveness and reliability of the FTMP.

Tissue Residue Quality Criteria

The toxicity of dioxins, furans, and dioxin-like PCBs occurs through similar physiological processes therefore the toxicity of these compounds can be quantified by combining their respective toxic effects into a single toxic equivalency (TEQ). The TEQ approach uses the toxic equivalence factor (TEF) method, which is based on the concept of dose addition where the toxicity of individual dioxin and dioxin-like compounds in a mixture is combined into the single TEQ metric that can be used to facilitate risk assessment and regulatory control. The TEQs calculated during the FTMP are based on the 2005 World Health Organization (WHO) TEFs for mammals that express the toxicity of each dioxin, furan, and dioxin-like PCB relative to the most toxic form of dioxin.

Guidelines and toxicological thresholds applicable to the FTMP are summarized in Table E-2. The Canadian Council of Ministers of the Environment (CCME) guidelines and tissue residue benchmarks (TRB) for dioxins, furans, and dioxin-like PCBs set tissue residue criteria based on TEQ and provide context for concentrations of organic contaminants in Chrystina Lake brook trout. The CCME guidelines provide stringent criteria to protect wildlife consumers of aquatic biota and are protective of the most sensitive wildlife consumers of fish (i.e. mink). The TRBs assist in evaluating the potential of PCBs to cause adverse effects on Chrystina Lake brook trout.

The Great Lakes region has one of the longest running PCB monitoring programs in the world and the region continues to be impacted by elevated PCB concentrations because of historical PCB use. Fish consumption advisory limits in the region, based on total PCB concentrations in edible tissue, are outlined in the *Binational Strategy for Polychlorinated Biphenyl (PCB) Risk Management.* Canada's federal quality criterion for total PCBs is under review and orders of magnitude above tissue concentrations in brook trout near the facility, and there is no provincial guideline for total PCBs. Therefore, total PCB concentrations in the edible tissue of brook trout collected during the FTMP are compared with the consumption advisory levels established for the Great Lakes region. The advisory level for unrestricted consumers (0.05 µg/g) is the most stringent consumption limit and is protective of individuals that consume over 225 meals of wild caught fish per year.

Toxicological thresholds have been developed for eleven metals from the Society of Environmental Toxicology and Chemistry (SETAC) toxicity database based on previously reported no observable effect concentrations (NOEC). The NOEC represents the highest concentration of a contaminant that will not cause an adverse effect. In addition, maximum levels for contaminant concentrations established by Health Canada under the *Food and Drug Regulations* are used to evaluate concentrations of arsenic, lead, and mercury in Chrystina Lake brook trout relative to limits imposed on retail foods.

Table E-2: Tissue Residue Quality Criteria for the FTMP

Guideline/Benchmark	Source	Applicable COC	Protection
Great Lakes Consumption Advisory Levels (2018)	Binational Strategy for Polychlorinated Biphenyl (PCB) Risk Management	Total PCBs	Protection of human fish consumers
CCME (2001)	Canadian Council of Ministers of the Environment (CCME) - Tissue Residue Guidelines	PCBs Dioxins/Furans	Protection of wildlife consumers of aquatic biota
Tissue Residue Benchmarks (TRB)	TRB for Aquatic Biota derived for TCDD and Equivalents (Steevens et al. 2005)	PCBs Dioxins/Furans	Benchmarks derived for protection of: 99% of fish species present 95% of fish species present 90% of fish species present
SETAC (1999)	Society of Toxicology and Chemistry - Linkage of effects to Tissue Residues Database	Aluminum, Antimony, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Zinc	No Observable Effect Concentrations (NOEC) for salmonid fish species
Health Canada (2020)	*List of Maximum Levels for Various Chemical Contaminants in Foods* and *List of Contaminants and Other Adulterating Substances in Foods*	Arsenic, Lead, Mercury TCDD	Maximum Levels (ML) for chemical contaminants in retail foods
GOA 2018	Alberta Surface Water Quality Guidelines – Tissue Residue Guideline	Selenium	Fish protection from adverse effects

Fish Characteristics

Brook trout condition and average fork length in 2023 in both lakes remains consistent with previous years and does not suggest detrimental effects on growth at the whole-body level. The average brook trout condition in Chrystina and Edith Lake continues to be approximately 1.2 and 1.16, respectively, which most recreational fishers would deem sufficient. The Catch Per Unit Effort (CPUE) was lower in 2023 compared with previous years, with Edith Lake having the lowest CPUE since 2018. Although the catch rates were lower, and no individuals were captured with a fork length over 400mm, the size of brook trout captured was overall higher than it was during the 2022 FTMP. The brook trout collected in 2023 from Edith Lake were the largest on average captured since 2003. No known brook trout over 3^+ years old were collected from Chrystina Lake, although a wider range of age classes were captured from Edith Lake with 4^+ and 6^+ year-olds being captured. Two fish who did not have CWT were captured within Chrystina Lake who had body sizes large enough to possibly fit them into older age classes. Older age classes are particularly beneficial for the FTMP given that these age classes improve analyses designed to estimate the rate of PCB accumulation in Chrystina Lake by extending reconstructed life-histories. The composition of samples analyzed each year depend on the age distribution of brook trout captured. Samples analyzed as part of the 2023 FTMP are summarized in Table E-3.

Table E-3: Composition of Samples Analyzed during the 2023 Monitoring Program

Age Class	Chrystina Lake (CHBKTR)	Edith Lake (EDBKTR)
0+	---	---
1+	*Composite (5 fish)*	*Composite (2 fish)*
2+	*Composite (2 fish)*	*Composite (3 fish)*
3+	*Composite (5 fish)*	*Composite (5 fish)*
4+	---	*Composite (5 fish)*
5+	---	---
6+	---	*Composite (3 fish)*
UNK A	Individual	---
UNK B	Individual	---

Polychlorinated Biphenyl (PCB) Tissue Residues

Total PCB concentrations in 2023 for Chrystina Lake and Edith Lake are provided along with historical data in Figure E-1. Each measurement since 2006 is provided as a single point (concentrations for duplicate samples averaged) with green points representing more recent data and blue representing old PCB concentrations. Total PCB concentrations for 2023 (red) are provided as single points, while mean concentrations for each age class are represented by a horizontal (mean) and vertical (standard error) black line (Figure E-1).

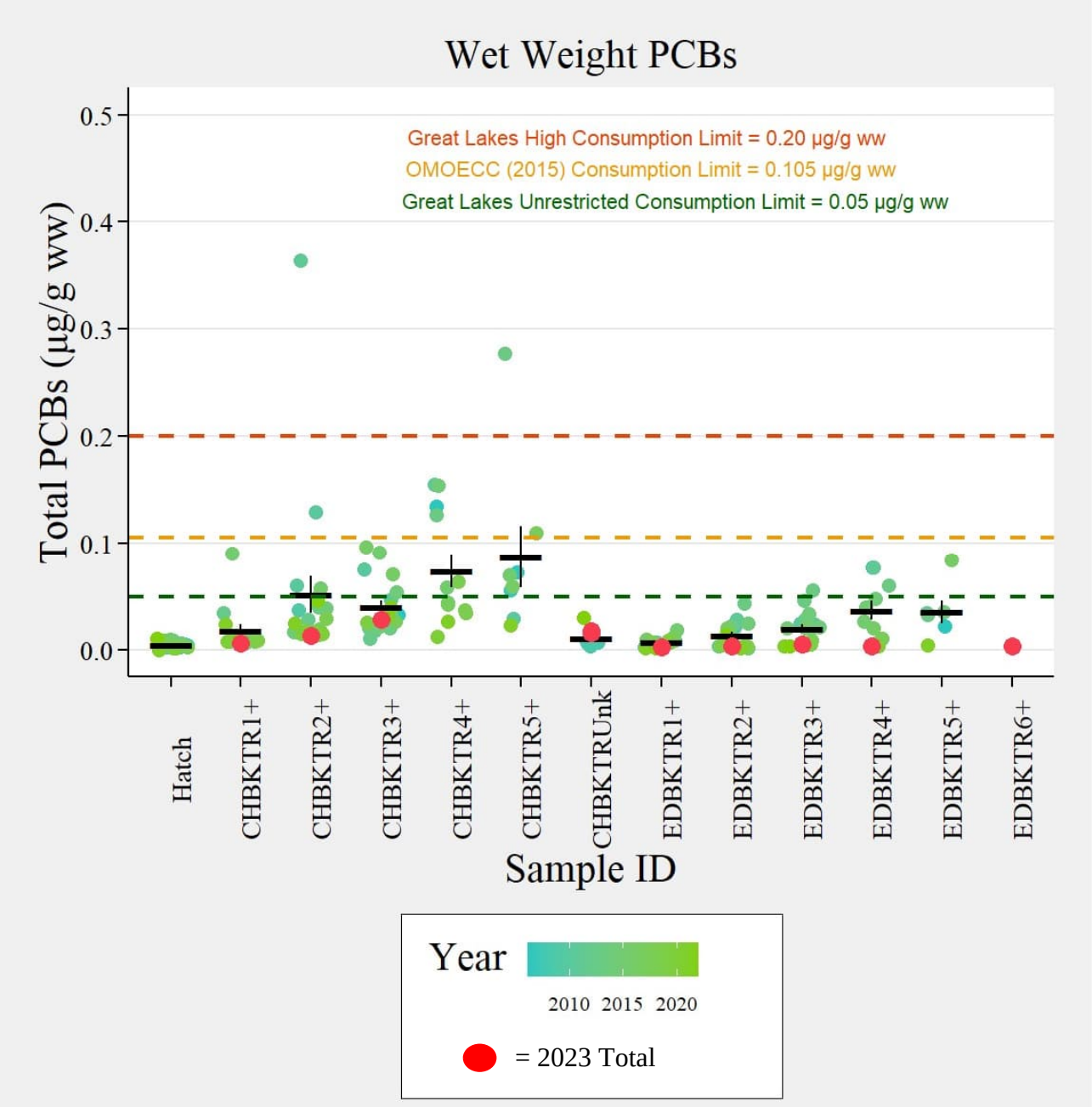

Figure E-1: Average Total PCB Concentrations in Chrystina and Edith Lake Brook Trout (2006 to 2023)

Total PCB concentrations in Chrystina Lake brook trout dropped from the 2022 results in 2023. In contrast, Edith Lake saw increased PCB concentrations in all age classes except for the 2^{+} year-olds which had also decreased. All wet weight total PCB concentrations measured in 2023 remain below the consumption limit for unrestricted consumers established for the Great Lakes area for both lakes (Figure E-1). Three of the congeners tested from the 1+ year old age class from Chrystina Lake presented values that were under the historical minimums from previous years samples.

PCBs are lipophilic meaning that they preferentially accumulate in fatty tissue. Fish with a higher lipid content are therefore expected to accumulate PCBs more readily than leaner fish. The total PCB content was therefore normalized to the lipid content of each brook trout sample to minimize variability introduced by differences in lipid content between individual fish. Average lipid normalized PCB content continues to significantly decrease in Edith Lake brook trout since 2012 based on trend analysis. Although a decreasing trend in total PCBs is observed in Chrystina Lake, this trend was not statistically significant and has a shallower slope that is indicative of PCBs decreasing at a slower rate. Continued monitoring of PCB concentrations is warranted to see if concentrations in Chrystina Lake continue to decrease further as the total PCB processed by the Facility has decreased over time.

Reconstruction of the life-history of a single fish (stocked each year) since 2007 has provided an estimate of PCB accumulation rates in Chrystina Lake and Edith Lake brook trout. This analysis has been refined over the years to minimize variability and sources of error and now uses PCBs 105, 118, 126, and 153 as key indicator congeners. Reconstructed life-history results based on PCB 118 are summarized for cohorts stocked into Chrystina Lake and Edith Lake from 2007 to 2020 in Figure E-2 Plots A and B in Figure E-2 provide the exponential relationships plotted on a log transformed axis therefore they appear linear for each successive cohort in Chrystina Lake (Plot A) and Edith Lake (Plot B). Plots C and D provide the slope parameter for each cohort from 2007 to 2020. Statistically significant relationships are shown in green whereas relationships that are not statistically significant are blue. Since the slope controls how steep the relationship is for each cohort, it is treated as a proxy for the rate of PCB accumulation as brook trout age.

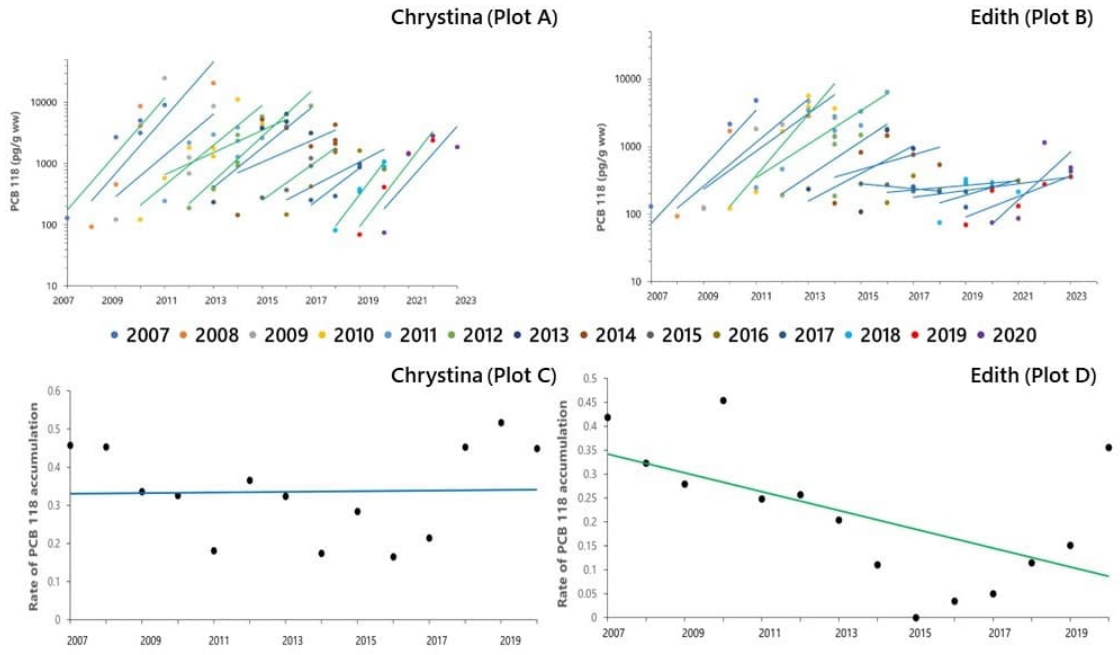

Figure E-2: PCB 118-Based Reconstructed Life-Histories of Brook Trout Stocked into Chrystina Lake and Edith Lake for Cohorts stocked from 2007 to 2020

Overall Toxicity

Dioxins and furans contribute little to overall toxicity historically and concentrations are mostly below detection in 2023 which confirms that toxicity in Chrystina Lake brook trout is primarily driven by PCBs. Consequently, no trends are analyzed for dioxins or furans, and interpretation of these results is limited to incorporation into TEQ calculations.

The PCB-based TEQ remained within the historical range for each age class of Chrystina Lake and Edith Lake brook trout. The PCB-based TEQ decreased in 2023 compared with 2022 in all age classes analyzed from Chrystina Lake and the 3^{+}_year-old age class from Chrystina Lake was the only one to exceed the CCME guideline for PCB-based TEQ in 2023.

The total TEQs of brook trout sampled in 2023 are compared with the CCME guideline, historical ranges, and Edith Lake brook trout in Figure E-3 Additionally, the total TEQ was normalized according to lipid content and the average TEQ of Chrystina Lake, Edith Lake, and hatchery brook trout since 2012 were fit to a logarithmic regression to assess for trends over time (Figure E-4). Lipid normalization of TEQs also enables comparison of tissue concentrations near Swan Hills with TRBs established for the protection of fish from adverse effects. From these results the younger age classes (1^{+} and 2^{+} year-olds) in Chrystina Lake had TEQs below the CCME guideline, while older brook trout ($>3^{+}$ years old) had TEQs over the CCME guideline. Meanwhile, all TEQ concentrations in Edith Lake brook trout were below the CCME guideline in 2023. The average lipid normalized TEQ is decreasing in both lakes between 2012 and 2023 with a decrease observed in Edith Lake compared with Chrystina Lake (Figure E-4). It is important to note that the observed decrease in Edith Lake is considered statistically significant whereas the decrease in Chrystina Lake is not. Lastly, the lipid normalized TEQs in both lakes are below the most conservative TRB which is protective of 99% of fish species including brook trout.

Average TEQ in both lakes has been decreasing since 2012 and this decrease is statistically significant for both lakes despite the increases observed in 2023. When TEQ is lipid normalized the decreasing trend remains statistically significant in Edith Lake but not for Chrystina Lake. The results for TEQ since 2012 therefore reinforce the results from the PCB analysis, which suggest that toxicity and PCB content is decreasing in both lakes and that this decrease is more pronounced in Edith Lake compared with Chrystina Lake.

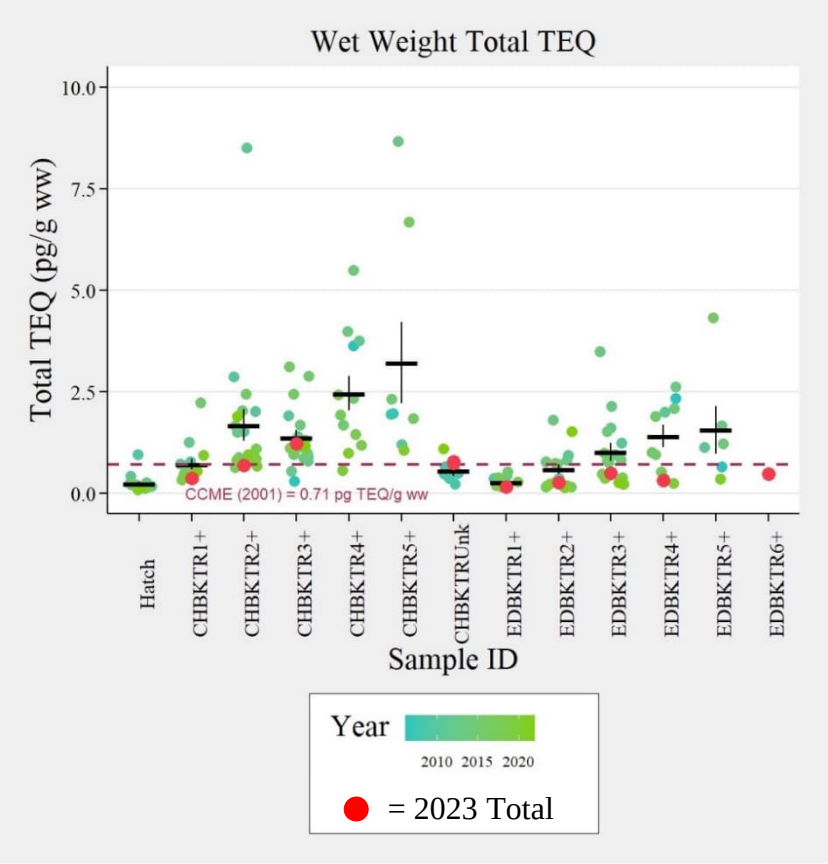

Figure E-3: Historical and 2023 Wet Weight Total TEQs in Brook Trout (2006 to 2023)

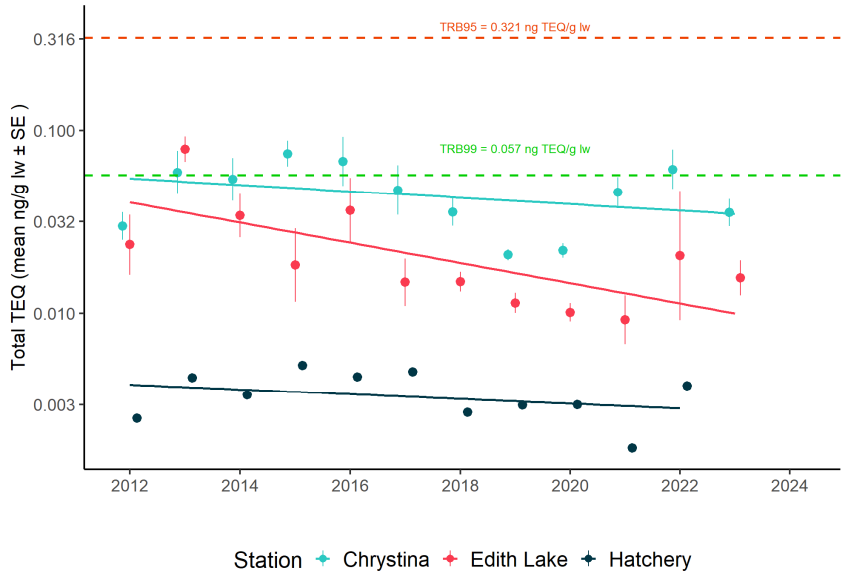

Figure E-4: Average (± standard error) Lipid Normalized Total TEQ in Chrystina and Edith Lake Brook Trout (2012 to 2023)

Other Contaminants and Guidelines

Inorganic and organic concentrations that exceed tissue residue criteria in 2023 are summarized alongside historical range comparisons in Table E-4. Metal concentrations in Chrystina Lake brook trout were primarily within the historical range, no increasing trends were documented for any metals. Zinc was the only metal that exceeded the SETAC threshold concentration in Chrystina Lake or Edith Lake brook trout which is consistent with historical measurements obtained previously during the FTMP. The Health Canada maximum levels for arsenic, lead, and mercury were not exceeded in 2023. Notably, the last metal concentration exceeding a maximum level occurred in 2016 when the mercury concentration of a 5^{+} year-old from Edith Lake had a concentration above the maximum level.

Table E-4: Guideline Exceedances and Historical Comparisons of 2023 Tissue Concentrations

Location / Age Class	Guideline Exceedances	Contaminants Outside Historical Range[1]
Chrystina Lake 1+	Zinc	*Coplanar PCB 81, 167, 189, Chromium, Mercury*
Chrystina Lake 2+	Zinc	*Chromium*
Chrystina Lake 3+	PCB-based TEQ, Total TEQ	*Arsenic, Chromium*
Chrystina Lake (Unk A)	Total TEQ	N/A
Chrystina Lake (Unk B)	Total TEQ	N/A
Edith Lake 1+	Zinc	*Chromium, Coplanar PCB 105*
Edith Lake 2+	Zinc	*Chromium, Sodium*
Edith Lake 3+	Zinc	*Arsenic, Chromium, Iron, Selenium*
Edith Lake 4+	Zinc	*Chromium, Molybdenum*
Edith Lake 6+	Zinc	N/A

Notes:
Guideline exceedances indicate tissue concentrations above SETAC thresholds for metal contaminants and CCME tissue residue guidelines for organic contaminants.
Superscript 1 - Contaminants listed in *italics* indicate that the tissue concentration is below the historical minimum for the corresponding age class.
Superscript 2 – Associated TEQ measurement refers specifically to lipid normalized TEQ values

Abbreviations and Acronyms

Acronym / abbreviation	Definition
AEPA	Alberta Environment and Protected Areas
ALS	ALS Canada Ltd.
CCME	Canadian Council of Ministers of the Environment
CLFH	Cold Lake Fish Hatchery
COC	Contaminant of Concern
CPUE	Catch Per Unit Effort
CWT	Coded Wire Tag
Dioxins	Polychlorinated Dibenzo-ρ-dioxins
EMP	Environmental Monitoring Program
EMPC	Estimated Maximum Potential Concentration
EPEA	Environmental Protection and Enhancement Act
FL	Fork Length
FRL	Fish Research License
FTMP	Fish Tissue Monitoring Program
Furans	Polychlorinated Dibenzofurans
HHRA	Human Health Risk Assessment
IUPAC	International Union of Pure and Applied Chemistry
K	Fulton's Condition Factor
km	Kilometres
LOER	Lowest Observable Effect Residue
lw	Lipid weight
MK	Mann-Kendall
ML	Maximum Level
NOER	No Observable Effect Residue
PCB	Polychlorinated Biphenyls
PCB_{Lipid}	Lipid Normalized PCB Concentration
pg/g	Picograms per gram
QA/QC	Quality Assurance/Quality Control
RBTS	Raven Brood Trout Station
RPD	Relative Percent Difference
SETAC	Society of Environmental Toxicology and Chemistry
SOP	Standard Operating Procedure
SGS AXYS	SGS AXYS Analytical Services Ltd.
SSD	Species Sensitivity Distribution
TCDD	2,3,7,8-Tetrachlorodibenzo-ρ-dioxin
TEF	Toxic Equivalence Factor
TEQ	Toxic Equivalence Quotient

Acronym / abbreviation	Definition
$TEQ_{Dx/F}$	Dioxin/furan-based Toxic Equivalence Quotient
TEQ_{Lipid}	Lipid Normalized Toxic Equivalence Quotient
TEQ_{PCB}	PCB-based Toxic Equivalence Quotient
the facility	Swan Hills Treatment Centre
TRB	Tissue Residue Benchmarks
TRB90	Tissue Residue Benchmark protective of 90% of fish species present
TRB95	Tissue Residue Benchmark protective of 95% of fish species present
TRB99	Tissue Residue Benchmark protective of 99% of fish species present
µg/g	Micrograms per gram
USEPA	United States Environmental Protection Agency
Veolia	Veolia Waste Services Alberta Inc.
WHO	World Health Organization
ww	Wet weight

1. Introduction

The Swan Hills Treatment Centre (the facility) is located approximately 13.5 kilometres (km) northeast from the Town of Swan Hills, Alberta in W½ 6-67-8 W5M, and is operated by Veolia Waste Services Alberta Inc. (Veolia, Figure 1). The facility is operated under *Environmental Protection and Enhancement Act* (EPEA) Approval No. 1744-03-00. Section 4.10 of the EPEA approval requires that an annual Environmental Monitoring Program (EMP) reviews the potential effects of the facility's operation onto the surrounding environment.

The EMP requirement of the EPEA approval is fulfilled by a detailed annual EMP initiated in 1985 for the facility and surrounding area. As of 2023, key components of the EMP include groundwater, surface water, sediment, fish, air, soil, vegetation, and wildlife. Pre existing/baseline data of the environmental components were collected from 1985 onwards until the official opening of the facility on September 11, 1987. The key components have been monitored regularly since the facility opened and are examined for temporal and spatial changes that might indicate whether the facility operations affect the surrounding environment. An expanded EMP is done at five-year intervals to identify data gaps and ensure that study boundaries, approach, and analytical schedules of the standard EMP sufficiently characterize potential effects from the facility. The last expanded EMP was in 2019 and will be conducted again in 2024.

The fish tissue monitoring program (FTMP) is responsible for the annual collection and analysis of edible brook trout (*Salvelinus fontinalis*) tissue from two lakes (Chrystina Lake and Edith Lake) near the facility as part of the EMP. A detailed description of these features is provided in Section 1.1 and Appendix A. Information collected during the FTMP also supports an annual human health risk assessment (HHRA) aimed at quantifying the potential risks of using lakes near the facility as a source of country foods. Worley Canada Services Ltd., operating as Worley Consulting, was retained by Veolia to complete the 2023 FTMP.

Each year brook trout tissue is analyzed for trace metals and major organic contaminants including polychlorinated biphenyls (PCBs), polychlorinated dibenzo-ρ-dioxins (dioxins), and polychlorinated dibenzofurans (furans). A detailed analytical schedule for fish tissue is provided in Table 1. Brook trout tissue samples are composited according to age for chemical analysis given that several trace metals (e.g., arsenic, cadmium, chromium, copper, lead, mercury), PCBs, dioxins, and furans can accumulate in fish tissue (ATSDR 2000). Notably, previous investigation into possible exposure pathways in Chrystina Lake has provided useful insights, but comprehensive study of exposure pathways is outside the scope of the FTMP.

Historically, white sucker tissue is archived during standard monitoring years and analysed every five years as part of the expanded EMP, or if PCB concentrations in brook trout exceed the current FTMP trigger (exposure ratio calculated based on contaminant concentrations exceeds 10). White sucker is not a sportfish in Alberta, are rarely taken for human consumption making them less relevant to the HHRA component of the EMP, and historical contaminant concentrations are low compared to brook trout. Consistent with previous years, white sucker fillets from Chrystina Lake were retained and archived should further analysis be warranted.

1.1 Environmental Setting

The geographic setting displaying the main features of interest for the FTMP is illustrated in Figure 1. Key terrain features that are examined by the FTMP include:

- Chrystina Lake - located approximately 1.5 km downwind and down gradient from the facility in NE 8-67-8 W5M; and
- Edith Lake, which is considered a local reference lake for Chrystina Lake. Edith Lake is similar limnologically to Chrystina Lake but is located upwind and farther away from the facility in S 27-67-10 W5M (approximately 15 km).

No major streams drain into Chrystina Lake, and outflow is controlled by a vertical culvert at the south end of the lake. Key limnological characteristics of the lakes are summarized in Table 1-1.

Table 1-1: Characteristics of lakes sampled in 2023

Lake	Surface Area (km^2)	Watershed Area (km^2)[1]	Lake to Watershed Area Ratio	Maximum Depth (m)[2]	Mean Depth (m)[2]	Estimated Volume (m^3)
Chrystina Lake	0.49	1.60	0.31	10.5	3.2	1,568,000
Edith Lake	0.26	0.83	0.31	6.3	2.6	676,000

Notes:

[1] Watershed area includes lake surface area.
[2] Depth measurements are from bathymetric surveys in 2012 and 2014.

Both Chrystina and Edith lakes are used for recreation (gravel boat launches and a public camping area on the shores) and have forestry and some oil and gas-related activities (e.g., pump jacks, access roads, pipelines) in their watersheds. An existing oil well is present on the northwest shore of Edith Lake as well. The two lakes have different bathymetric characteristics and volume but do have a similar ratio of lake area to watershed area (Table 1-1). The fish community in Chrystina Lake consists of brook trout, white sucker (*Catostomus commersonii*), and brook stickleback (*Culaea inconstans*). Brook trout and yellow perch (*Perca flavescens*) are the only fish species previously reported in Edith Lake. Both Chrystina and Edith lakes are stocked annually in late-spring/early-summer with 17- to 18-month-old brook trout, typically from the Cold Lake Fish Hatchery (CLFH), although this hatchery was closed for renovations for the 2023 season. Instead, the trout were provided by Raven Brood Trout Station (RBTS). Both lakes are open to recreational fishing all year and have possession limits of five trout. A possession limit of 15 yellow perch also is enforced on Edith Lake (Alberta Government 2023). There currently is an Alberta Health advisory recommending that consumption of brook trout captured within 20 km of Swan Hills be kept to two servings (75 grams/serving) per week (Alberta Government 2023). This advisory encompasses both Chrystina and Edith lakes and has been in place since 1997 (GOA 2013).

1.2 Objectives

Consumption of wild caught fish is an important aspect of subsistence and recreational fisheries and can act as an exposure pathway for contaminants when food is collected from in and around contaminated sites (Health Canada 2010). To meet the requirements of the EMP, edible tissue from brook trout caught in Chrystina Lake and Edith Lake are analyzed annually as part of the FTMP to support the annual HHRA which characterizes potential risks from consumption of fish caught near the facility. The main objectives of the FTMP in 2023 include:

- comparing chemical concentrations in the edible tissue of Chrystina Lake brook trout with applicable guidelines (Table 2; Section 2.5), historical ranges, and concentrations in brook trout from Edith Lake (reference condition) to investigate the potential effects of the facility on fish;
- evaluating possible effects of chemical stressors on brook trout in Chrystina Lake relative to historical data and the reference condition (Edith Lake) by examining fish size and condition;
- comparing concentrations of metals and organic compounds among brook trout age classes in Chrystina and Edith lakes to investigate possible accumulation; and
- identifying key recommendations to improve the effectiveness and reliability of the FTMP.

The following report provides a summary of the 2023 FTMP and compares contaminant concentrations in Chrystina Lake brook trout with historical data and reference fish from Edith Lake to characterize current conditions and ecological risk near the facility.

2. Methods

A summary of the methods used during the 2023 FTMP follows, while additional background information regarding the methods used as part of the FTMP is available in Appendix A.

2.1 Fish Tagging

Fish aging is an important component of the FTMP because concentrations of certain metals and organic compounds may increase with age, but conventional methods, such as analysis of aging structures and length-weight relationships, have produced inconsistent and unreliable results (WorleyParsons 2015). Traditional aging methods used previously by the FTMP (including otoliths, fin rays, and scales) have limited accuracy, most likely because of unnatural temperature fluctuations during hatchery rearing (WorleyParsons 2015). Consequently, these traditional aging methods have not been included in the FTMP since 2016.

Coded wire tags (CWT) are biologically inert, small (1.1 mm long, 0.25 mm diameter) stainless steel coded tags that are implanted into connective tissue and cartilage in the fish snouts (Appendix A, Section A.2.1). Since 2012, fish stocked into Chrystina, and Edith lakes have been tagged with CWTs produced by Northwest Marine Technology Inc. at the hatchery each year before release. The CWTs that are etched with codes specific to the year a fish was stocked are recovered during the summer sampling program to provide a definitive age for each brook trout collected. Codes imprinted on CWTs since tagging started in 2012 are summarized in Appendix A, while codes used since 2017 are provided in Table 2-1. Notably, for the first time since the tagging program began three 6+ year old BKTR were captured in Edith Lake (Section 3.1.3).

Table 2-1 Chrystina and Edith Lake Stocking and Tagging Information (2018 to 2023)

Stocking Year	CWT Code	Age in 2023	Number of Fish Stocked per Lake	Stocking Date	Average Size (cm)
2018	62-03-33	6+	1,210	21 May	21.0
2019	62-03-37	5+	1,600	27 May	21.3
2020	13-01-09	4+	1,800	1 June	22.3
2021	13-01-11	3+	2,100	25 May	20.4
2022	13-01-12	2+	2,100	25 May	19.1
2023	13-00-01	1+	1,550	6,7 June	21.4

Notes:

Average size is determined using the relationship between the number and overall weight of fish stocked and is estimated using previously measured subsamples of hatchery salmonids; these measurements therefore do not represent the measured average size of stocked brook trout.

Stocking information from Alberta Government Stocking Reports Government of Alberta (2018a, 2019, 2021a, 2021b, 2022, and 2023).

Fish were tagged at the RBTS on May 29, 30 and June 6, 2023. Chrystina Lake and Edith Lake had 1,523 and 1,550 tagged triploid brook trout stocked into the lake on June 6 and 7, respectively (Table 2-1). Triploidy of stocked fish prevents spawning in the natural environment given that brook trout are a non-native sportfish introduced to Alberta for recreational fishing.

2.2 Summer Sample Collection

The summer sampling program in 2023 took place from September 13 to 16. Yuma® tablet computers with pre-loaded data sheets were used to record field data and calculate preliminary measures of fish condition, catch-per-unit-effort (CPUE), and size distribution to improve sampling efficiency. Collection and dissection procedures for brook trout and white sucker are summarized in Sections 2.2.1 and 2.2.2 and described in detail in Appendix A (Sections A2.2 and A2.3).

2.2.1 Fish Collection

Gill netting and angling were used to collect brook trout and white sucker during summer sampling. Net locations in Chrystina Lake and Edith Lake for 2023 are provided alongside 2021 and 2022 net locations in Figure 2 and Figure 3, respectively. Angling (trolling and casting), and gill net deployments were done from a 12.5 ft inflatable Zebec® boat with a 20 hp outboard motor. Fishing was conducted under Fish Research License (FRL) 23-1214-RL in 2023 which was obtained from the AEPA Slave Lake office.

Gill nets were set near the lake bottom, suspended in the water column, or floated near the surface depending on habitat type, previously documented fish distribution, and observations of fish activity at the surface. Nets were deployed near suitable brook trout habitats and areas with high fish density in Chrystina and Edith lakes based on historical catch data, and bathymetric mapping (WorleyParsons 2015). Fish captured were screened in the field for a CWT, and fork length (FL) was used as an approximate indicator of age (MacKay et al. 1990). Estimated age classes were identified in the initial catch, and subsequent sampling aimed to capture at least four individuals for each age class. All non-targeted species (i.e. yellow perch in Edith Lake) were released immediately. The CPUE for each sampling method used in each lake is provided in Section 3.1.1.

Spin casting, trolling, and fly fishing were used to supplement gill netting efforts in both lakes. Angling methods are typically used to target larger individuals, avoid exceeding the catch limit of the FRL when the number of fish captured is nearing the limit of 30 brook trout per lake, and when time permits between gill net sets.

2.2.2 Fish Dissection

All fish captured were identified to species, measured, and processed in the field as soon as possible following collection. Adult brook trout kept for tissue analysis were brought to a temporary workstation on shore. The exterior of each fish was examined before dissection for signs of environmental stress such as abnormalities of the eyes, fins, gills, or mouthparts. The snouts of brook trout that had a CWT were removed and retained in a coin envelope. Traditional aging structures (e.g. scales, fin rays, and otoliths) were retained if no CWT was present, when feasible. White sucker captured from Chrystina Lake also were examined and dissected following capture using similar procedures as those described for brook trout (Appendix A, Section A.2.3).

Edible tissue (fillets with skin on) was obtained by filleting each side of the fish, removing belly fat, and removing large bones and fins. For analysis of organic compounds, fillets were wrapped in aluminum foil pre-washed with hexane-acetone and placed in zip-lock bags. For analysis of trace metals, fillets were not wrapped in aluminum foil, but placed directly in labelled zip-lock bags.

Once processed, brook trout and white sucker fillets were placed immediately on dry ice for transportation and then housed in a freezer (nominal storage temperature of <-20°C) until brook trout age could be determined. White sucker tissue was retained for possible analysis should it be required. Tissue from individuals not analyzed were stored in a freezer (nominal storage temperature of <-20°C) and retained for a minimum of five years should additional chemical analysis be required.

Sampling equipment was cleaned between fish samples in accordance with the United States Environmental Protection Agency (USEPA) SOP No. 2006 for Sample Equipment Decontamination (USEPA 1994). After each individual fish was dissected, all instruments and work surfaces were cleaned with laboratory-grade acetone and hexane. All field personnel handling the fish wore nitrile gloves that were replaced between fish dissections to avoid cross contamination.

2.2.3 Sample Composition

Individual brook trout were sorted by sampling year and age class, and up to five fillets from each age class were combined into composited samples. Characteristics of fish collected and analyzed during the 2023 FTMP are provided in Table 3. Tissue samples from older fish or from those age classes represented by single brook trout were analyzed individually, two fish (Unknown A and Unknown B) were unable to be aged but due to their large size they were submitted for individual testing. Tissues for inorganic and organic analyses were packaged according to the compositions summarized in Table 2-2 and shipped on dry ice to ALS Global (ALS) in Burlington for analysis.

Table 2-2: Composition of Samples Analyzed during the 2023 Monitoring Program

Age Class	Chrystina Lake (CHBKTR)	Edith Lake (EDBKTR)
0+	---	---
1+	*Composite (5 fish)*	*Composite (2 fish)*
2+	*Composite (2 fish)*	*Composite (3 fish)*

Age Class	Chrystina Lake (CHBKTR)	Edith Lake (EDBKTR)
3+	*Composite (5 fish)*	*Composite (5 fish)*
4+	---	*Composite (5 fish)*
5+	---	---
6+	---	*Composite (3 fish)*
UNK A	Individual	---
UNK B	Individual	---

Tissue analyses of individual fish rather than composites allows for comparisons between fish condition/morphology and contaminant load. However, individual fish may or may not be representative of entire age classes within the population because of natural variation, particularly when relatively few fish were collected; analysis of tissue composites may provide a more robust comparison with guidelines in this case. Ideally, more individual fish would be analyzed to improve understanding of variability in tissue concentrations within age classes. Notably, Alberta Health, treats the analysis of composited samples as a single data point.

2.3 Quality Assurance and Control

The Quality Assurance/Quality Control (QA/QC) program for the 2023 FTMP consisted of several controls including:

- method blanks;
- spike blanks;
- matrix spikes;
- known reference materials; and
- internally and externally split duplicate samples.

The goal of these controls is to ensure that data collected during the FTMP are reliable, reproducible, and verifiable. Additionally, potential concerns regarding data accuracy, precision, bias, and contamination sources during analysis can be identified. The *Guidelines for Quality Assurance and Quality Control in Surface Water Quality Programs in Alberta* (AENV 2006) was used to provide limits such as those for relative percent differences (RPD) which are discussed further in the QA/QC report (Appendix B).

Typically, ten brook trout from hatchery populations stocked into Chrystina and Edith lakes have been obtained from the CLFH each year before the summer sampling program. However, maintenance at the CLFH resulted in the brook trout being sent to the RBTS facility before being stocked into Chrystina Lake and Edith Lake. Worley Consulting was informed by hatchery staff that no brook trout were retained or being retained at the RBTS because of space limitations at the hatchery. Therefore, no hatchery fish could be obtained from the hatchery to control for potential contamination during hatchery rearing because of maintenance at the CLFH in 2023.

Results from previous analyses of brook trout taken directly from the hatchery have been consistently low during the FTMP suggesting that there is a low risk of contamination during hatchery rearing.

The brook trout population has been moved between the Sam Livingston hatchery in Calgary and the RBTS hatchery since 2021, because of renovations at the CLFH. This is an important consideration for the analysis of tissue residue results and will be for interpretation of results as well. Fish stocked in 2023 will not have been subjected to the same conditions in the hatchery as those analyzed as control fish from 2022.

2.4 Fish Morphology

Morphological features of individual fish captured were measured to identify any changes to fish condition in Chrystina Lake brook trout. This included calculating average FL, and condition of brook trout in Chrystina Lake, and comparing these with historical data and reference conditions (i.e. Edith Lake). Condition Factor (K) was calculated and presented graphically to display trends in condition over time (Murphy and Willis 1996). Fish Condition Factor incorporates length-weight data into a single metric, assumes that heavier fish of a given length are in better physiological condition, and is calculated as per Equation 1.

Equation 1 $$K = \frac{W}{L^3} \times 10^5$$

where L = fork length (mm) and W = weight (g); the length exponent of three assumes that fish grow isometrically (Murphy and Willis 1996). Condition factor is thought to increase with health of individuals (Froese 2006) and was used to compare fish from Chrystina and Edith lakes. Statistical analyses were performed using RStudio software (Version 2023.09.1). Condition factor for salmonids typically ranges from 0.8 to 2.0 depending on fish health, and a condition factor of 1.2 generally is indicative of fish acceptable to most anglers (Table 2-3).

Table 2-3: Estimated Salmonid Health Based on Condition Factor (K)

K Value	Health Ranking
1.6	Excellent, trophy fish
1.4	Good
1.2	Fair, acceptable to most anglers
1.0	Poor
0.8	Extremely Poor, generally thin with large head and narrow body

Notes:
Rankings adopted from Barnham and Baxter (1998).

Recent trends in dominant brook trout length classes over time and between lakes were evaluated by comparing length-frequency distributions (i.e., number of fish per fork length class). Length-frequency distributions since 2018 were compared among brook trout from both lakes. In addition, the length-frequency distribution of tagged fish captured since 2012 is provided to investigate the relationship between fork length and age.

2.5 Tissue Residue Analysis

2.5.1 Tissue Residue Criteria (Trace Metals)

Tissue residue criteria used to assess the potential for adverse effects from metal concentrations in Chrystina Lake brook trout are summarized in Table 2. These criteria were adopted from:

- toxicological thresholds from the Society of Environmental Toxicology and Chemistry (SETAC 1999);
- Health Canada maximum levels (MLs) on the List of Contaminants and Other Adulterating Substances in Foods (Health Canada 2022) and the List of Maximum Levels for Various Chemical Contaminants in Foods (Health Canada 2020); and
- Environmental Quality Guidelines for Alberta Surface Waters (GOA 2018b).

The SETAC criteria provide thresholds based on toxicologically determined benchmarks for effects of eleven metals in fish including: aluminum, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc (Table 2). Toxicity data available in the SETAC (1999) database includes the lowest observable effect concentration (LOEC) and the no observable effect concentration (NOEC). The LOEC means the lowest test concentration of a substance that has a statistically significant adverse effect on a specific population of test organisms compared with that observed in controls. NOEC corresponds to the highest test concentration of a substance that shows no statistically significant adverse effect on a specific population of test organisms compared to that observed in controls. The thresholds used for comparison with brook trout during the FTMP (Table 2) are based on NOEC endpoints for salmonid fish species from the SETAC (1999) database. The SETAC (1999) threshold concentrations were cross-referenced with the ECOTOXicology knowledge base and Environmental Residue Effects Database as part of the 2019 expanded program and the SETAC (1999) thresholds were consistent with recent toxicological data (Advisian 2020).

Health Canada is responsible for the assessment of risk to human health from exposure to food-borne chemical contaminants. One such risk-management measure is the development of MLs for chemical contaminants in retail foods. The List of Contaminants and Other Adulterating Substances in Foods establishes MLs in fish protein for arsenic and lead (Health Canada 2022; Table 2). The List of Maximum Levels for Various Chemical Contaminants in Foods establishes the ML for mercury in edible fish tissue (Health Canada 2020). These limits are enforceable by the Canadian Food Inspection Agency and replace the Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.

The Environmental Quality Guidelines for Alberta Surface Waters (GOA 2018b) establishes an interim muscle tissue guideline for selenium (Table 2). Selenium is the only metal or COC associated with the FTMP that has a provincial tissue residue guideline in Alberta. It is important to note that the Alberta guideline for selenium is on a dry weight (dw) basis. Historically, metal concentrations in brook trout analyzed during the FTMP have been measured on a wet weight (ww) basis and as such metals are presented throughout this report as ww concentrations. Notably, the analytical results for samples from 2023 are on a ww basis and this must be considered in any comparison of the selenium tissue concentrations with the Alberta interim guideline.

2.5.1.1 Trace Metal Trend Analysis

Mann-Kendall (MK) trend analyses (Hirsch et al. 1982) were performed to identify statistically significant increasing or decreasing temporal trends in trace metal concentrations in brook trout tissue in the two lakes. The MK test is a non-parametric test for a net increase or decrease in a time-series based on ranked data (Nielsen 2005). It can evaluate trends where there are at least four data points and more than half of them are above reportable detection limits. The MK test is not affected by arbitrary substitutions for measurements below the detection limit since these non-detections are treated as ties when analyzed by a rank-based statistical analysis (Helsel et al. 2020). The MK test was applied to metals with at least six consecutive years of data above detection up to 2023 to improve power of this trend analyses compared with standard requirements. A moving-window approach was used for the MK trend analysis in which the previous 10 years of tissue residue data was assessed to avoid the influence of historical data that is less relevant to current conditions. Since the MK test does not account for the magnitude of differences between years, it is applied as a screening tool during the FTMP, to identify trace metals where more robust parametric trend analyses may be warranted.

Metals analyzed using the MK trend test include (years shown in brackets indicate the time-period that data satisfied the requirements of the MK test):

- Aluminum (2012 to 2023)
- Arsenic (2012 to 2023)
- Barium (2012 to 2023)
- Chromium (2013 to 2023)
- Cobalt (2012 to 2023)
- Copper (2012 to 2023)
- Iron (2012 to 2023)
- Lead (2012 to 2023)
- Manganese (2012 to 2023)
- Mercury (2012 to 2023)
- Nickel (2012 to 2023)
- Selenium (2012 to 2023)
- Thallium (2012 to 2023)
- Zinc (2012 to 2023)

Average brook trout tissue concentrations for each of these metals were calculated for both lakes, and MK trend analysis performed using RStudio software (Version 2023.09.1).

2.5.2 Organic Analyses- PCBs, Dioxins, and Furans

Fish tissue samples collected from both lakes were sent to ALS and analyzed for all 209 PCB congeners, reported as 162 distinct results, because of coeluting congeners (Table 1). This congener-specific PCB analysis (based on EPA method 1668C) has been used for the FTMP since 2006, with detection limits and specific coelutions changing in 2013 when the analytical laboratory changed. It is notable that the analytical laboratory used for PCB analysis changed again in 2021, however, detection limits and analytical methods remained similar to those used between 2013 and 2020. Brook trout tissue concentrations for each dioxin and furan compound also were measured by ALS using EPA method 16130 (Appendix A).

Laboratory results for PCBs were organized into functional groups including PCB homologues and coplanar PCBs. The proportion of each PCB homologue group is relatively consistent between years and are discussed further in Appendix A (Section A.3.1.1). In addition, the total PCB concentration for each sample is reported for the sum of all 209 individual PCB congeners. The total PCB content, based on seven marker congeners used by the International Council for the Exploration of the Sea (ICES-7) was also calculated. The first time this was calculated was in 2022. Marker PCB congener subsets and their associated accuracy, including the ICES-7 subset, were discussed in relation to FTMP data during the 2018 FTMP (Advisian 2019). These marker PCBs provided total PCB concentration estimates with accuracy comparable with laboratory analysis but their ability to accurately determine toxicity was limited. The analysis done by ALS includes the ICES-7 and coplanar PCBs which would provide useful total PCB concentration measurements and accurate TEQ measurements. The results of the ICES-7 marker PCBs are not discussed further in this report given that the ICES-7 subset is not an accepted method for total PCB concentration measurement by Alberta Health. Incorporation of the ICES-7 as part of the FTMP would improve cost-effectiveness by reducing analytical costs, which would also increase the number of analyses possible annually to better characterize variability in COC concentrations.

Lipid normalization of PCB results removes potential effects of fat content variability between samples given that PCBs are lipophilic and expected to accumulate preferentially in fatty tissue (Van den Berg et al. 2006). In addition, tissue residue benchmarks (TRB) used for determining the potential for adverse effects on fish, are based on lipid normalized PCB concentrations (Section 2.5.2.2). Total PCB content in fillets is normalized for lipid content using Equation 2.

Equation 2

$$PCB_{Lipid} = \frac{100}{\%Fat} * PCB$$

where %Fat = lipid content, and PCB = the total PCB content on a ww basis (µg/g). For conciseness, PCB concentrations normalized for lipids are referred to using a 'Lipid' subscript in this report (PCB_{Lipid}).

2.5.2.1 Toxic Equivalency

Coplanar ('dioxin-like') PCBs include twelve congeners that have no chlorine atoms (non-ortho), or a single chlorine atom (mono-ortho) substituting hydrogen atoms in the ortho-position. PCB congeners with these chemical structures are identified by their International Union of Pure and Applied Chemistry (IUPAC) number in Table 4. A detailed discussion of PCB chemical structure is not within the scope of the FTMP but is available from the Agency for Toxic Substances and Disease Registry (ATSDR 2000).

Metabolic processes involved in the breakdown and toxicity of coplanar PCBs, dioxins, and furans are similar (Appendix A, Section A.3.1.2). Consequently, toxicity of these compounds can be quantified by combining their respective toxic effects into a single Toxic Equivalence Quotient (TEQ). The TEQ approach uses the toxic equivalency factor (TEF), which is based on the concept of dose addition where the toxicity of individual dioxin and dioxin-like compounds in a mixture is combined into the single TEQ metric that can be used to facilitate risk assessment and regulatory control. TEQs calculated during the FTMP are based on the 2005 World Health Organization (WHO) TEFs which express the toxicity of each dioxin, furan, and coplanar PCB relative to the most toxic form of dioxin (Table 4, Van den Berg et al. 2006).

Note that TEQ is designed to over-estimate risk as it is based on toxicity results for mink, which have the highest intake-to-body weight ratio of receptor species that have been studied. Additionally, *mono-ortho* substituted coplanar PCBs, listed in Table 4, generally do not cause dioxin-like toxic effects in fish (Henry and DeVito 2003), but concentrations of these coplanar PCBs are incorporated into calculated TEQs for the FTMP. Thus, inclusion of *mono-ortho* substituted coplanar PCBs in TEQ calculations provide conservative TEQ estimates for Chrystina Lake and Edith Lake brook trout. It also is important to note that TEQ does not consider the toxicity of non-coplanar PCBs, which also can have negative effects through other biological processes (Henry and DeVito 2003).

Results below detection were replaced with half the detection limit value to calculate TEQ. Substituting non-detections with half the detection limit is widely accepted in Canada for risk assessment programs (Health Canada 2010). Alternative statistical methods to estimate concentrations below detection limits were beyond the scope of the FTMP.

2.5.2.2 Tissue Residue Criteria (Organics)

The ML for 2,3,7,8-tetrachlorodibenzo-ρ-dioxin (TCDD) is 20 pg/g (Table 2) on the *List of Contaminants and other Adulterating Substances in Foods* (Health Canada 2022). Brook trout tissue concentrations measured as part of the FTMP are typically two orders of magnitude below this ML. Tissue concentrations measured in samples collected in 2023 are not directly compared with this criterion given the consistently low TCDD concentrations historically.

The Great Lakes region of eastern Canada and United States has one of the longest running PCB monitoring programs in the world and this region continues to be impacted by elevated PCB concentrations because of historical PCB use (ECCC and USEPA 2018). Fish consumption advisories in the region are guided by the Ontario provincial advisory criterion (OMOECC 2015) and consumption advisory levels derived from the Great Lakes Sportfish Advisory Task Force (GLSFATF 1993). These advisories are based on limiting daily intake to 3.5 µg PCB/day and assume an average meal size of 227 g of uncooked fish meat. The advisory task force has established consumption limits based on wet weight total PCB concentrations for five consumption levels. Criteria for the highest two consumer ranges, unrestricted consumption and high consumption, are within range of PCB concentrations in brook trout from the FTMP. The unrestricted consumption limit (0.05 µg/g edible tissue) is based on individuals that consume 225 meals of sportfish per year, whereas the high consumption limit (0.20 µg/g edible tissue) assumes individuals eat one meal of sportfish per week. Whereas these criteria are not currently used for consumption advisories in Canada, they are used by several states in the Great Lakes region. Alternatively, the Ontario fish consumption advisories are based on a limit of 0.105 µg/g in edible tissue and assume a consumption rate of four meals per month (ECCC and USEPA 2018). Tissue concentrations measured in brook trout during the FTMP are compared with these criteria in 2023 to provide important context for total PCB concentrations since individual PCB congeners currently are not subject to any regulatory guidelines, and the Health Canada ML (2020) for total PCBs remains under review.

The Canadian Council of Ministers of the Environment (CCME) developed Canadian tissue residue guidelines for PCBs, as well as a more stringent guideline for dioxins and furans combined (Table 2, CCME 2001a, 2001b). These guidelines set the safe limit for consumption of aquatic tissue by wildlife (mammals) based on the TEQ of the tissue. The CCME guideline for PCBs is used to evaluate tissue residues where the PCB-based TEQ (TEQ_{PCB}) is calculated independently, whereas the dioxin and furan guideline is employed where total TEQs (including coplanar PCBs, dioxins, and furans) are calculated for samples analyzed during the FTMP. This approach is recommended by CCME (2001a) and compares overall toxicity with a more stringent guideline. There are no guidelines for individual PCB congeners in Canada, but estimating TEQ provides some rigour for coplanar PCBs, and the CCME guidelines assume that the toxicity captured in TEQ calculations also will be protective of non-coplanar PCB congeners (CCME 2001a). Historically, ww tissue concentrations for coplanar PCBs, dioxins, and furans are multiplied by their TEF and summed to provide TEQs for each sample collected during the FTMP. These TEQs are compared with the CCME guidelines (CCME 2001a, 2001b).

Review of applicable criteria during the 2019 expanded program identified TRBs for TCDD and dioxin-like compounds using a species sensitivity distribution (SSD) approach. Steevens et al. (2005) compiled no observable effect residue (NOER) and lowest observable effect residue (LOER) concentrations from toxicological studies of ten fish species, including brook trout. The geometric mean of the NOER and LOER was calculated for each study and plotted to create an SSD from which a TRB could be derived. Using this method Steevens et al. (2005) calculated TRBs that are protective of 90% (TRB90), 95% (TRB95), and 99% (TRB99) of fish species present within an ecosystem. These benchmark concentrations were lipid normalized to account for the propensity of PCBs, dioxins, and furans to accumulate in fatty tissue, therefore lipid-normalized TEQs (TEQ_{Lipid}) were calculated for samples analyzed as part of the FTMP. The benchmark concentrations calculated by Steevens et al. (2005) are summarized in Table 2-4. Whereas the CCME guidelines are protective of mammals ingesting aquatic tissue, these TRBs evaluate whether concentrations of dioxin-like compounds in tissues are likely to cause observable negative effects on Chrystina Lake brook trout. Notably, the geometric mean of the NOER and LOER for brook trout included in the SSD was 1.68 ng TCDD/g lipid weight (lw), which is an order of magnitude above the TRB90 residue concentration. Consequently, the TRB values are expected to provide a conservative evaluation of potential negative effects for Chrystina Lake brook trout.

Table 2-4: Tissue Residue Benchmarks (TRB) for TCDD and other Dioxin-like Contaminants

Percent of Fish Species Protected by Benchmark	Benchmark Value (ng TEQ/g lw)
99%	0.057
95%	0.321
90%	0.699

Notes:

Adopted from Steevens et al. 2005

2.5.2.3 Organic Trend Analysis

The MK trend analysis was applied to the total PCB and PCB_{Lipid} concentrations and TEQs measured since 2010 in brook trout from Chrystina and Edith lakes to identify statistically significant trends over time.

PCBs tend to accumulate in biological tissue (Section 2.1) so it would be helpful to understand patterns of change in fish tissue TEQ as fish age. This would require following a fish through its life and measuring tissue for PCB concentrations regularly. This is not possible given that sampling is terminal, and even if it were not, it would be exceedingly unlikely that the same fish could be captured during each annual cycle of sampling. Individual life-histories can be recreated using the PCB concentrations in samples from various age classes to address this difficulty and further investigate possible accumulation in Chrystina Lake brook trout. This is accomplished by pairing 1^+ year-olds from specific stocking years with successive years of 2^+ year-olds, 3^+ year-olds, etc. For example, a hatchery fish (0^+ year-old) in 2008 would be stocked as a 1^+ year-old in 2009 and would be a 2^+ year-old in 2010, a 3^+ year-old in 2011, etc.

Life-histories from brook trout stocked since 2007 were reconstructed in 2023 for both lakes to produce fourteen cohorts (originating from 2007 to 2020) for which tissue concentrations have been measured for all PCB congeners. Bioaccumulation and/or biomagnification may be responsible for increasing concentrations over time, and it is not the intent here to distinguish between these processes, but it was assumed that the patterns could be described by exponential functions, which is what was fitted to each cohort.

The ww tissue concentrations for four PCB congeners/coelutions including PCB 105, 118, 126 and 153/168 were fit to exponential functions to statistically describe accumulation trends in Chrystina Lake and Edith Lake brook trout. Notably PCB 153 is analysed as a coelution of 153/168, as it is the most abundant PCB found in tissue and it will mask lower concentrations of 168. Average congener concentrations were used during the trend analysis for samples with duplicate analyses, and half detection limits were substituted where PCB 126 concentrations were below detection. Congeners/coelutions for tracking accumulation trends (tracking congeners) were identified during the 2016 FTMP through review of the historical data set and congener profiling (Advisian 2017) and are suitable for tracking PCB accumulation in Chrystina Lake because they:

- contribute to toxicity through dioxin-like interactions making them environmentally relevant;
- have high Biota-Sediment Accumulation Factors (Magnusson et al. 2005) and historical Swan Hills data suggests that they have a propensity to accumulate in fish tissue;
- have log K_{ow} values typical of PCBs with high accumulation potential (Paterson et al. 2015, Niimi 1996);
- have little to no censored data in the historical dataset and few estimated maximum potential concentrations (EMPC); and/or
- contribute a high proportion to the total PCB concentration.

Notably, PCB 126 concentrations are occasionally reported as EMPC values or below detection. This congener is used as a tracking congener, as well, since it is the most toxic PCB (based on TEF) and contributes most to the overall toxicity in brook trout analyzed during the FTMP (Section 3.3.1.1). This introduces some additional uncertainty and variability within the dataset for PCB 126 compared with the other tracking congeners.

3. Results and Discussion

3.1 Fish Characteristics

Morphological characteristics and age distribution of the fish captured and retained during the 2023 FTMP are provided in Table 3.

3.1.1 Catch Rates

The CPUE of the fish sampling program for 2023 was lower compared to 2022 with the CPUE for Edith Lake being the lowest it has been since 2018 (Figure 4). The average CPUE for brook trout, white sucker, and yellow perch collected from Chrystina Lake and Edith Lake in 2023 are provided in Table 3-1. In 2023, thirty-three brook trout were captured from Chrystina Lake in eight gill net deploymentseach of approximately 1-hour. No angling effort was needed as enough fish were captured in the first round of gill netting. Twenty-eight brook trout were captured in twenty-three 1-hour sets in Edith Lake. The CPUE was low in Edith Lake as nets had to be redeployed multiple times to obtain the catch limit. Spin casting, trolling, and fly-fishing techniques were used over approximately one hour in between net checks but no fish were caught.

As in previous years, gill net panels with smaller mesh sizes were removed and not deployed in Edith Lake. This was to try to limit the number of yellow perch that would be caught in the smaller meshes. Most brook trout were captured in mesh sizes between 50 mm and 70 mm with some larger individuals being captured in 80 mm mesh.

Table 3-1: Summary of CPUE during 2023 Fish Sampling Programs

Lake	Gill Net CPUE (fish/day/m^2)	Fish Caught	Angling CPUE (fish/hour/line)	Fish Caught
Chrystina	1.34 BKTR 0.30 WHSC	33 BKTR 12 WHSC	---	---
Edith	0.26 BKTR 0.01 YLPR	28 BKTR 1 YLPR	0 BKTR	0 BKTR

3.1.2 Fish Length and Condition

The average FL and condition of brook trout collected from Chrystina Lake and Edith Lake in 2023 are compared with recent years in Figure 5 and Figure 6, respectively. Average FL and condition of brook trout captured from both lakes has remained relatively consistent since 2017. In past years, the average length of captured brook trout has normally been higher in Chrystina Lake. The average length of Edith Lake brook trout in 2023 was 312 mm while average length of Chrystina Lake brook trout was 301mm, and the FL did not differ significantly between the lakes (ANOVA; P = 0.369, $F_{1,59}$ = 0.821, pwr = 0.426). The brook trout collected from Edith Lake in 2023 were the largest on average captured since 2003.

Brook trout condition did not differ significantly between Chrystina Lake and Edith Lake in 2023 (ANOVA; P = 0.215, $F_{1,59}$ = 1.57, pwr = 0.119). The average brook trout condition in 2023 in both lakes would be generally acceptable for recreational fisheries (Table 2-3).

Based on the length frequency graph for 2023, there was a wide range of brook trout sizes captured from Chrystina Lake and Edith Lake (Figure 3-1). The largest fish captured in Chrystina Lake was 388 mm and did not have a known age given that no CWT was observed, meanwhile Edith Lake's largest fish was 380 mm and was 6^{+}years old. Length-frequency graphs from 2018 to 2023 suggest that a wider variety of sizes were captured in both lakes in 2023, with more fish between 375-400 mm captured in 2023 compared to 2022 (Figure 7).

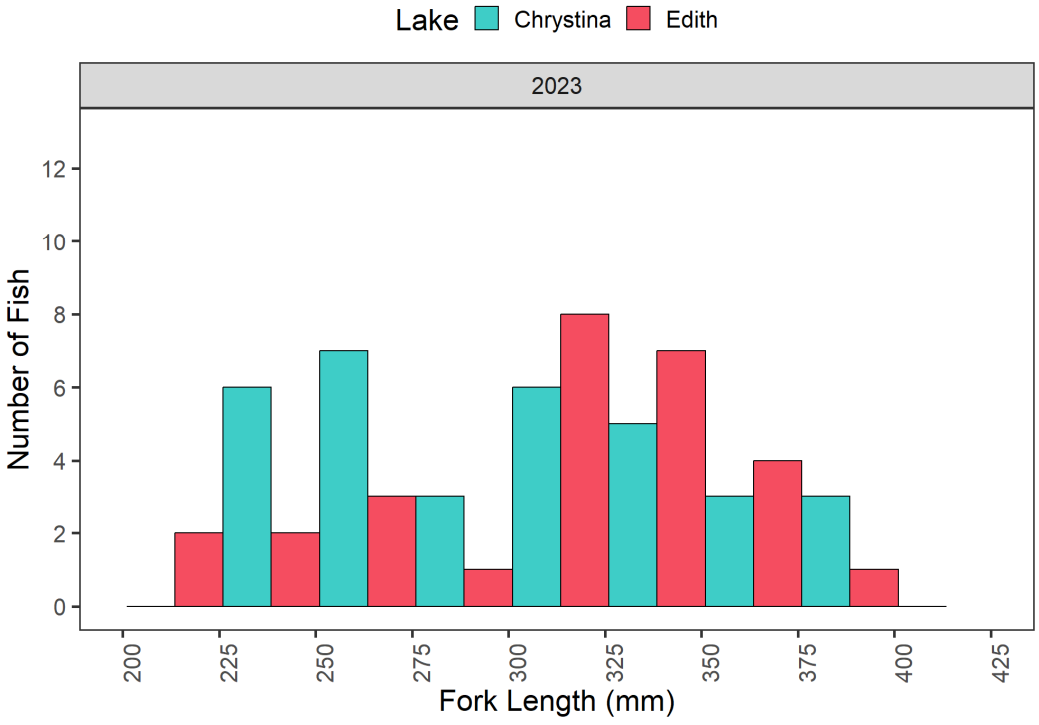

Figure 3-1: Length frequency distribution of brook trout captured in each lake in 2023

3.1.3 Age

The age distribution of brook trout captured from Chrystina Lake and Edith Lake during the 2023 summer sampling program are summarized in Table 3-2. The cumulative length-frequency distributions of 1^+ to 6^+ year-old tagged brook trout captured from Chrystina Lake and Edith Lake since tagging began in 2012 are provided in Figure 8.

Brook trout with an unknown age are individuals from which a CWT could not be recovered. The number of fish that were unable to be aged was elevated in 2023, ageing structures were taken from each of the untagged fish but determining age from these structures has been shown to be unreliable historically (WorleyParsons 2015). Two untagged brook trout (Unknown A and B) with weights of 601 g and 698 g and fork lengths of 388 mm and 378 mm were captured from Chrystina Lake in 2023. Comparing these fish with the body weight (589 g to 645 g) and FL (350 mm to 380 mm) of 6^+ year-old brook trout from Edith Lake, evidence suggests that these fish could be of similar age based on their size. Due to their size, they were submitted to the lab for individual testing.

Younger ages classes (1^+ and 2^+ year-olds) make up more than 60% of the brook trout captured in Chrystina Lake. The demographic of brook trout from Edith Lake in 2023 was more widespread with the middle age classes ($3^+$and 4^+ year-olds) making up 50% of captured individuals. In 2023, the proportion of brook trout over 3^+ years-old from Edith Lake increased from 2021 and 2022, given that middle age classes only made up 12% and 36% of captured individuals, respectively. Brook trout over 3^+ years old have not been captured from Chrystina Lake since 2021, when one 4^+ year-old and one 5^+ year-old were captured and analyzed.

Table 3-2: Number of Brook Trout Captured per Age Class during the 2023 FTMP

Age Class	Chrystina Lake	Edith Lake
1+	11	2
2+	9	3
3+	6	9
4+	0	5
5+	0	0
6+	0	3
Unknown	7	6
Total	33	28

No 5^+ year-old BKTR were captured from either lake in 2023, however, three 6^+ year-old tagged brook trout were captured from Edith Lake for the first time since the tagging program started in 2012. By comparison, only four tagged 5^+ year-olds have been documented since the tagging program started in 2012, only one of which was captured from Edith Lake. Five 4^+year-olds were also captured from Edith Lake in 2023, making up 18% of the total catch which was higher than that observed from both lakes combined since 2015. Continued tagging of brook trout stocked into Chrystina and Edith Lake will help determine if life expectancy varies between lakes, however, collection of more CWTs from fish captured from both lakes would provide a clearer understanding of age distribution in Chrystina and Edith lakes.

3.2 Inorganic Analysis-Trace Metals

Metal concentrations in Chrystina Lake brook trout in 2023 have been compared with reference fish from Edith Lake, historical ranges within age classes, and applicable tissue residue quality criteria as described in Section 2.5.1 (Table 5). Raw data collected during the FTMP also are provided in Appendix C (Table C.1) and analytical results including the laboratory supplied quality control report is provided in Appendix D.

Metal tissue concentrations outside of the historical range are summarized in Table 5. No new historical maxima were recorded in Chrystina or Edith Lake in 2023. Chrystina Lake had chromium results that were new historical minima within the 1^+, 2^+, and 3^+ year-old age classes. In addition, mercury and arsenic were recorded as new historical minima within the 1^+ and 3^+ year-old age classes, respectively.

Several new historical minima were also recorded within Edith Lake. Chromium was established as a new minimum for all captured age classes. Arsenic, iron, and selenium were established as historical minima in the 3^+ year-old age class. Sodium was only recorded as a new historical minimum within the 2^+ year-old age class. Molybdenum was also recorded as the new historical minimum for the 4^+ year-old age class.

3.2.1 SETAC Threshold Exceedances

Apart from zinc, all metal concentrations were below the SETAC (1999) thresholds in 2023, regardless of the lake the brook trout were captured from. Zinc concentrations in brook trout tissue continue to exceed the SETAC (1999) threshold in all age classes in both lakes, a trend that has been consistent since the start of this program (Figure 9). Similar to the 2021 and 2022 results, zinc did not exceed the historical ranges for any age class in Chrystina Lake or Edith Lake. High aluminum concentrations have been observed previously in Chrystina Lake and Edith Lake brook trout, however average aluminum concentrations have been consistently below the SETAC (1999) threshold since 2018 (Figure 10).

3.2.2 Metals Trends Analysis

Tissue residue concentrations for fourteen metals were assessed for increasing or decreasing trends in Chrystina Lake and Edith Lake and results have been summarized in Table 6. The average concentrations of these variables (excluding zinc, aluminum, and mercury) in Chrystina Lake, Edith Lake, and hatchery brook trout since 2012 are presented in Figure 11. Chromium is the only metal with a statistically significant trend in Chrystina Lake brook trout for 2023 indicating decreasing chromium concentrations in Chrystina Lake brook trout (Table 6).

3.2.3 Health Canada Maximum Levels

There are no tissue residue concentrations measured that exceeded a Health Canada ML during the 2023 FTMP. Average mercury concentrations in Chrystina Lake, Edith Lake and hatchery brook trout are provided in relation to the ML in Figure 12. Concentrations of arsenic, lead, and mercury have reamined consistently low, comparable with historical data and below the Health Canada MLs. Mercury and arsenic levels have established new historical minima within 1^{+}year-old and 3^{+}year-old age classes of Chrystina Lake, respectively. While Edith Lake recorded a new historical minimum of arsenic in the 3^{+}year-old age class.

3.3 Organic Analyses-PCBs, Dioxins, and Furans

Total PCB concentrations (lw and ww) of samples analyzed during the 2023 FTMP are compared with historical data collected since 2006 and applicable criteria in Figure 13 and Table 7. Concentrations of individual PCB congeners and coelutions measured during the FTMP from 2006 to 2023 are provided along with total PCB concentrations in Table C.2 (Appendix C). Laboratory reports with results for the samples analyzed for the 2023 FTMP are provided also in Appendix D.

3.3.1 PCB Analysis

Total PCB concentrations in Chrystina Lake and Edith Lake brook trout in 2023 are provided alongside total PCB concentrations since 2006 in Table 7. Total PCB concentrations in Chrystina Lake brook trout decreased in 2023 from the 2022 results and were below the unrestricted consumption guideline for the Great Lakes (Figure 13). Although total PCB concentrations in Edith Lake brook trout increased from 2022 to 2023 in all age classes, except for the 2^{+} year-olds, the overall PCB concentrations remain low. Notably, the total PCB concentration in Edith Lake brook trout were all below the historical mean for each respective age class. Total PCB_{lipid} concentrations of Chrystina Lake brook trout decreased from the previous year in 2023. Edith lake total PCB_{lipid} concentrations all have slightly increased from previous years except for the 2^{+}year-old age class, which saw a decrease also.

The MK trend analysis was used to identify increasing and/or decreasing trends in total PCB concentrations in Chrystina Lake and Edith Lake brook trout analyzed since 2012. Based on this analysis, the total ww PCB concentration has a significant decreasing trend in Chrystina Lake brook trout. This decreasing trend is observed, but not statistically significant, when PCB concentration is normalized to fat content (Table 6). Alternatively, both ww PCB and PCB_{Lipid} concentrations are significantly decreasing in Edith Lake brook trout since 2012 (Table 6).

The MK trend analysis indicated that there are potential decreasing trends for the total PCB concentrations in Chrystina Lake and Edith Lake brook trout (Table 6). Maximum likelihood trend analysis of total PCB_{Lipid} concentrations was used to describe these potential trends in more detail for each lake (Figure 15). Tissue residue concentrations were log transformed to better fit a linear model for both lakes and a significant decreasing trend was documented for brook trout from Edith Lake (Linear Regression, $F_{1,53}=43.2$, $p < 0.001$, $R^2 = 0.44$). Although a decreasing trend for PCB_{Lipid} concentrations was present for Chrystina Lake brook trout, this trend was not statistically significant (Linear Regression, $F_{1,63} = 4.0$, $p = 0.05$, $R^2 = 0.04$).

3.3.1.1 Coplanar PCBs

A summary of coplanar PCB concentrations and TEQ calculations from 2006 to 2023 is provided in Appendix C (Table C.3). Coplanar PCB concentrations in Chrystina Lake brook trout in 2023 are compared with the CCME (2001a) guideline for TEQ_{PCB}, historical ranges, and Edith Lake reference fish in Table 8. It is well documented that Chrystina Lake brook trout TEQs are driven mainly by coplanar PCBs, given that dioxin and furan concentrations are typically near detection limits (Section 3.3.2). More specifically, PCB 126 contributed 89% of the TEQ_{PCB} on average and contributed an average of 65% of the total TEQ in 2023.

Compared with the 2021 and 2022 FTMPs that had the TEQ_{PCB} for each age class in Chrystina Lake exceeding the CCME (2001a) guideline, the 2023 levels were below guideline in each class except for the 3^+ year-old age class. Although the TEQ_{PCB} decreased in Chrystina Lake 3^+ year-olds, the concentration exceeded the CCME (2001a) guideline. The TEQ_{PCB} concentrations for Edith Lake brook trout were under the CCME (2001a) guideline and decreased in the 1^+ and 2^+ year-old age classes while increasing in the 3^+ and 4^+ year-old age classes (Table 8). Coplanar PCBs were on average lower for all age classes in Chrystina Lake and Edith Lake with new historical minima being set within the Chrystina Lake 1^+ year-old age class for coplanar PCBs 81,167, and 189.

3.3.2 Dioxins and Furans

Historical dioxin and furan concentrations collected during the FTMP are summarized in Appendix C (Tables C.4 and C.5). Dioxin and furan concentrations in samples analyzed in 2023 are provided along with calculated TEQ values in Table 9. As seen consistently throughout this program's history, tissue concentrations for dioxins and furans continue to be primarily below detection in 2023. Given the typically low concentrations of dioxins and furans, most comparisons to the CCME (2001b) guideline, historical ranges, and reference brook trout are based on overall total TEQ (Section 3.3.3).

Compared to previous years, the dioxin/furan based TEQ ($TEQ_{Dx/F}$) concentrations for the Chrystina Lake 3^+ year-olds and Edith Lake 1^+ and 3^+ year-olds were slightly higher in 2023 but continued to be below historical maxima. The 2^+ year-old age class continued to show decreased concentrations for both lakes as it has for other concentrations mentioned previously. All $TEQ_{Dx/F}$ concentrations in 2023 remain below the CCME (2001b) guideline and similar to previous years hatchery concentrations suggesting that dioxins and furans continue to contribute little to overall toxicity in brook trout near the facility.

3.3.3 Toxic Equivalency

The 2023 TEQs in Chrystina Lake brook trout are compared with historical ranges, CCME (2001b) guidelines, and Edith Lake reference fish in Table 9. Historical total TEQ, TEQ_{PCB}, and $TEQ_{Dx/F}$ values are summarized alongside 2023 Chrystina Lake brook trout concentrations in Table 10. In addition, total TEQs of brook trout analyzed in 2023 are compared visually with historical ranges, Edith Lake and hatchery brook trout, and applicable tissue quality criteria in Figure 15. Temporal changes to average TEQ for brook trout from Chrystina and Edith lakes since 2012 are provided in Figure 16. The total TEQ is assessed on a wet weight and lipid normalized basis in Figures 15 and 16 to assist with comparisons between toxicity measured in brook trout near the facility with TRBs and the CCME (2001b) guideline. It is important to note that the y-axis of the lipid normalized TEQ plot in Figure 16 has been log transformed to show the linear regression models fit to the total TEQ trends in Chrystina and Edith lakes.

Total TEQs exceeded guidelines for Chrystina Lake for the 3^+ year-old age class as well as for the Unknown A and B samples. The 1^+ and 2^+ year-old age classes decreased in 2023 compared with 2022 and were under the CCME (2001b) guideline. Edith Lake total TEQ increased slightly in all age classes except the 2^+ year-olds although all values remained below the CCME (2001b) guideline. The TEQ trend data presented in Figure 16 indicates that the toxicity from PCBs, dioxins, and furans in brook trout sampled during the FTMP has been reduced and is typically lower than the TRB99, which is the most conservative guideline that is protective of 99% of fish species.

Lipid normalized total TEQ (TEQ_{Lipid}) concentrations in Chrystina Lake and Edith Lake brook trout were within the historical range for each age class analyzed in 2023 and were below the average concentration for each age class measured in both lakes except for the Chrystina Lake 3^+ age class (Figure 15). All TEQ_{Lipid} concentrations in Edith Lake brook trout are below the TRB99 threshold in 2023. The TEQ_{Lipid} concentrations in the Chrystina Lake 3^+ year-old age class was the only age class to exceed the TRB99 threshold during the 2023 FTMP. Average TEQ_{Lipid} concentrations in both lakes have been decreasing inconsistently since 2011 with increases in 2022. Given that the MK analysis identified decreasing trends for total TEQ in both Chrystina Lake and Edith Lake, a linear regression model was applied to fit the TEQ_{Lipid} between 2012 and 2023. Similar to the total PCB trends in each lake, the total TEQ is decreasing in Chrystina Lake, however, this trend is not statistically significant (Linear Regression, $F_{1,62} = 3.1$, $p = 0.08$, $R^2 = 0.03$). Meanwhile the decreasing TEQ_{Lipid} trend observed in Edith Lake is statistically significant (Linear Regression, $F_{1,53} = 17.2$, $p < 0.001$, $R^2 = 0.23$).

3.3.4 Accumulation of PCBs in Fish Tissue

Chrystina Lake and Edith Lake brook trout tissue concentrations in 2023 extended the reconstructed life-histories of the 2020 cohort in Chrystina Lake, and the 2017,2019, and 2020 cohorts in Edith Lake. Results for PCB 118 and 153 are presented given that they consistently accumulate in Chrystina Lake brook trout and are unaffected by EMPC values or non-detections. Accumulation patterns discussed for these tracking congeners are consistent with results for PCB 105 and 126 as well.

Trends in PCB 118 in brook trout tissue from Chrystina Lake for the fourteen cohorts appear as straight lines because concentrations are on a logarithmic scale (Figure 17; Plot A). Fitted lines are either green or blue: the former indicates a slope that is significantly different from zero, and the latter a slope that is not. Data are inherently noisy which is why some green and blue lines appear to have similar slopes; a non-zero slope may not be significant if the residual variability is too large. Each line in Figure 17 (Plot A) has a slope that may be interpreted as the rate of PCB 118 accumulation in tissue for each cohort (even if particular relationships are noisy enough to cloud their statistical significance). Slopes for successive cohorts can be plotted to examine the rate of PCB accumulation in tissue over time (Figure 18, Plot A). As with depictions of PCB accumulation trends in Figure 17, the lines in Figure 18 are blue if they are suggestive but not statistically significant given residual variability, and lines are green if the relationship is statistically different from zero. If the slope parameter for a cohort is negative it is replaced by a value of zero for comparison with other cohorts given that PCBs are not anticipated to decrease in tissue as fish age and the negative slope is most likely caused by natural variability.

Chrystina Lake life histories did not get extended for any life histories beyond the 2020 cohort. Unlike previous years that saw the accumulation rates decreasing, the rates for PCB 118 have started to slightly increase due to the higher concentrations seen in this lake since 2021. The slope for PCB 153 has also become shallower but is still slightly decreasing (Figure 19, Plot A and C). Few fish over 3^{+} years old have been captured from Chrystina Lake since 2021 leading to shorter life-history reconstructions. A better understanding of the age distribution within the Chrystina Lake brook trout population would provide useful information regarding the life expectancy of brook trout in this lake and the availability of older brook trout.

With the capture of the three 6+ year-olds in Edith Lake, the life history for the 2017 cohort was able to be expanded despite a gap between the 4^{+} and 5^{+} year-old age classes. This is the longest extended cohort to data and this cohort has the 3rd lowest accumulation rate of all the cohorts analyzed from Edith Lake. This suggests that long-term PCB accumulation rate in Edith Lake is low, leading to low TEQs overall in brook trout from Edith Lake. Based on recent cohorts the rates of accumulation slope for PCB 118 and 153 appear to be continuing the downward trend despite elevated accumulation rates in more recent cohorts (Figure 18, Plot B and D). Although the decreasing slope is not as steep as was noticed in the 2021/22 FTMP due to the 2020 cohort showing the highest rate of concentrations for both PCBs since 2010.

4. Summary of 2023 Monitoring

Monitoring in 2023 commenced very similarly to monitoring practices in previous years. However, hatchery fish (to act as the control) were unable to be procured from the hatchery because of maintenance at the government operated hatcheries. The CPUE for 2023 was much lower in 2023 than in previous years, particularly in Edith Lake. While no 5^+ year old fish were captured in either lake, three tagged 6^+ year-old brook trout were sampled from Edith Lake which is the first documented occurrence of 6^+ year-old brook trout from either lake. Life expectancy for the stocked triploid brook trout is thought to be approximately four years suggesting that retrieving more CWTs could provide useful information regarding lifespan in both lakes.

New metal tissue residue historical minima were recorded for all ages captured within both lakes, and no historical maxima were reported. Zinc concentrations continued to be above the SETAC (1999) threshold for all ages classes within both lakes, but no other metal concentrations exceeded the respective SETAC (1999) threshold nor the Health Canada Maximum Level in 2023.

Overall toxicity from PCBs, dioxins, and furans continues to be driven primarily by PCBs and decreased in both lakes from 2022 to 2023. In Chrystina Lake, the coplanar PCBs were typically lower for all age classes with new historical minima being set in the 1^+ year-old age class. The 3^+ year-old TEQ_{PCB} was the only TEQ_{PCB} that exceeded the CCME (2001a) guideline in 2023. This sample and the two Chrystina Lake brook trout analyzed with no known age were the only samples that exceeded the CCME (2001b) guideline in 2023. Edith Lake PCB concentrations remained stable and under the CCME guidelines. Although decreasing trends have been observed in both lakes, this decrease is only statistically significant in Edith Lake brook trout.

Average TEQ_{Lipid} concentrations in both lakes are below the TRB99 benchmark which is the most conservative criterion for potential adverse effects from dioxin-like contaminants on brook trout in Chrystina Lake and Edith Lake. The 3^+ year-old brook trout from Chrystina Lake was the only sample to exceed this benchmark in 2023. In addition, no total PCB concentrations exceeded the unrestricted consumption limit from the Great Lakes monitoring program, which is the most conservative criterion applied within the FTMP for the protection of human consumers. Potential risks to human consumers is discussed in more detail in the HHRA which uses the contaminant of concern (COC) concentrations (i.e., PCBs, dioxins, and furans) measured in brook trout tissue during the FTMP to assess risks to human consumers of brook trout from Chrystina Lake and Edith Lake. The 2023 HHRA report detailing the methods, results, conclusions, and recommendations of the HHRA has been prepared by Worley Consulting and is provided in Appendix E.

Elevated PCB concentrations from 2021 to 2023 have resulted in higher PCB accumulation rate estimates from the reconstructed life history analysis in both lakes. This is reflected in higher accumulation rates in the 2018, 2019, and 2020 cohorts in Chrystina Lake in particular. The collection of older fish (>3+ years old) continues to be a challenge in Chrystina Lake and has led to short life-history reconstructions for these cohorts as well. Edith Lake extended the life histories for the 2017, 2019, and 2020 cohorts and it is notable that the shortest recent cohort (2020) from Edith also has the highest PCB accumulation rate. Overall, the PCB accumulation rates in Edith Lake since 2010 continue to decline.

5. Monitoring Recommendations

The 2024 monitoring program is the next scheduled year for the expanded monitoring program and its intent is to expand monitoring activities to ensure the standard program is sufficient to capture potential impacts from the facility operations. Consequently, the following recommendations include an expanded scope for the FTMP in 2024.

Patterns of accumulation in tissue using reconstructed life-histories are limited by the short time span of each cohort and small sample size of analytical results within age classes. However, results have been consistent with other analyses performed as part of the FTMP over time, therefore:

Fish tissue results will continue to be compared with guidelines and interpreted using improved reconstructed life-histories to work towards better characterizing changes in the rate of PCB accumulation in Chrystina Lake brook trout.

Accurate brook trout aging is an essential component of the reconstructed life-histories analysis for assessing contaminant accumulation as part of the FTMP, has improved our understanding of brook trout life span in Chrystina and Edith lakes, and ensures that new monitoring data is comparable with historical results. Traditional aging methods have been unreliable during previous monitoring activities and FL does not provide reliable age estimates given considerable overlap in size between age classes (Section 2.2) therefore:

The program will continue to make use of CWTs to ensure accurate aging of fish captured.

Expanded program – A fish head collection program will be developed through community and regulator engagement to increase the quantity of CWTs retrieved from stocked brook trout and provide an improved understanding of the age distribution of brook trout in Chrystina Lake and Edith Lake.

The average PCB concentrations measured in Edith Lake brook trout have resulted in TEQ estimates consistently below the CCME (2001b) guideline and accumulation rate estimates have been low apart from the 2020 cohort. Older brook trout captured from Edith Lake in 2023 also suggest that fish are not accumulating high PCB concentrations over longer time periods, therefore:

A detailed analysis of historical data will be completed in 2024 to confirm low PCB concentrations in the lake and determine if biannual sampling of Edith Lake would be more effective for the monitoring program in upcoming standard years.

6. Closure

We trust that this report satisfies your current requirements and provides suitable documentation for your records. If you have any questions or require further details, please contact the undersigned at any time.

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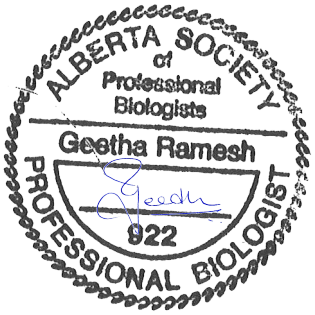

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Tables

Table 1

Analytical Schedule For Brook Trout Tissue Residue Analysis of 2023 Samples

Project No.: 317011-00057

Trace Metals	Polychlorinated Biphenyls (EPA Method 1668C)	Dibenzo-ρ-dioxins and Dibenzofurans (EPA Method 16130)
Aluminum	**Total Polychlorinated Biphenyls - Homologue Groups**	2,3,7,8-TCDD
Antimony		1,2,3,7,8-PeCDD
Arsenic	**Congener Specific Polychlorinated Biphenyls**	1,2,3,4,7,8-HxCDD
Barium	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12/13, 14, 15, 16, 17, 18/30, 19, 20/28, 21/33,	1,2,3,6,7,8-HxCDD
Beryllium	22, 23, 24, 25, 26/29, 27, 31, 32, 34, 35, 36, 37, 38, 39, 40/41/71, 42	1,2,3,7,8,9-HxCDD
Cadmium	43, 44/47/65, 45/51, 46, 48, 49/69, 50/53, 52, 54, 55, 56, 57, 58, 59/62/75,	1,2,3,4,6,7,8-HpCDD
Calcium	60, 61/70/74/76, 63, 64, 66, 67, 68, 72, 73, 77, 78, 79, 80, 81, 82, 83/99, 84	OCDD
Chromium	85/116/117/110/115, 86/87/97/109/119/125, 88/91, 89, 90/101/113, 92,	
Cobalt	93/98/100/102, 94, 95, 96, 103, 104, 105, 106, 107, 108/124, 111, 112, 114, 118	2,3,7,8-TeCDF
Copper	120, 121, 122, 123, 126, 127, 128/166,129/138/163,	1,2,3,7,8-PeCDF
Iron	130, 131, 132, 133, 134/143, 135/151, 136, 137/164, 139/140, 141, 142	2,3,4,7,8-PeCDF
Lead	144, 145, 146, 147/149, 148, 150, 152, 153/168, 154, 155, 156/157, 158,	1,2,3,4,7,8-HxCDF
Magnesium	159, 160, 161, 162, 165, 167, 169, 170, 171/173, 172, 174, 175	1,2,3,6,7,8-HxCDF
Manganese	176, 177, 178, 179, 180/193, 181, 182, 183, 184, 185, 186, 187, 188, 189,	1,2,3,7,8,9-HxCDF
Mercury	190, 191, 192, 194, 195, 196, 197, 198/199, 200, 201, 202, 203, 204	2,3,4,6,7,8-HxCDF
Molybdenum	205, 206, 207, 208, 209	1,2,3,4,6,7,8-HpCDF
Nickel		1,2,3,4,7,8,9-HpCDF
Phosphorus	**Lipid Content**	OCDF
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Uranium		
Vanadium		
Zinc		

Notes: 1. Superscript 1 - Dibenzo-ρ-dioxins (Dioxins) and Dibenzofurans (Furans) were analyzed by GC/MSMS using EPA method 16130 which includes analysis of coplanar PCBs 77, 81, 126 and 169.

Table 2

Fish Tissue Guidelines

Project #: 317011-00057

Parameter	Units	SETAC (1999) Threshold[1]	GOA (2018)[2]	Health Canada Maximum Levels[3]	CCME (2001) Tissue Residue Guideline[4]	Great Lakes Sport Fish Advisory (1993)[5]	OMOECC (2015)[5]	TEQ Tissue Residue Benchmarks (TRB)[6]
Aluminum	**mg/kg**	1.2	---	---	---	---	---	---
Antimony	**mg/kg**	5	---	---	---	---	---	---
Arsenic	**mg/kg**	2.6	---	3.5	---	---	---	---
Cadmium	**mg/kg**	0.02	---	---	---	---	---	---
Chromium	**mg/kg**	0.58	---	---	---	---	---	---
Copper	**mg/kg**	3.4	---	---	---	---	---	---
Lead	**mg/kg**	0.34	---	0.5	---	---	---	---
Mercury	**mg/kg**	0.7	---	0.5	---	---	---	---
Methyl mercury	**mg/kg**	3.4	---	---	---	---	---	---
Nickel	**mg/kg**	0.82	---	---	---	---	---	---
Selenium	**mg/kg**	0.25	4*	---	---	---	---	---
Zinc	**mg/kg**	4.5	---	---	---	---	---	---
2,3,7,8 - TCDD (Dioxin)	**pg/g**	---	---	20	---	---	---	---
Total PCBs	**µg/g**	---	---	(under review)	---	Unrestricted - 0.05 High - 0.20	0.105	---
PCB-Based TEQ (PCBs)	**pg TEQ/g ww**	---	---	---	0.79	---	---	---
Total TEQ (PCDDs and PCDFs)	**pg TEQ/g ww**	---	---	---	0.71	---	---	---
Total TEQ (PCDDs, PCDFs, PCBs)	**ng TEQ/g lw**	---	---	---	---	---	---	TRB99 - 0.057 TRB95 - 0.321 TRB90 - 0.699

Notes:
1. Superscript 1 - Society of Environmental Toxicology and Chemistry (SETAC), 1999. Jarvinen, A.W. and G.T. Ankley. 1998. *Linkage of Effects to Tissue Residues: Development of a Comprehensive Database for Aquatic Organisms. Exposed to Inorganic and Organic Chemicals*; Trace metals compiled in WorleyParsons 2010).
2. Superscript 2 - Government of Alberta. 2018. *Environmental Quality Guidelines for Alberta Surface Waters*. Water Policy Branch, AEP. Edmonton, Alberta.
3. Superscript 3 - Maximum Levels (ML) prescribed in the *List of Contaminants and Other Adulterating Substances in Foods* (Health Canada 2022) and the *List of Maximum Levels for Various Chemical Contaminants in Foods* (Health Canada 2020).
4. Superscript 4 - CCME Tissue Residue Guideline (2001) - CCME *Canadian Tissue Residue Guidelines for the Protection of wildlife Consumers of Aquatic Biota*, (CCME, 1999 and updated 2001).
5. Superscript 5 - Consumption advisory limits for total PCBs in the Great Lakes region including limits for unrestricted consumers (225 meals/year) and high frequency consumers (1 meal/week) from the *Protocol for a Uniform Great Lakes Sport Fish Consumption Advisory* (GLSFCATF 1993). Ontario consumption limit adopted from the *Guide to Eating Ontario Fish 2015-2016* (Ontario Ministry of the Environment and Climate Change [OMOECC] 2015).
6. Superscript 6 - Tissue Residue Benchmarks (TRB) calculated to protect 90% (TRB90), 95% (TRB95), and 99% (TRB99) of fish species present. Steevens et al 2005 *A Methodology for Deriving Tissue Residue Benchmarks for Aquatic Biota: A Case Study for Fish Exposed to TCDD and Equivalents.*
7. --- indicates no guideline or threshold.
8. * indicates the GOA (2018) guideline for selenium is an interim guideline based on the dry weight tissue concentration
9. Environments where both PCBs, polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) contribute significantly to TEQs in aquatic biota, it is recommended to use the Total Dioxin-Like TEQ guideline of 0.71 pg TEQ/g which is lower than the Total PCB TEQ guideline of 0.79 pg TEQ/g.

Table 3

Physical Parameters of Fish Obtained from Chrystina Lake and Edith Lake in 2023

Project Number: 317011-00057

	Collection Date	Fish ID #	Age	Sample ID	Sample Type	Fork Length	Total Length	Weight	Fulton's Condition Factor	Stomach Contents	Comments
	(d/m/yr)					*(mm)*	*(mm)*	*(g)*			
Chrystina Lake (W 08-67-08 W5M)											
Brook Trout	**13-Sep-23**	**1**	2	CHBKTR2+	Composite	305	320	364.0	1.28	dragonfly nymph	
	13-Sep-23	**2**	---	CHBKTR UNK A	Individual	388	409	601.0	1.03	1 decomp fish	
	13-Sep-23	**3**	1	CHBKTR 1+	Composite	243	251	198.0	1.38	6 brst. 2 flat worms	
	13-Sep-23	**4**	2	CHBKTR2+	Composite	316	327	311.0	0.99	decomp boatmen	
	13-Sep-23	**5**	---	CHBKTR UNK B	Individual	378	389	698.0	1.29	50 boatmen	
	13-Sep-23	**6**	---	---	Archived	252	260	194.0	1.21	2 BRST	
	13-Sep-23	**7**	1	---	Archived	257	269	230.0	1.35	a few boatmen	
	13-Sep-23	**8**	2	CHBKTR2+	Composite	348	366	518.0	1.23	empty	
	13-Sep-23	**9**	---	---	Archived	265	271	235.0	1.26	10 backswimmers	
	13-Sep-23	**10**	3	CHBKTR3+	Composite	365	381	541.0	1.11	1 boatman	
	13-Sep-23	**11**	1	CHBKTR 1+	Composite	275	283	225.0	1.08	3 backswimmers	
	13-Sep-23	**12**	2	---	Archived	316	330	439.0	1.39	10 backswimmers	
	13-Sep-23	**13**	1	---	Archived	256	261	221.0	1.32	1 boatman	
	13-Sep-23	**14**	3	CHBKTR3+	Composite	381	394	718.0	1.30	30+ boatmen	
	13-Sep-23	**15**	2	CHBKTR2+	Composite	325	345	440.0	1.28	10 backswimmers	
	13-Sep-23	**16**	1	---	Archived	240	250	166.0	1.20	20 backswimmers	
	13-Sep-23	**17**	1	---	Archived	280	289	280.0	1.28	2 backswimmer, damsel fly	
	13-Sep-23	**18**	3	---	Archived	358	377	503.0	1.10	2 white sucker, flatworm	
	13-Sep-23	**19**	3	CHBKTR3+	Composite	340	353	156.0	0.40	40+ backswimmers	
	13-Sep-23	**20**	1	---	Archived	284	290	315.0	1.38	3 brook stickleback, 2 backswimmers	
	13-Sep-23	**21**	2	---	Archived	322	337	380.0	1.14	1 shrew and 3 backswimmers	
	13-Sep-23	**22**	---	---	Archived	263	278	197.0	1.08	~20 backswimmers	
	13-Sep-23	**23**	1	CHBKTR 1+	Composite	233	245	155.0	1.23	2 brook stickleback	Damaged/half CWT
	13-Sep-23	**24**	1	---	Archived	246	256	185.0	1.24	highly decomposed forage fish	notably large gall bladder
	13-Sep-23	**25**	3	CHBKTR3+	Composite	342	360	501.0	1.25	~10 backswimmers	some highly reduced egg sacs present
	13-Sep-23	**26**	3	CHBKTR3+	Composite	351	360	504.0	1.17	~10 backswimmers	
	13-Sep-23	**27**	1	CHBKTR 1+	Composite	240	252	176.0	1.27	a few boatmen and backswimmers	
	13-Sep-23	**28**	2	---	Archived	345	362	512.0	1.25	empty	worm found inside fish
	13-Sep-23	**29**	2	CHBKTR2+	Composite	331	350	510.0	1.41	backswimmers	
	13-Sep-23	**30**	2	---	Archived	320	340	407.0	1.24	~30 backswimmers and boatmen	very little bile
	13-Sep-23	**31**	---	---	Archived	260	271	198.0	1.13	empty	
	13-Sep-23	**32**	---	---	Archived	244	251	180.0	1.24	empty	
	13-Sep-23	**33**	1	CHBKTR 1+	Composite	277	285	230.0	1.08	empty	
Average						**301**	**314**	**348**	**1.20**		
White Sucker	**13-Sep-23**	**1**	---			270	290	166	0.84		
	13-Sep-23	**2**	---			260	278	232	1.32		Eggs present suggesting sexual maturity
	13-Sep-23	**3**	---			285	306	258	1.11		
	13-Sep-23	**4**	---			210	230	111	1.20		
	13-Sep-23	**5**	---			271	293	250	1.26		
	13-Sep-23	**6**	---			284	305	242	1.06		
	13-Sep-23	**7**	---			270	289	232	1.18		
	13-Sep-23	**8**	---			241	260	166	1.19		
	13-Sep-23	**9**	---			241	257	188	1.34		

Physical Parameters of Fish Obtained from Chrystina Lake and Edith Lake in 2023

Project Number: 317011-00057

	Collection Date	Fish ID #	Age	Sample ID	Sample Type	Fork Length	Total Length	Weight	Fulton's Condition Factor	Stomach Contents	Comments
	(d/m/yr)					*(mm)*	*(mm)*	*(g)*			
	13-Sep-23	**10**	---			246	269	169	1.14		
	13-Sep-23	**11**	---			231	249	251	2.04		
	13-Sep-23	**12**	---			221	237	140	1.30		
Average						**253**	**272**	**200**	**1.25**		
Edith Lake (NE 13-67-10 W5M)											
Brook Trout	**14-Sep-23**	**1**	3	EDBKTR3+	Composite	355	381	573	1.28	50+ boatman	
	14-Sep-23	**2**	4	EDBKTR4+	Composite	355	371	486	1.09	50+ boatmen	
	14-Sep-23	**3**	2	EDBKTR2+	Composite	280	292	256	1.17		
	14-Sep-23	**4**	3	EDBKTR3+	Composite	319	340	425	1.31		
	14-Sep-23	**5**	1	EDBKTR1+	Composite	253	261	196	1.21	50+ boatman	
	14-Sep-23	**6**	---	---	Archived	224	232	123	1.09	seeds, 1 boatman	
	14-Sep-23	**7**	2	EDBKTR2+	Composite	265	279	223	1.20	50+ boatmen	
	14-Sep-23	**8**	4	EDBKTR4+	Composite	316	333	224	0.71	empty	large gall bladder, popped on liver during removal
	14-Sep-23	**9**	3	EDBKTR3+	Composite	319	334	429	1.32	boatmen 50+	
	14-Sep-23	**10**	3	EDBKTR3+	Composite	325	340	412	1.20	boatmen 50+	
	14-Sep-23	**11**	3	---	Archived	328	342	435	1.23	boatmen 50+	code on tag 130111. liver nicked and small piece removed
	14-Sep-23	**12**	4	EDBKTR4+	Composite	349	364	451	1.06	backswimmers 50+	erupted gall bladder
	14-Sep-23	**13**	6	EDBKTR6+	Composite	350	369	610	1.42	perch, boatman	
	14-Sep-23	**14**	3	---	Archived	315	330	350	1.12	20+ boatmen	erupted gall bladder
	14-Sep-23	**15**	2	EDBKTR2+	Composite	308	323	326	1.12	a few boatmen	
	14-Sep-23	**16**	1	EDBKTR1+	Composite	249	255	188	1.22	20 boatmen	
	14-Sep-23	**17**	3	---	Archived	313	327	348	1.13	50+ boatmen	some highly reduced egg sacs present
	14-Sep-23	**18**	6	EDBKTR6+	Composite	380	400	645	1.18		
	14-Sep-23	**19**	3	---	Archived	315	330	324	1.04	10 boatmen	
	14-Sep-23	**20**	4	EDBKTR4+	Composite	350	364	504	1.18	50+ boatmen	some reduced eggs prsent
	14-Sep-23	**21**	6	EDBKTR6+	Composite	369	383	589	1.17	empty	
	14-Sep-23	**22**	3	EDBKTR3+	Composite	340	359	447	1.14	20+ boatmen	coded tag 130111
	14-Sep-23	**23**	---	---	Archived	266	285	258	1.37	50+ boatmen	
	14-Sep-23	**24**	4	EDBKTR4+	Composite	368	380	610	1.22	50+ boatmen	
	14-Sep-23	**25**	---	---	Archived	333	352	436	1.18	boatmen 20+	
	14-Sep-23	**26**	---	---	Archived	341	360	504	1.27	boatmen 50+	
	14-Sep-23	**27**	---	---	Archived	238	249	137	1.02	boatmen	
	14-Sep-23	**28**	---	---	Archived	222	230	114	1.04	1 backswimmer	
Average						**312**	**327**	**379**	**1.17**		

Notes:
1. --- indicates parameter not analysed.
2. Archived fish were not sent for laboratory analysis and have been stored for potential future use.
3. Sample ID - Refers to the laboratory analysis identifier used for each sample during chemical analysis.
4. Reported fish age is based on the year each fish was stocked as determined by coded wire tag (CWT) retrieval

Table 4

Toxicity Equivalence Factors for Polychlorinated Dibenzodioxin, Polychlorinated Dibenzofuran and Coplanar Polychlorinated Biphenyl Congeners

Project Number: 317011-00057

Congener	WHO Toxicity Equivalence Factor - Mammals [1]
Coplanar ("Dioxin-Like") PCB Congeners	
Non-ortho Substituted	
77	0.0001
81	0.0003
126	0.1
169	0.03
Mono-ortho Substituted	
105	0.00003
114	0.00003
118	0.00003
123	0.00003
156	0.00003
157	0.00003
167	0.00003
189	0.00003
Dioxin Congeners	
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	1
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.0003
Furan Congeners	
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.03
2,3,4,7,8-PeCDF	0.3
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,6,7,8-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.0003

NOTE:

PCDD/PCDF and Coplanar PCB toxicity equivalent is determined by multiplying the measured concentration by the corresponding toxicity factor.

1. 2006 World Health Organization - Re-evaluation of Human and Mammalian TEFs for Dioxins and Dioxin-like Compounds (Van den Berg et al.)

Table 5

PROJECT NO.: 317011-00057

Trace Metal Concentrations in Fish Tissue: 2023 Historical Comparisons

Trace Metal	Units	Guidelines		Chrystina Lake Brook Trout Age Class 1+						Chrystina Lake Brook Trout Age Class 2+						Chrystina Lake Brook Trout Age Class 3+					
				Historical (1985 - 2022)						Historical (1985 - 2022)						Historical (1985 - 2021)					
		Health Canada (2020a, 2020b)	SETAC 1999	Minimum	Mean	Maximum	Total Count	% Detections	2023	Minimum	Mean	Maximum	Total Count	% Detections	2023	Minimum	Mean	Maximum	Total Count	% Detections	2023
Aluminum	(mg/kg)	---	1.2	< 0.2	39.50	320.0	20	90	< 0.40	<0.2	10.8	160.0	32	82	0.46	<0.2	5.7	100.0	36	70	< 0.40
Antimony	(mg/kg)	---	5	< 0.001	---	1.000	20	10	< 0.0020	<0.001	---	1.000	32	6	< 0.002	<0.001	---	1.180	36	19	< 0.0020
Arsenic	(mg/kg)	3.5	2.6	< 0.01	0.20	1	20	80	0.0515	< 0.01	0.12	1	32	67	0.0132	0.009	0.174611111	1.9	36	73	***0.0077***
Barium	(mg/kg)	---	---	0.1	1.88	12	20	90	0.280	<0.01	1.62	32	32	85	0.219	< 0.03	1.09	15	36	86	0.124
Beryllium	(mg/kg)	---	---	< 0.001	---	0.4	20	5	< 0.0020	< 0.001	---	0.6	32	9	< 0.002	< 0.001	---	1	36	8	< 0.0020
Boron	(mg/kg)	---	---	< 0.2	---	<5	20	0	< 0.20	<0.01	---	5	32	15	< 0.2	< 0.2	---	3	36	11	< 0.20
Cadmium	(mg/kg)	---	0.02	< 0.001	---	0.7	20	20	< 0.0010	< 0.001	---	0.2	32	6	< 0.001	< 0.001	---	0.8	36	11	< 0.0010
Calcium	(mg/kg)	---	---	421	1038	3610	20	100	624	154	777	2850	30	100	485	139	677	2150	35	100	342
Chromium	(mg/kg)	---	0.58	0.03	0.66	2.9	20	75	***0.013***	0.018	0.724	7.23	32	82	***< 0.010***	0.015	0.627	5.85	36	78	***< 0.010***
Cobalt	(mg/kg)	---	---	0.004	0.2865	3.2	20	70	0.0219	0.0049	0.1892	2.4	32	70	0.0084	0.005	0.2599	2.6	36	81	0.0156
Copper	(mg/kg)	---	3.4	0.22	1.27	6.7	20	90	0.444	0.266	1.251	8.4	32	97	0.267	0.2	1.660	24.2	36	97	0.461
Iron	(mg/kg)	---	---	4	30.8	200	20	100	4.41	3	11.6	68	30	97	3.16	4	11.4	47	35	100	5.59
Lead	(mg/kg)	0.5	0.34	< 0.002	0.56	7	20	70	0.0096	0.0012	---	1	32	42	0.0171	< 0.001	0.392963889	3	36	57	< 0.0040
Magnesium	(mg/kg)	---	---	256	461	1320	20	100	309	195	412	1840	32	100	341	206	407	1300	36	100	291
Manganese	(mg/kg)	---	---	0.13	1.47	10	20	90	0.22	0.11	0.66	10	32	91	0.21	0.1	0.70	10	36	86	0.12
Mercury	(mg/kg)	0.5	0.7	0.0486	0.0887	0.31	20	95	***0.0336***	0.04	0.1377	0.37	32	100	0.118	0.05	0.1920	0.95	36	97	0.136
Molybdenum	(mg/kg)	---	---	< 0.004	---	3.4	20	35	0.0041	< 0.004	---	<1	32	27	< 0.0040	< 0.004	---	2	36	22	< 0.0040
Nickel	(mg/kg)	---	0.82	< 0.01	---	5.3	20	35	< 0.040	< 0.01	---	5.2	32	33	< 0.040	< 0.01	---	5.7	36	46	< 0.040
Phosphorus	(mg/kg)	---	---	2230	4279	12800	20	100	2800	2000	3819	15500	32	100	2840	2120	3722	11500	36	100	2550
Potassium	(mg/kg)	---	---	3670	6427	18900	20	100	4170	3440	6277	27900	30	100	4390	3740	5989	19100	35	100	4080
Selenium	(mg/kg)	---	0.25	< 0.01	0.21	0.5	20	85	0.208	< 0.01	0.24	1.8	32	79	0.180	0.01	0.24	1.3	36	78	0.146
Silver	(mg/kg)	---	---	< 0.001	---	< 1	18	0	< 0.0010	< 0.001	---	2.0	30	10	< 0.0010	< 0.001	---	< 1	34	3	< 0.0010
Sodium	(mg/kg)	---	---	335	674	2160	20	100	382	293	628	3190	30	100	322	269	615	2230	35	100	407
Thallium	(mg/kg)	---	---	0.00162	0.06267	0.3	18	78	0.00328	0.0018	0.06465	0.3	29	70	0.00244	0.00174	0.08841	1.4	34	74	0.00225
Uranium	(mg/kg)	---	---	< 0.0004	---	10	20	15	< 0.0040	< 0.0004	---	< 50	29	7	< 0.0040	< 0.0004	---	< 50	34	11	< 0.0040
Vanadium	(mg/kg)	---	---	< 0.02	---	2.1	20	10	< 0.020	< 0.02	---	1.2	32	12	< 0.020	< 0.02	---	1.3	36	14	< 0.020
Zinc	(mg/kg)	---	4.5	6.33	14.25	41.8	20	100	9.65	5.08	12.8653125	45.1	32	100	9.35	4.31	11.71029412	32.3	36	100	5.90

Notes 1. --- in guideline row(s) denotes no criteria for that parameter.

2. --- in detail data row(s) denotes parameter not analyzed.

3. For historical data sets with <49% detections, median value was not computed. For datasets with >50% detections, all values (including non-detects, at RDL) were used to compute mean.

4. Highlighting indicates parameters above applied guideline/criteria.

- Maximum Levels (ML) prescribed in the *List of Contaminants and Other Adulterating Substances in Foods* (Health Canada 2020a) and the *List of Maximum Levels for Various Chemical Contaminants in Foods* (Health Canada 2020b).
- (Society of Environmental Toxicology and Chemistry (SETAC), 1999. Jarvinen, A.W. and G.T. Ankley. 1999. Linkage of Effects to Tissue Residues: Development of a Comprehensive Database for Aquatic Organisms. Exposed to Inorganic and Organic Chemicals. Pensicola, FL.).

5. **Bold** text indicates that the measurement is above the previous historical maximum for the associated variable.

6. ***Italic*** font indicates that the measurement is below the previous historical minimum for the associated variable.

Table 5

PROJECT NO.: 317011-00057

Trace Metal Concentrations in Fish Tissue: 2023 Historical Comparisons

Trace Metal	Units	Guidelines		Chrystina Lake Brook Trout Age Class 4+					Chrystina Lake Brook Trout Age Class 5+					Edith Lake Brook Trout Age Class 1+					
				Historical (1987 - 2021)					Historical (1987 - 2021)					Historical (2009 - 2022)					2023
		Health Canada (2020a, 2020b)	SETAC 1999	Minimum	Mean	Maximum	Total Count	% Detections	Minimum	Mean	Maximum	Total Count	% Detections	Minimum	Mean	Maximum	Total Count	% Detections	
Aluminum	(mg/kg)	---	1.2	<0.2	3.6	13.0	20	60	<0.2	---	67.0	19	47	<0.2	208.2	2580.0	13	93	0.65
Antimony	(mg/kg)	---	5	<0.001	---	< 1	20	15	<0.001	---	1.110	19	5	<0.001	---	< 1	13	7	< 0.0020
Arsenic	(mg/kg)	3.5	2.6	0.0051	0.30098	3.6	20	50	< 0.005	---	< 1	19	21	0.0132	0.2704	1	13	93	0.218
Barium	(mg/kg)	---	---	<0.01	1.58	15	20	70	< 0.1	---	< 10	19	42	0.05	1.00	10	13	93	0.245
Beryllium	(mg/kg)	---	---	< 0.001	---	0.7	20	10	< 0.002	---	0.7	19	11	< 0.001	---	< 0.4	13	0	< 0.0020
Boron	(mg/kg)	---	---	< 0.01	---	2	20	0	< 0.1	---	9	19	11	< 0.2	---	10	13	7	< 0.20
Cadmium	(mg/kg)	---	0.02	< 0.001	---	0.3	20	5	< 0.001	---	< 0.1	19	5	< 0.001	---	< 0.1	13	0	< 0.0010
Calcium	(mg/kg)	---	---	280	533	1200	19	100	129	645	4480	17	100	296	897	3290	13	100	493
Chromium	(mg/kg)	---	0.58	< 0.04	0.632	3.3	20	75	0.063	---	1	19	47	< 0.04	0.287	1	13	71	***< 0.010***
Cobalt	(mg/kg)	---	---	0.0044	0.3125	2	20	75	0.0053	---	2.4	19	32	0.0087	0.0887	1	13	93	0.0154
Copper	(mg/kg)	---	3.4	0.02	1.583	9.5	20	90	0.255	1.787	6.6	19	74	0.32	0.802	5	13	93	0.379
Iron	(mg/kg)	---	---	5	11.5	41	19	95	3	12.0	56.1	17	82	4	8.0	26.4	13	93	4.71
Lead	(mg/kg)	0.5	0.34	< 0.001	0.51832	3	20	55	< 0.002	---	3	19	21	< 0.0019	0.0490	0.5	13	93	0.0049
Magnesium	(mg/kg)	---	---	275	447	1200	20	100	232	383	1225	19	100	276	306	366	13	100	301
Manganese	(mg/kg)	---	---	< 0.08	0.73	< 10	20	75	< 0.075	1.91	< 10	19	58	0.21	2.53	17.6	13	93	0.44
Mercury	(mg/kg)	0.5	0.7	0.08	0.2541	0.81	20	100	0.08	0.2038	0.47	19	100	0.0213	0.0536	0.247	13	93	0.0293
Molybdenum	(mg/kg)	---	---	< 0.004	---	1.1	20	30	< 0.004	---	2.4	19	16	< 0.004	0.039	0.4	13	29	< 0.0040
Nickel	(mg/kg)	---	0.82	< 0.01	2.17885	31.5	20	65	< 0.01	---	10.4	19	16	< 0.01	0.16	1	13	50	< 0.040
Phosphorus	(mg/kg)	---	---	1990	3968	10300	20	100	1700	3438	10200	19	100	2280	2896	4340	13	100	2540
Potassium	(mg/kg)	---	---	3300	6637	17700	19	100	3180	5463	15700	17	100	3700	4153	4520	13	100	4230
Selenium	(mg/kg)	---	0.25	< 0.01	0.33	2	20	65	< 0.05	---	< 1	19	26	0.144	0.28	0.5	13	93	0.248
Silver	(mg/kg)	---	---	< 0.001	---	1	20	10	< 0.001	---	< 1	19	5	< 0.001	---	< 1	13	0	< 0.0010
Sodium	(mg/kg)	---	---	366	684	1910	19	100	333	594	1830	17	100	424	483	572	13	100	429
Thallium	(mg/kg)	---	---	0.00185	0.07852	0.3	20	65	0.00142	---	0.3	18	39	0.00183	0.02515	0.3	13	93	0.00204
Uranium	(mg/kg)	---	---	< 0.0004	---	50	19	5	< 0.0004	---	50	17	6	< 0.0004	---	< 1	13	14	< 0.0040
Vanadium	(mg/kg)	---	---	< 0.02	---	1.1	20	20	< 0.02	---	1.3	19	16	< 0.02	---	< 1	13	7	< 0.020
Zinc	(mg/kg)	---	4.5	4.75	10.94166667	24.5	20	100	4.7	10.38263158	31.2	19	95	5.81	9.175384615	16	13	100	8.05

Notes
1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. For historical data sets with <49% detections, median value was not computed. For datasets with >50% detections, all values (including non-detects, at RDL) were used to compute mean.
4. Highlighting indicates parameters above applied guideline/criteria.
   - Maximum Levels (ML) prescribed in the *List of Contaminants and Other Adulterating Substances in Foods* (Health Canada 2020a) and the *List of Maximum Levels for Various Chemical Contaminants in Foods* (Health Canada 2020b).
   - (Society of Environmental Toxicology and Chemistry (SETAC), 1999. Jarvinen, A.W. and G.T. Ankley. 1999. Linkage of Effects to Tissue Residues: Development of a Comprehensive Database for Aquatic Organisms. Exposed to Inorganic and Organic Chemicals. Pensicola, FL.).
5. **Bold** text indicates that the measurement is above the previous historical maximum for the associated variable.
6. ***Italic*** font indicates that the measurement is below the previous historical minimum for the associated variable.

Table 5

PROJECT NO.: 317011-00057

Trace Metal Concentrations in Fish Tissue: 2023 Historical Comparisons

Trace Metal	Units	Guidelines		Edith Lake Brook Trout Age Class 2+						Edith Lake Brook Trout Age Class 3+						
				Historical (2009 - 2022)						Historical (2010 - 2022)						
		Health Canada (2020a, 2020b)	SETAC 1999	Minimum	Mean	Maximum	Total Count	% Detections	2023	Minimum	Mean	Maximum	Total Count	% Detections	2023	2023 (DUP)
Aluminum	(mg/kg)	---	1.2	<0.2	10.4	130.0	17	72	< 0.40	<0.2	1.9	26.6	21	77	< 0.40	< 0.40
Antimony	(mg/kg)	---	5	<0.001	---	< 1	17	0	< 0.0020	<0.001	---	< 0.002	21	0	< 0.0020	< 0.0020
Arsenic	(mg/kg)	3.5	2.6	< 0.01	0.09	1	17	89	0.0527	0.0054	0.018152381	0.0789	21	91	***0.0042***	0.0099
Barium	(mg/kg)	---	---	0.03	0.88	10	17	94	0.319	0.08	0.29	0.639	21	100	0.270	0.282
Beryllium	(mg/kg)	---	---	< 0.001	---	< 0.4	17	0	< 0.0020	< 0.001	---	< 0.02	21	0	< 0.0020	< 0.0020
Boron	(mg/kg)	---	---	< 0.2	---	< 2	17	0	< 0.20	< 0.2	---	< 0.4	21	0	< 0.20	< 0.20
Cadmium	(mg/kg)	---	0.02	< 0.001	---	< 0.1	17	6	< 0.0010	< 0.001	---	< 0.002	21	0	< 0.0010	< 0.0010
Calcium	(mg/kg)	---	---	167	695	1640	17	100	754	348	701	2110	21	100	494	514
Chromium	(mg/kg)	---	0.58	0.025	0.290	1.17	17	78	***< 0.010***	< 0.04	0.212	0.847	21	86	***< 0.010***	***< 0.010***
Cobalt	(mg/kg)	---	---	< 0.004	0.0796	<1	17	89	0.0106	0.0041	0.0117	0.032	21	100	0.0092	0.134
Copper	(mg/kg)	---	3.4	0.251	0.571	5	17	94	0.310	0.181	0.300	0.39	21	100	0.327	0.383
Iron	(mg/kg)	---	---	4	7.3	14.1	17	100	4.15	5	7.1	12.2	21	100	***4.21***	***4.86***
Lead	(mg/kg)	0.5	0.34	< 0.002	0.033	0.5	17	67	< 0.0040	< 0.002	0.003138095	0.0056	21	68	< 0.0040	< 0.0040
Magnesium	(mg/kg)	---	---	283	315	374	17	100	333	273	309	390	21	100	313	326
Manganese	(mg/kg)	---	---	< 0.05	0.38	0.709	17	94	0.48	0.18	0.38	0.75	21	100	0.32	0.33
Mercury	(mg/kg)	0.5	0.7	< 0.05	0.1375	0.37	17	94	0.156	0.107	0.2021	0.303	21	100	0.225	0.220
Molybdenum	(mg/kg)	---	---	< 0.004	---	< 0.4	17	22	< 0.0040	< 0.004	---	0.0167	21	23	< 0.0040	< 0.0040
Nickel	(mg/kg)	---	0.82	< 0.01	0.09	< 1	17	56	< 0.040	< 0.01	0.133142857	2.28	21	64	< 0.040	0.056
Phosphorus	(mg/kg)	---	---	2400	2966	3480	17	100	2870	2240	2944	3750	21	100	2660	2750
Potassium	(mg/kg)	---	---	3760	4364	4920	17	100	4500	3570	4282	4820	21	100	4230	4290
Selenium	(mg/kg)	---	0.25	0.123	0.20	< 0.5	17	94	0.136	0.121	0.15	0.25	21	100	***0.111***	***0.119***
Silver	(mg/kg)	---	---	< 0.001	---	<1	17	0	< 0.0010	< 0.001	---	< 0.004	21	0	< 0.0010	< 0.0010
Sodium	(mg/kg)	---	---	375	449	540	17	100	***362***	342	444	619	21	100	374	394
Thallium	(mg/kg)	---	---	0.00101	0.02009	0.3	17	94	0.00155	0.00076	0.00234	0.00433	21	100	0.00132	0.00144
Uranium	(mg/kg)	---	---	< 0.0004	---	< 1	17	6	< 0.0040	< 0.0004	---	< 0.004	21	5	< 0.0040	< 0.0040
Vanadium	(mg/kg)	---	---	< 0.02	---	< 1	17	0	< 0.020	< 0.02	---	< 0.04	21	0	< 0.020	< 0.020
Zinc	(mg/kg)	---	4.5	5.61	9.857647059	15	17	100	10.3	5	8.234285714	14.6	21	100	7.85	8.05

Notes 1. --- in guideline row(s) denotes no criteria for that parameter.

2. --- in detail data row(s) denotes parameter not analyzed.

3. For historical data sets with <49% detections, median value was not computed. For datasets with >50% detections, all values (including non-detects, at RDL) were used to compute mean

4. Highlighting indicates parameters above applied guideline/criteria.

- Maximum Levels (ML) prescribed in the *List of Contaminants and Other Adulterating Substances in Foods* (Health Canada 2020a) and the *List of Maximum Levels for Various Chemical Contaminants in Foods* (Health Canada 2020b).
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5. **Bold** text indicates that the measurement is above the previous historical maximum for the associated variable.

6. ***Italic*** font indicates that the measurement is below the previous historical minimum for the associated variable.

Table 5

PROJECT NO.: 317011-00057

Trace Metal Concentrations in Fish Tissue: 2023 Historical Comparisons

Trace Metal	Units	Guidelines		Edith Lake Brook Trout Age Class 4+						Edith Lake Brook Trout Age Class 5+					Edith Lake Brook Trout Age Class 6+
				Historical (1998- 2020)					2023	Historical (1998- 2021)					2023
		Health Canada (2020a, 2020b)	SETAC 1999	Minimum	Mean	Maximum	Total Count	% Detections		Minimum	Mean	Maximum	Total Count	% Detections	
Aluminum	(mg/kg)	---	1.2	<0.2	5.1	36.0	15	63	< 0.40	<0.2	8.3	43.0	9	56	< 0.40
Antimony	(mg/kg)	---	5	<0.001	---	<1	15	0	< 0.0020	<0.001	---	1.000	9	0	< 0.0020
Arsenic	(mg/kg)	3.5	2.6	< 0.005	---	2.4	15	44	0.0062	< 0.005	---	< 1	9	22	***0.0042***
Barium	(mg/kg)	---	---	0.09	1.13	<10	15	69	0.204	0.08	1.59	<10	9	78	0.303
Beryllium	(mg/kg)	---	---	< 0.001	---	0.7	15	19	< 0.0020	< 0.002	---	0.8	9	11	< 0.0020
Boron	(mg/kg)	---	---	< 0.2	---	2	15	13	< 0.20	<0.2	---	2.33	9	11	0.27
Cadmium	(mg/kg)	---	0.02	< 0.001	---	< 0.1	15	0	< 0.0010	< 0.001	---	<0.1	9	0	< 0.0010
Calcium	(mg/kg)	---	---	177	565	1380	15	100	424	88	587	1600	9	100	853
Chromium	(mg/kg)	---	0.58	< 0.04	0.428	< 1	15	63	***< 0.010***	0.032	---	< 1	9	44	***< 0.010***
Cobalt	(mg/kg)	---	---	< 0.004	0.3002	<1	15	56	0.0139	0.004	---	< 1	9	44	0.0051
Copper	(mg/kg)	---	3.4	0.06	0.840	< 5	15	88	0.460	0.193	1.203	< 5	9	78	0.254
Iron	(mg/kg)	---	---	4	11.4	58.9	15	94	6.30	4.62	16.5	79.4	9	89	6.53
Lead	(mg/kg)	0.5	0.34	< 0.0014	0.803086667	<3	15	50	0.0056	< 0.002	---	< 3	9	44	0.0054
Magnesium	(mg/kg)	---	---	238	359	972	15	100	284	253.67	357	933	9	100	302
Manganese	(mg/kg)	---	---	0.1	1.18	< 10	15	88	0.26	0.14	1.71	10	9	67	0.32
Mercury	(mg/kg)	0.5	0.7	0.06	0.2471	0.58	15	100	0.250	0.0419	0.3071	0.643	9	100	0.386
Molybdenum	(mg/kg)	---	---	0.0053	---	< 0.4	15	25	***< 0.0040***	< 0.004	---	< 0.4	9	11	< 0.0040
Nickel	(mg/kg)	---	0.82	< 0.01	---	< 2	15	25	< 0.040	< 0.01	---	2	9	33	< 0.040
Phosphorus	(mg/kg)	---	---	2143.33	3270	8990	15	100	2490	2070	3266	9030	9	100	2760
Potassium	(mg/kg)	---	---	3610	5112	13800	15	100	3980	3620	5168	13900	9	100	4120
Selenium	(mg/kg)	---	0.25	0.096	0.46	1	15	75	0.123	0.105	0.48	< 1	9	67	0.120
Silver	(mg/kg)	---	---	< 0.001	---	< 1	15	13	< 0.0010	< 0.001	---	<1	9	0	< 0.0010
Sodium	(mg/kg)	---	---	328	552	1620	15	100	393	374	619	1840	9	100	430
Thallium	(mg/kg)	---	---	0.00117	0.03338	0.3	15	63	0.00135	0.001	0.04093	0.3	9	56	0.00196
Uranium	(mg/kg)	---	---	< 0.0004	---	< 50	15	0	< 0.0040	< 0.0004	---	< 1	9	11	< 0.0040
Vanadium	(mg/kg)	---	---	< 0.02	---	< 1	15	6	< 0.020	< 0.02	---	< 1	9	11	< 0.020
Zinc	(mg/kg)	---	4.5	4.67	10.23866667	34.9	15	100	11.8	3.9	12.55333333	49.6	9	100	5.39

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3. For historical data sets with <49% detections, median value was not computed. For datasets with >50% detections, all values (including non-detects, at RDL) were used to compute mean.

4. Highlighting indicates parameters above applied guideline/criteria.

- Maximum Levels (ML) prescribed in the *List of Contaminants and Other Adulterating Substances in Foods* (Health Canada 2020a) and the *List of Maximum Levels for Various Chemical Contaminants in Foods* (Health Canada 2020b).
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Table 6

Fish Tissue Results: Mann Kendall Trend Analysis for Chrystina Lake and Edith Lake (2010-2023)

PROJECT NO.: 317011-00057

Parameter	Units	Count	Std. Dev.	Mann Kendall Statistic	P-Value	Frequency of Detection (%)
Chrystina Lake						
Aluminum	mg/kg	12	0.70	5	0.807	72
Arsenic	mg/kg	12	0.02	11	0.541	95
Barium	mg/kg	12	0.04	0	1.000	100
Chromium	mg/kg	11	0.12	-29	0.029	98
Cobalt	mg/kg	12	0.002	17	0.328	100
Copper	mg/kg	12	0.37	5	0.807	100
Iron	mg/kg	12	1.23	-29	0.087	100
Lead	mg/kg	12	0.01	1	1.000	77
Manganese	mg/kg	12	0.05	19	0.271	100
Mercury	mg/kg	12	0.04	-11	0.541	100
Nickel	mg/kg	12	0.10	-2	0.951	55
Selenium	mg/kg	12	0.02	-7	0.714	100
Thallium	mg/kg	12	0.0005	-13	0.463	100
Zinc	mg/kg	12	1.62	-29	0.087	100
Total PCBs (wet weight)	µg/g	12	0.02	-35	0.038	---
Total PCBs (lipid normalized)	µg/g	12	0.68	-27	0.112	---
Total TEQ (wet weight)	pg/g	12	0.64	-35	0.038	---
Total TEQ (lipid normalized)	ng/g	12	0.02	-25	0.142	---
Edith Lake						
Aluminum	mg/kg	12	2.10	8	0.631	82
Arsenic	mg/kg	12	0.03	22	0.150	84
Barium	mg/kg	12	0.06	-6	0.732	100
Chromium	mg/kg	11	0.16	-16	0.241	100
Cobalt	mg/kg	12	0.01	10	0.537	93
Copper	mg/kg	12	0.05	22	0.150	100
Iron	mg/kg	12	1.63	-20	0.193	100
Lead	mg/kg	12	0.00	2	0.945	81
Manganese	mg/kg	12	0.84	16	0.304	100
Mercury	mg/kg	12	0.04	-14	0.373	100
Nickel	mg/kg	12	0.09	1	1.000	67
Selenium	mg/kg	12	0.04	8	0.631	100
Thallium	mg/kg	12	0.001	-4	0.837	100
Zinc	mg/kg	12	1.24	-6	0.732	97
Total PCBs (wet weight)	µg/g	12	0.01	-50	0.001	---
Total PCBs (lipid normalized)	µg/g	12	0.44	-48	0.001	---
Total TEQ (wet weight)	pg/g	12	0.63	-36	0.016	---
Total TEQ (lipid normalized)	ng/g	12	0.02	-30	0.047	---

Notes: 1. Parameters with <50% frequency of detection are not shown

2. Highlighting indicates a significant (α=0.05) trend based on average annual concentrations

3. --- indicates associated parameter is calculated totals from polychlorinated biphenyls (PCBs), dioxins, and furans with varying detection limits and percent detections. Refer to TEQ calculation section for details.

Table 7
Total PCB Concentrations in Fish Tissue: Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	LIPID CONTENT (%)	Total PCB_{Lipid} (µg/g lw)	Total PCB (µg/g ww)
Health Canada 2020a [#1]		---	---	**2.000**
OMOECC 2015		---	---	**0.105**
Great Lakes Unrestricted Consumption Advisory		---	---	**0.050**
Great Lakes High Consumption Advisory		---	---	**0.200**
Hatchery				
Brook Trout 0+	04-Oct-2006	3.9	0.14	0.006
	11-Sep-2007	5.0	0.09	0.005
	23-Jul-2008	5.5	0.05	0.003
	11-Aug-2009	5.5	0.06	0.003
	11-Aug-2010	3.2	0.09	0.003
	01-Sep-2011	9.6	0.07	0.007
	01-Sep-2012	6.5	0.09	0.006
	01-Sep-2013	4.9	0.18	0.009
	21-Sep-2014	5.5	0.09	0.005
	22-Sep-2015	3.9	0.25	0.010
	30-Aug-2016	3.4	0.15	0.005
	30-Aug-2018	4.5	0.06	0.003
	06-Sep-2019	3.9	0.05	0.002
	26-Aug-2020	3.7	0.05	0.002
	30-Sep-2021	4.9	0.01	0.0004
	13-Oct-2022	3.9	0.27	0.011
Brook trout 1+	13-Sep-2017	5.2	0.16	0.008
Chrystina Lake				
Brook Trout 1+	11-Aug-2009	3.4	0.27	0.009
	01-Sep-2011	1.8	0.67	0.012
	01-Sep-2012	4.0	0.87	0.035
(Replicate A)	01-Sep-2013	1.5	0.48	0.007
(Replicate B)	01-Sep-2013	2.1	0.38	0.008
	23-Sep-2015	2.8	3.28	**0.091**
	31-Aug-2016	2.1	0.54	0.011
	12-Sep-2017	2.0	0.45	0.009
	29-Aug-2018	2.8	0.27	0.008
(Replicate A)	05-Sep-2019	1.7	0.50	0.009
(Replicate B)	05-Sep-2019	2.1	0.46	0.010
	25-Aug-2020	2.5	0.33	0.008
	29-Sep-2021	3.0	0.81	0.024
(Duplicate)	29-Sep-2021	---	---	0.024
	12-Oct-2022	1.0	1.02	0.010
	13-Sep-2023	1.5	0.39	0.006
Brook Trout 2+	11-Aug-2009	2.9	1.29	0.037
	11-Aug-2010	2.5	2.40	**0.060**
	12-Aug-2010	1.8	7.17	**0.129**
	01-Sep-2011	2.9	12.55	**0.364**
(Duplicate)	01-Sep-2011	4.8	9.60	**0.461**
	01-Sep-2012	2.4	1.18	0.028
	01-Sep-2013	2.5	1.57	0.040
	22-Sep-2014	3.2	1.20	0.039
(Replicate A)	22-Sep-2014	1.6	0.91	0.015
(Replicate B)	22-Sep-2014	3.9	0.42	0.017

Table 7
Total PCB Concentrations in Fish Tissue: Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	LIPID CONTENT (%)	Total PCB_{Lipid} (µg/g lw)	Total PCB (µg/g ww)
Health Canada 2020a [#1]		---	---	**2.000**
OMOECC 2015		---	---	**0.105**
Great Lakes Unrestricted Consumption Advisory		---	---	**0.050**
Great Lakes High Consumption Advisory		---	---	**0.200**
Chrystina Lake - Continued				
	23-Sep-2015	2.3	2.57	**0.058**
	31-Aug-2016	2.8	1.84	**0.052**
	12-Sep-2017	2.2	0.88	0.019
(Replicate A)	12-Sep-2017	2.0	0.75	0.015
	29-Aug-2018	3.2	0.91	0.029
(Replicate A)	05-Sep-2019	3.2	0.47	0.015
(Replicate B)	05-Sep-2019	3.8	0.45	0.017
(Replicate A)	25-Aug-2020	3.8	0.46	0.017
(Replicate B)	25-Aug-2020	2.5	0.60	0.015
	29-Sep-2021	3.6	0.69	0.025
	12-Oct-2022	2.1	2.24	0.046
	13-Sep-2023	2.3	0.59	0.013
Brook Trout 3+	04-Oct-2006	1.9	1.74	0.033
	11-Aug-2010	2.9	1.64	0.048
(Duplicate)	11-Aug-2010	2.7	1.73	0.047
(Replicate A)	12-Aug-2010	2.4	3.12	**0.075**
(Replicate A)	01-Sep-2012	2.2	0.83	0.018
(Duplicate)	01-Sep-2012	2.1	0.83	0.017
(Replicate B)	01-Sep-2012	3.1	0.34	0.011
(Replicate C)	01-Sep-2013	2.3	0.90	0.021
(Replicate D)	01-Sep-2013	1.7	1.36	0.024
(Known (External Reference Material) Duplicate)	01-Sep-2013	2.0	1.03	0.021
	22-Sep-2014	2.9	1.88	**0.054**
(Duplicate)	22-Sep-2014	2.9	1.86	**0.053**
(Replicate A)	22-Sep-2014	3.2	0.66	0.021
(Replicate B)	22-Sep-2014	1.3	2.58	0.033
	23-Sep-2015	2.2	4.08	**0.091**
(Replicate A)	31-Aug-2016	2.7	2.68	**0.071**
	31-Aug-2016	3.0	3.31	**0.098**
(Duplicate)	31-Aug-2016	3.0	3.16	**0.095**
	12-Sep-2017	2.5	1.03	0.025
(Duplicate)	12-Sep-2017	2.5	1.10	0.027
	29-Aug-2018	3.4	0.86	0.029
(Duplicate)	29-Aug-2018	3.2	0.85	0.027
(Lab Duplicate)	29-Aug-2018	3.2	0.83	0.027
	05-Sep-2019	5.2	0.49	0.026
(Lab Duplicate)	05-Sep-2019	5.1	0.50	0.025
	29-Sep-2021	1.8	1.00	0.018
(Duplicate)	29-Sep-2021	2.5	1.76	0.044
	12-Oct-2022	1.4	2.91	0.040
	13-Sep-2023	1.9	1.52	0.028
Brook Trout 4+	04-Oct-2006	2.3	5.87	**0.135**
	01-Sep-2011	4.0	3.88	**0.155**

Table 7
Total PCB Concentrations in Fish Tissue: Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	LIPID CONTENT (%)	Total PCB_{Lipid} (µg/g lw)	Total PCB (µg/g ww)
Health Canada 2020a [#1]		---	---	**2.000**
OMOECC 2015		---	---	**0.105**
Great Lakes Unrestricted Consumption Advisory		---	---	**0.050**
Great Lakes High Consumption Advisory		---	---	**0.200**
Chrystina Lake - Continued				
	01-Sep-2013	3.4	3.72	**0.127**
	22-Sep-2014	2.7	5.66	**0.154**
(Replicate A)	23-Sep-2015	4.2	1.06	0.044
(Replicate B)	23-Sep-2015	3.0	1.92	**0.058**
	12-Sep-2017	2.9	1.48	0.042
(Replicate A)	29-Aug-2018	4.0	1.61	**0.064**
(Replicate B)	29-Aug-2018	2.7	1.35	0.037
(Replicate C)	29-Aug-2018	3.7	0.93	0.035
	25-Aug-2020	2.7	0.46	0.012
	29-Sep-2021	1.9	1.38	0.026
Brook Trout 5+	04-Oct-2006	1.8	4.06	**0.073**
	11-Sep-2007	1.6	3.50	**0.056**
	12-Aug-2010	2.4	1.22	0.029
	01-Sep-2013	4.2	6.54	**0.274**
(Known (External Reference Material) Duplicate)	01-Sep-2013	5.1	5.49	**0.280**
	23-Sep-2015	4.0	1.75	**0.070**
	30-Aug-2016	2.2	2.75	**0.060**
	12-Sep-2017	4.2	3.06	**0.129**
(Re-analysis)	12-Sep-2017	3.3	2.75	**0.091**
	29-Sep-2021	1.7	1.33	0.023
Brook Trout 6+	11-Sep-2007	1.9	3.26	**0.062**
Brook Trout 7+	11-Sep-2007	1.8	0.89	0.016
(Duplicate)	11-Sep-2007	1.6	0.88	0.014
Brook Trout 11+	11-Sep-2007	1.3	5.23	**0.068**
Brook Trout 12+	11-Sep-2007	1.8	4.89	**0.088**
Brook Trout Unknown	23-Jul-2008	3.4	0.23	0.008
(Replicate)	23-Jul-2008	2.7	0.14	0.004
(Replicate A)	23-Jul-2008	3.6	0.31	0.011
(Replicate B)	23-Jul-2008	4.3	0.14	0.006
(Replicate C)	23-Jul-2008	3.7	0.18	0.007
	12-Oct-2022	3.5	0.85	0.030
(Replicate A)	13-Sep-2023	2.0	0.87	0.017
(Replicate B)	13-Sep-2023	2.6	0.61	0.016
Brook Trout (Muscle only) 3+	01-Feb-2012	1.2	3.08	0.037
Brook Trout (Skin Only) 3+	01-Feb-2012	1.8	4.48	**0.081**
Brook Trout (Stomach) 1+	01-Sep-2012	2.3	0.10	0.002
Brook Trout (Stomach) 2+	01-Sep-2012	2.4	0.12	0.003
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1.5	0.10	0.002
(Replicate B)	01-Sep-2012	1.6	0.37	0.006
White Sucker 1+	01-Feb-2012	2.0	1.99	0.040

Table 7
Total PCB Concentrations in Fish Tissue: Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	LIPID CONTENT (%)	Total PCB_{Lipid} (µg/g lw)	Total PCB (µg/g ww)
Health Canada 2020a [#1]		---	---	**2.000**
OMOECC 2015		---	---	**0.105**
Great Lakes Unrestricted Consumption Advisory		---	---	**0.050**
Great Lakes High Consumption Advisory		---	---	**0.200**
Chrystina Lake - Continued				
	21-Sep-2014	0.7	0.51	0.003
White Sucker 2+	01-Feb-2012	0.6	0.69	0.004
	22-Sep-2014	0.6	0.94	0.006
White Sucker 3+	01-Feb-2012	1.1	0.29	0.003
White Sucker 6+	11-Sep-2007	0.7	0.50	0.004
White Sucker 7+	11-Sep-2007	0.5	0.90	0.005
White Sucker 8+	11-Sep-2007	0.8	0.51	0.004
	11-Aug-2009	1.3	0.41	0.005
White Sucker 9+	11-Sep-2007	0.9	0.77	0.007
White Sucker 10+	11-Aug-2009	0.7	0.64	0.004
Forage Fish	04-Nov-2014	2.5	0.45	0.011
Invertebrates	22-Aug-2014	3.8	1.19	0.045
Edith Lake				
Brook Trout 1+	11-Aug-2009	2.8	0.11	0.003
	01-Sep-2011	1.5	0.33	0.005
(Duplicate)	01-Sep-2011	1.5	0.58	0.009
	01-Sep-2012	1.4	0.65	0.009
	22-Sep-2015	3.1	0.61	0.019
	30-Aug-2016	1.9	0.50	0.009
	13-Sep-2017	3.6	0.30	0.011
	30-Aug-2018	1.9	0.35	0.007
(Replicate A)	06-Sep-2019	2.8	0.27	0.007
(Replicate B)	06-Sep-2019	1.7	0.52	0.009
	26-Aug-2020	2.4	0.26	0.006
	30-Sep-2021	1.8	0.10	0.002
	13-Oct-2022	2.2	0.07	0.002
	14-Sep-2023	2.3	0.11	0.002
Brook Trout 2+	11-Aug-2009	3.1	0.09	0.003
	11-Aug-2010	2.2	0.95	0.021
	01-Sep-2011	1.8	1.59	0.029
	01-Sep-2012	2.8	0.79	0.022
	01-Sep-2013	2.6	1.68	0.044
	21-Sep-2014	2.4	1.07	0.025
(Replicate A)	21-Sep-2014	4.3	0.48	0.020
(Replicate B)	21-Sep-2014	2.7	0.14	0.004
	22-Sep-2015	4.1	0.04	0.002
	30-Aug-2016	2.3	0.87	0.020
	13-Sep-2017	2.1	0.23	0.005
	30-Aug-2018	1.6	0.33	0.005

Table 7
Total PCB Concentrations in Fish Tissue: Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	LIPID CONTENT (%)	Total PCB_{Lipid} (µg/g lw)	Total PCB (µg/g ww)
Health Canada 2020a [#1]		---	---	**2.000**
OMOECC 2015		---	---	**0.105**
Great Lakes Unrestricted Consumption Advisory		---	---	**0.050**
Great Lakes High Consumption Advisory		---	---	**0.200**
Edith Lake - Continued				
(Replicate A)	06-Sep-2019	1.4	0.22	0.003
(Replicate B)	06-Sep-2019	2.0	0.22	0.004
	26-Aug-2020	1.8	0.37	0.007
	30-Sep-2021	1.8	0.12	0.002
	13-Oct-2022	1.5	0.92	0.014
	14-Sep-2023	2.1	0.18	0.004
Brook Trout 3+	11-Aug-2010	3.4	0.74	0.025
	01-Sep-2011	1.7	1.43	0.024
	01-Sep-2012	2.4	1.20	0.029
(Replicate A)	01-Sep-2013	3.4	1.51	**0.051**
(Replicate B)	01-Sep-2013	2.5	1.63	0.041
(Duplicate)	01-Sep-2013	3.2	1.39	0.045
(Known (External Reference Material) Duplicate)	01-Sep-2013	3.3	1.68	**0.056**
	21-Sep-2014	2.4	1.42	0.034
(Replicate A)	21-Sep-2014	3.6	0.57	0.020
(Replicate B)	21-Sep-2014	0.9	2.42	0.021
	22-Sep-2015	4.5	0.45	0.020
(Duplicate)	22-Sep-2015	4.5	0.44	0.020
	30-Aug-2016	2.3	0.88	0.020
	13-Sep-2017	2.1	0.42	0.009
(Duplicate)	13-Sep-2017	2.0	0.40	0.008
	30-Aug-2018	2.5	0.18	0.004
	06-Sep-2019	3.2	0.15	0.005
(Duplicate)	06-Sep-2019	3.5	0.15	0.005
	26-Aug-2020	2.4	0.18	0.004
(Duplicate)	26-Aug-2020	1.6	0.36	0.006
	30-Sep-2021	4.1	0.08	0.003
	13-Oct-2022	2.0	0.19	0.004
	14-Sep-2023	1.8	0.29	0.005
(Duplicate)	14-Sep-2023	1.9	0.29	0.006
Brook Trout 4+	04-Oct-2006	2.3	3.35	**0.077**
	01-Sep-2011	2.8	2.75	**0.077**
	01-Sep-2013	3.0	2.01	**0.060**
	21-Sep-2014	4.1	1.15	0.048
(Replicate B)	22-Sep-2015	3.1	1.28	0.040
(Replicate A)	23-Sep-2015	3.2	0.84	0.027
	30-Aug-2016	3.4	0.58	0.020
	13-Sep-2017	2.1	0.49	0.010
	30-Aug-2018	2.3	0.32	0.007
	26-Aug-2020	3.0	0.12	0.004
	14-Sep-2023	1.6	0.25	0.004
Brook Trout 5+	04-Oct-2006	1.3	1.69	0.022
	01-Sep-2011	3.1	1.10	0.034

Table 7
Total PCB Concentrations in Fish Tissue: Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	LIPID CONTENT (%)	Total PCB_{Lipid} (µg/g lw)	Total PCB (µg/g ww)
Health Canada 2020a [#1]		---	---	**2.000**
OMOECC 2015		---	---	**0.105**
Great Lakes Unrestricted Consumption Advisory		---	---	**0.050**
Great Lakes High Consumption Advisory		---	---	**0.200**
Edith Lake - Continued				
	01-Sep-2013	2.8	1.18	0.033
	21-Sep-2014	2.4	1.48	0.035
	30-Aug-2016	3.1	2.68	**0.083**
(Duplicate)	30-Aug-2016	3.1	2.77	**0.085**
	30-Sep-2021	1.6	0.27	0.004
Brook Trout 6+	14-Sep-2023	2.6	0.20	0.005
Brook Trout 11+	11-Sep-2007	2.1	0.62	0.013
Brook Trout 12+	11-Sep-2007	1.9	0.45	0.009
Brook Trout Unknown	23-Jul-2008	2.5	0.20	0.005
(Replicate A)	23-Jul-2008	5.2	0.09	0.005
(Replicate B)	23-Jul-2008	3.2	0.11	0.004
(Replicate C)	23-Jul-2008	2.6	0.12	0.003
Brook Trout (Stomach) 1+	01-Sep-2012	3.2	0.05	0.002
Brook Trout (Stomach) 2+	01-Sep-2012	1.6	0.02	0.000
Brook Trout (Stomach) 3+	01-Sep-2012	2.0	17.75	**0.355**
(Re-analysis)	01-Sep-2012	2.0	37.25	**0.745**

NOTES:

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Superscript [#1] denotes values exceeding maximum Levels prescribed in
   (List of Contaminants and Other Adulterating Substances in Foods [Health Canada 2020a])

Denotes values exceeding conumption advisory limits in
(Guide to Eating Ontario Fish 2015-2016 [Ontario Ministry of the Environment and Climate Change 2015]).

Denotes values exceeding conumption advisory limits for unrestricted consumers in
(Protocol for a Uniform Great Lakes Sport Fish Consumption Advisory [GLSFCATF 1993]).

Denotes values exceeding conumption advisory limits for high-frequency consumers in
(Protocol for a Uniform Great Lakes Sport Fish Consumption Advisory [GLSFCATF 1993]).

Table 8

Coplanar PCB TEQ Summaries: 2023, Historical and Edith Lake Comparisons

Project No.: 317011-00057

Congener IUPAC No.	CCME 2001	Chrystina Lake Brook Trout 1+					Chrystina Lake Brook Trout 2+					Chrystina Lake Brook Trout 3+					
		Historical (2009 - 2022)				2023	Historical (2006- 2022)				2023	Historical (2006 - 2022)				2023	2023 (DUP)
		Minimum	Median	Maximum	n		Minimum	Median	Maximum	n		Minimum	Median	Maximum	n		
77	---	0.0009	0.0013	0.0132	15	0.0010	0.0014	0.0047	0.0549	26	0.0017	0.0015	0.0029	0.0122	28	0.0034	0.0034
81	---	0.0001	0.0002	0.0016	15	***0.0001***	0.0002	0.0006	0.0073	26	0.0002	0.00002	0.0006	0.0017	28	0.0004	0.0004
105	---	0.0033	0.0049	0.0525	15	0.0041	0.0094	0.0297	0.5190	26	0.0101	0.0072	0.0206	0.0750	28	0.0188	0.0170
114	---	0.0002	0.0003	0.0029	15	0.0004	0.0006	0.0022	0.0327	26	0.0009	0.000002	0.0014	0.0051	28	0.0014	0.0012
118	---	0.0089	0.0128	0.1578	15	0.0112	0.0264	0.0869	1.6980	26	0.0288	0.0207	0.0579	0.1989	28	0.0561	0.0492
123	---	0.0002	0.0002	0.0077	15	0.0002	0.0004	0.0016	0.1722	26	0.0005	0.0005	0.0016	0.0157	28	0.0009	0.0006
126	---	0.1390	0.2710	1.5900	15	0.2190	0.4160	1.1750	14.3000	26	0.5140	0.0050	0.8080	2.5900	28	0.9360	0.9100
156	---	0.0012	0.0020	0.0109	15	0.0014	0.0030	0.0116	0.1425	26	0.0041	0.0031	0.0075	0.0190	28	0.0073	0.0067
157	---	0.0003	0.0004	0.0016	6	---	0.0007	0.0050	0.0279	15	---	0.0004	0.0013	0.0037	14	---	---
167	---	0.0007	0.0009	0.0070	15	***0.0007***	0.0017	0.0049	0.0723	26	0.0020	0.0015	0.0034	0.0097	28	0.0034	0.0031
169	---	0.0057	0.0115	0.1215	15	0.0069	0.0101	0.0240	0.1455	26	0.0112	0.0015	0.0218	0.0966	28	0.0200	0.0150
189	---	0.0001	0.0002	0.0007	15	***0.0001***	0.0003	0.0007	0.0084	26	0.0003	0.0001	0.0006	0.0013	28	0.0005	0.0005
Total PCB TEQ[#1] (pg TEQ/g ww)	***0.79***	0.16	0.30	1.96	15	0.25	0.47	1.36	17.06	26	0.57	0.12	0.91	2.95	28	1.05	1.01

Notes:
1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
   - CCME Tissue Residue Guideline (2001) - CCME Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota, (CCME, 1999 and updated 2001).
4. **Bold** font indicates that the 2023 value exceeds the historical maximum.
5. ***Italic*** font indicates that the 2023 value is below historical minimum.
6. All units are pg TEQ/g ww.
7. Superscript [#1] - TEQ values reported in the table have been calculated by substituting non-detections with half the detection limit.

Table 8

Coplanar PCB TEQ Summaries: 2023, Historical and Edith Lake Comparisons

Project No.: 317011-000

Congener IUPAC No.	CCME 2001	Chrystina Lake Brook Trout 4+ Historical (2006 - 2021)				Chrystina Lake Brook Trout 5+ Historical (2006 - 2021)				Chrystina Lake Brook Trout (all age classes) Historical (2006 - 2022)			
		Minimum	Median	Maximum	n	Minimum	Median	Maximum	n	Minimum	Median	Maximum	n
77	---	0.0014	0.0052	0.0250	13	0.0022	0.0096	0.0348	10	0.0009	0.0034	0.0549	92
81	---	0.00003	0.0008	0.0030	13	0.0004	0.0012	0.0050	10	0.00002	0.0006	0.0073	82
105	---	0.0090	0.0426	0.1182	13	0.0157	0.0519	0.2229	10	0.0033	0.0227	0.5190	82
114	---	0.0006	0.0031	0.0083	13	0.0012	0.0035	0.0128	10	0.000002	0.0017	0.0327	82
118	---	0.0244	0.1176	0.3360	13	0.0429	0.1848	0.6810	10	0.0089	0.0722	1.6980	82
123	---	0.0004	0.0015	0.0300	13	0.0008	0.0051	0.0696	10	0.0002	0.0015	0.1722	82
126	---	0.3670	1.8200	4.3800	13	0.6200	1.6100	7.8900	10	0.0050	0.8940	14.3000	82
156	---	0.0030	0.0134	0.0405	13	0.0068	0.0165	0.0621	10	0.0012	0.0084	0.1425	82
157	---	0.0006	0.0027	0.0051	7	0.0011	0.0028	0.0114	7	0.0003	0.0020	0.0279	49
167	---	0.0017	0.0067	0.0173	13	0.0031	0.0078	0.0300	10	0.0007	0.0042	0.0723	82
169	---	0.0030	0.0294	0.1025	13	0.0030	0.0483	0.2250	10	0.0015	0.0225	0.2250	82
189	---	0.0003	0.0009	0.0023	13	0.0005	0.0012	0.0039	10	0.0001	0.0006	0.0084	82
Total PCB TEQ[#1] (pg TEQ/g ww)	***0.79***	0.42	2.09	5.03	13	0.90	1.90	9.10	10	0.12	1.07	17.06	82

Notes:
1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
   - CCME Tissue Residue Guideline (2001) - CCME Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota, (CCME, 1999 and updated 2001).
4. **Bold** font indicates that the 2023 value exceeds the historical maximum.
5. ***Italic*** font indicates that the 2023 value is below historical minimum.
6. All units are pg TEQ/g ww.
7. Superscript [#1] - TEQ values reported in the table have been calculated by substituting non-detections with half the detection limit.

Table 8

Coplanar PCB TEQ Summaries: 2023, Historical and Edith Lake Comparisons

Project No.: 317011-000

Congener IUPAC No.	CCME 2001	Edith Lake Brook Trout 1+					Edith Lake Brook Trout 2+					Edith Lake Brook Trout 3+					
		Historical (2009 - 2022)				2023	Historical (2009 - 2022)				2023	Historical (2010 - 2022)				2023	2023 (DUP)
		Minimum	Median	Maximum	n		Minimum	Median	Maximum	n		Minimum	Median	Maximum	n		
77	---	0.0002	0.0006	0.0032	13	0.0003	0.0002	0.0005	0.0070	17	0.0007	0.0004	0.0031	0.0137	22	0.0013	0.0014
81	---	0.0000263	0.0001	0.0005	13	0.0000330	0.00004	0.0002	0.0009	17	0.0001	0.00002	0.0003	0.0015	22	0.0001	0.0001
105	---	0.0008	0.0023	0.0088	13	***0.0008***	0.0010	0.0026	0.0315	17	0.0025	0.0020	0.0155	0.0510	22	0.0038	0.0040
114	---	0.00002	0.0001	0.0006	13	0.0001	0.0001	0.0002	0.0017	17	0.0001	0.0001	0.0008	0.0023	22	0.0002	0.0002
118	---	0.0023	0.0074	0.0245	13	0.0027	0.0032	0.0088	0.1023	17	0.0105	0.0064	0.0441	0.1680	22	0.0142	0.0149
123	---	0.0000225	0.0002	0.0019	13	0.00005	0.0001	0.0004	0.0052	17	0.0001	0.0001	0.0007	0.0149	22	0.0001	0.0002
126	---	0.0400	0.0866	0.3530	13	0.0506	0.0418	0.1170	1.3000	17	0.1800	0.0983	0.5670	3.1200	22	0.2980	0.3620
156	---	0.0003	0.0010	0.0026	13	0.0004	0.0004	0.0010	0.0096	17	0.0010	0.0007	0.0041	0.0113	22	0.0013	0.0014
157	---	0.0001	0.0002	0.0004	7	---	0.0001	0.0008	0.0009	7	---	0.0002	0.0009	0.0027	8	---	---
167	---	0.0001	0.0005	0.0013	13	0.0002	0.0002	0.0006	0.0043	17	0.0006	0.0004	0.0018	0.0065	22	0.0007	0.0008
169	---	0.0040	0.0086	0.0450	13	0.0051	0.0045	0.0105	0.0450	17	0.0053	0.0072	0.0150	0.0600	22	0.0132	0.0153
189	---	0.000015	0.00011	0.00020	13	0.00004	0.00003	0.0001	0.0005	17	0.0001	0.0001	0.0002	0.0008	22	0.0001	0.0001
Total PCB TEQ[#1] (pg TEQ/g ww)	***0.79***	0.05	0.11	0.42	13	0.0602	0.05	0.16	1.47	17	0.2010	0.12	0.66	3.34	22	0.3330	0.4004

Notes: 1. --- in guideline row(s) denotes no criteria for that parameter.

2. --- in detail data row(s) denotes parameter not analyzed.

3. Highlighting indicates parameters above applied guideline/criteria.

   - CCME Tissue Residue Guideline (2001) - CCME Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota, (CCME, 1999 and updated 2001).

4. **Bold** font indicates that the 2023 value exceeds the historical maximum.

5. ***Italic*** font indicates that the 2023 value is below historical minimum.

6. All units are pg TEQ/g ww.

7. Superscript [#1] - TEQ values reported in the table have been calculated by substituting non-detections with half the detection limit.

Table 8

Coplanar PCB TEQ Summaries: 2023, Historical and Edith Lake Comparisons

Project No.: 317011-000

Congener IUPAC No.	CCME 2001	Edith Lake Brook Trout 4+					Edith Lake Brook Trout 5+				Edith Lake Brook Trout 6+	Edith Lake Brook Trout (all ages)			
		Historical (2010 - 2023)				2023	Historical (2006 - 2021)				2023	Historical (2006-2022)			
		Minimum	Median	Maximum	n		Minimum	Median	Maximum	n		Minimum	Median	Maximum	n
77	---	0.0006	0.0048	0.0170	11	0.0009	0.0008	0.0036	0.0133	6	0.0012	0.0002	0.0015	0.0170	69
81	---	0.0001	0.0005	0.0016	11	0.0001	0.0001	0.0005	0.0017	6	0.0001	0.00002	0.0002	0.0017	69
105	---	0.0022	0.0189	0.0516	11	0.0031	0.0027	0.0225	0.0603	6	0.0035	0.0008	0.0088	0.0603	69
114	---	0.0001	0.0011	0.0028	11	0.0001	0.000003	0.0012	0.0030	6	0.0002	0.000003	0.0004	0.0030	69
118	---	0.0073	0.0615	0.1680	11	0.0107	0.0094	0.0764	0.1908	6	0.0129	0.0023	0.0245	0.1908	69
123	---	0.0001	0.0007	0.0195	11	***0.0001***	0.0002	0.0017	0.0074	6	0.0001	0.0000	0.0005	0.0195	69
126	---	0.1410	0.7130	1.7000	11	0.2090	0.2050	0.7930	3.5700	6	0.2940	0.0400	0.3490	3.5700	69
156	---	0.0006	0.0052	0.0150	11	0.0010	0.0010	0.0059	0.0161	6	0.0011	0.0003	0.0026	0.0161	69
157	---	0.0002	0.0009	0.0021	5	---	0.0005	0.0012	0.0036	3	---	0.0001	0.0004	0.0036	30
167	---	0.0004	0.0023	0.0075	11	0.0006	0.0006	0.0031	0.0097	6	0.0007	0.0001	0.0011	0.0097	69
169	---	0.0030	0.0159	0.0714	11	0.0103	0.0015	0.0275	0.0582	6	0.0208	0.0015	0.0134	0.0714	69
189	---	0.0001	0.0003	0.0010	11	0.0001	0.0001	0.0004	0.0013	6	0.0001	0.00002	0.0002	0.0013	69
Total PCB TEQ[#1] (pg TEQ/g ww)	***0.79***	0.1613	0.8150	1.9881	11	0.2359	0.24	0.94	3.93	6	0.3347	0.05	0.40	3.93	69

Notes:
1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
   - CCME Tissue Residue Guideline (2001) - CCME Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota, (CCME, 1999 and updated 2001).
4. **Bold** font indicates that the 2023 value exceeds the historical maximum.
5. ***Italic*** font indicates that the 2023 value is below historical minimum.
6. All units are pg TEQ/g ww.
7. Superscript [#1] - TEQ values reported in the table have been calculated by substituting non-detections with half the detection limit.

Organics Summary for 2023 Fish Tissue Monitoring Program

Project Number: 317011-00057	2023 Sampling Program											
	CHBKTR 1+	CHBKTR 2+	CHBKTR 3+	CHBKTR 3+ (LABDUP)	CHBKTR UNK A	CHBKTR UNK B	EDBKTR 1+	EDBKTR 2+	EDBKTR 3+	EDBKTR 3+ (DUP)	EDBKTR 4+	EDBKTR 6+
Total PCBs (ng/g)	**5.97**	**13.4**	**28.1**	**23.8**	**17.4**	**15.9**	**2.43**	**3.85**	**5.16**	**5.68**	**3.89**	**5.18**
Number of Fish in Sample	**5**	**5**	**5**	**5**	**1**	**1**	**2**	**3**	**5**	**5**	**5**	**3**
PCBs (pg/g)												
PCB-77	10.3	17.4	34.3	33.9	0.896	0.915	2.96	6.63	12.8	14.1	8.79	12.4
PCB-81	0.434	0.782	1.48	1.39	18.5	22	0.11 #1	0.25 #1	0.435	0.483	0.34	0.499
PCB-105	135	335	627	565	421	381	25.8	83.3	126	132	102	116
PCB-114	11.7	29 #1	45.4	40.7	32.5	28 #1	1.8 #1	4.4 #1	6.54	5.96	4.28	5.23
PCB-118	374	961	1870	1640	1180	1210	90.2	350	474	497	357	429
PCB-123	5.3 #1	16	29.3	19.5	16.2	17.9	1.56	3.11	4.9 #1	5.61	3.56	4.7 #1
PCB-126	2.19	5.14	9.36	9.1	5.63	5.74	0.506	1.8	2.98	3.62	2.09	2.94
PCB-156/157	47.1	137	242	222	171	142	11.7	34.4	42.5	46.5	34.4	37.8
PCB-167	22	65.4	112	102	79.6	67.5	6.67	20.1	22.7	25.8	18.4	22.6
PCB-169	0.23 #1	0.373	0.667	0.50 #1	0.317	0.38 #1	0.17 #1	0.175	0.44 #1	0.51 #1	0.342	0.692
PCB-189	3.15	10.5	18.2	15.8	13.7	11.8	1.23	3.7 #1	4.0 #1	4.8	2.93	3.22
TEQ_{PCB}	0.2450	0.5738	**1.0482**	**1.0070**	0.6320	0.6436	0.0602	0.2010	0.3330	0.4004	0.2359	0.3347
Dioxins/Furans												
2,3,7,8-TCDD	0.0391	<0.018	<0.037	<0.024	<0.060	<0.017	<0.015	<0.019	<0.026	0.035 #1	<0.011	0.032 #1
1,2,3,7,8-PECDD	0.050 #1	<0.023	<0.034	<0.024	<0.059	<0.036	0.064	<0.035	<0.032	0.0672	0.031 #1	0.052 #1
1,2,3,4,7,8-HXCDD	<0.033	<0.032	<0.039	<0.037	<0.091	<0.022	<0.065	<0.042	<0.036	<0.041	<0.034	<0.037
1,2,3,6,7,8-HXCDD	0.048 #1	<0.032	<0.038	<0.034	<0.096	<0.020	<0.064	<0.042	0.040 #1	0.048 #1	0.048 #1	0.063 #1
1,2,3,7,8,9-HXCDD	<0.039	<0.035	<0.042	<0.039	<0.099	<0.022	<0.066	<0.044	<0.039	<0.042	<0.035	<0.040
1,2,3,4,6,7,8-HPCDD	0.0978	0.10 #1	0.0746	0.11 #1	0.098 #1	0.0727	0.092 #1	0.076 #1	0.10 #1	0.089 #1	0.11 #1	0.092 #1
OCDD	0.13 #1	0.084 #1	0.092 #1	0.079 #1	0.111	0.071 #1	0.081 #1	0.086 #1	<0.11	0.077 #1	0.10 #1	0.0883
2,3,7,8-TCDF	0.287	0.521	0.86 #1	0.705	0.54 #1	0.44 #1	0.172	0.14 #1	0.248	0.298	0.19 #1	0.267
1,2,3,7,8-PECDF	0.045 #1	0.060 #1	0.069 #1	0.044 #1	<0.046	<0.042	<0.025	0.056 #1	0.070 #1	0.029 #1	0.037 #1	<0.033
2,3,4,7,8-PECDF	<0.014	0.10 #1	0.132	0.0752	<0.043	0.0599	<0.024	<0.024	0.049 #1	0.057 #1	0.0417	0.0408
1,2,3,4,7,8-HXCDF	<0.013	<0.024	<0.022	<0.027	<0.036	<0.020	<0.016	<0.017	<0.022	<0.017	<0.018	<0.013
1,2,3,6,7,8-HXCDF	<0.013	<0.024	<0.021	<0.025	<0.036	<0.019	<0.015	<0.016	<0.023	<0.017	<0.017	<0.013
1,2,3,7,8,9-HXCDF	<0.019	<0.036	<0.028	<0.037	<0.050	<0.026	<0.020	<0.022	<0.033	<0.024	<0.024	<0.018
2,3,4,6,7,8-HXCDF	<0.014	<0.025	<0.021	<0.026	<0.036	<0.020	<0.015	<0.016	<0.023	<0.018	<0.018	<0.014
1,2,3,4,6,7,8-HPCDF	0.026 #1	<0.014	<0.0093	<0.010	<0.012	0.020 #1	<0.0087	<0.0049	<0.0077	<0.010	0.039 #1	<0.0080
1,2,3,4,7,8,9-HPCDF	<0.013	<0.021	<0.014	<0.016	<0.018	<0.012	<0.012	<0.0074	<0.011	<0.016	<0.015	<0.012
OCDF	0.070 #1	0.037 #1	<0.035	<0.044	<0.053	<0.021	<0.025	<0.020	<0.024	<0.025	0.038 #1	<0.021
$TEQ_{DX/F}$	0.1340	0.1160	0.1746	0.1309	0.1440	0.0976	0.1068	0.0571	0.0845	0.1638	0.0828	0.1375
Total TEQ	0.3790	0.6898	**1.2228**	**1.1378**	**0.7761**	**0.7412**	0.1670	0.2580	0.4176	0.5642	0.3187	0.4722

Notes: Superscript #1 - Analyte did not meet all criteria for quantification, concentration reported as Estimated Maximum Potential Concentration (EMPC)

Highlighting indicates value represents a historical minimum in the respective age class.

Highlighting indicates TEQ value exceeds applicable CCME guideline (TEQ_{PCB}=0.79, $TEQ_{Dx/F}$=0.71, TEQ_{Total}=0.71)

TEQ calculated by substituting non-detections with half the detection limit and includes EMPC concentrations

Values provided for individual compounds indicate the PCB, dioxin, or furan tissue concentrations measured in ng/kg

Table 10

TEQ Results for Fish Tissue from Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

	Date (dd-mmm-yyyy)	PCB TEQ (pg TEQ/g ww)	Dioxin TEQ (pg TEQ/g ww)	Furan TEQ (pg TEQ/g ww)	Total TEQ (pg TEQ/g ww)
CCME Tissue Residue 2001		0.79	0.71	0.71	0.71
Hatchery					
Brook Trout 0+	04-Oct-2006	0.0195	0.1155	0.0425	0.1776
	11-Sep-2007	0.0775	0.1184	0.0426	0.2385
	23-Jul-2008	0.0507	0.1156	0.0425	0.2089
(Duplicate)	23-Jul-2008	0.0513	0.1155	0.0425	0.2093
	11-Aug-2009	0.4186	0.4655	0.0680	**0.9521**
	11-Aug-2010	0.0613	0.1656	0.0425	0.2694
	01-Sep-2011	0.1448	0.2314	0.0415	0.4178
	01-Sep-2012	0.0548	0.0954	0.0224	0.1726
	01-Sep-2013	0.0738	0.1020	0.0432	0.2189
	21-Sep-2014	0.0867	0.0656	0.0423	0.1946
	22-Sep-2015	0.1078	0.0654	0.0306	0.2038
	30-Aug-2016	0.0630	0.0637	0.0277	0.1544
	30-Aug-2018	0.0403	0.0654	0.0241	0.1297
	6-Sep-2019	0.0241	0.0664	0.0306	0.1211
	26-Aug-2020	0.0394	0.0573	0.0211	0.1178
	30-Sep-2021	0.0145	0.0546	0.0196	0.0888
	13-Oct-2022	0.0561	0.0404	0.0615	0.1580
Brook Trout 1+	13-Sep-2017	0.1071	0.1087	0.0328	0.2487
Chrystina Lake					
Brook Trout 1+	11-Aug-2009	0.2714	0.4160	0.0900	**0.7775**
	01-Sep-2011	0.4418	0.2310	0.0575	**0.7303**
	01-Sep-2012	**1.0889**	0.0686	0.1023	**1.2598**
(Replicate A)	01-Sep-2013	0.3163	0.2245	0.1216	0.6623
(Replicate B)	01-Sep-2013	0.2745	0.0839	0.0884	0.4468
	23-Sep-2015	**1.9600**	0.0661	0.2097	**2.2357**
	31-Aug-2016	0.2739	0.0646	0.0656	0.4041
	12-Sep-2017	0.2436	0.0647	0.0635	0.3718
	29-Aug-2018	0.2981	0.1121	0.0694	0.4796
(Replicate A)	5-Sep-2019	0.1641	0.1130	0.0528	0.3300
(Replicate B)	5-Sep-2019	0.1801	0.1051	0.0658	0.3509
	25-Aug-2020	0.2721	0.1011	0.0575	0.4306
	29-Sep-2021	**0.8268**	0.0501	0.0697	**0.9466**
	12-Oct-2022	0.4623	0.0397	0.0534	0.5555
	13-Sep-2023	0.2450	0.0985	0.0354	0.3790
Brook Trout 2+	11-Aug-2009	**1.1575**	0.3155	0.0580	**1.5311**
	11-Aug-2010	**1.7648**	0.1156	0.1345	**2.0150**
	12-Aug-2010	**2.8766**	---	---	**2.8766**
	01-Sep-2011	**7.3535**	0.2590	0.3384	**7.9509**
(Duplicate)	1-Sep-2011	**9.0450**	---	---	**9.0450**
(Replicate A)	1-Sep-2011	**10.0653**	---	---	**10.0653**
(Replicate B)	1-Sep-2011	**10.6074**	---	---	**10.6074**
(Replicate C)	1-Sep-2011	**17.0648**	---	---	**17.0648**
(Replicate D)	1-Sep-2011	**9.7384**	---	---	**9.7384**
(Replicate E)	1-Sep-2011	**16.7020**	---	---	**16.7020**
	01-Sep-2012	0.7803	0.0636	0.0483	**0.8921**
	01-Sep-2013	**1.2783**	0.0884	0.1416	**1.5083**

Table 10
TEQ Results for Fish Tissue from Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

	Date (dd-mmm-yyyy)	PCB TEQ (pg TEQ/g ww)	Dioxin TEQ (pg TEQ/g ww)	Furan TEQ (pg TEQ/g ww)	Total TEQ (pg TEQ/g ww)
CCME Tissue Residue 2001		0.79	0.71	0.71	0.71
Chrystina Lake - Continued					
	22-Sep-2014	**1.4398**	0.0681	0.1488	**1.6568**
(Replicate A)	22-Sep-2014	0.5422	0.0663	0.0893	0.6978
(Replicate B)	22-Sep-2014	0.6311	0.0650	0.1271	**0.8232**
	23-Sep-2015	**1.7561**	0.0662	0.2062	**2.0285**
	31-Aug-2016	**2.2052**	0.0649	0.1729	**2.4431**
	12-Sep-2017	0.6072	0.0676	0.1000	**0.7747**
(Replicate A)	12-Sep-2017	0.4738	0.0670	0.0925	0.6333
	29-Aug-2018	**0.8470**	0.1217	0.1305	**1.0992**
(Replicate A)	5-Sep-2019	0.6607	0.0634	0.0888	**0.8129**
(Replicate B)	5-Sep-2019	0.6456	0.1079	0.0939	**0.8475**
(Replicate A)	25-Aug-2020	0.7276	0.0575	0.1113	**0.8964**
(Replicate B)	25-Aug-2020	0.5273	0.0574	0.0889	0.6736
	29-Sep-2021	**0.8330**	0.0455	0.0744	**0.9529**
	12-Oct-2022	**1.6898**	0.0639	0.1445	**1.8982**
	13-Sep-2023	0.5738	0.0265	0.0895	0.6898
Brook Trout 3+	04-Oct-2006	0.1157	0.1155	0.0715	0.3028
	11-Aug-2010	**1.2386**	0.2670	0.0525	**1.5581**
(Duplicate)	11-Aug-2010	**1.0168**	0.1156	0.1220	**1.2544**
	12-Aug-2010	**1.9183**	---	---	**1.9183**
(Replicate A)	01-Sep-2012	0.5497	0.1022	0.1113	**0.7631**
(Duplicate)	01-Sep-2012	0.5933	0.0964	0.1552	**0.8449**
(Replicate B)	01-Sep-2012	0.4300	0.1036	0.0225	0.5561
(Replicate C)	01-Sep-2013	0.7133	0.0748	0.1134	**0.9015**
(Replicate D)	01-Sep-2013	0.6885	0.0752	0.1042	**0.8679**
(Duplicate) [#1]	1-Sep-2013	**0.8878**	---	---	**0.8878**
	22-Sep-2014	**1.6497**	0.0670	0.1475	**1.8642**
(Duplicate)	22-Sep-2014	**1.2875**	0.0652	0.1587	**1.5114**
(Replicate A)	22-Sep-2014	0.7400	0.1032	0.1538	**0.9970**
(Replicate B)	22-Sep-2014	**0.8113**	0.0663	0.0776	**0.9552**
	23-Sep-2015	**2.5896**	0.0665	0.2241	**2.8803**
	31-Aug-2016	**2.9475**	0.0642	0.2085	**3.2202**
(Duplicate)	31-Aug-2016	**2.7508**	0.0654	0.2062	**3.0225**
(Replicate A)	31-Aug-2016	**2.1552**	0.0715	0.2223	**2.4489**
	12-Sep-2017	**0.9198**	0.0646	0.1186	**1.1029**
(Duplicate)	12-Sep-2017	**0.9732**	0.0679	0.1250	**1.1661**
	29-Aug-2018	**1.1473**	0.0573	0.1137	**1.3183**
(Duplicate)	29-Aug-2018	**0.8142**	0.0633	0.1038	**0.9813**
(Duplicate - Lab)	29-Aug-2018	**0.8695**	0.0641	0.1099	**1.0436**
	5-Sep-2019	**0.8488**	0.0727	0.1415	**1.0631**
(Duplicate - Lab)	5-Sep-2019	**0.9020**	0.0665	0.1181	**1.0866**
	29-Sep-2021	**1.1232**	0.0721	0.1380	**1.3005**
	12-Oct-2022	**1.0594**	0.0424	0.0678	**1.1697**
	13-Sep-2023	**1.0482**	0.0422	0.1324	**1.2228**
(Duplicate - Lab)	13-Sep-2023	**1.0070**	0.0306	0.1003	**1.1378**
Brook Trout 4+	04-Oct-2006	**2.9546**	0.1155	0.1575	**3.2276**
(Duplicate)	04-Oct-2006	**3.7653**	0.1155	0.1575	**4.0384**

Table 10
TEQ Results for Fish Tissue from Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

	Date (dd-mmm-yyyy)	PCB TEQ (pg TEQ/g ww)	Dioxin TEQ (pg TEQ/g ww)	Furan TEQ (pg TEQ/g ww)	Total TEQ (pg TEQ/g ww)
CCME Tissue Residue 2001		0.79	0.71	0.71	0.71
Chrystina Lake - Continued					
	01-Sep-2011	**3.1645**	0.2760	0.3235	**3.7641**
	01-Sep-2013	**3.5568**	0.1090	0.3174	**3.9832**
	22-Sep-2014	**5.0282**	0.1567	0.3150	**5.5000**
	23-Sep-2015	**1.3958**	0.0648	0.1858	**1.6465**
(Replicate A)	23-Sep-2015	**2.0939**	0.0654	0.2165	**2.3757**
	12-Sep-2017	**1.6449**	0.1041	0.1897	**1.9387**
(Replicate A)	29-Aug-2018	**2.1136**	0.1045	0.2078	**2.4259**
(Replicate B)	29-Aug-2018	**0.9753**	0.1029	0.1110	**1.1892**
(Replicate C)	29-Aug-2018	**1.2394**	0.0648	0.1418	**1.4460**
	25-Aug-2020	0.4192	0.0573	0.0861	0.5625
	29-Sep-2021	**0.8639**	0.0478	0.0897	**1.0014**
Brook Trout 5+	04-Oct-2006	**1.7700**	0.1155	0.0735	**1.9590**
	11-Sep-2007	**1.5906**	0.1157	0.2356	**1.9420**
	12-Aug-2010	**1.1958**	---	---	**1.1958**
	01-Sep-2013	**7.4698**	0.1222	0.6411	**8.2331**
(Duplicate) [#1]	01-Sep-2013	**9.0959**	---	---	**9.0959**
	23-Sep-2015	**2.0359**	0.0664	0.2218	**2.3240**
	31-Aug-2016	**1.6574**	0.0658	0.1237	**1.8468**
	12-Sep-2017	**7.3720**	0.0675	0.2773	**7.7167**
(Re-analysis)	12-Sep-2017	**5.2980**	0.0675	0.2773	**5.6427**
	29-Sep-2021	**0.9021**	0.0525	0.1177	**1.0723**
Brook Trout 6+	11-Sep-2007	**1.6121**	0.1655	0.1785	**1.9562**
Brook Trout 7+	11-Sep-2007	0.6633	0.1172	0.1226	**0.9031**
(Duplicate)	11-Sep-2007	0.4299	0.1170	0.0766	0.6235
Brook Trout 11+	11-Sep-2007	**2.3124**	0.1660	0.3086	**2.7869**
Brook Trout 12+	11-Sep-2007	**2.1971**	0.1175	0.3336	**2.6482**
Brook Trout Unknown	12-Oct-2022	**0.9805**	0.0349	0.0767	**1.0920**
(Replicate A)	13-Sep-2023	0.6320	0.0748	0.0692	**0.7761**
(Replicate B)	13-Sep-2023	0.6436	0.0304	0.0671	**0.7412**
Forage Fish	4-Nov-2014	0.5014	0.0640	0.0439	0.6093
Aquatic Invertebrates	22-Aug-2014	**3.5293**	0.3381	0.2081	**4.0755**
Edith Lake					
Brook Trout 1+	11-Aug-2009	0.1304	0.1693	0.0771	0.3769
	01-Sep-2011	0.2089	0.3915	0.0865	0.6869
(Duplicate)	01-Sep-2011	0.0743	0.0985	0.0245	0.1973
	01-Sep-2012	0.0750	0.0679	0.0154	0.1583
	22-Sep-2015	0.4173	0.0650	0.0404	0.5226
	30-Aug-2016	0.1065	0.0636	0.0303	0.2004
	13-Sep-2017	0.1487	0.1982	0.0395	0.3864
	30-Aug-2018	0.1045	0.0641	0.0304	0.1991
(Replicate A)	6-Sep-2019	0.1257	0.0676	0.0328	0.2260
(Replicate B)	6-Sep-2019	0.1379	0.1178	0.0341	0.2898
	26-Aug-2020	0.1036	0.0574	0.0327	0.1936
	30-Sep-2021	0.0512	0.0620	0.0183	0.1315
	13-Oct-2022	0.0749	0.0567	0.0185	0.1501
	14-Sep-2023	0.0602	0.0822	0.0246	0.1670

Table 10
TEQ Results for Fish Tissue from Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

	Date (dd-mmm-yyyy)	PCB TEQ (pg TEQ/g ww)	Dioxin TEQ (pg TEQ/g ww)	Furan TEQ (pg TEQ/g ww)	Total TEQ (pg TEQ/g ww)
CCME Tissue Residue 2001		0.79	0.71	0.71	0.71
Edith Lake - Continued					
Brook Trout 2+	11-Aug-2009	0.1614	0.1657	0.0475	0.3746
	11-Aug-2010	0.5721	0.1655	0.0425	**0.7801**
	01-Sep-2011	0.6894	0.2150	0.0325	**0.9369**
	01-Sep-2012	0.7608	0.0363	0.0106	**0.8077**
	01-Sep-2013	**1.4731**	0.1854	0.1491	**1.8076**
	21-Sep-2014	0.5693	0.1577	0.0495	**0.7765**
(Replicate A)	21-Sep-2014	0.4710	0.1913	0.0636	**0.7260**
(Replicate B)	21-Sep-2014	0.1139	0.0996	0.0315	0.2450
	22-Sep-2015	0.0649	0.0649	0.0234	0.1531
	30-Aug-2016	0.6169	0.0651	0.0694	**0.7513**
	13-Sep-2017	0.0647	0.0685	0.0251	0.1583
	30-Aug-2018	0.1271	0.1277	0.0337	0.2885
(Replicate A)	6-Sep-2019	0.0526	0.1010	0.0320	0.1857
(Replicate B)	6-Sep-2019	0.0958	0.0691	0.0271	0.1919
	26-Aug-2020	0.1403	0.0582	0.0241	0.2226
	30-Sep-2021	0.0839	0.0417	0.0149	0.1404
	13-Oct-2022	**1.3863**	0.0902	0.0419	**1.5184**
	14-Sep-2023	0.2010	0.0342	0.0229	0.2580
Brook Trout 3+	11-Aug-2010	**1.0192**	0.1155	0.0985	**1.2333**
	01-Sep-2011	**1.4066**	0.1658	0.0345	**1.6069**
	01-Sep-2012	**0.9072**	0.0478	0.0091	**0.9640**
(Replicate A)	01-Sep-2013	**1.8402**	0.1026	0.0957	**2.0385**
(Duplicate)	01-Sep-2013	**1.5491**	0.0943	0.0816	**1.7250**
(Duplicate) [#1]	01-Sep-2013	**2.6448**	---	---	**2.6448**
(Replicate B)	01-Sep-2013	**3.3406**	0.0569	0.0912	**3.4887**
	21-Sep-2014	**1.2855**	0.1469	0.0927	**1.5252**
(Replicate A)	21-Sep-2014	0.6491	0.0838	0.0620	**0.7949**
(Replicate B)	21-Sep-2014	0.6699	0.1075	0.0516	**0.8291**
	22-Sep-2015	0.6131	0.0671	0.0534	**0.7336**
(Duplicate)	22-Sep-2015	0.6730	0.0704	0.0559	**0.7993**
	30-Aug-2016	**0.8345**	0.0669	0.0924	**0.9937**
	13-Sep-2017	0.3472	0.0743	0.0409	0.4624
(Duplicate)	13-Sep-2017	0.3374	0.0987	0.0422	0.4783
	30-Aug-2018	0.2226	0.1319	0.0287	0.3832
	6-Sep-2019	0.1807	0.1112	0.0550	0.3469
(Duplicate)	6-Sep-2019	0.2281	0.1314	0.0349	0.3943
	26-Aug-2020	0.1506	0.0300	0.0861	0.2667
(Duplicate)	26-Aug-2020	0.1177	0.0287	0.0582	0.2046
	30-Sep-2021	0.1447	0.0673	0.0215	0.2335
	13-Oct-2022	0.1926	0.0444	0.0200	0.2570
	14-Sep-2023	0.3330	0.0378	0.0467	0.4176
(Duplicate)	14-Sep-2023	0.4004	0.1121	0.0517	0.5642
Brook Trout 4+	04-Oct-2006	**1.9881**	0.1160	0.2275	**2.3316**
	01-Sep-2011	**1.6623**	0.1645	0.1721	**1.9989**
	01-Sep-2013	**1.8701**	0.4958	0.2541	**2.6200**
	21-Sep-2014	**1.7028**	0.2496	0.1448	**2.0972**

Table 10
TEQ Results for Fish Tissue from Chrystina Lake and Edith Lake (2006-2023)

PROJECT No.: 317011-00057

	Date (dd-mmm-yyyy)	PCB TEQ (pg TEQ/g ww)	Dioxin TEQ (pg TEQ/g ww)	Furan TEQ (pg TEQ/g ww)	Total TEQ (pg TEQ/g ww)
CCME Tissue Residue 2001		0.79	0.71	0.71	0.71
Edith Lake - Continued					
	23-Sep-2015	**0.8118**	0.0654	0.0892	**0.9663**
(Replicate A)	22-Sep-2015	**1.6982**	0.1098	0.0848	**1.8927**
	30-Aug-2016	**0.8150**	0.1051	0.0877	**1.0078**
	13-Sep-2017	0.4018	0.0734	0.0526	0.5277
	30-Aug-2018	0.2828	0.0642	0.0303	0.3772
	26-Aug-2020	0.1613	0.0616	0.0275	0.2503
	14-Sep-2023	0.2359	0.0459	0.0369	0.3187
Brook Trout 5+	04-Oct-2006	0.4594	0.1155	0.0795	0.6544
	01-Sep-2011	**0.8756**	0.2210	0.0379	**1.1346**
	01-Sep-2013	**1.4040**	0.1635	0.0971	**1.6646**
	21-Sep-2014	**1.0036**	0.1134	0.0985	**1.2155**
	30-Aug-2016	**3.9303**	0.2058	0.1855	**4.3215**
	30-Sep-2021	0.2383	0.0921	0.0308	0.3612
Brook Trout 6+	14-Sep-2023	0.3347	0.0951	0.0424	0.4722
Brook Trout 11+	11-Sep-2007	0.1413	0.1160	0.0796	0.3369
Brook Trout 12+	11-Sep-2007	0.4582	0.1159	0.0426	0.6166

NOTES:
1. --- in detail data row(s) denotes parameter not analyzed.
2. Highlighting indicates parameters above applied guideline/criteria.
3. All TEQ values are presented in pg/g
4. Superscript [#1] - Duplicate sample analyzed by alternative lab.

Table 11

Summary of Tissue Residue Guideline, Threshold Exceedance, and Historical Range Comparisons for 2023 Fish Tissue Parameters

Project Number: 317011-00057

Sample Location/Species	Age Class	Sample Identifier	Environmental Guideline			Below Historical Ranges	Above Historical Ranges
			CCME (2001) Canadian Tissue Residue Guideline	SETAC (1999) Threshold	Health Canada Maximum Levels (2020a, 2020b)		
Chrystina Lake - Brook Trout	1+			Zinc		Coplanar PCB 81, 167, 189, Chromium, and Mercury	
	2+			Zinc		Chromium	
	3+		TEQ_{PCB}, Total TEQ	Zinc		Arsenic, Chromium	
	3+	Duplicate	TEQ_{PCB}, Total TEQ				
	Unknown A		Total TEQ			NA	NA
	Unknown B		Total TEQ			NA	NA
Edith Lake - Brook Trout	1+			Zinc		Chromium, Coplanar PCB 105	
	2+			Zinc		Chromium, Sodium	
	3+			Zinc		Arsenic, Chromium, Iron, Selenium	
	3+	Duplicate		Zinc		Chromium, Iron, Selenium	
	4+			Zinc		$TEQ_{Dx/F}$, Coplanar PCB 123, Chromium, Molybdenum	
	6+			Zinc		NA	NA

Notes: 1. TEQ_{PCB} = Toxic Equivalency based on coplanar PCB concentrations; $TEQ_{Dx/F}$ = Toxic Equivalency based on dioxin and furan concentrations; TEQ_{Lipid}= Toxic Equivalency based on lipid normalized tissue residue concentrations; Total TEQ = Toxic Equivalency incorporating concentrations of all dioxins and dioxin-like compounds analysed

Figures

600000 605000 610000 615000 620000

6075000 6070000 6065000

Twp. 67 Twp. 66

EDITH LAKE
EDITH CREEK
CHRYSTINA LAKE
GOLDEN MILE
ETHEL CREEK
ANNA LAKE
TIMEU CREEK
LOIS LAKE
MOOSE C
MORSE LAKE
MORSE RIVER
KRAUSE LAKE
SWAN HILLS
33
32

Rge. 10

Treatment Centre
Community
Major Road

N

0 1 2
Kilometres
1:55,000
NAD 1983 UTM Zone 11N

Basedata Source:
IHS Markit
AltaLIS Ltd.
Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

VEOLIA WASTE SERVICES ALBERTA INC.
2023 FISH TISSUE MONITORING PROGRAM
SWAN HILLS TREATMENT CENTRE

REGIONAL SETTING

Date:	Drawn by:	Edited by:	App'd by:
02-NOV-23	KR		. .

VEOLIA

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Project No. 317011-00057-23200

FIG No 1

REV A

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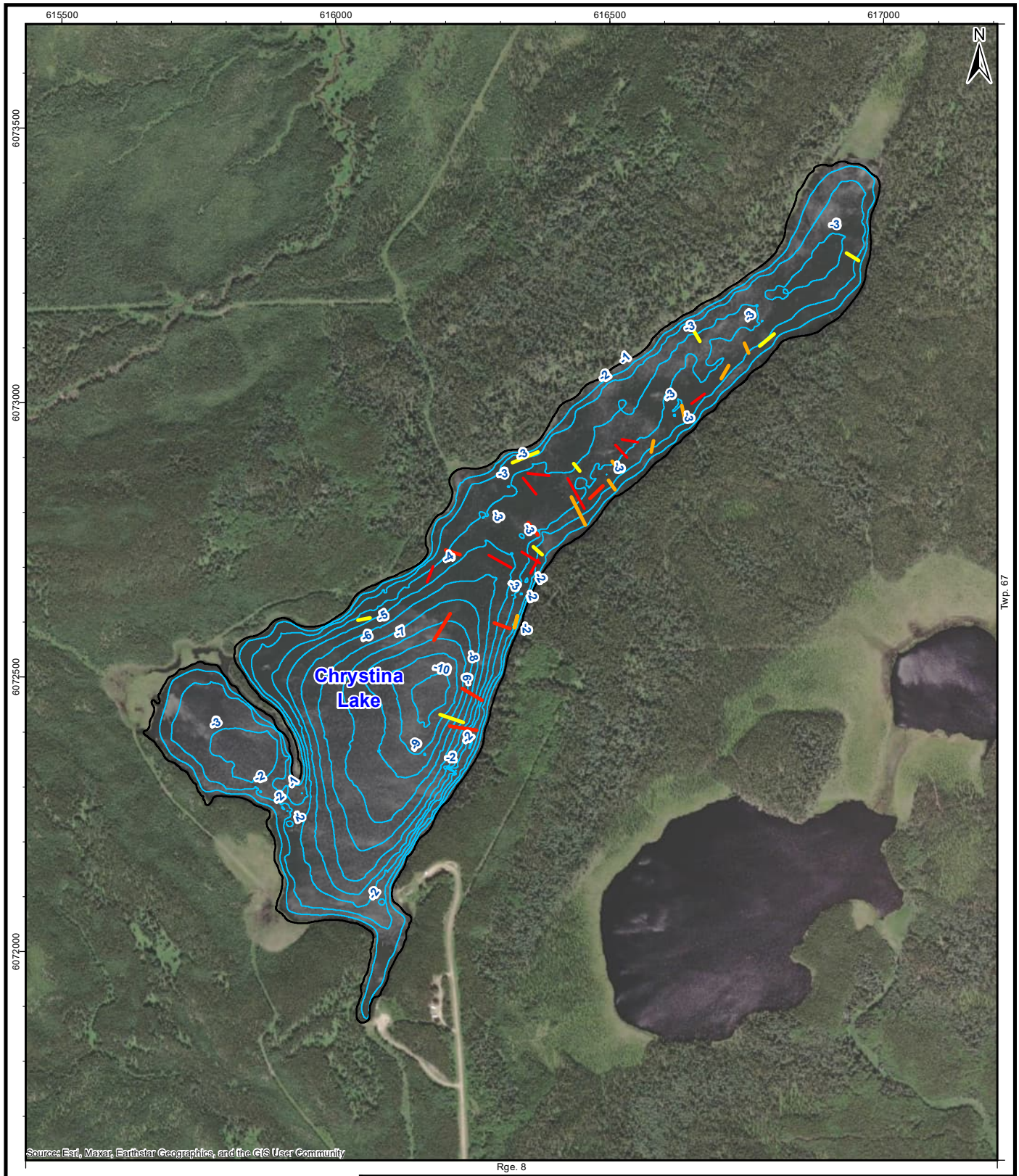

1m Contour Line
2021 Gill Net Location
2022 Gill Net Location
2023 Gill Net Location

0 150 300
Metres
1:10,000
NAD 1983 UTM Zone 11N

VEOLIA WASTE SERVICES ALBERTA INC.
2023 FISH TISSUE MONITORING PROGRAM
SWAN HILLS TREATMENT CENTRE

CHRYSTINA LAKE BATHYMETRY AND FISH SAMPLING LOCATIONS

Date:	Drawn by:	Edited by:	App'd by:
02-NOV-23	KR		. .

VEOLIA

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Project No. 317011-00057-23200

FIG No 2

REV A

USER NAME: Kenneth.W.Ritchie
ISSUING OFFICE: CALGARY GIS
PLOT DATE & TIME: 11/2/2023 3:49:45 PM
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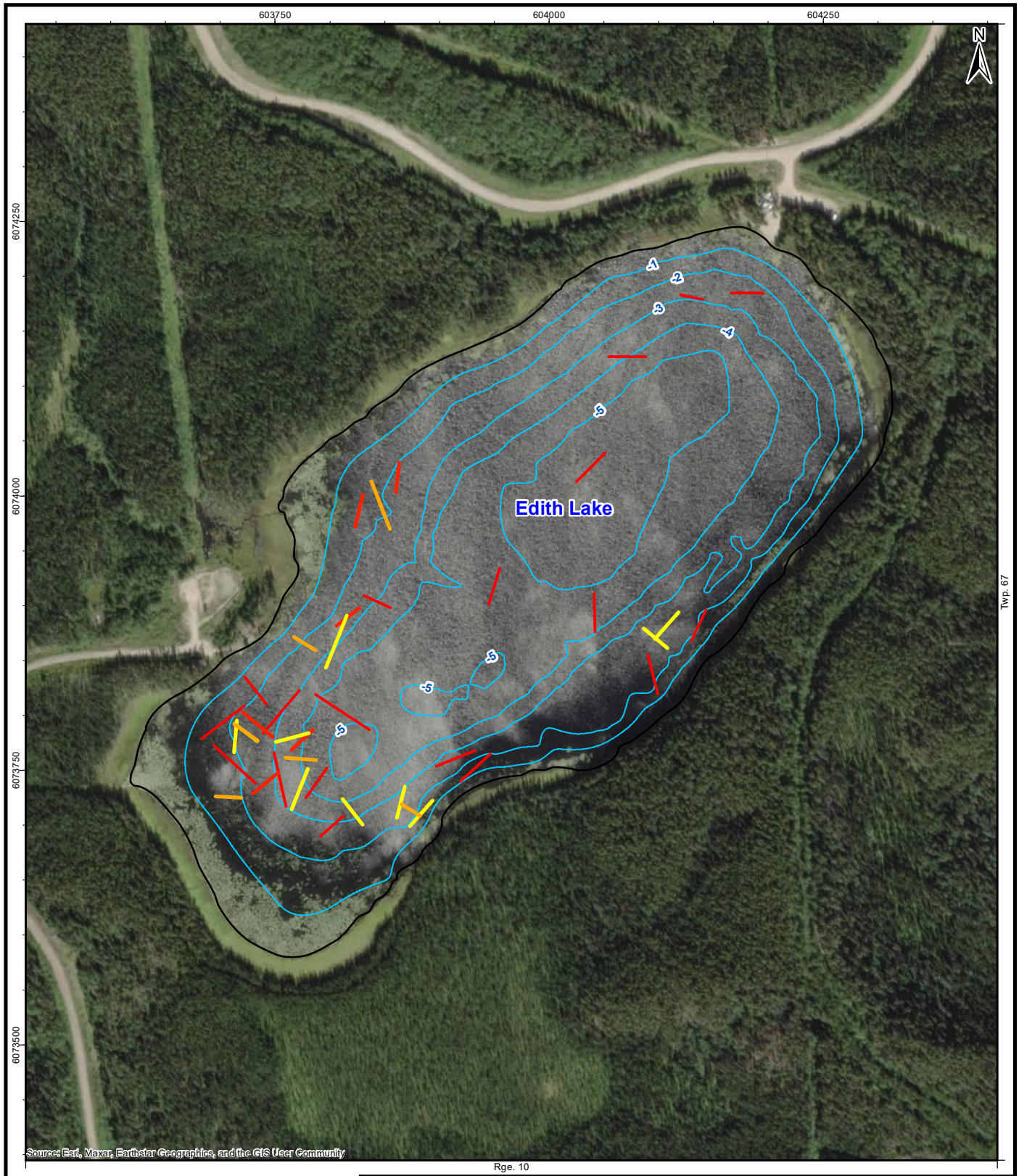

1m Contour Line

2021 Gill Net Location

2022 Gill Net Location

2023 Gill Net Location

0 100 200

Metres

1:5,000

NAD 1983 UTM Zone 11N

VEOLIA WASTE SERVICES ALBERTA INC.

2023 FISH TISSUE MONITORING PROGRAM

SWAN HILLS TREATMENT CENTRE

EDITH LAKE BATHYMETRY AND FISH SAMPLING LOCATIONS

Date:	Drawn by:	Edited by:	App'd by:
02-NOV-23	KR		. .

VEOLIA

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Project No. 317011-00057-23200

FIG No 3

REV A

USER NAME: Kenneth.W.Ritchie
ISSUING OFFICE: CALGARY GIS
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Veolia Waste Services Alberta Inc.

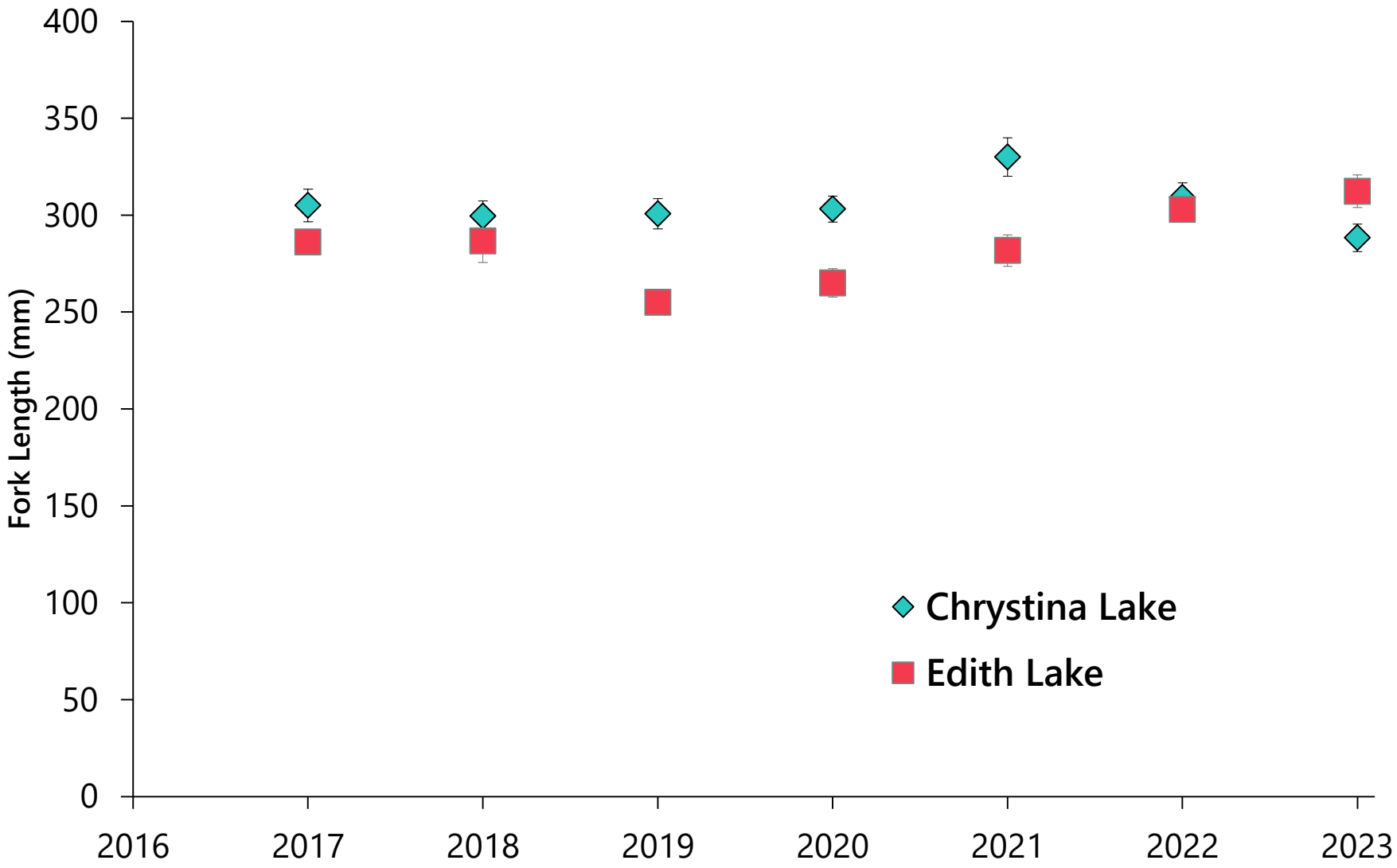
2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Gill net catch per unit effort (CPUE) for brook trout from 2017 to 2023

worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER:	FIGURE:
317011-00057	4



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Mean Fork Length of Brook Trout from Chrystina Lake and Edith Lake from 2017 to 2023

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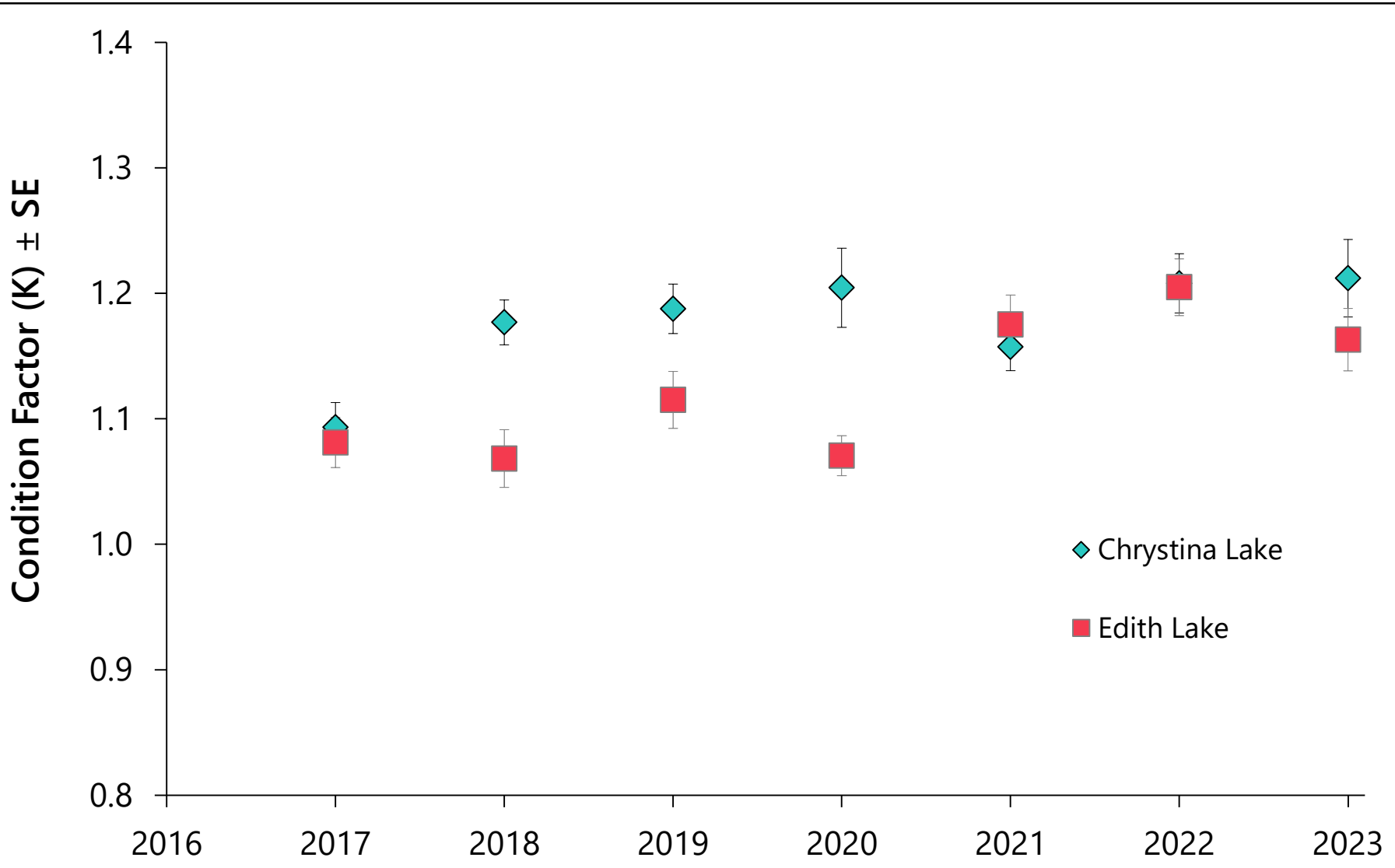
date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: **317011-00057**

FIGURE: **5**



Veolia Waste Services Alberta Inc.

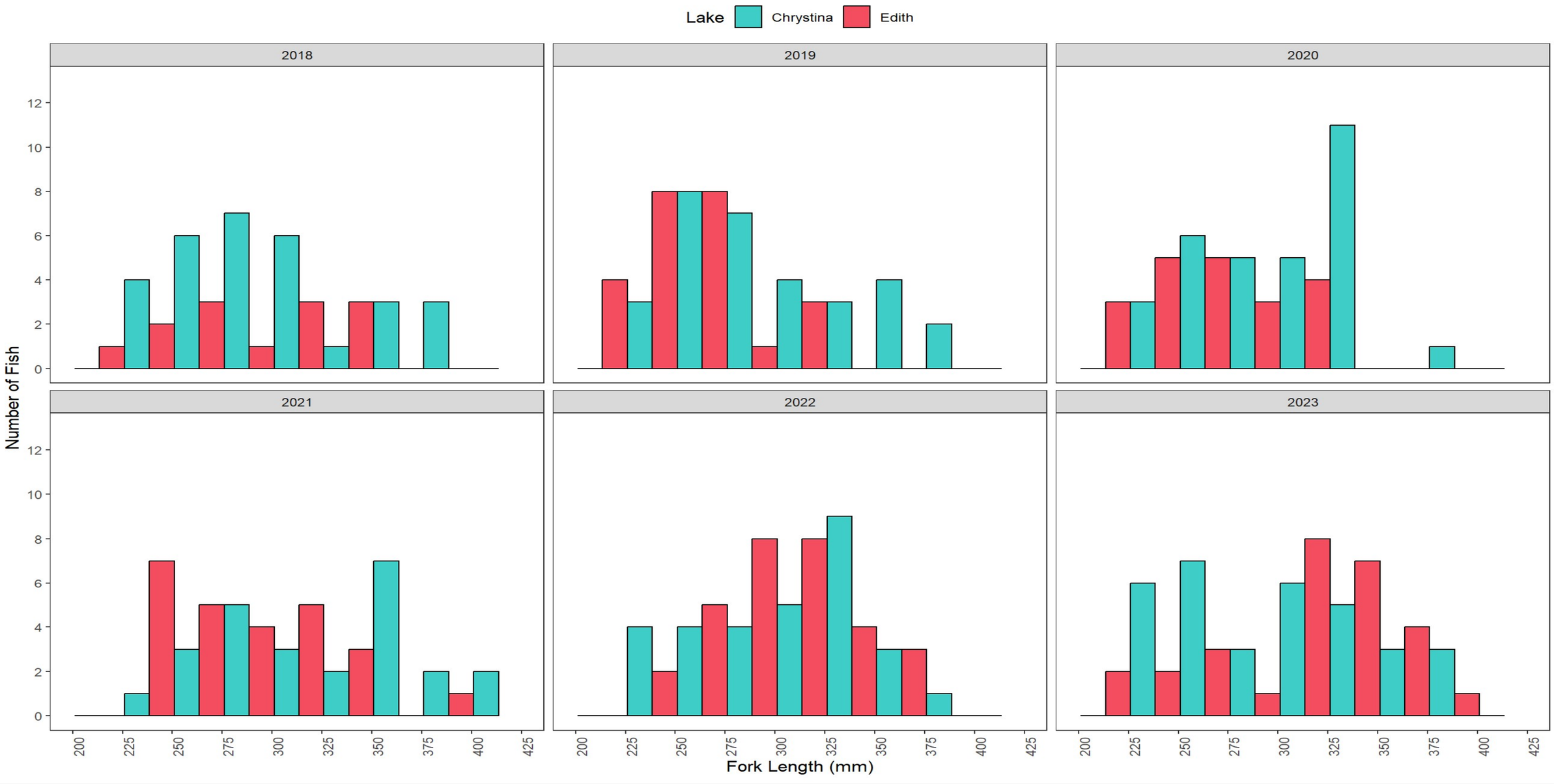
2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Average Fish Condition (Based on Average Condition Factor [K]) in Chrystina Lake and Edith Lake from 2017 to 2023

worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER:	FIGURE:
317011-00057	**6**



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

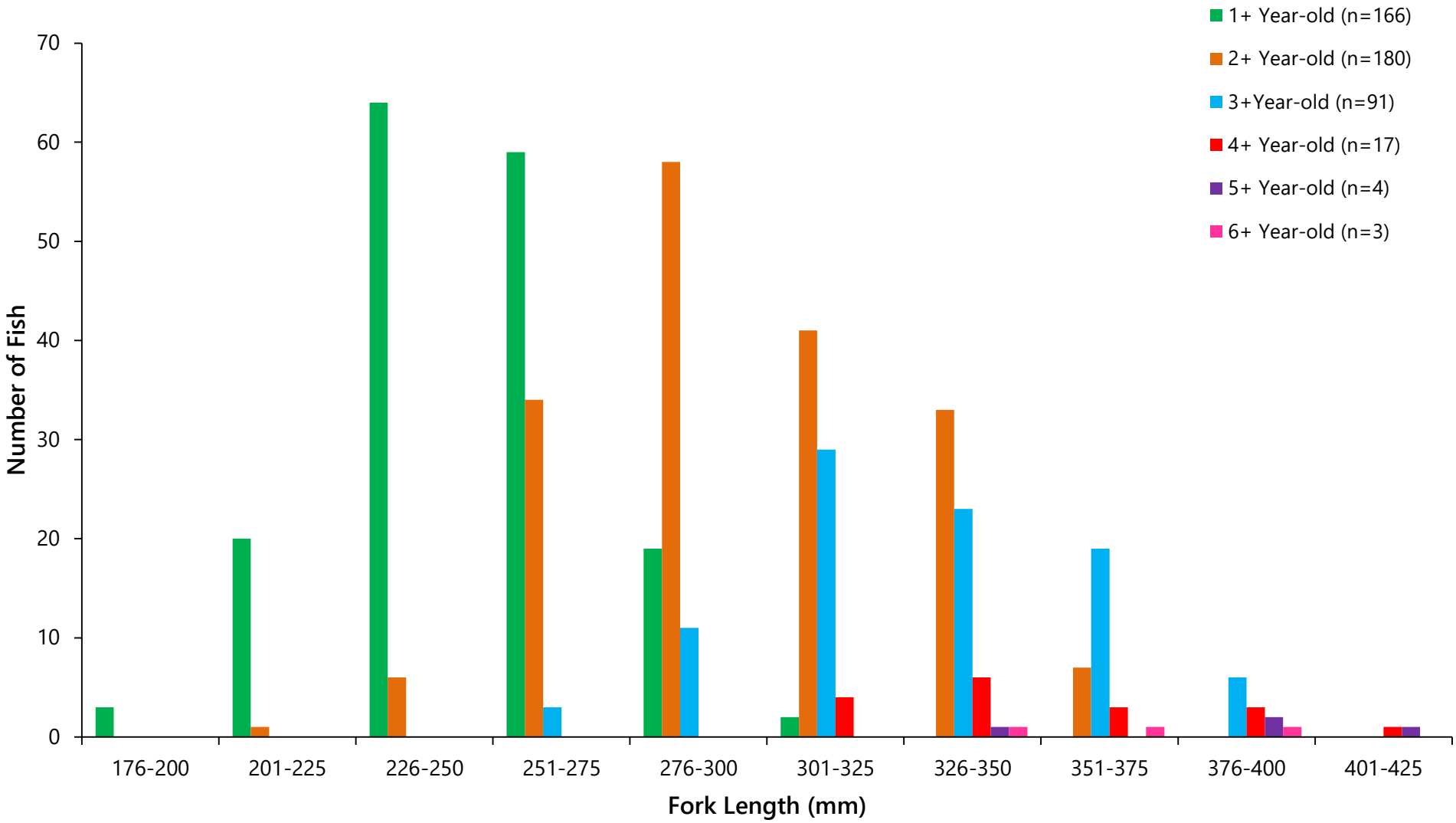
Length-Frequency for Brook Trout in Chrystina Lake and Edith Lake (2018 to 2023)

worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: 317011-00057

FIGURE: 7



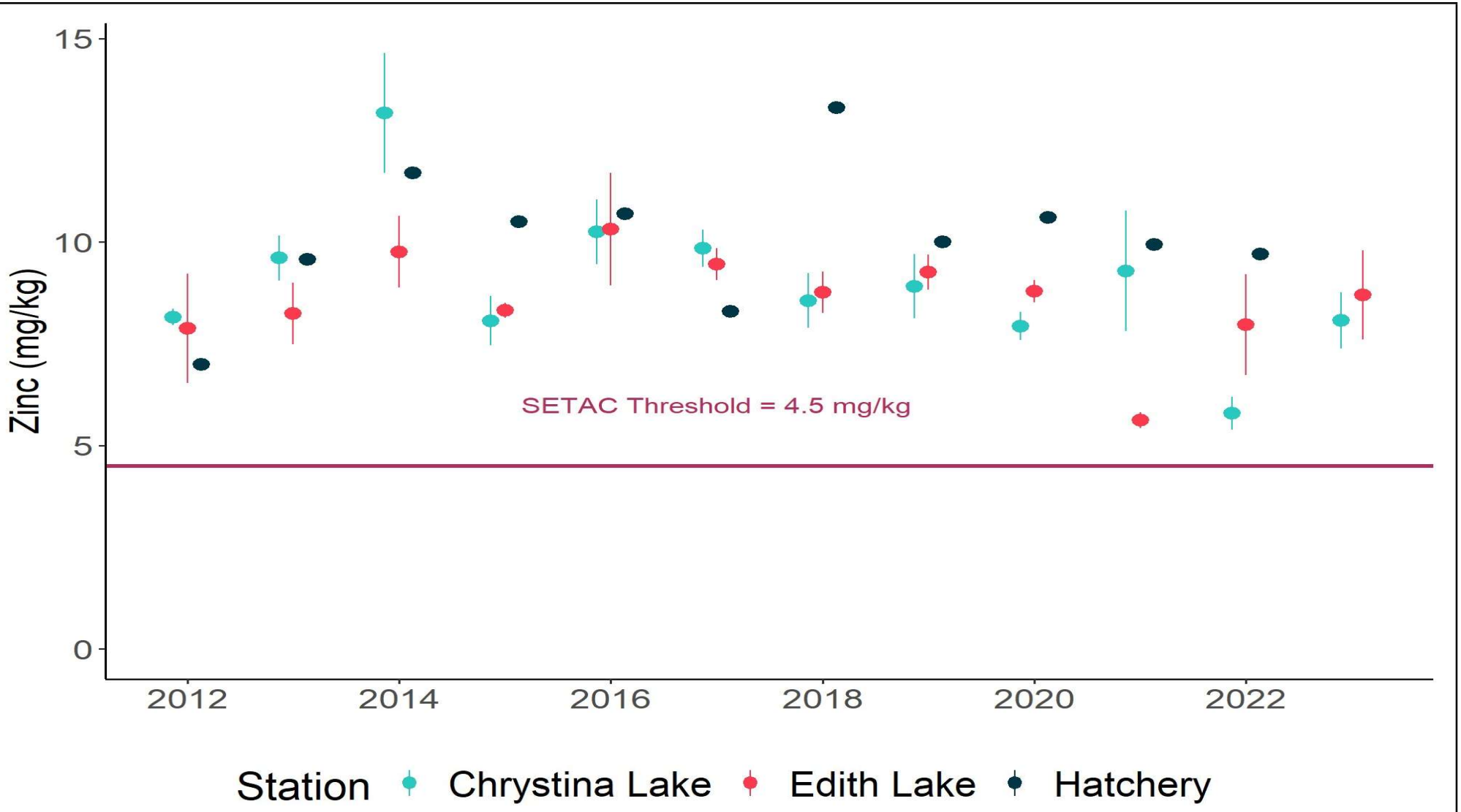
Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Length-Frequency Distributions of 1^{+} to 6^{+} Year-Old Brook Trout from Chrystina and Edith Lakes (2012 to 2023)

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER:	FIGURE:
317011-00057	8



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Mean Zinc Concentrations from 2012 to 2023

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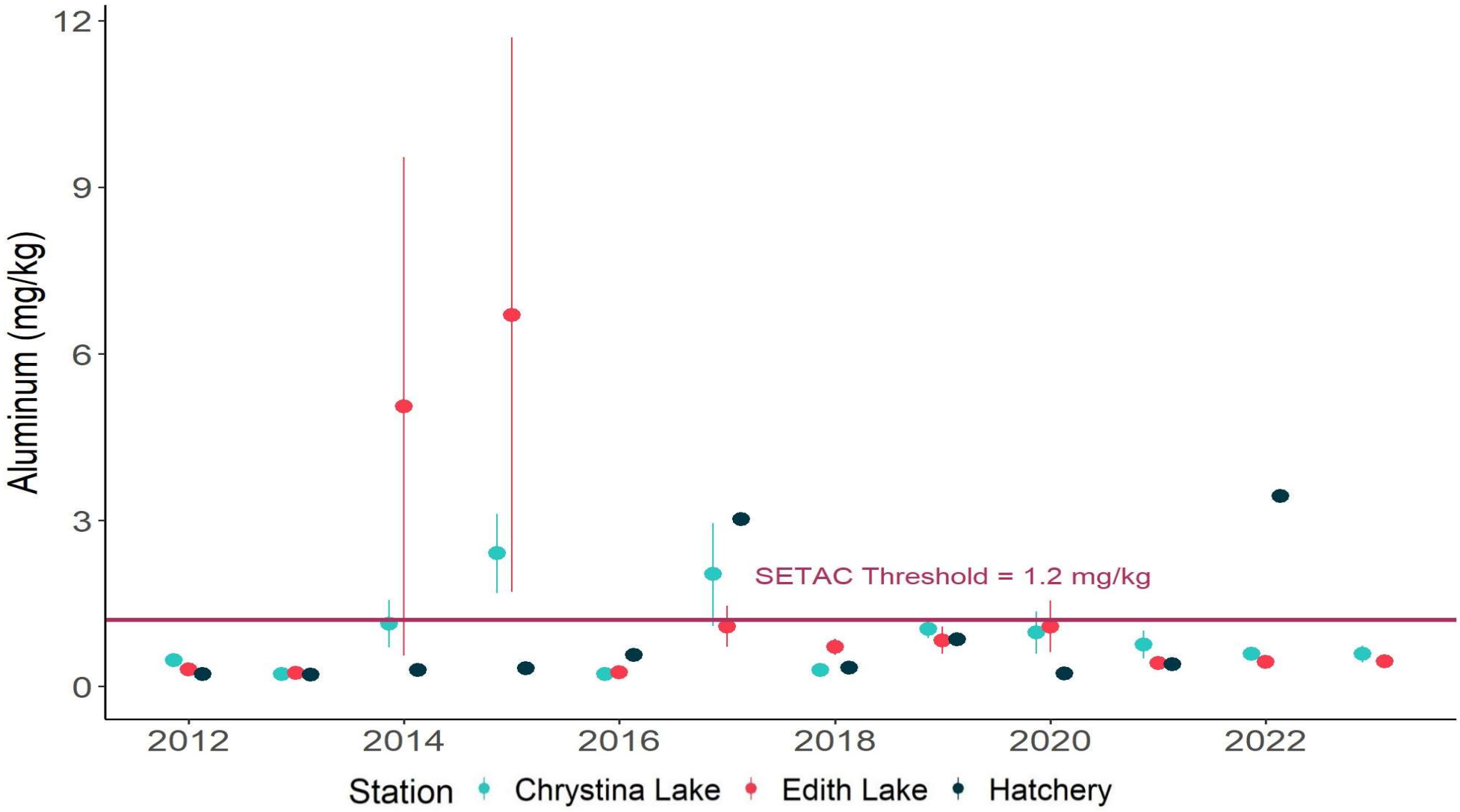
date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: **317011-00057**

FIGURE: **9**



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Mean Aluminum Concentrations from 2012 to 2023

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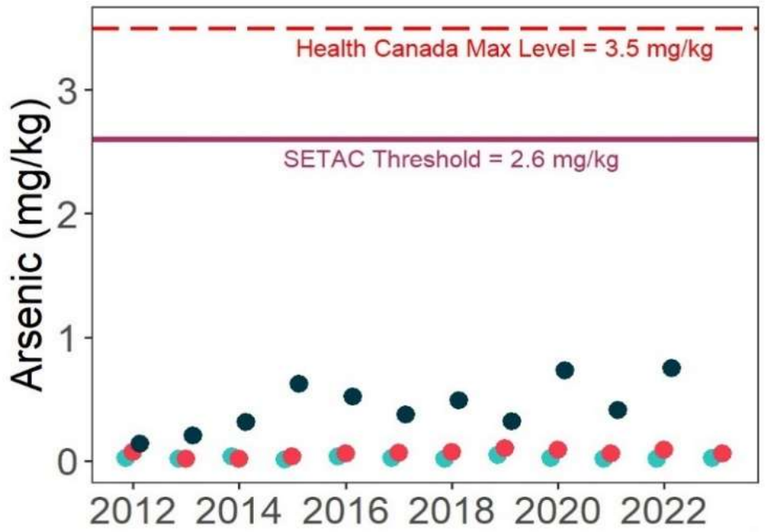
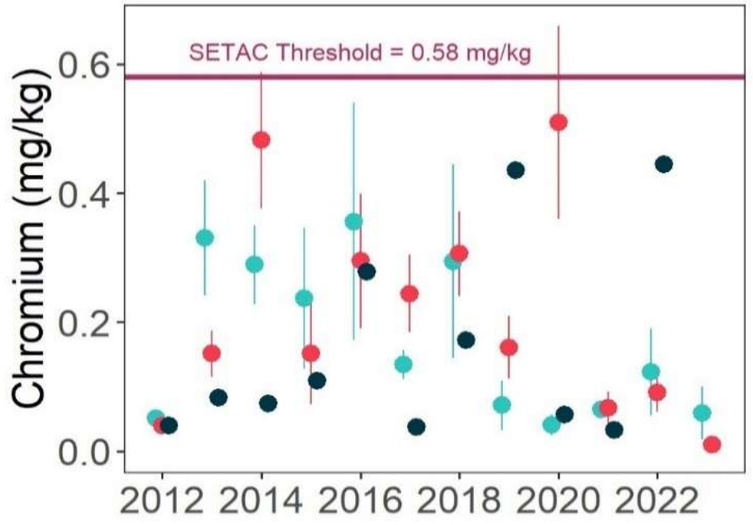
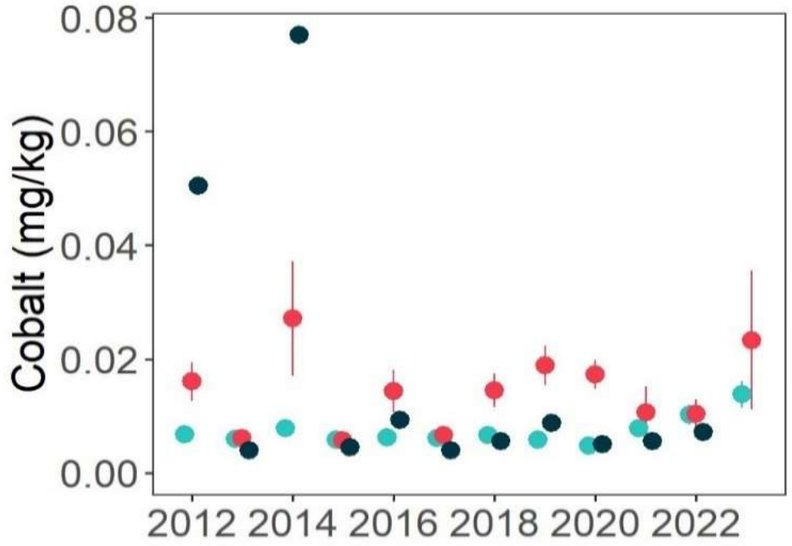
date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

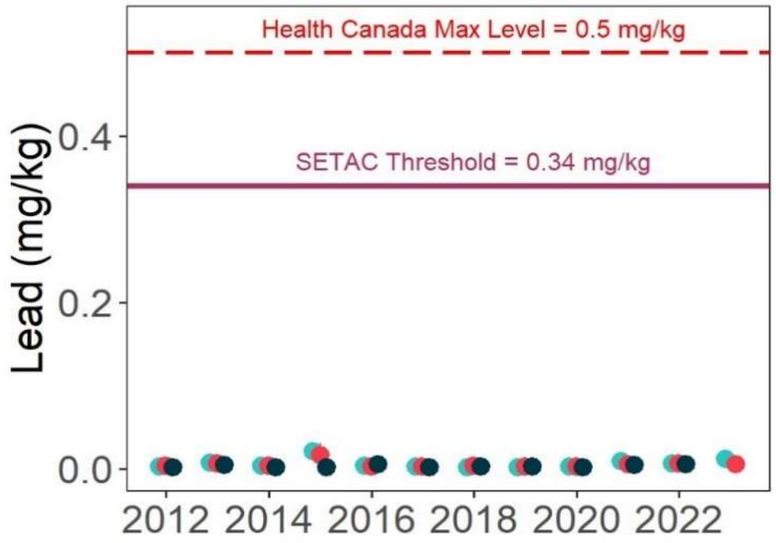
PROJECT NUMBER: **317011-00057**

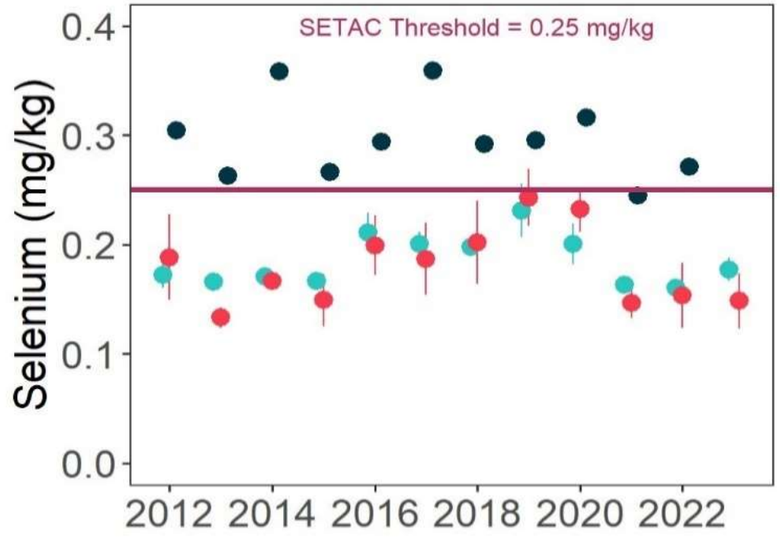
FIGURE: **10**











Station Chrystina Lake Edith Lake Hatchery

Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Average Metal Concentrations in Chrystina Lake, Edith Lake, and Hatchery Brook Trout Fish Tissue (2012 to 2023)

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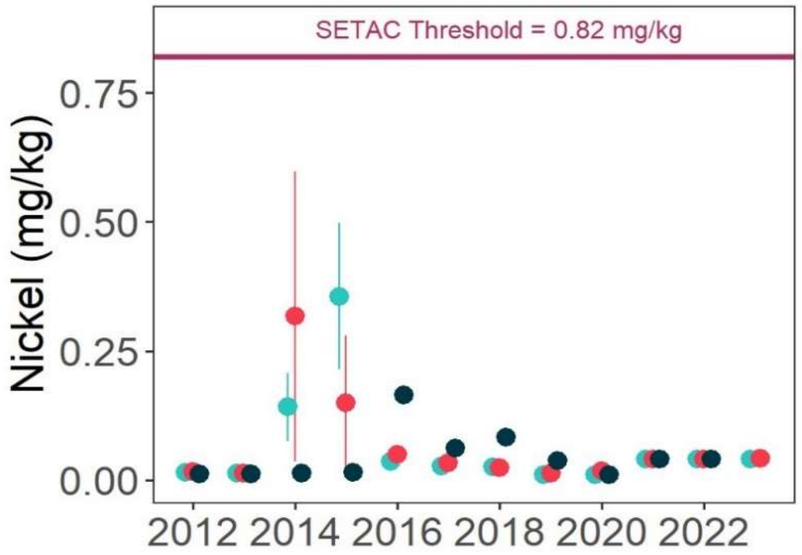
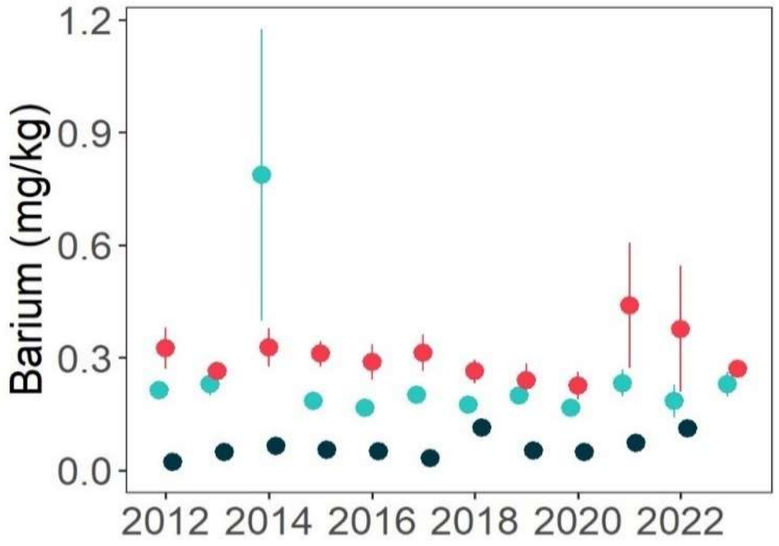
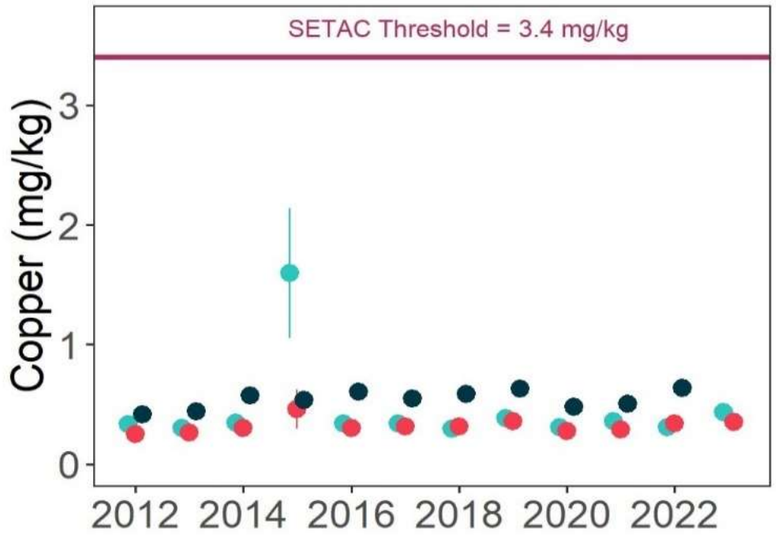
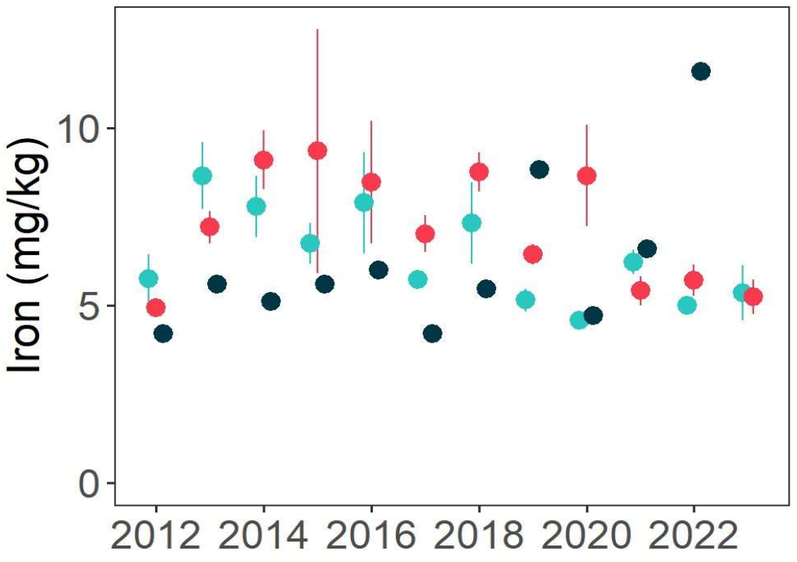
date	drawn by	edited by	app'd by	PROJECT NUMBER:	FIGURE:
30-Jan-24	AVA	GY	GR	317011-00057	11a

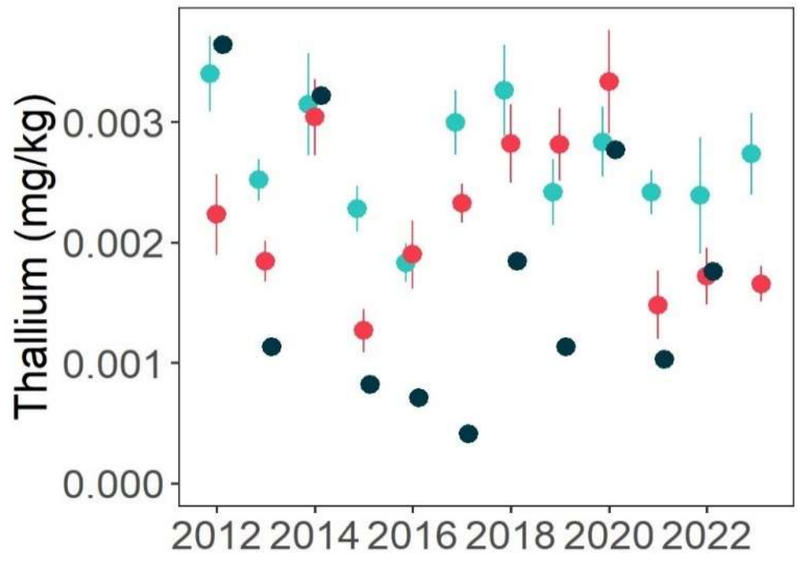


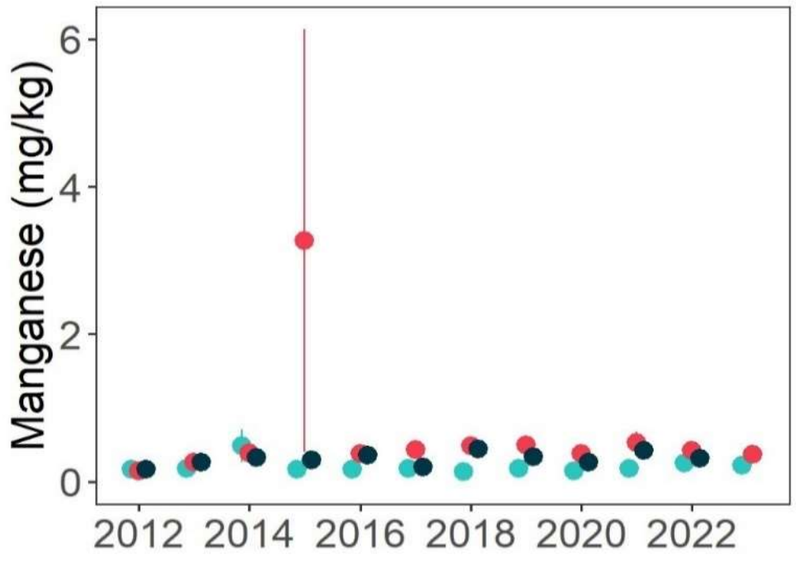




Station Chrystina Lake Edith Lake Hatchery







Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

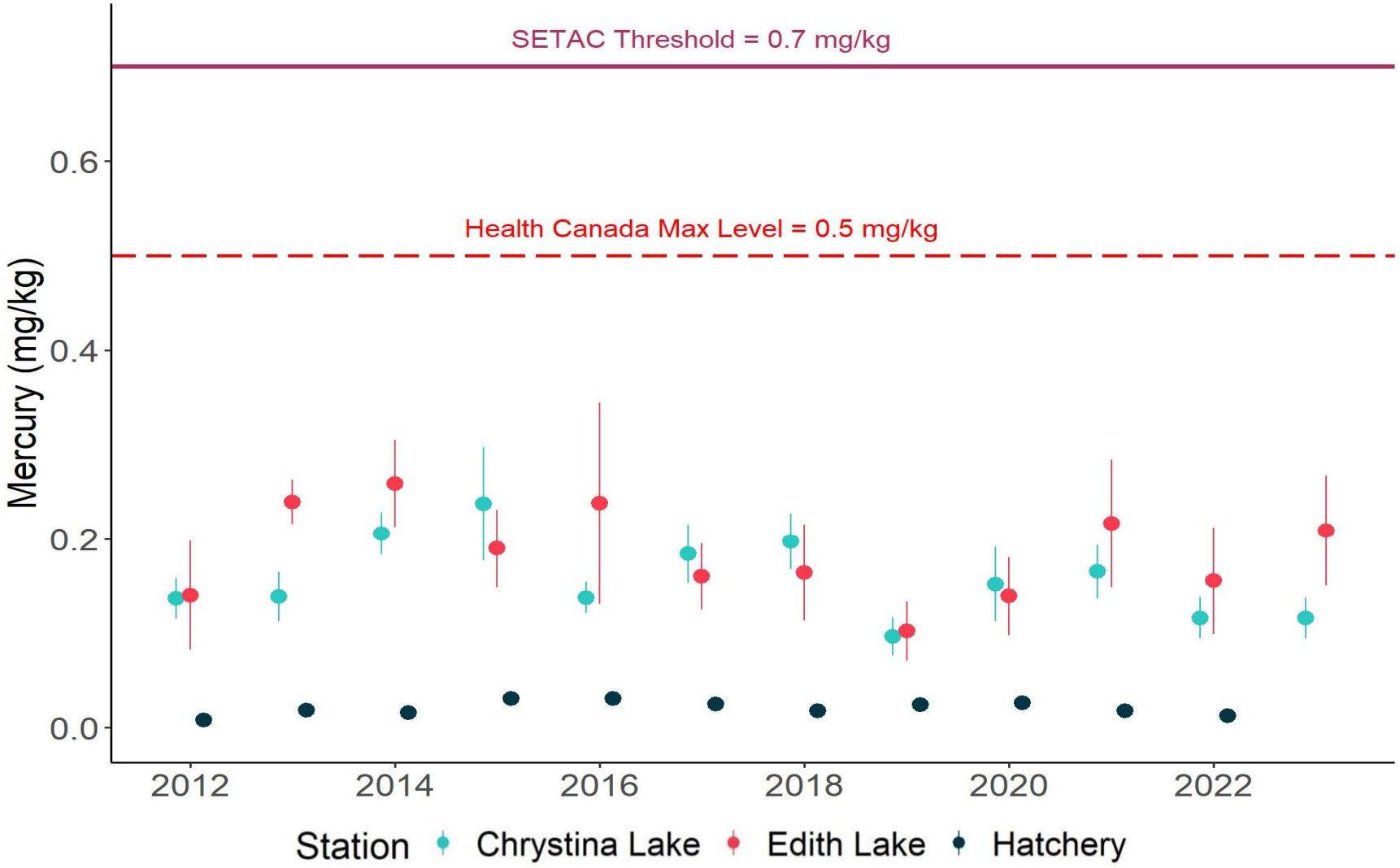
Average Metal Concentrations in Chrystina Lake, Edith Lake, and Hatchery Brook Trout Fish Tissue (2012 to 2023)

worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: **317011-00057**

FIGURE: **11b**



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

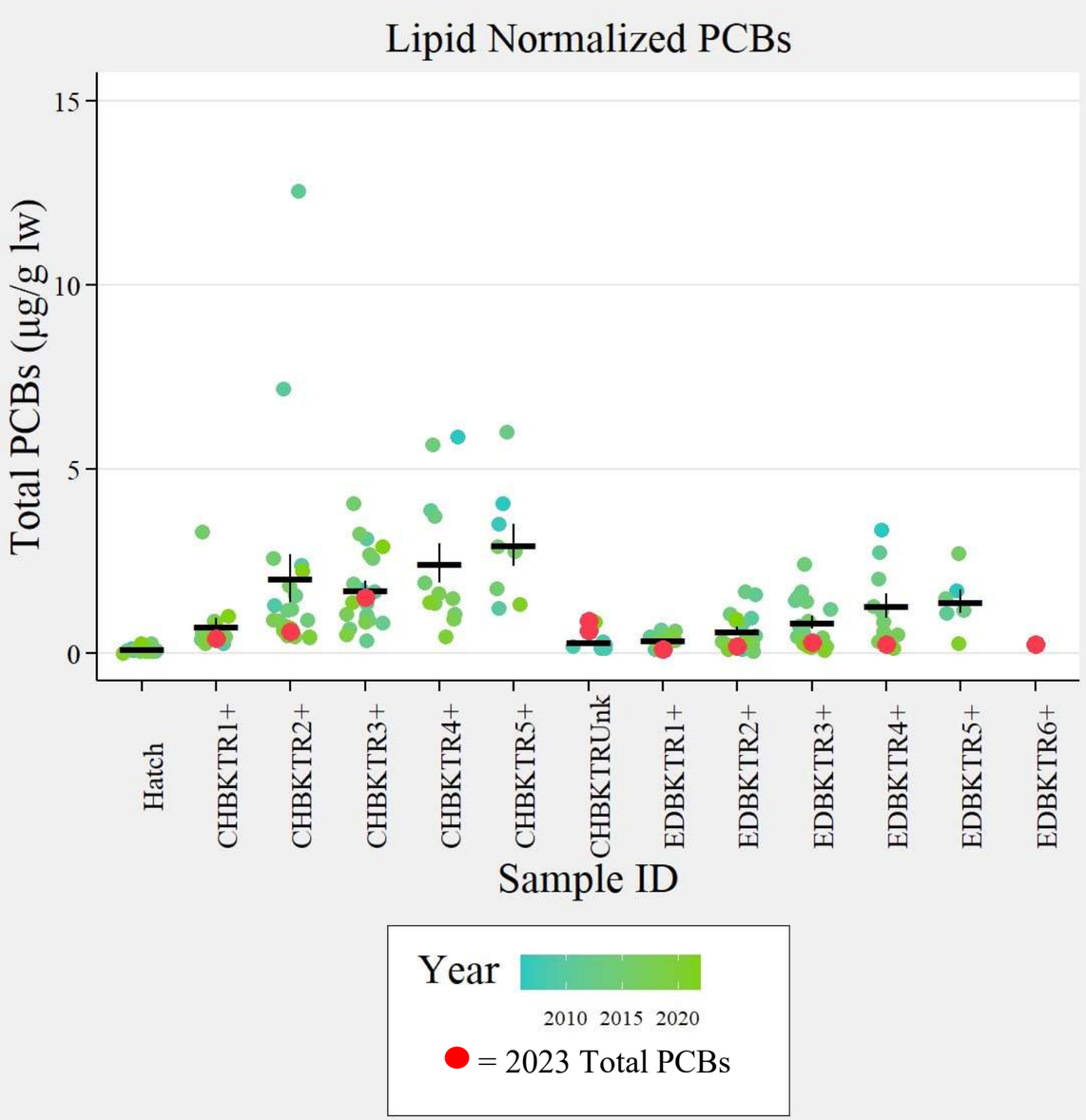
Mean Mercury Concentrations from 2012 to 2023

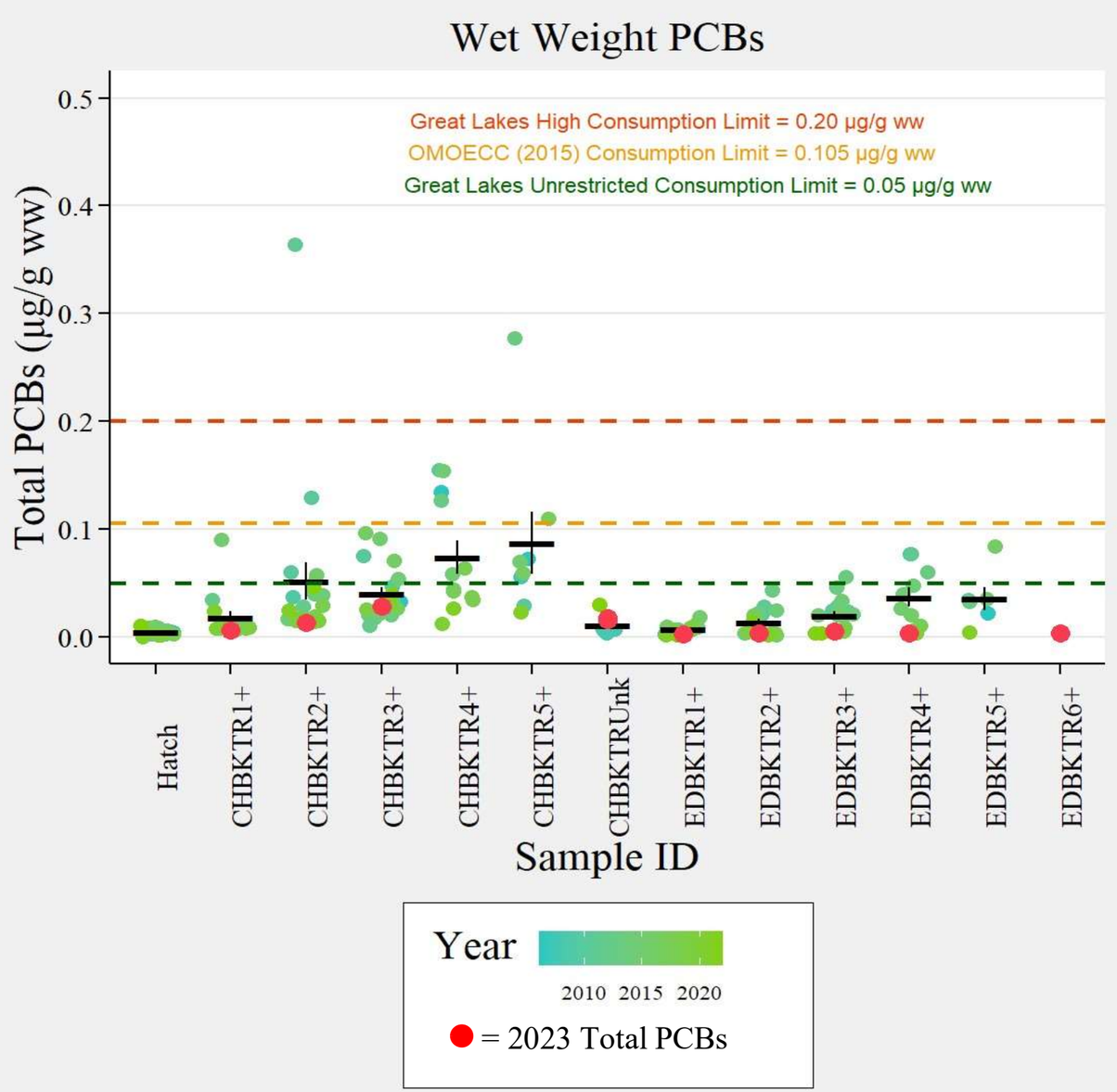
worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: **317011-00057**

FIGURE: **12**





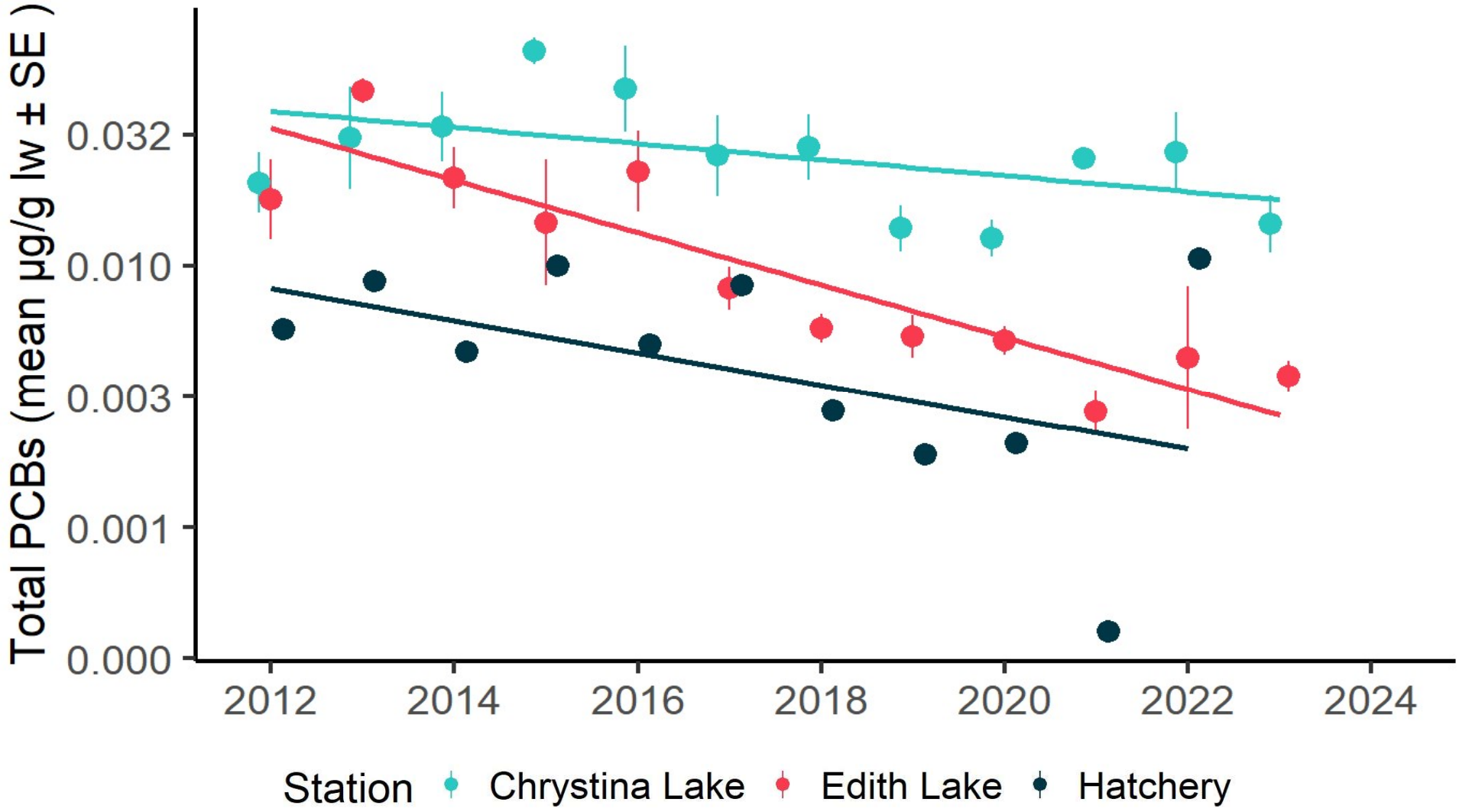
Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Total PCB Summary (1^+ to 6^+ Year-Old Brook Trout between 2006 and 2023)

worley consulting

date 30-Jan-24	drawn by AVA	edited by GY	app'd by GR	PROJECT NUMBER: 317011-00057	FIGURE: 13



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

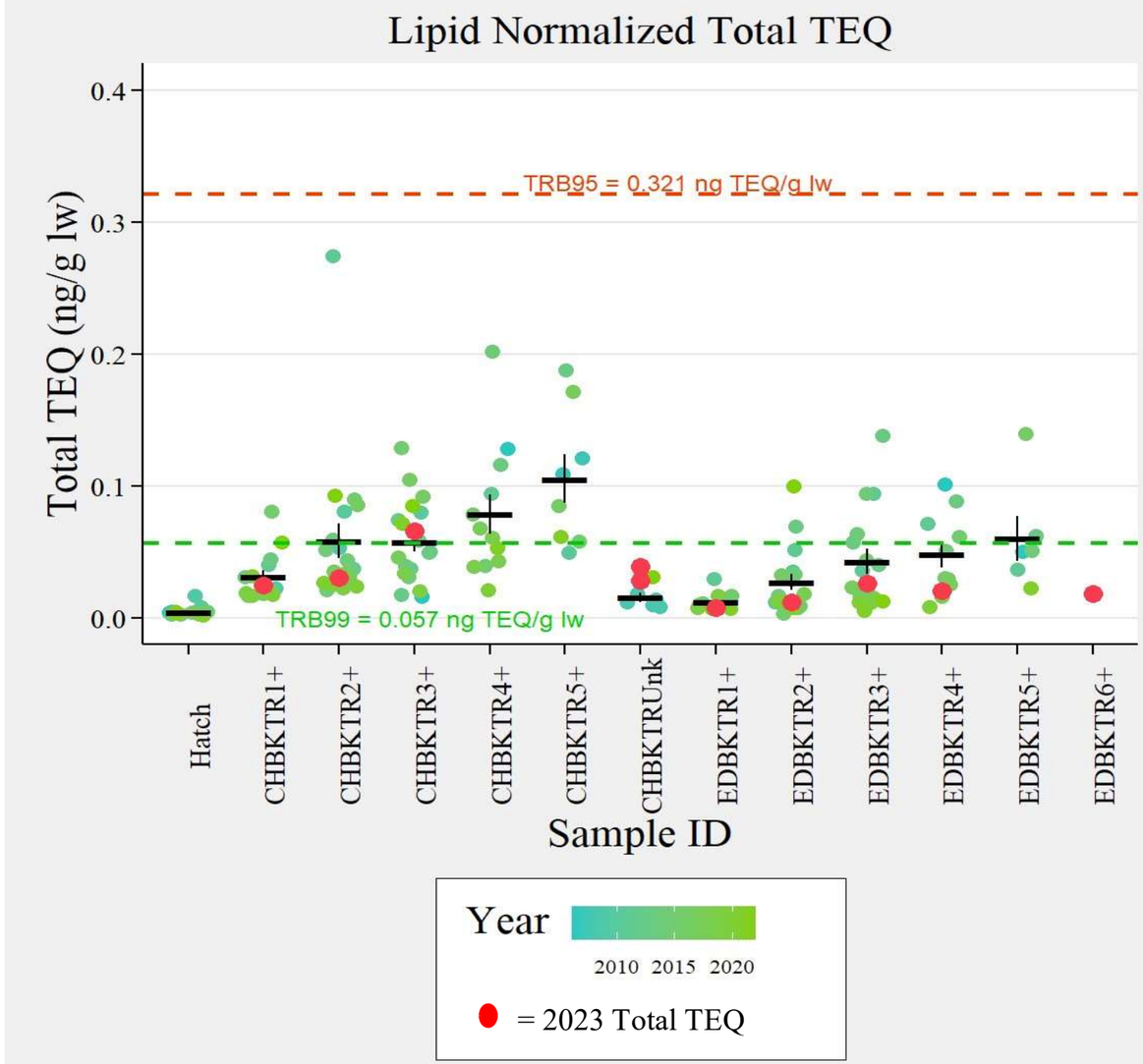
Total PCB_{Lipid} Concentrations in Chrystina and Edith Lake Brook Trout (2012 to 2023)

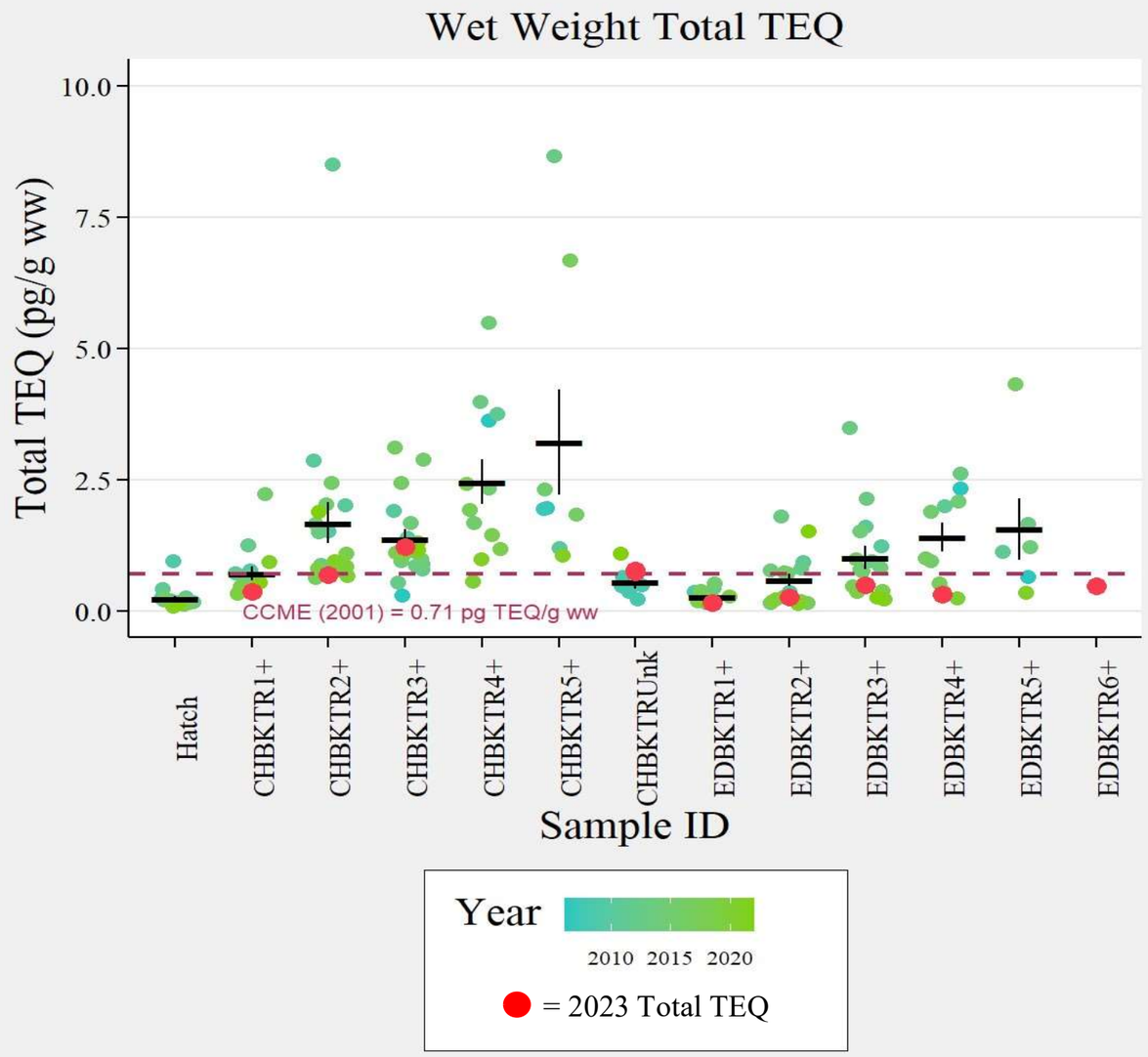
worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: **317011-00057**

FIGURE: **14**





Notes: Left - Total TEQ adjusted based on lipid content for comparison with tissue residue benchmarks (TRB) protective of 95% and 99% of fish species present (Steevens et al. 2005).
Right - Total TEQ based on wet weight tissue concentrations for comparison with CCME (2001) tissue residue guidelines for the protection of wildlife consumers of aquatic biota.

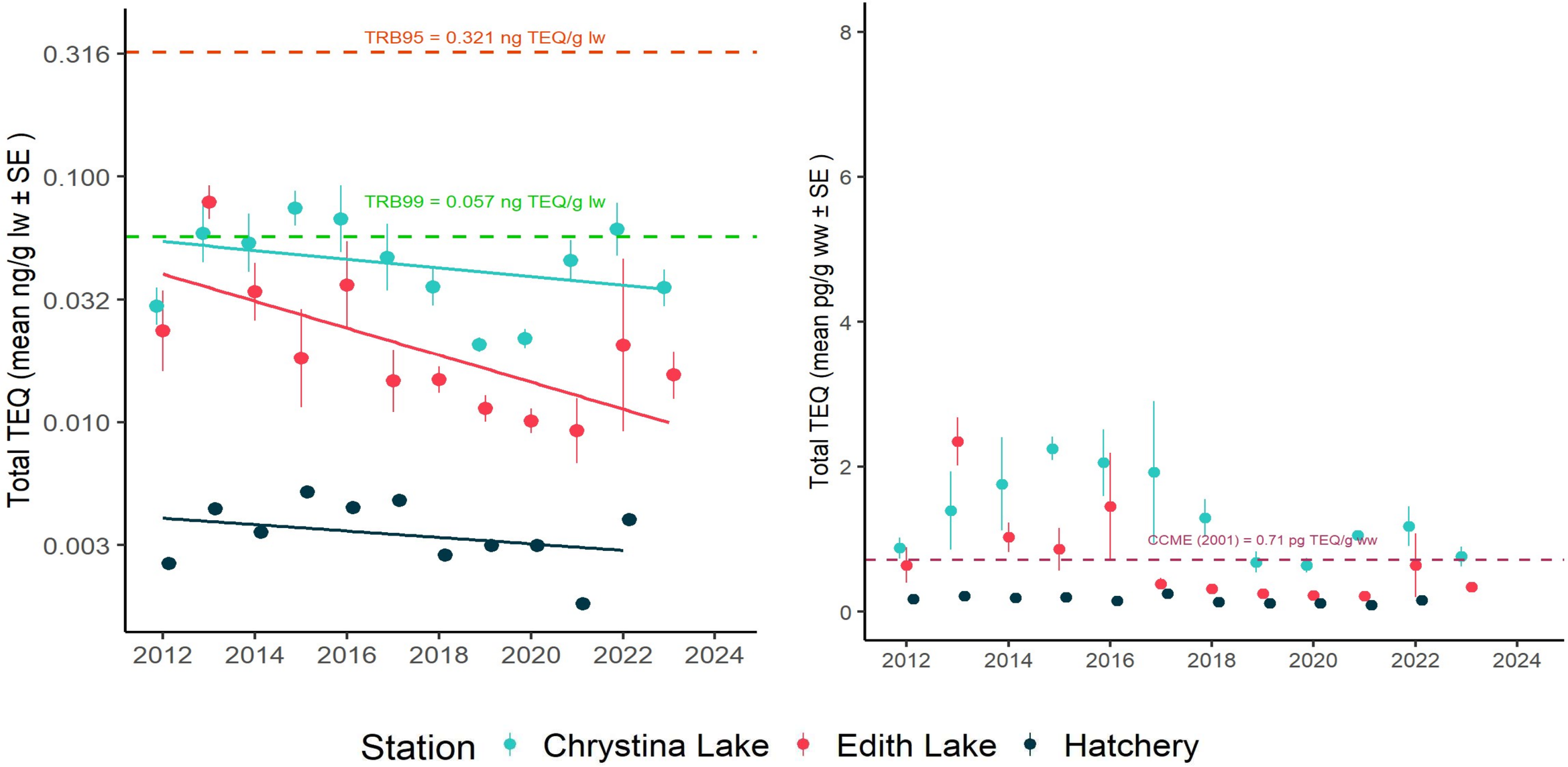
Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Total TEQ Summary (1+ to 6+ Year-Old Brook Trout between 2006 and 2023)

worley consulting

date	drawn by	edited by	app'd by	PROJECT NUMBER:	FIGURE:
30-Jan-24	AVA	GY	GR	317011-00057	15



Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

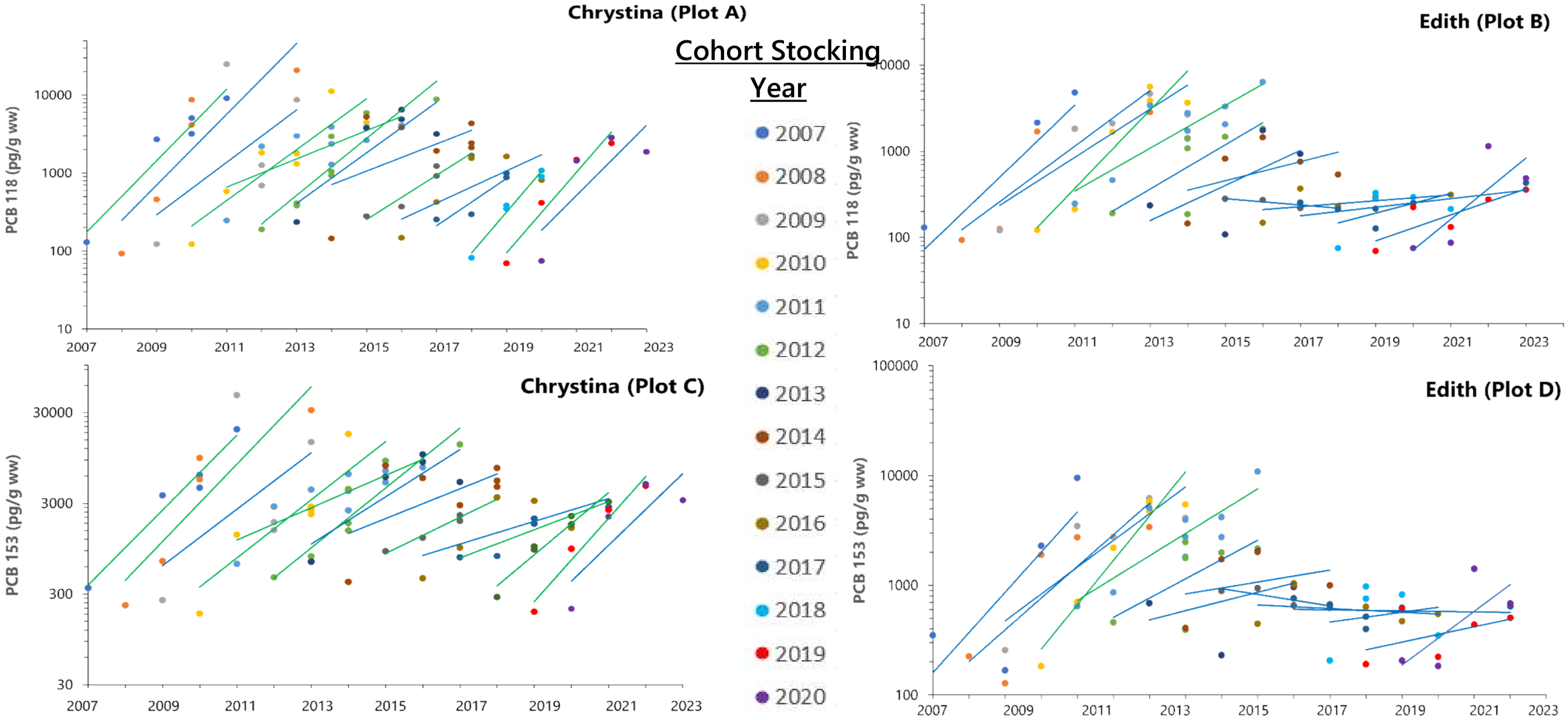
Wet Weight and Lipid Normalized Total TEQs for Chrystina and Edith Lake Brook Trout (2012 to 2023)

worley consulting

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: 317011-00057

FIGURE: 16



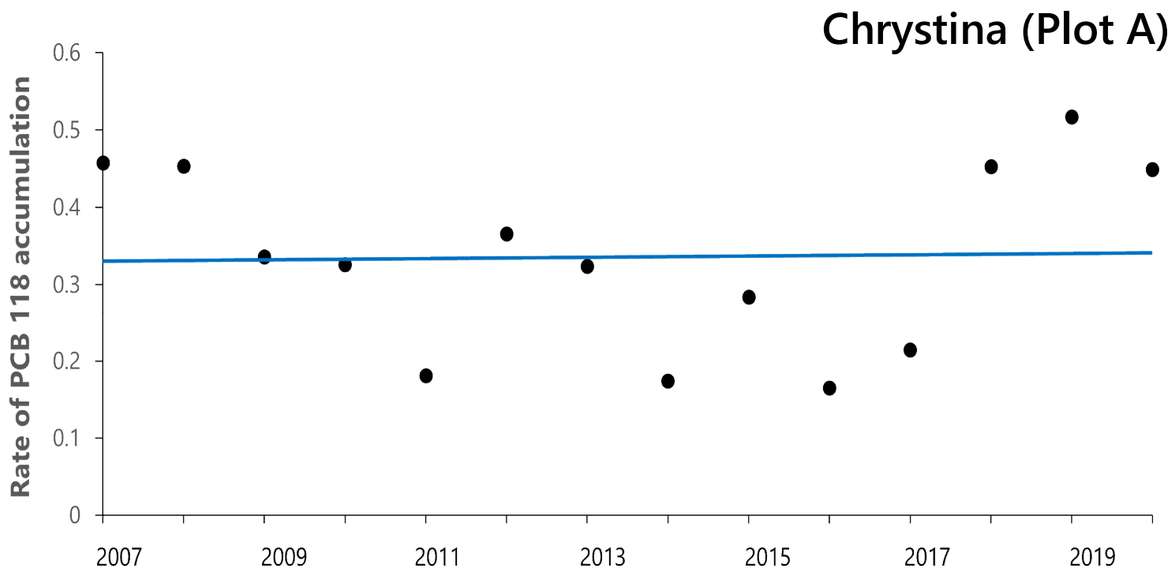
Note: Green lines denote accumulation trends that are significantly different from zero

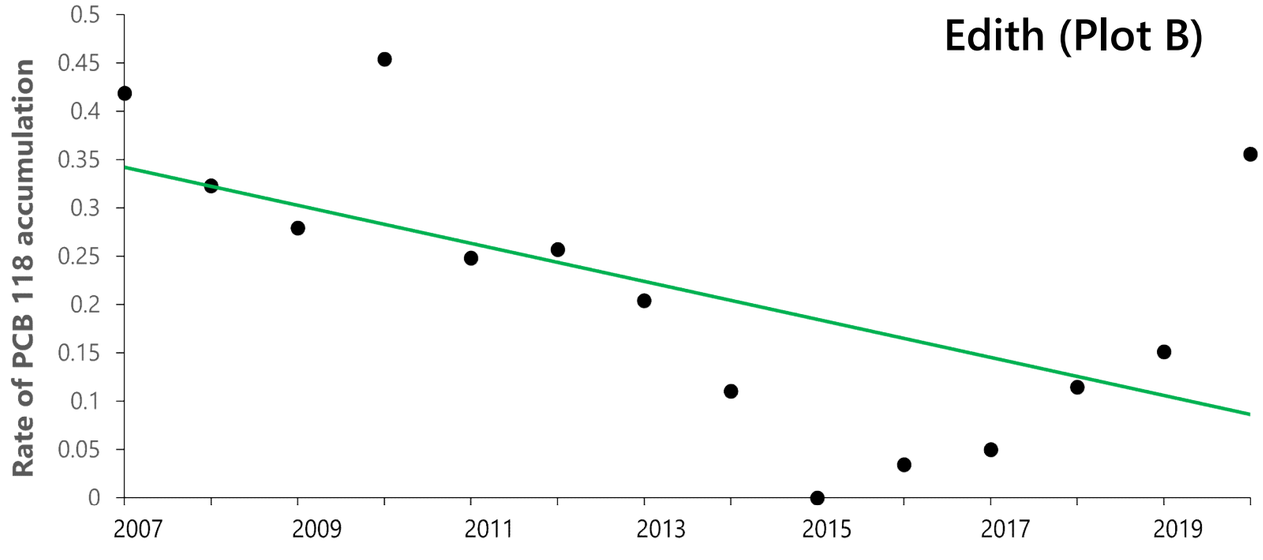
Veolia Waste Services Alberta Inc.

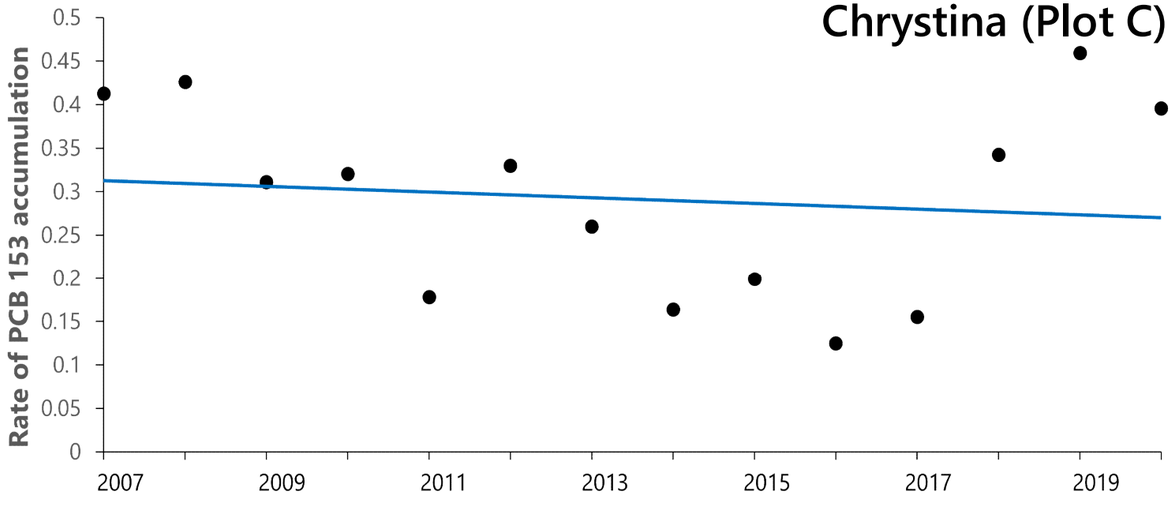
2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

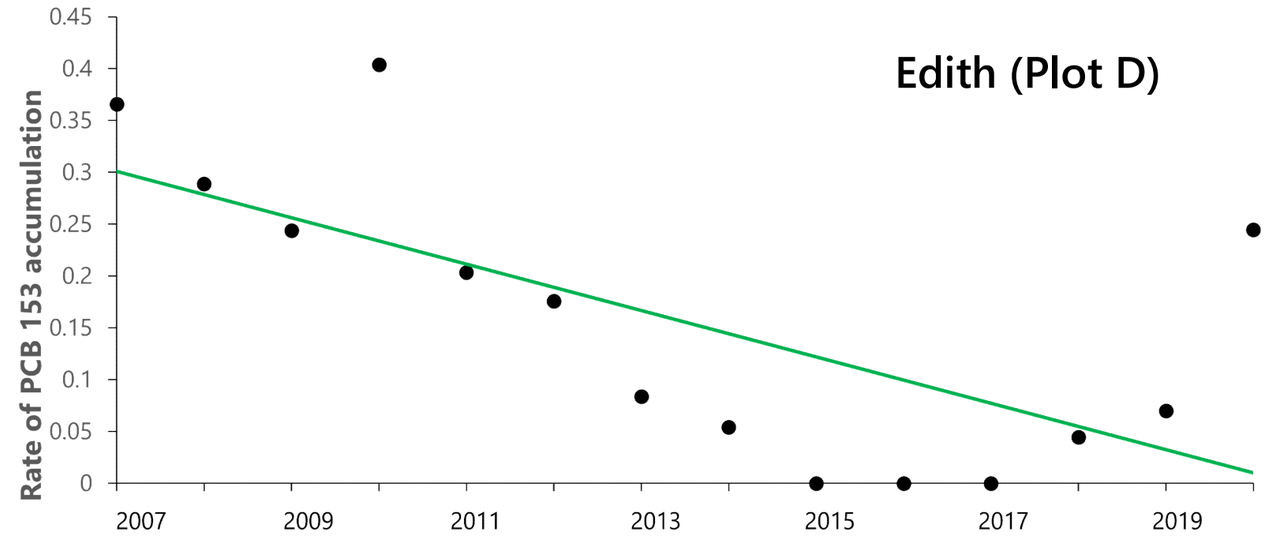
Trends in PCB 118 and 153 Concentration in Brook Trout Tissue in Chrystina Lake and Edith Lake for Cohorts Originating 2007 to 2020

date	drawn by	edited by	app'd by	PROJECT NUMBER:	FIGURE:
30-Jan-24	AVA	GY	GR	317011-00057	17









Note: Green lines denote accumulation trends that are significantly different from zero

Veolia Waste Services Alberta Inc.

2023 Fish Tissue Monitoring Program: Swan Hills Treatment Centre

Rates of PCB 118 and 153 Accumulation in Brook Trout Tissue in Chrystina Lake and Edith Lake for Cohorts Originating 2007 to 2020

date	30-Jan-24	drawn by	AVA	edited by	GY	app'd by	GR

PROJECT NUMBER: 317011-00057

FIGURE: 18

Appendix A. Background Information

A.1 Environmental Setting

The facility is in the Swan Hills Uplands of Central Alberta, which has the highest elevations (1000 to 1200 metres above sea level [masl]) in the province, east of the Rocky Mountain Foothills (Earth Tech 2005). The facility is within the Athabasca River Watershed, approximately 65 km west from the Athabasca River, and is near the headwaters of four tributaries of the Coutts River. Natural drainage from the facility flows eastward via the Coutts River, ultimately flowing into the Saulteaux River and the Lesser Slave River, downstream of Lesser Slave Lake.

Regional climate data is available from the Environment Canada Whitecourt A Climate Station (Climate ID – 3057376) which is approximately 70 km south from Swan Hills, Alberta and at a lower elevation (Whitecourt – 782 masl; Swan Hills – 1210 masl). The Freeman Auto Climate Station (Climate ID - 306BGCQ), operated as part of the Alberta Climate Information Service (ACIS), provides local climate information near the facility. Historical wind velocity data (at a height of 30 m above ground level) measured as part of the air quality monitoring program has indicated that the prevailing wind direction is from the west to northwest (WorleyParsons 2010). Review of climatic information available from the ACIS at 10 m above ground confirms the prevailing wind direction documented historically by the EMP (ACIS 2023).

The facility is in the Boreal Uplands Ecoregion (GOA 2005) and vegetation surrounding the facility is characteristic of the Upper Foothills Natural Subregion (Natural Regions Committee 2006). This subregion is dominated by mature and old growth lodgepole pine (*Pinus contorta*), successional white and black spruce (*Picea glauca, Picea mariana*) species found in well and poorly drained sites, respectively, and balsam fir (*Abies balsamea*) (Allen et al. 2005). Within the immediate area of the facility, black spruce together with Labrador tea and feathermoss are the dominant vegetation types (Earth Tech 2005).

Surficial geological material consists of a clay loam textured glacial till mantle with a mean thickness of approximately 10 m (Earth Tech 2005). The till contains occasional pebbles and quartzite, chert, and granite, with inclusions of local bedrock materials, including shale and coal. Below the surficial geologic material, for the next 30 m, are several layers of green, grey and brown shale followed by the Wapiti formation sandstone, which is typically encountered from 40 to 50 m below ground level (Earth Tech 2005).

The estimated volume of Chrystina Lake is 1,568,000 m^3 and its mean retention time is estimated to be between three and four years (Chem-Security 1991). Bathymetric surveys in 2012 and 2014 measured water as deep as 10.5 m (WorleyParsons 2013, 2015) and depths of 11.5 m have been reported historically (Chem-Security 1991). Edith Lake has a volume of 676,000 m^3.

A.2 Field Methods

A.2.1 Coded Wire Tagging

Tags are implanted each Winter/Spring at the hatchery using a Mark IV Automatic Tag Injector® developed by Northwest Marine Technology Inc. After tagging, fish pass through a Quality Control Device® (QCD) to confirm the presence of the CWT following implantation (Photo A-1). Personnel gently wipe the snout of each fish between tag injection and the QCD check to ensure that each tag penetrated the snout of the brook trout properly. Tags from a subsample of four to five brook trout are recovered at the time of tagging to ensure tags are injected accurately into the fish snouts (Photo A-2). The remaining tagged fish are returned to the hatchery raceway and stocked into Chrystina and Edith lakes. Fish captured during the summer field program are checked for the presence of a CWT before dissection using a handheld sensor. The CWTs are recovered following dissection and codes are read using a hand-held twenty-five power microscope with illumination (MagniViewer®). Historical stocking and coding information used since the start of the tagging program are provided in Table A-1.

Table A-1: Chrystina and Edith Lake Stocking and Tagging Information (2012 to 2023)

Stocking Year	CWT Code	Age in 2023	Number of Fish Stocked per Lake	Stocking Date	Average Size (cm)
2012	62-02-66	12+	2,100	May	18.0
2013	62-02-69	11+	2,100	May	17.0
2014	62-02-88	10+	1,554	2 June	18.1
2015	62-02-91	9+	2,100	2 June	21.4
2016	62-03-23	8+	2,100	23 May	22.4
2017	62-03-30	7+	2,100	29 May	20.3
2018	62-03-33	6+	1,210	21 May	21.0
2019	62-03-37	5+	1,600	27 May	21.3
2020	13-01-09	4+	1,800	1 June	22.3
2021	13-01-11	3+	2,100	25 May	20.4
2022	13-01-12	2+	2,100	25 May	19.1
2023	13-00-01	1+	1,550	6,7 June	21.4

Notes:

Average size is determined using the relationship between the number and overall weight of fish stocked and is estimated using previously measured subsamples of hatchery salmonids; these measurements therefore do not represent the measured average size of stocked brook trout.

Stocking information from Alberta Government Stocking Reports Government of Alberta (2012, 2013, 2014, 2015, 2017, 2018a, 2018b, 2019, 2021a, 2021b, 2022, and 2023).

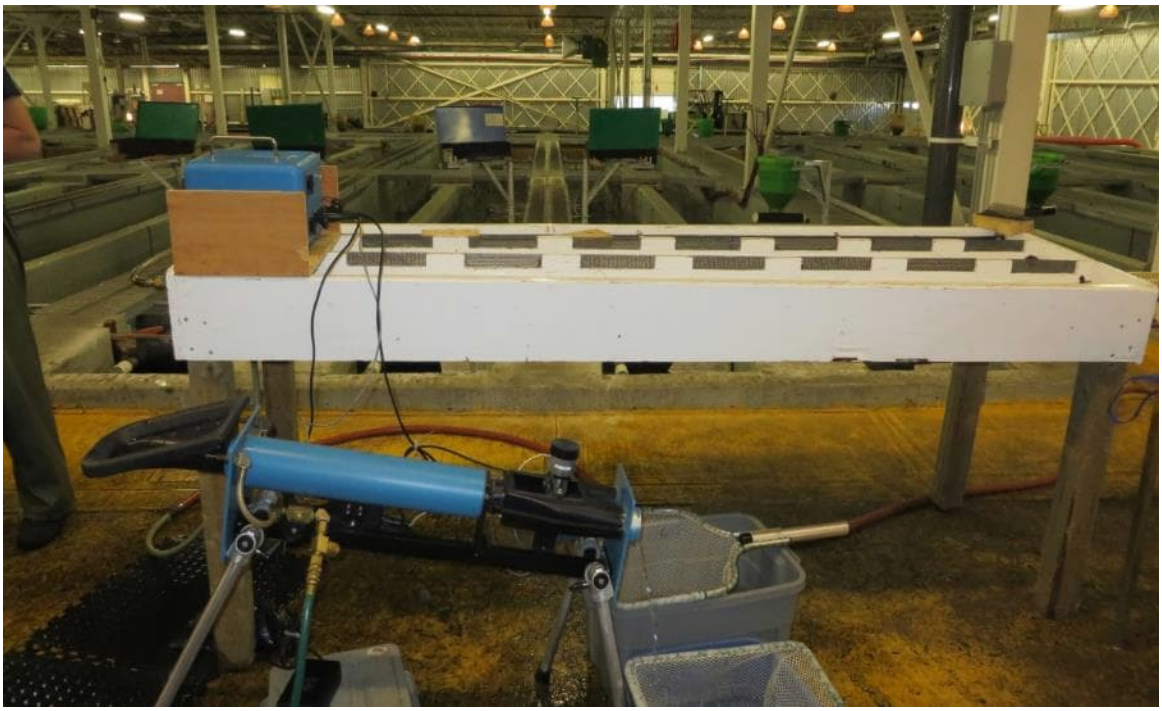


Photo A-1 Coded Wire Tag injection and QCD system at the CLFH (April 5, 2017)

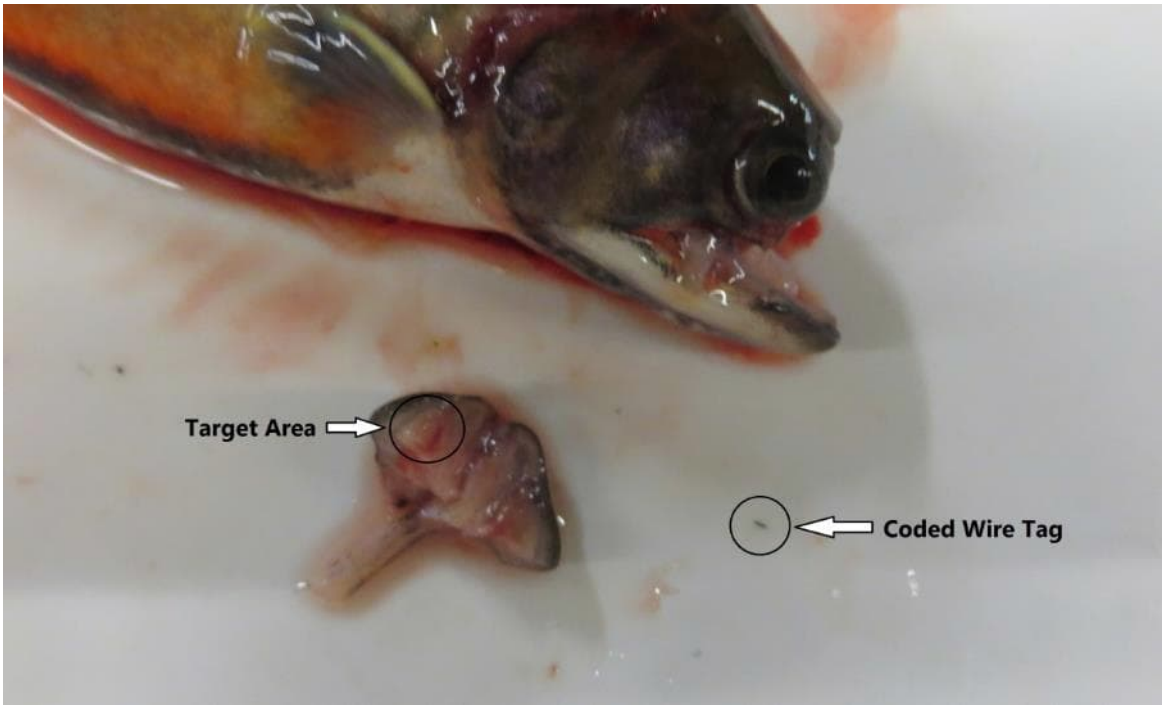


Photo A-2 Example of Coded Wire Tag target location (April 4, 2017)

A.2.2 Specimen Collection

Multi-panel gill nets of various lengths, depths, and mesh sizes were deployed for periods of one hour (Table A-2). Nets were deployed near suitable brook trout habitats and areas with high fish density in Chrystina and Edith lakes. These areas were identified using historical catch data, and historical bathymetric mapping (WorleyParsons 2015). Water depth and GPS coordinates in UTM (NAD83) were recorded at each end of gill nets during deployment.

Table A-2: Multi-panel Gill net dimensions for 2023 specimen collection

Net type (Floating/Sinking)	Net depth (m)	Total Net Length (m)	Mesh Sizes (mm)
Sinking	0.9	20.0	63,89,114
Sinking	2.0	25.0	63
Sinking	2.0	30.0	50, 70
Floating	2.4	45.7	59,64,80

Notes:

Mesh sizes provided are based on stretched mesh measurements.

Gill netting CPUE is based on the number of fish captured per day of deployment per square meter of net area (fish/day/m^2). CPUE was determined for each set deployed and the overall CPUE reported for each lake is the average CPUE of all sets in each lake. Angling CPUE is calculated as the number of fish captured per hour of angling per line used (fish/hour/line).

A.2.3 Dissection Methods

All fish captured were identified to species, measured, and processed in the field as soon as possible following collection. Brook trout and white sucker kept for tissue analysis were brought to a temporary workstation on the shore. The workstation was covered in plastic (i.e. standard garbage bags) and equipped with dissection tools, a filleting knife, and a glass dissection surface (Photo A-3). The exterior of each fish was examined before dissection for signs of environmental stress such as abnormalities of the eyes, fins, gills, and mouthparts. Fork length, total length, and body weight were recorded, and photographs of each specimen were taken (Photo A-4).

Brook trout were checked for the presence of a CWT using a Blue Wand® tag detector. If a CWT was detected, then the snout was removed and placed into a labelled coin envelope for recovery and reading off-site. Envelopes with fish snouts were scanned for a CWT to ensure that the tag had been properly recovered. Scales removed from above the lateral line and pelvic fins were the aging structures collected from white sucker.

Photo A-3 Typical dissection workstation on shore of Chrystina Lake during FTMP (August 25, 2020)

Photo A-4 Specimen photo of CHBKTR 5^{+} captured during the 2021 FTMP sampling program (September 29, 2021)

The body cavity of each fish was inspected for visible abnormalities, and any irregularities were documented. Brook trout stocked into Chrystina and Edith lakes are triploid and gonads typically have substantially reduced development or are completely absent. If gonads are present the brook trout sex is identified, and gonads are weighed. For each brook trout, the liver and bile from the gall bladder were collected and archived for possible future use. Liver tissue accumulates both metals and organic compounds preferentially (Authman et al. 2015) and often is used to determine the presence and concentration of contaminants in fish. Bile is usually collected for potential future analysis, but the proper syringes were unable to be procured in 2023 therefore bile was unable to be collected for this sampling season.

Muscle tissue samples were obtained by filleting each side of the fish. Scales and epidermis were not removed to retain as much fatty tissue as possible in each sample; organic contaminants such as PCBs, dioxins, and furans are lipophilic, do not metabolize easily, and are more likely to be found in the fatty tissues of fish (Van den Berg et al. 2006). Analysis of the muscle tissue with skin and fat attached is a more conservative approach (i.e. will not underestimate body burdens of these compounds) than analyzing muscle tissue only. This approach also was based on input from local stakeholders who suggested that some people consume fish with skin. For analysis of organic compounds, fillets were wrapped in aluminum foil washed with hexane-acetone and placed in zip lock bags. For analysis of trace metals, fillets were not wrapped in aluminum foil, but placed directly in labelled zip-lock bags and stored on dry ice. Aluminum foil was not handled before fillets for metal analysis were packaged to avoid potential cross contamination. Fillets were frozen for approximately two weeks until preliminary fish tagging data could be reviewed to determine sample composition. Individual fish were sorted by age class, and up to ten fillets from each age class were combined as composited samples, where feasible. Tissue samples from older fish or from those age classes represented by single brook trout were analyzed individually. Fish tissue samples sorted by age were submitted to the analytical laboratory for compositing and homogenization. Samples collected in 2023 were processed and analyzed for inorganic and organic contaminant concentrations at the ALS Canada Ltd (ALS) laboratory in Burlington, Ontario.

A.3 Laboratory Analyses

A.3.1 Organic Analysis

Sampling and analyses have been approximately the same since 1995, but different numbers of PCB congeners have been analyzed during the program with more individual PCB congeners analyzed recently. Current PCB analyses are based on United States Environmental Protection Agency (USEPA) method 1668C and have been implemented in the FTMP since 2006. PCB data were collected before 2006 but are not presented in this report given that comparability with recent data is limited because of changing analytical methods. Detection limits are typically low and have been similar since 2013 when SGS AXYS Analytical Services Ltd. (SGS AXYS) began doing the organic analyses. The detection limits for the 2023 samples analyzed by ALS are comparable with those reported by SGS AXYS.

A.3.1.1 Homologue Groups

PCB homologues are groups of PCB congeners with the same number of chlorine atoms and range from monochlorobiphenyls with one (mono-) chlorine substitution to decachlorobiphenyls with ten (deca-) chlorine substitutions. The following table summarizes PCB congeners in each PCB homologue group (US EPA 2003).

Table A-3: PCB Congeners for each PCB Homologue Group

Homologue Group	PCB Congeners
Mono-Tri Chlorinated	PCB congeners 1 to 39
Tetra Chlorinated	PCB congeners 40 to 81
Penta Chlorinated	PCB congeners 82 to 127
Hexa Chlorinated	PCB congeners 128 to 169
Hepta Chlorinated	PCB congeners 170 to 193
Octa Chlorinated	PCB congeners 194 to 205
Nona/Deca Chlorinated	PCB congeners 206 to 209

Hutzinger et al. (1972) did not document metabolism of mono-, di-, and tetra-chlorinated biphenyls by brook trout and studies have suggested that lower chlorinated biphenyls are more easily excreted than those that are more highly substituted (Van der Oost et al. 2003).

Penta-, hexa-, and hepta- homologues are the most abundant homolog groups in brook trout tissue from Chrystina and Edith lakes. Whereas these homologue groups represent 53% of the 209 PCB congeners, they typically account for approximately 85% of the total PCBs in Chrystina Lake and Edith Lake brook trout. Concentrations of less-substituted homologs are consistently low, particularly in Chrystina Lake, which could be a function of preferential excretion of less-chlorinated biphenyls (Niimi and Oliver 1983). Low concentrations of highly chlorinated groups most likely reflect lower concentrations environmentally and low bioavailability (Mcfarland and Clarke 1989). The proportions of highly chlorinated (nona-/deca-) and less chlorinated (mono- to tetra-) PCB homologs are generally higher in brook trout from Edith Lake and the hatchery. The relative abundance of homologue groups in brook trout captured in 2023 are provided in Figure A-1.

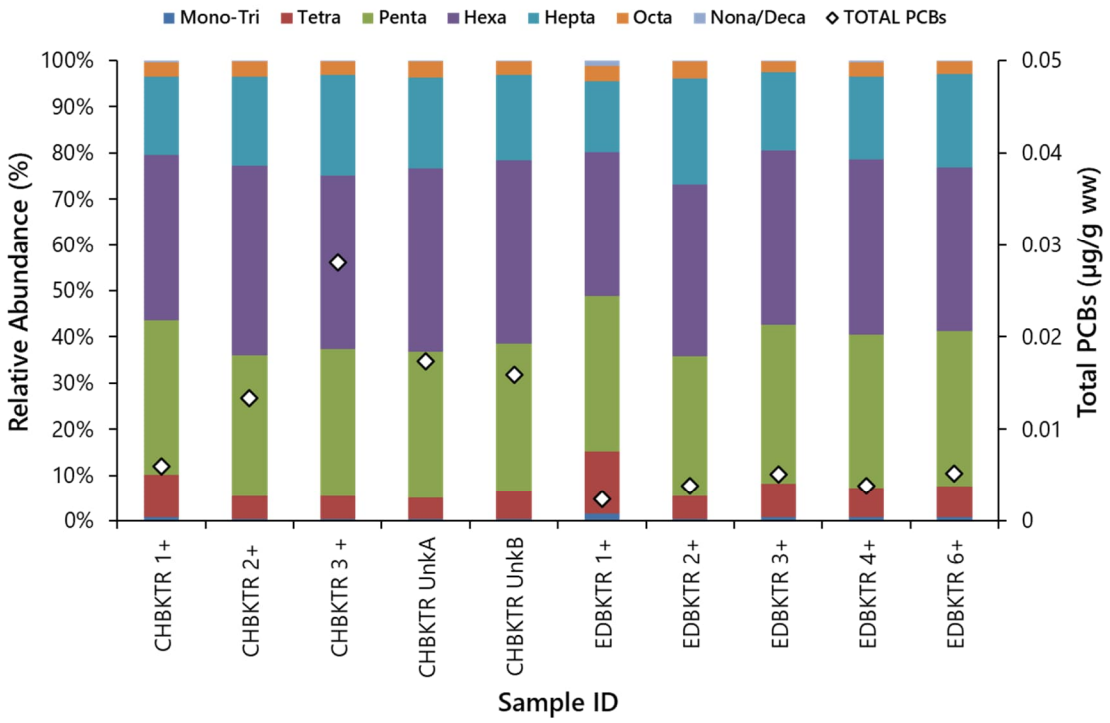


Figure A-1 Relative Abundance of PCB Homologue Groups in Brook Trout Analyzed during the 2023 FTMP

A.3.1.2 Toxic Equivalency Calculation

The toxic effects of coplanar PCBs are based on their ability to interact with the aryl hydrocarbon receptor, sometimes referred to as the dioxin receptor. This receptor is a part of the cytochrome P-450 monooxygenase system, which incorporates a group of enzymes that breakdown xenobiotic compounds such as PCBs, dioxins, and furans. Coplanar PCBs produce toxic effects similar to dioxins and furans, because they have a similar flat molecular structure imparted by the positions of the chloride substitutions. Consequently, coplanar PCBs also are referred to as dioxin-like PCBs.

Toxicity of coplanar PCBs, dioxins, and furans can be quantified by combining their respective toxic effects into a single toxic equivalency quotient (TEQ) given their similar toxicity mechanisms. The TEQ approach uses the toxic equivalence factor (TEF) method, which is based on the concept of dose addition. This concept can be used to combine the toxicity of individual dioxin and dioxin-like compounds in a mixture into a single TEQ metric that can be used to facilitate risk assessment and regulatory control. The TEQs calculated during the FTMP are based on the 2005 World Health Organization (WHO) TEFs for mammals that express the toxicity of each dioxin, furan, and coplanar PCB relative to the most toxic form of dioxin (Van den Berg et al. 2006).

Tissue concentrations measured during the FTMP for coplanar PCBs, dioxins, and furans are multiplied by their TEF and values are summed to provide TEQs for each sample. Substituting full detection limits for measurements below detection tends to overestimate TEQ, whereas substituting a concentration of zero potentially underestimates TEQ (WorleyParsons 2016, Advisian 2017). Consequently, measurements below detection are replaced with half the detection limit value to calculate TEQ. Substituting non-detections with half the detection limit is widely accepted in Canada for risk assessment programs (Health Canada 2010). Analytical interferences between specific PCB coelutions or congeners can occur during the EPA 1668C method, resulting in tissue concentrations that are reported as estimated maximum potential concentrations. Worley includes tissue concentrations flagged as estimated maximums in TEQ calculations for the FTMP to provide consistency with historical data and to avoid underestimating TEQ.

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Appendix B. Quality Assurance / Quality Control Report

A.1 Introduction

The Quality Assurance/Quality Control (QA/QC) program for the fish tissue monitoring program (FTMP) at the Swan Hills Treatment Centre (SHTC) ensures data is reliable, reproducible, and verifiable. Quality-control criteria historically used to assess data quality during the monitoring program were adopted primarily from the Alberta QA/QC guidelines for water sampling (AENV 2006). These criteria are based largely on analytical characteristics of water samples, and criteria for other matrix types, such as fish tissue, are limited. Matrix type can influence analytical results substantially because the potential for interference increases and sample homogeneity is reduced in solid matrices given that mixing does not occur readily. Where applicable, quality control criteria have been adopted from the Canadian Council of Ministers of the Environment (CCME) Guidance Manual for Environmental Site Characterization in support of Environmental and Human Health Risk Assessment (CCME 2016). Quality criteria in the CCME guidance document are based mainly on water and soil/sediment matrices. Tissue sample matrices are more comparable with soil/sediment, so criteria for these have been used for the QA/QC program (CCME 2016).

Both internal and external quality controls have been employed to address data accuracy, precision, bias, and to identify sources of potential contamination during analysis. Internal quality controls carried out by each analytical laboratory include method blanks, spike blanks, matrix spikes, calibration checks, and internally split duplicate samples. The external component consists of procedures carried out by personnel outside of the analytical laboratories and includes reference materials and an externally split duplicate sample.

Method blanks were used to identify potential contamination with laboratory equipment and ensure that contaminants from outside sources do not influence results. Analyzed variables should remain below the detection limit since there are no analytes present in the blank material. Variables that have detections in the method blank may be overestimated at low concentrations because of contamination introduced during analysis. Results for analytes with detections in the method blank are flagged in the laboratory report. Low-level detections in the method blank have occurred historically during polychlorinated biphenyl (PCB) analysis. The number and magnitude of these detections is monitored each year during the QA/QC review.

Matrix spikes were used to identify laboratory bias. Concentrations measured in spiked samples were compared with concentrations reported in the parent material of the associated spike and a percent recovery was calculated. The acceptable ranges for spiked sample percent recoveries are based on ranges recommended by the CCME and include: 50% to 140% for PCBs, 50% to 150% for dioxins and furans, and 70% to 130% for metals (CCME 2016). Variables with percent recoveries outside of these ranges and with concentrations above the detection limit may be biased and analysis should be repeated, or qualified if re-analysis is not feasible or yields similar results.

Duplicate samples were used to estimate the precision and reproducibility of results. Concentrations reported for parent and duplicate samples were compared by calculating the RPD between the samples as:

$$RPD\ (\%) = \frac{|A - B|}{\frac{(A + B)}{2}} * 100$$

The quality control limit for RPD is 50% for PCBs, 40% for dioxins and furans, and 30% for most metal variables. The QA/QC program also adopted a limit of 40% for several metals including: aluminum, barium, mercury, potassium, lead, molybdenum, silver, and sodium based on the CCME recommendation for solids (CCME 2016). These higher RPD criteria account for greater heterogeneity in tissue samples than in water samples, on which the previous limits were based, as well as the reproducibility inherent in the analytical method for each type of contaminant. Variables with an RPD greater than the respective criteria are qualified and may not be reliably reproducible. Precision is expected to decrease the closer the reported value is to the detection limit, therefore RPD values are most relevant for concentrations exceeding five times the detection limit (AENV 2006). An RPD value was calculated for all samples with duplicates where both results were above the detection limit, regardless of the standard five times detection limit criterion to ensure that no deviations escaped scrutiny.

Due to renovations at the Cold Lake Fish Hatchery (CLFH) stocked fish were raised by Raven Brood Trout Station (RBTS) near Caroline Alberta. Brook trout are obtained directly from the hatchery each year to act as a control for potential contaminant exposure during hatchery rearing. Hatchery fish were unable to be procured for the 2023 FTMP.

Metal concentrations were measured in an aliquot of the DORM-5 certified reference material (CRM) to act as an external control for the inorganic QA/QC program in 2023. Concentrations measured in the CRM were compared with reference ranges based on the reference value and 95% confidence limit determined by interlaboratory analyses. An additional analytical uncertainty of ±25% was applied to the upper and lower limits given the uncertainty inherent in the laboratory analysis. Metals with CRM concentrations outside the reference range were flagged and tissue residue results have been qualified where applicable.

Reference material concentrations measured for organics (PCBs, dioxins, and furans) were compared with reference values and acceptable reference ranges for EDF-5462 in 2023. This material is cod liver oil that has been spiked with trace levels of PCBs, dioxins, and furans. Reference ranges for target analytes are based on the average concentration from interlaboratory analyses plus-or-minus two standard deviations. The number of labs that analyzed each target varies from 5 to 12. Reference ranges for EDF-5462 are comparable with historical PCB concentrations in Chrystina Lake and Edith Lake brook trout, but were orders of magnitude higher than historical concentrations of dioxins and furans. Given that dioxins and furans are typically below detection, the effect of high concentrations in the reference material are negligible.

Concentrations measured in external reference materials were divided by the corresponding reference value to determine the laboratory bias for each analyte. The laboratory bias value indicates the magnitude and direction of potential bias associated with the analytical results. Values greater than 1 indicate laboratory bias towards higher concentrations since the reported concentration exceeded the concentration of the reference material, whereas values less than 1 indicate a bias towards lower concentrations.

A.2 Metal Tissue Analysis QA/QC

Metals results for QA/QC samples for the 2023 FTMPs are summarized and compared with quality control limits in Table B.1.

A.2.1 Internal QA/QC

Internal controls used for inorganic analyses in 2023 include a method blank, matrix spike, and internally split duplicate (Table B.1). Percent recoveries for the matrix spike sample were within quality control criteria (70% to 130%) and ranged from 88% to 104%. No metals were detected in the method blank (Table B.1). This contrasts with the 2022 results that had zinc, lead, and thallium all above the detection limit and aligns back with concentrations from 2020 which also had zero detections.

The 1^+ year-old brook trout from Chrystina Lake (CHBKTR 1^+) was analyzed as the internal duplicate in 2023. The RPDs for this sample ranged from 1% to 90% with an average of 13% which is lower than the previous year. Cobalt is the only metal with a RPD outside quality control criteria in 2023. The concentration for the original sample metals is over five-times the detection limit but the duplicate was less than five times the detection limit. Consequently, limited reproducibility between the parent and duplicate is likely related to reduced precision as concentrations approach the detection limit.

A.2.2 External QA/QC

An external reference material and externally split duplicate sample are the external quality controls used for the metals QA/QC program in 2023. The sample of 3^+ year-old brook trout from Edith Lake (EDBKTR3^+) was split during sample preparation and the tissue was separated into discrete aliquots for duplicate analysis (Table B.1). The average RPD for the external duplicate analyses was 23% and ranged from 1% to 174%. The RPDs for arsenic and cobalt, exceeded the quality control criteria but concentrations for both were within five times the detection limit for either the parent or duplicate sample(Table B.1). Therefore, the limited reproducibility for these metals is most likely due to reduced precision as concentrations get closer to the detection limit. No other metals that were flagged as exceeding the RPD limit in 2023.

Concentrations reported in the DORM-5 reference material were within the reference range for all metals. Average laboratory bias was 1.04, with chromium having a bias of 1.4 which was still within reference range.

A.3 Organic Tissue QA/QC

Analytical results for organic quality control samples in 2023 are summarized and compared with QA/QC limits in Tables B.2 and B.3. Internal controls included in the 2023 organics analysis also included a series of method blanks and matrix spikes, and an internally split duplicate sample. The EDBKTR 3^+ sample was analyzed as the internal duplicate for PCBs, dioxins, and furans for the 2023 FTMPs.

Two method blanks were analyzed alongside congener-specific PCB analyses for 2023. Thirteen cogeners were detected in one of the blanks while only one was detected in the other blank. Of the congeners detected, two were coplanar PCBs that influence TEQ estimates and it is notable that PCB 77 was detected in both blanks in 2023. Although PCB 77 was detected within both blanks it was three orders of magnitude below the concentrations in most brook trout near the facility. The other coplanar PCB (PCB 118) that was detected in a method blank in 2023 was three to four orders of magnitude below the concentrations found in brook trout near Swan Hills. Given that the remaining congeners contribute marginally to total PCB concentrations the potential PCB contamination does not influence data interpretation of samples analyzed for the 2023 FTMP.

Four new detections of dioxins or furans were found within the method blank in 2023 (Table B.3). Octachlorodibenzo-ρ-dioxin (OCDD) which was the only dioxin flagged in 2022 was flagged again in 2023 with the same detection rate. In addition, 1,2,3,4,6,7,8,9-octachlorodibenzofuran (OCDF) was the only concentration that was above detection in both blanks. Concentrations above detection in method blanks are common historically for highly substituted dioxins and furans analyzed during the FTMP. Given that dioxin and furan concentrations are near detection in brook trout from Swan Hills the potential contamination from the analytical method provides a more conservative estimate of toxicity during the FTMP.

Percent recoveries in the matrix spikes for PCBs (50%-140%), dioxins, and furans (50% to 150%) were within QA/QC limits (Table B.2 and B.3). Recoveries from the PCB congener matrix spike ranged from 78% to 132% with an average of 96% (Table B.2). Percent recoveries for dioxins and furans ranged from 83% to 110% with an average of 99% which is consistent with historical results (Table B.3). All percent recoveries were well within quality control criteria recommended by the CCME and no potential biases were identified during the dioxin/furan and PCB congener matrix spike analyses.

The internal lab duplicate for the 2023 FTMP had three PCB congeners with RPDs between duplicate and parent samples exceeding the quality control criterion of 50% (Table B.2) which was lower than the fourteen PCB congeners that were exceeded in 2022. The RPD values for the PCB parent and duplicate samples ranged from 0% to 78% with an average RPD of 19%. The RPD of the coplanar PCB 123 was 40% and this was the highest RPD of any coplanar PCB in 2023. All other coplanar PCBs had RPD values less than 20% suggesting that PCB results and toxicity estimates based on coplanar PCB concentrations are highly reproducible in 2023.

The dioxin and furan duplicate had one RPD exceeding 40% and it was the only RPD that could be calculated as all others were below detection (Table B.3). Both concentrations are within five times the RDL suggesting that reduced precision observed for this variable is related to low concentrations near the detection limit. Following compositing and homogenization, the EDBKTR3^{+} sample was split and analyzed separately for use as the external duplicate. No RPDs could be calculated for dioxins and furans as all concentrations were below the detection limit in both the parent and duplicate sample (Table B.3). The average RPD for PCBs was 17% and ranged from 0% to 73% although only two RPDs exceeded 50%.

A.3.1 Organic Reference Materials

Concentrations of eight of the 40 PCB congeners/coelutions included in the EDF-5462 reference material were outside of reference range (Table B.2) whereas all dioxin and furan concentrations were within the range of the reference material (Table B.3). Dioxin and furan laboratory bias ranged from 0.83 to 1.1 with an average of 1.0. These results suggest there is little to no bias influencing dioxin and furan concentrations reported for 2023 samples. For PCBs, the average laboratory bias was 0.9 with a range from 0.51 to 1.82.

Of the eight concentrations that were outside of reference range, two (PCB 61/70/74/76 and PCB 137/164) had laboratory biases of 1.8 and 1.6 respectively. Out of both coelutions PCB 137/164 only accounted for 137 and PCB 61/70/74/76 only accounted for 70 and 74, meaning that not all coelutions were accounted for within the reference value or range. Which might have been the reason for laboratory biases that are higher in range than they otherwise might have been when based on a single congener.

A.4 References

AENV (Alberta Environment), 2006. Guidelines for Quality Assurance and Quality Control in Surface Water Quality Programs in Alberta. Environmental Assurance Division, Environmental Monitoring and Evaluation Branch. Edmonton, AB. July 2006.

CCME (Canadian Council of Ministers of the Environment) 2016. Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment: Volume 4 Analytical Methods. ISBN 978-1-77202-032-8 PDF

SETAC (Society of Toxicology and Chemistry), 1999. Linkage of effects to tissue residues: Development of a comprehensive database for aquatic organisms exposed to inorganic and organic chemicals by A.W. Jarvinen and G.T Ankley. SETAC Technical Publication Series.

Table B.1

Trace Metal Quality Control Results for Fish Tissue Analyses in 2023

Project Number: 317011-00057

	Sample Identification	Sample Date (d-m-y)	Aluminum #1 (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium #1 (mg/kg)	Beryllium (mg/kg)	Boron (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead #1 (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury #1 (mg/kg)	Molybdenum #1 (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium #1 (mg/kg)	Selenium (mg/kg)	Silver #1 (mg/kg)	Sodium #1 (mg/kg)	Thallium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
	Detection Limit **Method Blank**	06-Dec-2023	0.4 <0.40	0.002 <0.0020	0.004 <0.0040	0.02 <0.020	0.002 <0.0020	0.2 <0.20	0.001 <0.0010	5 <5.0	0.01 <0.010	0.004 <0.0040	0.02 <0.020	0.5 <0.50	0.004 <0.0040	1 <1.0	0.10 <0.10	0.001 <0.0010	0.0040 <0.0040	0.04 <0.040	2 <2.0	4.00 <4.0	0.01 <0.010	0.0010 <0.0010	5.00 <5.0	0.0004 <0.00040	0.004 <0.0040	0.02 <0.020	0.1 <0.10
	Spike Blank **(% Recovery)**		104	96.6	101.4	96	101.2	88.4	98.4	---	97.9	96.3	93.8	99.8	95.2	---	96.8	---	98	94.8	---	---	99.5	95.2	---	91.9	93.2	99.5	---
Precision Between Samples	**INTERNAL DUPLICATE** **CHBKTR 1+** **CHBKTR 1+(Dup)**	13-Sep-23 13-Sep-23	< 0.40 0.41	< 0.0020 < 0.0020	0.0515 0.0481	0.280 0.221	< 0.0020 < 0.0020	< 0.20 < 0.20	< 0.0010 < 0.0010	624 472	0.013 <0.010	**0.0219** 0.0083	0.444 0.431	4.41 4.3	0.0096 0.0086	309 305	0.22 0.21	0.0336 0.0349	0.0041 <0.0040	< 0.040 <0.040	2800 2760	4170 4230	0.208 0.203	< 0.0010 <0.0010	382 398	0.00328 0.00294	< 0.0040 <0.0040	< 0.020 <0.020	9.65 8.72
	Relative Percent Difference (RPD %)		---	---	7%	24%	---	---	---	28%	---	90%	3%	3%	11%	1%	5%	4%	---	---	1%	1%	2%	---	4%	11%	---	---	10%
	EXTERNAL DUPLICATE **EDBKTR 3+** **EDBKTR SPLIT**	14-Sep-23 14-Sep-23	< 0.40 < 0.40	< 0.0020 < 0.0020	0.0042 0.0099	0.270 0.282	< 0.0020 < 0.0020	< 0.20 < 0.20	< 0.0010 < 0.0010	494 514	< 0.010 < 0.010	0.0092 **0.134**	0.327 0.383	4.21 4.86	< 0.0040 < 0.0040	313 326	0.32 0.33	0.225 0.220	< 0.0040 < 0.0040	< 0.040 0.056	2660 2750	4230 4290	0.111 0.119	< 0.0010 < 0.0010	374 394	0.00132 0.00144	< 0.0040 < 0.0040	< 0.020 < 0.020	7.85 8.05
	Relative Percent Difference (RPD %)		---	---	81%	4%	---	---	---	4%	---	174%	16%	28%	---	4%	3%	2%	---	---	3%	1%	7%	---	5%	9%	---	---	3%
Method Accuracy	**Certified Reference Material**	05-Dec-2023	236	0.0055	13.8	0.429	0.0105	4.57	0.143	2240.00	0.700	0.0780	3.28	115	0.0640	1060	1.03	0.286	0.130	0.404	6150	11300	2.34	0.124	9150	0.00050	0.0135	0.349	27.5
	Certified Reference Range		178 - 329	0.0029 - 0.0108	9.5 - 17.5	0.28 - 0.52	---	2.60 - 4.74	0.106 - 0.194	1313 - 2838	0.335 - 0.729	0.044 - 0.084	2.42 - 4.21	79 - 151	0.039 - 0.080	713 - 1388	0.77 - 1.38	0.224 - 0.416	0.083 - 0.196	0.31 - 0.59	4493 - 8088	8400 - 15000	1.72 - 3.14	0.091 - 0.186	6600 - 12000	---	0.0093 - 0.0253	0.239 - 0.470	20.8 - 37.1
Accuracy of Laboratory Results	**Within Reference Range**		Yes	Yes	Yes	Yes	---	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	Yes
	Laboratory Bias		0.9	0.9	1.0	1.1	---	1.3	1.0	1.1	1.4	1.2	1.0	1.0	1.1	1.0	1.0	0.9	1.0	0.9	1.0	1.0	1.0	0.9	0.0	---	0.8	1.0	1.0

Notes: 1. --- Analysis not performed.

2. Shaded areas indicate detection in the method blank.

3. Shading indicates Relative Percent Difference (RPD) values greater than or equal to the applicable quality control criteria.

4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL

5. Shaded areas indicate lab results are outisde the reference values.

6. Shaded areas indicate spike recoveries outside quality control limits (70% to 130%)

7. Superscript #1 - Quality control limit of the associated variable is 40% rather than the standard criteria for metals which is 30%.

Project Number: 317011-00057

Table B.2

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																						
			PCB 1 (pg/g)	PCB 2 (pg/g)	PCB 3 (pg/g)	PCB 4 (pg/g)	PCB 5 (pg/g)	PCB 6 (pg/g)	PCB 7 (pg/g)	PCB 8 (pg/g)	PCB 9 (pg/g)	PCB 10 (pg/g)	PCB 11 (pg/g)	PCB 12/13 (pg/g)	PCB 14 (pg/g)	PCB 15 (pg/g)	PCB 16 (pg/g)	PCB 17 (pg/g)	PCB 18/30 (pg/g)	PCB 19 (pg/g)	PCB 20/28 (pg/g)	PCB 21/33 (pg/g)	PCB 22 (pg/g)	PCB 23 (pg/g)	PCB 24 (pg/g)	PCB 25 (pg/g)
	Method Blank	19-Nov-2023	<0.73	<0.78	<0.67	<2.4	<0.90	<0.80	<0.84	<0.75	<0.82	<0.79	3.1	<1.6	<1.6	<1.3	<0.65	<0.58	<0.50	<0.65	0.62	<0.49	<0.58	<0.56	<0.49	<0.46
		19-Nov-2023	<2.2	<2.4	<2.1	<9.2	<3.7	<3.4	<3.5	<3.1	<3.4	<3.3	<7.7	<7.7	<7.6	<7.7	<2.6	<2.3	<2.0	<2.2	<1.9	<1.8	<2.1	<2.1	<1.9	<1.7
	Matrix Spike (% Recovery)	19-Nov-2023	88	---	78	106	---	---	---	---	---	---	---	---	---	91	---	---	---	88	---	---	---	---	---	---
Precision Between Samples	**Internal Duplicate**																								
	CHBKTR 3+	13-Sep-23	0.48	0.47	0.4	< 2.4	< 0.57	< 0.54	< 0.55	< 0.52	< 0.54	< 0.51	5.56	< 0.49	< 0.50	1.2	1.12	2.13	4.55	0.91	37.6	0.73	6.38	< 0.30	< 0.18	4.44
	CHBKTR 3+ (DUP)	13-Sep-23	<0.29	0.46	0.4	<2.7	<0.82	<0.78	<0.81	<0.76	<0.77	<0.71	3.4	<0.87	<0.87	1.2	**0.56**	1.66	3.9	<0.48	30.5	0.52	5.18	<0.25	<0.20	3.89
	Relative Percent Difference (RPD %)		---	2%	0%	---	---	---	---	---	---	---	48%	---	---	0%	67%	25%	15%	---	21%	34%	21%	---	---	13%
	External Duplicate																								
	EDBKTR 3+	14-Sep-23	< 0.56	< 0.49	< 0.46	< 4.9	< 1.8	< 1.7	< 1.8	< 1.7	< 1.7	< 1.5	5.7	< 2.1	< 2.2	< 1.5	< 0.97	1.10	2.41	< 0.99	11.1	< 1.1	1.5	< 1.3	< 0.68	3.0
	EDBKTR SPLIT	14-Sep-23	< 0.86	< 0.64	< 0.54	< 5.5	< 1.8	< 1.7	< 1.7	< 1.6	< 1.7	< 1.5	6.4	< 2.4	< 2.5	< 1.6	< 1.1	1.30	2.60	< 1.1	13.0	< 0.93	2.2	< 1.1	< 0.78	3.08
	Relative Percent Difference (RPD %)		---	---	---	---	---	---	---	---	---	---	12%	---	---	---	---	17%	8%	---	16%	---	38%	---	---	3%
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	74.0	< 3.9	81.7	140	< 20	< 19	< 20	115	106	81	106	62	< 29	80	< 10	< 8.9	29.0	57	319	33.0	< 11	< 11	< 7.5	< 9.0
	Reference Range		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	19.9-93.5	---	254-646	---	---	---	---	---
Accuracy of Laboratory Results	**Within Reference Range**																		Yes		Yes					
	Laboratory Bias																		0.5		0.7					

Notes:
1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Project Number: 317011-00057

Table B.2

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																						
			PCB 26/29 (pg/g)	PCB 27 (pg/g)	PCB 31 (pg/g)	PCB 32 (pg/g)	PCB 34 (pg/g)	PCB 35 (pg/g)	PCB 36 (pg/g)	PCB 37 (pg/g)	PCB 38 (pg/g)	PCB 39 (pg/g)	PCB 40/41/71 (pg/g)	PCB 42 (pg/g)	PCB 43 (pg/g)	PCB 44/47/65 (pg/g)	PCB 45/51 (pg/g)	PCB 46 (pg/g)	PCB 48 (pg/g)	PCB 49/69 (pg/g)	PCB 50/53 (pg/g)	PCB 52 (pg/g)	PCB 54 (pg/g)	PCB 55 (pg/g)	PCB 56 (pg/g)	PCB 57 (pg/g)
	Method Blank	19-Nov-2023	<0.50	<0.43	<0.48	<0.39	<0.54	<0.52	<0.46	<0.50	<0.52	<0.57	<0.51	<0.52	<0.63	0.98	<0.53	<0.58	<0.52	<0.40	<0.52	<0.53	<0.39	<0.48	<0.47	<0.44
		19-Nov-2023	<1.8	<1.7	<1.8	<1.6	<2.0	<1.9	<1.7	<1.9	<1.9	<2.1	<1.0	<1.0	<1.3	<0.90	<1.1	<1.1	<1.0	<0.79	<1.0	<1.0	<1.2	<1.3	<1.2	<1.2
	Matrix Spike (% Recovery)	19-Nov-2023	---	---	---	---	---	---	---	101	---	---	---	---	---	---	---	---	---	---	---	---	90	---	---	---
Precision Between Samples	**Internal Duplicate CHBKTR 3+**	13-Sep-23	4.52	< 0.16	17.1	0.7	< 0.28	0.34	< 0.25	4.47	**0.57**	0.36	6.11	26.9	0.95	204	6.47	0.92	5.99	156	4.78	182	0.37	1.21	37.6	2.17
	CHBKTR 3+ (DUP)	13-Sep-23	4.25	<0.18	14.9	0.65	<0.24	<0.24	<0.21	3.19	**0.25**	<0.26	5.23	22.7	0.82	164	5.2	0.65	4.97	130	3.53	150	<0.14	0.97	30.2	1.75
	Relative Percent Difference (RPD %)		6%	---	14%	7%	---	---	---	33%	78%	---	16%	17%	15%	22%	22%	34%	19%	18%	30%	19%	---	22%	22%	21%
	External Duplicate EDBKTR 3+	14-Sep-23	3.4	< 0.59	8.3	< 0.56	< 1.2	< 1.2	< 1.1	2.00	< 1.1	< 1.3	1.73	4.27	< 0.83	35.7	1.20	< 0.81	< 0.00073	53.2	1.70	54.5	< 0.39	< 0.94	5.18	1.20
	EDBKTR SPLIT	14-Sep-23	2.90	< 0.68	8.90	0.71	< 1.0	< 1.0	< 0.90	2.50	< 0.98	< 1.1	< 1.4	4.6	< 1.7	38.1	1.9	< 1.6	< 0.0015	49.7	1.6	53.3	< 0.46	< 0.95	6.50	1.40
	Relative Percent Difference (RPD %)		16%	---	7%	---	---	---	---	22%	---	---	---	7%	---	7%	45%	---	---	7%	6%	2%	---	---	23%	15%
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	< 9.4	< 6.6	49.2	< 6.1	< 9.9	35.0	< 8.5	44.9	28.5	< 11	13.0	17.0	< 8.1	93.3	< 6.6	< 7.3	< 0.0066	64.8	< 6.5	386	45.0	< 8.2	24.0	37.4
	Reference Range		---	---	---	---	---	---	---	13.7-99.7	---	---	---	---	---	72-128				69.4-132.6		309-757				
Accuracy of Laboratory Results	**Within Reference Range**									Yes						Yes				No		Yes				
	Laboratory Bias									0.8						0.9				0.6		0.7				

Notes: 1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Project Number: 317011-00057

Table B.2

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																					
			PCB 58 (pg/g)	PCB 59/62/75 (pg/g)	PCB 60 (pg/g)	PCB 63 (pg/g)	PCB 64 (pg/g)	PCB 66 (pg/g)	PCB 67 (pg/g)	PCB 68 (pg/g)	PCB 61/70/74/76 (pg/g)	PCB 72 (pg/g)	PCB 73 (pg/g)	PCB 77 (pg/g)	PCB 78 (pg/g)	PCB 79 (pg/g)	PCB 80 (pg/g)	PCB 81 (pg/g)	PCB 82 (pg/g)	PCB 83/99 (pg/g)	PCB 84 (pg/g)	PCB 85/110/115/116/117 (pg/g)	PCB 86/87/97/109/119/125 (pg/g)	PCB 88/91 (pg/g)	PCB 89 (pg/g)
	Method Blank	19-Nov-2023	<0.47	<0.38	<0.48	<0.43	<0.36	<0.42	<0.38	<0.44	<0.45	<0.44	<0.37	0.049	<0.49	<0.40	<0.38	<0.016	<0.58	<0.53	<0.52	<0.38	<0.41	<0.51	<0.60
		19-Nov-2023	<1.2	<0.75	<1.3	<1.2	<0.71	<1.1	<1.0	<1.2	<1.2	<1.2	<0.74	0.028	<1.3	<1.1	<1.0	<0.012	<0.99	<0.89	<0.89	<0.64	<0.68	<0.86	<1.0
	Matrix Spike (% Recovery)	19-Nov-2023	---	---	---	---	---	---	---	---	---	---	---	98	---	---	---	96	---	---	---	---	---	---	---	---
Precision Between Samples	**Internal Duplicate**																							
	CHBKTR 3+	13-Sep-23	7.53	11.5	33.7	15.2	36.5	252	6.71	10.7	380	10.1	< 0.11	34.3	< 0.37	6.7	5.88	1.48	64.1	1210	62.8	1560	559	105	2.46
	CHBKTR 3+ (DUP)	13-Sep-23	5.67	9.15	27.8	11.7	29.8	215	5.69	8.51	336	7.54	<0.12	33.9	<0.48	6.25	4	1.39	54.4	1030	48.5	1390	484	85.7	1.82
	Relative Percent Difference (RPD %)		28%	23%	19%	26%	20%	16%	16%	23%	12%	29%	---	1%	---	7%	38%	6%	16%	16%	26%	12%	14%	20%	30%
	External Duplicate																							
	EDBKTR 3+	14-Sep-23	< 0.90	1.78	5.90	0.00392	9.12	63.4	0.00190	0.00463	117	3.30	< 0.56	12.8	< 0.95	1.00	1.60	0.435	< 1.2	163	8.9	328	81.2	12.3	< 0.0012
	EDBKTR SPLIT	14-Sep-23	< 0.90	2.4	7.66	0.00350	9.6	70.2	0.00210	0.00560	123	3.63	< 1.1	14.1	< 0.96	1.40	1.10	0.483	4.1	189	9.3	359	90.9	16.8	< 0.0034
	Relative Percent Difference (RPD %)		---	30%	26%	11%	5%	10%	10%	19%	5%	10%	---	10%	---	33%	37%	10%	---	15%	4%	9%	11%	31%	---
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	< 7.8	7.5	35.1	0.0110	27.0	155	< 0.0065	< 0.0075	259	< 7.2	< 4.6	48.7	38.8	36.7	< 6.4	37.1	49.7	579	25.0	797	267	22.0	< 0.0063
	Reference Range							159.6-262.4			74.6-209.4			34.6-66.8				31-50.4		393-645		436-762			
Accuracy of Laboratory Results	**Within Reference Range**							No			No			Yes				Yes		Yes		No			
	Laboratory Bias							0.7			1.8			1.0				0.9		1.1		1.3			

Notes:
1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Project Number: 317011-00057

Table B.2

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																				
			PCB 90/101/113 (pg/g)	PCB 92 (pg/g)	PCB 93/98/100/102 (pg/g)	PCB 94 (pg/g)	PCB 95 (pg/g)	PCB 96 (pg/g)	PCB 103 (pg/g)	PCB 104 (pg/g)	PCB 105 (pg/g)	PCB 106 (pg/g)	PCB 107 (pg/g)	PCB 108/124 (pg/g)	PCB 111 (pg/g)	PCB 112 (pg/g)	PCB 114 (pg/g)	PCB 118 (pg/g)	PCB 120 (pg/g)	PCB 121 (pg/g)	PCB 122 (pg/g)	PCB 123 (pg/g)	PCB 126 (pg/g)	PCB 127 (pg/g)
	Method Blank	19-Nov-2023	<0.44	<0.57	<0.47	<0.53	<0.54	<0.31	<0.48	<0.30	<0.35	<0.36	<0.29	<0.35	<0.36	<0.34	<0.39	0.59	<0.34	<0.37	<0.45	<0.36	<0.014	<0.32
		19-Nov-2023	<0.74	<0.95	<0.79	<0.90	<0.91	<0.78	<0.80	<0.73	<0.69	<0.74	<0.61	<0.73	<0.61	<0.57	<0.78	<0.72	<0.57	<0.62	<0.93	<0.76	<0.020	<0.67
	Matrix Spike (% Recovery)	19-Nov-2023	---	---	---	---	---	---	---	93	92	---	---	---	---	---	100	94	---	---	---	100	102	---
Precision Between Samples	**Internal Duplicate**																						
	CHBKTR 3+	13-Sep-23	1810	372	38.7	3.96	297	0.79	23.2	0.18	627	< 0.54	170	61.3	5.79	< 0.22	45.4	1870	25.6	1.63	11	29.3	9.36	< 0.49
	CHBKTR 3+ (DUP)	13-Sep-23	1500	306	29.9	3.02	255	0.91	18	0.23	565	<0.64	151	52.3	5.39	<0.21	40.7	1640	21.8	1.5	10	19.5	9.1	4.3
	Relative Percent Difference (RPD %)		19%	19%	26%	27%	15%	14%	25%	24%	10%	---	12%	16%	7%	---	11%	13%	16%	8%	10%	40%	3%	---
	External Duplicate																						
	EDBKTR 3+	14-Sep-23	365	65.0	3.7	< 1.1	67.7	< 0.40	4.5	< 0.35	126	< 1.1	39.7	10.0	0.00251	< 0.73	6.5	474	5.90	< 0.77	2.1	4.9	2.98	< 0.99
	EDBKTR SPLIT	14-Sep-23	391	70.1	5.2	< 3.2	70.5	< 0.49	3.8	< 0.52	132	< 1.3	41.1	11.4	0.0025	< 2.0	6.0	497	6.4	< 2.1	< 1.5	5.6	3.62	< 1.1
	Relative Percent Difference (RPD %)		7%	8%	34%	---	4%	---	17%	---	5%	---	3%	13%	0%	---	8%	5%	8%	---	---	13%	19%	---
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	832	114	< 5.1	< 5.9	165	< 2.4	< 5.2	35.1	823	< 5.7	118	29.3	0.0420	< 3.7	86.8	1860	13.0	< 4.0	8.0	59.9	54.2	< 5.2
	Reference Range		744-1296								615-923						59-91.8	1404-1936				38.9-77.5	45.7-60.9	
Accuracy of Laboratory Results	**Within Reference Range**		Yes								Yes						Yes	Yes				Yes	Yes	
	Laboratory Bias		0.8								1.1						1.2	1.1				1.0	1.0	

Notes:
1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Table B.2

Project Number: 317011-00057

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																						
			PCB 128/166 (pg/g)	PCB 129/138/163 (pg/g)	PCB 130 (pg/g)	PCB 131 (pg/g)	PCB 132 (pg/g)	PCB 133 (pg/g)	PCB 134/143 (pg/g)	PCB 135/151 (pg/g)	PCB 136 (pg/g)	PCB 137/164 (pg/g)	PCB 139/140 (pg/g)	PCB 141 (pg/g)	PCB 142 (pg/g)	PCB 144 (pg/g)	PCB 145 (pg/g)	PCB 146 (pg/g)	PCB 147/149 (pg/g)	PCB 148 (pg/g)	PCB 150 (pg/g)	PCB 152 (pg/g)	PCB 153/168 (pg/g)	PCB 154 (pg/g)	PCB 155 (pg/g)
	Method Blank	19-Nov-2023	<0.21	0.72	<0.28	<0.29	<0.30	<0.28	<0.31	<0.15	<0.11	<0.22	0.72	<0.24	<0.30	<0.15	<0.12	<0.22	0.41	<0.15	<0.11	<0.12	0.48	<0.12	<0.083
		19-Nov-2023	<0.35	<0.35	<0.46	<0.47	<0.48	<0.45	<0.50	<0.36	<0.27	<0.35	<0.42	<0.39	<0.49	<0.35	<0.28	<0.35	<0.44	<0.35	<0.27	<0.28	<0.33	<0.28	<0.20
	Matrix Spike (% Recovery)	19-Nov-2023	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	101
Precision Between Samples	**Internal Duplicate**																								
	CHBKTR 3+	13-Sep-23	337	2500	112	7.2	336	70.3	56.9	638	58.6	192	34.6	411	< 0.0013	76.8	0.108	627	1260	12.7	3.16	0.66	3250	63.8	0.639
	CHBKTR 3+ (DUP)	13-Sep-23	293	2150	105	5.7	274	65.3	42.8	667	54.3	170	26.2	350	<1.3	76.3	<0.13	531	966	11.2	3.48	0.56	2770	61.3	0.5
	Relative Percent Difference (RPD %)		14%	15%	6%	23%	20%	7%	28%	4%	8%	12%	28%	16%	---	1%	---	17%	26%	13%	10%	16%	16%	4%	24%
	External Duplicate																								
	EDBKTR 3+	14-Sep-23	38.0	450	17.8	< 1.3	39.6	23.4	7.5	175	9.76	28.0	2.8	43.5	< 0.0014	13.2	< 0.46	137	216	2.41	< 0.44	< 0.44	643	7.30	< 0.32
	EDBKTR SPLIT	14-Sep-23	42.3	495	21.0	< 1.2	50.5	24.0	7.0	175	10.0	35.1	3.3	52.0	< 0.0013	16.2	< 0.43	146	238	1.80	< 0.41	< 0.41	721	10.4	< 0.30
	Relative Percent Difference (RPD %)		11%	10%	16%	---	24%	3%	7%	0%	2%	23%	16%	18%	---	20%	---	6%	10%	29%	---	---	11%	35%	---
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	568	3910	95	< 10	198	47.0	24	284	19.0	223	23.0	221	< 0.01	39.1	< 2.5	428	592	< 3.3	< 2.4	< 2.5	3540	21.2	35.5
	Reference Range		302-1322	2600-5780						92-370		97-143		174.8-337-2					335-1303				3574-4906		
Accuracy of Laboratory Results	**Within Reference Range**		Yes	Yes						Yes		No		Yes					Yes				No		
	Laboratory Bias		0.7	0.9						1.2		1.6		0.9					0.7				0.8		

Notes:
1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Table B.2

Project Number: 317011-00057

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																				
			PCB 156/157 (pg/g)	PCB 158 (pg/g)	PCB 159 (pg/g)	PCB 160 (pg/g)	PCB 161 (pg/g)	PCB 162 (pg/g)	PCB 165 (pg/g)	PCB 167 (pg/g)	PCB 169 (pg/g)	PCB 170 (pg/g)	PCB 171/173 (pg/g)	PCB 172 (pg/g)	PCB 174 (pg/g)	PCB 175 (pg/g)	PCB 176 (pg/g)	PCB 177 (pg/g)	PCB 178 (pg/g)	PCB 179 (pg/g)	PCB 180/193 (pg/g)	PCB 181 (pg/g)	PCB 182 (pg/g)	PCB 183 (pg/g)
	Method Blank	19-Nov-2023	<0.30	<0.17	<0.18	<0.19	<0.20	<0.20	<0.22	<0.20	<0.018	0.27	<0.15	<0.14	<0.14	<0.14	<0.10	<0.14	<0.15	<0.11	0.66	<0.15	<0.13	<0.13
		19-Nov-2023	<0.48	<0.27	<0.28	<0.30	<0.32	<0.32	<0.36	<0.31	<0.010	<0.39	<0.40	<0.38	<0.37	<0.37	<0.28	<0.38	<0.40	<0.28	<0.32	<0.41	<0.35	<0.35
	Matrix Spike (% Recovery)	19-Nov-2023	99	---	---	---	---	---	---	102	104	---	---	---	---	---	---	---	---	---	---	---	---	---
Precision Between Samples	**Internal Duplicate CHBKTR 3+**	13-Sep-23	242	200	13.4	< 0.95	< 0.81	13.6	4.64	112	0.667	582	171	178	365	27.4	32.5	319	227	136	1990	4.82	8.87	521
	CHBKTR 3+ (DUP)	13-Sep-23	222	163	12	<0.96	<0.82	12.8	<0.93	102	0.667	451	126	137	304	26.4	26.4	270	173	117	1560	4	6.02	398
	Relative Percent Difference (RPD %)		9%	20%	11%	---	---	6%	---	9%	0%	25%	30%	26%	18%	4%	21%	17%	27%	15%	24%	19%	38%	27%
	External Duplicate EDBKTR 3+	14-Sep-23	42.5	31.8	2.40	< 1.1	< 0.91	0.00336	1.4	22.7	0.440	68.4	13.8	26.0	56.5	2.70	2.70	34.8	29.9	25.2	282	1.30	0.92	56.7
	EDBKTR SPLIT	14-Sep-23	46.5	34.0	3.10	< 0.97	< 0.83	0.00350	< 0.94	25.8	0.510	78.6	18.6	28.2	71.8	**5.20**	3.50	42.3	33.2	28.4	317	0.91	1.20	67.6
	Relative Percent Difference (RPD %)		9%	7%	25%	---	---	4%	---	13%	15%	14%	30%	8%	24%	63%	26%	19%	10%	12%	12%	35%	26%	18%
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	619	191	10.7	< 7.1	< 6.6	0.0638	< 7.6	274	43.7	751	145	115	211	22.0	17.0	180	193	55.6	2110	< 7.3	10.0	311
	Reference Range		505.4-832.6 #1	238.4-309.6						216.6-325.4	37.5-53.7	786-1126						161.6-252.4	143.6-244.4		2094-2906			265.2-410.8
Accuracy of Laboratory Results	**Within Reference Range**		Yes	No						Yes	Yes	No						Yes	Yes		Yes			Yes
	Laboratory Bias		0.9	0.7						1.0	1.0	0.8						0.9	1.0		0.8			0.9

Notes:
1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Table B.2

Project Number: 317011-00057

PCB Congener Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener IUPAC No. - Concentration (pg/g)																								
			PCB 184 (pg/g)	PCB 185 (pg/g)	PCB 186 (pg/g)	PCB 187 (pg/g)	PCB 188 (pg/g)	PCB 189 (pg/g)	PCB 190 (pg/g)	PCB 191 (pg/g)	PCB 192 (pg/g)	PCB 194 (pg/g)	PCB 195 (pg/g)	PCB 196 (pg/g)	PCB 197 (pg/g)	PCB 198/199 (pg/g)	PCB 200 (pg/g)	PCB 201 (pg/g)	PCB 202 (pg/g)	PCB 203 (pg/g)	PCB 204 (pg/g)	PCB 205 (pg/g)	PCB 206 (pg/g)	PCB 207 (pg/g)	PCB 208 (pg/g)	PCB 209 (pg/g)	PCBs-TOTAL (ng/g)
	Method Blank	19-Nov-2023	<0.11	<0.15	<0.11	<0.14	<0.11	<0.18	<0.094	<0.11	<0.13	0.39	<0.18	<0.097	<0.079	<0.11	<0.075	<0.069	<0.072	<0.10	<0.072	<0.16	<0.86	<0.48	<0.49	<0.52	8.3
		19-Nov-2023	<0.29	<0.40	<0.31	<0.37	<0.30	<0.43	<0.25	<0.28	<0.34	<0.38	<0.38	<0.19	<0.15	<0.20	<0.14	<0.13	<0.14	<0.20	<0.14	<0.34	<1.8	<1.0	<1.0	<0.36	<1.0
	Matrix Spike (% Recovery)	19-Nov-2023	---	---	---	---	88	95	---	---	---	---	---	---	---	---	---	---	90	---	---	87	96	---	93	132	---
Precision Between Samples	**Internal Duplicate**																										
	CHBKTR 3+	13-Sep-23	**1.6**	62.6	< 0.50	1340	2.86	18.2	120	26.9	< 0.61	167	50.6	102	9.13	251	8.5	20.8	38.9	161	< 0.085	10.2	18.9	3.12	4.52	2.49	28.1
	CHBKTR 3+ (DUP)	13-Sep-23	**0.95**	50.9	<0.49	1100	2.03	15.8	108	23.4	<0.59	142	45.5	80.5	7.55	224	6.72	18.6	33	137	0.12	7.7	17.6	2.5	4.03	2.29	23.8
	Relative Percent Difference (RPD %)		51%	21%	---	20%	34%	14%	11%	14%	---	16%	11%	24%	19%	11%	23%	11%	16%	16%	---	28%	7%	22%	11%	8%	17%
	External Duplicate																										
	EDBKTR 3+	14-Sep-23	< 0.51	8.40	< 0.55	217	< 0.52	4.00	29.0	5.10	< 0.67	33.4	6.00	12.1	0.51	37.3	1.10	3.02	6.70	0.0257	< 0.41	2.40	3.1	< 0.96	1.30	1.78	5.16
	EDBKTR SPLIT	14-Sep-23	< 0.43	9.41	< 0.47	241	< 0.45	4.80	39.0	4.54	< 0.56	35.1	6.45	16.0	1.10	40.9	1.60	3.78	6.90	0.0319	< 0.26	3.20	5.1	< 0.94	2.14	1.70	5.67
	Relative Percent Difference (RPD %)		---	11%	---	10%	---	18%	29%	12%	---	5%	7%	28%	73%	9%	37%	22%	3%	22%	---	29%	49%	---	49%	5%	9%
Clean Fish Reference Material	**EDF-5462**	15-Nov-2023	< 4.9	16.0	< 5.3	843	34.1	86.8	108	26.4	< 6.3	288	93.3	108	16.2	233	34.0	26.0	95.8	0.192	< 2.3	63.8	136	27	63.1	451	27.3
	Reference Range					685-1033		76.6-109.8				186-418											68.6-191.4		49.3-94.9	324-652	
Accuracy of Laboratory Results	**Within Reference Range**					Yes		Yes				Yes											Yes		Yes	Yes	
	Laboratory Bias					1.0		0.9				1.0											1.0		0.9	0.9	

Notes:
1. Superscript #1 - Reference concentrations provided for multiple congeners within associated coelution. Reference range is based on the sums of the upper and lower limits for both congeners and laboratory bias is calculated using the sum of both reference concentrations.
2. --- Analysis not performed.
3. Shaded areas indicate detection in the method blank.
4. **Bold** text indicates that concentrations used to calculate RPD values greater than or equal to quality criteria are lower than five times the RDL
5. Shading indicates RPD values greater than and/or equal to 50%.
6. Shaded areas indicate lab results are outisde the reference values.
7. Shaded areas indicate spike recoveries outside quality control limits (50% to 140%)
8. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

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Table B.3

Project Number: 317011-00057

Dioxin and Furan Quality Control Results for Fish Tissue Analyses in 2023

	Sample Identification	Sample Date	Congener - Concentration (pg/g)																
			2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	2,3,7,8-TeCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF
	Method Blank	15-Nov-2023	<0.023	<0.034	<0.044	<0.043	<0.048	0.058	<0.18	<0.051	<0.023	<0.023	<0.018	<0.017	<0.025	<0.020	<0.011	<0.015	0.122
		15-Nov-2023	<0.020	<0.030	<0.031	<0.031	<0.033	<0.085	0.087	<0.029	0.04	<0.012	<0.0097	<0.0090	<0.013	<0.0098	<0.0063	<0.0090	0.041
	Martrix Spike	15-Nov-2023	92	107	99	96	98	97	93	106	108	100	102	100	106	99	101	103	102
	(% Recovery)		90	99	97	83	89	98	97	110	107	98	92	107	96	97	96	100	108
Precision Between Samples	INTERNAL DUPLICATE																		
	CHBKTR 3+	13-Sep-23	<0.037	<0.034	<0.039	<0.038	<0.042	0.0746	<0.092	<0.86	<0.069	**0.1320**	<0.022	<0.021	<0.028	<0.021	<0.0093	<0.014	<0.035
	CHBKTR 3+(Dup)	13-Sep-23	<0.024	<0.024	<0.037	<0.034	<0.039	<0.11	<0.079	0.7050	<0.044	**0.0752**	<0.027	<0.025	<0.037	<0.026	<0.010	<0.016	<0.044
	Relative Percent Difference (RPD %)		---	---	---	---	---	---	---	---	---	55%	---	---	---	---	---	---	---
Precision Between Samples	EXTERNAL DUPLICATE																		
	EDBKTR 3+	14-Sep-23	<0.026	<0.032	<0.036	<0.040	<0.039	<0.10	<0.11	0.2480	<0.070	<0.049	<0.022	<0.023	<0.033	<0.023	<0.0077	<0.011	<0.024
	EDBKTR SPLIT	14-Sep-23	<0.035	0.0672	<0.041	<0.048	<0.042	<0.089	<0.077	<0.029	<0.029	<0.057	<0.017	<0.017	<0.024	<0.018	<0.010	<0.016	<0.025
	Relative Percent Difference (RPD %)		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Material (CRM)	EDF-5462	15-Nov-2023	14.5	39	38.1	32.6	36.6	39.6	112	1570	415	39.4	36.2	43.8	37.9	38.1	39.4	40.8	81.4
	Reference Range		12.7-19.5	34.6-44.0	29.3-48.9	31.4-47.0	31.8-50.4	34.1-47.1	99.7-130.3	1160-1700	326.2-547.8	33.8-46.6	34.1-44.9	36.1-45.7	31.3-47.9	33.2-45.2	31.8-50.2	33.3-48.7	54.8-96
Accuracy of Laboratory Results	Within Reference Range		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Laboratory Bias		0.9	1.0	1.0	0.8	0.9	1.0	1.0	1.1	1.1	1.0	0.9	1.1	1.0	1.0	1.0	1.0	1.1

Notes: 1. --- Analysis not performed.

2. Shaded areas indicate detection in the method blank.

3. Shading indicates RPD values greater than and/or equal to 40%.

4. **Bold** text indicates that concentrations used to calculate RPD values greater than and/or equal to 40% are lower than five times the RDL

5. Shaded areas indicate lab results are outisde the reference values.

6. Shaded areas indicate spike recoveries outside quality control limits (50% to 150%)

7. Laboratory Bias was calculated by dividing the Lab Results by the Median Reference Value.

Appendix C. Historical Data Summaries

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Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
Hatchery																														
Brook Trout 0+	07-Sep-1996	**2.9**	< 0.02	0.4	0.4	0.03	< 1	< 0.02	202	**5.03**	< 0.03	0.68	6	0.06	374	0.3	< 0.020	0.04	< 0.05	2940	5640	**0.4**	< 0.01	503	0.38	< 0.02	3.49	< 0.04	0.9	**6.64**
	24-Jun-1997	**12**	< 0.1	0.95	1.3	< 0.02	< 1	**< 0.1**	1140	**0.6**	0.5	0.9	11	< 0.02	339	0.6	0.03	< 0.02	0.7	3160	4490	**1.5**	< 0.01	564	1.6	< 0.1	0.5	< 0.04	< 0.1	**16**
	01-Aug-1997	**8**	< 0.1	1.3	< 1	< 0.1	< 1	**< 0.3**	1450	0.3	< 0.3	0.7	8	**< 2**	256	0.5	< 0.020	< 0.3	< 0.5	2650	3460	**1**	< 0.2	665	2.4	< 0.1	0.5	< 50	< 0.2	**15.2**
	25-Jun-1998	**13.7**	< 0.1	1.4	< 1	0.09	< 1	**< 0.1**	2140	< 0.2	(0.04)	0.27	23.5	**0.35**	418	0.5	(0.029)	(0.02)	**0.82**	3690	4210	**< 1**	< 0.01	792	3.1	< 0.1	< 0.3	(0.06)	< 0.1	**18.7**
	01-Sep-1999	< 0.7	< 0.1	< 0.5	< 1	(0.1)	12.4	**< 0.1**	988	< 0.2	< 0.3	**4.1**	5	**< 2**	556	0.3	(0.017)	< 0.02	< 0.5	4680	7660	**< 1**	1.6	1000	(0.3)	< 0.02	< 0.3	< 50	4.4	**19.2**
	09-Sep-2001	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	526	**< 1**	< 1	(0.7)	6	**< 3**	209	< 0.4	(0.027)	< 0.02	**< 2**	1760	2550	**< 1**	< 0.3	539	(0.7)	< 0.02	< 1	< 0.04	< 0.6	**8.0**
	07-Sep-2002	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	640	**< 1**	< 1	< 0.4	6	**< 3**	220	< 0.4	0.05	< 0.02	**< 2**	2380	3370	**< 1**	< 0.3	661	(0.6)	< 0.02	< 1	< 0.04	< 0.6	**9.3**
	05-Sep-2003	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	1090	**< 1**	< 1	< 0.4	4	**< 3**	259	(0.5)	(0.03)	< 0.02	**< 2**	3100	3730	**< 1**	< 0.3	447	(0.7)	< 0.02	< 1	< 0.04	< 0.6	**7.7**
	01-Sep-2004	**29**	< 0.1	1.8	(1.1)	< 0.7	< 2	< 0.02	2060	**< 1**	< 1	2.5	50.7	**< 3**	863	1.7	0.06	0.04	**< 2**	8540	12000	**(1)**	< 0.3	1370	2.4	< 0.02	< 1	< 0.04	< 0.6	**29.7**
	12-Oct-2006	**< 10**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	818	**< 1**	< 1	**< 5**	< 10	**< 1**	278	< 10	0.13	< 0.4	**< 1**	2680	4210	**0.6**	< 1	460	< 10	< 0.3	---	< 1	< 1	**18**
	11-Sep-2007	**95**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	291	**< 1**	< 1	**< 5**	< 10	**< 0.5**	277	< 10	< 0.05	< 0.4	**< 1**	2350	4160	**< 0.5**	< 1	538	< 10	< 0.3	---	< 1	< 1	**< 10**
	23-Jul-2008	**52**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	470	**< 1**	< 1	**< 5**	< 10	**< 0.5**	290	< 10	< 0.05	< 0.4	**< 1**	2500	3900	**< 0.5**	< 1	560	< 10	< 0.3	---	< 1	< 1	**< 10**
	11-Aug-2009	**160**	< 1	< 1	< 10	< 0.4	4	**< 0.1**	1100	**< 1**	< 1	**< 5**	11	**< 0.5**	280	< 10	0.05	< 0.4	**< 1**	3100	4300	**< 0.5**	< 1	630	< 10	< 0.3	---	< 1	< 1	**24**
	12-Aug-2010	0.4	< 0.001	0.54	0.09	< 0.02	< 0.4	< 0.002	709	< 0.04	< 0.004	0.40	3	< 0.002	303	0.24	0.015	< 0.01	< 0.01	3290	4160	**0.25**	< 0.004	635	0.64	0.0015	< 0.2	< 0.0004	< 0.04	**11.0**
	01-Sep-2011	< 0.2	< 0.001	0.26	< 0.02	< 0.02	< 0.4	< 0.002	103	< 0.04	0.088	0.62	5	0.013	316	0.09	0.013	< 0.01	< 0.01	2680	4020	**0.39**	< 0.004	469	0.14	0.0017	0.3	< 0.0004	< 0.04	**4.79**
	01-Sep-2012	0.22	< 0.0010	0.139	0.021	< 0.020	< 0.40	< 0.0020	453	< 0.040	0.0504	0.417	4.2	< 0.0020	317	0.168	0.0080	< 0.010	0.011	2710	4170	**0.304**	< 0.0040	363	0.651	0.00364	0.23	< 0.00040	< 0.040	**6.99**
	02-Oct-2013	0.21	< 0.0010	0.202	0.049	< 0.020	< 0.40	< 0.0020	673	0.083	< 0.0040	0.443	5.6	0.0042	297	0.265	0.0182	< 0.010	0.012	2810	4020	**0.263**	< 0.0040	483	0.646	0.00113	< 0.20	< 0.00040	< 0.040	**9.57**
	09-Oct-2014	0.30	< 0.0010	0.315	0.065	< 0.020	< 0.40	0.0036	1100	0.074	0.0770	0.573	5.1	0.0020	362	0.321	0.0156	< 0.010	0.013	3310	4430	**0.358**	< 0.0040	711	1.67	0.00322	< 0.20	< 0.00040	< 0.040	**11.7**
	23-Sep-2015	0.33	< 0.0010	0.620	0.055	< 0.0020	< 0.40	0.0029	671	0.109	0.0045	0.535	5.6	< 0.0020	286	0.296	0.0309	< 0.010	0.014	2920	4250	**0.266**	< 0.0040	638	0.882	0.00082	0.064	< 0.00040	< 0.020	**10.5**
	30-Aug-2016	0.57	< 0.0010	0.517	0.051	< 0.0020	< 0.40	0.0048	605	0.278	0.0093	0.606	6.0	0.0048	273	0.358	0.0311	0.026	0.164	2760	3950	**0.294**	< 0.0040	842	0.676	0.00071	0.146	0.00061	< 0.020	**10.7**
	29-Aug-2018	0.34	< 0.0010	0.489	0.113	< 0.0010	< 0.20	0.0028	1420	0.172	0.0056	0.588	5.47	0.0026	307	0.440	0.0179	0.0173	0.083	3470	4150	**0.292**	< 0.0010	767	1.50	0.00184	0.245	< 0.00040	< 0.020	**13.3**
	06-Sep-2019	0.85	< 0.0010	0.319	0.052	< 0.0010	< 0.20	0.0013	773	0.435	0.0088	0.632	8.82	0.0027	272	0.335	0.0242	0.0136	0.037	2870	3860	**0.295**	< 0.0010	742	0.953	0.00113	0.263	< 0.00040	< 0.020	**10.0**
	28-Oct-2020	0.23	< 0.0010	0.728	0.048	< 0.0010	< 0.20	0.0050	604	0.057	0.0050	0.481	4.70	0.0012	263	0.267	0.0265	0.0073	0.010	2820	4110	**0.316**	< 0.0010	696	0.874	0.00277	0.226	0.00803	0.022	**10.6**
	30-Sep-2021	0.40	< 0.0020	0.410	0.073	< 0.0020	< 0.20	0.0014	716	0.033	0.0055	0.505	6.58	< 0.0040	295	0.42	0.0177	0.0092	< 0.040	2760	3680	0.245	< 0.0010	644	---	0.00103	---	< 0.0040	< 0.020	**9.94**
	13-Oct-2022	**3.44**	< 0.0020	0.752	0.111	< 0.0020	< 0.20	0.0019	459	0.445	0.0072	0.637	11.6	0.0054	289	0.32	0.0129	0.0064	< 0.040	2640	3910	**0.271**	< 0.0010	685	---	0.00176	---	< 0.0040	< 0.020	**9.71**
Lake Trout 1+	01-Sep-2005	**< 10**	(0.1)	< 0.5	< 0.7	< 0.7	< 2	< 0.02	470.6	**< 1**	< 1	< 0.4	7.2	**< 3**	200.2	(0.5)	< 0.020	< 0.02	**< 2**	1892	3090	**< 1**	< 0.3	583.2	(0.5)	< 0.02	< 1	< 0.04	< 0.6	**8.18**
Chrystina Lake																														
Brook Trout 0+	01-Sep-1988	**4**	0.23	< 0.05	0.9	0.8	< 1.0	**1**	2460	**2.3**	1.2	**3.9**	14.7	**8.2**	890	1.4	0.22	< 0.1	**< 1.0**	8000	13500	0.06	< 0.1	1260	3.9	0.3	< 1.0	< 1.0	< 0.1	**50**
	01-Sep-1990	**12**	0.01	< 0.01	11	< 0.1	1	**< 0.1**	2610	**3.3**	0.4	2	35	**1**	1220	1.4	0.09	< 0.1	0.2	11100	17200	< 0.01	1	1850	5.2	0.2	0.5	< 5	< 0.1	**41.8**
Brook Trout 1+	01-Sep-1985	**14**	< 0.02	< 0.02	0.41	< 0.02	< 0.2	**< 0.04**	3030	< 0.04	< 0.1	0.22	5.64	**< 1.0**	338	0.8	0.11	< 0.2	< 0.2	4220	4400	0.06	---	571	4.04	---	3.96	< 6	< 0.04	**14.1**
	01-Sep-1986	**108**	< 0.03	0.09	0.13	< 0.03	< 0.3	**< 0.06**	439	0.22	< 0.16	0.4	23.2	< 0.16	256	0.19	0.08	< 0.3	< 0.3	2230	3670	0.03	---	400	0.19	---	1.46	< 10	< 0.06	**6.83**
	01-Sep-1987	**35.2**	0.82	0.41	1.29	< 0.1	< 1.0	**0.7**	1480	**2.8**	3.2	**6.7**	37.6	**7**	1290	1.77	0.08	3.4	**5.3**	12800	18200	0.14	< 0.1	1650	2.5	< 0.3	< 1	< 1	2.1	**41.8**
	01-Sep-1990	**13**	< 0.01	< 0.01	12	< 0.1	< 1	**< 0.1**	3610	**2.9**	< 0.1	1.8	33	**< 1**	1320	2.1	0.12	< 0.1	0.1	12300	18900	< 0.01	< 1	2160	6.2	0.1	0.5	6	< 0.1	**37**
	24-Sep-1991	**13**	0.05	0.71	0.9	0.2	< 1	**0.4**	1130	**1.9**	< 0.1	2.1	42	**1**	1230	1.6	0.31	0.7	**< 1**	10900	18700	0.04	< 0.1	1810	1.7	< 0.1	2.7	9	0.5	**34.8**
	11-Aug-2009	**320**	< 1	< 1	< 10	< 0.4	5	**< 0.1**	1400	**< 1**	< 1	**< 5**	190	**< 0.5**	430	< 10	< 0.05	< 0.4	**< 1**	2900	4500	**< 0.5**	< 1	610	< 10	< 0.3	---	< 1	< 1	**17**
(Duplicate)	11-Aug-2009	**280**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	1500	**< 1**	< 1	**< 5**	200	**< 0.5**	310	< 10	0.10	< 0.4	**< 1**	2800	4400	**< 0.5**	< 1	570	< 10	< 0.3	---	< 1	< 1	**14**
	01-Sep-2011	< 0.2	< 0.001	0.07	0.10	< 0.02	< 0.4	< 0.002	549	< 0.04	0.004	0.41	4	0.003	292	0.13	0.078	< 0.01	< 0.01	2590	4080	0.21	< 0.004	461	0.82	0.0027	0.3	< 0.0004	< 0.04	**6.33**
	01-Sep-2012	0.33	< 0.0010	0.038	0.227	< 0.020	< 0.40	< 0.0020	789	< 0.040	0.0052	0.248	4.4	< 0.0020	311	0.227	0.0721	< 0.010	< 0.010	2700	3920	0.206	< 0.0040	419	1.24	0.00252	0.21	< 0.00040	< 0.040	**8.65**
(Replicate A)	02-Oct-2013	< 0.20	< 0.0010	0.019	0.361	< 0.020	< 0.40	< 0.0020	802	**0.724**	0.0051	0.253	11.1	0.0080	320	0.231	0.0582	0.010	0.023	2880	4500	0.176	< 0.0040	402	1.41	0.00224	< 0.20	< 0.00040	< 0.040	**9.50**
(Replicate B)	02-Oct-2013	0.27	< 0.0010	0.040	0.302	< 0.020	< 0.40	< 0.0020	654	0.561	0.0061	0.303	12.3	0.0088	285	0.224	0.0580	< 0.010	0.018	2500	3790	0.178	< 0.0040	369	1.08	0.00174	< 0.20	< 0.00040	< 0.040	**10.2**
	23-Sep-2015	0.38	< 0.0010	0.0336	0.203	< 0.0020	< 0.40	< 0.0020	533	**0.754**	0.0045	0.300	9.2	0.0046	278	0.168	0.0781	< 0.010	0.015	2810	4270	0.183	< 0.0040	335	0.944	0.00248	0.087	< 0.00040	< 0.020	**10.1**
	31-Aug-2016	0.22	< 0.0010	0.133	0.124	< 0.0020	< 0.40	< 0.0020	494	0.219	0.0044	0.401	6.1	0.0034	308	0.212	0.0791	< 0.010	0.020	3000	4480	**0.296**	< 0.0040	533	0.715	0.00162	0.160	0.00062	< 0.020	**12.1**
	12-Sep-2017	0.28	< 0.0010	0.0617	0.272	< 0.0020	< 0.40	< 0.0020	710	0.137	0.0047	0.334	5.5	0.0020	349	0.293	0.0700	< 0.010	< 0.010	3320	4740	0.245	< 0.0040	474	1.24	0.00308	< 0.050	< 0.00040	< 0.020	**10.8**
	29-Aug-2018	0.33	< 0.0010	0.0331	0.165	< 0.0010	< 0.20	< 0.0010	421	0.115	0.0041	0.293	5.04	0.0020	303	0.181	0.0608	0.0044	< 0.010	2800	4020	0.245	< 0.0010	357	0.726	0.00175	0.173	< 0.00040	< 0.020	**8.64**

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
(Replicate A)	05-Sep-2019	**1.22**	< 0.0010	0.0784	0.207	< 0.0010	< 0.20	0.0011	504	0.045	0.0052	0.37	4.98	0.003	326	0.229	0.0504	< 0.0040	< 0.010	2910	4280	**0.283**	< 0.0010	557	0.976	0.00192	0.25	< 0.00040	< 0.020	**8.98**
Chrystina Lake - Continued																														
(Replicate B)	05-Sep-2019	**1.23**	< 0.0010	0.0848	0.17	< 0.0010	< 0.20	0.0011	630	0.221	0.0044	0.493	6.36	0.0033	339	0.236	0.0486	0.0096	0.013	3090	4480	**0.294**	< 0.0010	550	1.01	0.00191	0.277	< 0.00040	< 0.020	**11.7**
	28-Oct-2020	0.77	< 0.0010	0.0490	0.195	< 0.0010	< 0.20	< 0.0010	576	0.030	0.0042	0.304	4.34	0.0028	312	0.177	0.0794	0.0042	< 0.010	3150	4570	0.222	< 0.0010	352	1.06	0.00223	0.229	< 0.00040	< 0.020	**8.96**
	29-Sep-2021	0.59	< 0.0020	0.0201	0.324	< 0.0020	< 0.20	< 0.0010	838	0.108	0.0053	0.293	5.50	0.0200	294	0.16	0.134	< 0.0040	< 0.040	2810	4170	0.149	< 0.0010	421	---	0.00183	---	< 0.0040	< 0.020	**6.68**
	12-Oct-2022	0.86	< 0.0020	0.0351	0.267	< 0.0020	< 0.20	< 0.0010	661	0.306	0.0134	0.260	5.10	0.0088	322	0.46	0.0573	0.0040	< 0.040	2870	4460	0.178	< 0.0010	469	---	0.00208	---	< 0.0040	< 0.020	**6.92**
Brook Trout 2+	01-Sep-1985	**9.5**	< 0.02	< 0.02	0.23	< 0.02	2.3	**< 0.04**	2130	< 0.04	< 0.1	0.42	5.89	**< 1**	324	0.58	0.17	< 0.2	< 0.2	3490	4220	0.1	---	520	2.5	---	2.2	< 6	< 0.04	**9.03**
	01-Sep-1986	**95.9**	< 0.03	0.09	0.12	< 0.03	< 0.3	**< 0.06**	368	0.21	< 0.16	0.6	29.2	< 0.16	222	0.27	0.09	< 0.3	< 0.3	2000	3440	0.04	---	453	0.15	---	1.35	< 10	< 0.06	**7.26**
	01-Sep-1988	**6.6**	0.35	< 0.05	0.6	0.6	< 1.0	**< 0.1**	1280	**1.5**	0.3	**4.2**	27.1	**< 1.0**	720	1.1	0.19	< 0.1	**< 1.0**	6230	12000	< 0.05	< 0.1	1260	2	< 0.3	< 1.0	< 1.0	0.7	**23.2**
	01-Sep-1989	**8**	< 0.01	< 0.01	1	< 0.1	1	**< 0.1**	1200	**1.4**	2.4	**8.4**	25	**< 1.0**	820	1.2	0.28	< 1.0	**5.2**	7650	13500	< 0.01	< 0.1	1100	2.4	0.2	2.8	< 20	0.6	**35**
	01-Sep-1990	**21**	< 0.01	< 0.01	32	< 0.1	1	**< 0.1**	2850	**4.5**	< 0.1	**3.4**	68	**1**	1840	1.7	0.37	< 0.1	< 0.1	15500	27900	< 0.01	2	3190	5.5	0.3	0.9	< 5	< 0.1	**45.1**
	24-Sep-1991	**14**	0.14	0.4	0.7	0.3	< 1	**< 0.1**	890	**1.7**	1	2.3	41	**< 1**	1160	1.2	0.29	0.4	**2.2**	10800	19900	0.04	0.2	2000	1.3	< 0.1	2.8	< 5	0.7	**34.2**
	28-Oct-1992	**4**	< 0.05	< 0.05	< 0.1	< 0.1	4	**< 0.1**	---	0.3	< 0.1	0.3	---	< 0.1	275	< 0.4	0.13	< 0.1	< 0.5	2250	---	< 0.05	0.1	---	< 0.5	< 0.1	< 0.2	---	< 0.1	**6.4**
	05-Nov-1993	0.9	< 0.2	< 0.2	< 0.01	< 0.01	< 0.01	**< 0.08**	---	< 0.2	< 0.04	0.43	---	< 0.2	282	0.3	0.04	< 0.03	< 0.05	2330	---	< 0.2	< 0.02	---	0.3	< 0.1	< 0.3	---	< 0.02	**12**
	28-Sep-1994	**2**	< 0.2	< 0.2	< 1	< 0.1	< 1	**0.04**	380	0.3	< 0.1	0.5	9	< 0.1	310	0.3	0.09	< 0.3	< 0.5	2910	4280	< 0.2	< 0.2	390	0.5	< 0.1	< 0.3	< 50	< 0.2	**9.5**
	05-Oct-1995	< 1.0	< 0.2	< 0.2	< 1.0	< 0.1	< 1.0	**0.06**	634	0.3	< 0.1	0.5	3	< 0.1	286	0.2	0.04	< 0.3	< 0.5	2900	4890	0.2	< 0.2	307	1.3	---	< 0.3	< 50	< 0.2	**9.4**
	07-Sep-1996	**4.3**	< 0.02	< 0.1	0.5	0.04	< 1.0	< 0.02	154	**7.23**	< 0.03	0.69	7	0.05	389	0.4	0.1	0.06	**0.86**	2880	5720	**0.8**	< 0.01	403	0.44	< 0.02	4.87	< 0.04	1.2	**7.59**
	25-Jun-1997	**4.1**	< 0.1	0.9	0.7	< 0.02	< 1	**< 0.1**	622	**0.7**	0.3	0.7	5	< 0.02	314	0.2	0.11	< 0.02	< 0.05	2630	4320	**1.8**	< 0.01	570	0.9	< 0.1	0.6	< 0.04	< 0.1	**9.1**
	01-Sep-1997	**2.1**	< 0.2	< 0.2	0.2	< 0.2	< 2	**< 0.2**	456	< 0.2	< 0.2	**4.9**	6	< 0.2	195	< 0.2	0.12	< 0.2	< 0.2	2270	4560	**0.3**	< 0.2	293	0.7	< 0.2	---	---	< 0.2	**11.7**
	11-Aug-2009	**160**	< 1	< 1	< 10	< 0.4	5	**< 0.1**	720	**< 1**	< 1	**< 5**	< 10	**< 0.5**	280	< 10	0.19	< 0.4	**< 1**	2900	4200	**< 0.5**	< 1	550	< 10	< 0.3	---	< 1	< 1	**17**
	12-Aug-2010	< 0.2	< 0.001	0.04	0.28	< 0.02	< 0.4	< 0.002	682	< 0.04	0.005	0.39	4	< 0.002	327	0.19	0.069	< 0.01	< 0.01	3460	4590	0.17	< 0.004	475	1.20	0.0031	< 0.2	< 0.0004	< 0.04	**11.5**
	01-Sep-2011	< 0.2	< 0.001	0.02	0.12	< 0.02	< 0.4	< 0.002	566	< 0.04	0.005	0.46	5	0.009	294	0.11	0.097	< 0.01	< 0.01	2630	4000	0.17	< 0.004	496	0.85	0.0019	0.3	< 0.0004	< 0.04	**5.80**
	01-Sep-2012	0.44	< 0.0010	0.012	0.206	< 0.020	< 0.40	< 0.0020	718	0.055	0.0049	0.286	5.4	0.0023	303	0.178	0.116	< 0.010	< 0.010	2680	3940	0.144	< 0.0040	389	1.13	0.00300	0.24	< 0.00040	< 0.040	**7.94**
	02-Oct-2013	< 0.20	< 0.0010	0.014	0.223	< 0.020	< 0.40	< 0.0020	932	0.302	0.0069	0.281	9.4	0.0051	311	0.168	0.158	< 0.010	0.011	2850	4130	0.191	< 0.0040	415	1.24	0.00274	< 0.20	0.00042	< 0.040	**11.5**
	09-Oct-2014	1.05	< 0.0010	0.021	0.222	< 0.020	< 0.40	< 0.0020	620	0.533	0.0071	0.348	8.8	< 0.0020	340	0.183	0.136	0.015	0.165	3190	4570	0.181	< 0.0040	431	1.04	0.00381	< 0.20	0.00047	< 0.040	**10.4**
(Replicate A)	09-Oct-2014	0.21	< 0.0010	0.020	0.187	< 0.020	< 0.40	< 0.0020	485	0.119	0.0065	0.365	5.8	0.0025	358	0.172	0.113	< 0.010	0.013	3220	4950	0.171	< 0.0040	387	0.861	0.00463	< 0.20	< 0.00040	< 0.040	**14.2**
(Replicate B)	09-Oct-2014	0.22	< 0.0010	0.022	0.308	< 0.020	< 0.40	< 0.0020	785	0.262	0.0156	0.306	6.5	0.0026	362	0.248	0.0811	< 0.010	0.018	3320	4640	0.161	< 0.0040	409	1.35	0.00547	< 0.20	< 0.00040	< 0.040	**11.0**
	23-Sep-2015	**2.21**	< 0.0010	0.0159	0.213	< 0.0020	< 0.40	< 0.0020	607	0.296	0.0077	1.82	6.8	0.0080	310	0.218	0.106	0.011	0.462	3050	4560	0.198	< 0.0040	411	0.974	0.00180	0.067	< 0.00040	< 0.020	**8.60**
	31-Aug-2016	< 0.20	< 0.0010	0.0232	0.164	< 0.0020	< 0.40	< 0.0020	583	**1.27**	0.0092	0.318	14.4	0.0030	310	0.232	0.116	< 0.010	0.049	3000	4220	0.213	< 0.0040	450	0.812	0.00257	0.139	< 0.00040	< 0.020	**12.1**
	12-Sep-2017	**2.79**	< 0.0010	0.0251	0.178	< 0.0020	< 0.40	< 0.0020	529	0.092	0.0059	0.316	5.3	< 0.0020	335	0.191	0.160	< 0.010	0.040	3160	4650	0.210	< 0.0040	421	0.784	0.00346	0.056	< 0.00040	< 0.020	**10.9**
(Replicate A)	12-Sep-2017	0.21	< 0.0010	0.0319	0.172	< 0.0020	< 0.40	< 0.0020	787	0.159	0.0078	0.383	5.2	< 0.0020	309	0.175	0.164	< 0.010	< 0.010	3250	4510	0.204	< 0.0040	542	1.06	0.00328	< 0.050	< 0.00040	< 0.020	**8.25**
	29-Aug-2018	0.40	< 0.0010	0.0110	0.248	< 0.0010	< 0.20	< 0.0010	602	0.121	0.0063	0.323	6.19	0.0016	321	0.208	0.126	0.0055	0.011	3280	4560	0.185	< 0.0010	413	0.991	0.00276	0.220	< 0.00040	< 0.020	**10.8**
(Replicate A)	05-Sep-2019	**0.90**	< 0.0010	0.0204	0.203	< 0.0010	< 0.20	< 0.0010	554	0.028	0.007	0.337	4.48	0.0013	338	0.16	0.116	0.0048	< 0.010	3210	4340	0.213	< 0.0010	436	0.863	0.0022	0.27	< 0.00040	< 0.020	**8.83**
(Replicate B)	05-Sep-2019	**1.36**	< 0.0010	0.0214	0.195	< 0.0010	< 0.20	< 0.0010	473	0.046	0.0058	0.39	4.91	0.0012	319	0.149	0.119	0.0056	< 0.010	3040	4010	0.196	< 0.0010	462	0.751	0.00335	0.297	< 0.00040	< 0.020	**8.17**
(Replicate A)	28-Oct-2020	0.46	< 0.0010	0.0201	0.167	< 0.0010	< 0.20	< 0.0010	460	0.026	0.0051	0.323	4.25	0.0026	310	0.127	0.134	< 0.0040	< 0.010	3180	4640	0.199	< 0.0010	368	0.874	0.00349	0.242	< 0.00040	< 0.020	**7.63**
(Replicate B)	28-Oct-2020	0.56	< 0.0010	0.0224	0.167	< 0.0010	< 0.20	< 0.0010	582	0.018	0.0052	0.266	4.38	0.0016	311	0.141	0.13	< 0.0040	< 0.010	3240	4620	0.232	< 0.0010	379	0.952	0.00314	0.239	< 0.00040	< 0.020	**7.51**
	29-Sep-2021	0.60	< 0.0020	0.0124	0.231	< 0.0020	< 0.20	< 0.0010	569	0.051	0.0081	0.477	7.39	0.0048	290	0.17	0.145	0.0041	< 0.040	2730	4210	0.171	< 0.0010	488	---	0.00229	---	< 0.0040	< 0.020	**15.0**
	12-Oct-2022	< 0.40	< 0.0020	0.0144	0.224	< 0.0020	< 0.20	< 0.0010	1090	0.140	0.0061	0.317	4.94	< 0.0040	326	0.17	0.109	0.0093	< 0.040	2980	4240	0.168	< 0.0010	436	---	0.00189	---	< 0.0040	< 0.020	**5.08**
Brook Trout 3+	01-Sep-1985	**2.8**	< 0.02	< 0.02	0.05	< 0.02	0.3	**< 0.04**	720	< 0.04	< 0.1	0.81	4.1	**< 1**	286	0.1	0.3	< 0.2	0.4	2600	4180	0.06	---	498	0.39	---	2.2	< 6	< 0.04	**7.1**
	01-Sep-1986	**100**	< 0.03	0.11	< 0.03	< 0.03	0.58	**< 0.06**	249	0.35	< 0.16	0.3	27.7	< 0.16	246	0.12	0.1	< 0.3	< 0.3	2120	3740	0.02	---	489	< 0.03	---	1.38	< 10	< 0.06	4.31
	01-Sep-1987	**9.8**	1.18	0.82	1.11	< 0.1	< 1	**0.7**	1750	**1.4**	2.2	**11.3**	42.1	**1.5**	1050	1.48	0.12	2	**5.5**	10100	14150	**0.44**	< 0.1	1290	2.5	< 0.3	< 1	< 1	1.3	**30.2**
	01-Sep-1988	**2.9**	0.28	< 0.05	1	1	< 1.0	**0.1**	1350	< 0.1	0.2	2.5	14.6	**< 1.0**	630	< 0.4	0.22	< 0.1	**< 1.0**	5800	11000	< 0.05	< 0.1	1295	1.8	< 0.3	< 1.0	< 1.0	0.2	**16**
	01-Sep-1989	**4.7**	0.01	< 0.01	< 1.0	< 0.1	< 1.0	**< 0.1**	930	**1.4**	2.6	**24.2**	19.6	**< 1.0**	870	0.7	**0.95**	< 1.0	**5.7**	7500	14100	< 0.01	< 0.1	1720	1.5	0.1	2.8	< 20	0.4	**21.4**
	01-Sep-1990	**24**	0.01	< 0.01	15	< 0.1	< 1	**< 0.1**	2150	**4.1**	0.8	2.8	47	**2**	1300	5.4	0.16	< 0.1	0.8	11500	19100	< 0.01	1	2230	3.7	0.2	0.8	11	< 0.1	**28.3**
	24-Sep-1991	**13**	0.37	0.97	1.1	0.2	< 1	**< 0.1**	1330	**2.4**	0.5	2.4	44	**2.4**	1150	1.6	0.35	0.6	**< 1**	10500	18200	0.03	< 0.1	2040	2	< 0.1	2.7	15	0.8	**32.3**
	28-Oct-1992	**3**	< 0.05	< 0.05	0.2	< 0.1	3	**< 0.1**	---	0.3	0.2	0.2	---	< 0.1	280	< 0.4	0.11	< 0.1	< 0.5	2320	---	< 0.05	< 0.1	---	0.6	< 0.1	< 0.5	---	< 0.2	**7.4**
	28-Sep-1994	< 1	< 0.2	< 0.2	< 1	< 0.1	< 1	**0.04**	310	0.3	< 0.1	0.4	7	< 0.1	320	0.2	0.17	< 0.3	< 0.5	2780	4550	< 0.2	< 0.2	400	0.4	< 0.1	< 0.3	< 50	< 0.2	**8.9**

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	07-Sep-1996	**3.1**	< 0.02	< 0.1	0.4	0.02	< 1	< 0.02	165	**5.85**	< 0.03	0.73	9	0.12	394	0.4	0.14	0.06	**1.61**	2920	5790	**0.5**	< 0.01	408	0.37	< 0.02	5.48	< 0.04	0.8	**7.81**
	25-Jun-1997	**9.5**	< 0.1	1.9	2.4	< 0.02	2	**< 0.1**	302	**0.6**	0.1	0.9	23	**0.5**	258	0.2	0.1	0.1	< 0.05	2150	3850	**< 1**	< 0.01	634	0.6	< 0.1	0.4	< 0.04	< 0.1	**7.9**
Chrystina Lake - Continued																														
	01-Sep-1997	**2.3**	< 0.2	< 0.2	0.3	< 0.2	< 2	**< 0.2**	433	< 0.2	< 0.2	0.4	6	< 0.2	206	< 0.2	0.16	< 0.2	< 0.2	2310	4640	< 0.2	< 0.2	269	0.6	< 0.2	---	---	< 0.2	**8.5**
	01-Sep-2000	< 0.7	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	332	**< 1**	< 1	(0.5) [#5]	6	**< 3**	269	< 0.4	0.18	< 0.02	**< 2**	2570	4220	**< 1**	< 0.3	429	(0.4) [#5]	< 0.02	< 1	< 50	< 0.6	**6.1**
	12-Oct-2006	**11**	< 1	< 1	< 10	< 0.4	< 2	**0.8**	139	**2**	< 1	**< 5**	16	**< 1**	276	< 10	< 0.05	0.9	**< 1**	2380	4090	**1.3**	< 1	426	< 10	1.4	---	< 1	< 1	**19**
	12-Aug-2010	< 0.2	< 0.001	0.01	0.25	< 0.02	< 0.4	< 0.002	532	< 0.04	0.005	0.36	4	< 0.002	315	0.10	0.228	< 0.01	< 0.01	3000	4320	0.17	< 0.004	414	0.93	0.0031	< 0.2	< 0.0004	< 0.04	**9.50**
(Duplicate)	12-Aug-2010	< 0.2	< 0.001	0.01	0.24	< 0.02	< 0.4	< 0.002	515	< 0.04	0.007	0.36	5	< 0.002	347	0.15	0.146	< 0.01	< 0.01	3110	4640	0.16	< 0.004	435	0.93	0.0037	< 0.2	< 0.0004	< 0.04	**10.1**
	01-Sep-2012	0.30	< 0.0010	0.017	0.242	< 0.020	< 0.40	< 0.0020	589	< 0.040	0.0068	0.325	5.5	0.0024	307	0.144	0.163	< 0.010	< 0.010	2830	4190	0.151	< 0.0040	457	1.06	0.00369	0.24	< 0.00040	< 0.040	**8.50**
(Replicate A)	01-Sep-2012	0.36	< 0.0010	0.020	0.152	< 0.020	< 0.40	< 0.0020	370	0.063	0.0072	0.293	5.0	0.0020	322	0.142	0.132	< 0.010	0.029	2780	4330	0.191	< 0.0040	456	0.623	0.00341	0.22	< 0.00040	< 0.040	**8.19**
(Duplicate)	01-Sep-2012	0.93	0.0010	0.014	0.238	< 0.020	< 0.40	< 0.0020	491	0.081	0.0094	0.510	8.4	0.0031	313	0.164	0.199	< 0.010	0.037	2680	4270	0.170	< 0.0040	456	0.925	0.00437	0.23	< 0.00040	< 0.040	**7.51**
(Replicate C)	02-Oct-2013	< 0.20	< 0.0010	0.018	0.132	< 0.020	< 0.40	< 0.0020	591	0.138	0.0081	0.386	7.2	0.0079	276	0.121	0.131	< 0.010	< 0.010	2620	3890	0.158	< 0.0040	431	0.904	0.00318	< 0.20	< 0.00040	< 0.040	**8.39**
(Replicate D)	02-Oct-2013	0.22	< 0.0010	0.020	0.195	< 0.020	< 0.40	< 0.0020	576	0.055	0.0050	0.240	5.1	0.0079	324	0.248	0.129	< 0.010	< 0.010	2700	4240	0.157	< 0.0040	361	0.836	0.00270	< 0.20	< 0.00040	< 0.040	**11.3**
	09-Oct-2014	**2.13**	< 0.0010	0.013	0.260	< 0.020	< 0.40	< 0.0020	574	0.051	0.0067	0.382	5.8	< 0.0020	348	0.149	0.238	< 0.010	0.227	3180	4810	0.179	< 0.0040	443	0.942	0.00284	< 0.20	< 0.00040	< 0.040	**10.6**
(Replicate A)	09-Oct-2014	< 0.20	< 0.0010	0.019	0.257	< 0.020	< 0.40	< 0.0020	636	0.192	0.0072	0.321	6.6	0.0022	331	0.135	0.192	< 0.010	0.011	3030	4480	0.177	< 0.0040	418	0.967	0.00326	< 0.20	< 0.00040	< 0.040	**9.82**
(Replicate B)	09-Oct-2014	0.24	< 0.0010	0.014	0.459	< 0.020	< 0.40	< 0.0020	1030	0.262	0.0091	0.280	8.6	0.0033	335	0.177	0.272	< 0.010	0.048	3200	4550	0.163	< 0.0040	486	1.58	0.00366	< 0.20	< 0.00040	< 0.040	**23.0**
(Duplicate)	09-Oct-2014	**2.20**	< 0.0010	0.019	0.216	< 0.020	< 0.40	< 0.0020	498	**0.604**	0.0068	0.399	8.4	< 0.0020	336	0.159	0.242	< 0.010	0.227	3010	4680	0.173	< 0.0040	430	0.773	0.00271	< 0.20	< 0.00040	< 0.040	**10.2**
	23-Sep-2015	0.35	< 0.0010	0.0090	0.203	< 0.0020	< 0.40	< 0.0020	542	0.035	0.0081	0.271	5.2	< 0.0020	316	0.183	0.132	< 0.010	0.027	3090	4610	0.151	< 0.0040	373	0.790	0.00208	0.098	< 0.00040	< 0.020	**9.32**
	31-Aug-2016	< 0.20	< 0.0010	0.0159	0.155	< 0.0020	< 0.40	< 0.0020	477	0.102	0.0052	0.361	5.0	< 0.0020	338	0.127	0.157	< 0.010	0.018	3200	4570	0.182	< 0.0040	420	0.709	0.00174	0.122	0.00047	< 0.020	**8.00**
(Replicate A)	31-Aug-2016	0.31	< 0.0010	0.0123	0.217	< 0.0020	< 0.40	< 0.0020	678	0.254	0.0068	0.286	8.5	0.0029	322	0.154	0.129	< 0.010	0.053	3220	4460	0.193	< 0.0040	411	0.986	0.00190	0.119	0.00043	< 0.020	**10.2**
(Duplicate)	31-Aug-2016	< 0.20	< 0.0010	0.0155 [#6]	0.156 [#6]	< 0.0020	< 0.40	< 0.0020	476	0.102	0.0050	0.367	5.3	0.0023	326	0.128	0.148	< 0.010	0.019	3080	4300	0.183	< 0.0040	404	0.713	0.00174	0.121	< 0.00040	< 0.020	**7.82**
	12-Sep-2017	**5.91**	0.0012	0.0121	0.224	< 0.0020	< 0.40	< 0.0020	746	0.045	0.0068	0.343	5.9	0.0022	340	0.179	0.203	< 0.010	0.054	3330	4780	0.199	< 0.0040	436	1.07	0.00372	0.070	< 0.00040	< 0.020	**8.73**
	29-Aug-2018	0.22	< 0.0010	0.0153	0.189	< 0.0010	< 0.20	< 0.0010	482	0.098	0.0060	0.303	6.02	0.0014	343	0.123	0.257	0.0042	0.016	3350	4850	0.200	< 0.0010	407	0.703	0.00433	0.228	< 0.00040	< 0.020	**9.71**
(Duplicate)	29-Aug-2018	0.44	< 0.0010	0.0156	0.193	< 0.0010	< 0.20	< 0.0010	461	0.186	0.0062	0.274	6.74	0.0017	305	0.118	0.228	0.0043	0.014	3110	4450	0.188	< 0.0010	373	0.667	0.00443	0.225	< 0.00040	< 0.020	**8.81**
	05-Sep-2019	0.45	< 0.0010	0.0205	0.223	< 0.0010	< 0.20	< 0.0010	506	0.015	0.0069	0.338	5.00	< 0.0010	321	0.127	0.148	0.0057	< 0.010	3160	4280	0.169	< 0.0010	430	0.823	0.00269	0.302	< 0.00040	< 0.020	**6.89**
	29-Sep-2021	< 0.40	< 0.0020	0.0210	0.257	< 0.0020	< 0.20	< 0.0010	863	0.064	0.0177	0.289	5.92	0.0042	334	0.32	0.0854	< 0.0040	< 0.040	2990	4630	0.177	< 0.0010	453	---	0.00235	---	< 0.0040	< 0.020	**8.08**
(Duplicate)	29-Sep-2021	< 0.40	< 0.0020	0.0244	0.322	< 0.0020	< 0.20	< 0.0010	1290	0.058	0.0060	0.380	5.63	0.0053	329	0.27	0.0898	< 0.0040	< 0.040	3240	4580	0.178	< 0.0010	458	---	0.00246	---	< 0.0040	< 0.020	**9.57**
	12-Oct-2022	0.68	< 0.0020	0.0104	0.181	< 0.0020	< 0.20	< 0.0010	618	0.036	0.0125	0.259	4.95	0.0049	279	0.12	0.153	< 0.0040	< 0.040	2530	4080	0.150	< 0.0010	436	---	0.00176	---	< 0.0040	< 0.020	**5.38**
Brook Trout 4+	01-Sep-1987	0.8	0.81	< 0.05	0.6	< 0.1	< 1.0	**< 0.1**	413	**1.1**	1.5	**4.6**	29.1	**< 1.0**	1110	0.7	0.14	1.1	**31.5**	9480	15600	< 0.05	< 0.1	1605	0.6	< 0.3	< 1.0	< 1.0	0.5	**18.8**
	01-Sep-1988	**4.2**	0.1	< 0.05	0.4	< 0.1	< 1.0	**< 0.1**	490	< 0.1	< 0.1	1	7.1	**< 1.0**	550	< 0.4	0.42	< 0.1	**< 1.0**	4570	8900	0.05	< 0.1	950	0.6	< 0.3	< 1.0	< 0.05	< 1.0	**12**
	01-Sep-1989	**5.7**	< 0.01	< 0.01	< 1.0	< 0.1	< 1.0	**< 0.1**	1030	**1.1**	2	**9.5**	16.6	**< 1.0**	890	< 0.4	**0.81**	< 1.0	**5**	7680	14700	< 0.01	< 0.1	1640	2	0.2	2.7	< 20	0.4	**24.5**
	01-Sep-1990	**13**	0.01	< 0.01	15	< 0.1	< 1	**< 0.1**	1200	**3.3**	< 0.1	2.1	41	**1**	1200	0.9	0.23	< 0.1	0.2	10300	17700	< 0.01	1	1910	2.2	0.2	0.7	10	0.1	**22.6**
	05-Nov-1993	< 0.8	< 0.2	< 0.2	< 0.01	< 0.01	< 0.01	**< 0.08**	---	< 0.2	< 0.04	0.45	---	< 0.2	275	0.1	0.08	< 0.03	< 0.05	1990	---	< 0.2	< 0.02	---	0.3	< 0.1	< 0.3	---	< 0.02	**9.2**
	27-Jun-1998	**12.2**	< 0.1	**3.6**	< 1	0.31	< 1	**0.3**	363	**0.6**	(0.04)	< 0.02	13.2	0.09	292	< 0.1	0.1	0.17	**1.21**	2000	3300	**< 1**	< 0.01	574	0.8	< 0.1	< 0.3	< 0.04	< 0.1	**7.9**
	01-Sep-1999	< 0.7	< 0.1	< 0.5	< 1	0.2	< 1	**< 0.1**	689	**1.1**	(0.4)	1.5	15.9	**< 2**	610	0.3	0.11	(0.03)	< 0.5	5120	8630	**2**	0.4	806	0.8	< 0.02	< 0.3	< 50	1.1	**12.8**
	10-Sep-2001	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	280	**< 1**	< 1	(0.6)	10	**< 3**	322	< 0.4	0.335	< 0.02	**< 2**	2650	4530	**< 1**	< 0.3	529	(0.4)	< 0.02	< 1	< 0.04	< 0.6	**5.3**
	12-Oct-2006	**< 10**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	354	**< 1**	< 1	**< 5**	< 10	**< 1**	289	< 10	0.13	< 0.4	**< 1**	2520	4320	**< 0.5**	< 1	397	< 10	< 0.3	---	< 1	< 1	**12**
	01-Sep-2011	< 0.2	< 0.001	< 0.01	0.11	< 0.02	< 0.4	< 0.002	555	< 0.04	0.008	0.32	5	0.006	295	0.08	0.142	< 0.01	< 0.01	2650	4030	0.15	< 0.004	402	0.66	0.0033	0.3	< 0.0004	< 0.04	**4.75**
	02-Oct-2013	0.25	< 0.0010	< 0.010	0.191	< 0.020	< 0.40	< 0.0020	567	0.304	0.0053	0.342	8.4	0.0038	310	0.132	0.188	< 0.010	0.010	2780	4070	0.164	< 0.0040	377	0.892	0.00263	< 0.20	< 0.00040	< 0.040	**8.79**
	09-Oct-2014	< 0.20	< 0.0010	0.012	0.242	< 0.020	< 0.40	< 0.0020	511	0.170	0.0058	0.279	5.2	0.0027	320	0.111	0.267	< 0.010	0.018	2810	4230	0.141	< 0.0040	400	0.852	0.00185	< 0.20	< 0.00040	< 0.040	**10.1**
	23-Sep-2015	**2.95**	< 0.0010	0.0058	0.185	< 0.0020	< 0.40	< 0.0020	448	0.071	0.0051	0.874	5.6	0.0028	301	0.143	0.331	< 0.010	0.127	3070	4290	0.147	< 0.0040	400	0.628	0.00310	0.110	< 0.00040	< 0.020	**6.55**
(Replicate A)	23-Sep-2015	**4.51**	< 0.0010	0.0051	0.150	< 0.0020	< 0.40	< 0.0020	389	0.131	0.0044	3.11	6.5	0.0490	280	0.150	0.384	< 0.010	0.741	2910	4140	0.165	< 0.0040	407	0.567	0.00197	0.075	< 0.00040	< 0.020	**6.94**
	12-Sep-2017	**2.73**	< 0.0010	0.0068	0.192	< 0.0020	< 0.40	< 0.0020	627	0.194	0.0054	0.341	6.1	< 0.0020	307	0.136	0.204	< 0.010	0.037	3130	4580	0.182	< 0.0040	445	0.875	0.00245	< 0.050	< 0.00040	< 0.020	**10.0**
	29-Aug-2018	< 0.20	< 0.0010	0.0077	0.151	< 0.0010	< 0.20	< 0.0010	475	0.143	0.0057	0.286	5.85	0.0010	351	0.099	0.239	0.0055	0.026	3560	5250	0.189	< 0.0010	428	0.691	0.00383	0.270	< 0.00040	< 0.020	**5.18**
(Replicate A)	29-Aug-2018	0.26	< 0.0010	0.0082	0.111	< 0.0010	< 0.20	< 0.0010	406	0.208	0.0070	0.296	7.44	0.0018	324	0.114	0.191	0.0057	0.048	3260	4720	0.199	< 0.0010	397	0.522	0.00246	0.232	< 0.00040	< 0.020	**9.05**
(Replicate B)	29-Aug-2018	< 0.20	< 0.0010	0.0090	0.163	< 0.0010	< 0.20	< 0.0010	552	**1.19**	0.0114	0.287	14.0	0.0016	318	0.136	0.280	0.0080	0.049	3180	4460	0.179	< 0.0010	478	0.743	0.00329	0.238	< 0.00040	< 0.020	**7.74**
	28-Oct-2020	**2.09**	< 0.0010	0.0091	0.138	< 0.0010	< 0.20	< 0.0010	370	0.089	0.0045	0.330	5.35	0.0017	303	0.123	0.264	< 0.0040	0.011	2980	4500	0.148	< 0.0010	366	0.625	0.00248	0.248	< 0.00040	< 0.020	**7.64**

worley consulting

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	29-Sep-2021	0.42	< 0.0020	0.0159	0.188	< 0.0020	< 0.20	< 0.0010	413	0.041	0.0065	0.424	6.61	< 0.0040	298	0.12	0.237	< 0.0040	< 0.040	2720	4150	0.164	< 0.0010	477	---	0.00294	---	< 0.0040	< 0.020	**8.60**
Brook Trout 5+	01-Sep-1987	**20.4**	1.11	< 0.05	1.06	< 0.1	< 1.0	**< 0.1**	480	**0.9**	2.4	**6.6**	35.6	**< 1.0**	1225	1.2	0.15	< 0.1	**10.4**	10200	15700	< 0.05	< 0.1	1830	0.8	< 0.3	< 1.0	< 1.0	0.9	**18.1**
Chrystina Lake - Continued																														
	28-Oct-1992	**5**	< 0.05	< 0.05	0.2	< 0.1	9	**< 0.1**	---	0.2	< 0.1	0.4	---	< 0.1	300	< 0.4	0.39	< 0.1	< 0.5	2630	---	< 0.05	< 0.1	---	0.5	< 0.1	< 0.5	---	< 0.2	**4.7**
	05-Nov-1993	< 0.8	< 0.2	< 0.2	< 0.1	< 0.01	< 0.1	**< 0.08**	---	< 0.2	< 0.04	0.44	---	< 0.2	245	0.1	0.1	< 0.03	< 0.05	1700	---	< 0.2	< 0.2	---	0.3	< 0.1	< 0.3	---	< 0.02	**10.4**
	28-Sep-1994	1	< 0.2	< 0.2	< 1	< 0.1	< 1	< 0.02	160	0.3	< 0.1	0.3	6	< 0.1	260	< 0.1	0.2	2.4	< 0.5	2270	3830	< 0.2	< 0.2	410	< 0.2	0.1	< 0.3	< 50	< 0.2	**5.9**
	05-Oct-1995	< 1.0	< 0.2	< 0.2	< 1.0	< 0.1	< 1.0	**0.07**	410	< 0.2	< 0.1	0.5	3	< 0.1	318	0.1	0.16	< 0.3	< 0.5	3080	5110	< 0.2	< 0.2	463	0.6	---	< 0.3	< 50	< 0.2	**8.8**
	01-Sep-1999	< 0.7	< 0.1	< 0.5	< 1.0	0.2	(1)	**< 0.1**	358	**0.6**	< 0.3	2.1	10	**< 2**	635	0.2	0.1	< 0.02	< 0.5	5240	8900	**< 1.0**	0.4	753	(0.3)	< 0.02	< 0.3	< 50	1.3	**14.8**
	01-Sep-2000	1.1	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	311	**< 1**	< 1	(0.5)	7	**< 3**	266	< 0.4	0.14	< 0.02	**< 2**	2560	4160	**< 1.0**	< 0.3	435	(0.4)	< 0.02	< 1	< 50	< 0.6	**6.7**
	06-Sep-2002	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	290	**< 1**	< 1	< 0.4	6	**< 3**	249	< 0.4	0.08	< 0.02	**< 2**	2270	3310	**< 1**	< 0.3	430	< 0.4	< 0.02	< 1	< 0.04	< 0.6	**5.5**
	07-Sep-2003	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	378	**< 1**	< 1	< 0.4	5	**< 3**	263	< 0.4	0.116	< 0.02	**< 2**	2430	3630	**< 1**	< 0.3	415	< 0.4	< 0.02	< 1	< 0.04	< 0.6	**6.0**
	01-Sep-2004	**30**	< 0.1	(0.6)	2	< 0.7	< 2	< 0.02	4480	**< 1**	< 1	1.9	56.1	**< 3**	866	1.9	0.47	(0.03)	**< 2**	9220	11100	**< 1**	< 0.3	1480	5.1	< 0.02	< 1	< 0.04	< 0.6	**31.2**
	01-Sep-2005	**13**	< 0.1	< 0.5	< 0.7	(0.7)	< 2	< 0.02	595.33	**< 1**	(1)	1.03	11.67	**< 3**	259.33	(0.4)	0.17	(0.02)	**< 2**	2313.33	3883.33	**< 1**	< 0.3	610.67	0.77	(0.02)	(1)	< 0.04	(0.7)	**8.67**
	06-Sep-2006	**< 10**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	332	**< 1**	< 1	**< 5**	< 10	**< 1**	265	< 10	0.10	< 0.4	**< 1**	2440	4010	**< 0.5**	< 1	371	< 10	< 0.3	---	< 1	< 1	**11**
(Duplicate)	06-Sep-2006	**< 10**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	129	**1**	< 1	**< 5**	< 10	**< 1**	268	< 10	0.14	< 0.4	**< 1**	2200	3920	**< 0.5**	< 1	333	< 10	< 0.3	---	< 1	< 1	**12**
	11-Sep-2007	**67**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	279	**< 1**	< 1	**< 5**	< 10	**< 0.5**	232	< 10	0.19	< 0.4	**< 1**	1860	3180	**< 0.5**	< 1	366	< 10	< 0.3	---	< 1	< 1	**< 10**
	02-Oct-2013	< 0.20	< 0.0010	< 0.010	0.197	< 0.020	< 0.40	< 0.0020	459	0.226	0.0055	0.297	7.1	0.0059	303	0.117	0.250	< 0.010	< 0.010	2720	4180	0.138	< 0.0040	422	0.619	0.00239	< 0.20	< 0.00040	< 0.040	**7.58**
	23-Sep-2015	**3.99**	< 0.0010	< 0.0050	0.147	< 0.0020	< 0.40	< 0.0020	451	0.136	0.0053	3.19	7.2	0.0568	310	0.145	0.393	< 0.010	0.761	3020	4570	0.156	< 0.0040	434	0.631	0.00223	0.059	< 0.00040	< 0.020	**6.88**
	30-Aug-2016	< 0.20	< 0.0010	0.0144	0.184	< 0.0020	< 0.40	< 0.0020	590	0.189	0.0071	0.319	8.0	0.0050	331	0.128	0.197	< 0.010	0.056	3010	4250	0.200	< 0.0040	362	0.816	0.00142	0.143	0.00055	< 0.020	**11.3**
	12-Sep-2017	< 0.20	< 0.0010	0.0118	0.165	< 0.0020	< 0.40	< 0.0020	504	0.177	0.0059	0.324	6.3	< 0.0020	334	0.075	0.305	< 0.010	< 0.010	3230	4860	0.164	< 0.0040	495	0.653	0.00199	0.064	< 0.00040	< 0.020	**10.4**
	29-Sep-2021	**1.75**	< 0.0020	0.0091	0.124	< 0.0020	< 0.20	< 0.0010	766	0.063	0.0074	0.255	5.82	0.0093	339	0.15	0.222	< 0.0040	< 0.040	2920	4270	0.155	< 0.0010	487	---	0.00261	---	< 0.0040	< 0.020	**7.34**
Brook Trout 6+	27-Jun-1998	**4**	< 0.1	1.1	< 1	0.06	< 1	**< 0.1**	273	0.4	< 0.03	0.31	9	0.04	263	(0.1)	0.13	0.06	0.66	1990	3330	**< 1**	< 0.01	424	0.4	< 0.1	< 0.3	< 0.04	< 0.1	**8**
	10-Sep-2001	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	454	**< 1**	< 1	(0.6)	12.2	**< 3**	389	< 0.4	0.312	< 0.02	**< 2**	3320	5380	**< 1**	< 0.3	554	(0.7)	< 0.02	< 1	< 0.04	< 0.6	**8.5**
	01-Sep-2005	**< 10**	< 0.1	< 0.5	< 0.7	(0.7)	< 2	**(0.02)**	310.67	**< 1**	(1)	1.27	9.67	**< 3**	249.67	< 0.4	0.08	0.03	**< 2**	2103.33	3723.33	**< 1**	< 0.3	571.33	0.4	< 0.02	1	< 0.04	0.67	**8.13**
	11-Sep-2007	**108**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	185	**< 1**	< 1	**< 5**	< 10	**< 0.5**	265	< 10	0.21	< 0.4	**< 1**	2180	3700	**< 0.5**	< 1	315	< 10	< 0.3	---	< 1	< 1	**< 10**
Brook Trout 7+	10-Sep-2002	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	240	**< 1**	< 1	< 0.4	5	**< 3**	245	< 0.4	0.09	< 0.02	**< 2**	2300	3710	**< 1**	< 0.3	438	< 0.4	< 0.02	< 1	< 0.04	< 0.6	**5.6**
(Duplicate)	10-Sep-2002	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	353	**< 1**	< 1	< 0.4	5	**< 3**	240	< 0.4	0.09	< 0.02	**< 2**	2430	3680	**< 1**	< 0.3	412	< 0.4	< 0.02	< 1	< 0.04	< 0.6	**6.2**
	01-Sep-2003	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	332	**< 1**	< 1	< 0.4	5	**< 3**	262	< 0.4	0.19	< 0.02	**< 2**	2590	3850	**< 1**	< 0.3	389	< 0.4	< 0.02	< 1	< 0.04	< 0.6	**5.3**
(Duplicate)	01-Sep-2003	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	380	**< 1**	< 1	< 0.4	5	**< 3**	260	< 0.4	0.17	< 0.02	**< 2**	2590	3810	**< 1**	< 0.3	389	< 0.4	< 0.02	< 1	< 0.04	< 0.6	**5.6**
	01-Sep-2004	**50**	< 0.1	< 0.5	1.6	< 0.7	< 2	**0.06**	1830	**< 1**	< 1	3	73.2	**< 3**	859	1.7	**0.62**	0.04	**< 2**	8780	12000	**< 1**	< 0.3	1340	2.5	< 0.02	(1)	< 0.04	< 0.6	**47**
Brook Trout 7+ (Duplicate)	01-Sep-2004	**116**	< 0.1	< 0.5	1.9	< 0.7	< 2	< 0.02	2000	**(1)**	< 1	1.9	144	**< 3**	1090	6.2	**0.73**	0.06	**< 2**	10600	15800	**< 1**	< 0.3	1570	2.7	< 0.02	4	< 0.04	< 0.6	**23.5**
	01-Sep-2005	**< 10**	< 0.1	< 0.5	< 0.7	(0.7)	< 2	< 0.02	186	**< 1**	< 1	0.4	14	**< 3**	249	0.4	0.25	0.02	**< 2**	2190	3740	**< 1**	< 0.3	585	0.4	< 0.02	(1)	< 0.04	(0.6)	**6.9**
(Duplicate)	01-Sep-2005	**< 10**	< 0.1	< 0.5	< 0.7	0.9	< 2	< 0.02	436	**< 1**	< 1	1.9	14	**< 3**	290	2.7	0.3	0.05	**< 2**	2370	4290	**< 1**	< 0.3	597	0.7	< 0.02	(1)	< 0.04	1.2	**9.9**
(Duplicate)	01-Sep-2005	---	---	---	---	1.1	---	---	346	---	---	1.8	8	---	261	0.4	---	0.02	---	2170	4130	---	---	560	0.5	---	---	---	0.8	**8.8**
(Duplicate)	01-Sep-2005	---	---	---	---	(0.7)	---	---	232	---	---	0.4	5	---	224	---	0.04	---	---	2010	3360	---	---	546	0.4	---	---	---	(0.6)	**8.2**
	11-Sep-2007	**79**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	402	**< 1**	< 1	**< 5**	< 10	**< 0.5**	287	< 10	0.20	< 0.4	**< 1**	2330	4130	**< 0.5**	< 1	444	< 10	< 0.3	---	< 1	< 1	**< 10**
(Duplicate)	11-Sep-2007	**82**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	341	**< 1**	< 1	**< 5**	< 10	**< 0.5**	260	< 10	0.09	< 0.4	**< 1**	2090	3470	**< 0.5**	< 1	385	< 10	< 0.3	---	< 1	< 1	**< 10**
Brook Trout 9+	01-Sep-2004	**75**	< 0.1	< 0.5	1.8	< 0.7	< 2	< 0.02	1210	**< 1**	< 1	1.7	122	**< 3**	1070	3	**0.82**	0.06	**< 2**	9130	13700	**2**	< 0.3	1630	1.4	< 0.02	2	< 0.04	< 0.6	**36.3**
Brook Trout 11+	11-Sep-2007	**107**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	196	**< 1**	< 1	**< 5**	< 10	**< 0.5**	268	< 10	0.18	< 0.4	**< 1**	2130	3760	**< 0.5**	< 1	376	< 10	< 0.3	---	< 1	< 1	**< 10**
Brook Trout 12+	11-Sep-2007	**41**	< 1	< 1	< 10	< 0.4	2	**< 0.1**	423	**< 1**	< 1	**< 5**	< 10	**< 0.5**	291	< 10	0.21	< 0.4	**< 1**	1890	3270	**< 0.5**	< 1	506	< 10	< 0.3	---	< 1	< 1	**< 10**
Brook Trout Unknown	23-Jul-2008	**18**	< 1	< 1	< 10	< 0.4	3	**< 0.1**	520	**< 1**	< 1	**< 5**	11	**< 0.5**	320	< 10	---	< 0.4	**< 1**	2600	4300	**< 0.5**	< 1	450	< 10	< 0.3	---	---	< 1	**10**
(Duplicate)	23-Jul-2008	**18**	< 1	< 1	< 10	< 0.4	2	**< 0.1**	540	**1**	< 1	**< 5**	< 10	**< 0.5**	320	< 10	< 0.05	< 0.4	**< 1**	2600	4200	**0.5**	< 1	440	< 10	< 0.3	---	< 1	< 1	**< 10**
	23-Jul-2008	**46**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	650	**< 1**	< 1	**< 5**	< 10	**< 0.5**	290	< 10	< 0.05	< 0.4	**< 1**	2400	3800	**< 0.5**	< 1	480	< 10	< 0.3	---	< 1	< 1	**< 10**
	23-Jul-2008	**38**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	800	**< 1**	< 1	**< 5**	< 10	**< 0.5**	300	< 10	< 0.05	< 0.4	**< 1**	2700	3900	**< 0.5**	< 1	480	< 10	< 0.3	---	< 1	< 1	**< 10**
	23-Jul-2008	**45**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	810	**< 1**	< 1	**< 5**	< 10	**< 0.5**	320	< 10	0.08	< 0.4	**< 1**	2800	4200	**< 0.5**	< 1	430	< 10	< 0.3	---	< 1	< 1	**< 10**

worley consulting

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	23-Jul-2008	**36**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	1100	**< 1**	< 1	**< 5**	< 10	**< 0.5**	310	< 10	0.09	< 0.4	**< 1**	2700	3900	**< 0.5**	< 1	450	< 10	< 0.3	---	< 1	< 1	**< 10**
	12-Oct-2022	< 0.40	< 0.0020	0.0097	0.062	< 0.0020	< 0.20	< 0.0010	220	< 0.010	0.0089	0.386	5.01	0.0077	289	0.25	0.145	< 0.0040	< 0.040	2480	4020	0.146	< 0.0010	328	---	0.00383	---	< 0.0040	< 0.020	**5.80**
White Sucker 1+	09-Oct-2014	0.55	< 0.0010	0.132	4.04	< 0.020	< 0.40	< 0.0020	5710	0.177	0.0052	0.377	7.5	0.0062	420	2.17	0.254	< 0.010	0.015	5330	4290	0.200	< 0.0040	600	6.62	0.00240	< 0.20	0.00045	< 0.040	**20.1**
Chrystina Lake - Continued																														
White Sucker 2+	09-Oct-2014	**4.28**	0.0010	0.077	1.68	< 0.020	< 0.40	< 0.0020	2250	0.522	0.0087	0.386	14.7	0.0040	364	1.39	0.264	0.016	0.671	3340	4030	0.158	< 0.0040	725	2.38	0.00085	< 0.20	< 0.00040	< 0.040	**12.3**
White Sucker 5+	26-Jun-1997	**6**	< 0.1	1.3	0.6	< 0.02	< 1	**< 0.1**	869	**0.7**	0.4	1	13	**0.5**	277	0.4	0.21	< 0.02	< 0.05	2290	3940	**< 1**	< 0.01	758	0.9	< 0.1	0.5	< 0.04	0.2	**10.7**
White Sucker 6+	26-Jun-1997	**4.4**	< 0.1	1.4	0.7	< 0.02	< 1	**< 0.1**	645	0.4	0.3	0.8	7	0.3	279	0.5	0.22	0.1	< 0.05	2270	4140	**1.7**	< 0.01	565	0.7	< 0.1	0.3	< 0.04	0.1	**8.4**
	25-Jun-1998	**3**	< 0.1	**2.8**	< 1	0.1	< 1	**(0.1)**	488	< 0.2	(0.05)	0.75	13.2	< 0.02	324	0.4	0.17	< 0.02	0.34	1920	3300	**< 1**	< 0.01	668	0.6	< 0.1	< 0.3	< 0.04	< 0.1	**9.3**
	01-Sep-2004	**27**	< 0.1	< 0.5	4	< 0.7	< 2	**(0.036)**	5190	**< 1**	< 1	2.5	57.9	**< 3**	1090	3	**0.57**	0.05	**< 2**	11300	15900	**< 1**	< 0.3	2370	5.2	(0.02)	< 1	< 0.04	< 0.6	**58**
	11-Sep-2007	**112**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	3420	**< 1**	< 1	**< 5**	< 10	**< 0.5**	266	< 10	0.27	< 0.4	**< 1**	3270	3200	**< 0.5**	< 1	481	< 10	< 0.3	---	< 1	< 1	**13**
	11-Aug-2009	**140**	< 1	< 1	< 10	< 0.4	5	**< 0.1**	4600	**< 1**	< 1	**< 5**	< 10	**< 0.5**	380	< 10	0.14	< 0.4	**< 1**	4500	4200	**< 0.5**	< 1	520	< 10	< 0.3	---	< 1	< 1	**24**
White Sucker 7+	11-Sep-2007	**99**	< 1	< 1	11	< 0.4	< 2	**< 0.1**	18900	**< 1**	< 1	**< 5**	< 10	**< 0.5**	547	12	0.20	< 0.4	**< 1**	10600	2530	**< 0.5**	< 1	839	23	< 0.3	---	< 1	< 1	**31**
White Sucker 8+	25-Jun-1998	**13.5**	< 0.1	**5.7**	< 1	0.23	3	**0.2**	1030	(0.3)	(0.05)	0.34	16.4	0.3	332	1.1	0.22	< 0.02	0.56	2230	3480	**< 1**	< 0.01	707	1.3	< 0.1	< 0.3	< 0.04	< 0.1	**8.2**
	11-Sep-2007	**36**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	1550	**< 1**	< 1	**< 5**	< 10	**< 0.5**	245	< 10	0.26	< 0.4	**< 1**	2420	3280	**< 0.5**	< 1	429	< 10	< 0.3	---	< 1	< 1	**10**
	11-Aug-2009	**140**	< 1	< 1	< 10	< 0.4	4	**< 0.1**	7700	**< 1**	< 1	**< 5**	< 10	**< 0.5**	440	< 10	0.13	< 0.4	**< 1**	6100	3800	**< 0.5**	< 1	560	11	< 0.3	---	< 1	< 1	**29**
White Sucker 9+	01-Sep-2004	**26**	< 0.1	(0.9)	7.7	< 0.7	< 2	**0.25**	17000	**(1)**	< 1	**4**	70	**< 3**	1220	9.9	**1.42**	0.07	**< 2**	18700	18800	**< 1**	< 0.3	3750	17.5	< 0.02	(1)	< 0.04	< 0.6	**61.4**
	11-Sep-2007	**93**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	2790	**< 1**	< 1	**< 5**	< 10	**< 0.5**	289	< 10	0.27	< 0.4	**< 1**	3180	3770	**< 0.5**	< 1	462	< 10	< 0.3	---	< 1	< 1	**14**
White Sucker 10+	11-Aug-2009	**140**	< 1	< 1	< 10	< 0.4	2	**< 0.1**	10000	**< 1**	< 1	**< 5**	13	**< 0.5**	480	< 10	0.18	< 0.4	**< 1**	7200	3700	**< 0.5**	< 1	690	12	< 0.3	---	< 1	< 1	**30**
White Sucker 11+	01-Sep-2004	**64**	< 0.1	< 0.5	5.2	(0.8)	(3)	< 0.02	2210	**(1)**	< 1	**3.7**	134	**< 3**	943	3.7	**1.79**	0.09	**< 2**	8820	14600	**< 1**	< 0.3	3190	2.2	< 0.02	2	< 0.04	< 0.6	**66.4**
	11-Aug-2009	**140**	< 1	< 1	< 10	< 0.4	5	**< 0.1**	5100	**< 1**	< 1	**< 5**	< 10	**< 0.5**	370	< 10	0.25	< 0.4	**< 1**	4900	4000	**< 0.5**	< 1	710	< 10	< 0.3	---	< 1	< 1	**25**
White Sucker Large	28-Oct-1992	< 1	< 0.05	< 0.05	0.2	< 0.1	4	**< 0.1**	---	0.1	< 0.1	0.9	---	< 0.1	243	< 0.4	0.19	< 0.1	< 0.5	1890	---	< 0.05	< 0.1	---	< 0.5	< 0.1	< 0.2	---	< 0.2	**6.4**
	05-Nov-1993	< 0.8	< 0.2	< 0.2	< 1	< 0.01	< 0.01	**< 0.08**	---	< 0.2	< 0.04	0.35	---	< 0.2	255	0.2	0.32	< 0.03	< 0.5	1940	---	< 0.2	< 0.02	---	< 0.2	< 0.1	< 0.3	---	< 0.02	**4.6**
	28-Sep-1994	< 1	< 0.2	< 0.2	< 1	< 0.1	< 1	**0.02**	240	0.2	< 0.1	0.4	8	< 0.1	240	0.2	0.29	< 0.3	< 0.5	2240	3760	< 0.2	< 0.2	450	< 0.2	< 0.1	< 0.3	< 50	< 0.2	**7.5**
	05-Oct-1995	1	< 0.2	< 0.2	3	< 0.1	< 1	**0.07**	3770	< 0.2	< 0.1	0.7	5	< 0.1	349	2.5	0.12	< 0.3	< 0.5	4380	4770	< 0.2	< 0.2	471	4.5	---	< 0.3	< 50	< 0.2	**11.4**
	07-Sep-1996	**3.1**	< 0.02	0.1	0.7	< 0.02	< 1	< 0.02	236	**5.25**	< 0.03	0.7	8	0.02	308	0.4	0.21	0.05	0.47	2210	4850	< 0.1	< 0.01	446	0.54	< 0.02	3.07	< 0.04	1	**6.27**
White Sucker Medium	01-Sep-1990	**13**	0.01	< 0.01	21	0.1	22	**< 0.1**	15800	**3.6**	0.3	2.8	44	**< 1**	1380	9.8	0.18	< 0.1	0.4	16500	16000	< 0.01	< 1	2060	23	0.1	0.5	< 5	0.1	**42.4**
	24-Sep-1991	**16**	0.08	0.4	2	0.2	< 1	**< 0.1**	850	**2**	< 0.1	2	44	**1**	1250	1.5	0.47	< 0.1	**< 1**	10500	20400	0.04	0.4	2300	< 1	< 0.1	2.5	7	1	**30.9**
	28-Oct-1992	< 1	< 0.05	< 0.05	0.8	< 0.1	1	**< 0.1**	---	0.2	< 0.1	0.4	---	< 0.1	269	< 0.4	0.17	< 0.1	< 0.5	2680	---	< 0.05	< 0.01	---	2.2	< 0.1	< 0.2	---	< 0.1	**9.2**
	05-Nov-1993	< 0.8	< 0.2	< 0.2	< 1	< 0.01	< 1	**< 0.08**	---	< 0.2	< 0.04	0.32	---	< 0.2	275	0.2	0.11	< 0.03	< 0.05	1930	---	< 0.2	< 0.2	---	< 0.2	< 0.1	< 0.3	---	< 0.02	**5.7**
White Sucker Small	28-Oct-1992	**4**	< 0.05	< 0.05	0.8	< 0.1	9	**< 0.1**	---	0.3	< 0.1	1.2	---	< 0.1	263	< 0.4	0.1	< 0.1	< 0.5	1910	---	< 0.05	0.1	---	< 0.5	< 0.1	< 0.5	---	< 0.2	**10.3**
	05-Nov-1993	< 0.8	< 0.2	< 0.2	< 1	< 0.01	< 0.1	**< 0.08**	---	< 0.2	< 0.04	0.31	---	< 0.2	247	0.4	0.04	< 0.03	< 0.05	1670	---	< 0.2	< 0.02	---	0.3	< 0.1	< 0.3	---	< 0.02	**8.2**
	05-Oct-1995	< 1	< 0.2	< 0.2	2	< 0.1	< 1	**0.07**	1850	0.2	< 0.1	0.4	3	< 0.1	312	2.1	0.1	< 0.3	< 0.5	3270	4680	< 0.2	< 0.2	281	2.4	---	< 0.3	< 50	< 0.2	**8.6**
	07-Sep-1996	**3.4**	< 0.02	0.2	0.8	< 0.02	< 1	< 0.02	523	**4.76**	0.03	0.6	7	0.02	303	0.5	0.17	0.05	0.17	2220	4610	**0.4**	< 0.01	370	0.75	< 0.02	3.59	< 0.04	0.7	**4.7**
Edith Lake																														
Brook Trout 1+	12-Aug-2009	**120**	< 1	< 1	< 10	< 0.4	10	**< 0.1**	500	**< 1**	< 1	**< 5**	< 10	**< 0.5**	310	< 10	< 0.05	< 0.4	**< 1**	2700	4400	**< 0.5**	< 1	530	< 10	< 0.3	---	< 1	< 1	**16**
	01-Sep-2011	0.6	< 0.001	0.26	0.05	< 0.02	< 0.4	< 0.002	296	< 0.04	0.011	0.37	4	0.010	276	0.21	0.031	< 0.01	< 0.01	2280	3850	**0.26**	< 0.004	445	0.47	0.0030	0.2	< 0.0004	< 0.04	**5.81**
(Duplicate)	01-Sep-2011	0.2	< 0.001	0.27	0.12	< 0.02	< 0.4	< 0.002	964	< 0.04	0.010	0.40	4	0.003	287	0.47	0.033	< 0.01	< 0.01	2690	3880	0.24	< 0.004	442	1.16	0.0029	0.3	< 0.0004	< 0.04	**7.10**
	01-Sep-2012	0.29	< 0.0010	0.181	0.428	< 0.020	< 0.40	< 0.0020	1390	< 0.040	0.0098	0.320	4.9	0.0044	299	0.670	0.0269	< 0.010	0.011	2910	3780	**0.257**	< 0.0040	491	2.61	0.00269	0.22	< 0.00040	< 0.040	**10.1**
	23-Sep-2015	**2580**	0.0014	0.181	0.239	< 0.0020	< 0.40	< 0.0020	596	0.540	0.0105	1.28	26.4	0.0865	307	17.6	0.0602	0.018	0.802	2750	4320	**0.261**	< 0.0040	483	1.20	0.00183	0.604	0.00133	0.176	**9.15**
	30-Aug-2016	0.20	< 0.0010	0.244	0.140	< 0.0020	< 0.40	< 0.0020	543	0.286	0.0180	0.343	7.6	0.0028	320	0.339	0.0444	< 0.010	0.037	2870	4310	**0.288**	< 0.0040	462	0.914	0.00211	0.113	0.00068	< 0.020	**9.17**
	13-Sep-2017	0.38	< 0.0010	0.227	0.212	< 0.0020	< 0.40	< 0.0020	983	0.362	0.0099	0.357	7.4	0.0024	331	0.541	0.0306	< 0.010	0.016	3190	4510	**0.313**	< 0.0040	489	1.38	0.00237	0.087	< 0.00040	< 0.020	**10.0**

worley consulting

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	29-Aug-2018	0.81	< 0.0010	0.191	0.195	< 0.0010	< 0.20	< 0.0010	609	0.301	0.0133	0.375	8.41	0.0035	302	0.494	0.0213	0.0047	0.025	2960	4220	**0.308**	< 0.0010	439	0.875	0.00190	0.231	< 0.00040	< 0.020	**9.74**
(Replicate A)	06-Sep-2019	0.22	< 0.0010	0.228	0.146	< 0.0010	< 0.20	< 0.0010	553	0.296	0.0163	0.446	6.77	0.0038	305	0.403	0.0287	0.0062	0.017	2700	3780	**0.322**	< 0.0010	499	0.802	0.00193	0.265	< 0.00040	< 0.020	**10.1**
(Replicate B)	06-Sep-2019	0.25	< 0.0010	0.226	0.171	< 0.0010	< 0.20	< 0.0010	832	0.308	0.0128	0.476	7.36	0.0022	300	0.548	0.0306	< 0.0040	0.015	2860	3700	**0.309**	< 0.0010	544	1.26	0.00211	0.259	< 0.00040	< 0.020	**8.96**
	28-Oct-2020	**2.68**	< 0.0010	0.255	0.147	< 0.0010	< 0.20	< 0.0010	571	0.230	0.0087	0.335	6.22	0.0019	276	0.326	0.027	0.0119	< 0.010	2780	4390	**0.288**	< 0.0010	424	1.02	0.00210	0.206	< 0.00040	< 0.020	**9.34**
Edith Lake - Continued																														
	30-Sep-2021	< 0.40	< 0.0020	0.0132	0.937	< 0.0020	< 0.20	< 0.0010	3290	0.139	0.0234	0.321	5.11	0.0059	366	0.93	0.247	< 0.0040	< 0.040	4340	4520	0.144	< 0.0010	453	---	0.00201	---	< 0.0040	< 0.020	**6.02**
	13-Oct-2022	0.53	< 0.0020	0.239	0.239	< 0.0020	< 0.20	< 0.0010	532	0.148	0.0090	0.409	6.10	0.0104	294	0.33	0.0660	< 0.0040	< 0.040	2620	4330	0.213	< 0.0010	572	---	0.00204	---	< 0.0040	< 0.020	**7.79**
Brook Trout 2+	12-Aug-2009	**130**	< 1	< 1	< 10	< 0.4	2	**< 0.1**	510	**< 1**	< 1	**< 5**	10	**< 0.5**	290	< 10	< 0.05	< 0.4	**< 1**	2700	4300	**< 0.5**	< 1	540	< 10	< 0.3	---	< 1	< 1	**15**
	12-Aug-2010	**1.5**	< 0.001	0.06	0.22	< 0.02	< 0.4	< 0.002	506	< 0.04	0.014	0.29	5	< 0.002	360	0.29	0.110	< 0.01	< 0.01	3480	4890	0.16	< 0.004	458	1.27	0.0024	< 0.2	< 0.0004	< 0.04	**10.3**
	01-Sep-2011	< 0.2	< 0.001	< 0.01	0.03	< 0.02	< 0.4	< 0.002	167	< 0.04	0.011	0.35	4	0.004	289	0.10	0.108	< 0.01	< 0.01	2400	3990	0.15	< 0.004	375	0.31	0.0024	0.2	< 0.0004	< 0.04	**6.03**
	01-Sep-2012	0.27	< 0.0010	0.014	0.303	< 0.020	< 0.40	< 0.0020	572	< 0.040	0.0213	0.260	4.9	0.0027	306	0.428	0.178	< 0.010	0.027	2620	4210	0.187	< 0.0040	391	1.34	0.00243	0.24	< 0.00040	< 0.040	**8.08**
	02-Oct-2013	0.28	< 0.0010	0.039	0.295	< 0.020	< 0.40	< 0.0020	758	0.321	0.0098	0.315	8.7	0.0096	284	0.375	0.128	< 0.010	0.013	2650	3830	0.168	< 0.0040	404	1.53	0.00223	< 0.20	< 0.00040	< 0.040	**10.6**
	09-Oct-2014	**36.5** [#7]	< 0.0010	0.012	0.245	< 0.020	< 0.40	< 0.0020	643	0.487	0.0599	0.318	9.0	0.0028	357	0.601 [#7]	0.138	0.015	0.114	3100	4720	0.172	< 0.0040	413	1.35	0.00359	< 0.20	< 0.00040	< 0.040	**11.6**
(Replicate A)	09-Oct-2014	0.39	< 0.0010	0.011	0.409	< 0.020	< 0.40	< 0.0020	765	**1.17**	0.0083	0.295	14.1	0.0068	320	0.333	0.195	< 0.010	0.044	2920	4230	0.155	< 0.0040	410	1.90	0.00146	< 0.20	< 0.00040	< 0.040	**10.6**
(Replicate B)	09-Oct-2014	0.33	< 0.0010	0.023	0.321	< 0.020	< 0.40	< 0.0020	706	0.262	0.0771	0.281	7.7	0.0042	374	0.449	0.130	< 0.010	0.019	3320	4920	0.208	< 0.0040	536	1.31	0.00383	< 0.20	< 0.00040	< 0.040	**9.27**
	23-Sep-2015	0.86	< 0.0010	0.0141	0.343	< 0.0020	< 0.40	< 0.0020	596	0.073	0.0061	0.325	4.5	< 0.0020	315	0.281	0.119	< 0.010	< 0.010	3130	4720	0.153	< 0.0040	411	1.76	0.00124	< 0.050	< 0.00040	< 0.020	**8.08**
	30-Aug-2016	0.24	< 0.0010	0.0436	0.297	< 0.0020	< 0.40	< 0.0020	659	0.127	0.0227	0.292	6.3	0.0022	327	0.557	0.0861	< 0.010	0.051	3030	4200	0.238	< 0.0040	382	1.54	0.00224	0.141	0.00052	< 0.020	**13.4**
	13-Sep-2017	0.74	< 0.0010	0.0690	0.320	< 0.0020	< 0.40	< 0.0020	701	0.159	0.0077	0.352	7.4	0.0028	320	0.445	0.151	< 0.010	< 0.010	3160	4610	0.191	< 0.0040	495	1.51	0.00201	0.073	< 0.00040	< 0.020	**10.1**
	29-Aug-2018	0.62	< 0.0010	0.0621	0.249	< 0.0010	< 0.20	< 0.0010	638	0.142	0.0159	0.298	7.42	0.0020	311	0.507	0.165	0.0044	0.017	3120	4540	0.206	< 0.0010	483	1.31	0.00344	0.242	< 0.00040	< 0.020	**9.23**
(Replicate A)	06-Sep-2019	**1.82**	< 0.0010	0.0594	0.292	< 0.0010	< 0.20	< 0.0010	797	0.038	0.0299	0.267	5.88	0.0028	303	0.616	0.0744	< 0.0040	0.012	2900	4090	0.244	< 0.0010	529	1.61	0.00364	0.289	< 0.00040	< 0.020	**9.98**
(Replicate B)	06-Sep-2019	**1.21**	< 0.0010	0.0474	0.429	< 0.0010	< 0.20	< 0.0010	651	0.075	0.0296	0.304	6.19	0.0032	294	0.709	0.0876	0.0042	0.011	2790	3760	0.234	< 0.0010	508	1.62	0.00367	0.274	< 0.00040	< 0.020	**10.4**
	28-Oct-2020	< 0.20	< 0.0010	0.0793	0.223	< 0.0010	< 0.20	< 0.0010	603	**0.854**	0.0210	0.255	11.7	0.0032	283	0.383	0.108	0.0076	0.026	2910	4410	0.248	< 0.0010	398	1.29	0.00411	0.226	< 0.00040	< 0.020	**9.10**
	30-Sep-2021	< 0.40	< 0.0020	0.0160	0.246	< 0.0020	< 0.20	0.0014	906	0.025	< 0.0040	0.253	6.52	< 0.0040	284	0.29	0.370	< 0.0040	< 0.040	2800	4210	0.123	< 0.0010	426	---	0.00101	---	< 0.0040	< 0.020	**5.61**
	13-Oct-2022	< 0.40	< 0.0020	0.0172	0.711	< 0.0020	< 0.20	< 0.0010	1640	0.077	0.0153	0.251	4.81	< 0.0040	336	0.67	0.140	< 0.0040	< 0.040	3390	4550	0.127	< 0.0010	466	---	0.00186	---	< 0.0040	< 0.020	**10.2**
Brook Trout 3+	12-Aug-2010	0.3	< 0.001	0.04	0.28	< 0.02	< 0.4	< 0.002	684	< 0.04	0.012	0.36	5	< 0.002	355	0.47	0.119	< 0.01	0.01	3550	4670	0.15	< 0.004	466	1.74	0.0020	< 0.2	< 0.0004	< 0.04	**10.6**
	01-Sep-2011	< 0.2	< 0.001	< 0.01	0.08	< 0.02	< 0.4	< 0.002	398	< 0.04	0.032	0.39	6	0.002	304	0.18	0.150	< 0.01	< 0.01	2610	4090	0.14	< 0.004	496	0.87	0.0035	0.3	< 0.0004	< 0.04	**5.00**
	01-Sep-2012	0.35	< 0.0010	< 0.010	0.244	< 0.020	< 0.40	< 0.0020	393	< 0.040	0.0170	0.181	5.0	0.0027	274	0.230	0.216	< 0.010	< 0.010	2240	3570	0.121	< 0.0040	358	1.03	0.00157	0.24	< 0.00040	< 0.040	**5.46**
(Replicate A)	02-Oct-2013	0.22	< 0.0010	0.013	0.268	< 0.020	< 0.40	< 0.0020	712	0.122	0.0058	0.293	7.8	0.0056	296	0.339	0.251	< 0.010	0.011	2700	4040	0.131	< 0.0040	465	1.60	0.00204	< 0.20	< 0.00040	< 0.040	**8.30**
(Replicate B)	02-Oct-2013	0.37	< 0.0010	0.012	0.274	< 0.020	< 0.40	< 0.0020	782	0.114	0.0073	0.240	6.9	0.0056	304	0.380	0.243	< 0.010	< 0.010	2590	3840	0.150	< 0.0040	399	1.68	0.00195	< 0.20	< 0.00040	< 0.040	**6.90**
(Duplicate)	02-Oct-2013	0.20	< 0.0010	0.010	0.241	< 0.020	< 0.40	< 0.0020	620	0.144	0.0057	0.289	7.8	0.0044	290	0.283	0.253	< 0.010	< 0.010	2600	3950	0.125	< 0.0040	458	1.37	0.00188	< 0.20	< 0.00040	< 0.040	**7.78**
	09-Oct-2014	**1.54**	< 0.0010	0.016	0.205	< 0.020	< 0.40	< 0.0020	548	0.204	0.0089	0.282	7.2	< 0.0020	291	0.230	0.303	< 0.010	**2.28**	2820	4370	0.146	< 0.0040	404	1.17	0.00223	< 0.20	< 0.00040	< 0.040	**7.10**
(Replicate A)	09-Oct-2014	0.23	< 0.0010	0.018	0.316	< 0.020	< 0.40	< 0.0020	678	0.431	0.0088	0.273	7.7	0.0024	340	0.343	0.206	< 0.010	0.019	3050	4410	0.175	< 0.0040	466	1.49	0.00302	< 0.20	< 0.00040	< 0.040	**9.56**
(Replicate B)	09-Oct-2014	0.70	< 0.0010	0.024	0.639	< 0.020	< 0.40	< 0.0020	2110	0.521	0.0092	0.284	10.6	0.0055	390	0.750	0.211	< 0.010	0.024	3750	4820	0.182	< 0.0040	619	4.10	0.00283	< 0.20	< 0.00040	< 0.040	**14.6**
	23-Sep-2015	0.63	< 0.0010	0.0058	0.269	< 0.0020	< 0.40	< 0.0020	588	0.067	0.0042	0.332	5.2	< 0.0020	273	0.310	0.184	< 0.010	0.026	2890	4300	0.133	< 0.0040	382	1.53	0.00076	0.080	< 0.00040	< 0.020	**8.29**
(Duplicate)	23-Sep-2015	**26.6**	< 0.0010	0.0068	0.268	< 0.0020	< 0.40	< 0.0020	585	0.053	0.0041	0.345	5.8	0.0023	281	0.527	0.187	< 0.010	0.037	2780	4130	0.135	< 0.0040	374	1.51	0.00076	< 0.050	< 0.00040	< 0.020	**8.42**
	30-Aug-2016	0.41	< 0.0010	0.0054	0.364	< 0.0020	< 0.40	< 0.0020	586	0.177	0.0205	0.297	6.4	0.0025	326	0.438	0.171	< 0.010	0.043	3100	4420	0.168	< 0.0040	395	1.51	0.00266	0.135	0.00087	< 0.020	**8.10**
	13-Sep-2017	**1.88**	< 0.0010	0.0117	0.402	< 0.0020	< 0.40	< 0.0020	743	0.095	0.0055	0.289	5.7	< 0.0020	325	0.426	0.182	< 0.010	0.068	3170	4600	0.143	< 0.0040	496	1.94	0.00257	< 0.050	< 0.00040	< 0.020	**9.41**
(Duplicate)	13-Sep-2017	**2.05**	< 0.0010	0.0122	0.436	< 0.0020	< 0.40	< 0.0020	843	0.404	0.0059	0.305	8.6	< 0.0020	330	0.499	0.199	< 0.010	0.060	3330	4660	0.152	< 0.0040	509	2.17	0.00277	< 0.050	< 0.00040	< 0.020	**9.80**
	29-Aug-2018	1.06	< 0.0010	0.0193	0.349	< 0.0010	< 0.20	< 0.0010	1190	0.316	0.0213	0.293	9.18	0.0043	307	0.468	0.219	0.0062	0.033	3410	4410	0.148	< 0.0010	379	2.15	0.00301	0.269	< 0.00040	< 0.020	**8.70**
	06-Sep-2019	0.84	< 0.0010	0.0218	0.209	< 0.0010	< 0.20	< 0.0010	512	0.180	0.0127	0.333	6.94	0.0023	306	0.360	0.204	0.0071	0.010	2840	3900	0.175	< 0.0010	532	1.12	0.00282	0.287	< 0.00040	< 0.020	**8.28**
(Duplicate)	06-Sep-2019	0.65	< 0.0010	0.0216	0.195	< 0.0010	< 0.20	< 0.0010	533	0.069	0.0121	0.329	5.45	0.0020	312	0.348	0.189	0.0073	< 0.010	2940	4010	0.173	< 0.0010	537	1.13	0.00272	0.273	< 0.00040	< 0.020	**7.85**
	28-Oct-2020	0.87	< 0.0010	0.0135	0.352	< 0.0010	< 0.20	< 0.0010	676	0.476	0.0204	0.264	8.04	0.0027	304	0.514	0.183	0.0167	0.017	3070	4380	0.201	< 0.0010	342	1.62	0.00355	0.239	< 0.00040	< 0.020	**9.02**
(Duplicate)	28-Oct-2020	< 0.20	< 0.0010	0.0789	0.245	< 0.0010	< 0.20	< 0.0010	732	**0.847**	0.0219	0.313	12.2	0.0032	283	0.410	0.107	0.0075	0.028	3030	4420	**0.250**	< 0.0010	411	1.54	0.00433	0.220	< 0.00040	< 0.020	**8.72**
	30-Sep-2021	< 0.40	< 0.0020	0.0243	0.255	< 0.0020	< 0.20	< 0.0010	454	0.070	0.0041	0.257	5.37	< 0.0040	313	0.32	0.207	< 0.0040	< 0.040	2770	4620	0.133	< 0.0010	373	---	0.00097	---	< 0.0040	< 0.020	**5.10**
	13-Oct-2022	< 0.40	< 0.0020	0.0069	0.179	< 0.0020	< 0.20	< 0.0010	348	0.048	0.0066	0.356	6.17	0.0044	286	0.25	0.260	< 0.0040	< 0.040	2590	4310	0.121	< 0.0010	468	---	0.00126	---	< 0.0040	< 0.020	**5.93**
Brook Trout 4+	25-Jun-1998	**6**	< 0.1	2.4	< 1	0.16	< 1	**< 0.1**	313	< 0.2	0.1	0.06	10.1	< 0.02	328	(0.1)	0.14	< 0.02	**1.08**	2200	3610	**< 1**	< 0.01	561	0.7	< 0.1	< 0.3	< 0.04	< 0.1	**8.7**

worley consulting

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	01-Sep-1999	< 0.7	< 0.1	< 0.5	< 1	0.2	(1)	**< 0.1**	550	**0.6**	< 0.3	1.7	10	**< 2**	614	0.3	0.09	< 0.02	< 0.5	5110	8610	**< 1**	0.4	955	0.9	< 0.02	< 0.3	< 50	0.9	**12.4**
	01-Sep-2000	< 0.7	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	272	**< 1**	< 1	< 0.4	5	**< 3**	271	< 0.4	0.17	< 0.02	**< 2**	2500	4300	**< 1**	< 0.3	415	(0.5)	< 0.02	< 1	< 50	< 0.6	**5**
	01-Sep-2004	**36**	< 0.1	< 0.5	(1.3)	< 0.7	< 2	< 0.02	1380	**< 1**	< 1	2.3	58.9	**< 3**	972	3.2	**0.58**	(0.03)	**< 2**	8990	13800	**(1)**	< 0.3	1620	3	< 0.02	(1)	< 0.04	< 0.6	**34.9**
	01-Sep-2005	**12.33**	< 0.1	< 0.5	< 0.7	(0.7)	2	< 0.02	404.33	**< 1**	< 1	0.83	17	**< 3**	249.67	0.87	0.06	< 0.02	**< 2**	2143.33	3833.33	**< 1**	< 0.3	679.33	0.97	< 0.02	< 1	< 0.04	< 0.6	**6.97**
	06-Oct-2006	**< 10**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	177	**< 1**	< 1	**< 5**	< 10	**< 1**	275	< 10	0.25	< 0.4	**< 1**	2390	4260	**0.7**	< 1	473	< 10	< 0.3	---	< 1	< 1	**17**
Edith Lake - Continued																														
	01-Sep-2011	< 0.2	< 0.001	< 0.01	0.09	< 0.02	< 0.4	< 0.002	423	< 0.04	0.019	0.28	4	0.003	297	0.17	0.173	< 0.01	< 0.01	2550	4030	0.13	< 0.004	419	0.94	0.0029	0.3	< 0.0004	< 0.04	**4.67**
	02-Oct-2013	< 0.20	< 0.0010	< 0.010	0.314	< 0.020	< 0.40	< 0.0020	859	0.069	< 0.0040	0.239	6.1	0.0049	317	0.288	0.271	< 0.010	< 0.010	2930	4090	0.120	< 0.0040	388	2.00	0.00193	< 0.20	< 0.00040	< 0.040	**10.1**
	09-Oct-2014	0.33	< 0.0010	0.011	0.285	< 0.020	< 0.40	< 0.0020	629	0.347	0.0404	0.248	7.2	0.0032	313	0.229	0.378	< 0.010	0.022	2870	4320	0.131	< 0.0040	475	1.49	0.00426	< 0.20	< 0.00040	< 0.040	**7.64**
	23-Sep-2015	**2.33**	< 0.0010	0.0073	0.463	< 0.0020	< 0.40	< 0.0020	748	0.101	0.0046	0.223	7.8	0.0050	238	0.679	0.234	< 0.010	< 0.010	2410	3630	0.096	< 0.0040	328	2.17	0.00149	0.093	< 0.00040	< 0.020	**8.07**
(Replicate A)	23-Sep-2015	**3.07** [#8]	< 0.0010	< 0.0050	0.278	< 0.0020	< 0.40	< 0.0020	635	0.071	0.0048	0.246	6.4	< 0.0020	282	0.231	0.354	< 0.010	0.027	2840	4250	0.116	< 0.0040	428	1.47	0.00152	0.065	< 0.00040	< 0.020	**7.90**
	30-Aug-2016	0.23	< 0.0010	< 0.0050	0.231	< 0.0020	< 0.40	< 0.0020	663	0.182	0.0053	0.285	6.7	0.0021	308	0.290	0.245	0.011	0.069	2980	3970	0.152	< 0.0040	374	1.51	0.00117	0.121	< 0.00040	< 0.020	**7.11**
	13-Sep-2017	0.35	< 0.0010	0.0070	0.195	< 0.0020	< 0.40	< 0.0020	448	0.201	< 0.0040	0.273	6.0	< 0.0020	324	0.228	0.238	< 0.010	< 0.010	3060	4710	0.135	< 0.0040	455	1.15	0.00190	< 0.050	< 0.00040	< 0.020	**7.97**
	29-Aug-2018	0.36	< 0.0010	0.0184	0.260	< 0.0010	< 0.20	< 0.0010	550	0.465	0.0073	0.293	10.0	0.0027	319	0.484	0.252	0.0053	0.023	3190	4790	0.146	0.0032	362	1.16	0.00292	0.267	< 0.00040	< 0.020	**7.39**
	28-Oct-2020	**1.44**	< 0.0010	0.0079	0.160	< 0.0010	< 0.20	< 0.0010	423	0.141	0.0141	0.227	5.09	0.0014	282	0.261	0.271	0.0071	< 0.010	2890	4480	0.173	< 0.0010	353	0.918	0.00258	0.228	< 0.00040	< 0.020	**7.76**
Brook Trout 5+	26-Sep-2001	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	226	**< 1**	< 1	< 0.4	7	**< 3**	256	< 0.4	0.256	< 0.02	**< 2**	2070	3720	**< 1**	< 0.3	451	(0.5)	< 0.02	< 1	< 0.04	< 0.6	3.9
	01-Sep-2004	**43**	< 0.1	< 0.5	1.7	< 0.7	< 2	< 0.02	1600	**< 1**	< 1	2.5	79.4	**< 3**	933	3.3	**0.57**	0.05	**< 2**	9030	13900	**< 1**	< 0.3	1840	3.9	< 0.02	2	< 0.04	< 0.6	**49.6**
	01-Sep-2005	**< 10**	< 0.1	< 0.5	(0.7)	(0.8)	2.33	< 0.02	248.33	**< 1**	1	1.33	11	**< 3**	253.67	< 0.4	0.07	< 0.02	**< 2**	2170	3860	**< 1**	< 0.3	642	(0.5)	< 0.02	< 1	< 0.04	(0.7)	**9.67**
	12-Oct-2006	**< 10**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	88	**< 1**	< 1	**< 5**	< 10	**< 1**	273	< 10	0.17	< 0.4	**< 1**	2320	4250	**0.6**	< 1	426	< 10	< 0.3	---	< 1	< 1	**12**
	01-Sep-2011	0.2	< 0.001	< 0.01	0.08	< 0.02	< 0.4	< 0.002	408	< 0.04	0.005	0.34	6	0.004	267	0.14	0.213	< 0.01	< 0.01	2330	3620	0.13	< 0.004	474	0.76	0.0010	0.3	< 0.0004	< 0.04	**4.76**
	02-Oct-2013	< 0.20	< 0.0010	< 0.010	0.185	< 0.020	< 0.40	< 0.0020	539	0.135	< 0.0040	0.193	5.9	0.0072	285	0.147	0.290	< 0.010	0.026	2470	3810	0.105	< 0.0040	374	1.23	0.00102	< 0.20	< 0.00040	< 0.040	**5.78**
	09-Oct-2014	0.37	< 0.0010	0.010	0.200	< 0.020	< 0.40	< 0.0020	410	0.433	< 0.0040	0.442	9.3	< 0.0020	336	0.149	**0.510**	< 0.010	0.014	3170	5100	0.162	< 0.0040	446	1.16	0.00309	< 0.20	< 0.00040	< 0.040	**7.71**
	30-Aug-2016	0.21	< 0.0010	< 0.0050	0.409	< 0.0020	< 0.40	< 0.0020	852	**0.701**	0.0053	0.288	15.3	0.0020	311	0.245	**0.643**	< 0.010	0.048	3110	4050	0.151	< 0.0040	455	1.96	0.00131	0.132	0.00042	< 0.020	**13.8**
	30-Sep-2021	0.50	< 0.0020	0.180	0.315	< 0.0020	< 0.20	< 0.0010	909	0.032	0.0109	0.333	4.62	0.0057	298	0.59	0.0419	< 0.0040	< 0.040	2720	4200	0.185	< 0.0010	465	---	0.00193	---	< 0.0040	< 0.020	**5.76**
Brook Trout 7+	10-Sep-2003	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	395	**< 1**	< 1	< 0.4	4	**< 3**	274	(0.5)	0.134	< 0.02	**< 2**	2610	3780	**< 1**	< 0.3	438	(0.6)	< 0.02	< 1	< 0.04	< 0.6	**6.4**
Brook Trout 8+	12-Sep-2002	**< 10**	< 0.1	< 0.5	< 0.7	< 0.7	< 2	< 0.02	375	**< 1**	< 1	< 0.4	7	**< 3**	243	(0.4)	0.32	< 0.02	**< 2**	2370	3820	**< 1**	< 0.3	472	(0.5)	< 0.02	< 1	< 0.04	< 0.6	**5.5**
Brook Trout 11+	11-Sep-2007	**65**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	266	**< 1**	< 1	**< 5**	< 10	**< 0.5**	231	< 10	0.15	< 0.4	**< 1**	1940	3200	**< 0.5**	< 1	307	< 10	< 0.3	---	< 1	< 1	**< 10**
Brook Trout 12+	11-Sep-2007	**89**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	406	**< 1**	< 1	**< 5**	< 10	**< 0.5**	285	< 10	0.14	< 0.4	**< 1**	2340	3830	**< 0.5**	< 1	330	< 10	< 0.3	---	< 1	< 1	**< 10**
Brook Trout Unknown	24-Jul-2008	**260**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	640	**< 1**	< 1	**< 5**	< 10	**< 0.5**	290	< 10	< 0.05	< 0.4	**< 1**	2600	4200	**< 0.5**	< 1	540	< 10	< 0.3	---	< 1	< 1	**< 10**
	24-Jul-2008	**280**	< 1	< 1	< 10	< 0.4	2	**< 0.1**	610	**< 1**	< 1	**< 5**	< 10	**< 0.5**	330	< 10	< 0.05	< 0.4	**< 1**	2600	4000	**< 0.5**	< 1	480	< 10	< 0.3	---	< 1	< 1	**< 10**
	24-Jul-2008	**240**	< 1	< 1	< 10	< 0.4	< 2	**< 0.1**	900	**< 1**	< 1	**< 5**	< 10	**< 0.5**	330	< 10	0.09	< 0.4	**< 1**	2800	4200	**< 0.5**	< 1	500	< 10	< 0.3	---	< 1	< 1	**11**
	24-Jul-2008	**190**	< 1	< 1	< 10	< 0.4	3	**< 0.1**	590	**< 1**	< 1	**< 5**	< 10	**< 0.5**	330	< 10	< 0.05	< 0.4	**2**	2700	4200	**< 0.5**	< 1	480	< 10	< 0.3	---	< 1	< 1	**< 10**
Certified Reference Materials																														
LUTS-1 ETL	01-Sep-1997	---	---	---	---	---	---	---	---	---	< 0.2	**17**	11.3	< 0.2	85.3	1.3	0.02	< 0.2	0.2	856	885	**0.7**	0.5	1000	2.5	< 0.2	---	---	< 0.2	**12.4**
LUTS-1 Maxxam	01-Sep-1997	**4.1**	< 0.1	**3.2**	1.1	< 0.02	< 1	**1.1**	214	**0.7**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LUTS-1	01-Sep-1997	**2.2**	< 0.2	**2.8**	0.3	< 0.2	< 2	**2.2**	201	< 0.2	0.1	**9.4**	13	< 0.02	84	0.7	< 0.02	0.1	0.6	803	800	**< 1**	0.5	1220	2.3	< 0.1	0.5	< 0.04	0.1	**13.1**
	01-Sep-1998	**4**	< 0.1	**4**	< 1	< 0.02	< 1	**2.6**	295	< 0.2	0.25	**13.8**	15.8	0.18	118	1.3	(0.029)	0.04	0.41	937	895	**< 1**	0.6	1280	2.6	< 0.1	< 0.3	< 0.04	< 0.1	**14.8**
	01-Sep-1999	---	---	**5**	---	---	---	**3.8**	400	< 0.2	< 0.3	**35.2**	23.1	**< 2**	188	2.5	0.02	---	< 0.5	---	1920	**(1)**	2.3	---	4.4	---	---	---	---	**29**
	01-Sep-2000	(0.9)	< 0.1	**5.7**	< 0.7	< 0.7	< 2	**2.06**	163	**< 1**	< 1	**12.3**	10.5	**< 3**	77	1	**(22)**	0.18	**< 2**	917	949	**(1)**	(0.5)	1280	2	< 0.02	< 1	< 50	< 0.6	**10.8**
	09-Sep-2001	**< 10**	< 0.1	**3.2**	< 0.7	< 0.7	< 2	**1.80**	219	**< 1**	< 1	**18.1**	17.0	**< 3**	100	1.4	(0.028)	0.15	**< 2**	1010	996	**< 1**	0.7	1470	2.7	< 0.02	< 1	< 0.04	< 0.6	**15.5**
	19-Oct-2003	**< 10**	< 0.1	**2.7**	< 0.7	< 0.7	< 2	**1.95**	360	**< 1**	< 1	**26.1**	22.6	**< 3**	142	2.3	(0.032)	0.14	**< 2**	1680	1440	**< 1**	1.1	2060	3.8	< 0.02	< 0.04	< 0.6	23.3	< 0.1
	01-Sep-2004	**53**	< 0.1	**29.5**	(1.1)	< 0.7	(3)	**13.9**	1160	**(3)**	< 1	**86.6**	101	**< 3**	471	8	0.09	0.99	**< 2**	5440	4770	**6**	3.6	6480	12.6	< 0.02	< 1	< 0.04	(0.9)	**82.5**
	01-Sep-2005	**13**	< 0.1	**3.3**	< 0.7	0.9	(3)	**1.9**	204	**< 1**	< 1	**13.4**	26	**< 3**	85	1.3	**< 20**	0.15	**< 2**	933	874	**< 1**	< 0.3	1600	2.2	< 0.02	< 1	< 0.04	0.9	**14.7**

Table C.1

Fish Tissue Analytical Results: Metals and Trace Elements

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Boron - Hot Water Soluble (mg/kg)	Cadmium (mg/kg)	Calcium (mg/kg)	Chromium (mg/kg)	Cobalt (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Magnesium (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Molybdenum (mg/kg)	Nickel (mg/kg)	Phosphorus (mg/kg)	Potassium (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Sodium (mg/kg)	Strontium (mg/kg)	Thallium (mg/kg)	Titanium (mg/kg)	Uranium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
SETAC 1999		**1.2**	**5**	**2.6**	**---**	**---**	**---**	**0.02**	**---**	**0.58**	**---**	**3.4**	**---**	**0.34**	**---**	**---**	**0.7**	**---**	**0.82**	**---**	**---**	**0.25**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**4.5**
CFIA 2009		**---**	**---**	**3.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**0.5**	**---**	**---**	**0.5**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
	12-Oct-2006	**< 10**	< 1	**3**	< 10	< 0.4	< 2	**2.5**	191	**< 1**	< 1	**18**	12	**< 1**	86	< 10	< 0.05	< 0.4	**< 1**	965	897	**0.9**	< 1	1240	< 10	< 0.3	---	< 1	< 1	**20**
	11-Sep-2007	**317**	< 1	**3**	< 10	< 0.4	< 2	**2.0**	227	**< 1**	< 1	**15**	10	**< 0.5**	87	< 10	< 0.05	< 0.4	**< 1**	740	815	**0.8**	< 1	1080	< 10	< 0.3	---	< 1	< 1	**15**
	23-Jul-2008	**190**	< 1	**3**	< 10	< 0.4	3	**2.0**	210	**< 1**	< 1	**16**	23	**< 0.5**	93	< 10	< 0.05	< 0.4	**< 1**	920	840	**0.9**	< 1	1200	< 10	< 0.3	---	< 1	< 1	**12**
	11-Aug-2009	**160**	< 1	**3**	< 10	< 0.4	4	**2.3**	230	**< 1**	< 1	**17**	11	**< 0.5**	97	< 10	< 0.05	< 0.4	**< 1**	1000	970	**0.6**	< 1	1400	< 10	< 0.3	---	< 1	< 1	**16**
	12-Aug-2010	**2.7**	0.002	**3.50**	0.06	< 0.02	0.5	**2.40**	203	0.06	0.055	**17.2**	13	0.010	98	1.28	0.025	0.15	0.18	1180	981	**0.69**	0.729	1430	2.46	0.0009	< 0.2	0.0046	0.17	**14.6**
	01-Sep-2011	**3**	< 0.005	**3.21**	< 0.1	< 0.1	< 2	**2.40**	189	< 0.2	0.05	**16.3**	14	0.01	83	1.2	0.020	0.13	0.17	895	859	**0.71**	0.69	1200	2.1	< 0.002	< 1	0.006	< 0.2	**14.0**
Certified Reference Materials - Continued																														
	01-Sep-2012	**6.14**	0.0041	**3.32**	0.061	< 0.050	< 1.0	**2.16**	184	< 0.10	0.049	**16.4**	13.8	0.0105	90.4	1.23	0.0295	0.153	0.169	895	927	**0.677**	0.688	1240	2.31	0.0018	< 0.50	0.0051	0.17	**12.7**
	02-Oct-2013	**7.90**	0.0031	**3.30**	0.055	< 0.020	0.41	**2.26**	206	< 0.040	0.0484	**17.2**	13.0	0.0096	91.3	1.23	0.0207	0.147	0.158	1020	958	**0.640**	0.707	1310	2.20	0.00142	< 0.20	0.00536	0.153	**13.7**
	09-Oct-2014	**7.72**	0.0027	**3.65**	0.071	< 0.020	0.52	**2.47**	207	0.061	0.0544	**16.3**	11.3	0.0114	102	1.31	0.0254	0.164	0.175	1110	1020	**0.745**	0.741	1350	2.45	0.00146	< 0.20	0.00532	0.177	**14.8**
	23-Sep-2015	**6.28**	0.0018	**3.46**	0.064	< 0.0020	0.41	**2.32**	189	0.055	0.0511	**16.5**	12.5	0.0098	75.4	1.17	0.0263	0.148	0.162	961	899	**0.669**	0.699	1130	2.22	0.00132	0.050	0.00479	0.159	**13.8**
	30-Aug-2016	**8.33**	0.0021	**3.61**	0.071	< 0.0020	< 0.40	**2.32**	196	0.069	0.0486	**16.7**	11.1	0.0128	91.3	1.17	0.0560	0.158	0.163	1070	925	**0.726**	0.690	1330	2.22	0.00161	< 0.050	0.00743	0.143	**14.4**
	04-Dec-2017	**9.61**	0.0027	**3.65**	0.057	< 0.0020	0.47	**2.47**	203	0.058	0.0531	**17.2**	12.7	0.0110	92.2	1.26	0.0215	0.150	0.174	1100	935	**0.742**	0.352 [#8]	1260	2.23	0.00112	0.063	0.00492	0.150	**15.9**
	30-Aug-2018	**6.51**	0.0025	**3.44**	0.055	< 0.0010	0.42	**2.33**	203	0.049	0.0482	**15.6**	12.0	0.0107	89.9	1.21	0.0224	0.154	0.154	1040	949	**0.717**	0.650	1240	2.37	0.00129	0.117	0.00502	0.151	**13.5**
CRM DORM-5	13-Oct-2022	**229**	0.0084	**12.8**	0.358	0.0074	2.85	**0.138**	1780	0.516	0.0599	2.99	106	0.0804 [#10]	1030	0.90	0.294	0.125	0.323	5580	10700	**2.16**	0.111	9010	---	< 0.00040	---	0.0232 [#10]	0.359	**25.2**

NOTES:

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. result values in brackets (xxx) denotes an estimated value.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Society of Environmental Toxicology and Chemistry (SETAC), 1999. Jarvinen, A.W. and G.T. Ankley. 1999. Linkage of Effects to Tissue Residues: Development of a Comprehensive Database for Aquatic Organisms Exposed to Inorganic and Organic Chemicals. Pensicola, FL.)
8. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
9. Superscript [#1] - Detection limits raised due to dilution to bring analyte within the calibrated range.
10. Superscript [#2] - RDL raised due to preparation contamination.
11. Superscript [#3] - Detection limits raised due to dilution to bring analyte within the calibrated range.Matrix spike non calculable due to high concentration of original analyte.
12. Superscript [#4] - RDL raised due to concentration over linear range, sample dilution required.
13. Superscript [#5] - () = Result < RDL and is subject to reduced levels of confidence
14. Superscript [#6] - Matrix Spike outside acceptance criteria (10% of analytes failure allowed).
15. Superscript [#7] - Duplicate outside acceptance criteria - re-analysis yields similar results
16. Superscript [#8] - Duplicate outside acceptance criteria - re-analysis yields similar results.
17. Superscript [#9] - Detection limits raised due to matrix interference
18. Superscript [#10] - Recoveries for Pb and U are outside ALS DQOs for this CRM. In the case of Pb, this may be due to background contribution as observed in the MB. U was not observed in samples, so no impact to data, however Pb data may be slightly elevated. PE 27-Jan-23

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 1 (ng/kg)	PCB 2 (ng/kg)	PCB 3 (ng/kg)	PCB 4 (ng/kg)	PCB 4/10 (ng/kg)	PCB 5 (ng/kg)	PCB 6 (ng/kg)	PCB 7 (ng/kg)	PCB 8 (ng/kg)	PCB 9 (ng/kg)	PCB 10 (ng/kg)	PCB 11 (ng/kg)	PCB 12/13 (ng/kg)	PCB 13 (ng/kg)	PCB 14 (ng/kg)	PCB 15 (ng/kg)	PCB 16 (ng/kg)	PCB 17 (ng/kg)	PCB 18/30 (ng/kg)	PCB 19 (ng/kg)	PCB 20/28 (ng/kg)	PCB 21/20/33 (ng/kg)	PCB 21/33 (ng/kg)	PCB 22 (ng/kg)	PCB 23 (ng/kg)	PCB 24 (ng/kg)	PCB 25 (ng/kg)	PCB 26/29 (ng/kg)	PCB 27 (ng/kg)	PCB 28 (ng/kg)	PCB 29 (ng/kg)	PCB 30 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																																		
Brook Trout 0+	04-Oct-2006	10	< 21	< 13	< 12	---	< 5.0	< 1.4	< 1.3	< 1.4	< 1.3	< 1.3	---	< 1.3	< 1.3	< 1.2	< 1.2	< 1.5	13	15	45	3.3	---	23	---	16	< 0.10	< 0.10	2.1	6.0	1.1	65	< 0.10	< 0.10
	11-Sep-2007	10	5.0	3.4	5.1	---	< 8.3	< 5.0	< 4.6	< 4.6	< 4.4	< 4.3	---	14	< 5.0	< 4.5	< 4.4 [#1]	< 5.0	6.4	9.2	18	2.2	---	7.4	---	8.0	< 0.60	< 1.0	2.7	5.7	1.8	33	< 0.60	< 0.90
	23-Jul-2008	10	< 15	< 11	< 13	---	< 25	< 7.8	< 7.1	< 7.4	< 6.8	< 6.6	---	34	< 7.4	< 6.9	< 7.0	< 7.8	16	17	43	< 3.2	---	13	---	20	< 1.5	< 1.9	1.4	7.1	< 1.7	100	< 1.4	< 1.8
(Duplicate)	23-Jul-2008	10	9.1	< 3.2	5.5	---	18	< 5.7	< 5.2	< 5.5	< 6.8	< 4.9	---	25	< 5.5	< 5.1	< 5.2	< 5.8	12	18	44	< 3.0	---	12	---	18	< 1.4	< 1.8	1.9	7.3	2.3	99	< 1.3	< 1.7
	11-Aug-2009	10	--- [#2]	< 17	< 17	---	--- [#2]	< 410	< 400	< 410	< 380	< 380	---	< 390	< 400	< 380	< 390	< 400	< 51	< 39	118	---	---	70	---	58	< 27	< 29	< 25	< 27	< 28	435	< 25	< 29
	11-Aug-2010	10	3.00	1.42	2.08	---	11.0	< 1.7	< 1.6	< 1.6	19.8	< 1.5	---	16.7	< 1.6	< 1.6	< 1.5	6.9	14.6	13.0	41.8	4.5	---	20.6	---	15.8	< 1.0	< 1.0	3.27	7.80	2.3	46.6	< 0.90	< 1.0
	01-Sep-2011	10	10.9	1.83 [#1]	3.86 [#1]	---	26.9 [#1]	< 3.0	< 3.0	< 3.0	39.1	< 3.0	---	57.1	< 3.0	< 3.0	< 3.0	28.9	9.2 [#1]	17.6	54.5 [#1]	7.4	---	8.9 [#1]	---	18.0	< 1.0	< 2.0	3.6	8.8	3.3 [#1]	60.7	< 1.0	< 2.0
	01-Sep-2012	10	5.07	4.37	5.81 [#1]	---	< 4.0	< 2.0	< 2.0	< 3.0	33.4	< 2.0	---	50.0	< 2.0	< 2.0	< 2.0	14.3 [#1]	10.5	18.1	38.9	4.1 [#1]	---	16.3	---	15.7	< 0.50	< 0.90	5.44	10.3	2.41	63.6	< 0.40	< 0.90
	01-Sep-2013	10	0.598	0.515	0.725	1.73	---	< 0.0912	0.596	0.278	2.47	0.264	0.088	11.2	0.266	---	< 0.0846	1.34	5.2	13.1	21.6	2.54	74.5	---	4.41	17.5	0.227	0.296	5.82	11.1	2.77	---	---	---
	21-Sep-2014	12	4.53	1.09	3.21	2.66	---	0.303	1.5	0.625	5.48	0.582	0.185	11.8	0.863 [#1]	---	< 0.0868	2.84	6.03	13.3	24.1	1.96 [#3]	56.3	---	4.65	11.5	0.153 [#1]	0.451	3.86	8.94	2.31	---	---	---
	22-Sep-2015	11	0.917	0.961	0.869	2.73	---	0.142 [#1]	1.15	0.614	4.61	0.508	0.189	20.3	0.406 [#1]	---	< 0.119	2	5.61	17.3	24.8	2.9	73.8	---	5.82	15.8	0.121 [#1]	0.347	7.36	13.1	3.59	---	---	---
	30-Aug-2016	10	0.875	0.679	0.738	1.57	---	< 0.119	0.643	0.265 [#1]	2.6	0.263	< 0.108	10.1	< 0.106	---	< 0.104	1.05	3.08	8.25	12.5	1.63	38.1	---	2.8	7.45	< 0.0596	0.192 [#1]	3.51	5.8	1.91	---	---	---
	30-Aug-2018	10	0.635	0.916	1.02	1.36	---	< 0.34	0.803	< 0.309	3.71	< 0.299	< 0.304	9.48	---	---	< 0.302	0.812	2.34	6.04	8.35	0.925	23.2	---	3.43	4.61	< 0.114	< 0.0488	2.1	3.72	1.05 [#1]	---	---	---
	06-Sep-2019	10	0.479	0.386	1.07	0.998	---	< 0.0905	0.534	0.449	2.23	0.233	< 0.0788	5.48	0.308	---	< 0.0818	1.11	2.12	4.73	7.82	0.77	19.4	---	2.69	4.16	< 0.0814	0.091	1.42	2.81	0.746	---	---	---
	26-Aug-2020	11	0.897	0.525	1.23	1.21	---	< 0.448	0.442	< 0.427	1.99	< 0.4	< 0.406	10.1	< 0.439	---	< 0.425	0.952	1.66	3.85	5.71	0.882	16.5	---	2.01	3.34	< 0.0573	0.097 [#1]	1.48	2.57	0.814	---	---	---
	30-Sep-2021	10	0.260	0.398	0.381	< 0.56	---	< 0.44	< 0.35	< 0.36	1.86	< 0.38	< 0.35	8.20	< 0.46	---	< 0.49	< 0.49	1.10	1.39	2.80	< 0.16	6.82	---	1.38	1.78	< 0.18	< 0.17	0.35	0.80	0.17	---	---	---
	13-Oct-2022	10	56.3	9.82	28.6	48.2	---	7.60	27.0	22.9	77.8	21.2	6.90	12.0	6.0	---	< 1.1	45.7	22.6	24.3	68.6	8.05	77.4	---	12.5	25.3	< 0.52	1.00	9.19	35.3	5.00	---	---	---
Chrystina Lake																																		
Brook Trout 1+	11-Aug-2009	8	5.81 [#1]	1.36	5.80	---	< 13	< 9.2	< 8.7	< 8.6	< 8.0	< 8.5	---	< 8.2	< 8.6	< 8.2	< 8.5	< 8.1	18.7	16.8	62.6	5.5 [#1]	---	20.5	---	22.8	< 0.90	< 1.0	3.08 [#1]	9.54	2.06	69.3	< 0.80	< 0.90
	01-Sep-2011	5	10.1	1.36 [#1]	3.79 [#1]	---	24.5 [#1]	< 3.0	< 2.0	< 2.0	40.8	< 2.0	---	28.1 [#1]	< 2.0	< 2.0	< 2.0	15.5	7.3 [#1]	12.5 [#1]	38.7	< 2.0	---	11.7	---	13.6	< 1.0	< 2.0	2.7	7.2	< 2.0	54.7	< 0.90	< 2.0
	01-Sep-2012	4	3.94	2.87	5.19 [#1]	---	14.9 [#1]	< 2.0	5.7 [#1]	< 2.0	26.1	< 2.0	---	34.7	< 2.0	< 2.0	< 2.0	14.3 [#1]	9.3 [#1]	12.9	35.5	< 1.0	---	13.5	---	25.0	< 0.50	< 0.90	8.09	17.2	2.19 [#1]	109	< 0.40	< 0.90
(Replicate A)	01-Sep-2013	1	0.648	0.454	2.06	< 0.872	---	< 0.573	< 0.503	< 0.525	0.917	< 0.502	< 0.504	4.95	< 0.576	---	< 0.535	1.19	1.23	2.41	6.45 [#1]	0.313	29.2	---	1.39	7.51	< 0.173	< 0.173	1.64	3.96	0.259 [#1]	---	---	---
(Replicate B)	01-Sep-2013	1	0.311	0.21	0.557	0.489	---	< 0.196	< 0.172	< 0.179	0.463	< 0.172	< 0.172	1.7	< 0.197	---	< 0.183	0.686	0.83	2.37	6.44	0.377	33.4	---	0.594	8.59	< 0.071	0.09	1.95	4.32	0.233	---	---	---
	23-Sep-2015	1	0.524	0.36	0.452	1.31	---	< 0.158	0.435	0.241	2.1	0.341	< 0.142	7.57	0.246 [#1]	---	0.173	2.12	2.28	6.93	30.9	1.16	350	---	2.54	32.2	0.161	0.6	66.4	101	1.05	---	---	---
	31-Aug-2016	2	0.57	1	2.2 [#1]	0.425	---	< 0.135	< 0.121	0.125 [#1]	0.677	0.2	< 0.126	4.69 [#1]	0.33	---	< 0.121	0.734	1.04	6.95	11.4	0.775	63.9	---	0.959	12.4	< 0.0815	0.129	5.29	8.76	0.784	---	---	---
	12-Sep-2017	3	0.629	0.357	0.528	0.996	---	< 0.346	0.402	< 0.326	1.71	< 0.309	< 0.332	6.51	< 0.316	---	< 0.307	0.888	1.25 [#1]	3.36	7.3	0.451 [#1]	34.3	---	1.55	7.56	< 0.0673	0.128 [#1]	2.69	4.57	0.353 [#1]	---	---	---
	29-Aug-2018	3	0.921	1.13	1.37	0.956	---	< 0.503	0.512 [#1]	< 0.468	2.04	0.444	< 0.457	2.47	0.841 [#1]	---	< 0.462	1.09 [#1]	1.58	4.8	8.78	0.713	34.9	---	0.973 [#1]	8.48	< 0.0618	0.173	2.76	5.44	0.516	---	---	---
(Replicate A)	05-Sep-2019	4	0.363	0.241	0.564	0.321	---	< 0.119	0.206	0.113	0.84	0.122	< 0.103	2.49	0.199	---	0.119	0.838	0.834	3.89	7.17	0.338	40.1	---	1.16	7.87	0.06	0.113	2.91	5.61	0.433	---	---	---
(Replicate B)	05-Sep-2019	4	0.353	0.266	1.44	0.57	---	< 0.0956	0.305	0.332	1.15	0.185	< 0.0828	4.52	0.243	---	0.217	0.947	1.49	6.4	10.5	0.61	55.3	---	2.06	11	< 0.0782	0.149	4.76	8.14	0.692	---	---	---
	25-Aug-2020	7	0.452	0.221	0.676	< 1.16	---	< 0.762	< 0.701	< 0.717	0.862	< 0.665	< 0.688	3.1	< 0.744	---	< 0.717	< 0.864	1.06	3.17	6.42	0.282 [#1]	30.7	---	0.918	6.3	< 0.0578	0.08 [#1]	2.87	4.93	0.306	---	---	---
	29-Sep-2021	8	< 0.11	< 0.14	< 0.12	< 0.89	---	< 0.64	< 0.52	< 0.52	< 0.44	< 0.55	< 0.51	4.29	< 0.74	---	< 0.77	< 0.72	1.20	3.22	9.84	0.76	62.2	---	2.15	9.15	< 0.32	< 0.18	11.9	11.4	0.38	---	---	---
	12-Oct-2022	8	< 1.2	< 1.6	< 1.6	< 12	---	< 5.6	< 4.9	< 4.9	< 4.4	< 5.3	< 4.7	< 9.8	< 9.1	---	< 9.7	< 8.5	< 3.5	< 2.8	< 2.5	< 5.8	22.0	---	< 3.5	< 3.9	< 3.7	< 2.3	< 3.3	< 3.7	< 2.2	---	---	---
	13-Sep-2023	5	< 1.9	< 1.9	< 1.5	< 6.9	---	< 2.8	< 2.5	< 2.6	< 2.3	< 2.6	< 2.5	< 4.2	< 4.1	---	< 4.1	< 4.0	< 1.3	1.8	4.40	< 1.4	17.4	---	< 1.5	4.9	< 1.7	< 0.97	< 1.4	2.9	< 0.86	---	---	---
Brook Trout 2+	11-Aug-2009	3	5.62	1.70	4.52	---	< 16	< 9.7	< 9.2	< 9.1	< 8.4	< 8.9	---	< 8.6	< 9.1	< 8.6	< 8.9	< 8.6	11.3	9.5	35.4	3.5 [#1]	---	10.3	---	17.3	< 0.90	< 1.0	3.29 [#1]	8.64	1.09	72.4	< 0.80	< 0.90
	11-Aug-2010	5	3.66	1.82	2.55	---	11.6	< 1.8	5.2	< 1.6	21.7	< 1.6	---	25.6	< 1.7	< 1.6	< 1.6	5.8	15.4	12.4	50.6	< 1.8	---	18.3	---	22.5	< 1.1	< 1.1	4.43	13.2	1.6	92.1	< 1.0	< 1.1
	12-Aug-2010	3	4.56	1.74 [#1]	4.82	---	< 11	< 8.1	< 7.6	< 7.5	< 7.0	< 7.4	---	< 7.2	< 7.6	< 7.2	< 7.4	< 6.6	15.3	12.5	50.8	4.7	---	20.4	---	32.9	< 0.80	< 0.90	5.80	16.0	1.30	155	< 0.70	< 0.80
	01-Sep-2011	4	9.93	< 0.50	4.02	---	24.4	< 3.0	8.3	< 3.0	39.6	< 3.0	---	26.2	< 3.0	< 3.0	< 3.0	16.9	12.8 [#1]	22.2	79.8	< 4.0	---	18.7	---	51.5	< 2.0	< 3.0	13.0	30.8	< 2.0	306	< 1.0	< 2.0
(Replicate)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2011	4	< 50 [#1]	< 200	1220 [#1]	---	2330 [#1]	< 4.0	< 4.0	< 4.0	40.6 [#1]	< 4.0	---	19.3 [#1]	< 4.0	< 4.0	< 4.0	< 3.0	7.3	17.2	66.3	< 10	---	16.5	---	65.1	< 1.0	< 2.0	17.8	42.9	< 2.0	447	< 1.0	< 2.0
	01-Sep-2012	4	4.37	3.31	4.96	---	12.3 [#1]	< 3.0	< 3.0	< 3.0	25.6	< 3.0	---	31.9 [#1]	< 3.0	< 2.0	< 3.0	9.8 [#1]	6.6	8.8 [#1]	24.6	< 2.0	---	11.2	---	14.1	< 0.50	< 1.0	3.79 [#1]	8.23	< 0.90	55.3	< 0.50	< 0.90
	01-Sep-2013	4	0.236	0.177	0.371	0.656	---	< 0.13	< 0.114	< 0.119	0.561	0.156	< 0.114	2.38	0.15	---	0.136	0.886	1.05 [#1]	2.67	6.64	0.409	46	---	0.753	10.6	< 0.0569	0.116	2.32	5.57	0.25	---	---	---
	22-Sep-2014	4	0.328	0.308	0.445	0.868	---	< 0.168	0.27 [#1]	0.188 [#1]	0.965 [#1]	0.28 [#1]	< 0.146	1.73	0.245 [#1]	---	0.257	1.07 [#1]	1.54 [#1]	2.94	8.47	0.506	44.5	---	0.925	9.58	0.076 [#1]	0.156 [#1]	2.47	5.84	0.37	---	---	---
(Replicate A)	22-Sep-2014	1	0.294	0.256 [#1]	0.465 [#1]	0.475 [#1]	---	< 0.166	0.16 [#1]	< 0.154	0.525 [#1]	< 0.147	< 0.144	1.37	0.208 [#1]	---	0.198 [#1]	0.75 [#1]	0.62	1.57	3.99	0.284 [#1]	26.8	---	0.587 [#1]	6.61	< 0.0573	0.063	2.42	4.6	0.168 [#1]	---	---	---
(Replicate B)	22-Sep-2014	1	0.299	0.299	0.405	0.86	---	< 0.127	0.245 [#1]	0.219	0.902	0.216 [#1]	< 0.112	2.46	0.245	---	0.372	1.51	1.74	5.54	13	0.501 [#3]	63.9	---	0.966 [#1]	15.8	< 0.12	0.233	3.97	8.86	0.548	---	---	---
	23-Sep-2015	4	0.473	0.286	0.394	1.24	---	< 0.183	0.443	0.193	1.96	0.244 [#1]	< 0.164	6.38	0.205	---	< 0.168	1.41	2.71	4.93	21.7	1.07	97.8	---	2.00	18.5	< 0.119	0.417	9.67	18.4	0.848	---	---	---

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 1 (ng/kg)	PCB 2 (ng/kg)	PCB 3 (ng/kg)	PCB 4 (ng/kg)	PCB 4/10 (ng/kg)	PCB 5 (ng/kg)	PCB 6 (ng/kg)	PCB 7 (ng/kg)	PCB 8 (ng/kg)	PCB 9 (ng/kg)	PCB 10 (ng/kg)	PCB 11 (ng/kg)	PCB 12/13 (ng/kg)	PCB 13 (ng/kg)	PCB 14 (ng/kg)	PCB 15 (ng/kg)	PCB 16 (ng/kg)	PCB 17 (ng/kg)	PCB 18/30 (ng/kg)	PCB 19 (ng/kg)	PCB 20/28 (ng/kg)	PCB 21/20/33 (ng/kg)	PCB 21/33 (ng/kg)	PCB 22 (ng/kg)	PCB 23 (ng/kg)	PCB 24 (ng/kg)	PCB 25 (ng/kg)	PCB 26/29 (ng/kg)	PCB 27 (ng/kg)	PCB 28 (ng/kg)	PCB 29 (ng/kg)	PCB 30 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																		
	31-Aug-2016	2	0.389	0.418	0.722	0.587	---	< 0.191	< 0.172	< 0.174	0.751	< 0.169	< 0.176	2.74	< 0.179	---	< 0.176	0.718	1.21	3.03	8.22	0.411	62.9	---	0.848	10.4	< 0.0557	0.155 [#1]	4.94	10.2	0.304 [#1]	---	---	---
(Replicate A)	12-Sep-2017	3	0.674	0.365 [#1]	0.547	0.992	---	< 0.303	0.407	< 0.286	2	< 0.27	< 0.291	6.95	< 0.277	---	< 0.269	0.92	1.47	2.6	7.04	0.402	47.8	---	1.39	8.09	< 0.0646	0.135 [#1]	3.85	6.19	0.308 [#1]	---	---	---
(Replicate B)	12-Sep-2017	1	0.613 [#1]	0.352	0.497	0.93	---	< 0.279	0.384	< 0.263	1.74	< 0.249	< 0.268	5.93	< 0.255	---	< 0.247	0.804	1.25	2.14	5.76 [#1]	0.379 [#1]	25.9	---	1.35	6.09	< 0.0582	0.093	1.49	3.69	0.224 [#1]	---	---	---
	29-Aug-2018	3	0.964	1.16	1.13	1.07	---	< 0.432	0.644 [#1]	< 0.402	2.19	< 0.379	< 0.393	2.22	0.531 [#1]	---	< 0.396	0.871	2.11	3.56	10.9	0.488	54.9	---	1.27 [#1]	10.8	< 0.28	< 0.28	< 0.28	7.53	0.42	---	---	---
(Replicate A)	05-Sep-2019	4	0.389	0.322	0.582	0.501	---	< 0.125	0.228	0.128	0.829	0.161	< 0.108	2.4	0.249	---	0.299	0.942	1.02	2.53	6.61	0.323	35.6	---	1.1	8.22	< 0.0549	0.151	3.03	5.85	0.286	---	---	---
(Replicate B)	05-Sep-2019	4	0.42	0.333	0.816	0.574	---	< 0.106	0.239	0.146	0.932	0.181	< 0.0918	2.81	0.206	---	0.286	1.12	1.12	2.95	7.14	0.409	39.5	---	1.27	9.42	< 0.0579	0.128	3.82	6.77	0.283	---	---	---
(Replicate A)	25-Aug-2020	7	0.379	0.221	0.612	< 1.33	---	< 0.805	< 0.741	< 0.757	0.796	< 0.702	< 0.727	2.16	< 0.785	---	< 0.757	< 0.872	1.05 [#1]	2.61	7.07	0.395	40.1	---	0.838	8.38	< 0.0574	0.116 [#1]	4.22	6.53	0.3	---	---	---
(Replicate B)	25-Aug-2020	7	0.461	0.276	0.865	< 1.11	---	< 0.684	< 0.63	< 0.644	0.708	< 0.597	< 0.618	2.46	< 0.668	---	< 0.643	< 0.749	0.919	1.97	5.31	0.308	34.9	---	0.895	6.61	< 0.0577	0.103 [#1]	5.43	7.4	0.182	---	---	---
	29-Sep-2021	10	0.225 [#4]	< 0.090 [#4]	0.190 [#4]	< 0.53 [#4]	---	< 0.38 [#4]	< 0.31 [#4]	< 0.31 [#4]	1.46 [#4]	< 0.33 [#4]	< 0.30 [#4]	4.86 [#4]	< 0.40 [#4]	---	< 0.41 [#4]	1.10 [#4]	0.83 [#4]	2.17 [#4]	7.62 [#4]	0.52 [#4]	45.9 [#4]	---	1.76 [#4]	7.07 [#4]	< 0.19 [#4]	< 0.17 [#4]	8.42 [#4]	8.59 [#4]	0.22 [#4]	---	---	---
	12-Oct-2022	9	< 0.17	< 0.22	0.47	< 1.4	---	< 1.1	< 0.86	< 0.88	< 0.74	< 0.92	< 0.86	3.9	< 0.98	---	< 1.0	< 1.1	1.30	4.02	14.8	0.82	105	---	2.20	14.9	< 0.53	< 0.25	16.6	18.5	< 0.25	---	---	---
	13-Sep-2023	5	< 1.3	< 1.2	< 0.96	< 5.8	---	< 2.3	< 2.1	< 2.2	< 2.0	< 2.1	< 2.1	< 4.1	< 4.1	---	< 4.0	< 3.5	< 2.0	< 1.8	4.8	< 1.2	20.3	---	< 1.3	4.7	< 1.5	< 1.5	1.9	2.5	< 1.3	---	---	---
Brook Trout 3+	04-Oct-2006	3	--- [#2]	--- [#2]	--- [#2]	---	< 1.4	< 0.80	< 0.80	< 0.80	< 0.70	< 0.80	---	< 0.70	< 0.80	< 0.70	< 0.70	< 0.70	1.8	2.4	9.3	< 0.10	---	2.6	---	4.1	< 0.10	< 0.10	0.13	< 0.10	< 0.10	72	< 0.10	< 0.10
	11-Aug-2010	5	2.18 [#1]	1.31	1.80	---	11.1 [#1]	< 1.5	< 1.4	< 1.4	15.1	< 1.4	---	15.1	< 1.4	< 1.4	< 1.4	5.4	12.4	15.7	47.7	4.0 [#1]	---	20.8	---	26.3	< 0.90	< 1.0	5.28	11.8	< 0.90	89.5	< 0.80	< 0.90
(Duplicate)	11-Aug-2010	5	2.30	1.16	1.59	---	8.3	< 1.5	< 1.4	< 1.4	16.9	< 1.4	---	16.4	< 1.4	< 1.4	< 1.4	6.5	14.4	16.9	49.4	3.9	---	19.3	---	21.9	< 0.90	< 1.0	4.71 [#1]	12.8	1.73	84.3	< 0.90	< 0.90
(Replicate A)	12-Aug-2010	4	3.42	1.45	4.48	---	< 13	< 8.5	< 8.0	< 7.9	< 7.3	< 7.8	---	< 7.5	< 7.9	< 7.5	< 7.8	< 6.9	13.5 [#1]	12.3	56.7	3.3 [#1]	---	17.1	---	33.3	< 1.0	< 1.1	6.34	19.9	1.8	144	< 0.90	< 1.0
(Replicate A)	01-Sep-2012	1	2.36	2.12	2.56	---	< 2.0	< 1.0	< 1.0	< 1.0	13.0	< 1.0	---	20.5	< 1.0	< 1.0	< 1.0	6.7 [#1]	4.40 [#1]	5.86	14.6	< 0.90	---	7.25	---	8.30	< 0.30	< 0.50	1.84	4.42	< 0.50	32.7	< 0.20	< 0.50
(Duplicate)	01-Sep-2012	1	2.75 [#1]	2.22 [#1]	3.03 [#1]	---	12.0 [#1]	< 1.0	< 1.0	< 1.0	11.9	< 1.0	---	19.6 [#1]	< 1.0	< 1.0	< 1.0	7.0 [#1]	4.48 [#1]	4.62	14.3	< 1.0	---	7.19	---	8.36	< 0.30	< 0.50	1.87 [#1]	3.74 [#1]	< 0.40	29.5	< 0.20	< 0.50
(Replicate B)	01-Sep-2012	1	4.09	3.66 [#1]	4.69	---	10.2 [#1]	< 2.0	< 2.0	< 2.0	13.0 [#1]	< 2.0	---	22.9	< 2.0	< 2.0	< 2.0	9.7 [#1]	5.5 [#1]	7.79 [#1]	15.5 [#1]	< 1.0	---	7.83	---	8.10 [#1]	< 0.40	< 0.70	2.02 [#1]	3.81	< 0.60	27.9	< 0.30	< 0.70
(Replicate C)	01-Sep-2013	1	0.302	0.195	0.533	0.402	---	< 0.268	< 0.236	< 0.246	0.449 [#1]	< 0.236	< 0.236	1.64	< 0.27	---	< 0.251	0.465	0.797	2.07	6.2	0.274	34.1	---	0.656	7.34	< 0.0781	< 0.0781	1.7	3.83	0.246	---	---	---
(Replicate D)	01-Sep-2013	1	0.36	0.283	0.821	0.41	---	< 0.246	< 0.216	< 0.225	0.404 [#1]	< 0.216	< 0.216	2.14	< 0.247	---	< 0.23	0.455	0.716	2.07	5.57	0.29	33.3	---	0.675	7.66	< 0.0923	< 0.0923	1.56	4.04	0.179 [#1]	---	---	---
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	28.1 [#1]	6.0 [#1]	15.7 [#1]	---	< 60	< 30	< 30	< 30	< 30	< 30	---	< 30	< 30	< 30	< 30	< 40	24.7 [#1]	25.3	62.2	< 6.0	---	25.6	---	19.7	< 3.0	< 3.0	5.0	8.1	< 3.0	67.1	< 2.0	< 3.0
	22-Sep-2014	4	0.299	0.265	0.377	0.643 [#1]	---	< 0.141	0.195 [#1]	0.146	0.81	0.205 [#1]	< 0.124	1.45	0.223 [#1]	---	0.286 [#1]	1.01	1.31	2.79	7.25	0.475 [#3]	45.1	---	1.09	9.73	0.066	0.142	2.7	5.88	0.343 [#1]	---	---	---
(Replicate A)	22-Sep-2014	4	0.283	0.272	0.336 [#1]	0.75	---	< 0.108	0.176 [#1]	0.181 [#1]	0.815	0.199	< 0.095	1.37	0.167 [#1]	---	0.205	1.01	1.45	3.03	8	0.44 [#3]	44	---	0.826 [#1]	10.5	0.071	0.144 [#1]	2.03	5.14	0.355 [#1]	---	---	---
(Replicate B)	22-Sep-2014	1	0.242	0.2	0.395	0.343	---	< 0.125	0.155 [#1]	< 0.116	0.436 [#1]	< 0.112	< 0.11	1.81	0.139 [#1]	---	< 0.117	0.531 [#1]	0.402 [#1]	0.949	2.35	0.131	13.8	---	0.369	3.41	< 0.0574	< 0.0574	0.88	1.9	0.101	---	---	---
(Duplicate)	22-Sep-2014	1	0.259	0.203 [#1]	0.293	0.617 [#1]	---	< 0.136	0.163 [#1]	< 0.127	0.869	0.226 [#1]	< 0.121	1.3	< 0.131	---	0.245	0.849	1.51	3.36	9.04	0.432 [#3]	42.2	---	0.964	8.99	< 0.0711	0.128	2.67	5.63	0.364 [#1]	---	---	---
	23-Sep-2015	3	0.561	0.401	0.481	1.49	---	< 0.22	0.524 [#1]	0.222 [#1]	2.41	0.39 [#1]	< 0.202	7.3	0.271 [#1]	---	< 0.193	1.93	3.44	5.89	31.5	1.4	164	---	2.54	29.6	< 0.134	0.558	19.9	37.3	1.36	---	---	---
	31-Aug-2016	2	0.737	1.33	2.77 [#1]	0.734	---	< 0.159	0.218 [#1]	0.18 [#1]	0.954	0.283	< 0.147	5.15 [#1]	0.545	---	0.177 [#1]	0.95	1.26	4.07	14	0.61	116	---	1.07	18.7	0.067	0.208 [#1]	12.6	21.9	0.426 [#1]	---	---	---
(Replicate A)	31-Aug-2016	2	0.374	0.289	0.449	0.62	---	< 0.123	0.216	0.147	1.03	0.212	< 0.115	2.97	0.12	---	< 0.11	0.552	1.61	3.58	9.82	0.493	71.8	---	0.797	11.8	< 0.0546	0.148	7.61	13.5	0.431 [#1]	---	---	---
(Duplicate)	31-Aug-2016	1	0.524	0.661	0.704	0.741	---	< 0.134	0.213	< 0.122	0.824	0.192 [#1]	< 0.123	3.21	< 0.125	---	0.172 [#1]	0.707	1.3	4.01	13.7	0.544	112	---	1.15	18.1	0.058 [#1]	0.162	12.4	21.6	0.454 [#1]	---	---	---
	12-Sep-2017	3	0.608	0.307	0.453 [#1]	0.99	---	< 0.241	0.43	< 0.227	2.01	< 0.215	< 0.232	6.2	< 0.22	---	< 0.214	0.998	1.45	2.65	7.27	0.385 [#1]	35.9	---	1.39	7.88	< 0.0559	0.129 [#1]	3.1	5.83	0.269	---	---	---
	29-Aug-2018	3	0.91	1.1	1.17	1.06	---	< 0.481	< 0.438	< 0.448	2.18	0.595 [#1]	< 0.438	3.25	0.759 [#1]	---	< 0.442	0.977 [#1]	1.55	3.29	9.72	0.649 [#1]	53	---	1.1	10.8	< 0.13	0.158 [#1]	5.23	10.3	0.411 [#1]	---	---	---
(Duplicate)	29-Aug-2018	3	0.599	0.732	0.731	0.991	---	< 0.388	< 0.343	< 0.352	1.7	< 0.341	< 0.346	2.45	---	---	< 0.344	0.744	1.4	3.07	8.83	0.551	48.1	---	0.962 [#1]	9.24	< 0.108	0.134 [#1]	4.89	8.96	0.34	---	---	---
(Lab Replicate)	29-Aug-2018	3	0.713	0.908	1.01	0.883	---	< 0.376	0.421 [#1]	< 0.342	1.66	< 0.331	< 0.336	2.32	---	---	< 0.334	0.714	1.26	2.88	7.91	0.588	46.7	---	0.928	9.36	< 0.0971	0.125 [#1]	4.83	8.24	0.35	---	---	---
	05-Sep-2019	4	0.372	0.344	0.402	0.675	---	< 0.116	0.231	0.183	1.03	0.199	< 0.1	2.91	0.257	---	0.365	1.11	1.39	3.71	10.5	0.499	57.9	---	1.47	12.7	< 0.0918	0.108	5.22	9.77	0.401	---	---	---
	29-Sep-2021	3	0.40	< 0.29	< 0.26	< 1.9	---	< 1.4	< 1.1	< 1.1	3.00	< 1.2	< 1.1	14.2	< 0.94	---	< 0.97	< 0.96	1.30	2.53	8.28	< 0.42	45.2	---	2.70	7.12	< 0.45	< 0.27	9.60	9.25	< 0.27	---	---	---
(Duplicate)	29-Sep-2021	3	< 0.39	< 0.53	< 0.49	< 2.9	---	< 2.4	< 1.9	< 1.9	< 1.6	< 2.0	< 1.8	< 2.6	< 2.4	---	< 2.5	< 2.8	< 1.0	3.99	14.4	< 0.83	100	---	< 1.1	14.4	< 1.1	< 0.68	21.2	20.2	< 0.67	---	---	---
	12-Oct-2022	3	< 0.67	< 1.0	< 1.1	< 4.2	---	< 4.1	< 3.1	< 3.2	< 2.6	< 3.5	< 3.0	< 4.9	< 4.6	---	< 4.8	< 6.0	< 2.3	< 1.9	5.9	< 1.5	49.3	---	< 1.9	6.7	< 1.9	< 1.6	< 1.8	11.0	< 1.6	---	---	---
	13-Sep-2023	5	0.48	0.47	0.40	< 2.4	---	< 0.57	< 0.54	< 0.55	< 0.52	< 0.54	< 0.51	5.56	< 0.49	---	< 0.50	1.20	1.12	2.13	4.55	0.91	37.6	---	0.73	6.38	< 0.30	< 0.18	4.44	4.52	< 0.16	---	---	---
Brook Trout 4+	04-Oct-2006	7	--- [#2]	--- [#2]	--- [#2]	---	< 6.1	< 1.9	< 1.8	< 1.8	8.9	< 1.7	---	< 1.7	< 1.8	< 1.6	< 1.6 [#1]	< 2.1	12	14	72	2.6	---	27	---	53	< 0.10	< 0.10	7.7	24	1.2	330	< 0.10	< 0.10
	01-Sep-2011	2	7.44	< 0.40	3.04 [#1]	---	24.8 [#1]	< 3.0	7.1 [#1]	< 3.0 [#1]	32.4	< 3.0	---	26.1	< 3.0	< 3.0	< 3.0 [#1]	15.3 [#1]	13.7	24.4	102	< 3.0	---	18.2	---	54.9	< 1.0	< 2.0	12.3	30.8	< 2.0	263	< 1.0	< 2.0
	01-Sep-2013	2	0.279	0.163	0.353	0.864	---	< 0.232	< 0.204	< 0.213	0.842	0.269	< 0.205	1.7	< 0.234 [#1]	---	< 0.217 [#1]	1.21	2.36	7.16	18.6	0.79	163	---	2.02	29.7	< 0.215	0.329	12.1	23.2	0.762	---	---	---
	22-Sep-2014	1	0.331	0.268	0.387 [#1]	0.822 [#1]	---	< 0.141	0.195	0.147 [#1]	0.843	0.202	< 0.124	1.13 [#1]	< 0.142 [#1]	---	0.147 [#1]	0.686	1.2	3.32	12	0.61	97.3	---	1.06 [#1]	18.3	0.078 [#1]	0.183 [#1]	7.13	14.4	0.353 [#1]	---	---	---
(Replicate A)	23-Sep-2015	1	0.496	0.387	0.482 [#1]	1.54	---	< 0.154	0.439	0.279 [#1]	2.11	0.381	< 0.142	7.49	0.242 [#1]	---	0.253 [#1]	1.46	3	6.44	18.5	0.952	88.3	---	2.16	20	< 0.111	0.274	5.75	11.7	0.721	---	---	---
(Replicate B)	23-Sep-2015	1	0.422	0.299	0.313	1.27 [#1]	---	< 0.131	0.418	0.232 [#1]	1.84	0.262	< 0.12	6.48	0.170 [#1]	---	0.218 [#1]	1.21	2.31	4.62	12.6	0.713	62.1	---	1.85	13.8	< 0.0823	0.2	3.53	7.92	0.485	---	---	---
	12-Sep-2017	1	0.63	0.365	0.757 [#1]	1.17	---	< 0.324	0.436	< 0.306	1.79	< 0.289	< 0.311	6.59	< 0.296	---	< 0.287	0.909	1.44	2.82	8.89	0.567	47.6	---	1.32	9.6	< 0.0582	0.08	5.63	10.4	0.384 [#1]	---	---	---
(Replicate A)	29-Aug-2018	1	0.488	0.535	0.586	1.03 [#1]	---	< 0.607	< 0.551	< 0.564	2.02	< 0.533	< 0.551	2.63	---	---	< 0.557	1.21 [#1]	1.84 [#1]	5.09	14.5	0.696 [#1]	82.2	---	---	14.7	< 0.293	< 0.279	13.3	22.9	0.481 [#1]	---	---	---
(Replicate B)	29-Aug-2018	1	0.478	0.549	0.571	0.8	---	< 0.318	0.396 [#1]	< 0.296	1.78	< 0.279	< 0.289	2.03	---	---	< 0.292	0.586	1.84	3.22	7.11	0.445 [#1]	31.6	---	0.934	6.85	< 0.283	< 0.283	1.36	3.58	0.489 [#1]	---	---	---
(Replicate C)	29-Aug-2018	1	0.615	0.825	0.782	0.978	---	< 0.392	< 0.356	< 0.365	1.97	0.484 [#1]	< 0.356	2.86	---	---	< 0.36	0.995	2.62	7.12 [#1]	18.5	0.994 [#1]	62.6	---	1.23	15.4	< 0.336	< 0.281	3.96	8.91	0.588 [#1]	---	---	---
	25-Aug-2020	1	0.475	0.243	0.719	< 1.04	---	< 0.691	< 0.635	< 0.65	0.59	< 0.602	< 0.623	1.77	< 0.674	---	< 0.649	< 0.789	0.68 [#1]	1.51	4.25	0.259 [#1]	22.2	---	0.571 [#1]	4.8	< 0.0692	0.064	1.34	3.05	0.223	---	---	---

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 1 (ng/kg)	PCB 2 (ng/kg)	PCB 3 (ng/kg)	PCB 4 (ng/kg)	PCB 4/10 (ng/kg)	PCB 5 (ng/kg)	PCB 6 (ng/kg)	PCB 7 (ng/kg)	PCB 8 (ng/kg)	PCB 9 (ng/kg)	PCB 10 (ng/kg)	PCB 11 (ng/kg)	PCB 12/13 (ng/kg)	PCB 13 (ng/kg)	PCB 14 (ng/kg)	PCB 15 (ng/kg)	PCB 16 (ng/kg)	PCB 17 (ng/kg)	PCB 18/30 (ng/kg)	PCB 19 (ng/kg)	PCB 20/28 (ng/kg)	PCB 21/20/33 (ng/kg)	PCB 21/33 (ng/kg)	PCB 22 (ng/kg)	PCB 23 (ng/kg)	PCB 24 (ng/kg)	PCB 25 (ng/kg)	PCB 26/29 (ng/kg)	PCB 27 (ng/kg)	PCB 28 (ng/kg)	PCB 29 (ng/kg)	PCB 30 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																		
	29-Sep-2021	1	0.23	< 0.14	0.42	< 0.94	---	< 0.72	< 0.57	1.65	1.90	< 0.61	< 0.57	5.90	< 0.64	---	< 0.68	1.90	1.46	3.15	10.7	0.87	61.1	---	1.40	9.07	< 0.40	< 0.17	13.2	12.4	0.35	---	---	---
Brook Trout 5+	04-Oct-2006	5	--- [#2]	--- [#2]	--- [#2]	---	< 6.6	< 2.2	< 2.1	< 2.1	12	< 2.0	---	< 2.0	< 2.1	< 1.9	< 1.9	6.5	11	14	59	2.6	---	22	---	35	< 0.10	< 0.10	4.4	17	1.0	200	< 0.10	< 0.10
	11-Sep-2007	2	2.5	1.7	3.4	---	< 9.6	< 5.9	< 5.5	< 5.5	< 5.2	< 5.1	---	< 5.4	< 5.9	< 5.3	< 5.2	< 5.9	6.9	7.9	18	< 1.8	---	7.5	---	12	< 0.70	< 1.2	3.0	8.1	< 1.1	64	< 0.70	< 1.1
	12-Aug-2010	1	4.43	1.35	4.50	---	< 12	< 9.3	< 8.8	< 8.7	< 8.1	< 8.6	---	< 8.3	< 8.7	< 8.3	< 8.6	< 7.6	15.4	13.0	54.8	4.3	---	19.6	---	23.9	< 0.90	< 1.0	3.36	8.85	< 0.90	65.7	< 0.80	< 1.0
	01-Sep-2013	1	1.2	1.27	2.24	1.59	---	< 0.28	0.399 [#1]	0.394 [#1]	1.76	0.61	< 0.246	2.48	0.456	---	< 0.262	1.94	3.68	8.75	27.3	1.18	258	---	2.92	42	0.115	0.37	10.9	27	1.09	---	---	---
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	20.1 [#1]	4.3	11.6	---	< 50	< 20	< 20	< 20	< 20	< 20	---	< 20	< 30	< 20	< 20	< 30	20.2	20.8 [#1]	62.8	< 7.0	---	18.0	---	38.1	< 3.0	< 3.0	10.8	24.4	< 3.0	217	< 2.0	< 3.0
	23-Sep-2015	1	0.456	0.357	0.369	2.01	---	< 0.123	0.529	0.364	2.54	0.514	< 0.113	7.39	0.225 [#1]	---	0.295 [#1]	2.09	4.58	9.11	30.9	1.5	129	---	2.41	27.4	< 0.131	0.427	14.3	25.9	1.16	---	---	---
	30-Aug-2016	1	0.365	0.32	0.523 [#1]	0.665 [#1]	---	< 0.141	< 0.122	< 0.125	0.837	0.175 [#1]	< 0.129	3.65	< 0.127	---	< 0.124	0.548 [#1]	1.49	2.83	7.35	0.39	44	---	0.661 [#1]	8.31	< 0.0674	0.088	3.46	6.29	0.307	---	---	---
	12-Sep-2017	1	0.633 [#1]	0.382 [#1]	0.546	1.43	---	< 0.29	0.556	< 0.271	2.4	0.38 [#1]	< 0.283	6.05	< 0.258	---	< 0.256	1.37	2.64	6.1	15.9	0.816	103	---	1.82	19.4	< 0.0775	0.221 [#1]	8.96	17.5	0.655	---	---	---
(Re-analysis)	12-Sep-2017	1	0.561	0.32	0.446 [#1]	1.64	---	< 0.149	0.529	0.254	2.5	0.367	< 0.139	6.14	0.191	---	< 0.137	0.968	2.13	4.89	13.3	0.642	71.3	---	1.76	13	0.068	0.321	6.33	11.8	0.515 [#1]	---	---	---
	29-Sep-2021	1	< 0.70 [#4]	< 0.95 [#4]	< 0.90 [#4]	< 5.4 [#4]	---	< 4.8 [#4]	< 3.8 [#4]	< 3.9 [#4]	< 3.3 [#4]	< 4.1 [#4]	< 3.9 [#4]	< 3.7 [#4]	< 3.5 [#4]	---	< 3.7 [#4]	< 4.6 [#4]	< 2.2 [#4]	2.6 [#4]	9.6 [#4]	< 1.4 [#4]	58.0 [#4]	---	< 1.4 [#4]	10.3 [#4]	< 1.5 [#4]	< 1.5 [#4]	6.5 [#4]	< 1.5 [#4]	< 1.4 [#4]	---	---	---
Brook Trout 6+	11-Sep-2007	3	2.5	1.7	< 0.80	---	< 14	< 8.2	< 7.6	< 7.6	< 7.2	< 7.1	---	< 7.5	< 8.1	< 7.4	< 7.2	< 8.2	6.8	8.8	15	< 2.3	---	5.9	---	11	< 0.80	< 1.6	1.8	5.2	< 1.5	41	< 0.80	< 1.5
Brook Trout 7+	11-Sep-2007	3	2.2	1.4	2.4	---	< 8.9	< 5.3	< 4.9	< 4.9	< 4.7	< 4.6	---	< 4.8	< 5.3	< 4.8	< 4.6	< 5.3	8.9	12	29	3.2	---	7.4	---	15	< 0.60	< 1.1	3.4	8.1	< 1.0	53	< 0.60	< 1.0
(Duplicate)	11-Sep-2007	3	2.9	---	2.6	---	< 14	< 8.4	< 7.7	< 7.8	< 7.4	< 7.2	---	< 7.6	< 8.3	< 7.5	< 7.3	< 8.4	7.9	9.7	23	< 2.1	---	9.5	---	12	< 0.90	< 1.4	2.5	6.2	< 1.3	44	< 0.90	< 1.3
Brook Trout 11+	11-Sep-2007	2	< 50 [#1]	< 2.3	< 2.6	---	< 60	< 7.2	< 6.6	< 6.7	< 6.3	< 6.2	---	< 6.5	< 7.1	< 6.4	< 6.3	< 7.2	8.7	9.1	8.2	< 3.3	---	5.6	---	9.3	< 0.60	< 2.3	1.8	5.3	< 2.1	48	< 0.60	< 2.1
Brook Trout 12+	11-Sep-2007	2	3.1	< 0.70	3.2	---	< 9.8	< 6.1	< 5.6	< 5.7	< 5.4	< 5.3	---	< 5.6	< 6.1	< 5.5	< 5.3	< 6.1	5.8	7.9	18	< 1.9	---	7.9	---	14	< 0.70	< 1.3	3.4	9.7	< 1.2	79	< 0.70	< 1.2
Brook Trout Unknown	23-Jul-2008	3	1.9	< 0.80	1.3	---	5.4 [#1]	< 1.3	< 1.2	< 1.2	4.9	< 1.1	---	9.2	< 1.2	< 1.1	< 1.2	3.0	3.8	6.7	23	1.3	---	4.8	---	10	< 0.50	< 0.50	2.7	7.6	0.96	43	< 0.50	< 0.50
(Replicate)	23-Jul-2008	3	4.6	< 2.8	5.6	---	4.4	< 1.5	< 1.4	< 1.4	5.4	< 1.3	---	8.1	< 1.4	< 1.3	< 1.4	3.0	4.6	8.4	21	1.5	---	4.3	---	8.9	< 0.60	< 0.60	2.2	5.7	1.1	36	< 0.50	< 0.60
(Replicate A)	23-Jul-2008	2	0.92	0.41	0.75	---	4.6 [#1]	< 0.60	0.93	< 0.60	4.6	1.6 [#1]	---	8.8	< 0.60	< 0.60	< 0.60	3.5	4.3	6.9	21	1.2	---	4.4	---	9.8	< 0.30	< 0.30	3.0	7.4	0.97	38	< 0.30	< 0.30
(Replicate B)	23-Jul-2008	2	0.70	0.45	0.78	---	3.9	< 0.80	1.3	< 0.70	5.1	< 0.70	---	9.3	< 0.70	< 0.70	< 0.70	2.5	4.4	7.5	25	1.4	---	5.1	---	11	< 0.40	< 0.30	2.8	7.4	0.85	46	< 0.30	< 0.30
(Replicate C)	23-Jul-2008	2	2.9	2.1	5.3 [#1]	---	4.5	< 1.6	< 1.4	< 1.5	8.3	< 1.3	---	10	< 1.5	< 1.4	< 1.4	6.4 [#1]	7.1	11	29	1.5	---	6.8	---	12	< 0.60	< 0.60	2.9	7.3	1.2	48	< 0.60	< 0.60
	12-Oct-2022	1	< 0.89	< 1.3	< 1.3	< 4.7	---	< 4.2	< 3.2	< 3.2	< 2.6	< 3.6	< 3.1	< 5.0	< 4.7	---	< 4.9	< 5.5	< 2.3	2.3	6.8	< 1.8	57.7	---	< 2.1	7.2	< 2.2	< 1.7	7.8	8.6	< 1.6	---	---	---
(Replicate A)	13-Sep-2023	1	0.78 [#5]	0.59 [#5]	0.75 [#5]	< 2.2 [#5]	---	< 0.55 [#5]	< 0.53 [#5]	< 0.55 [#5]	< 0.51 [#5]	< 0.52 [#5]	< 0.48 [#5]	3.20 [#5]	< 0.49 [#5]	---	< 0.50 [#5]	0.81 [#5]	0.41 [#5]	1.27 [#5]	3.04 [#5]	< 0.31 [#5]	23.2 [#5]	---	0.55 [#5]	4.49 [#5]	< 0.28 [#5]	< 0.16 [#5]	2.26 [#5]	2.59 [#5]	< 0.14 [#5]	---	---	---
(Replicate B)	13-Sep-2023	1	< 0.94	1.80	< 0.81	< 4.9	---	< 1.9	< 1.7	< 1.8	< 1.6	< 1.7	< 1.7	< 4.9	< 4.8	---	< 4.8	< 4.2	< 1.7	1.9	4.4	< 0.98	26.3	---	< 1.8	4.5	< 2.1	< 1.3	3.8	4.3	< 1.2	---	---	---
Brook Trout (Muscle only) 3+	01-Feb-2012	1	51.5	3.32	14.5	---	114	< 6.0	< 6.0	< 6.0	111 [#1]	< 6.0	---	47.4	< 6.0	< 6.0	< 6.0	23.8 [#1]	36.4	30.7	84.5	14.7 [#1]	---	20.4	---	30.0	< 2.0	< 3.0	5.4	7.8 [#1]	< 3.0	89.3	< 2.0	< 3.0
Brook Trout (Skin Only) 3+	01-Feb-2012	1	34.0	1.60	6.82 [#1]	---	75.9	< 4.0	< 4.0	< 4.0	58.7 [#1]	< 4.0	---	23.0 [#1]	< 4.0	< 4.0	< 4.0	14.7	19.7	17.3	67.4	9.2 [#1]	---	15.4 [#1]	---	29.5	< 1.0	< 2.0	4.9	12.9	< 2.0	99.2	< 1.0	< 2.0
Brook Trout (Stomach) 1+	01-Sep-2012	4	17.5	12.2	16.5	---	37	< 7.0	< 7.0	< 7.0	83.8	< 7.0	---	118	< 7.0	< 6.0	< 7.0	49.6	33.3	28.2	91.8	< 4.0	---	47.2	---	29.4	< 1.0	< 3.0	4.2	11.5	< 2.0	71.7	< 1.0	< 2.0
Brook Trout (Stomach) 2+	01-Sep-2012	4	19.9 [#1]	26.6	36.4	---	< 20	< 10	< 20	< 20	94	< 10	---	202	< 20	< 10	< 10	< 10	47 [#1]	36.9	103	< 8.0	---	48.6 [#1]	---	30.2	< 3.0	< 6.0	< 3.0	12.3 [#1]	< 5.0	84.5	< 3.0	< 6.0
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	17.3 [#1]	12.4	22.3 [#1]	---	71 [#1]	< 7.0	< 7.0	< 7.0	80.5	< 7.0	---	100	< 7.0	< 6.0	< 7.0	38.3	33.3 [#1]	33.7	88.5	10.6	---	40.5	---	25.2	< 1.0	< 3.0	4.0	6.8	< 2.0	66.6	< 1.0	< 3.0
(Replicate B)	01-Sep-2012	1	22.2	22.7 [#1]	29.0 [#1]	---	104 [#1]	< 10	< 10	< 10	116	< 10 [#1]	---	134 [#1]	< 10	< 10	< 10	41 [#1]	39.2	50.5	111	< 7.0	---	57.5	---	34.5	< 2.0	< 4.0	4.3 [#1]	12.9 [#1]	< 4.0	81.8	< 2.0	< 4.0
White Sucker 1+	01-Feb-2012	1	23.5	1.93	9.60	---	67.0	< 4.0	14.8	< 4.0	69.3	< 4.0	---	27.4	< 4.0	< 4.0	< 4.0	15.9	28.4	25.2	65.1	8.5	---	27.0	---	29.7	< 1.0	< 2.0	3.8	8.7	3.8 [#1]	108	< 1.0	< 2.0
	21-Sep-2014	2	0.206	0.18	0.268	0.224	---	< 0.188	< 0.165	< 0.17	0.542	< 0.167	< 0.161	1.02 [#1]	< 0.186	---	< 0.173	0.362 [#1]	0.751	0.74	1.51	0.113 [#1]	5.07	---	1.42	1.43	< 0.0579	< 0.0579	0.245	0.676	0.151 [#1]	---	---	---
White Sucker 2+	01-Feb-2012	1	23.0	2.19	8.69	---	73.4	< 5.0	15.4	< 4.0	80.0	< 5.0	---	28.3 [#1]	< 5.0	< 4.0	< 4.0	16.8 [#1]	25.8	19.8 [#1]	62.0	9.2 [#1]	---	17.8	---	14.2	< 0.90	< 2.0	1.84 [#1]	4.76	< 2.0	29.5	< 0.90	< 2.0
	22-Sep-2014	4	0.207	0.185	0.282	0.276 [#1]	---	< 0.154	0.201 [#1]	< 0.139	0.715	< 0.136	< 0.132	0.972	< 0.152	---	< 0.141	0.316 [#1]	0.886	1.02	2.09	0.141 [#1]	7.08	---	2.22	1.98	< 0.0573	< 0.0573	0.344	0.952	0.154 [#1]	---	---	---
White Sucker 3+	01-Feb-2012	1	85.4	4.4 [#1]	21.0	---	200	< 10	< 10	< 10	159	< 10	---	< 10	< 10	< 10	< 10	< 10	45.4	41.7	134	26.8	---	32.5	---	22.1 [#1]	< 3.0	< 5.0	< 3.0	9.4 [#1]	< 5.0	65.1	< 3.0	< 5.0
White Sucker 6+	11-Sep-2007	4	3.2	1.4	2.9	---	< 8.9	< 6.0	< 5.6	< 5.6	< 5.3	< 5.2	---	< 5.5	< 6.0	< 5.4	< 5.3	< 6.0	5.1	4.2	6.6	< 1.3	---	4.2	---	2.9	< 0.50	< 0.90	< 0.40	1.0	< 0.80	8.2	< 0.50	< 0.80
White Sucker 7+	11-Sep-2007	3	3.2	2.0	3.6	---	< 17	< 8.1	< 7.5	< 7.6	< 7.2	< 7.0	---	< 7.4	< 8.1	< 7.3	< 7.1	< 8.1	5.3	4.6	7.5	< 1.7	---	4.6	---	2.7	< 0.60	< 1.2	< 0.50	1.2	< 1.0	6.9	< 0.60	< 1.1
White Sucker 8+	11-Sep-2007	5	2.9	1.7	2.8	---	< 15	< 8.0	< 7.4	< 7.4	< 7.0	< 6.9	---	< 7.3	< 7.9	< 7.2	< 7.0	< 8.0	5.5	5.7	8.5	< 1.7	---	5.3	---	3.3	< 0.60	< 1.2	< 0.50	1.7	< 1.1	8.7	< 0.60	< 1.1
	11-Aug-2009	4	--- [#2]	< 41	< 39	---	--- [#2]	< 770	< 760	< 770	< 710	< 720	---	< 740	< 750	< 710	< 740	< 750	--- [#2]	--- [#2]	--- [#2]	--- [#2]	---	--- [#2]	---	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]
White Sucker 9+	11-Sep-2007	4	3.1	1.7	2.8	---	< 9.4	< 5.4	< 5.0	< 5.1	< 4.8	< 4.7	---	< 4.9	< 5.4	< 4.9	< 4.7	< 5.4	6.0	4.1	8.5	< 1.2	---	5.6	---	3.6	< 0.50	< 0.80	< 0.40	1.7	< 0.70	11	< 0.50	< 0.70
White Sucker 10+	11-Aug-2009	4	--- [#2]	< 30	< 29	---	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	---	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	---	--- [#2]	---	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]
Forage Fish	04-Nov-2014	---	0.854	0.545	1.22 [#1]	0.877	---	< 0.385	< 0.316	< 0.319	1.21	< 0.327	< 0.315	4.47	< 0.333	---	< 0.328	0.51	1.24	1.12	2.67	0.491 [#1]	10.6	---	3.23	4.43	< 0.0682	< 0.0682	0.683	1.65	0.178 [#1]	---	---	---

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 1 (ng/kg)	PCB 2 (ng/kg)	PCB 3 (ng/kg)	PCB 4 (ng/kg)	PCB 4/10 (ng/kg)	PCB 5 (ng/kg)	PCB 6 (ng/kg)	PCB 7 (ng/kg)	PCB 8 (ng/kg)	PCB 9 (ng/kg)	PCB 10 (ng/kg)	PCB 11 (ng/kg)	PCB 12/13 (ng/kg)	PCB 13 (ng/kg)	PCB 14 (ng/kg)	PCB 15 (ng/kg)	PCB 16 (ng/kg)	PCB 17 (ng/kg)	PCB 18/30 (ng/kg)	PCB 19 (ng/kg)	PCB 20/28 (ng/kg)	PCB 21/20/33 (ng/kg)	PCB 21/33 (ng/kg)	PCB 22 (ng/kg)	PCB 23 (ng/kg)	PCB 24 (ng/kg)	PCB 25 (ng/kg)	PCB 26/29 (ng/kg)	PCB 27 (ng/kg)	PCB 28 (ng/kg)	PCB 29 (ng/kg)	PCB 30 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																		
Invertebrates	22-Aug-2014	---	1.72	1.22	3.22 #1	< 1.9	---	< 1.44	< 1.18	< 1.19	1.05 #1	< 1.22	< 1.18	21.2	< 1.25	---	< 1.23	1.49 #1	0.738 #1	1.39	2.02	< 0.317	21.8	---	2.55	4.02	< 0.295	< 0.295	1.3	4.08	< 0.295	---	---	---
Edith Lake																																		
Brook Trout 1+	11-Aug-2009	7	--- #2	< 13	< 12	---	--- #2	< 4.9	< 4.8	< 4.9	27.4	< 4.5	---	30.9	< 4.8	< 4.5	< 4.7	13.5	< 4.9	4.7	9.8	< 15	---	17.0	---	14.0	< 2.6	< 2.8	< 2.5	< 2.6	< 2.7	52.7	< 2.4	< 2.8
	01-Sep-2011	4	10.4	< 0.50	4.10	---	27.1	< 3.0	7.2 #1	< 3.0	42.4	< 3.0	---	20.7 #1	< 3.0	< 3.0	< 3.0	24.8	7.1 #1	13.3	29.4	< 3.0	---	8.66	---	9.5 #1	< 0.90	< 2.0	2.63	3.62	< 1.0	32.2	< 0.90	< 1.0
(Duplicate)	01-Sep-2011	4	9.29	< 0.60	3.83	---	33	< 9.0	< 9.0	< 8.0	39.2	< 8.0	---	21.0	< 9.0	< 8.0	< 8.0	17.3	< 5.0	18.4	35.8 #1	< 4.0	---	11.4	---	11.0 #1	< 2.0	< 3.0	< 2.0	9.1	< 2.0	49.4	< 2.0	< 2.0
	01-Sep-2012	3	5.09	4.61 #1	5.35	---	< 4.0	< 3.0	< 3.0	< 3.0	26.7 #1	< 3.0	---	48.0	< 3.0	< 3.0	< 3.0	10.5	7.5	9.7	25.6	< 2.0	---	11.6	---	12.2	< 0.60	< 1.0	3.14	6.79 #1	< 1.0	42.7	< 0.50	< 1.0
	22-Sep-2015	3	0.441	0.385 #1	0.415	0.868	---	< 0.148	0.359	0.313 #1	1.69	0.275	< 0.136	8.3	0.276	---	0.197	1.23	2.33	10.2	18.8	1.07	87.6	---	1.58	16.7	< 0.175	0.285	8.48	17.6	1.62	---	---	---
	30-Aug-2016	2	0.341	0.271	0.447	0.333 #1	---	< 0.116	< 0.0998	< 0.102	0.477	< 0.101	< 0.106	3.84	< 0.104	---	< 0.101	0.345 #1	0.858	6.48	9.16	0.591	51.4	---	1.12	9.04	< 0.0548	0.147	4.47	7.08	0.861	---	---	---
	13-Sep-2017	3	0.557	0.315 #1	0.502	1.01	---	< 0.373	0.368 #1	< 0.348	2.14	< 0.342	< 0.364	9.03	0.361 #1	---	< 0.329	0.948	2.06	11.7	15.1	1.4	69	---	1.94	13.1	< 0.0728	0.131 #1	6.89	10.1	1.48	---	---	---
	30-Aug-2018	3	0.574	0.505	0.789	0.662 #1	---	< 0.346	< 0.315	< 0.322	1.3	< 0.304	< 0.315	2.6	---	---	< 0.318	0.546 #1	0.604	4.2	5.86	0.457 #1	31	---	0.511 #1	5.83	< 0.09	< 0.0488	2.59	4.46	0.517	---	---	---
(Replicate A)	06-Sep-2019	4	0.532	0.329	0.891	0.387	---	< 0.092	0.218	0.231	0.84	0.13	< 0.0798	4.45	0.249	---	0.164	0.883	0.823	6.74	9.35	0.725	44.5	---	1.58	8.29	< 0.106	0.069	3.85	6.18	0.656	---	---	---
(Replicate B)	06-Sep-2019	4	0.377	0.245	1.15	0.373	---	< 0.109	0.154	0.165	0.714	< 0.0948	< 0.0952	3.92	0.187	---	< 0.0988	0.721	0.48	4.06	6	0.496	40.5	---	1.71	6.51	< 0.0877	0.066	3.12	5.42	0.391	---	---	---
	26-Aug-2020	7	0.401	0.227	0.663	< 0.891	---	< 0.564	< 0.522	< 0.539	0.553	< 0.504	< 0.511	2.47	< 0.553	---	< 0.536	< 0.669	0.565	3.45	5.32	0.427	32.6	---	0.859	5.6	< 0.0579	0.063 #1	2.77	4.53	0.392	---	---	---
	30-Sep-2021	8	< 0.11	< 0.14	< 0.13	< 0.85	---	< 0.68	< 0.55	< 0.56	1.30	< 0.58	< 0.55	4.20	< 0.68	---	< 0.72	< 0.75	< 0.35	1.60	3.37	< 0.24	14.8	---	1.48	2.57	< 0.38	< 0.24	1.00	1.89	< 0.23	---	---	---
	13-Oct-2022	2	< 0.62	< 0.93	< 0.92	< 3.1	---	< 3.1	< 2.4	< 2.4	< 2.0	< 2.7	< 2.3	18.0	< 3.6	---	< 3.7	< 4.7	< 1.7	< 1.5	3.6	< 1.1	11.8	---	< 1.4	< 1.6	< 1.4	< 1.2	< 1.3	< 1.5	< 1.2	---	---	---
	14-Sep-2023	2	< 1.1	< 0.86	< 0.74	< 8.1	---	< 1.8	< 1.7	< 1.7	< 1.6	< 1.7	< 1.5	6.8	< 2.6	---	< 2.6	< 1.6	< 0.71	1.73	2.40	< 1.1	10.8	---	< 0.69	2.60	< 0.79	< 0.49	0.75	2.20	< 0.43	---	---	---
Brook Trout 2+	11-Aug-2009	4	--- #2	< 7.6	< 7.2	---	< 17	< 3.0	4.9 #1	< 3.0	19.7	< 2.8	---	19.0	< 2.9	< 2.7	< 2.9	8.4	< 3.6	4.3	11.7	< 8.1	---	9.6	---	9.6	< 1.9	< 2.0	< 1.8	3.2	< 2.0	39.7	< 1.8	< 2.1
	11-Aug-2010	5	2.49 #1	0.99	1.52	---	9.9	< 1.4	< 1.3	< 1.3	15.0	< 1.3	---	15.2	< 1.3	< 1.3	< 1.3	< 1.1	11.7	11.3	33.1	< 1.6	---	14.7	---	15.5	< 0.90	< 0.90	3.83	8.81	1.45	61.6	< 0.80	< 0.90
	01-Sep-2011	4	10.6	2.36 #1	4.22 #1	---	23.7	< 4.0	8.2	< 3.0	45.0	< 3.0	---	23.2	< 3.0	< 3.0	< 3.0	17.9	< 3.0	10.8 #1	47.5	5.1 #1	---	11.6	---	12.2	< 1.0	< 2.0	3.5	7.2	< 2.0	65.1	< 1.0	< 2.0
	01-Sep-2012	3	4.39 #1	5.04 #1	5.60	---	24.1 #1	< 3.0	< 3.0	< 3.0	23.3	< 3.0	---	33.7 #1	< 3.0	< 2.0	< 3.0	10.7	7.3	8.1	26.5	< 2.0	---	11.6	---	13.9	< 0.50	< 0.90	3.36	8.05	< 0.90	55.7	< 0.50	< 0.90
	01-Sep-2013	3	0.204	0.152	0.373	0.22	---	< 0.143	< 0.124	< 0.128	0.286	< 0.123	< 0.123	2.01	< 0.139	---	< 0.133	0.278	0.383	1.55	6.7	0.191	83.3	---	1.41	11.3	< 0.0767	0.088 #1	7.86	15.8	0.22	---	---	---
	21-Sep-2014	4	0.178	0.148	0.26	< 0.203	---	< 0.152	< 0.138	< 0.141	0.226 #1	< 0.136	< 0.133	0.937	< 0.153	---	< 0.142	0.285 #1	0.578 #1	1.25	5	0.235	17.1	---	0.333 #1	2.44	< 0.0574	0.075 #1	2.02	3.39	0.169 #1	---	---	---
(Replicate A)	21-Sep-2014	1	0.258	0.165	0.283	0.194 #1	---	< 0.099	0.097 #1	< 0.0922	0.322	< 0.0885	< 0.087	2.14	0.129 #1	---	0.109 #1	0.414 #1	1.12	2.43	8.9	0.509 #3	23.8	---	0.321 #1	4.34	< 0.0565	0.143	5.27	7.97	0.34	---	---	---
(Replicate B)	21-Sep-2014	1	0.184	0.165	0.286	< 0.169	---	< 0.128	< 0.116	0.121 #1	0.263 #1	< 0.115	< 0.112	1.04	< 0.129	---	< 0.12	0.212	0.575	0.976 #1	2.74	0.147 #1	6.36	---	0.225 #1	1.1	< 0.0579	< 0.0579	0.395	0.728	0.126	---	---	---
	22-Sep-2015	1	0.45	0.312	0.372	0.802	---	< 0.154	0.362	0.197	1.74	0.216 #1	< 0.142	7.78	0.259	---	0.208 #1	1.02	1.03 #1	1.38	3.84	0.228 #1	11.0	---	1.53	2.3	< 0.0877	0.093 #1	0.677	1.64	0.174 #1	---	---	---
	30-Aug-2016	2	0.392	0.302	0.522	0.282	---	< 0.13	0.137	< 0.115	0.453	< 0.114	< 0.119	3.19	< 0.117	---	< 0.114	0.323	0.424	1.14	4.24	0.198 #1	42.6	---	0.508	4.24	< 0.0563	< 0.0563	6.64	9.4	0.154	---	---	---
	13-Sep-2017	3	0.558	0.325	0.541	0.82	---	< 0.321	0.362 #1	< 0.3	2.04	< 0.294	< 0.313	8.13	< 0.285	---	< 0.283	0.812	0.9	1.04	2.23	0.256	6.34	---	1.3 #1	1.33	< 0.0605	< 0.059	0.423	0.913	0.162 #1	---	---	---
	30-Aug-2018	3	0.765	0.565	1.05	0.686 #1	---	< 0.252	0.403 #1	< 0.229	1.26	< 0.222	< 0.226	1.73	---	---	< 0.224	0.511	0.378 #1	0.718	1.71	0.285 #1	11.3	---	0.42 #1	1.66	< 0.0723	< 0.0474	0.808	1.5	0.09	---	---	---
(Replicate A)	06-Sep-2019	4	0.256	0.192	0.457	0.212	---	< 0.122	0.154	< 0.108	0.68	< 0.106	< 0.107	3.57	0.228	---	< 0.111	0.493	0.358	0.528	1.03	< 0.0577	6.81	---	0.705	1.33	< 0.0577	< 0.0577	0.341	0.797	0.1	---	---	---
(Replicate B)	06-Sep-2019	4	0.331	0.257	0.974	0.275	---	< 0.107	0.188	< 0.0944	0.786	0.102	< 0.0933	3.09	0.138	---	< 0.0968	0.583	0.469	0.748	1.76	0.157	11.7	---	0.969	1.89	< 0.0647	< 0.0567	2.5	3.21	0.123	---	---	---
	26-Aug-2020	2	0.404	0.226	0.801	< 0.846	---	< 0.523	< 0.484	< 0.499	0.524	< 0.467	< 0.474	2.36	< 0.513	---	< 0.496	< 0.608	0.336	0.763	1.65	0.122 #1	14.9	---	0.56	2.17	< 0.058	< 0.058	1.07	1.82	0.09	---	---	---
	30-Sep-2021	10	0.25	< 0.15	0.18	< 0.86	---	< 0.62	< 0.50	< 0.51	< 0.42	< 0.53	< 0.50	4.99	< 0.56	---	< 0.59	< 0.56	< 0.30	0.60	1.61	< 0.22	8.24	---	0.62	1.02	< 0.18	< 0.20	1.27	1.55	< 0.20	---	---	---
	13-Oct-2022	8	< 0.10	< 0.13	< 0.12	< 0.79	---	< 0.63	< 0.50	< 0.51	< 0.43	< 0.54	< 0.51	4.40	< 0.62	---	< 0.66	1.10	0.58	2.90	6.58	0.98	43.8	---	1.30	3.90	< 0.29	< 0.22	7.12	7.87	0.55	---	---	---
	14-Sep-2023	3	< 1.8	< 0.92	< 0.64	< 6.5	---	< 1.3	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	3.0	< 1.7	---	< 1.7	< 0.99	< 0.49	< 0.40	0.94	< 0.63	5.98	---	< 0.57	0.78	< 0.66	< 0.34	0.92	1.14	< 0.30	---	---	---
Brook Trout 3+	11-Aug-2010	3	2.30	0.91	1.71	---	< 2.2	< 1.5	< 1.4	< 1.4	17.3	< 1.4	---	15.1	< 1.5	< 1.4	< 1.4	6.0	9.9	10.4	34.3	< 1.4	---	19.8	---	19.0	< 0.90	< 0.90	5.23	12.7	< 0.90	87.9	< 0.80	< 0.90
	01-Sep-2011	3	11.8	< 0.50	5.61 #1	---	32.7	< 3.0	8.7 #1	< 3.0	42.4	< 3.0	---	23.3 #1	< 3.0	< 3.0	< 3.0	21.7	< 4.0	16.9 #1	42.9	< 4.0	---	15.7	---	15.6 #1	< 2.0	< 3.0	4.7 #1	9.6	< 2.0	70.6 #1	< 2.0	< 3.0
	01-Sep-2012	5	4.20 #1	3.58	4.25 #1	---	< 4.0	< 3.0	< 3.0	< 3.0	27.4 #1	< 3.0	---	29.3	< 3.0	< 2.0	< 3.0	10.9 #1	7.6 #1	9.6	21.4	< 2.0	---	10.4	---	13.9	< 0.50	< 1.0	4.22 #1	9.46 #1	< 1.0	56.3	< 0.50	< 1.0
(Replicate A)	01-Sep-2013	3	0.193	0.204	0.36	0.226	---	< 0.153	< 0.133	< 0.137	0.219 #1	< 0.132	< 0.132	3.19	< 0.15	---	< 0.142	0.185	0.492	1.86	7.01	0.167	73.6	---	1.17	9.01	< 0.0814	0.132	7.06	15	0.187	---	---	---
(Duplicate)	01-Sep-2013	3	0.345	0.185	0.636	0.411	---	< 0.0942	< 0.0815	< 0.0841	0.259	< 0.0812	< 0.081	3.12 #1	< 0.0918	---	< 0.0874	0.382	0.494	1.78	6.08	0.44	65.4	---	0.846	7.73	0.139	0.104	6.1	13	0.175	---	---	---
(Replicate B)	01-Sep-2013	3	0.203	0.16	0.41	0.172	---	< 0.146	< 0.126	< 0.13	0.253	< 0.125	< 0.125	3.09	< 0.142	---	< 0.135	0.268	0.416	1.33	7.51	0.208	66.3	---	0.927	8.2	< 0.0648	0.139	6.67	15.7	0.171	---	---	---
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	24.8	6.0 #1	12.5 #1	---	< 50	< 30	< 30	< 30	< 20	< 30	---	< 30	< 30	< 30	< 30	< 30	19.9	20.1	61.3	< 6.0	---	19.0	---	17.7	< 2.0	< 3.0	10.0	19.1	< 3.0	97.6	< 2.0	< 3.0
	21-Sep-2014	4	0.239 #1	0.199	0.264	0.234	---	< 0.162	0.177 #1	< 0.146	0.425	< 0.143	< 0.138	1.47	< 0.159	---	< 0.149	0.301 #1	0.576 #1	1.3	4.31	0.258 #3	39.7	---	0.742	5.59	< 0.0779	0.102 #1	4.69	7.52	0.16 #1	---	---	---
(Replicate A)	21-Sep-2014	1	0.32	0.224	0.41	0.301 #1	---	< 0.106	0.166	0.129 #1	0.513	0.157 #1	< 0.0908	2.18	0.113 #1	---	0.12 #1	0.607	1.08	3.69	12	1.02 #3	66.1	---	0.753 #1	14.6	< 0.0692	0.192	23	24.7	0.524	---	---	---
(Replicate B)	21-Sep-2014	1	0.203 #1	0.19	0.313	< 0.262	---	< 0.216	< 0.189	< 0.194	0.299 #1	< 0.191	< 0.185	0.795	< 0.213	---	< 0.198	0.229 #1	0.125 #1	0.267	0.618	< 0.0915	9.77	---	0.228	0.976	< 0.0726	< 0.0626	0.631	0.916	< 0.0574	---	---	---
	22-Sep-2015	3	0.42	0.334	0.496 #1	0.728	---	< 0.213	0.343 #1	< 0.197	1.82	0.217 #1	< 0.193	8.18	0.266 #1	---	0.254	1.26	1.22	1.83	7.8	0.389	40	---	1.9	6.42	< 0.057	0.162	4.71	9.2	0.377	---	---	---
(Duplicate)	22-Sep-2015	3	0.564	0.378	0.507	0.886	---	< 0.225	0.436	0.214 #1	2.02	0.215 #1	< 0.203	8.21	0.277	---	< 0.199	1.31	1.43	1.9	7.65	0.418	39.5	---	2.10	6.41	< 0.0814	0.135 #1	4.53	8.79	0.337 #1	---	---	---
	30-Aug-2016	1	0.629	1.36	2.12	0.301 #1	---	< 0.114	0.166 #1	< 0.1	0.524	< 0.0992	< 0.104	3.6 #1	0.308	---	< 0.0996	0.44	0.497	1.29	5.59	0.177 #1	37	---	0.502	4.23	< 0.0576	0.061 #1	5.32	9.23	0.164 #1	---	---	---
	13-Sep-2017	3	0.545	0.314	0.532 #1	0.862 #1	---	< 0.467	< 0.427	< 0.436	2.06	< 0.429	< 0.456	7.46	< 0.415	---	< 0.412	0.82	0.952	1.1	2.97	0.228	12.3	---	1.35	2.08	< 0.0599	0.061	0.961	2.02	0.139	---	---	---

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 1 (ng/kg)	PCB 2 (ng/kg)	PCB 3 (ng/kg)	PCB 4 (ng/kg)	PCB 4/10 (ng/kg)	PCB 5 (ng/kg)	PCB 6 (ng/kg)	PCB 7 (ng/kg)	PCB 8 (ng/kg)	PCB 9 (ng/kg)	PCB 10 (ng/kg)	PCB 11 (ng/kg)	PCB 12/13 (ng/kg)	PCB 13 (ng/kg)	PCB 14 (ng/kg)	PCB 15 (ng/kg)	PCB 16 (ng/kg)	PCB 17 (ng/kg)	PCB 18/30 (ng/kg)	PCB 19 (ng/kg)	PCB 20/28 (ng/kg)	PCB 21/20/33 (ng/kg)	PCB 21/33 (ng/kg)	PCB 22 (ng/kg)	PCB 23 (ng/kg)	PCB 24 (ng/kg)	PCB 25 (ng/kg)	PCB 26/29 (ng/kg)	PCB 27 (ng/kg)	PCB 28 (ng/kg)	PCB 29 (ng/kg)	PCB 30 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																																		
(Duplicate)	13-Sep-2017	3	0.683	0.292	0.481	0.766	---	< 0.316	0.373	< 0.295	1.92	< 0.29	< 0.308	4.93	< 0.281	---	< 0.278	0.567	0.713 #1	1.05	2.59	0.275	10.7	---	0.998	1.75	< 0.0816	< 0.0705	0.882	1.72	0.147 #1	---	---	---
	30-Aug-2018	3	0.719	0.591	0.761	0.623 #1	---	< 0.359	< 0.317	< 0.326	1.35	< 0.316	< 0.321	2.15 #1	0.465 #1	---	< 0.318	0.446	0.501	0.964	2.65	0.227 #1	9.64	---	0.448	1.69	< 0.0982	< 0.0491	0.967	2.02	0.088 #1	---	---	---
	06-Sep-2019	4	0.986	0.141	1.65	0.904	---	< 0.136	0.248	< 0.127	1.46	< 0.121	< 0.124	4.99	0.177	---	0.193	1.13	0.616	0.967	2.73	0.56	13.3	---	1.25	2.53	0.208	< 0.0497	0.847	1.8	0.118	---	---	---
(Duplicate)	06-Sep-2019	4	0.336	0.256	0.504	0.333	---	< 0.0936	0.197	< 0.0838	0.772	< 0.081	< 0.0811	5.53	0.271	---	0.145	0.774	0.581	0.963	2.63	0.176	14.1	---	1.03	2.6	< 0.0575	< 0.0575	0.923	1.74	0.116	---	---	---
	26-Aug-2020	5	0.448	0.268	0.704	< 0.803	---	< 0.485	< 0.449	< 0.463	0.565	< 0.433	< 0.44	2.86	< 0.476	---	< 0.461	< 0.561	0.434	0.633	1.67	0.129	10.6	---	0.53	1.57	< 0.0573	< 0.0573	2.05	2.63	0.09	---	---	---
(Duplicate)	26-Aug-2020	5	0.447	0.309	0.839	< 0.834	---	< 0.483	< 0.448	< 0.461	0.55	< 0.432	< 0.438	2.36	< 0.474	---	< 0.459	< 0.547	0.239	0.609	1.35	0.111	12.5	---	0.603	1.97	< 0.058	< 0.058	0.904	1.52	< 0.058	---	---	---
	30-Sep-2021	3	< 0.24 #4	< 0.36 #4	< 0.35 #4	< 1.3 #4	---	< 1.2 #4	< 0.90 #4	< 0.91 #4	< 0.74 #4	< 1.0 #4	< 0.86 #4	< 1.4 #4	< 1.3 #4	---	< 1.3 #4	< 1.5 #4	< 0.57 #4	0.93 #4	2.26 #4	< 0.56 #4	12.4 #4	---	< 0.96 #4	1.5 #4	< 1.0 #4	< 0.41 #4	< 0.91 #4	2.1 #4	< 0.40 #4	---	---	---
	13-Oct-2022	8	< 0.24	< 0.28	0.32	< 1.3	---	< 0.84	< 0.67	< 0.68	< 0.57	< 0.72	< 0.67	3.0	< 0.98	---	< 1.0	< 0.95	0.65	0.66	2.13	< 0.39	11.6	---	1.26	1.40	< 0.34	< 0.23	2.31	2.67	< 0.23	---	---	---
	14-Sep-2023	5	< 0.56	< 0.49	< 0.46	< 4.9	---	< 1.8	< 1.7	< 1.8	< 1.7	< 1.7	< 1.5	5.7	< 2.1	---	< 2.2	< 1.5	< 0.97	1.10	2.41	< 0.99	11.1	---	< 1.1	1.5	< 1.3	< 0.68	3.0	3.4	< 0.59	---	---	---
(Duplicate)	14-Sep-2023	5	< 0.86	< 0.64	< 0.54	< 5.5	---	< 1.8	< 1.7	< 1.7	< 1.6	< 1.7	< 1.5	6.4	< 2.4	---	< 2.5	< 1.6	< 1.1	1.30	2.60	< 1.1	13.0	---	< 0.93	2.2	< 1.1	< 0.78	3.08	2.90	< 0.68	---	---	---
Brook Trout 4+	04-Oct-2006	5	--- #2	--- #2	--- #2	---	< 7.8	< 2.2	< 2.0	< 2.1	< 2.0	< 2.0	---	< 2.0	< 2.1	< 1.9	< 1.9	< 2.4	11	13	58	3.3 #3	---	24	---	39	< 0.10	< 0.20	5.9	21	1.2	250	< 0.10	< 0.20
	01-Sep-2011	2	9.17	< 0.50	4.48	---	28.8 #1	< 3.0	10.6 #1	< 3.0	39.8	5.5 #1	---	29.7 #1	< 3.0	< 3.0	< 3.0	18.5	6.6 #1	15.1 #1	54.0	6.4	---	14.1 #1	---	28.4	< 1.0	< 2.0	8.1	19.9	< 2.0	158	< 1.0	< 2.0
	01-Sep-2013	2	0.176	0.162	0.346	0.206	---	< 0.0959	< 0.083	< 0.0856	0.217	< 0.0826	< 0.0825	2.08	< 0.0935	---	< 0.0889	0.305	0.585	2.5	11.2	0.309 #1	103	---	1.05	15.8	< 0.0967	0.215	8.5	19	0.337	---	---	---
	21-Sep-2014	1	0.288	0.247	0.315	0.345 #1	---	< 0.12	0.161 #1	< 0.109	0.509	< 0.107	< 0.103	2.63	0.147 #1	---	< 0.111	0.335	0.783 #1	1.82	6.87	0.336	69	---	0.992	8.52	< 0.0556	0.118	6.09	11.8	0.185	---	---	---
(Replicate A)	23-Sep-2015	1	0.451	0.311	0.403	0.815	---	< 0.15	0.343	0.177	1.56	0.189 #1	< 0.136	7.6	0.212 #1	---	< 0.135	0.935	0.944	1.36	12.6	0.548	81.9	---	1.79	10.5	< 0.0566	0.167	16.2	30.6	0.323	---	---	---
(Replicate B)	22-Sep-2015	1	0.547	0.35	0.511	0.746	---	< 0.266	0.355	< 0.245	1.75	< 0.234	< 0.24	6.9	< 0.243	---	< 0.235	1.04	1.2	1.79	9.01	0.45	67.4	---	1.71	8.84	< 0.0764	0.184	7.64	14.0	0.333	---	---	---
	30-Aug-2016	1	0.412	0.335 #1	0.467	0.409 #1	---	< 0.118	< 0.102	< 0.104	0.455	< 0.103	< 0.108	3.41	< 0.106	---	< 0.103	0.322	0.457	1.61	5.87	0.297	35.3	---	0.498	4.35	< 0.057	0.097	5.45	9.8	0.183	---	---	---
	13-Sep-2017	1	0.592	0.279 #1	0.395	0.708	---	< 0.313	0.461	< 0.293	1.91	< 0.287	< 0.306	4.86	< 0.278	---	< 0.276	0.562	0.756 #1	1.2	3.5	0.304 #1	16	---	1.02	2.5	< 0.0578	< 0.0578	2.17	3.87	0.157	---	---	---
	30-Aug-2018	1	0.67	0.583	0.823	0.556	---	< 0.308	< 0.272	< 0.28	1.24	< 0.271	< 0.275	1.79	0.545 #1	---	< 0.273	0.566	0.529 #1	0.857	2.47	0.201	9.57	---	0.401 #1	1.52	< 0.0621	< 0.0479	0.822	1.64	0.112 #1	---	---	---
	26-Aug-2020	2	0.499	0.278	0.836	< 1.06	---	< 0.595	< 0.551	< 0.568	0.598	< 0.532	< 0.539	2.77	< 0.584	---	< 0.565	< 0.659	0.427	0.79	2.19	0.184 #1	12.7	---	0.569	1.81	< 0.0581	< 0.0576	2.56	3.55	0.099 #1	---	---	---
	14-Sep-2023	5	< 1.0	< 0.78	1.20	< 8.4	---	< 2.3	< 2.2	< 2.2	< 2.1	< 2.1	< 1.9	5.4	< 2.6	---	< 2.6	< 1.6	< 0.68	0.79	1.65	< 0.96	10.0	---	0.68	1.89	< 0.68	< 0.47	1.30	1.55	< 0.42	---	---	---
Brook Trout 5+	04-Oct-2006	4	--- #2	< 21	< 20	---	< 8.0	< 2.2	< 2.1	< 2.1	11	3.7 #1	---	< 2.0	< 2.1	< 1.9	< 1.9	< 2.4	11	10	41	2.8	---	21	---	18	< 0.10	< 0.20	1.6	6.2	< 0.20	86	< 0.10	< 0.20
	01-Sep-2011	2	8.99	< 0.50	3.97	---	25.4 #1	< 3.0	9.0 #1	< 3.0	47.0	< 3.0	---	27.9	< 3.0	< 3.0	< 3.0	21.9	9.7 #1	10.1	40.7	< 3.0	---	13.6	---	12.9	< 1.0	< 2.0	4.5	9.4 #1	< 2.0	68.8	< 1.0	< 2.0
	01-Sep-2013	1	6.72	1.15	3.98	10.2	---	0.506	5.39	1.17	14.5	1.48	0.55	2.68	1.57	---	< 0.23	4.02	4.61	7.97	19.2	2.27	77.4	---	4.62	13.9	< 0.206	0.298 #1	8.96	18.1	1.08	---	---	---
	21-Sep-2014	1	0.203 #1	0.189 #1	0.297	0.249 #1	---	< 0.157	< 0.138	< 0.142	0.292	< 0.139	< 0.135	1.46	< 0.155	---	< 0.145	0.32 #1	0.282	0.667	2.07	0.098	21.9	---	0.489 #1	2.73	< 0.0655	0.066 #1	1.43	2.87	0.072	---	---	---
	30-Aug-2016	1	0.388	0.315 #1	0.504	0.389	---	< 0.162	< 0.146	< 0.148	0.517 #1	< 0.148	< 0.151	3.09	< 0.151	---	< 0.146	0.292	0.359 #1	1.61	6.88	0.295	85.2	---	0.622	8.06	< 0.0747	0.091 #1	9.35	16.6	0.124 #1	---	---	---
(Duplicate)	30-Aug-2016	1	0.339 #1	0.258	0.506 #1	0.356 #1	---	< 0.161	< 0.144	< 0.147	0.529	< 0.147	< 0.15	3.44	< 0.149	---	< 0.144	0.235	0.371	1.5	6.75	0.324	85.9	---	0.47	8.11	< 0.0555	0.11 #1	9.22	16.4	0.132	---	---	---
	30-Sep-2021	1	0.37	< 0.14	0.38	< 0.79	---	< 0.62	< 0.50	0.97	2.33	< 0.53	< 0.50	18.1	< 0.58	---	< 0.61	< 0.62	0.77	1.00	3.91	0.37	15.1	---	2.44	2.39	< 0.22	< 0.21	1.74	2.39	< 0.21	---	---	---
Brook Trout 6+	14-Sep-2023	3	< 0.21	0.69	1.68	< 1.9	---	< 0.71	< 0.68	< 0.71	2.00	< 0.67	< 0.61	3.60	< 0.74	---	< 0.74	< 0.53	0.44	0.78	2.50	< 0.29	13.0	---	0.53	2.05	< 0.42	< 0.30	2.11	2.45	< 0.26	---	---	---
Brook Trout 11+	11-Sep-2007	2	1.6	1.6	2.4	---	< 9.0	< 5.4	< 5.0	< 5.0	< 4.8	< 4.7	---	< 4.9	< 5.4	< 4.8	< 4.7	< 5.4	5.6	4.3	9.9	< 1.6	---	5.9	---	5.2	< 0.70	< 1.1	1.5	4.9	< 1.0	35	< 0.70	< 1.0
Brook Trout 12+	11-Sep-2007	3	2.4	1.5	2.5	---	< 9.9	< 6.1	< 5.6	< 5.7	< 5.4	< 5.3	---	< 5.6	< 6.1	< 5.5	< 5.3	< 6.1	3.6	3.3	6.9	< 1.3	---	2.0 #1	---	3.8	< 0.60	< 0.90	0.94	2.6	< 0.80	21	< 0.50	< 0.80
Brook Trout Unknown	23-Jul-2008	2	0.76	0.53	0.97	---	2.1	< 0.70	0.74	< 0.60	4.1	< 0.60	---	8.1	< 0.60	< 0.60	< 0.60	2.6	2.5	5.9	15	0.84	---	3.5	---	6.1	< 0.30	< 0.30	2.3	5.6	0.51	30	< 0.30	< 0.30
(Replicate A)	23-Jul-2008	2	9.0	< 2.0	< 2.3	---	< 17	< 2.0	< 1.9	< 2.0	4.4	< 1.8	---	13	< 2.0	< 1.9	< 1.8	4.4	11	17	6.9	< 4.3	---	3.8	---	6.2	< 0.50	< 2.7	1.9	4.1	3.5	27	< 0.40	< 2.5
(Replicate B)	23-Jul-2008	2	3.7	3.0	3.5	---	4.1	< 1.3	< 1.2	< 1.3	6.5	< 1.1	---	9.3	< 1.2	< 1.2	< 1.2	2.9	2.8	4.2	14	1.2	---	4.5	---	6.0	< 0.50	< 0.40	1.6	4.2	0.48	34	< 0.40	< 0.40
(Replicate C)	23-Jul-2008	2	6.7	3.5	7.1	---	9.3	< 1.5	1.5	< 1.4	6.2	< 1.3	---	9.6	< 1.4	< 1.3	< 1.3	3.0	2.7	6.7	18	1.8	---	4.0	---	7.5	< 0.60	< 0.60	2.0	4.8	0.81	41	< 0.50	< 0.50
Brook Trout (Stomach) 1+	01-Sep-2012	3	18.5 #1	13.3 #1	20.9	---	57 #1	< 9.0	< 9.0	< 9.0	55.7	< 9.0	---	78.2 #1	< 9.0	< 8.0	< 9.0	24.5	32.5	26.9 #1	75.8	14.0 #1	---	34.7	---	20.0	< 2.0	< 3.0	< 2.0	7.7 #1	< 3.0	44.3	< 2.0	< 3.0
Brook Trout (Stomach) 2+	01-Sep-2012	3	1.91 #1	1.84 #1	2.11 #1	---	< 1.0	< 0.90	< 0.90	< 0.90	6.96 #1	< 0.90	---	8.62	< 0.90	< 0.80	< 0.90	2.69 #1	3.54	2.73 #1	8.55	< 0.50	---	4.17	---	2.83	< 0.20	< 0.30	< 0.20	1.04 #1	< 0.30	5.48	< 0.20	< 0.30
Brook Trout (Stomach) 3+	01-Sep-2012	5	5.41	1.68	2.93 #1	---	26.8	< 0.60	7.52	< 0.70	24.9	3.24	---	13.9	< 0.70	4.17 #1	< 0.60	37.4	41.9	56.3	273	18.4	---	137	---	141	< 0.20	3.83	82.2	167	12.4	725	3.20	< 0.40
(Re-analysis)	01-Sep-2012	5	16.6	3.66	8.14	---	81.6	< 2.0	20.2	< 2.0	109	8.2	---	90.3	< 2.0	8.7	< 2.0	101	90.2	110	519	36.3	---	315	---	303	< 1.0	5.5	139	271	22.0	1520	4.1	< 2.0
Certified Reference Materials																																		
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WMF-01-CRM	04-Oct-2006	---	--- #2	--- #2	--- #2	---	120	< 2.9	30	< 2.7	200	< 2.6	---	210	< 2.7	< 2.5	< 2.5	44	190	350	970	41	---	640	---	550	< 0.20	< 0.40	300	730	61	4400	< 0.20	< 0.30
	11-Sep-2007	---	46	16	83	---	94	< 12	69	< 11	350	< 10	---	290	< 12	< 11	< 10	110	370	520	920	70	---	850	---	640	< 3.1	21	330	800	110	4400	10	< 4.8
	23-Jul-2008	---	39	15	62	---	93	< 3.8	49	5.3	330	9.4	---	180	< 3.6	5.9	< 3.4	120	340	490	1600	68	---	900	---	740	3.5	13	390	1100	97	5600	9.8	< 2.0
	11-Aug-2009	---	< 50 #2	< 110	110 #1	---	< 1000	< 73	< 72	< 73	459	< 68	---	307	< 72	< 67	< 71	146 #1	273	415	1260	< 62	---	888	---	720	< 38	< 40	365	1010	84	5560	< 35	< 40
	11-Aug-2010	---	49.0	12.0	48.7 #1	---	223	< 4.4	103	27.0	603	37.6	---	333	< 4.2	< 4.0	< 4.0	125	325	421	1220	96.8	---	1120	---	872	< 3.3	16.8	485	1220	75.5	6570	15.0	< 3.3

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 1 (ng/kg)	PCB 2 (ng/kg)	PCB 3 (ng/kg)	PCB 4 (ng/kg)	PCB 4/10 (ng/kg)	PCB 5 (ng/kg)	PCB 6 (ng/kg)	PCB 7 (ng/kg)	PCB 8 (ng/kg)	PCB 9 (ng/kg)	PCB 10 (ng/kg)	PCB 11 (ng/kg)	PCB 12/13 (ng/kg)	PCB 13 (ng/kg)	PCB 14 (ng/kg)	PCB 15 (ng/kg)	PCB 16 (ng/kg)	PCB 17 (ng/kg)	PCB 18/30 (ng/kg)	PCB 19 (ng/kg)	PCB 20/28 (ng/kg)	PCB 21/20/33 (ng/kg)	PCB 21/33 (ng/kg)	PCB 22 (ng/kg)	PCB 23 (ng/kg)	PCB 24 (ng/kg)	PCB 25 (ng/kg)	PCB 26/29 (ng/kg)	PCB 27 (ng/kg)	PCB 28 (ng/kg)	PCB 29 (ng/kg)	PCB 30 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Materials - Continued																																		
	01-Sep-2011	---	81.7	22.9	113	---	173	< 7.0	116 #1	27.1	585	36.0	---	600	< 6.0	< 6.0	< 6.0	186	357	528	1780	83	---	1070	---	863	< 4.0	24.8	441	1060	125	6090	19.2	< 7.0
	01-Sep-2012	---	49.8	20.9	73.8	---	103 #1	< 9.0	64.7 #1	< 9.0	297	< 9.0	---	284 #1	< 9.0	< 8.0	< 9.0	132	255	298	1000	56.4	---	814	---	648	< 2.0	12.3 #1	361	850	67.6	4740	13.0 #1	< 4.0
NIST SRM 1946	11-Oct-2013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	270	---	1540	---	---	---	---	---	---	---	---	---	---	---
	31-Aug-2016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	283	---	1650	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2018	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	258	---	1490	---	---	---	---	---	---	---	---	---	---	---
EDF-2524	15-Oct-2014	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	77.3	---	211	---	---	---	---	---	---	---	---	---	---	---
CRM EDF2524	23-Sep-2015	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	79.3	---	240	---	---	---	---	---	---	---	---	---	---	---
CRM EDF-5462	13-Oct-2022	---	83.5	< 1.3	63.1	82.8	---	< 6.2	< 4.9	< 5.0	77.7	90.2	73.7	94.0	63.3	---	< 5.9	71.1	6.3	5.1	50.1	46.0	434	---	53.0	11.0	< 2.4	< 2.5	< 2.2	5.7	< 2.4	---	---	---
	15-Nov-2023	---	74.0	< 3.9	81.7	140	---	< 20	< 19	< 20	115	106	81	106	62	---	< 29	80	< 10	< 8.9	29.0	57	319	---	33.0	< 11	< 11	< 7.5	< 9.0	< 9.4	< 6.6	---	---	---

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript #1 - EMPC
9. Superscript #2 - RRR
10. Superscript #3 - lock mass intereference (lab qualifier originally G)
11. Superscript #4 - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript #5 - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 31 (ng/kg)	PCB 32 (ng/kg)	PCB 34 (ng/kg)	PCB 35 (ng/kg)	PCB 36 (ng/kg)	PCB 37 (ng/kg)	PCB 38 (ng/kg)	PCB 39 (ng/kg)	PCB 40/68 (ng/kg)	PCB 41 (ng/kg)	PCB 41/71/40 (ng/kg)	PCB 42 (ng/kg)	PCB 42/59 (ng/kg)	PCB 43 (ng/kg)	PCB 43/52 (ng/kg)	PCB 44/47/65 (ng/kg)	PCB 45/51 (ng/kg)	PCB 46 (ng/kg)	PCB 47 (ng/kg)	PCB 48 (ug/kg)	PCB 48/49 (ng/kg)	PCB 49/69 (ng/kg)	PCB 50/53 (ng/kg)	PCB 51 (ng/kg)	PCB 52 (ng/kg)	PCB 53 (ng/kg)	PCB 54 (ng/kg)	PCB 55 (ng/kg)	PCB 56 (ng/kg)	PCB 57 (ng/kg)	PCB 58 (ng/kg)	PCB 58/67 (ng/kg)	PCB 59/62/75 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																																			
Brook Trout 0+	04-Oct-2006	10	63	11	< 0.10	< 0.10	< 0.10	7.7	< 0.10	< 0.10	3.1	9.4	---	---	16	---	260	150	16	< 0.30	60	---	170	---	< 0.20	5.9	---	20	< 0.20	< 0.10	27	< 0.10	---	2.0	---
	11-Sep-2007	10	25	7.5	< 0.60	< 0.50	< 0.50	3.5	< 0.60	0.95	4.0	2.1 [#1]	---	---	30	---	170	76	9.1	3.2	54	---	120	---	< 1.4	8.2	---	16	< 1.3	< 0.60	16	< 0.50	---	3.0	---
	23-Jul-2008	10	82	16	< 1.4	< 1.3	< 1.3	4.0	< 1.3	2.0	3.8	1.8	---	---	23	---	190	81	3.0	2.6	42	---	110	---	< 1.1	5.3	---	11	< 1.0	< 0.40	9.6	< 0.40	---	1.1	---
(Duplicate)	23-Jul-2008	10	76	14	< 1.3	< 1.2	< 1.1	3.8	< 1.2	2.6	4.9	2.1	---	---	27	---	230	93	4.8	2.9	51	---	120	---	< 1.2	6.2	---	13	< 1.1	< 0.50	11	< 0.40	---	0.93	---
	11-Aug-2009	10	353	< 26	< 26	< 18	< 18	< 17	< 18	< 16	< 3.6	< 11	---	---	< 7.5	---	161	59	< 10	< 11	40.8	---	75.6	---	< 19	< 9.0	---	< 9.0	< 14	< 4.4	6.9 [#1]	< 5.5	---	< 5.5	---
	11-Aug-2010	10	39.7	9.68	< 1.0	< 0.60	< 0.60	8.77	< 0.60	< 0.60	4.89	5.0	---	---	22.7	---	22.4	77.9	11.3	6.0	34.9	---	81.4	---	< 1.0	5.0	---	13.1	< 1.5	< 0.50	15.6	< 0.50	---	2.51	---
	01-Sep-2011	10	43.0	10.6 [#1]	< 1.0	< 1.0	< 1.0	7.97	< 1.0	< 1.0	6.04 [#1]	< 2.0	---	---	18.5	---	228	84.2	10.1	< 2.0	70.1	---	140	---	< 2.0	9.2	---	18.3	< 1.0	< 1.0	30.9	< 1.0	---	< 1.0	---
	01-Sep-2012	10	46.2	13.0	< 0.50	< 0.50	< 0.40	6.67	< 0.50	< 0.40	6.07	3.1	---	---	38.7	---	236	103	9.8	4.9	85.5	---	161	---	< 1.0	13.9 [#1]	---	19.6	< 1.0	< 0.40	21.3	< 0.40	---	3.24	---
	01-Sep-2013	10	52	10.2	0.637	< 0.104	< 0.0901	6.75	0.297	0.874	---	---	58.2	46.8	---	5.86	---	199	25.1	6.25	---	0.024	---	156	23.8	---	245	---	0.455	2.27	66.7	1.13	1.28	---	18.1
	21-Sep-2014	12	38.8	7.13	0.44	0.121 [#1]	0.167 [#1]	2.31	0.078 [#1]	0.549	---	---	25.3	21.5	---	3.28	---	106	13.1	2.77	---	0.0109	---	81.1	12.7	---	156	---	0.177 [#1]	< 0.161	16.2	0.63	0.459	---	8.93
	22-Sep-2015	11	46.8	12.8	0.644	0.102	< 0.0604	5.07	0.373	0.916	---	---	52.0	48.7	---	5.09	---	214	28.1	6.51	---	0.0207	---	176	28.8	---	295	---	0.455	< 0.167	44.4	0.847	1.7	---	18.3
	30-Aug-2016	10	24	6.04	0.289	< 0.0551	< 0.0551	2.29	0.115 [#1]	0.369	---	---	31.2	25.4	---	3.21	---	116	15.5	3.39	---	0.0101	---	94.8	15.7	---	172	---	0.256	1.51	23.3	0.513	1.04	---	9.46
	30-Aug-2018	10	15.8	4.07	0.259 [#1]	< 0.108	< 0.1	1.29	< 0.111	0.222	---	---	13.9	11.4	---	1.06 [#1]	---	51.7	6.85	1.26	---	0.00511	---	45	6.52	---	67.1	---	0.129	< 0.137	9.75	< 0.124	0.515 [#1]	---	4.51
	06-Sep-2019	10	13.3	2.78	0.152	< 0.0891	< 0.0764	1.42	0.077	0.245	---	---	8.63	7.36	---	1	---	35.1	4.87	0.954	---	0.00374	---	28.8	4.2	---	45	---	< 0.0831	0.772	7.29	< 0.405	< 0.413	---	3.17
	26-Aug-2020	11	10.7	2.05	0.151 [#1]	0.089	< 0.0573	1.04	< 0.0573	< 0.0573	---	---	12.8	9.62	---	1.19 [#1]	---	40.3	5.15	1.23	---	0.00437	---	32.5	5.29	---	54.3	---	0.155 [#1]	0.199 [#1]	7.41	0.218	0.295 [#1]	---	3.58
	30-Sep-2021	10	4.83	0.86	< 0.21	< 0.22	< 0.19	0.77	< 0.21	< 0.22	---	---	1.90	1.31	---	< 0.13	---	9.66	1.28	0.230	---	0.00107	---	4.82	0.823	---	---	---	< 0.042	< 0.14	1.43	< 0.15	< 0.15	---	0.722
	13-Oct-2022	10	96.3	17.6	< 0.60	< 0.62	< 0.53	21.5	< 0.59	1.55	---	---	60.6	39.4	---	< 0.25	---	637	30.8	9.85	---	0.0358	---	286	71.1	---	---	---	0.400	< 0.66	40.2	< 0.73	< 0.72	---	16.8
Chrystina Lake																																			
Brook Trout 1+	11-Aug-2009	8	59.2	11.5	< 0.80	< 0.80	< 0.80	10.5	< 0.90	< 0.80	6.27	11.6 [#1]	---	---	47.3	---	383	197	29.0	11.4	62.9	---	201	---	< 2.5	7.2	---	31.5	< 2.6	< 0.70	23.0	< 0.70	---	3.41 [#1]	---
	01-Sep-2011	5	41.5	5.3 [#1]	< 1.0	< 1.0	< 1.0	6.07 [#1]	< 1.0	< 1.0	4.81 [#1]	< 2.0	---	---	26.4	---	< 2.0	83.1	8.1 [#1]	< 2.0	63.8	---	115	---	< 2.0	3.5 [#1]	---	8.1 [#1]	< 1.0	< 1.0	35.8	< 1.0	---	4.2 [#1]	---
	01-Sep-2012	4	77.9	6.49 [#1]	< 0.50	< 0.50	< 0.40	16.8	< 0.50	1.95	12.2	2.3 [#1]	---	---	72.8	---	953	332	14.0	4.8	167	---	432	---	< 1.0	11.8	---	23.3	< 1.0	< 0.60	117	1.51	---	12.3	---
(Replicate A)	01-Sep-2013	1	21.1	0.786	< 0.173	< 0.173	< 0.173	4.68	< 0.173	0.321	---	---	6.2	14.4	---	1.81	---	71.7	4.56	0.945	---	0.00722	---	51.5	4.04	---	108	---	< 0.173	2.65	33.1	0.519	0.72	---	5.76
(Replicate B)	01-Sep-2013	1	23.3	0.549	< 0.071	< 0.071	< 0.071	4.41	0.106	0.383	---	---	6.5	14.9	---	2.11	---	81.9	5.91	1.07	---	0.00794	---	60.8	5.23	---	120	---	< 0.071	2.59	38.8	0.606	0.704	---	7.11
	23-Sep-2015	1	177	5.71	0.435	0.238 [#1]	< 0.0567	33.8	1.2	3.7	---	---	49.3	196	---	17.4	---	1620	58.7	7.31	---	0.0535	---	1400	127	---	2600	---	1.51	10.3	251	10.6	20.3	---	108
	31-Aug-2016	2	38.1	2.94	0.175	0.081	< 0.0689	4.05	0.174 [#1]	0.609 [#1]	---	---	13	41.1	---	3.6	---	195	21.7	3.14	---	0.0141	---	165	18.1	---	256	---	0.199 [#1]	< 0.127	48.6	0.603	1.62	---	16
	12-Sep-2017	3	21.9	1.14	0.076 [#1]	0.158	< 0.0563	3.26	0.125 [#1]	0.14	---	---	6.26	17.7	---	1.24	---	92.4	8.28	1.2	---	0.00671	---	77.1	6.5	---	123	---	0.062 [#1]	< 0.209	29.1	0.733	0.872 [#1]	---	7.43
	29-Aug-2018	3	22.9	1.46	0.15	0.077 [#1]	< 0.0557	3.62	0.532	0.38	---	---	7.03	17.2	---	1.9 [#1]	---	84	7.56	1.06	---	0.00742	---	69.5	6.96	---	124	---	0.1	< 0.146	26.6	0.68 [#1]	0.864 [#1]	---	7.05
(Replicate A)	05-Sep-2019	4	24.8	1.38	0.096	0.148	< 0.057	3.86	0.232	0.521	---	---	6.36	21.5	---	2.53	---	105	10.4	1.4	---	0.0083	---	95.2	8.33	---	141	---	0.104	< 0.241	29.8	0.863	0.93	---	8.28
(Replicate B)	05-Sep-2019	4	34.7	2.82	0.17	0.158	< 0.0746	4.7	0.268	0.728	---	---	10.9	29.4	---	2.92	---	147	14.5	2.03	---	0.0115	---	130	12.3	---	186	---	0.19	< 0.178	38.6	1.19	1.42	---	12.3
	25-Aug-2020	7	19.9	0.963	0.091	0.11 [#1]	< 0.0578	3.22	< 0.0578	< 0.0578	---	---	6.26	17.4	---	1.55	---	90.1	7.31	1.16	---	0.00761	---	78.6	6.62	---	127	---	0.064	1.04	25.1	0.828	0.871	---	8.08
	29-Sep-2021	8	28.7	6.96	< 0.37	< 0.41	< 0.34	8.15	< 0.40	0.62	---	---	22.3	45.7	---	< 0.13	---	282	18.1	2.23	---	0.0125	---	214	19.2	---	---	---	0.840	< 0.37	63.8	2.89	< 0.40	---	16.8
	12-Oct-2022	8	12.0	< 2.0	< 4.1	< 4.3	< 3.7	< 3.0	< 4.2	< 4.3	---	---	< 3.4	8.1	---	< 4.9	---	73.2	< 3.3	< 3.5	---	< 0.0033	---	60.9	< 3.2	---	---	---	< 1.3	< 2.6	20.9	< 2.6	< 2.6	---	4.1
	13-Sep-2023	5	11.4	< 0.77	< 1.7	< 1.6	< 1.4	< 1.7	< 1.6	< 1.8	---	---	4.2	10.0	---	< 1.6	---	58.3	3.6	< 1.4	---	0.0042	---	40.4	3.5	---	146	---	< 0.64	< 1.6	16.5	< 1.5	< 1.6	---	4.03
Brook Trout 2+	11-Aug-2009	3	50.9	4.50	< 0.80	< 0.80	< 0.80	9.14	< 0.90	1.84 [#1]	13.6	7.8	---	---	69.1	---	664	270	18.2	7.1	171	---	488	---	< 3.2	4.4	---	15.4	< 3.3	< 1.0	56.2	< 0.90	---	13.1	---
	11-Aug-2010	5	63.4	8.0	< 1.0	< 0.60	< 0.60	14.1	< 0.60	< 0.60	13.3	4.8	---	---	50.1	---	50.2	221	11.3	4.4 [#1]	114	---	283	---	< 1.6	< 1.6	---	11.8	< 2.4	1.88	81.8	< 0.80	---	14.5	---
	12-Aug-2010	3	96.3	9.60	< 0.80	< 0.80	< 0.80	15.7	< 0.80	4.99 [#1]	24.2	10.7 [#1]	---	---	160	---	2890	745	36.5	13.7	420	---	1130	---	< 3.2	8.7	---	38.0	< 3.1	3.3	183	2.3 [#1]	---	33.4	---
	01-Sep-2011	4	182	11.3	< 1.0	< 2.0	< 1.0	14.3	< 2.0	< 1.0	110	< 6.0	---	---	293	---	3910	1120	29.0	< 5.0	1060	---	2130	---	< 5.0	14.1	---	35.2	< 3.0	8.1 [#1]	388	8.2	---	109	---
(Replicate)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2011	4	241	9.3	< 1.0	< 1.0	< 1.0	18.9	< 1.0	21.6	121	< 6.0	---	---	551	---	7890	2070	37.4	< 7.0	1860	---	3930	---	< 6.0	24.4	---	61.7	< 4.0	10.5 [#1]	480	11.8	---	137	---
	01-Sep-2012	4	41.3	5.73	< 0.50	< 0.50	< 0.50	9.20 [#1]	< 0.50	1.70	6.23	< 2.0	---	---	39.7	---	470	155	7.6	< 2.0	105	---	227	---	< 2.0	3.0	---	10.5	< 1.0	0.97	47.5	0.95	---	7.66 [#1]	---
	01-Sep-2013	4	30.6	0.552	< 0.0569	0.101	< 0.0569	6	0.241	0.605	---	---	9.4	25.5	---	2.82	---	173	4.12	0.739	---	0.00986	---	145	4.13	---	387	---	< 0.0569	< 0.389	76.6	1.46	2.05	---	11.3
	22-Sep-2014	4	28.5	0.667	0.113	< 0.0759	< 0.0676	5.87	0.221	0.414	---	---	7.79	22.4	---	3.21 [#1]	---	158	4.19	0.99	---	0.00977	---	123	4.11	---	309	---	0.069	9.24	65.2	1.32	1.24 [#1]	---	10.3
(Replicate A)	22-Sep-2014	1	18.1	0.441	< 0.0573	0.076	< 0.0573	4.16	0.151 [#1]	0.32	---	---	5.62	15.1	---	1.92	---	86	2.95	0.738	---	0.00677	---	60.7	3.12	---	156	---	< 0.0573	3.48	40.3	0.865	0.665	---	5.88
(Replicate B)	22-Sep-2014	1	40.6	1.22	0.128	< 0.129	< 0.113	8.96	0.241	0.653	---	---	8.25	18.7	---	2.61	---	102	4.23	1.24	---	0.0113	---	73	4.73	---	173	---	0.053	4.82	50.9	1.07	0.995 [#1]	---	8.37
	23-Sep-2015	4	61.7	4.95	0.183	0.144	< 0.107	12.3	0.306	1.14	---	---	34.3	75.2	---	5.71	---	492	14.4	2.13	---	0.0263	---	387	19.6	---	1080	---	0.107 [#1]	5.92	171	3.02	3.75	---	25.1

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 31 (ng/kg)	PCB 32 (ng/kg)	PCB 34 (ng/kg)	PCB 35 (ng/kg)	PCB 36 (ng/kg)	PCB 37 (ng/kg)	PCB 38 (ng/kg)	PCB 39 (ng/kg)	PCB 40/68 (ng/kg)	PCB 41 (ng/kg)	PCB 41/71/40 (ng/kg)	PCB 42 (ng/kg)	PCB 42/59 (ng/kg)	PCB 43 (ng/kg)	PCB 43/52 (ng/kg)	PCB 44/47/65 (ng/kg)	PCB 45/51 (ng/kg)	PCB 46 (ng/kg)	PCB 47 (ng/kg)	PCB 48 (ug/kg)	PCB 48/49 (ng/kg)	PCB 49/69 (ng/kg)	PCB 50/53 (ng/kg)	PCB 51 (ng/kg)	PCB 52 (ng/kg)	PCB 53 (ng/kg)	PCB 54 (ng/kg)	PCB 55 (ng/kg)	PCB 56 (ng/kg)	PCB 57 (ng/kg)	PCB 58 (ng/kg)	PCB 58/67 (ng/kg)	PCB 59/62/75 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	31-Aug-2016	2	37.1	0.852	0.07	0.098 #1	< 0.0557	6	0.146	0.688	---	---	10.1	37.9	---	< 0.0557	---	255	8.55	0.927	---	0.013	---	230	7.32	---	519	---	< 0.0557	3.14	85.8	2.17	2.52	---	14.2
(Replicate A)	12-Sep-2017	3	25.2	1.01	< 0.0598	0.121 #1	< 0.0582	3.41	0.091 #1	0.266 #1	---	---	5.19	18.1	---	1.33 #1	---	147	4.3	0.637	---	0.00644	---	111	3.43	---	178	---	< 0.0582	< 0.263	35.4	1.64	1.84	---	9.08
(Replicate B)	12-Sep-2017	1	18	0.693	< 0.058	0.094	< 0.058	2.71	0.072 #1	< 0.058	---	---	3.96	11.8	---	0.992 #1	---	80.8	3.34	0.499 #1	---	0.00514	---	64.2	2.11	---	118	---	< 0.0589	< 0.157	30	0.891 #1	1.07	---	6.27
	29-Aug-2018	3	29.9	0.954 #1	< 0.28	< 0.28	< 0.28	4.22	0.502	0.551 #1	---	---	9.58	43.3	---	3.05	---	285	11.6	1.63	---	0.0121	---	242	12.2	---	345	---	0.079	< 0.518	60.8	3.02 #1	4.01	---	19.8
(Replicate A)	05-Sep-2019	4	21.7	0.716	0.094	0.074	< 0.0549	4.65	0.291	0.537	---	---	5.59	16.9	---	1.67	---	87.5	4.37	0.672	---	0.00716	---	70.8	3.68	---	133	---	< 0.0588	3.08	38.8	1.36	1.36	---	6.91
(Replicate B)	05-Sep-2019	4	25.4	0.826	0.088	0.077	< 0.0579	5.04	0.319	0.551	---	---	5.49	15.8	---	2.14	---	87.4	4.44	0.931	---	0.00733	---	70.5	3.77	---	131	---	0.063	3.74	38.6	1.17	1.03	---	7.09
(Replicate A)	25-Aug-2020	7	24.3	0.804	0.086 #1	0.104	< 0.0574	4.34	< 0.0574	< 0.0574	---	---	6.11	20.2	---	1.75	---	121	6.03	0.928	---	0.00759	---	98.9	5.09	---	158	---	< 0.0661	1.58	37.8	1.37	1.46	---	8.95
(Replicate B)	25-Aug-2020	7	20.1	0.921	0.083	0.07 #1	< 0.0577	3.5	< 0.0577	< 0.0577	---	---	5.89	23.2	---	1.23	---	147	7.25	0.746	---	0.00689	---	124	6.05	---	170	---	0.083 #1	1.38	33.2	1.9	1.54	---	9.32
	29-Sep-2021	10	22.2 #4	3.01 #4	< 0.22 #4	< 0.25 #4	< 0.21 #4	4.91 #4	< 0.24 #4	0.42 #4	---	---	11.3 #4	32.2 #4	---	< 0.13 #4	---	242 #4	11.0 #4	1.17 #4	---	0.00890 #4	---	176 #4	10.5 #4	---	---	---	0.379 #4	< 0.31 #4	41.2 #4	3.06 #4	< 0.33 #4	---	14.4 #4
	12-Oct-2022	9	51.7	2.72	< 0.61	< 0.63	< 0.54	9.68	< 0.60	< 0.63	---	---	14.2	63.8	---	< 0.33	---	504	22.9	1.90	---	0.0167	---	393	19.5	---	---	---	0.410	< 1.2	92.6	5.2	< 1.4	---	32.5
	13-Sep-2023	5	11.0	< 1.2	< 1.4	< 1.4	< 1.2	2.6	< 1.4	< 1.5	---	---	3.5	12.0	---	2.3	---	78.9	3.2	< 1.5	---	0.0053	---	55.9	2.0	---	88.3	---	< 0.76	< 1.8	19.6	< 1.7	< 1.8	---	5.35
Brook Trout 3+	04-Oct-2006	3	48	2.3	< 0.10	< 0.10	< 0.10	2.4	< 0.10	0.11 #1	< 0.10	0.86	---	---	< 0.10	---	810	300	< 0.10	< 0.10	190	---	520	---	< 0.10	0.33	---	4.3	< 0.10	< 0.10	49	< 0.10	---	< 0.10	---
	11-Aug-2010	5	69.4	9.25	< 0.90	< 0.60	< 0.60	14.3	< 0.60	1.61	9.70	4.7	---	---	40.0	---	40.7	183	11.7	4.6	81.0	---	210	---	< 1.5	3.9	---	13.7	< 2.3	< 0.80	70.2	< 0.70	---	11.7	---
(Duplicate)	11-Aug-2010	5	64.6	9.55	< 0.90	< 0.60	< 0.60	11.9	< 0.60	< 0.50	10.0	3.6	---	---	37.9	---	38.3	173	11.2	4.8	79.4	---	211	---	< 1.2	3.1	---	11.9	< 1.8	2.08	63.5	1.77	---	10.6	---
(Replicate A)	12-Aug-2010	4	96.5	7.63	< 0.90	< 0.90	< 0.90	16.4	< 1.0	3.21 #1	16.5	8.4	---	---	110	---	1910	558	30.9	11.8	254	---	751	---	< 3.4	7.5	---	30.2 #1	< 3.3	2.1	116	1.7	---	18.3	---
(Replicate A)	01-Sep-2012	1	25.3	3.69	< 0.30	< 0.30	< 0.20	4.30	< 0.30	< 0.20	3.81	1.49 #1	---	---	17.8	---	220	81.9	4.3	< 1.0	50.9	---	121	---	< 0.90	1.54	---	4.26 #1	< 0.80	0.64 #1	23.9	0.77	---	4.66	---
(Duplicate)	01-Sep-2012	1	24.8	3.18	< 0.30	< 0.20	< 0.20	4.23	< 0.20	1.08 #1	4.15	< 1.0	---	---	21.6	---	220	81.5	4.5	< 1.0	53.3	---	117	---	< 0.90	2.20	---	5.79 #1	< 0.80	0.91 #1	23.6	< 0.30	---	4.10	---
(Replicate B)	01-Sep-2012	1	21.7	3.17	< 0.40	< 0.30	< 0.30	5.05 #1	< 0.30	< 0.30	2.62	< 1.0	---	---	14.6	---	129	55.7	3.8	2.4	28.5	---	71.5	---	< 1.0	< 1.0	---	4.0 #1	< 0.90	< 0.30	16.6	< 0.30	---	3.07	---
(Replicate C)	01-Sep-2013	1	20	0.433	< 0.0781	< 0.0781	< 0.0781	3.65	0.154	0.426	---	---	5.25	17.2	---	2.01	---	129	2.98	0.781	---	0.00763	---	96.3	3.01	---	165	---	< 0.0781	4.77	35.5	1	2.04	---	10.1
(Replicate D)	01-Sep-2013	1	21.8	0.354	< 0.0923	< 0.0923	< 0.0923	3.52	< 0.0923	0.348	---	---	4.03	13.9	---	1.71	---	98.7	1.57	0.477	---	0.0064	---	78.4	2.1	---	170	---	< 0.0923	4.86	36.7	0.968	1.41	---	7.78
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	52.5	13.0 #1	< 3.0	< 3.0	< 3.0	16.3 #1	< 3.0	< 2.0	4.0	< 8.0	---	---	29.7	---	259	115	< 7.0	< 7.0	53.5	---	127	---	< 6.0	< 6.0	---	10.7 #1	< 6.0	< 3.0	30.7	< 3.0	---	< 3.0	---
	22-Sep-2014	4	27.9	0.608	0.091 #1	0.133	< 0.0578	4.81	0.392 #1	0.524	---	---	7.46	31.8	---	2.73	---	206	3.65	0.774	---	0.0101	---	188	3.75	---	314	---	< 0.0578	8.63	64.6	2.03	2.37	---	16.3
(Replicate A)	22-Sep-2014	4	27.5	0.561	0.082	0.094 #1	< 0.0567	4.54	0.207 #1	0.42	---	---	5.63	14.7	---	1.89	---	91	2.78	0.775	---	0.00797	---	65.5	2.88	---	150	---	< 0.0567	4.96	38.7	1.02	0.925 #1	---	7.44
(Replicate B)	22-Sep-2014	1	9.2	0.185	< 0.0574	0.077	< 0.0574	2.35	0.129	0.139 #1	---	---	2.48	8.08	---	0.861	---	62.2	1.34	0.255	---	0.00301	---	49	1.11	---	102	---	< 0.0574	2.22 #1	18.8	< 0.749	< 0.769	---	4.31
(Duplicate)	22-Sep-2014	1	26.6	0.619	< 0.0668	< 0.0685	< 0.0621	4.65	0.334	0.459	---	---	6.92	30.7	---	3.39 #1	---	207	4.23	0.948	---	0.0106	---	193	4.38	---	325	---	< 0.056	12.7	59	2.1	3.19	---	16.3
	23-Sep-2015	3	107	9.01	0.307	0.214	< 0.117	20.3	0.589	1.91	---	---	59.0	139	---	9.08	---	861	28.2	3.43	---	0.0426	---	699	33.3	---	1740	---	< 0.0572	8.72	256	5.89	7.61	---	45.3
	31-Aug-2016	2	74.4	1.55	0.12 #1	0.093 #1	< 0.0551	8.86	0.297	1.29	---	---	20.2	91.6	---	< 0.0551	---	662	18.1	1.63	---	0.0257	---	594	17	---	1340	---	0.133	13.3	198	4.35	8.08	---	34.7
(Replicate A)	31-Aug-2016	2	44.6	1.35	0.135	< 0.0546	< 0.0546	5.87	0.332	0.792	---	---	11.8	56.9	---	2.6	---	367	8.79	0.973	---	0.0141	---	373	8.75	---	663	---	< 0.0546	< 0.171	102	2.82	4.6	---	20.5
(Duplicate)	31-Aug-2016	1	72.6	1.48	0.106 #1	0.142 #1	< 0.0561	8.38	0.459 #1	1.31	---	---	19.3	88.1	---	< 0.0745	---	628	14.9	1.64	---	0.0252	---	579	16.5	---	1300	---	0.109 #1	10.3	195	2.85	6.13	---	33.8
	12-Sep-2017	3	23.5	0.964	0.069 #1	0.117 #1	< 0.0559	3.43	0.074 #1	< 0.0559	---	---	5.35	18.7	---	1.08	---	117	3.86	0.689 #1	---	0.00629	---	114	3.49	---	217	---	< 0.0559	< 0.18	42.6	1.22	1.5	---	7.56
	29-Aug-2018	3	31.9	0.898	< 0.136	< 0.125	< 0.117	3.22	0.527	0.529 #1	---	---	6.14	25.5	---	2.22	---	174	5.38	0.904	---	0.00867	---	166	5.61	---	263	---	0.059 #1	< 0.491	47.8	2.25	2.08	---	12.5
(Duplicate)	29-Aug-2018	3	29.9	0.812	< 0.108	< 0.102	< 0.0948	2.89	0.495	0.499	---	---	5.79	24.4	---	1.68 #1	---	165	4.97	0.797	---	0.00815	---	158	5.44	---	248	---	0.055	< 0.323	42.7	1.95	2.21	---	11.7
(Lab Replicate)	29-Aug-2018	3	28.3	0.732	< 0.0969	< 0.0917	< 0.0849	3.05	0.514	0.395	---	---	5.61	23.7	---	2.21	---	162	4.78	0.76	---	0.00782	---	154	5.51	---	241	---	< 0.0473	< 0.365	42.5	2	2.33	---	11.5
	05-Sep-2019	4	35.3	1.01	0.138	< 0.1	< 0.0862	5.63	0.494	0.627	---	---	6.82	22.4	---	2.93	---	158	6.96	1.13	---	0.0101	---	129	6.23	---	216	---	0.086	5.39	54.1	2.12	1.74	---	11.3
	29-Sep-2021	3	23.2	3.60	< 0.52	< 0.58	< 0.48	3.90	< 0.56	< 0.54	---	---	12.3	29.2	---	< 0.25	---	211	11.8	1.32	---	0.00878	---	160	11.9	---	---	---	0.42	< 0.46	42.1	2.30	< 0.50	---	12.4
(Duplicate)	29-Sep-2021	3	49.7	5.60	< 1.3	< 1.4	9.2	9.2	< 1.4	< 1.3	---	---	22.1	62.3	---	< 0.37	---	475	23.2	2.60	---	0.0186	---	367	23.6	---	---	---	0.76	< 1.7	92.3	4.9	< 1.9	---	29.3
	12-Oct-2022	3	22.3	< 1.4	< 2.4	< 2.4	9.9	< 2.5	< 2.1	< 2.4	---	---	< 1.2	40.0	---	< 1.7	---	349	20.3	< 1.3	---	0.0089	---	264	15.7	---	---	---	< 0.46	< 2.8	34.7	18.3	< 3.0	---	21.7
	13-Sep-2023	5	17.1	0.70	< 0.28	0.34	< 0.25	4.47	0.57	0.36	---	---	6.11	26.9	---	0.95	---	204	6.47	0.92	---	0.00599	---	156	4.78	---	182	---	0.37	1.21	37.6	2.17	7.53	---	11.5
Brook Trout 4+	04-Oct-2006	7	220	12	< 0.10	< 0.10 #1	< 0.10	47	< 0.10	5.4	27	8.2	---	---	57	---	2400	830	32	< 0.60	650	---	1500	---	< 0.50	8.6	---	35	< 0.50	5.1	310	2.2	---	37	---
	01-Sep-2011	2	168	9.0	< 1.0 #1	< 1.0 #1	< 1.0	15.6	< 1.0	< 1.0	46.8	< 5.0	---	---	195	---	2270	783	24.0	< 4.0	527	---	1180	---	< 4.0	10.7	---	36.7 #1	< 3.0 #1	4.9 #1	231	5.9	---	49.8	---
	01-Sep-2013	2	99.1	2.14	< 0.212	< 0.239 #1	< 0.213	16.1	1.05	2.32	---	---	27.1	117	---	13.6	---	783	7.73	2.52	---	0.0383	---	709	16.7	---	1360	---	0.179	32.7	233	4.53	13.2	---	56.2
	22-Sep-2014	1	62.6	1.42	0.09	0.185 #1	< 0.0574	7.71	0.615	1.43	---	---	23.5	90.2	---	7.97	---	653	12	1.88	---	0.0313	---	542	14.9	---	1310	---	0.118	28	245	3.72	5.51	---	39.3
(Replicate A)	23-Sep-2015	1	54	1.54	0.137 #1	0.162 #1	< 0.0966	7.51	0.159	0.758	---	---	12.9	41.1	---	3.64	---	264	8.84	2.09	---	0.0178	---	207	9.91	---	444	---	0.066 #1	4.11	103	2.22	3.55	---	19.0
(Replicate B)	23-Sep-2015	1	38.3	0.99	0.085	0.117 #1	< 0.0718	5.56	0.263	0.546	---	---	9.63	32.7	---	2.72	---	246	6.3	1.41	---	0.0128	---	199	6.44	---	427	---	0.069	3.96	77.1	2.11	3.4	---	18.0
	12-Sep-2017	1	31.6	1.06	0.067 #1	0.089 #1	< 0.0582	4.08	0.128	0.329 #1	---	---	6.88	26.2	---	1.65	---	197	5.42	1.05	---	0.00853	---	185	5.65	---	364	---	< 0.0673	< 0.124	57.4	2.01	2.12	---	11.8
(Replicate A)	29-Aug-2018	1	49.6	1.38	< 0.286	< 0.279	< 0.279	6.4	0.403 #1	0.788 #1	---	---	11.5	63.3	---	< 0.0827	---	360	9.8	1.41	---	0.0148	---	360	10.5	---	642	---	< 0.0558	< 0.509	95.6	4	4.22	---	22.5
(Replicate B)	29-Aug-2018	1	19.3	0.715 #1	< 0.283	< 0.283	< 0.283	2.36	< 0.283	0.337 #1	---	---	5.64	14.7	---	1.84 #1	---	107	2.31	0.572 #1	---	0.00803	---	88.9	2.21	---	159	---	< 0.0488	< 0.272	27.7	0.837 #1	1.27	---	8.81
(Replicate C)	29-Aug-2018	1	44.2	1.91	< 0.327	< 0.31	< 0.291	7.22	0.656	0.53	---	---	8.49	23.3	---	2.69	---	133	5.03	1.34	---	0.0119	---	114	5.41	---	230	---	< 0.048	< 0.301	55.6	1.15 #1	1.96	---	11.5
	25-Aug-2020	1	13.8	0.379	< 0.0658	< 0.0671	< 0.0628	2.45	< 0.0608	< 0.0625	---	---	3.15	9.25	---	0.725	---	60	2.22	0.516 #1	---	0.00452	---	45.7	2.15	---	91.7	---	< 0.0672	1.11	21.9	0.79	0.81	---	5.15

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 31 (ng/kg)	PCB 32 (ng/kg)	PCB 34 (ng/kg)	PCB 35 (ng/kg)	PCB 36 (ng/kg)	PCB 37 (ng/kg)	PCB 38 (ng/kg)	PCB 39 (ng/kg)	PCB 40/68 (ng/kg)	PCB 41 (ng/kg)	PCB 41/71/40 (ng/kg)	PCB 42 (ng/kg)	PCB 42/59 (ng/kg)	PCB 43 (ng/kg)	PCB 43/52 (ng/kg)	PCB 44/47/65 (ng/kg)	PCB 45/51 (ng/kg)	PCB 46 (ng/kg)	PCB 47 (ng/kg)	PCB 48 (ug/kg)	PCB 48/49 (ng/kg)	PCB 49/69 (ng/kg)	PCB 50/53 (ng/kg)	PCB 51 (ng/kg)	PCB 52 (ng/kg)	PCB 53 (ng/kg)	PCB 54 (ng/kg)	PCB 55 (ng/kg)	PCB 56 (ng/kg)	PCB 57 (ng/kg)	PCB 58 (ng/kg)	PCB 58/67 (ng/kg)	PCB 59/62/75 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	29-Sep-2021	1	30.4	4.64	< 0.46	< 0.48	< 0.41	5.14	< 0.46	< 0.48	---	---	15.6	39.5	---	< 0.25	---	291	15.7	1.72	---	0.0107	---	221	17.0	---	---	---	0.569	< 0.58	54.1	3.66	< 0.64	---	17.2
Brook Trout 5+	04-Oct-2006	5	140	9.3	< 0.10	< 0.10	< 0.10	34	< 0.10	< 0.10	11	< 0.50	---	---	52	---	1400	560	24	< 0.50	340	---	910	---	< 0.40	< 0.40	---	25	< 0.40	< 0.20	170	< 0.10	---	< 0.10	---
	11-Sep-2007	2	48	4.1	< 0.70	< 0.60	< 0.60	12	< 0.60	< 0.50	12	< 3.6	---	---	71	---	680	250	7.1	< 3.7	160	---	540	---	< 3.1	< 3.1	---	12	< 2.7	< 0.90	60	1.5	---	13	---
	12-Aug-2010	1	56.7	8.26	< 0.90	< 0.80	< 0.90	6.71	< 0.90	< 0.80	6.94	8.9	---	---	44.3	---	440	206	23.7	10.0 [#1]	66.7	---	195	---	< 2.6	5.5	---	22.5	< 2.6	< 1.0	46.1	1.37	---	6.3	---
	01-Sep-2013	1	147	2.22	0.168	0.142	< 0.0998	19.4	1.69	3.48	---	---	34.2	166	---	16.8	---	1240	13.4	3.13	---	0.0556	---	1140	22	---	2430	---	< 0.0998	36.7	345	6.84	17.6	---	94.5
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	136	8.5	< 3.0	< 3.0	< 3.0	24.5 [#1]	< 3.0	15.1	46.4	< 10	---	---	251	---	3960	1140	25	< 10	851	---	1850	---	< 10	< 9.0	---	34	< 8.0	5.2	273	7.4	---	60.1	---
	23-Sep-2015	1	85.1	4.82	0.237	0.344 [#1]	< 0.114	13.7	0.382	1.25	---	---	31.2	73.7	---	6.61	---	457	16.4	3.26	---	0.0305	---	379	20.7	---	963	---	0.149 [#1]	5.77	177	3.67	4.07	---	26.5
	30-Aug-2016	1	26.7	0.746	0.083	< 0.0613	< 0.0589	3.77	0.131 [#1]	0.398 [#1]	---	---	7.38	31.7	---	2.2	---	226	6.77	0.809	---	0.00907	---	207	5.8	---	352	---	0.077 [#1]	7.62	56.9	1.74	3.12	---	13.4
	12-Sep-2017	1	65.3	1.6	0.144	0.194 [#1]	< 0.0658	6.11	0.197 [#1]	0.84	---	---	13.2	53.5	---	3.51	---	441	11.1	1.58 [#1]	---	0.0202	---	443	9.85	---	714	---	0.095 [#1]	< 0.257	106	6.64	7.43	---	27.2
(Re-analysis)	12-Sep-2017	1	44.5	1.27	0.108 [#1]	0.114 [#1]	< 0.0571	4.26	0.197	0.534	---	---	10.6	40.2	---	3.61 [#1]	---	358	8.66	1.26	---	0.0166	---	358	8.37	---	582	---	< 0.0605	< 0.757	83.3	5.23	5.1	---	22.4
	29-Sep-2021	1	29.2 [#4]	2.6 [#4]	< 1.7 [#4]	< 1.7 [#4]	< 1.5 [#4]	2.9 [#4]	< 1.7 [#4]	< 1.7 [#4]	---	---	6.1 [#4]	22.0 [#4]	---	< 1.6 [#4]	---	153 [#4]	8.0 [#4]	< 1.3 [#4]	---	0.0119 [#4]	---	122 [#4]	8.6 [#4]	---	---	---	< 0.43 [#4]	< 2.0 [#4]	49.2 [#4]	< 2.2 [#4]	< 2.2 [#4]	---	13.9 [#4]
Brook Trout 6+	11-Sep-2007	3	29	3.5	< 0.80	< 0.70	< 0.70	5.4	< 0.80	1.5	7.6	< 3.3	---	---	53	---	380	150	6.1	< 3.5	130	---	280	---	< 2.9	< 2.9	---	9.1	< 2.5	3.1	38	< 0.80	---	9.9	---
Brook Trout 7+	11-Sep-2007	3	46	5.2	< 0.60	< 0.50	< 0.50	12	< 0.50	0.76	4.3	< 1.9	---	---	43	---	330	150	7.7	2.1 [#1]	59	---	180	---	< 1.6	5.0	---	9.4	< 1.5	1.4	42	< 0.60	---	5.7	---
(Duplicate)	11-Sep-2007	3	38	4.6	< 0.90	< 0.80	< 0.70	11	< 0.80	< 0.70	4.1	< 2.7	---	---	34	---	270	120	5.1	< 2.8	54	---	160	---	< 2.3	2.5	---	5.7	< 2.0	< 0.80	33	< 0.70	---	5.0	---
Brook Trout 11+	11-Sep-2007	2	32	3.9	< 0.60	< 0.50	< 0.50	5.3	< 0.50	2.3	10	< 4.2	---	---	88	---	880	310	9.4	< 4.3	270	---	640	---	< 3.6	< 3.6	---	9.2	< 3.2	7.3	71	1.4	---	16	---
Brook Trout 12+	11-Sep-2007	2	56	3.8	< 0.70	< 0.60	< 0.60	13	< 0.60	3.4	16	< 3.3	---	---	91	---	950	320	8.6	< 3.4	240	---	690	---	< 2.8	< 2.8	---	11	< 2.5	7.1	92	2.4	---	22	---
Brook Trout Unknown	23-Jul-2008	3	32	3.5	< 0.50	< 0.40	< 0.40	4.9	< 0.50	0.88	4.9	0.90	---	---	20	---	140	58	3.5	1.5	38	---	90	---	< 1.0	3.7	---	6.4	< 0.90	< 0.60	19	< 0.60	---	3.3	---
(Replicate)	23-Jul-2008	3	26	5.2	< 0.50	< 0.50	< 0.50	3.4	< 0.50	0.91	3.6	0.84	---	---	20	---	120	52	4.0	2.1	36	---	82	---	< 0.80	5.0	---	9.2	< 0.70	< 0.40	14	< 0.40	---	1.7	---
(Replicate A)	23-Jul-2008	2	28	3.1	< 0.30	0.32	< 0.30	7.2	< 0.30	1.0	5.5	0.69	---	---	21	---	140	55	3.7	1.5	44	---	99	---	< 0.60	2.8	---	6.0	< 0.60	0.43	21	0.41	---	4.6	---
(Replicate B)	23-Jul-2008	2	33	2.7	< 0.30	< 0.30	< 0.30	4.8	< 0.30	0.82	3.7	0.80	---	---	17	---	120	51	3.9	1.3	27	---	72	---	< 0.70	2.4	---	5.5	< 0.60	0.58	18	0.55	---	3.3	---
(Replicate C)	23-Jul-2008	2	38	5.1	< 0.60	< 0.50	< 0.50	6.2	< 0.50	1.1	3.7	1.2	---	---	18	---	130	54	4.6	1.5	31	---	75	---	< 1.1	4.2	---	7.5	< 1.0	< 0.60	20	0.54	---	1.9	---
	12-Oct-2022	1	25.5	< 1.5	< 2.7	< 2.7	< 2.4	3.3	< 2.4	< 2.7	---	---	10.4	48.9	---	5.4	---	338	12.0	< 1.8	---	0.0124	---	263	10.9	---	---	---	< 0.51	< 2.7	51.0	17.0	< 3.0	---	23.6
(Replicate A)	13-Sep-2023	1	10.3 [#5]	0.55 [#5]	< 0.26 [#5]	< 0.26 [#5]	< 0.23 [#5]	2.63 [#5]	0.28 [#5]	< 0.28 [#5]	---	---	3.80 [#5]	15.6 [#5]	---	0.61 [#5]	---	116 [#5]	3.84 [#5]	0.46 [#5]	---	0.00382 [#5]	---	83.4 [#5]	2.89 [#5]	---	92.7 [#5]	---	0.42 [#5]	0.71 [#5]	23.8 [#5]	1.18 [#5]	3.70 [#5]	---	7.10 [#5]
(Replicate B)	13-Sep-2023	1	14.2	< 1.1	< 2.0	< 2.0	< 1.7	3.2	< 2.0	< 2.2	---	---	4.7	15.0	---	< 1.3	---	111	3.0	< 1.1	---	0.0053	---	113	4.0	---	146	---	< 0.47	< 1.8	20.5	< 1.7	< 1.7	---	6.68
Brook Trout (Muscle only) 3+	01-Feb-2012	1	52.2	19.2 [#1]	< 2.0	< 2.0	< 2.0	13.5	< 2.0	< 2.0	7.1	< 5.0	---	---	34.4	---	325	140	9.6	< 4.0	60.5	---	154	---	< 4.0	< 4.0	---	10.0 [#1]	< 3.0	< 2.0	51.9	< 2.0	---	5.4	---
Brook Trout (Skin Only) 3+	01-Feb-2012	1	64.2	12.2 [#1]	< 1.0	< 1.0	< 1.0	16.8	< 1.0	< 1.0	12.4	< 5.0	---	---	75.0	---	723	260	9.5 [#1]	< 5.0	111	---	315	---	< 4.0	< 4.0	---	14.1 [#1]	< 3.0	< 2.0	100	< 2.0	---	11.3	---
Brook Trout (Stomach) 1+	01-Sep-2012	4	69.2	19.4	< 1.0	< 1.0	< 1.0	15.3	< 1.0	< 1.0	4.39	10.8	---	---	27.6	---	131	120	20.0	8.0	23.8	---	75.6	---	< 2.0	6.5	---	24.5	< 2.0	< 1.0	19.5	< 1.0	---	< 1.0	---
Brook Trout (Stomach) 2+	01-Sep-2012	4	72.1	23.2 [#1]	< 3.0	< 3.0	< 3.0	24.3 [#1]	< 3.0	< 3.0	8.3	9.1	---	---	27.1 [#1]	---	111 [#1]	100	22.7	< 5.0	25.4 [#1]	---	62.4 [#1]	---	< 4.0	< 4.0	---	22.3 [#1]	< 4.0	< 2.0	20.0 [#1]	< 2.0	---	< 2.0	---
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	60.6	23.3	< 1.0	< 1.0	< 1.0	14.2	< 1.0	< 1.0	6.15 [#1]	13.4	---	---	22.5	---	96.7	99.7	16.5 [#1]	8.0 [#1]	17.5	---	57.3	---	< 2.0	< 2.0	---	16.4 [#1]	< 2.0	< 1.0	16.7	< 1.0	---	< 1.0	---
(Replicate B)	01-Sep-2012	1	80.0	26.2	< 2.0	< 2.0	< 2.0	21.7	< 2.0	< 2.0	7.4	14.6	---	---	28.3	---	166	137	25.5	< 5.0	42.0	---	94.1	---	< 4.0	< 4.0	---	22.5 [#1]	< 4.0	< 2.0	23.2	< 2.0	---	< 2.0	---
White Sucker 1+	01-Feb-2012	1	53.8	12.9	< 1.0	< 1.0	< 1.0	10.4	< 1.0	< 1.0	6.9	< 4.0	---	---	38.6	---	222	113 [#1]	11.5	< 4.0	54.9	---	123	---	< 3.0	< 3.0	---	10.0	< 2.0	< 2.0	69.1	< 1.0	---	< 1.0	---
	21-Sep-2014	2	2.98	0.214	< 0.0579	< 0.0579	< 0.0579	0.973	< 0.0579	< 0.0579	---	---	3.33	2.28	---	0.393	---	11.5	0.631	0.21	---	0.00194	---	7.62	0.632 [#1]	---	20.4	---	< 0.0579	0.357	7.23	< 0.108	< 0.106	---	1.11
White Sucker 2+	01-Feb-2012	1	28.8	11.9	< 0.90	< 1.0	< 0.90	5.57	< 0.90	< 0.80	1.53 [#1]	2.5 [#1]	---	---	8.1	---	29.7 [#1]	22.8 [#1]	3.0	< 2.0	6.7	---	15.5	---	< 2.0	< 2.0	---	5.8 [#1]	< 1.0	< 0.90	8.98 [#1]	< 0.80	---	< 0.80	---
	22-Sep-2014	4	4.01	0.305	0.062 [#1]	< 0.0573	< 0.0573	1	< 0.0573	< 0.0573	---	---	4.7	3.26	---	0.669	---	15.8	0.832	0.319	---	0.00295	---	10.6	0.856	---	27.3	---	< 0.0573	< 0.121	9.53	0.176 [#1]	0.151 [#1]	---	1.58
White Sucker 3+	01-Feb-2012	1	46.2 [#1]	30.5	< 3.0	< 3.0	< 3.0	14.3	< 3.0	< 3.0	< 2.0	< 6.0	---	---	16.7 [#1]	---	86.3	56.5 [#1]	14.1	< 6.0	12.5 [#1]	---	41.3 [#1]	---	< 5.0	< 5.0	---	13.8 [#1]	< 4.0	< 2.0	17.7 [#1]	< 2.0	---	< 2.0	---
White Sucker 6+	11-Sep-2007	4	7.1	2.7	< 0.50	< 0.40	< 0.40	1.8	< 0.50	< 0.40	0.93	1.4	---	---	7.5	---	36	22	3.0	< 1.5	8.1	---	24	---	< 1.2	< 1.2	---	< 1.3	< 1.1	< 0.40	5.8	< 0.40	---	< 0.40	---
White Sucker 7+	11-Sep-2007	3	6.2	3.1	< 0.60	< 0.50	< 0.50	1.4	< 0.60	< 0.50	0.71	< 1.8	---	---	5.6	---	29	17	< 1.8	< 1.9	6.6	---	17	---	< 1.6	< 1.6	---	< 1.6	< 1.4	< 0.60	5.2	< 0.50	---	< 0.60	---
White Sucker 8+	11-Sep-2007	5	8.0	2.6	< 0.60	< 0.50	< 0.50	2.1	< 0.60	< 0.50	0.85	< 1.6	---	---	< 1.3	---	34	24	3.2	< 1.7	5.5	---	20	---	< 1.4	< 1.4	---	2.5	< 1.2	< 0.50	5.2	< 0.40	---	< 0.50	---
	11-Aug-2009	4	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	< 5.0	< 13	---	---	< 9.1	---	129	66	< 12	< 13	26.0	---	57	---	< 23	< 11	---	< 11	< 17	< 6.2	21.5	< 7.7	---	< 7.7	---
White Sucker 9+	11-Sep-2007	4	8.7	2.4	< 0.40	< 0.40	< 0.40	2.1	< 0.40	< 0.40	< 0.30	1.7	---	---	8.1	---	40	22	3.4	< 1.5	7.3	---	23	---	< 1.2	< 1.2	---	2.9	< 1.1	< 0.50	6.0	< 0.40	---	< 0.50	---
White Sucker 10+	11-Aug-2009	4	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	--- [#2]	< 4.6	< 30	---	---	< 21	---	249	115	< 29	< 31	68	---	121	---	< 53	< 26	---	< 26	< 41	< 5.6	14.1	< 7.0	---	< 7.0	---
Forage Fish	04-Nov-2014	---	9.11	0.577	< 0.0682	0.102 [#1]	< 0.0682	2.79	0.134	0.107	---	---	6.79	4.99	---	0.625	---	27.3	1.13	0.432	---	0.00202	---	17.2	0.869	---	45.7	---	< 0.0682	2.02	30.7	0.274	0.464	---	1.64

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 31 (ng/kg)	PCB 32 (ng/kg)	PCB 34 (ng/kg)	PCB 35 (ng/kg)	PCB 36 (ng/kg)	PCB 37 (ng/kg)	PCB 38 (ng/kg)	PCB 39 (ng/kg)	PCB 40/68 (ng/kg)	PCB 41 (ng/kg)	PCB 41/71/40 (ng/kg)	PCB 42 (ng/kg)	PCB 42/59 (ng/kg)	PCB 43 (ng/kg)	PCB 43/52 (ng/kg)	PCB 44/47/65 (ng/kg)	PCB 45/51 (ng/kg)	PCB 46 (ng/kg)	PCB 47 (ng/kg)	PCB 48 (ug/kg)	PCB 48/49 (ng/kg)	PCB 49/69 (ng/kg)	PCB 50/53 (ng/kg)	PCB 51 (ng/kg)	PCB 52 (ng/kg)	PCB 53 (ng/kg)	PCB 54 (ng/kg)	PCB 55 (ng/kg)	PCB 56 (ng/kg)	PCB 57 (ng/kg)	PCB 58 (ng/kg)	PCB 58/67 (ng/kg)	PCB 59/62/75 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
Invertebrates	22-Aug-2014	---	15.5	0.929	< 0.295	1.47 [#1]	< 0.295	13	1.25	0.302	---	---	15.2	12.9	---	1.91	---	91.3	1.7	0.44 [#1]	---	0.00441	---	82.8	1.99 [#1]	---	370	---	< 0.295	8.36	81.1	< 1.52	1.6	---	4.5
Edith Lake																																			
Brook Trout 1+	11-Aug-2009	7	38.7	3.9	< 2.6	< 1.8	< 1.7	13.8	< 1.7	< 1.5	< 1.1	< 14	---	---	23.3	---	214	89	< 14	< 14	52.8	---	103	---	< 25	< 12	---	< 12	< 19	< 1.3	9.0	< 1.7	---	< 1.7	---
	01-Sep-2011	4	24.1	5.3	< 0.90	< 1.0	< 0.90	3.05 [#1]	< 0.90	< 0.90	4.57 [#1]	< 2.0	---	---	28.7	---	166	77.1	6.3 [#1]	< 2.0	65.6	---	111	---	< 2.0	7.3 [#1]	---	9.3 [#1]	< 1.0	< 1.0	17.3	< 1.0	---	3.0 [#1]	---
(Duplicate)	01-Sep-2011	4	37.6	7.8 [#1]	< 2.0	< 2.0	< 2.0	4.8 [#1]	< 2.0	< 2.0	6.2	< 5.0	---	---	33.7	---	211	72.0	9.1	< 5.0	85.6	---	148	---	< 4.0	< 4.0	---	11.4	< 3.0	< 2.0	29.7	< 2.0	---	< 2.0	---
	01-Sep-2012	3	30.8	6.5	< 0.60	< 0.60	< 0.50	5.60 [#1]	< 0.60	< 0.50	5.65	< 2.0 [#1]	---	---	33.9	---	222	95.8	8.9	3.1	81.1	---	161	---	< 1.0	10.6	---	14.0	< 1.0	< 0.50	27.7	< 0.50	---	3.65	---
	22-Sep-2015	3	58.8	7.43	0.336	0.168	< 0.153	9.13	0.453	1.16	---	---	34.0	67.8	---	6.82	---	345	30.8 [#1]	5.35	---	0.0257	---	274	30.5	---	601 [#1]	---	0.222 [#1]	3.14	72.4	1.81	2.87	---	25.1
	30-Aug-2016	2	30.5	3.49	0.188	< 0.0548	< 0.0548	2.82	0.187 [#1]	0.499	---	---	14.9	39.3	---	4.05	---	187	22.1	3.34	---	0.0147	---	167	19.3	---	249	---	0.15	2.7	39.4	0.788	1.47 [#1]	---	15.8
	13-Sep-2017	3	40.9	6.92	0.434	0.127	< 0.0618	4.3	0.185 [#1]	< 0.0633	---	---	19.8	43.7	---	4.11 [#1]	---	197	24.2	4.02	---	0.016	---	175	22.2	---	245	---	0.278 [#1]	< 0.184	40.2	1.15	1.58	---	16
	30-Aug-2018	3	19.1	1.95	0.14 [#1]	< 0.0863	< 0.081	1.87	0.354	0.427 [#1]	---	---	8.4	23.2	---	2.17 [#1]	---	105	10.9	1.55	---	0.00847	---	94.3	9.4	---	137	---	0.106 [#1]	< 0.157	23.5	0.599	1.2	---	9.18
(Replicate A)	06-Sep-2019	4	27	3.4	0.185	0.306	< 0.0996	3.67	0.343	0.604	---	---	9.63	27.4	---	3.1	---	128	14	2.07	---	0.0102	---	117	12.6	---	157	---	0.168	1.86	28.6	0.893	1.36	---	10.6
(Replicate B)	06-Sep-2019	4	24.1	2.14	0.189	0.29	< 0.0823	3.27	0.357	0.618	---	---	7.6	24.4	---	2.75	---	121	11.9	1.47	---	0.00925	---	110	9.08	---	141	---	0.192	2.81	29.9	0.899	1.09	---	10
	26-Aug-2020	7	20.1	1.65	0.117 [#1]	0.199 [#1]	< 0.0579	1.91	< 0.0579	< 0.0579	---	---	8.42	24.9	---	2.01	---	110	11.7	1.87	---	0.00854	---	100	9.91	---	138	---	0.111 [#1]	0.724	22.7	0.648	1.08	---	10
	30-Sep-2021	8	9.68	0.96	< 0.43	< 0.45	< 0.39	1.69	< 0.43	< 0.45	---	---	3.21	6.20	---	1.43	---	34.6	3.36	0.41	---	0.00312	---	26.0	2.50	---	---	---	< 0.070	< 0.31	6.56	< 0.34	< 0.34	---	3.00
	13-Oct-2022	2	8.9	< 1.1	< 1.7	< 1.8	< 1.6	< 2.3	< 1.6	< 1.8	---	---	1.7	1.6	---	< 2.0	---	22.7	< 1.4	< 1.5	---	< 0.0014	---	12.3	< 1.4	---	---	---	< 0.29	< 0.89	2.0	< 0.98	< 0.96	---	1.1
	14-Sep-2023	2	7.22	1.30	< 0.74	< 0.75	< 0.66	2.20	< 0.72	< 0.80	---	---	3.50	7.50	---	< 0.60	---	48.5	4.00	0.71	---	0.00292	---	33.7	2.55	---	97.3	---	< 0.54	< 0.50	6.59	1.48	< 0.47	---	2.55
Brook Trout 2+	11-Aug-2009	4	29.8	3.2	< 1.9	< 1.3	< 1.3	3.8	< 1.3	< 1.1	< 1.1	< 11	---	---	18.7	---	208	94	< 11	< 11	50.6	---	84.1	---	< 20	< 9.4	---	< 9.5	< 15	< 1.4	4.6	< 1.7	---	< 1.7	---
	11-Aug-2010	5	48.4	8.16	< 0.90	< 0.50	< 0.50	9.26	< 0.50	1.49	8.58	< 1.3	---	---	27.1	---	27.8	117	9.1 [#1]	4.0 [#1]	55.5	---	185	---	< 1.2	2.7	---	9.4	< 1.8	< 0.60	39.5	< 0.60	---	6.64	---
	01-Sep-2011	4	43.2	6.5	< 1.0	< 1.0	< 1.0	5.7	< 1.0	< 1.0	8.68 [#1]	< 3.0	---	---	30.2	---	370	118	5.0	< 2.0	75.4	---	208	---	< 2.0	< 2.0	---	7.1 [#1]	< 2.0	< 1.0	40.1	< 1.0	---	9.1 [#1]	---
	01-Sep-2012	3	43.1	5.43	< 0.50	< 0.50	< 0.50	10.1	< 0.50	< 0.50	7.85 [#1]	< 2.0	---	---	35.6	---	474	168	7.4 [#1]	< 2.0	73.9	---	226	---	< 2.0	2.7 [#1]	---	8.6 [#1]	< 1.0	< 0.50	47.6	< 0.50	---	7.59	---
	01-Sep-2013	3	57.1	0.738	< 0.0754	< 0.085	< 0.0739	6.79	< 0.0777	0.997	---	---	8.76	41.7	---	4.98	---	304	8.39	0.885	---	0.0161	---	370	8.46	---	588	---	< 0.0579	< 0.673	89.3	2.3	6	---	21.4
	21-Sep-2014	4	11.2	0.422 [#1]	< 0.0574	< 0.0574	< 0.0574	1.47	0.093 [#1]	0.2 [#1]	---	---	5.84	19.2	---	1.91 [#1]	---	143	2.77 [#1]	0.545 [#1]	---	0.00709	---	162	4.48	---	254	---	0.098 [#1]	3.87	21.4	0.753	0.981	---	8.99
(Replicate A)	21-Sep-2014	1	15.4	0.868	< 0.0565	< 0.0565	< 0.0565	2.95	0.16 [#1]	0.295	---	---	7.19	30.6	---	2.04	---	178	6.02	1.07	---	0.00788	---	165	6.22	---	294	---	0.081 [#1]	3.84 [#1]	29.7	1.17	0.711 [#1]	---	11.4
(Replicate B)	21-Sep-2014	1	3.79	0.082 [#1]	< 0.0579	< 0.0579	< 0.0579	0.596	0.08 [#1]	0.108 [#1]	---	---	1.37 [#1]	5.81	---	0.537	---	34.6	0.848 [#1]	0.242 [#1]	---	0.00238	---	34.2	1.07	---	48.6	---	< 0.0579	0.886	4.15	0.172	0.183 [#1]	---	2.63
	22-Sep-2015	1	9.69	0.682	< 0.084	0.086	< 0.0765	1.63	0.106	0.116	---	---	1.52	1.67	---	0.105	---	12.7	0.977	0.153 [#1]	---	0.00136	---	11.4	0.670 [#1]	---	19.8	---	< 0.055	< 0.13	2.14	< 0.117	0.158	---	0.884
	30-Aug-2016	2	24.5	0.589	< 0.0563	< 0.0563	< 0.0563	3.26	0.177	0.482	---	---	5.48	30.5	---	1.13 [#1]	---	213	6.86	0.811	---	0.00746	---	225	9.49	---	391	---	0.13	5.51	40.2	0.845	2.32	---	11.2
	13-Sep-2017	3	4.69	0.555	< 0.059	0.151 [#1]	< 0.059	1.15	0.108 [#1]	< 0.059	---	---	1.07	2.89	---	< 0.0996	---	20.2	0.972	0.142 [#1]	---	0.000859	---	18	0.475	---	23.8	---	< 0.0763	< 0.0763	3.09	0.22 [#1]	0.196 [#1]	---	1.49
	30-Aug-2018	3	7.56	0.259	< 0.0721	< 0.0683	< 0.0632	0.633	0.264 [#1]	0.151	---	---	1.82	8.96	---	0.798 [#1]	---	48.1	2.89	0.224	---	0.00292	---	45.9	1.86	---	61.6	---	0.109 [#1]	< 0.0906	7.64	0.322	0.432 [#1]	---	4
(Replicate A)	06-Sep-2019	4	4.14	0.27	< 0.0577	0.091	< 0.0577	0.833	0.101	0.082	---	---	1	3.35	---	0.183	---	20.5	1.29	0.106	---	0.00117	---	17.2	0.678	---	23.1	---	< 0.0699	0.552	3.75	< 0.233	< 0.237	---	1.68
(Replicate B)	06-Sep-2019	4	6.63	0.861	< 0.0648	0.089	< 0.0608	1.35	0.172	0.16	---	---	3.82	6.49	---	0.527	---	40.7	2.81	0.249	---	0.00181	---	36.4	1.9	---	49.2	---	< 0.0696	1.31	7.85	0.516	0.456	---	2.7
	26-Aug-2020	2	9.35	0.258	< 0.058	0.086 [#1]	< 0.058	0.88	< 0.058	< 0.058	---	---	2.45	11.7	---	0.898	---	65.5	4.43	0.349 [#1]	---	0.00371	---	62.7	2.87	---	76.5	---	< 0.071	< 0.188	10.7	0.527	0.826	---	5.32
	30-Sep-2021	10	5.64	0.33	< 0.21	< 0.22	< 0.19	1.20	< 0.21	< 0.22	---	---	1.55	3.80	---	< 0.19	---	25.5	1.70	< 0.15	---	0.00150	---	24.6	1.24	---	---	---	< 0.080	< 0.18	4.10	< 0.20	< 0.20	---	2.07
	13-Oct-2022	8	24.0	1.45	< 0.33	< 0.34	< 0.30	9.57	< 0.33	0.65	---	---	9.03	18.0	---	< 0.14	---	138	5.30	0.65	---	0.00760	---	139	7.73	---	---	---	0.170	< 0.37	45.9	< 0.40	< 0.40	---	7.56
	14-Sep-2023	3	3.73	< 0.28	< 0.62	< 0.63	< 0.55	1.40	< 0.60	< 0.67	---	---	0.84	1.90	---	< 0.29	---	15.8	0.43	< 0.29	---	0.00069	---	23.4	0.59	---	26.0	---	< 0.28	< 0.39	2.80	0.42	< 0.37	---	1.00
Brook Trout 3+	11-Aug-2010	3	73.0	7.77	< 0.90	< 0.50	< 0.50	15.7	< 0.50	1.82	14.0	4.6	---	---	41.5	---	39.1	178	11.8	4.3	83.4	---	301	---	< 1.4	2.9	---	12.6	< 2.0	< 0.70	51.5	< 0.60	---	10.1	---
	01-Sep-2011	3	61.1	10.8 [#1]	< 2.0	< 2.0	< 2.0	12.1	< 2.0	< 2.0	7.8	< 4.0	---	---	25.5	---	373	104	< 5.0	< 4.0	70.3	---	183	---	< 4.0	< 4.0	---	< 4.0	< 3.0	< 2.0	47.9	< 2.0	---	9.3	---
	01-Sep-2012	5	45.7	5.64	< 0.50	< 0.50	< 0.50	9.52	< 0.50	< 0.50	9.72	< 2.0	---	---	35.6	---	578	203	5.7	< 2.0	85.1	---	267	---	< 2.0	< 2.0	---	7.8	< 1.0	< 0.50	62.0	< 0.50	---	8.24	---
(Replicate A)	01-Sep-2013	3	55.1	0.891	0.081 [#1]	< 0.0902	< 0.0784	8.98	< 0.0824	1.18	---	---	7.33	25.5	---	4.27	---	250	4.86	0.427	---	0.0145	---	286	4.97	---	589	---	< 0.0562	< 0.828	91.8	1.85	4.85	---	12.7
(Duplicate)	01-Sep-2013	3	50.9	0.786	0.173	0.065 [#1]	< 0.057	7.58	< 0.057	1.02	---	---	6.84	23.4	---	3.6	---	231	4.51	0.389	---	0.013	---	265	4.65	---	545	---	0.132	< 0.171	81.6	1.82	3.78	---	11.3
(Replicate B)	01-Sep-2013	3	52.9	0.532	< 0.0637	< 0.0718	< 0.0624	10.2	0.189	1.01	---	---	4.9	20.6	---	3.01	---	192	3.06	0.239	---	0.0101	---	265	3.86	---	493	---	< 0.0556	< 1.74	84.5	1.76	4.02	---	10.6
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	80.6	11.2	< 2.0	< 3.0	< 2.0	17.5 [#1]	< 2.0	< 2.0	15.5	< 8.0	---	---	44.3	---	1090	334	10.5	< 8.0	125	---	518	---	< 7.0	< 6.0	---	15.2 [#1]	< 6.0	< 3.0	67.3	< 3.0	---	16.4	---
	21-Sep-2014	4	25.3	1.04	< 0.076	0.17 [#1]	< 0.0759	3.05	0.241	0.474	---	---	6.8	24.6	---	0.986 [#1]	---	177	3.82	0.447	---	0.00803	---	204	4.26	---	348	---	< 0.0569	5.29	47.6	< 1.92	< 1.89	---	11.2
(Replicate A)	21-Sep-2014	1	45.2	4.11	0.115	0.095 [#1]	< 0.0674	6.69	0.205	0.726	---	---	13.9	36.5	---	3.44 [#1]	---	207	9.9	2.06	---	0.0128	---	192	11.5	---	351	---	0.128	6.32	81.1	3.28	1.49	---	12.6
(Replicate B)	21-Sep-2014	1	4.62	0.078	< 0.0708	< 0.0794	< 0.0708	0.565	< 0.0721	0.084 [#1]	---	---	1.11	11.9	---	0.255	---	83.5	1.44	< 0.0879	---	0.00242	---	83	0.645 [#1]	---	103	---	< 0.0574	3.75 [#1]	5.86 [#1]	< 1.24	< 1.22	---	6.03
	22-Sep-2015	3	28.8	1.84	0.065	0.141	< 0.057	5.51	0.2	0.602	---	---	12.1	23.1	---	1.42	---	170	5.2	0.558	---	0.00914	---	160	6.15	---	385	---	< 0.057	< 0.367	54	1.27	1.92	---	8.1
(Duplicate)	22-Sep-2015	3	28.3	1.9	< 0.0783	0.104 [#1]	< 0.0687	5.47	0.251	0.549	---	---	11.6	22.6	---	1.14	---	166	5.05	0.576	---	0.00856	---	153	5.84	---	365	---	< 0.0573	< 0.975	50.8	1.25	1.94	---	7.87
	30-Aug-2016	1	25.1	0.745	< 0.0576	< 0.0576	< 0.0576	3.9	< 0.0576	0.422	---	---	5.21	21.2	---	< 0.0576	---	171	4.82	0.354	---	0.0069	---	190	5.55	---	349	---	< 0.0576	5.4	48.9	< 1.15	1.47	---	7.37
	13-Sep-2017	3	9.57	0.569	< 0.0594	0.108	< 0.0594	1.25	< 0.0594	0.094 [#1]	---	---	1.46	5.21	---	0.195 [#1]	---	39.9	1.18	0.144 [#1]	---	0.00158	---	44.7	0.827	---	83.3	---	< 0.0701	< 0.138	7.47	0.472 [#1]	0.578	---	2.54

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 31 (ng/kg)	PCB 32 (ng/kg)	PCB 34 (ng/kg)	PCB 35 (ng/kg)	PCB 36 (ng/kg)	PCB 37 (ng/kg)	PCB 38 (ng/kg)	PCB 39 (ng/kg)	PCB 40/68 (ng/kg)	PCB 41 (ng/kg)	PCB 41/71/40 (ng/kg)	PCB 42 (ng/kg)	PCB 42/59 (ng/kg)	PCB 43 (ng/kg)	PCB 43/52 (ng/kg)	PCB 44/47/65 (ng/kg)	PCB 45/51 (ng/kg)	PCB 46 (ng/kg)	PCB 47 (ng/kg)	PCB 48 (ug/kg)	PCB 48/49 (ng/kg)	PCB 49/69 (ng/kg)	PCB 50/53 (ng/kg)	PCB 51 (ng/kg)	PCB 52 (ng/kg)	PCB 53 (ng/kg)	PCB 54 (ng/kg)	PCB 55 (ng/kg)	PCB 56 (ng/kg)	PCB 57 (ng/kg)	PCB 58 (ng/kg)	PCB 58/67 (ng/kg)	PCB 59/62/75 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																																			
(Duplicate)	13-Sep-2017	3	8.41	0.478 [#1]	< 0.0769	0.089	< 0.0693	1.02	< 0.0734	< 0.071	---	---	1.23	4.75	---	0.275	---	37.6	0.965	< 0.122	---	0.00143	---	43.4	0.657 [#1]	---	80.3	---	< 0.0949	< 0.15	7.56	0.354	0.526 [#1]	---	2.27
	30-Aug-2018	3	7.16	0.263	< 0.098	< 0.0927	< 0.0858	0.79	0.247 [#1]	0.152 [#1]	---	---	0.953	3.5	---	0.247 [#1]	---	24.9	1.32	0.175	---	0.00137	---	25.4	0.923	---	36.8	---	< 0.0491	< 0.132	3.96	0.286	< 0.127	---	1.73
	06-Sep-2019	4	9.42	0.552	0.158	0.125	< 0.0497	1.75	0.21	0.169	---	---	1.92	4.66	---	0.373	---	30.9	1.78	0.172	---	0.00184	---	27.5	0.93	---	43.2	---	0.18	1.17	8.21	0.294	0.321	---	2.37
(Duplicate)	06-Sep-2019	4	9.72	0.432	< 0.0575	0.107	< 0.0575	1.87	0.19	0.199	---	---	1.66	5.39	---	0.525	---	33.5	1.85	0.178	---	0.00173	---	30.7	1.17	---	44.9	---	< 0.0648	1.31	7.4	0.341	0.413	---	2.58
	26-Aug-2020	5	6.48	0.415	< 0.0573	< 0.0573	< 0.0573	1.26	< 0.0573	< 0.0573	---	---	1.44	5.63	---	< 0.0948	---	37.6	1.66	0.211 [#1]	---	0.00151	---	35.5	1.42	---	46.7	---	< 0.0632	< 0.26	6.01	0.461	0.404	---	2.24
(Duplicate)	26-Aug-2020	5	7.69	0.242	< 0.058	0.101 [#1]	< 0.058	0.706	< 0.058	< 0.058	---	---	2.07	9.59	---	0.636 [#1]	---	54.8	3.64	0.398 [#1]	---	0.00311	---	52	2.36	---	64	---	< 0.066	< 0.132	9.3	0.457	0.601	---	4.51
	30-Sep-2021	3	7.85 [#4]	0.59 [#4]	< 1.2 [#4]	< 1.2 [#4]	< 1.1 [#4]	1.8 [#4]	< 1.1 [#4]	< 1.2 [#4]	---	---	1.52 [#4]	3.40 [#4]	---	< 0.65 [#4]	---	29.4 [#4]	1.71 [#4]	< 0.47 [#4]	---	0.00200 [#4]	---	24.2 [#4]	1.43 [#4]	---	---	---	< 0.14 [#4]	< 0.50 [#4]	7.97 [#4]	< 0.55 [#4]	< 0.54 [#4]	---	1.90 [#4]
	13-Oct-2022	8	7.56	0.59	< 0.39	< 0.40	< 0.35	1.07	< 0.39	< 0.40	---	---	1.30	4.96	---	< 0.21	---	44.3	2.28	< 0.17	---	0.00150	---	42.1	2.18	---	---	---	< 0.082	< 0.36	4.99	0.60	< 0.40	---	2.20
	14-Sep-2023	5	8.3	< 0.56	< 1.2	< 1.2	< 1.1	2.00	< 1.1	< 1.3	---	---	1.73	4.27	---	< 0.83	---	35.7	1.20	< 0.81	---	< 0.00073	---	53.2	1.70	---	54.5	---	< 0.39	< 0.94	5.18	1.20	< 0.90	---	1.78
(Duplicate)	14-Sep-2023	5	8.90	0.71	< 1.0	< 1.0	< 0.90	2.50	< 0.98	< 1.1	---	---	< 1.4	4.6	---	< 1.7	---	38.1	1.9	< 1.6	---	< 0.0015	---	49.7	1.6	---	53.3	---	< 0.46	< 0.95	6.50	1.40	< 0.90	---	2.4
Brook Trout 4+	04-Oct-2006	5	160	10	< 0.10	< 0.10	< 0.10	38	< 0.10	4.1	17	10	---	---	71	---	1900	620	24	< 0.40	420	---	1100	---	< 0.30	7.8	---	29	< 0.30	< 0.20	170	< 0.10	---	22	---
	01-Sep-2011	2	101	7.7	< 1.0	< 1.0	< 1.0	15.8	< 1.0	< 1.0	25.0	< 4.0	---	---	99.1	---	1340	468	11.8 [#1]	< 4.0	242	---	650	---	< 3.0	5.7 [#1]	---	16.8 [#1]	< 2.0	< 2.0	139	2.8	---	24.5	---
	01-Sep-2013	2	81.4	1.06	< 0.0951	< 0.107	< 0.0932	11.7	0.292	1.21	---	---	14.3	43	---	5.76	---	367	6.97	0.898	---	0.0205	---	350	8.08	---	910	---	0.058	< 0.672	146	2.39	4.16	---	19.6
	21-Sep-2014	1	48.6	0.467	0.057	0.132 [#1]	< 0.0556	3.67	0.342	0.774	---	---	5.29	29.8	---	2.49 [#1]	---	268	2.77 [#1]	0.454 [#1]	---	0.012	---	325	5.06	---	508	---	< 0.0556	< 0.397	58.6	2.05	4.14	---	17.1
(Replicate A)	23-Sep-2015	1	59.1	2	0.071	0.107	< 0.0562	8.15	0.304	0.841	---	---	9.83	40.8	---	< 0.0562	---	268	6.41	0.958	---	0.00918	---	334	12.7	---	544	---	0.223 [#1]	< 0.513	63.2	2.02	3.12	---	15.0
(Replicate B)	22-Sep-2015	1	42	2.18	< 0.0736	0.095 [#1]	< 0.0645	6.19	0.277 [#1]	0.864	---	---	12.4	39.9	---	1.95	---	290	7.46	0.771	---	0.0121	---	293	8.77	---	625	---	0.082 [#1]	< 0.318	76.6	2.48	3.67	---	15.4
	30-Aug-2016	1	25.9	0.8	< 0.057	< 0.057	< 0.057	3.81	0.157 [#1]	0.462 [#1]	---	---	5.01	21.5	---	0.941	---	155	4.26	0.531	---	0.00544	---	186	5.3	---	317	---	0.085	5.51	45.1	0.846	1.66	---	7.24
	13-Sep-2017	1	12.4	0.543	< 0.0578	0.08 [#1]	< 0.0578	1.18	0.078	< 0.0578	---	---	2.07	7.9	---	0.297 [#1]	---	64	2	0.145 [#1]	---	0.00259	---	74	1.75	---	137	---	< 0.0723	< 0.193	16.7	0.458	0.687	---	2.72
	30-Aug-2018	1	7.88	0.328	< 0.062	0.065	< 0.0543	0.902	0.284 [#1]	0.094 [#1]	---	---	0.88	4.35	---	0.224	---	32.8	0.998	0.076 [#1]	---	0.00131	---	33.1	0.663	---	56.3	---	< 0.0479	< 0.136	4.49	0.354 [#1]	< 0.132	---	2.23
	26-Aug-2020	2	8.3	0.434	< 0.0576	< 0.0587	< 0.0576	0.989	< 0.0576	< 0.0576	---	---	1.6	5.77	---	0.196	---	43.1	2.47	0.206	---	0.0015	---	41.1	2.12	---	52	---	< 0.0829	< 0.187	5.81	0.577	0.559	---	2.59
	14-Sep-2023	5	5.98	< 0.39	< 0.64	< 0.65	< 0.57	1.90	< 0.62	< 0.69	---	---	1.50	2.80	---	< 0.59	---	20.9	< 0.53	< 0.58	---	0.00101	---	28.0	0.72	---	30.6	---	< 0.69	< 1.1	4.3	< 0.99	< 1.1	---	1.70
Brook Trout 5+	04-Oct-2006	4	77	8.8	< 0.10	< 0.10	< 0.10	14	< 0.10	0.79	3.9	8.5	---	---	16	---	590	250	17	6.0	110	---	340	---	< 0.40	4.6	---	16	< 0.30	< 0.10	45	< 0.10	---	4.0	---
	01-Sep-2011	2	51.0	8.8 [#1]	< 1.0	< 1.0	< 1.0	6.70	< 1.0	< 1.0	12.2	< 3.0	---	---	23.1	---	549	163	5.3 [#1]	< 3.0	101	---	290	---	< 3.0	< 3.0 [#1]	---	4.7 [#1]	< 2.0	< 2.0	41.1	< 2.0	---	13.5 [#1]	---
	01-Sep-2013	1	59.2	4.31	< 0.212	< 0.245	< 0.218	10.6	< 0.22	0.933	---	---	9.42	27.5	---	3.5	---	204	5.36	0.907	---	0.0126	---	230	6.34	---	471	---	0.153 [#1]	3.96	83.6	1.49	2.66	---	11
	21-Sep-2014	1	13.3	0.127	< 0.0639	< 0.0716	< 0.0638	1.28	0.218	0.238	---	---	2.48	14.8	---	2.15	---	141	0.911	0.25 [#1]	---	0.00437	---	161	1.65	---	271	---	< 0.057	7.99 [#1]	31.1	1.08	1.82	---	10.8
	30-Aug-2016	1	55.4	0.758	< 0.0722	< 0.0668	< 0.0631	4.12	0.279 [#1]	0.743	---	---	6.59	50.4	---	< 0.057	---	384	6.33	0.421	---	0.01	---	487	6.3	---	758	---	< 0.057	< 1.13	80.4	2.52	6.08	---	23.5
(Duplicate)	30-Aug-2016	1	57.5	0.777	< 0.0555	< 0.0555	< 0.0555	4.35	0.311	0.821	---	---	6.63	50.1	---	< 0.0555	---	384	6.36	0.428	---	0.0103	---	489	6.13	---	757	---	< 0.0555	< 0.368	81.8	2.9	6.36	---	23.8
	30-Sep-2021	1	10.2	0.94	< 0.26	< 0.26	< 0.23	2.25	< 0.25	< 0.26	---	---	1.39	3.86	---	< 0.58	---	38.4	2.05	< 0.46	---	0.00166	---	35.0	1.42	---	---	---	< 0.060	< 0.23	5.37	0.40	< 0.25	---	2.44
Brook Trout 6+	14-Sep-2023	3	9.73	0.33	< 0.39	< 0.40	< 0.35	1.90	< 0.38	< 0.42	---	---	1.30	4.38	---	< 0.26	---	30.7	0.60	< 0.25	---	0.00163	---	37.9	0.99	---	44.5	---	< 0.18	< 0.46	5.00	0.95	< 0.43	---	1.64
Brook Trout 11+	11-Sep-2007	2	29	3.4	< 0.70	< 0.60	< 0.60	3.5	< 0.60	< 0.60	5.2	< 2.2	---	---	21	---	220	80	3.2	< 2.3	39	---	190	---	< 1.9	< 1.9	---	3.5	< 1.7	< 0.80	18	< 0.70	---	5.8	---
Brook Trout 12+	11-Sep-2007	3	17	2.1	< 0.50	< 0.50	< 0.50	3.8	< 0.50	0.65	2.8	< 2.0	---	---	14	---	130	46	1.9 [#1]	< 2.0	25	---	97	---	< 1.7	< 1.7	---	< 1.7	< 1.5	< 0.60	14	< 0.60	---	3.1	---
Brook Trout Unknown	23-Jul-2008	2	22	2.8	< 0.30	0.22	< 0.20	3.7	< 0.20	1.0	4.1	0.71	---	---	20	---	120	49	3.7	1.4	36	---	78	---	< 0.60	4.5	---	7.3	< 0.50	0.39	36	0.43	---	2.2	---
(Replicate A)	23-Jul-2008	2	19	16	< 0.40	< 0.40	< 0.40	4.4	< 0.40	0.97	2.5	3.1	---	---	52	---	290	130	9.5	3.4	90	---	200	---	< 2.8	9.3	---	18	< 2.5	< 0.40	13	0.48	---	1.8	---
(Replicate B)	23-Jul-2008	2	28	2.8	< 0.40	< 0.40	< 0.40	3.3	< 0.40	0.99	3.0	< 0.60	---	---	11	---	94	38	1.8	0.85	23	---	70	---	< 0.70	2.2	---	3.7	< 0.60	< 0.30	7.4	< 0.30	---	1.6	---
(Replicate C)	23-Jul-2008	2	29	4.8	< 0.50	< 0.50	< 0.50	2.6	< 0.50	1.5	3.4	< 0.60	---	---	20	---	130	53	3.7	1.7	38	---	86	---	< 0.70	4.7	---	8.7	< 0.60	< 0.30	11	0.41	---	1.6	---
Brook Trout (Stomach) 1+	01-Sep-2012	3	41.2	18.5	< 2.0	< 2.0	< 2.0	14.4 [#1]	< 2.0	< 2.0	7.8	11.3 [#1]	---	---	28.7	---	110	104	20.1	< 3.0	22.6	---	67.2	---	< 3.0	< 3.0	---	23.2	< 3.0	< 1.0	15.1	< 1.0	---	< 1.0	---
Brook Trout (Stomach) 2+	01-Sep-2012	3	5.20	2.25	< 0.20	< 0.20	< 0.20	1.68	< 0.20	< 0.20	0.94 [#1]	1.56	---	---	3.80	---	18.2	17.6	2.77	1.26 [#1]	2.78	---	9.46	---	< 0.30	< 0.30	---	2.78	< 0.30	< 0.10	2.30	< 0.10	---	< 0.10	---
Brook Trout (Stomach) 3+	01-Sep-2012	5	567	41.0	2.47	28.3	0.74	295	< 0.20	15.6	102	63.7	---	---	634	---	13100	4180	91.2	23.3	1100	---	4680	---	1.6	33.3	---	176	1.4	19.2	1320	15.9	---	136	---
(Re-analysis)	01-Sep-2012	5	1040	81.3	3.4	52.9	< 1.0	642	< 1.0	27.6	150	102	---	---	1030	---	19200	7050	168	44.9	1590	---	6270	---	< 5.0	49.3	---	291	< 6.0	41.1	2930	18.5	---	209	---
Certified Reference Materials																																			
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WMF-01-CRM	04-Oct-2006	---	3300	190	< 0.20	< 0.20	< 0.20	170	< 0.20	< 0.20	540	430	---	---	1900	---	35000	17000	640	120	16000	---	23000	---	12	180	---	1000	< 1.3	120	4300	160	---	720	---
	11-Sep-2007	---	3500	330	19	4.9	< 2.5	200	< 2.8	190	660	570	---	---	5800	---	38000	19000	690	150	15000	---	26000	---	< 16	220	---	1100	< 14	400	4400	220	---	820	---
	23-Jul-2008	---	4400	330	34	3.5	< 1.5	220	< 1.6	300	780	340	---	---	3800	---	27000	13000	500	110	11000	---	18000	---	16	170	---	880	4.7	160	3900	190	---	700	---
	11-Aug-2009	---	4470	266	< 37	< 25	< 25	165	< 25	267	863	430	---	---	4810	---	37800	16600	560	160	14600	---	23200	---	< 240	200	---	970	< 180	120	5020	184	---	1040	---
	11-Aug-2010	---	5090	272	20.8	6.3	< 2.0	216	< 2.0	< 1.9	861	413	---	---	4420	---	4390	15400	613	145	13900	---	20200	---	21.0 [#1]	186	---	984	< 9.9	123	5480	244	---	987	---

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 31 (ng/kg)	PCB 32 (ng/kg)	PCB 34 (ng/kg)	PCB 35 (ng/kg)	PCB 36 (ng/kg)	PCB 37 (ng/kg)	PCB 38 (ng/kg)	PCB 39 (ng/kg)	PCB 40/68 (ng/kg)	PCB 41 (ng/kg)	PCB 41/71/40 (ng/kg)	PCB 42 (ng/kg)	PCB 42/59 (ng/kg)	PCB 43 (ng/kg)	PCB 43/52 (ng/kg)	PCB 44/47/65 (ng/kg)	PCB 45/51 (ng/kg)	PCB 46 (ng/kg)	PCB 47 (ng/kg)	PCB 48 (ug/kg)	PCB 48/49 (ng/kg)	PCB 49/69 (ng/kg)	PCB 50/53 (ng/kg)	PCB 51 (ng/kg)	PCB 52 (ng/kg)	PCB 53 (ng/kg)	PCB 54 (ng/kg)	PCB 55 (ng/kg)	PCB 56 (ng/kg)	PCB 57 (ng/kg)	PCB 58 (ng/kg)	PCB 58/67 (ng/kg)	PCB 59/62/75 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Materials - Continued																																			
	01-Sep-2011	---	4870	337	24.2	< 4.0	< 4.0	221	< 4.0	< 4.0	1110	509	---	---	5570	---	39200	19500	764	< 10	17200	---	24200	---	25	213	---	1100	< 10	117 [#1]	5770	240	---	963	---
	01-Sep-2012	---	3680	230	21.6	8.6	< 2.0	220	< 2.0	155	644	446	---	---	4710	---	34800	16300	612	131	14000	---	22300	---	22.3	181	---	969	< 8.0	95.2	3970	149	---	657	---
NIST SRM 1946	11-Oct-2013	---	985	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4820	---	---	---	---	---	2440	---	---	6700	---	---	---	739	---	---	---	---
	31-Aug-2016	---	1090	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5000	---	---	---	---	---	2720	---	---	6950	---	---	---	860	---	---	---	---
	03-Nov-2018	---	965	---	---	---	---	---	---	---	---	---	---	---	---	---	---	4290	---	---	---	---	---	2210	---	---	6150	---	---	---	631	---	---	---	---
EDF-2524	15-Oct-2014	---	---	---	---	---	---	8.59	---	---	---	---	---	---	---	---	---	331	---	---	---	---	---	157	---	---	528	---	---	---	---	---	---	---	---
CRM EDF2524	23-Sep-2015	---	---	---	---	---	---	10.8	---	---	---	---	---	---	---	---	---	363	---	---	---	---	---	169	---	---	595	---	---	---	---	---	---	---	---
CRM EDF-5462	13-Oct-2022	---	68.6	4.6	< 2.7	33.0	< 2.4	48.0	35.8	< 2.8	---	---	23.0	22.5	---	5.8	---	128	6.7	< 1.7	---	0.0067	---	88.2	4.4	---	---	---	41.9	< 1.9	25.3	39.8	< 2.1	---	7.9
	15-Nov-2023	---	49.2	< 6.1	< 9.9	35.0	< 8.5	44.9	28.5	< 11	---	---	13.0	17.0	---	< 8.1	---	93.3	< 6.6	< 7.3	---	< 0.0066	---	64.8	< 6.5	---	386	---	45.0	< 8.2	24.0	37.4	< 7.8	---	7.5

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript [#1] - EMPC
9. Superscript [#2] - RRR
10. Superscript [#3] - lock mass intereference (lab qualifier originally G)
11. Superscript [#4] - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript [#5] - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 60 (ng/kg)	PCB 62/65/75 (ng/kg)	PCB 63 (ug/kg)	PCB 63/76 (ng/kg)	PCB 64 (ng/kg)	PCB 66 (ng/kg)	PCB 67 (ug/kg)	PCB 68 (ug/kg)	PCB 69 (ng/kg)	PCB 70 (ng/kg)	PCB 70/61/74/76 (ng/kg)	PCB 71 (ng/kg)	PCB 72 (ng/kg)	PCB 73 (ng/kg)	PCB 74 (ng/kg)	PCB 77 (ng/kg)	PCB 78 (ng/kg)	PCB 79 (ng/kg)	PCB 80 (ng/kg)	PCB 81 (ng/kg)	PCB 82 (ng/kg)	PCB-83/99 (ng/kg)	PCB 83/119 (ng/kg)	PCB 84 (ng/kg)	PCB 84/89 (ng/kg)	PCB 85/110/115/116/117 (ng/kg)	PCB 85/116/117 (ng/kg)	PCB 86/87/97/108/119/125 (ng/kg)	PCB 86/87/97/109/119/125 (ng/kg)	PCB 86/108/125 (ng/kg)	PCB 87 (ng/kg)	PCB 88/91 (ng/kg)	PCB 88/121 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																																			
Brook Trout 0+	04-Oct-2006	10	18	2.1	---	3.7	74	100	---	---	< 0.20	210	< 0.10	31	1.0	< 0.20	43	5.8	1.2	1.1	< 0.10	< 0.10	< 0.10	---	13	---	26	---	51	---	---	< 0.10	60	---	< 0.10
	11-Sep-2007	10	11	4.7	---	3.2	46	63	---	---	< 1.1	100	< 0.60	17	< 0.60	< 1.2	35	4.2	1.6	1.7	< 0.50	< 0.60	< 1.1	---	17	---	24	---	29	---	---	< 1.5	40	---	< 1.4
	23-Jul-2008	10	11	3.0	---	3.0	36	45	---	---	< 0.60	77	< 0.50	16	1.4	< 0.70	39	2.0	1.5	1.3	< 0.40	< 0.50	< 0.50	---	6.9	---	10	---	21	---	---	< 0.60	27	---	< 0.70
(Duplicate)	23-Jul-2008	10	11	2.9	---	3.4	39	53	---	---	< 0.60	86	< 0.50	18	1.7	< 0.70	45	2.1	< 0.40	1.4	< 0.40	< 0.50	< 0.50	---	8.1	---	12	---	24	---	---	< 0.60	31	---	< 0.60
	11-Aug-2009	10	10.3 [#1]	< 6.4	---	< 5.2	24.4	59.7	---	---	< 6.5	78.2	< 6.0	8.0	< 5.4	< 6.9	66.1	< 5.6	< 4.1	< 4.0	< 3.6	< 4.1	< 7.1	---	< 10	---	< 12 [#1]	---	28	---	---	< 9.2	35	---	< 9.9
	11-Aug-2010	10	10.4	1.50	---	3.32	32.9	53.9	---	---	< 0.70	64.3	< 0.60	11.4	1.70	< 0.70	27.5	3.71	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	---	10.3	---	22.6	---	19.6	---	---	< 1.1	37.1	---	< 1.1
	01-Sep-2011	10	21.0	3.7 [#1]	---	4.2	53.8	101	---	---	< 1.0	125	< 1.0	8.8	4.1 [#1]	< 2.0	48.7	9.02	< 1.0	< 1.0	< 0.90	< 0.90	< 2.0	---	22.3	---	36.2	---	63.4	---	---	< 2.0	91.5	---	< 2.0
	01-Sep-2012	10	12.0	5.65	---	3.98	56.9	79.3	---	---	< 1.0	113	< 0.40	16.6	3.09	< 1.0	37.7	7.13	< 0.40	< 0.40	< 0.30	< 0.50	< 1.0	---	24.0	---	30.8	---	49.0	---	---	< 1.0	63.4	---	< 1.0
	01-Sep-2013	10	36.4	---	0.00944	---	85.9	177	0.00535	0.00452	---	---	289	---	5.09	< 0.0525	---	8.68	< 0.204	5.44	0.195	0.488	29.4	367	---	66.5	---	---	80.7	218	---	---	---	84.4	---
	21-Sep-2014	12	14.4	---	0.0047	---	37.5	71.9	0.00211	0.0034	---	---	134	---	2.56	< 0.0568	---	3.19	< 0.155	2.39 [#1]	0.156 [#1]	< 0.14	13.4	213	---	35	---	---	45	121	---	---	---	39.4	---
	22-Sep-2015	11	23.5	---	0.0083	---	80.4	136	0.00485	0.00505	---	---	249	---	6.08	< 0.0566	---	6.9	< 0.149	4.81	< 0.147	0.428 [#1]	28.3	429	---	78.1	---	---	82.4	240	---	---	---	99.0	---
	30-Aug-2016	10	12	---	0.00434	---	45.2	77.1	0.00232	0.00292	---	---	133	---	3.11	1.99	---	3.04	< 0.227	2.21 [#1]	< 0.216	0.139	15.1	223	---	40.3	---	---	39.4	119	---	---	---	49.5	---
	30-Aug-2018	10	6.63	---	0.00244	---	17.7	38.4	0.00117	0.00193	---	---	62.7	---	1.69	< 0.0488	---	1.88	< 0.133	1.31	< 0.122	< 0.134	6.58	124	---	15.7	---	---	21	59.6	---	---	---	23.4	---
	06-Sep-2019	10	5.66	---	0.0017	---	12.5	28.8	0.000657	0.00126	---	---	49.3	---	1.04	0.71	---	1.09	< 0.416	1.22	< 0.383	< 0.414	5.14	88.5	---	10.7	---	---	17	42.7	---	---	---	15	---
	26-Aug-2020	11	4.74	---	0.00167	---	14.7	27.5	0.000866	0.00134	---	---	47.4	---	1.39	< 0.0732	---	1.31	< 0.148	1.35	< 0.13	0.126	5.36	83.3	---	12.6	---	---	16.4	45.4	---	---	---	15.4	---
	30-Sep-2021	10	1.30	---	0.00029	---	2.62	5.99	< 0.00012	0.00061	---	---	11.3	---	< 0.15	< 0.065	---	---	< 0.17	< 0.14	< 0.12	---	0.91	15.8	---	1.61	---	14.5	---	---	---	6.77	---	---	1.50	---
	13-Oct-2022	10	24.8	---	0.00606	---	167	133	0.00362	0.00110	---	---	682	---	2.30	< 0.13	---	---	1.20	4.42	< 0.56	---	42.9	309	---	271	---	556	---	---	---	346	---	---	151	---
Chrystina Lake																																			
Brook Trout 1+	11-Aug-2009	8	18.0	5.4	---	5.26 [#1]	68.8	102	---	---	< 1.7	271	< 0.80	21.6	2.71	< 1.7	60.2	13.4	< 0.60	3.34	< 0.60	< 0.80	< 1.2	---	32.3	---	42.6	---	92.2	---	---	< 1.6	136	---	< 1.7
	01-Sep-2011	5	31.0 [#1]	4.1	---	5.0	46.9	138	---	---	< 2.0	194	< 1.0	< 2.0	2.7 [#1]	< 2.0	80.8	14.3	< 1.0	4.2 [#1]	< 1.0	< 1.0	< 2.0	---	38.2	---	39.1	---	109	---	---	< 2.0	171	---	< 2.0
	01-Sep-2012	4	74.9	12.2 [#1]	---	19.7	164	391	---	---	< 1.0	911	< 0.60	5.4 [#1]	7.45	< 1.0	255	51.1	< 0.50	13.2	< 0.40	2.41	< 1.0	---	143	---	214	---	395	---	---	< 1.0	729	---	< 1.0
(Replicate A)	01-Sep-2013	1	23.2	---	0.00503	---	29.9	109	0.00275	0.00149	---	---	217	---	2.14	< 0.173	---	13.3	< 0.427	5.72	< 0.371	0.726 [#1]	26	247	---	33.6	---	---	68.6	204	---	---	---	28.7	---
(Replicate B)	01-Sep-2013	1	26.7	---	0.00571	---	36.8	119	0.00338	0.00213	---	---	234	---	2.54	< 0.071	---	13.5	< 0.116	4.71	< 0.101	0.806	22.9	268	---	35.8	---	---	75.7	211	---	---	---	34.1	---
	23-Sep-2015	1	167	---	0.107	---	307	1660	0.051	0.0756	---	---	2990	---	74.2	< 0.0567	---	132	1.98	58.6	1.24	5.23 [#1]	270	4590	---	526	---	---	884	3040	---	---	---	523	---
	31-Aug-2016	2	28.8	---	0.00964	---	73.5	181	0.00503	0.00652	---	---	278	---	6.28	2.93	---	10.6	< 0.121	4.19	< 0.118	0.448	25.2	445	---	57.7	---	---	82.7	240	---	---	---	82.3	---
	12-Sep-2017	3	18.6	---	0.00551	---	34.5	107	0.00333	0.00343	---	---	197	---	3.41	< 0.056	---	9.11	< 0.211	3.98	< 0.182	0.497 [#1]	21.7	372	---	38.4	---	---	87.3	230	---	---	---	50.7	---
	29-Aug-2018	3	16.2	---	0.00501	---	31.5	90.7	0.00312	0.00265	---	---	174	---	3.13	< 0.0487	---	11.7	< 0.146	4.04	0.225 [#1]	0.596	22.5	255	---	37.1	---	---	59.8	173	---	---	---	39.9	---
(Replicate A)	05-Sep-2019	4	19.5	---	0.00651	---	40.3	115	0.00347	0.00452	---	---	195	---	4.53	1.11	---	8.85	< 0.234	4.94	< 0.215	0.632	22.4	343	---	39.9	---	---	72.5	191	---	---	---	59.7	---
(Replicate B)	05-Sep-2019	4	25.4	---	0.00913	---	54.6	153	0.00492	0.00609	---	---	281	---	6.19	0.946	---	10.2	< 0.172	6.44	< 0.158	0.505	23.1	415	---	47.4	---	---	84.8	216	---	---	---	74.3	---
	25-Aug-2020	7	16	---	0.00573	---	33.1	96.3	0.00363	0.00364	---	---	189	---	3.93	0.289 [#1]	---	10.5	< 0.184	5.27	0.282	0.655	18.5	297	---	31.1	---	---	68.5	191	---	---	---	41.1	---
	29-Sep-2021	8	50.3	---	0.0172	---	54.0	292	0.00864	0.00998	---	---	473	---	10.9	< 0.066	---	---	7.53	10.4	< 0.32	---	90.3	1020	---	85.4	---	1280	---	---	650	---	---	126	---
	12-Oct-2022	8	20.6	---	0.0040	---	17.5	111	< 0.0021	0.0025	---	---	187	---	< 2.5	< 2.1	---	---	< 2.9	3.5	< 2.1	---	25.1	371	---	19.7	---	420	---	---	225	---	---	31.2	---
	13-Sep-2023	5	10.0	---	0.0022	---	21.2	65.1	0.0014	< 0.0015	---	---	148	---	2.0	< 0.93	---	10.3	< 1.7	2.6	< 1.3	0.434	20.8	247	---	30.0	---	337	---	---	156	---	---	27.3	---
Brook Trout 2+	11-Aug-2009	3	43.5	16.7	---	25.0	113	456	---	---	< 2.1	999	< 1.1	8.1	13.4	< 2.1	226	43.3	< 0.90	12.1	< 0.90	2.0 [#1]	< 1.5	---	153	---	69.3	---	309	---	---	< 2.0	372	---	< 2.0
	11-Aug-2010	5	83.3	11.7	---	24.3	104	509	---	---	< 1.2	654	< 0.90	6.5	12.4	< 1.2	310	61.3	< 0.80	23.4	< 0.70	2.50 [#1]	< 1.7	---	131	---	127	---	598	---	---	< 1.9	877	---	< 2.0
	12-Aug-2010	3	167	47.5	---	56.2	367	1170	---	---	< 2.1	3050	< 1.2	16.9	24.7	< 2.1	744	128	< 1.0	46.7	< 1.0	4.2 [#1]	< 2.1	---	448	---	367	---	1450	---	---	< 2.8	2190	---	< 2.8
	01-Sep-2011	4	474	103	---	210	543	3940	---	---	< 4.0	3900	< 4.0	< 4.0	143	< 4.0	1990	229	< 3.0	97.6	< 3.0	12.2 [#1]	< 5.0	---	1580	---	985	---	3340	---	---	< 6.0	5280	---	< 5.0
(Replicate)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	316	---	---	---	13.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	349	---	---	---	16.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	549	---	---	---	22.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	305	---	---	---	13.5 [#1]	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	496	---	---	---	24.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2011	4	563	191	---	257	990	5120	---	---	< 4.0	8090	< 2.0	< 4.0	167	< 4.0	2740	315	< 2.0	148	< 2.0	14.4	< 5.0	---	2270	---	1530	---	4980	---	---	< 7.0	7420	---	< 7.0
	01-Sep-2012	4	39.5	8.6	---	13.0	78.2	249	---	---	< 1.0	568	< 0.50	9.1	6.23	< 1.0	144	33.3	< 0.40	< 0.40	< 0.40	2.07 [#1]	< 1.0	---	99.0	---	75.7	---	258	---	---	< 1.0	402	---	< 1.0
	01-Sep-2013	4	82.8	---	0.0193	---	77.4	422	0.0099	0.00544	---	---	994	---	7.34	< 0.0569	---	50.3	< 0.384	28.6	< 0.334	3.46	107	1610	---	146	---	---	463	1340	---	---	---	129	---
	22-Sep-2014	4	69.5	---	0.0166	---	58.9	340	0.00923	0.00556	---	---	829	---	6.65	< 0.0579	---	40.5	0.569 [#1]	19.8	< 0.352	1.77	88.5	1440	---	122	---	---	421	1170	---	---	---	107	---
(Replicate A)	22-Sep-2014	1	33.7	---	0.00701	---	33.7	146	0.00511	0.00211	---	---	378	---	3.01	< 0.0573	---	21.6	< 0.261	8.65	< 0.239	0.764	< 0.21	472	---	61.4	---	---	156	437	---	---	---	46.5	---
(Replicate B)	22-Sep-2014	1	41.6	---	0.00855	---	41.6	185	0.00623	0.00264	---	---	431	---	4.2	< 0.0487	---	24.3	< 0.338	8.32	< 0.308	0.92	48.2	529	---	57.7	---	---	169	459	---	---	---	45.1	---
	23-Sep-2015	4	136	---	0.0348	---	149	697	0.0216	0.0143	---	---	1560	---	17.5	< 0.0799	---	75	< 0.371	38.7	0.557	3.83 [#1]	213	2610	---	308	---	---	736	2150	---	---	---	264	---

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 60 (ng/kg)	PCB 62/65/75 (ng/kg)	PCB 63 (ug/kg)	PCB 63/76 (ng/kg)	PCB 64 (ng/kg)	PCB 66 (ng/kg)	PCB 67 (ug/kg)	PCB 68 (ug/kg)	PCB 69 (ng/kg)	PCB 70 (ng/kg)	PCB 70/61/74/76 (ng/kg)	PCB 71 (ng/kg)	PCB 72 (ng/kg)	PCB 73 (ng/kg)	PCB 74 (ng/kg)	PCB 77 (ng/kg)	PCB 78 (ng/kg)	PCB 79 (ng/kg)	PCB 80 (ng/kg)	PCB 81 (ng/kg)	PCB 82 (ng/kg)	PCB-83/99 (ng/kg)	PCB 83/119 (ng/kg)	PCB 84 (ng/kg)	PCB 84/89 (ng/kg)	PCB 85/110/115/116/117 (ng/kg)	PCB 85/116/117 (ng/kg)	PCB 86/87/97/108/119/125 (ng/kg)	PCB 86/87/97/109/119/125 (ng/kg)	PCB 86/108/125 (ng/kg)	PCB 87 (ng/kg)	PCB 88/91 (ng/kg)	PCB 88/121 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																				
	31-Aug-2016	2	93.8	---	0.0249	---	85.9	531	0.0121	0.0103	---	---	1100	---	11.3	< 0.0557	---	51.3	< 0.168	25.9	< 0.16	2.72	112	1960	---	141	---	---	504	1300	---	---	---	152	---
(Replicate A)	12-Sep-2017	3	35.9	---	0.0124	---	38.3	206	0.0082	0.00728	---	---	437	---	7.02	< 0.0582	---	19.1	< 0.266	9.73	< 0.229	1.14 #1	33.6	755	---	47.7	---	---	203	545	---	---	---	66.9	---
(Replicate B)	12-Sep-2017	1	30.8	---	0.00766	---	32.3	161	0.00461	0.0034	---	---	319	---	4.44	< 0.058	---	13.5	< 0.159	7.22	< 0.137	0.684 #1	20.1	544	---	32.3	---	---	143	362	---	---	---	45.4	---
	29-Aug-2018	3	54.8	---	0.0239	---	67.6	417	0.0161	0.0141	---	---	712	---	14.7	< 0.0548	---	27.7	< 0.516	18.3	< 0.462	1.02	46.4	983	---	71.8	---	---	236	661	---	---	---	97.9	---
(Replicate A)	05-Sep-2019	4	29.8	---	0.0081	---	32.4	158	0.00675	0.00373	---	---	322	---	5.75	1.02	---	26.1	< 0.233	11.1	0.406	1.43	44.3	451	---	43.2	---	---	133	372	---	---	---	46.5	---
(Replicate B)	05-Sep-2019	4	30.8	---	0.0085	---	33.5	164	0.00621	0.00364	---	---	329	---	5.41	0.689	---	24	< 0.361	10.3	< 0.325	1.68	36.7	487	---	38.5	---	---	145	385	---	---	---	43.3	---
(Replicate A)	25-Aug-2020	7	28.4	---	0.0101	---	37.5	176	0.00634	0.00557	---	---	341	---	6.3	< 0.063	---	21.4	< 0.329	10.2	< 0.296	1.23	34.8	604	---	43.7	---	---	163	411	---	---	---	55.3	---
(Replicate B)	25-Aug-2020	7	23.3	---	0.0101	---	35.9	164	0.00807	0.00692	---	---	304	---	7.16	0.607	---	18.7	< 0.249	10.4	0.32	1.58	33.9	540	---	42.7	---	---	140	376	---	---	---	64.6	---
	29-Sep-2021	10	41.1 #4	---	0.0156 #4	---	39.8 #4	252 #4	0.00862 #4	0.0103 #4	---	---	402 #4	---	10.9 #4	< 0.069 #4	---	---	7.08 #4	8.40 #4	< 0.26 #4	---	60.1 #4	1010 #4	---	52.4 #4	---	1100 #4	---	---	586 #4	---	---	109 #4	---
	12-Oct-2022	9	86.5	---	0.0378	---	84.6	565	0.0143	0.0237	---	---	866	---	22.9	< 0.17	---	---	12.4	18.2	< 1.1	---	106	1980	---	98.0	---	2090	---	---	1090	---	---	201	---
	13-Sep-2023	5	16.6	---	0.0063	---	18.8	119	0.0030	0.0038	---	---	199	---	3.5	< 0.98	---	17.4	< 1.9	3.9	< 1.5	0.782	32.4	553	---	22.6	---	575	---	---	294	---	---	34.0	---
Brook Trout 3+	04-Oct-2006	3	31	< 0.10	---	< 0.10	140	610	---	---	< 0.10	890	< 0.10	9.6	2.9	< 0.10	210	21	< 0.10	1.8	< 0.10	< 0.10	< 0.10	---	59	---	61	---	250	---	---	< 0.10	370	---	< 0.10
	11-Aug-2010	5	65.8	7.9	---	18.2	82.1	366	---	---	< 1.1	498	< 0.80	10.0	8.9	< 1.1	223	43.5	< 0.70	16.8	< 0.70	1.82	< 1.6	---	125	---	93.2	---	441	---	---	< 1.8	625	---	< 1.9
(Duplicate)	11-Aug-2010	5	64.5	6.47	---	18.5	76.4	378	---	---	< 0.90	507	< 0.70	10.4	8.23	< 0.90	229	38.7	< 0.60	14.9	< 0.60	2.39	< 1.6	---	128	---	91.3	---	386	---	---	< 1.8	630	---	< 1.9
(Replicate A)	12-Aug-2010	4	103	26.0	---	35.8	238	729	---	---	< 2.3	2160	< 1.2	10.0	14.2	< 2.2	480	83.1	< 1.0	27.0	< 1.0	3.9	< 1.8	---	253	---	253	---	781	---	---	< 2.4	1210	---	< 2.5
(Replicate A)	01-Sep-2012	1	25.2	5.09 #1	---	8.32	43.9	158	---	---	< 0.70	325	< 0.30	3.03 #1	4.08	< 0.70	92.3	16.2	< 0.30	5.38	< 0.20	0.97	< 0.60	---	66.6	---	34.6	---	172	---	---	< 0.60	253	---	< 0.60
(Duplicate)	01-Sep-2012	1	23.4	6.09	---	8.43	44.8	149	---	---	< 0.70	313	< 0.30	3.94	4.57	< 0.70	85.8	16.8	< 0.30	4.63	< 0.20	1.30 #1	< 0.60	---	63.0	---	31.5	---	162	---	---	< 0.60	236	---	< 0.60
(Replicate B)	01-Sep-2012	1	16.3	2.52	---	4.83 #1	29.0 #1	88.4	---	---	< 0.80	183	< 0.40	2.84 #1	2.81	< 0.80	53.8	14.5	< 0.30	2.36	< 0.30	1.05	< 0.70 #1	---	28.2	---	20.6	---	86.1	---	---	< 0.80	134	---	< 0.80
(Replicate C)	01-Sep-2013	1	32	---	0.0147	---	34.6	247	0.0056	0.00771	---	---	377	---	7.53	< 0.0781	---	18.9	< 0.238	11.6	0.268	1.62	29.9	923	---	44.8	---	---	189	476	---	---	---	53.5	---
(Replicate D)	01-Sep-2013	1	43.4	---	0.0126	---	38	237	0.00555	0.00456	---	---	497	---	5.61	< 0.0923	---	24.2	< 0.404	16.5	< 0.352	2.24	41.9	936	---	48.3	---	---	275	698	---	---	---	59.3	---
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	33.9	< 5.0	---	8.2 #1	58.3	166	---	---	< 5.0	396	< 3.0	9.1	< 3.0	< 5.0	116	31.4 #1	< 3.0	8.9	< 3.0	< 4.0	< 4.0	---	64.0	---	34.3	---	215	---	---	< 5.0	314	---	< 5.0
	22-Sep-2014	4	81	---	0.0265	---	67.6	547	0.0115	0.0153	---	---	1020	---	14.9	< 0.0578	---	45	0.696	29.6	0.764 #1	2.29	102	2380	---	111	---	---	562	1530	---	---	---	141	---
(Replicate A)	22-Sep-2014	4	44	---	0.00944	---	40.2	195	0.00552	0.00312	---	---	438	---	4.24	< 0.0567	---	22.3	0.205 #1	9.78	0.313	0.947	38.4	694	---	48.9	---	---	219	528	---	---	---	49.2	---
(Replicate B)	22-Sep-2014	1	37.8	---	0.0092	---	26.5	195	0.00405	0.0031	---	---	437	---	3.75	< 0.0574	---	17	< 0.789	16	< 0.718	0.97 #1	36.8	1190	---	40.8	---	---	350	847	---	---	---	69.2	---
(Duplicate)	22-Sep-2014	1	69.5	---	0.0261	---	66.6	499	0.0118	0.0145	---	---	1000	---	14.3	< 0.056	---	40	0.751 #1	25.3	0.517 #1	2.08 #1	102	2390	---	122	---	---	550	1530	---	---	---	151	---
	23-Sep-2015	3	206	---	0.0624	---	262	1160	0.0392	0.0271	---	---	2590	---	32.2	< 0.0572	---	122	1.7 #1	64.4	< 0.671	5.74 #1	350	4030	---	448	---	---	1100	3310	---	---	---	422	---
	31-Aug-2016	2	200	---	0.0608	---	202	1230	0.037	0.0276	---	---	2660	---	28.1	< 0.0551	---	105	< 0.227	49.5	< 0.216	5.39	226	4330	---	370	---	---	1120	3370	---	---	---	375	---
(Replicate A)	31-Aug-2016	2	117	---	0.0432	---	106	827	0.0223	0.0228	---	---	1540	---	22.1	2.15	---	68.9	< 0.163	32.9	< 0.159	3.2	175	2860	---	174	---	---	709	2090	---	---	---	243	---
(Duplicate)	31-Aug-2016	1	192	---	0.0574	---	197	1170	0.035	0.0253	---	---	2550	---	27.2	< 0.0561	---	102	< 0.211	59.6	< 0.2	5.29	221	4370	---	365	---	---	1110	3290	---	---	---	368	---
	12-Sep-2017	3	46.5	---	0.0138	---	41	257	0.00731	0.00699	---	---	537	---	6.41	< 0.0559	---	26.9	< 0.182	15.2	< 0.157	1.96 #1	64.5	990	---	69.1	---	---	294	771	---	---	---	77.9	---
	29-Aug-2018	3	50.9	---	0.0174	---	50.5	323	0.0125	0.00964	---	---	607	---	10.9	< 0.0496	---	28.8	< 0.488	18.1	< 0.438	1.47	44.9	956	---	59.7	---	---	248	650	---	---	---	77.8	---
(Duplicate)	29-Aug-2018	3	46	---	0.0168	---	48.1	282	0.0112	0.00901	---	---	558	---	10.2	< 0.0539	---	27.2	< 0.314	10.9	< 0.288	1.3	37.2	863	---	55.7	---	---	220	605	---	---	---	76.5	---
(Lab Replicate)	29-Aug-2018	3	46.6	---	0.016	---	47	281	0.0111	0.00894	---	---	553	---	9.64	< 0.0473	---	26.2	< 0.356	12.2	0.349	1.09	37.2	876	---	55.9	---	---	226	609	---	---	---	75.9	---
	05-Sep-2019	4	44.8	---	0.0147	---	47.6	276	0.00929	0.00736	---	---	510	---	8.78	1.5	---	31.1	< 1.58	15.3	< 1.42	2.16	47	817	---	57	---	---	227	610	---	---	---	65.7	---
	29-Sep-2021	3	35.6	---	0.0131	---	38.5	218	0.00706	0.00848	---	---	381	---	8.69	< 0.13	---	---	5.55	7.02	< 0.40	---	53.2	768	---	50.2	---	940	---	---	479	---	---	88.0	---
(Duplicate)	29-Sep-2021	3	86.1	---	0.0303	---	87.2	534	0.0169	0.0150	---	---	914	---	16.0	< 0.19	---	---	12.7	16.1	< 1.5	---	123	1840	---	112	---	2260	---	---	1160	---	---	195	---
	12-Oct-2022	3	26.6	---	0.0190	---	45.5	380	< 0.0025	0.0150	---	---	536	---	15.0	< 0.75	---	---	12.0	15.4	< 2.4	---	73.0	1730	---	64.9	---	1510	---	---	936	---	---	182	---
	13-Sep-2023	5	33.7	---	0.0152	---	36.5	252	0.00671	0.0107	---	---	380	---	10.1	< 0.11	---	34.3	< 0.37	6.70	5.88	1.48	64.1	1210	---	62.8	---	1560	---	---	559	---	---	105	---
Brook Trout 4+	04-Oct-2006	7	220	43	---	72	470	1600	---	---	< 0.40	3400	< 0.20	29	27	< 0.40	740	220	< 0.20	48	1.0	6.3	< 0.10	---	400	---	350	---	1100	---	---	< 0.20	1200	---	< 0.20
	01-Sep-2011	2	218	47.0	---	87.3	350	1670	---	---	< 3.0	2170	< 2.0	< 3.0	58.8	< 3.0	895	139	< 2.0	35.2	< 2.0	6.0 #1	< 3.0	---	616	---	458	---	1370	---	---	< 4.0	2270	---	< 4.0
	01-Sep-2013	2	193	---	0.0803	---	225	1710	0.0345	0.043	---	---	2970	---	47.5	< 0.0551	---	137	< 1.94	102	< 1.69	10.1	267	5890	---	435	---	---	1200	3890	---	---	---	380	---
	22-Sep-2014	1	262	---	0.0679	---	249	1470	0.029	0.025	---	---	3390	---	29.2	< 0.0574	---	157	1.49 #1	91.3	< 1.25	7.15	343	6200	---	598	---	---	1670	4870	---	---	---	473	---
(Replicate A)	23-Sep-2015	1	85.9	---	0.0254	---	91.8	473	0.0122	0.0111	---	---	994	---	11.6	< 0.0557	---	45.7	< 0.819	23.9	< 0.763	2.6 #1	97.4	1580	---	150	---	---	438	1230	---	---	---	138	---
(Replicate B)	23-Sep-2015	1	92.6	---	0.0296	---	87.4	548	0.013	0.0125	---	---	1170	---	13.7	< 0.0562	---	52	1.13	34.3	< 0.328	2.95 #1	98.5	2460	---	149	---	---	608	1710	---	---	---	183	---
	12-Sep-2017	1	70.4	---	0.0212	---	61.5	409	0.0123	0.0103	---	---	839	---	10.2	< 0.0654	---	39.7	< 0.125	20.5	< 0.108	1.91 #1	50.3	1660	---	100	---	---	454	1180	---	---	---	112	---
(Replicate A)	29-Aug-2018	1	121	---	0.0361	---	103	722	0.0283	0.0178	---	---	1560	---	23.7	< 0.0492	---	67.9	< 0.507	37.5	< 0.454	2.78	133	2290	---	164	---	---	618	1700	---	---	---	204	---
(Replicate B)	29-Aug-2018	1	54.3	---	0.0136	---	37.4	289	0.00556	0.00454	---	---	528	---	5.87	< 0.0488	---	18.1	< 0.271	15.2	< 0.243	1.06	44.1	1340	---	43.8	---	---	368	840	---	---	---	67.3	---
(Replicate C)	29-Aug-2018	1	55.7	---	0.0159	---	50.6	317	0.00827	0.00632	---	---	648	---	7.65	< 0.048	---	30.4	< 0.299	16.1	< 0.268	1.53	52.9	1130	---	59.8	---	---	313	793	---	---	---	72.4	---
	25-Aug-2020	1	19.5	---	0.00611	---	21.9	107	0.00387	0.00264	---	---	229	---	3.67	< 0.0652	---	13.6	< 0.322	7.46	< 0.289	1.16	17.3	366	---	23.3	---	---	111	276	---	---	---	28.4	---

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 60 (ng/kg)	PCB 62/65/75 (ng/kg)	PCB 63 (ug/kg)	PCB 63/76 (ng/kg)	PCB 64 (ng/kg)	PCB 66 (ng/kg)	PCB 67 (ug/kg)	PCB 68 (ug/kg)	PCB 69 (ng/kg)	PCB 70 (ng/kg)	PCB 70/61/74/76 (ng/kg)	PCB 71 (ng/kg)	PCB 72 (ng/kg)	PCB 73 (ng/kg)	PCB 74 (ng/kg)	PCB 77 (ng/kg)	PCB 78 (ng/kg)	PCB 79 (ng/kg)	PCB 80 (ng/kg)	PCB 81 (ng/kg)	PCB 82 (ng/kg)	PCB-83/99 (ng/kg)	PCB 83/119 (ng/kg)	PCB 84 (ng/kg)	PCB 84/89 (ng/kg)	PCB 85/110/115/116/117 (ng/kg)	PCB 85/116/117 (ng/kg)	PCB 86/87/97/108/119/125 (ng/kg)	PCB 86/87/97/109/119/125 (ng/kg)	PCB 86/108/125 (ng/kg)	PCB 87 (ng/kg)	PCB 88/91 (ng/kg)	PCB 88/121 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	29-Sep-2021	1	49.3	---	0.0184	---	50.8	294	0.00991	0.0116	---	---	516	---	13.0	< 0.13	---	---	7.64	9.41	< 0.50	---	81.0	1010	---	74.9	---	1280	---	---	652	---	---	128	---
Brook Trout 5+	04-Oct-2006	5	120	20	---	31	290	900	---	---	< 0.30	2300	< 0.20	29	11	< 0.30	400	130	< 0.10	21	< 0.10	4.0	< 0.20	---	200	---	< 0.30	---	600	---	---	< 0.20	750	---	< 0.20
	11-Sep-2007	2	70	20	---	26	130	570	---	---	< 2.4	1400	< 0.90	6.0	15	< 2.5	240	68	15	14	< 0.70	2.4	< 1.6	---	140	---	59	---	320	---	---	< 2.1	420	---	< 2.0
	12-Aug-2010	1	43.9	4.6	---	11.5	84.2	232	---	---	< 1.7	595	< 1.1	10.8	3.81	< 1.7	144	22.4	< 0.90	8.28	< 0.90	2.0 [#1]	< 1.7	---	79.1	---	74.0	---	290	---	---	< 2.2	386	---	< 2.2
	01-Sep-2013	1	385	---	0.141	---	395	3160	0.0579	0.0712	---	---	5200	---	83.6	< 0.0998	---	293	< 1.24	185	< 1.08	16.8	326	11400	---	676	---	---	2560	7500	---	---	---	667	---
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	314	85.9	---	107	630	2330	---	---	< 7.0	5440	< 4.0	7.6 [#1]	70.8	< 7.0	1300	348	< 4.0	103	< 3.0	16.0	< 5.0	---	980	---	508	---	2500	---	---	< 6.0	4070	---	< 6.0
	23-Sep-2015	1	143	---	0.0378	---	154	744	0.0226	0.015	---	---	1730	---	18	< 0.0572	---	77.1	1.08	39.2	< 0.455	4.2 [#1]	191	2430	---	283	---	---	712	2030	---	---	---	226	---
	30-Aug-2016	1	77	---	0.0274	---	64.1	497	0.0135	0.0141	---	---	1010	---	13.8	2.64	---	41.4	< 0.753	25.4 [#1]	< 0.718	2.14	85.2	2440	---	110	---	---	617	1650	---	---	---	171	---
	12-Sep-2017	1	190	---	0.0602	---	129	1170	0.0392	0.0298	---	---	2140	---	34.9	< 0.072	---	158	< 0.249	46.9	< 0.218	11.1	129	4730	---	206	---	---	1580	3070	---	---	---	270	---
(Re-analysis)	12-Sep-2017	1	146	---	0.0468	---	104	854	0.0284	0.0212	---	---	1520	---	25.6	< 0.0686	---	114	< 0.732	31.9	< 0.671	8.09	93	3400	---	143	---	---	1020	2150	---	---	---	194	---
	29-Sep-2021	1	43.6 [#4]	---	0.0110 [#4]	---	44.7 [#4]	254 [#4]	0.0048 [#4]	0.0044 [#4]	---	---	477 [#4]	---	5.3 [#4]	< 0.85 [#4]	---	---	6.2 [#4]	6.8 [#4]	< 1.7 [#4]	---	55.0 [#4]	832 [#4]	---	39.0 [#4]	---	1050 [#4]	---	---	576 [#4]	---	---	69.6 [#4]	---
Brook Trout 6+	11-Sep-2007	3	68	16	---	22	110	430	---	---	< 2.2	930	< 1.0	3.6	8.9	< 2.3	220	28	< 0.90	13	< 0.80	1.6	< 2.2	---	160	---	48	---	430	---	---	< 2.8	470	---	< 2.7
Brook Trout 7+	11-Sep-2007	3	43	7.8	---	8.4	70	190	---	---	< 1.3	490	< 0.70	3.8	3.0	< 1.3	110	27	7.6	5.3	< 0.50	0.78	< 1.3	---	41	---	42	---	120	---	---	< 1.7	200	---	< 1.6
(Duplicate)	11-Sep-2007	3	35	6.1	---	7.1	59	170	---	---	< 1.8	420	< 0.90	3.6	2.9	< 1.9	97	24	5.9	4.7	< 0.70	< 0.90	< 1.7	---	38	---	34	---	110	---	---	< 2.2	180	---	< 2.2
Brook Trout 11+	11-Sep-2007	2	93	36	---	32	220	670	---	---	< 2.8	2000	< 0.90	< 2.9	15	< 2.9	310	72	21	17	< 0.70	2.7	< 1.7	---	200	---	74	---	470	---	---	< 2.1	570	---	< 2.1
Brook Trout 12+	11-Sep-2007	2	110	32	---	42	190	860	---	---	< 2.2	1800	< 1.1	4.4	24	< 2.3	410	100	25	22	< 0.90	3.3	< 2.1	---	260	---	110	---	600	---	---	< 2.6	740	---	< 2.6
Brook Trout Unknown	23-Jul-2008	3	18	3.3	---	4.7	36	100	---	---	< 0.60	100	< 0.70	3.5	3.4	< 0.60	56	14	< 0.60	2.7	< 0.50	0.88	< 0.80	---	26	---	23	---	79	---	---	< 1.0	90	---	< 1.0
(Replicate)	23-Jul-2008	3	11	2.3	---	2.7	30	51	---	---	< 0.40	59	< 0.50	4.2	1.8	< 0.50	30	4.8	< 0.40	1.4	< 0.40	< 0.50	< 0.70	---	13	---	17	---	33	---	---	< 0.80	37	---	< 0.80
(Replicate A)	23-Jul-2008	2	20	4.2	---	7.0	34	120	---	---	< 0.30	120	< 0.40	4.4	4.7	< 0.40	59	18	< 0.30	3.9	< 0.30	0.70	< 0.60	---	38	---	26	---	97	---	---	< 0.80	100	---	< 0.80
(Replicate B)	23-Jul-2008	2	21	2.3	---	4.4	27	88	---	---	< 0.40	99	< 0.50	3.1	2.2	< 0.40	51	12	< 0.40	2.7	< 0.40	0.64	< 0.60	---	19	---	21	---	68	---	---	< 0.80	82	---	< 0.80
(Replicate C)	23-Jul-2008	2	18	2.0	---	3.7	30	73	---	---	< 0.60	100	< 0.60	5.9	1.8	< 0.60	46	19	< 0.50	2.7	< 0.50	0.90	< 0.90	---	16	---	17	---	60	---	---	< 1.1	79	---	< 1.1
	12-Oct-2022	1	32.0	---	0.0200	---	54.8	394	< 0.0024	0.0161	---	---	576	---	16.0	< 1.1	---	---	10.1	14.8	< 2.4	---	85.0	1330	---	79.3	---	1460	---	---	785	---	---	154	---
(Replicate A)	13-Sep-2023	1	21.4 [#5]	---	0.00889 [#5]	---	22.8 [#5]	151 [#5]	0.00367 [#5]	0.00581 [#5]	---	---	228 [#5]	---	5.04 [#5]	< 0.13 [#5]	---	18.5	< 0.38 [#5]	3.96 [#5]	3.26 [#5]	0.896	34.2 [#5]	782 [#5]	---	33.7 [#5]	---	944 [#5]	---	---	342 [#5]	---	---	62.2 [#5]	---
(Replicate B)	13-Sep-2023	1	18.4	---	0.0087	---	21.7	162	0.0039	0.0073	---	---	253	---	5.9	< 0.74	---	22.0	3.6	3.8	< 1.4	0.915	28.6	681	---	26.1	---	696	---	---	345	---	---	40.5	---
Brook Trout (Muscle only) 3+	01-Feb-2012	1	45.7	4.0 [#1]	---	8.8	67.3	230	---	---	< 3.0	345	< 2.0	< 3.0	< 2.0	< 3.0	103	29.4 [#1]	< 2.0	7.0	< 1.0	2.5	< 5.0	---	133	---	160	---	367	---	---	< 7.0	643	---	< 8.0
Brook Trout (Skin Only) 3+	01-Feb-2012	1	93.1	8.8	---	19.5	124	479	---	---	< 3.0	774	< 2.0	< 3.0	9.2	< 3.0	199	58.6	< 2.0	14.5	< 1.0	3.2 [#1]	< 5.0	---	274	---	284	---	715	---	---	< 7.0	1330	---	< 7.0
Brook Trout (Stomach) 1+	01-Sep-2012	4	11.8	< 2.0	---	< 0.90	42.3	33.4	---	---	< 2.0	59.2	< 1.0	27.6	< 1.0	< 2.0	20.8	6.3	< 0.90	< 0.90	< 0.80	< 1.0	< 2.0	---	< 2.0	---	17.5	---	14.4	---	---	< 2.0	31.3	---	< 2.0
Brook Trout (Stomach) 2+	01-Sep-2012	4	12.8 [#1]	< 3.0	---	< 2.0	39.2	42.2 [#1]	---	---	< 3.0	52.4	< 2.0	20.5 [#1]	< 3.0	< 3.0	26.0 [#1]	9.2 [#1]	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	---	< 4.0	---	16.4	---	25.8 [#1]	---	---	< 4.0	45.7 [#1]	---	< 4.0
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	9.0	< 2.0	---	< 1.0	36.4	26.0	---	---	< 2.0	38.7	< 1.0	20.7 [#1]	< 1.0	< 2.0	15.8	5.5 [#1]	< 1.0	< 1.0	< 0.80	< 1.0	< 2.0	---	< 2.0	---	13.5	---	9.6	---	---	< 2.0	27.7	---	< 2.0
(Replicate B)	01-Sep-2012	1	14.6 [#1]	< 3.0	---	< 2.0	53.2	68.8 [#1]	---	---	< 3.0	104	< 2.0	27.9	< 2.0	< 3.0	33.1	12.7 [#1]	< 2.0	< 2.0	< 1.0	< 2.0	< 3.0	---	13.5	---	20.1	---	54.9	---	---	< 3.0	86.3	---	< 3.0
White Sucker 1+	01-Feb-2012	1	61.7	4.1	---	12.1	72.7	300	---	---	< 2.0	310	< 2.0	15.1	< 2.0	< 2.0	126	26.3	< 1.0	< 1.0	< 1.0	2.9	< 4.0	---	104	---	98.5	---	405	---	---	< 5.0	580	---	< 6.0
	21-Sep-2014	2	5.27	---	0.00107	---	5.5	25.3	0.000426	0.000297	---	---	52.4	---	0.429 [#1]	< 0.0579	---	3.39	< 0.113	1.46	< 0.101	0.183 [#1]	10.5	89.3	---	9.89	---	---	30.2	83.1	---	---	---	7.58	---
White Sucker 2+	01-Feb-2012	1	5.36	< 1.0	---	< 0.70	15.7	19.2	---	---	< 1.0	28.5	< 0.90	5.0 [#1]	< 1.0	< 1.0	11.5 [#1]	3.68 [#1]	< 0.80	< 0.70	< 0.70	1.53 [#1]	< 2.0	---	< 3.0	---	13.4	---	23.5	---	---	< 3.0	43.1	---	< 3.0
	22-Sep-2014	4	6.86	---	0.00166	---	7.42	34.7	0.000679	0.000468	---	---	69.1	---	0.746 [#1]	< 0.0573	---	3.99	< 0.117	2.13	< 0.104	0.221 [#1]	14.8	132	---	12.8	---	---	44.8	121	---	---	---	10.7	---
White Sucker 3+	01-Feb-2012	1	12.2	< 4.0	---	< 2.0	31.3	40.0	---	---	< 4.0	60.6	< 2.0	< 4.0	< 3.0	< 4.0	16.9	9.1	< 2.0	< 2.0	< 2.0	< 2.0	< 8.0	---	< 10	---	62	---	63	---	---	< 10	133	---	< 10
White Sucker 6+	11-Sep-2007	4	5.7	< 1.0	---	1.2	13	23	---	---	< 1.0	56	< 0.50	4.1	< 0.50	< 1.0	14	2.9	0.98	0.75	< 0.40	< 0.40	< 1.0	---	5.3	---	4.2	---	19	---	---	< 1.3	23	---	< 1.3
White Sucker 7+	11-Sep-2007	3	4.8	< 1.3	---	< 0.50	8.9	19	---	---	< 1.2	39	< 0.60	< 1.3	< 0.60	< 1.3	12	2.8	0.88	0.55	< 0.50	< 0.60	< 1.4	---	< 1.9	---	4.4	---	23	---	---	< 1.9	28	---	< 1.8
White Sucker 8+	11-Sep-2007	5	3.6	1.2	---	< 0.40	12	15	---	---	< 1.1	41	< 0.50	4.5	< 0.50	< 1.1	9.2	2.4	0.70	< 0.40	< 0.40	< 0.50	< 1.2	---	< 1.5	---	3.7	---	18	---	---	< 1.5	22	---	< 1.4
	11-Aug-2009	4	11.4	< 7.8	---	< 7.4	34.0	97.1	---	---	< 7.9	135	< 8.5	< 7.8	< 7.7	< 8.4	67.1	< 7.0	< 5.7	< 5.6	< 5.1	< 5.8	< 11	---	< 16	---	< 19	---	50	---	---	< 15	65	---	< 16
White Sucker 9+	11-Sep-2007	4	5.9	< 1.0	---	1.4	12	27	---	---	< 0.90	60	< 0.50	3.6	< 0.50	< 1.0	17	3.6	1.5	0.90	< 0.40	< 0.50	< 1.1	---	6.6	---	5.5	---	34	---	---	< 1.4	43	---	< 1.3
White Sucker 10+	11-Aug-2009	4	15.6	< 18	---	< 6.7	80	102	---	---	< 19	314	< 7.7	24	< 7.0	< 20	69.2	< 7.5	< 5.2	< 5.1	< 4.7	< 5.3	< 8.4	---	< 12	---	< 15	---	48	---	---	< 11	65	---	< 12
Forage Fish	04-Nov-2014	---	21.1	---	0.00387	---	11	76.3	0.00111	0.00133	---	---	181	---	1.13	0.444	---	17.7	< 0.274	3.62	< 0.243	1.03	69.1	237	---	41.5	---	---	142	356	---	---	---	25.7	---

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 60 (ng/kg)	PCB 62/65/75 (ng/kg)	PCB 63 (ug/kg)	PCB 63/76 (ng/kg)	PCB 64 (ng/kg)	PCB 66 (ng/kg)	PCB 67 (ug/kg)	PCB 68 (ug/kg)	PCB 69 (ng/kg)	PCB 70 (ng/kg)	PCB 70/61/74/76 (ng/kg)	PCB 71 (ng/kg)	PCB 72 (ng/kg)	PCB 73 (ng/kg)	PCB 74 (ng/kg)	PCB 77 (ng/kg)	PCB 78 (ng/kg)	PCB 79 (ng/kg)	PCB 80 (ng/kg)	PCB 81 (ng/kg)	PCB 82 (ng/kg)	PCB-83/99 (ng/kg)	PCB 83/119 (ng/kg)	PCB 84 (ng/kg)	PCB 84/89 (ng/kg)	PCB 85/110/115/116/117 (ng/kg)	PCB 85/116/117 (ng/kg)	PCB 86/87/97/108/119/125 (ng/kg)	PCB 86/87/97/109/119/125 (ng/kg)	PCB 86/108/125 (ng/kg)	PCB 87 (ng/kg)	PCB 88/91 (ng/kg)	PCB 88/121 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																				
Invertebrates	22-Aug-2014	---	68.4	---	0.0152	---	33.9	297	0.00685	0.0029	---	---	987	---	3.88	4.08	---	125	< 1.61	20.3	< 1.42	4.85	179	1350	---	104	---	---	435	1310	---	---	---	79.5	---
Edith Lake																																				
Brook Trout 1+	11-Aug-2009	7	10.4	< 8.4	---	3.3	36.4	43.5	---	---	< 8.6	268	< 1.8	< 8.5	< 1.6	< 9.1	28.0	3.7	< 1.2	< 1.2	< 1.1	< 1.2	< 3.1	---	5.9	---	7.3	---	22.9	---	---	< 4.0	34.8	---	< 4.3
	01-Sep-2011	4	12.0	2.5	---	5.0 #1	43.6	72.5	---	---	< 2.0	96.2	< 1.0	3.1 #1	3.9	< 2.0	38.8	4.84 #1	< 1.0	< 1.0	< 0.90	< 0.80	< 2.0	---	23.7 #1	---	23.9	---	43.8	---	---	< 2.0	61.8	---	< 2.0
(Duplicate)	01-Sep-2011	4	19.7	< 3.0	---	6.8	45.5	127	---	---	< 3.0	142	< 2.0	< 3.0	4.5	< 3.0	54.2	9.0 #1	< 2.0	2.8 #1	< 2.0	< 2.0	< 4.0	---	37.9	---	36.4	---	76.9	---	---	< 5.0	91.8	---	< 5.0
	01-Sep-2012	3	19.2	5.3	---	5.80 #1	63.8	109	---	---	< 1.0	155	< 0.50	6.3 #1	4.58	< 1.0	56.0	10.1	< 0.50	2.22	< 0.40	< 0.60	< 0.90	---	36.0	---	33.0	---	84.0	---	---	< 1.0	102	---	< 1.0
	22-Sep-2015	3	47.8	---	0.0154	---	124	276	0.01	0.00837	---	---	570	---	10.2	< 0.0572	---	31.9	0.358 #1	12.9	< 0.298	1.55 #1	67.1	859	---	141	---	---	186	571	---	---	---	160	---
	30-Aug-2016	2	22.5	---	0.00813	---	73.7	144	0.00437	0.00532	---	---	227	---	5.75	2.75	---	5.93	< 0.117	3.85 #1	0.236	0.247	21.8	428	---	56.8	---	---	72.7	211	---	---	---	86.5	---
	13-Sep-2017	3	22.4	---	0.00858	---	69.9	155	0.0054	0.00632	---	---	236	---	6.29	< 0.0805	---	8.52	< 0.178	4.14	0.226	0.408 #1	30.8	535	---	70.6	---	---	106	264	---	---	---	110	---
	30-Aug-2018	3	15.6	---	0.00555	---	39.1	98.9	0.00292	0.00395	---	---	150	---	3.87	< 0.0573	---	5.56	< 0.156	3.18	< 0.14	0.188 #1	14	292	---	37	---	---	56	144	---	---	---	57.5	---
(Replicate A)	06-Sep-2019	4	19.6	---	0.00638	---	46.4	121	0.00347	0.00436	---	---	179	---	4.52	1.46	---	6.11	< 0.714	5.08	< 0.642	< 0.697	17.6	365	---	39.4	---	---	69.6	167	---	---	---	66.7	---
(Replicate B)	06-Sep-2019	4	21.3	---	0.00723	---	44	129	0.0037	0.00567	---	---	197	---	5.06	1.78	---	6.78	< 0.265	5.73	< 0.244	0.494	19.8	438	---	39.9	---	---	80.8	191	---	---	---	74.7	---
	26-Aug-2020	7	14.3	---	0.00577	---	44.5	91.8	0.00316	0.00377	---	---	149	---	3.87	< 0.0671	---	4.84	< 0.197	3.93	0.183	0.286	13	276	---	34	---	---	54.9	139	---	---	---	56.8	---
	30-Sep-2021	8	5.00	---	0.00158	---	11.6	29.6	0.00091	0.00125	---	---	54.5	---	0.88	< 0.14	---	---	< 0.37	1.00	< 0.26	---	6.05	84.5	---	8.03	---	107	---	---	46.6	---	---	13.0	---
	13-Oct-2022	2	3.40	---	< 0.00093	---	5.4	19.0	< 0.00077	0.00100	---	---	35.5	---	< 0.93	< 0.90	---	---	< 1.1	< 0.91	< 0.76	---	< 2.6	51.7	---	3.9	---	62.8	---	---	29.1	---	---	< 2.0	---
	14-Sep-2023	2	5.10	---	0.00168	---	18.0	26.0	0.00079	0.00130	---	---	59.6	---	1.20	< 0.40	---	2.96	< 0.50	0.50	0.48	0.110	6.23	131	---	20.0	---	167	---	---	49.5	---	---	23.4	---
Brook Trout 2+	11-Aug-2009	4	6.8	< 6.7	---	3.0	31.4	32.4	---	---	< 6.8	139	< 1.9	< 6.7	< 1.7	< 7.3	23.0	2.4	< 1.3	< 1.3	< 1.2	< 1.3	< 3.0	---	5.9	---	8.9	---	30.3	---	---	< 3.9	36.4	---	< 4.2
	11-Aug-2010	5	33.2	5.64	---	11.7	58.9	268	---	---	< 0.90	366	< 0.70	6.77	7.06	< 0.90	156	35.7	< 0.60	8.33	< 0.50	1.27	< 1.4	---	70.7	---	60.0	---	163	---	---	< 1.6	328	---	< 1.7
	01-Sep-2011	4	45.1	7.4	---	14.6	57.2	339	---	---	< 2.0	433	< 2.0	< 2.0	7.6	< 2.0	184	31.3	< 1.0	9.4 #1	< 1.0	< 1.0	< 2.0	---	97.7	---	83.1	---	245	---	---	< 3.0	476	---	< 3.0
	01-Sep-2012	3	36.1	6.2	---	10.0	81.6	238	---	---	< 1.0	606	< 0.60	6.1	5.88	< 1.0	146	38.3	< 0.50	7.52	< 0.40	2.05 #1	< 1.0	---	67.0	---	65.7	---	167	---	---	< 1.0	369	---	< 1.0
	01-Sep-2013	3	77.3	---	0.0365	---	94.3	777	0.0163	0.029	---	---	1400	---	26.4	< 0.0579	---	68.7	< 0.694	28.9	< 0.608	2.87	50	1840	---	132	---	---	308	1100	---	---	---	117	---
	21-Sep-2014	4	24.4	---	0.00831	---	45.7	187	0.00431	0.00579	---	---	380	---	5.36	< 0.0591	---	20.1	0.234 #1	8.21	< 0.171	0.844 #1	45.8	1290	---	72.4	---	---	298	947	---	---	---	78.4	---
(Replicate A)	21-Sep-2014	1	28	---	0.00795	---	59.9	173	0.0061	0.00477	---	---	385	---	4.88	< 0.0565	---	19.9	0.191 #1	9.53	< 0.16	0.876 #1	78.8	1200	---	95.5	---	---	321	930	---	---	---	111	---
(Replicate B)	21-Sep-2014	1	5.89	---	0.00182	---	13.6	36.9	0.000873	0.00138	---	---	64.9	---	1.14	< 0.0579	---	4.57	< 0.0601	1.27 #1	0.117 #1	0.144 #1	9	204	---	12.4	---	---	44.5	127	---	---	---	18.5	---
	22-Sep-2015	1	3.31	---	0.00107	---	4.85	19.9	0.000573	0.00115	---	---	38.3	---	0.633	< 0.055	---	2.5	< 0.121	0.682 #1	0.173	0.156 #1	1.96	55.6	---	3.04	---	---	12.3	34.1	---	---	---	3.87	---
	30-Aug-2016	2	44	---	0.0176	---	56.1	320	0.00803	0.0115	---	---	644	---	9.7	3.86	---	28.3	< 0.167	10.5 #1	< 0.16	1.17	51	898	---	84.8	---	---	194	660	---	---	---	88.5	---
	13-Sep-2017	3	5.77	---	0.00195	---	7.85	33.6	0.000961	0.00144	---	---	57.4	---	1.17	< 0.0677	---	2.28	< 0.0739	1.61 #1	0.111 #1	0.134 #1	5.12	175	---	5.17	---	---	43.8	92.3	---	---	---	19.3	---
	30-Aug-2018	3	9.2	---	0.0033	---	18.6	58.2	0.00195 #1	0.00258	---	---	99.6	---	2.38	< 0.0498	---	4.85	< 0.0882	2.22	< 0.0808	0.156 #1	7.74	190	---	15.4	---	---	37.6	97.3	---	---	---	31.9	---
(Replicate A)	06-Sep-2019	4	5.29	---	0.0016	---	8.03	28	0.000638	0.00112	---	---	47.6	---	0.909	0.208	---	1.94	< 0.239	1.45	< 0.22	< 0.236	5.16	117	---	6.17	---	---	24.4	55.8	---	---	---	14.9	---
(Replicate B)	06-Sep-2019	4	7.77	---	0.00318	---	11.3	49.7	0.00196	0.00216	---	---	85.8	---	2.06	0.579	---	4.42	< 0.334	3.06	< 0.308	< 0.325	9.33	179	---	12.1	---	---	37.5	99.5	---	---	---	24.1	---
	26-Aug-2020	2	11.8	---	0.00476	---	23.8	78.5	0.00271	0.0038	---	---	129	---	3.23	< 0.0697	---	5.26	< 0.178	3.61	< 0.156	0.383	7.8	278	---	16	---	---	52.1	128	---	---	---	39.6	---
	30-Sep-2021	10	4.30	---	0.00147	---	8.44	31.9	0.00077	0.00191	---	---	56.0	---	1.40	< 0.10	---	---	< 0.22	0.64	< 0.16	---	4.59	81.9	---	6.28	---	120	---	---	48.6	---	---	12.6	---
	13-Oct-2022	8	38.0	---	0.0118	---	32.0	256	0.00665	0.00810	---	---	449	---	8.18	< 0.072	---	---	3.58	8.79	< 0.31	---	44.1	540	---	44.5	---	884	---	---	378	---	---	44.3	---
	14-Sep-2023	3	3.42	---	0.00218	---	3.79	35.2	0.00110	0.00290	---	---	56.4	---	1.78	< 0.20	---	6.63	< 0.39	0.98	0.32	0.250	2.50	125	---	3.61	---	181	---	---	48.3	---	---	5.07	---
Brook Trout 3+	11-Aug-2010	3	38.5	6.3	---	17.7	76.4	409	---	---	< 1.0	574	< 0.70	11.4	15.4	< 1.0	206	53.7	< 0.60	10.4	< 0.60	1.89	< 1.3	---	100	---	74.6	---	162	---	---	< 1.5	370	---	< 1.6
	01-Sep-2011	3	38.4	9.0 #1	---	19.5	48.1	318	---	---	< 3.0	426	< 3.0	< 3.0	12.0	< 3.0	137	37.4	< 2.0	9.8	< 2.0	4.2 #1	< 4.0	---	102	---	71.2	---	190	---	---	< 6.0	372	---	< 5.0
	01-Sep-2012	5	39.8	8.3	---	13.6	94.8	294	---	---	< 1.0	739	< 0.60	5.1	8.48	< 1.0	175	42.1	< 0.50	8.41	< 0.40	2.67	< 1.0	---	101	---	101	---	238	---	---	< 1.0	528	---	< 1.0
(Replicate A)	01-Sep-2013	3	88.8	---	0.0281	---	105	725	0.0164	0.0215	---	---	1640	---	20.6	< 0.0562	---	84.8	< 0.853	29.1	< 0.748	3.77	79.8	1870	---	156	---	---	403	1510	---	---	---	133	---
(Duplicate)	01-Sep-2013	3	74.2	---	0.0245	---	96.1	631	0.0147	0.0206	---	---	1460	---	19.3	< 0.057	---	73.1	< 0.176	25.9	0.505	3.02	66.5	1700	---	141	---	---	370	1340	---	---	---	123	---
(Replicate B)	01-Sep-2013	3	71.8	---	0.0247	---	72.6	603	0.0154	0.0187	---	---	1390	---	18.4	< 0.0556	---	137	< 1.79	23.3	< 1.57	5.14	38.5	1340	---	99.4	---	---	283	1160	---	---	---	72.9	---
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	72.2	8.5 #1	---	17.9	173	577	---	---	< 5.0	1760	< 3.0	6.5	17.3	< 5.0	307	118	< 3.0	22.7	< 2.0	< 4.0	< 3.0	---	157	---	113	---	380	---	---	< 4.0	929	---	< 4.0
	21-Sep-2014	4	53.1	---	0.0213	---	53.3	512	0.01 #1	0.0132	---	---	911	---	13.5	< 0.0569	---	47	< 2	17.7	< 1.79	< 1.77	49.5	1390	---	88.4	---	---	283	991	---	---	---	78.3	---
(Replicate A)	21-Sep-2014	1	56.5	---	0.0155	---	64.2	306	0.0146	0.00745	---	---	706	---	7.71	< 0.0571	---	30.8	< 0.388	14.6	< 0.347	1.31 #1	75.6	842	---	134	---	---	248	716	---	---	---	96.8	---
(Replicate B)	21-Sep-2014	1	24.1	---	0.00999	---	24.2	213	0.00366 #1	0.00625	---	---	403	---	5.68	< 0.0574	---	14.8	< 1.29	8.5	< 1.15	< 1.11	22.6	814	---	24.8	---	---	171	534	---	---	---	56.9	---
	22-Sep-2015	3	47.4	---	0.0138	---	55.8	284	0.00943	0.00817	---	---	644	---	7.87	< 0.057	---	32.7	0.468 #1	12.2	< 0.314	1.46 #1	54.1	891	---	94.6	---	---	218	725	---	---	---	82.0	---
(Duplicate)	22-Sep-2015	3	45.2	---	0.0136	---	53.6	278	0.00869	0.00775	---	---	627	---	7.05	< 0.0573	---	31.1	< 0.87	13.3	< 0.834	1.54 #1	52	862	---	92.2	---	---	213	692	---	---	---	81.7	---
	30-Aug-2016	1	42.1	---	0.0139	---	49.6	314	0.00786	0.0102	---	---	622	---	8.08	3.65	---	38.6	< 1.19	10.3 #1	< 1.14	1.63	42.2	795	---	77.5	---	---	189	619	---	---	---	64.9	---
	13-Sep-2017	3	14.7	---	0.00506	---	16	96.3	0.00306	0.00355	---	---	220	---	2.88	< 0.0654	---	11.3	< 0.134	3.6 #1	< 0.117	0.557 #1	11.5	318	---	13.4	---	---	84.4	233	---	---	---	24.5	---

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 60 (ng/kg)	PCB 62/65/75 (ng/kg)	PCB 63 (ug/kg)	PCB 63/76 (ng/kg)	PCB 64 (ng/kg)	PCB 66 (ng/kg)	PCB 67 (ug/kg)	PCB 68 (ug/kg)	PCB 69 (ng/kg)	PCB 70 (ng/kg)	PCB 70/61/74/76 (ng/kg)	PCB 71 (ng/kg)	PCB 72 (ng/kg)	PCB 73 (ng/kg)	PCB 74 (ng/kg)	PCB 77 (ng/kg)	PCB 78 (ng/kg)	PCB 79 (ng/kg)	PCB 80 (ng/kg)	PCB 81 (ng/kg)	PCB 82 (ng/kg)	PCB-83/99 (ng/kg)	PCB 83/119 (ng/kg)	PCB 84 (ng/kg)	PCB 84/89 (ng/kg)	PCB 85/110/115/116/117 (ng/kg)	PCB 85/116/117 (ng/kg)	PCB 86/87/97/108/119/125 (ng/kg)	PCB 86/87/97/109/119/125 (ng/kg)	PCB 86/108/125 (ng/kg)	PCB 87 (ng/kg)	PCB 88/91 (ng/kg)	PCB 88/121 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																																			
(Duplicate)	13-Sep-2017	3	14.2	---	0.00487	---	15.7	97.9	0.00294	0.00329	---	---	217	---	2.54	< 0.0828	---	10.7	< 0.145	3.37 [#1]	0.189	0.458 [#1]	9.67	282	---	12.7	---	---	72.2	203	---	---	---	22.2	---
	30-Aug-2018	3	6.55	---	0.0021	---	8.93	37.8	0.00149	0.00196	---	---	79.3	---	1.51	< 0.0491	---	4.62	< 0.128	1.5 [#1]	0.159 [#1]	< 0.15	4.82 [#1]	138	---	6.08	---	---	28.7	74.3	---	---	---	13.4	---
	06-Sep-2019	4	10.1	---	0.00308	---	11.2	55.9	0.0015	0.00215	---	---	92.4	---	1.6	0.616	---	6.46	< 0.266	2.25	< 0.233	0.515	6.64	158	---	9.98	---	---	35	91.4	---	---	---	17.6	---
(Duplicate)	06-Sep-2019	4	9.31	---	0.00315	---	12.7	56.7	0.0015	0.00229	---	---	92.4	---	1.82	0.308	---	7.17	< 0.292	3.07	0.302	0.415	7.26	171	---	9.85	---	---	39.1	99.2	---	---	---	18.6	---
	26-Aug-2020	5	6.32	---	0.00294	---	9.14	47.7	0.00208	0.00266	---	---	81.9	---	2.25	< 0.0611	---	5.59	< 0.245	2.38	< 0.214	0.327	6.96	153	---	8.94	---	---	33.7	84.6	---	---	---	16.9	---
(Duplicate)	26-Aug-2020	5	10.2	---	0.00385	---	20.2	66.5	0.0022	0.00319	---	---	109	---	2.75	< 0.0623	---	4.31	< 0.125	3.05	0.168	0.461	7.25	245	---	14.5	---	---	46.9	113	---	---	---	34.7	---
	30-Sep-2021	3	7.09 [#4]	---	0.00221 [#4]	---	8.42 [#4]	44.2 [#4]	0.00105 [#4]	0.00160 [#4]	---	---	86.3 [#4]	---	1.30 [#4]	< 0.29 [#4]	---	---	0.64 [#4]	1.21 [#4]	< 0.43 [#4]	---	8.3 [#4]	138 [#4]	---	10.8 [#4]	---	193 [#4]	---	---	86.2 [#4]	---	---	15.1 [#4]	---
	13-Oct-2022	8	7.12	---	0.00318	---	9.03	52.8	0.00140	0.00284	---	---	89.2	---	2.09	< 0.11	---	---	0.49	1.47	< 0.31	---	5.78	145	---	7.02	---	201	---	---	81.8	---	---	17.2	---
	14-Sep-2023	5	5.90	---	0.00392	---	9.12	63.4	0.00190	0.00463	---	---	117	---	3.30	< 0.56	---	12.8	< 0.95	1.00	1.60	0.435	< 1.2	163	---	8.9	---	328	---	---	81.2	---	---	12.3	---
(Duplicate)	14-Sep-2023	5	7.66	---	0.00350	---	9.6	70.2	0.00210	0.00560	---	---	123	---	3.63	< 1.1	---	14.1	< 0.96	1.40	1.10	0.483	4.1	189	---	9.3	---	359	---	---	90.9	---	---	16.8	---
Brook Trout 4+	04-Oct-2006	5	130	36	---	43	340	1100	---	---	< 0.30	2500	< 0.20	30	20	< 0.20	460	170	< 0.10	25	< 0.10	4.0	< 0.10	---	240	---	190	---	650	---	---	< 0.20	790	---	< 0.20
	01-Sep-2011	2	125	25.8	---	44.6	201	947	---	---	< 3.0	1260	< 2.0	4.4 [#1]	30.2	< 3.0	473	84.5	< 2.0	20.2	< 2.0	5.3 [#1]	< 3.0	---	318	---	320	---	707	---	---	< 4.0	1370	---	< 4.0
	01-Sep-2013	2	130	---	0.0366	---	140	830	0.0183	0.0185	---	---	2010	---	19	< 0.0542	---	101	< 0.693	44.4	< 0.608	4.85	124	2310	---	233	---	---	587	2090	---	---	---	165	---
	21-Sep-2014	1	66.3	---	0.032	---	89.7	721	0.0139	0.026	---	---	1260	---	24.1	< 0.0556	---	70.4	0.657 [#1]	25.2	0.408 [#1]	2.25	46.1	2040	---	135	---	---	393	1380	---	---	---	112	---
(Replicate A)	23-Sep-2015	1	50.8	---	0.026	---	66.7	479	0.0125	0.0212	---	---	839	---	18.7	< 0.0562	---	48.4	0.774	14.7	< 0.451	1.64 [#1]	63.9	1250	---	90.2	---	---	233	763	---	---	---	84.9	---
(Replicate B)	22-Sep-2015	1	82.1	---	0.0269	---	92.7	561	0.0168	0.0173	---	---	1260	---	16.9	< 0.056	---	62.5	< 0.284	18.5	< 0.272	2.72 [#1]	72.5	1550	---	138	---	---	344	1260	---	---	---	138	---
	30-Aug-2016	1	43.2	---	0.0148	---	36.3	330	0.00783	0.00993	---	---	604	---	9.04	3.08	---	39.1	< 0.18	10.3 [#1]	< 0.172	1.59	42.8	843	---	69.9	---	---	169	568	---	---	---	54.8	---
	13-Sep-2017	1	20	---	0.00567	---	21.2	134	0.00347	0.00358	---	---	304	---	2.97	< 0.0669	---	16	< 0.187	5.14	< 0.163	0.72 [#1]	16.6	350	---	31.9	---	---	108	351	---	---	---	29.3	---
	30-Aug-2018	1	12.2	---	0.00433	---	12.1	74.2	0.00182	0.00318	---	---	149	---	2.65	< 0.0479	---	8.17	< 0.133	3.3	< 0.122	0.27 [#1]	7.25	257	---	7.58 [#1]	---	---	62.3	162	---	---	---	20.7	---
	26-Aug-2020	2	6.31	---	0.00316	---	10.2	50.6	0.00252	0.00303	---	---	88.8	---	2.26	< 0.0763	---	5.7	< 0.177	2.65	0.184 [#1]	0.37	4.54	147	---	8.15	---	---	30.2	82.6	---	---	---	16	---
	14-Sep-2023	5	5.2	---	0.00220	---	8.00	42.6	0.00130	0.00259	---	---	81.6	---	2.00	< 0.40	---	8.79	< 1.1	1.07	< 0.87	0.340	4.0	126	---	4.91	---	237	---	---	60.0	---	---	10.8	---
Brook Trout 5+	04-Oct-2006	4	27	7.8	---	8.7	110	290	---	---	< 0.30	810	< 0.10	24	3.3	< 0.30	120	34	< 0.10	3.9	< 0.10	1.7	< 0.10	---	49	---	48	---	160	---	---	< 0.20	200	---	< 0.10
	01-Sep-2011	2	49.6	9.1 [#1]	---	19.3	88.9	417	---	---	< 2.0	665	< 2.0	< 2.0	14.5	< 2.0	222	37.0	< 2.0	8.9 [#1]	< 1.0	1.5	< 3.0	---	143	---	72.0	---	254	---	---	< 3.0	575	---	< 3.0
	01-Sep-2013	1	65.2	---	0.0207	---	74.6	508	0.0107	0.0145	---	---	1130	---	13.7	1.78 [#1]	---	66	< 0.321	18.5	0.407	2.71	58.2	1080	---	132	---	---	247	1000	---	---	---	84.8	---
	21-Sep-2014	1	44.8	---	0.0192	---	46.6	423	0.00704	0.0115	---	---	722	---	11.5	< 0.057	---	33	0.596	18.4	< 0.478	1.29 [#1]	27.7	1560	---	64.6	---	---	333	1010	---	---	---	75.9	---
	30-Aug-2016	1	126	---	0.0542	---	124	1240	0.0252	0.0381	---	---	2200	---	38.3	< 0.057	---	133	< 1.08	36.3	< 1.05	5.7	89.6	3220	---	142	---	---	559	2140	---	---	---	185	---
(Duplicate)	30-Aug-2016	1	132	---	0.0551	---	125	1300	0.0259	0.0399	---	---	2280	---	40.4	< 0.0555	---	134	< 0.35	44.1	< 0.341	5.71	90.9	3300	---	145	---	---	606	2180	---	---	---	187	---
	30-Sep-2021	1	7.70	---	0.00301	---	9.55	57.6	0.00193	0.00400	---	---	103	---	2.45	< 0.30	---	---	0.75	1.36	< 0.20	---	5.67	166	---	6.13	---	197	---	---	86.5	---	---	14.7	---
Brook Trout 6+	14-Sep-2023	3	7.45	---	0.00290	---	9.92	56.3	0.00187	0.00370	---	---	122	---	2.33	< 0.17	---	12.4	< 0.46	1.60	0.78	0.499	4.44	170	---	7.93	---	342	---	---	90.3	---	---	14.9	---
Brook Trout 11+	11-Sep-2007	2	24	5.1	---	11	37	270	---	---	< 1.5	410	< 0.90	< 1.5	7.4	< 1.5	100	38	4.3	3.9	< 0.70	1.0	< 1.4	---	35	---	20	---	49	---	---	< 1.8	120	---	< 1.7
Brook Trout 12+	11-Sep-2007	3	18	2.3	---	5.4	25	150	---	---	< 1.3	280	< 0.70	< 1.3	2.7	< 1.4	61	25	2.4	2.3	< 0.50	< 0.70	< 1.3	---	17	---	11	---	37	---	---	< 1.7	71	---	< 1.6
Brook Trout Unknown	23-Jul-2008	2	34	2.5	---	3.7	32	87	---	---	< 0.30	76	< 0.30	2.7	2.4	0.37	37	21	< 0.30	2.3	< 0.30	0.52	< 0.60	---	18	---	34	---	71	---	---	< 0.80	72	---	< 0.80
(Replicate A)	23-Jul-2008	2	8.5	7.5	---	2.8	81	47	---	---	< 1.5	200	< 0.40	21	1.4	< 1.7	25	4.2	< 0.30	1.1	< 0.30	< 0.50	< 0.70	---	14	---	19	---	36	---	---	< 0.90	37	---	< 1.0
(Replicate B)	23-Jul-2008	2	8.6	1.5	---	3.0	22	63	---	---	< 0.40	86	< 0.40	1.7	2.5	< 0.40	35	7.4	< 0.30	1.2	< 0.30	< 0.40	< 0.60	---	10	---	11	---	25	---	---	< 0.70	37	---	< 0.70
(Replicate C)	23-Jul-2008	2	9.2	2.8	---	2.8	28	49	---	---	< 0.40	60	< 0.40	4.0	2.0	0.46	30	3.7	< 0.30	1.4	< 0.30	< 0.40	< 0.50	---	13	---	16	---	28	---	---	< 0.70	32	---	< 0.70
Brook Trout (Stomach) 1+	01-Sep-2012	3	12.3 [#1]	< 2.0	---	< 1.0	40.2	34.9	---	---	< 2.0	44.3	< 1.0	24.1	< 2.0	< 2.0	15.2	6.6 [#1]	< 1.0	< 1.0	< 1.0	< 1.0	< 4.0	---	< 4.0	---	17.0 [#1]	---	13.5	---	---	< 4.0	413 [#1]	---	< 4.0
Brook Trout (Stomach) 2+	01-Sep-2012	3	1.55 [#1]	< 0.20	---	< 0.10	4.96	5.34	---	---	< 0.20	10.7	< 0.10	2.91	< 0.20	< 0.20	3.15	1.29 [#1]	< 0.10	< 0.10	< 0.10	< 0.10	< 0.30	---	< 0.40	---	2.85	---	2.22	---	---	< 0.40	8.76	---	< 0.40
Brook Trout (Stomach) 3+	01-Sep-2012	5	836	98.7	---	194	1270	4510	---	---	2.4	12200	< 0.50	380	101	4.4	3330	1100	< 0.40	146	< 0.40	36.0	< 1.0	---	1340	---	2150	---	3310	---	---	95.4	8460	---	< 1.0
(Re-analysis)	01-Sep-2012	5	1910	119	---	347	2160	10200	---	---	< 4.0	23400	< 2.0	616	94.7	< 4.0	5570	2260	< 2.0	282	< 2.0	85.2	< 4.0	---	2270	---	5140	---	7360	---	---	< 6.0	19200	---	< 6.0
Certified Reference Materials																																			
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WMF-01-CRM	04-Oct-2006	---	3900	1000	---	2000	17000	37000	---	---	23	67000	< 0.60	2600	660	60	12000	2200	< 0.50	850	< 0.50	220 [#1]	< 0.40	---	6500	---	5500	---	31000	---	---	< 0.50	18000	---	< 0.50
	11-Sep-2007	---	6400	1700	---	2100	19000	41000	---	---	39	71000	< 5.5	3100	730	92	14000	2200	810	820	< 4.4	210	< 11	---	8500	---	5500	---	30000	---	---	< 14	23000	---	240
	23-Jul-2008	---	6400	900	---	2000	12000	37000	---	---	25	37000	< 2.6	2100	920	71	13000	2100	< 2.2	920	< 2.1	190	< 5.3	---	7500	---	5000	---	32000	---	---	700	22000	---	110
	11-Aug-2009	---	7370	1170	---	1990	14900	53100	---	---	< 83	60100	< 71	2410	1020	105	16000	1990	< 48	1220	< 43	179	< 71	---	11200	---	5850	---	44100	---	---	< 92	29800	---	100
	11-Aug-2010	---	6810	1060	---	2740	13900	48000	---	---	< 4.9	54700	< 2.8	2120	972	68.9	23600	2090	< 2.5	1030	< 2.3	211	< 13	---	11900	---	7210	---	43500	---	---	< 15	32500	---	< 16

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 60 (ng/kg)	PCB 62/65/75 (ng/kg)	PCB 63 (ug/kg)	PCB 63/76 (ng/kg)	PCB 64 (ng/kg)	PCB 66 (ng/kg)	PCB 67 (ug/kg)	PCB 68 (ug/kg)	PCB 69 (ng/kg)	PCB 70 (ng/kg)	PCB 70/61/74/76 (ng/kg)	PCB 71 (ng/kg)	PCB 72 (ng/kg)	PCB 73 (ng/kg)	PCB 74 (ng/kg)	PCB 77 (ng/kg)	PCB 78 (ng/kg)	PCB 79 (ng/kg)	PCB 80 (ng/kg)	PCB 81 (ng/kg)	PCB 82 (ng/kg)	PCB-83/99 (ng/kg)	PCB 83/119 (ng/kg)	PCB 84 (ng/kg)	PCB 84/89 (ng/kg)	PCB 85/110/115/116/117 (ng/kg)	PCB 85/116/117 (ng/kg)	PCB 86/87/97/108/119/125 (ng/kg)	PCB 86/87/97/109/119/125 (ng/kg)	PCB 86/108/125 (ng/kg)	PCB 87 (ng/kg)	PCB 88/91 (ng/kg)	PCB 88/121 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Materials - Continued																																				
	01-Sep-2011	---	8080	1270	---	2690	18000	51100	---	---	< 10	52100	< 9.0	3000	1280	< 10	18400	1910	< 8.0	712	< 7.0	187	< 10	---	11400	---	8010	---	46200	---	---	< 20	34200	---	< 20
	01-Sep-2012	---	5610	1160	---	1910	15500	33500	---	---	< 7.0	56400	< 3.0	2510	757	80.2	13900	1990	< 2.0	< 2.0	< 2.0	193	< 9.0	---	8600	---	5140	---	33700	---	---	458	25200	---	95
NIST SRM 1946	11-Oct-2013	---	---	---	0.605	---	---	8610	---	---	---	---	17200	---	---	---	---	260	---	---	---	---	---	32900	---	---	---	---	---	13800	---	---	---	---	---
	31-Aug-2016	---	---	---	0.599	---	---	9130	---	---	---	---	17300	---	---	---	---	326	---	---	---	---	---	32900	---	---	---	---	---	---	---	---	---	---	---	---
	03-Nov-2018	---	---	---	0.554	---	---	7760	---	---	---	---	16300	---	---	---	---	274	---	---	---	---	---	31600	---	---	---	---	---	13100	---	---	---	---	---
EDF-2524	15-Oct-2014	---	---	---	---	---	---	263	---	---	---	---	590	---	---	---	---	4.52	---	---	---	< 0.542	---	639	---	---	---	---	---	---	---	---	---	---	---
CRM EDF2524	23-Sep-2015	---	---	---	---	---	---	310	---	---	---	---	686	---	---	---	---	6.23	---	---	---	0.413 [#1]	---	709	---	---	---	---	---	---	---	---	---	---	---
CRM EDF-5462	13-Oct-2022	---	48.6	---	0.0062	---	33.7	193	< 0.0016	< 0.0018	---	---	308	---	< 2.0	< 1.1	---	---	38.1	15.0	< 1.6	---	53.5	636	---	29.1	---	778	---	---	357	---	---	35.5	---
	15-Nov-2023	---	35.1	---	0.0110	---	27.0	155	< 0.0065	< 0.0075	---	---	259	---	< 7.2	< 4.6	---	48.7	38.8	36.7	< 6.4	37.1	49.7	579	---	25.0	---	797	---	---	267	---	---	22.0	---

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript [#1] - EMPC
9. Superscript [#2] - RRR
10. Superscript [#3] - lock mass intereference (lab qualifier originally G)
11. Superscript [#4] - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript [#5] - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 89 (ug/kg)	PCB 90/101 (ng/kg)	PCB 90/101/113 (ng/kg)	PCB 91 (ng/kg)	PCB 92 (ng/kg)	PCB 93/95/98/100/102 (ng/kg)	PCB 93/98/100/102 (ng/kg)	PCB 94 (ng/kg)	PCB 95 (ng/kg)	PCB 96 (ng/kg)	PCB 97 (ng/kg)	PCB 98 (ng/kg)	PCB 99 (ng/kg)	PCB 100 (ng/kg)	PCB 102 (ng/kg)	PCB 103 (ng/kg)	PCB 104 (ng/kg)	PCB 105 (ng/kg)	PCB 106 (ng/kg)	PCB 107 (ng/kg)	PCB 107/109/123 (ng/kg)	PCB 107/124 (ng/kg)	PCB 108/124 (ng/kg)	PCB 109 (ng/kg)	PCB 110/115 (ng/kg)	PCB 111/117 (ng/kg)	PCB 111 (ug/kg)	PCB 112 (ng/kg)	PCB 113 (ng/kg)	PCB 114 (ng/kg)	PCB 115 (ng/kg)	PCB 116 (ng/kg)	PCB 118 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																																			
Brook Trout 0+	04-Oct-2006	10	---	370	---	30	67	< 0.10	---	< 0.10	140	< 0.10	60	< 0.10	180	< 0.10	< 0.10	< 0.20	< 0.20	76	< 0.10	---	32	---	---	---	260	6.8	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	280
	11-Sep-2007	10	---	300	---	42	56	< 1.7	---	< 1.6	100	< 1.2	40	< 1.7	140	3.3	3.1	3.1	< 1.8	45	< 1.1	---	22	---	---	---	150	5.3	---	< 1.2	2.2	3.1	< 1.1	< 1.3	130
	23-Jul-2008	10	---	150	---	18	30	< 0.80	---	< 0.80	51	< 0.70	22	< 0.80	69	1.2	1.6	1.7	< 1.1	30	< 0.50	---	13	---	---	---	78	3.0	---	< 0.50	< 0.60	1.8	0.66	< 0.60	88
(Duplicate)	23-Jul-2008	10	---	180	---	23	36	< 0.80	---	< 0.80	59	< 0.70	25	< 0.80	80	1.0	1.6	2.2	< 1.1	32	< 0.50	---	16	---	---	---	89	3.4	---	< 0.50	< 0.60	1.9	< 0.50	< 0.60	98
	11-Aug-2009	10	---	196	---	20	36	< 37	---	< 18	61	< 15	26 [#1]	< 23	87	< 15	< 18	< 18	< 16	37.4	< 6.2	---	23.0	---	---	---	92.4	< 6.0	---	< 6.6	< 8.7	< 6.2	< 7.6	< 8.4	123
	11-Aug-2010	10	---	172	---	30.7	33.3	< 1.4	---	< 1.3	84.3	< 1.6	32.3	< 1.5	87.7	2.0	< 1.2	< 1.9	< 1.8	34.2	< 1.1	---	14.8	---	---	---	133	4.97	---	< 0.90	< 1.0	2.2	< 0.90	< 1.0	122
	01-Sep-2011	10	---	499	---	66.4	108	< 2.0	---	< 3.0	171	< 4.0	75.7	< 3.0	234	< 2.0	< 2.0	4.8	< 4.0	128	< 2.0	---	38.3	---	---	---	295	14.0 [#1]	---	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	247
	01-Sep-2012	10	---	430	---	65.6	92.1	< 1.0	---	2.3	140	< 2.0	62.2	< 1.0	184	5.0 [#1]	4.8 [#1]	6.5 [#1]	< 3.0	59.9	< 0.80	---	34.0	---	---	---	210	8.50	---	< 0.80	< 1.0	3.9 [#1]	< 1.0	< 0.90	190
	01-Sep-2013	10	0.00312	---	422	---	95.5	290	---	3.12	---	1.71	---	---	---	---	---	10.4	0.242	90.3	< 0.296	---	---	10.9	---	30.7	393	---	0.00145	< 0.171	---	6.51	---	---	235
	21-Sep-2014	12	0.00133	---	258	---	57.1	167	---	1.56	---	0.812	---	---	---	---	---	5	0.149	45.1	< 0.396	---	---	6.1	---	20.7	188	---	0.000911 [#1]	< 0.215	---	3.5	---	---	145
	22-Sep-2015	11	0.00274	---	494	---	117	366	---	3.76	---	1.97	---	---	---	---	---	12.3	0.204	89.3	< 0.179	---	---	11.9	---	36	433	---	0.00165	< 0.16	---	6.22	---	---	280
	30-Aug-2016	10	0.00139	---	257	---	59	194	---	2	---	0.943	---	---	---	---	---	6.09	0.153	44.4	< 0.351	---	---	6	---	21.3	232	---	0.000788	< 0.0892	---	2.76	---	---	148
	30-Aug-2018	10	0.000651 [#1]	---	124	---	28	83.1	---	0.815 [#1]	---	0.403 [#1]	---	---	---	---	---	3.44	0.092 [#1]	25.9	< 0.283	---	---	2.96	---	10.9	105	---	0.00079	< 0.283	---	1.69	---	---	82
	06-Sep-2019	10	0.000309	---	91.7	---	19.8	55.9	---	0.521	---	0.236	---	---	---	---	---	1.98	0.078	22.4	< 0.224	---	---	2.48	---	8.4	76.9	---	0.000435	< 0.0746	---	1.74	---	---	69.6
	26-Aug-2020	11	0.00059	---	97	---	22.5	64.9	---	0.708 [#1]	---	0.249	---	---	---	---	---	2.23	0.08	22.1	< 0.137	---	---	2.54	---	8.2	79.9	---	0.000457	< 0.0776	---	1.33	---	---	74.8
	30-Sep-2021	10	< 0.00033	---	15.4	---	4.04	---	< 0.26	< 0.27	12.0	< 0.17	---	---	---	---	---	< 0.27	< 0.10	---	< 0.20	1.60	---	---	0.54	---	---	---	< 0.00019	< 0.17	---	---	---	---	---
	13-Oct-2022	10	0.00650	---	704	---	174	---	42.4	5.60	1500	14.9	---	---	---	---	---	8.02	< 0.17	---	< 0.44	12.0	---	---	8.29	---	---	---	0.00120	< 0.44	---	---	---	---	---
Chrystina Lake																																			
Brook Trout 1+	11-Aug-2009	8	---	730	---	35.9	132	< 2.1	---	< 2.1	210	< 1.8	104	< 2.2	262	2.1	5.5	3.9 [#1]	< 2.6	158	< 1.3	---	48.0	---	---	---	334	12.0	---	< 1.3	< 1.5	10.0	< 1.3	< 1.3	460
	01-Sep-2011	5	---	883	---	65.0 [#1]	145	< 2.0	---	< 3.0	186	< 4.0	114	< 3.0	303	4.1	3.9 [#1]	4.4 [#1]	< 5.0	222	< 2.0	---	66.9	---	---	---	454	16.1	---	< 2.0	< 2.0	11.7 [#1]	4.2	< 2.0	582
	01-Sep-2012	4	---	3280	---	255	533	< 2.0	---	3.9 [#1]	836	< 2.0	553	< 2.0	1120	14.4	21.6	18.0	< 3.0	827	< 1.0	---	255	---	---	---	1540	55.2	---	< 1.0	< 1.0	58.6	44.1	< 1.0	2200
(Replicate A)	01-Sep-2013	1	0.00148	---	390	---	71	159	---	0.867	---	0.531	---	---	---	---	---	2.98	< 0.177	163	< 0.623	---	---	14	---	32.1	287	---	0.000866	< 0.215	---	9.93	---	---	383
(Replicate B)	01-Sep-2013	1	0.00158	---	391	---	74.1	168	---	1.07	---	0.476	---	---	---	---	---	3.79	< 0.071	170	< 0.844	---	---	15.8	---	33.4	316	---	0.000859	< 0.177	---	11.9	---	---	410
	23-Sep-2015	1	0.0092	---	7230	---	1700	3210	---	37.1	---	11.1	---	---	---	---	---	157	1.32	1750 [#3]	< 5.63	---	---	148	---	547	4650	---	0.0185	< 0.444	---	95.7	---	---	5260
	31-Aug-2016	2	0.00201	---	494	---	119	290	---	2.82	---	0.998	---	---	---	---	---	10.8	0.231 [#1]	125	< 0.505	---	---	16.5	---	58.2	436	---	0.00169	< 0.16	---	8.43	---	---	372
	12-Sep-2017	3	0.00133	---	456	---	98.7	198	---	1.59	---	0.643 [#1]	---	---	---	---	---	6.82	0.12 [#1]	145	< 0.395	---	---	15.7	---	42.2	344	---	0.00149	< 0.0818	---	9.83	---	---	426
	29-Aug-2018	3	0.00141	---	368	---	70.6	175	---	1.39	---	0.613 [#1]	---	---	---	---	---	5.36	0.087 [#1]	111	< 0.425	---	---	12.5	---	32.9	285	---	0.000874	< 0.28	---	7.82	---	---	295
(Replicate A)	05-Sep-2019	4	0.00141	---	407	---	86.8	207	---	1.69	---	0.541	---	---	---	---	---	6.91	0.163	125	< 0.594	---	---	13.2	---	40	338	---	0.00177	< 0.126	---	8.89	---	---	347
(Replicate B)	05-Sep-2019	4	0.00172	---	472	---	102	252	---	2.33	---	0.744	---	---	---	---	---	9.53	0.168	143	< 0.428	---	---	14.3	---	44	381	---	0.00228	< 0.121	---	9.38	---	---	385
	25-Aug-2020	7	0.00113 [#1]	---	410	---	96.8	181	---	1.39	---	0.599	---	---	---	---	---	6.19	0.131 [#1]	156	< 0.415	---	---	14	---	38.2	314	---	0.00118	< 0.0912	---	10.1	---	---	415
	29-Sep-2021	8	0.00250	---	1370	---	319	---	21.2	6.22	595	3.07	---	---	---	---	---	22.6	< 0.12	---	< 0.31	140	---	---	47.3	---	---	---	0.00466	< 0.39	---	---	---	---	---
	12-Oct-2022	8	< 0.0041	---	503	---	122	---	< 3.1	< 3.3	161	< 1.1	---	---	---	---	---	6.2	< 1.6	---	< 3.2	47.0	---	---	20.6	---	---	---	< 0.0025	< 2.3	---	---	---	---	---
	13-Sep-2023	5	< 0.0022	---	382	---	74.4	---	6.8	< 1.9	128	< 0.74	---	---	---	---	---	3.0	< 0.64	135	< 1.5	30.1	---	---	13.2	---	---	---	< 0.0013	< 1.2	---	11.7	---	---	374
Brook Trout 2+	11-Aug-2009	3	---	3100	---	96.7	593	< 2.6	---	< 2.7	480	< 2.2	365	< 2.6	1200	5.5	12.4	21.4	< 3.4	733	< 1.7	---	313	---	---	---	1090	57.3	---	< 1.5	2.5	43.4	< 1.6	< 1.5	2710
	11-Aug-2010	5	---	4080	---	162	646	< 2.4	---	< 2.4	727	< 2.8	676	< 2.5	1540	6.7	18.6	24.1	< 3.2	1310	< 2.0	---	400	---	---	---	1840	82.8	---	< 1.5	< 1.7	90.5	6.4	< 1.7	4160
	12-Aug-2010	3	---	11800	---	458	1890	< 3.6	---	< 3.6	2240	< 3.1	1650	7.9	3950	17.5	49.4	45.2	< 4.0	2760	< 2.2	---	811	---	---	---	4490	202	---	< 2.2	13.7	170	< 2.2	< 2.1	8700
	01-Sep-2011	4	---	27800	---	1130	5110	< 7.0	---	17.3	5730	< 10	4580	35.3 [#1]	11900	79.4	144	249	< 10	6230	< 5.0	---	2170	---	---	---	12100	554	---	< 4.0	< 5.0	379	191	< 5.0	21700
(Replicate)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9370	---	---	3240	---	---	---	---	---	---	---	---	567	---	---	30400
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	11600	---	---	3940	---	---	---	---	---	---	---	---	702	---	---	35900
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	17300	---	---	5740	---	---	---	---	---	---	---	---	1090	---	---	56600
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9420	---	---	3070	---	---	---	---	---	---	---	---	575	---	---	31100
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16200	---	---	5450	---	---	---	---	---	---	---	---	1000	---	---	52900
(Duplicate)	01-Sep-2011	4	---	36200	---	1460	6460	< 8.0	---	19.6	9350	< 8.0	6880	56.6	18200	96.4	229	359	< 7.0	8300	< 5.0	---	2820	---	---	---	17300	758	---	< 5.0	< 6.0	528	329	< 6.0	28000
	01-Sep-2012	4	---	2660	---	121	439	< 2.0	---	< 2.0	351	< 2.0	317	< 2.0	781	5.2	9.4	11.3	< 4.0	647	< 1.0	---	198	---	---	---	864	32.5	---	< 1.0	< 1.0	46.5	25.2	< 1.0	1820
	01-Sep-2013	4	0.00377	---	2560	---	411	715	---	2	---	0.801	---	---	---	---	---	12.2	0.097	1160	< 3.52	---	---	106	---	218	1700	---	0.00276	< 0.224	---	78	---	---	2990
	22-Sep-2014	4	0.00289	---	2260	---	367	617	---	1.7	---	0.977	---	---	---	---	---	11.2	0.143 [#1]	1070	< 5.09	---	---	91.1	---	233	1430	---	0.00218	< 0.173	---	73.2	---	---	2950
(Replicate A)	22-Sep-2014	1	0.00193	---	770	---	126	272	---	1.08	---	0.583	---	---	---	---	---	4	0.066 [#1]	379	< 1.27	---	---	34.8	---	77.4	583	---	0.000974	< 0.14	---	26.2	---	---	925
(Replicate B)	22-Sep-2014	1	0.00227	---	840	---	139	294	---	1.4 [#1]	---	0.587	---	---	---	---	---	4.54	0.085 [#1]	414	< 1.64	---	---	38.1	---	85.6	586	---	0.00129	< 0.0783	---	28.9	---	---	1040
	23-Sep-2015	4	0.00594	---	4240	---	771	1590	---	4.31	---	2.62	---	---	---	---	---	29.1	0.102 [#1]	1460	2.11	---	---	125	---	280	2910	---	0.00365	< 0.374	---	100	---	---	3780

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 89 (ug/kg)	PCB 90/101 (ng/kg)	PCB 90/101/113 (ng/kg)	PCB 91 (ng/kg)	PCB 92 (ng/kg)	PCB 93/95/98/100/102 (ng/kg)	PCB 93/98/100/102 (ng/kg)	PCB 94 (ng/kg)	PCB 95 (ng/kg)	PCB 96 (ng/kg)	PCB 97 (ng/kg)	PCB 98 (ng/kg)	PCB 99 (ng/kg)	PCB 100 (ng/kg)	PCB 102 (ng/kg)	PCB 103 (ng/kg)	PCB 104 (ng/kg)	PCB 105 (ng/kg)	PCB 106 (ng/kg)	PCB 107 (ng/kg)	PCB 107/109/123 (ng/kg)	PCB 107/124 (ng/kg)	PCB 108/124 (ng/kg)	PCB 109 (ng/kg)	PCB 110/115 (ng/kg)	PCB 111/117 (ng/kg)	PCB 111 (ug/kg)	PCB 112 (ng/kg)	PCB 113 (ng/kg)	PCB 114 (ng/kg)	PCB 115 (ng/kg)	PCB 116 (ng/kg)	PCB 118 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	31-Aug-2016	2	0.00304	---	2620	---	483	799	---	1.9	---	0.856	---	---	---	---	---	15.3	0.065	1480	< 2.79	---	---	87.5	---	292	1860	---	0.0029 [#1]	< 0.384	---	106	---	---	3840
(Replicate A)	12-Sep-2017	3	0.0015 [#1]	---	1120	---	216	295	---	1.56	---	0.44	---	---	---	---	---	10.9	0.114 [#1]	441	< 0.772	---	---	41.2	---	113	677	---	0.00255	< 0.131	---	30.5	---	---	1230
(Replicate B)	12-Sep-2017	1	0.00122 [#1]	---	744	---	141	199	---	1.08 [#1]	---	0.273 [#1]	---	---	---	---	---	6.04	0.112 [#1]	314	< 0.492	---	---	30.9	---	81.1	426	---	0.0016	< 0.0913	---	22.7	---	---	919
	29-Aug-2018	3	0.0017	---	1420	---	266	440	---	3.54	---	1.19 [#1]	---	---	---	---	---	18	0.177 [#1]	531	< 1.01	---	---	45	---	137	888	---	0.00225	< 0.28	---	39.9	---	---	1550
(Replicate A)	05-Sep-2019	4	0.00153	---	748	---	135	234	---	1.11	---	0.629	---	---	---	---	---	5.5	0.082	332	< 2.41	---	---	34.6	---	79.5	527	---	0.00197	< 0.243	---	23	---	---	879
(Replicate B)	05-Sep-2019	4	0.00145	---	742	---	139	228	---	1.15	---	0.512	---	---	---	---	---	5.33	0.126	374	< 2.26	---	---	36.2	---	83.1	536	---	0.00182	< 0.0705	---	27.4	---	---	994
(Replicate A)	25-Aug-2020	7	0.00157	---	832	---	195	267	---	1.74	---	0.628 [#1]	---	---	---	---	---	9.11	0.1 [#1]	388	< 0.522	---	---	33.5	---	91	597	---	0.00199 [#1]	< 0.0645	---	26	---	---	1080
(Replicate B)	25-Aug-2020	7	0.00128	---	802	---	184	267	---	2.08 [#1]	---	0.878	---	---	---	---	---	10.9	0.114 [#1]	323	< 0.561	---	---	29.4	---	79.3	554	---	0.00205	< 0.0675	---	20.9	---	---	900
	29-Sep-2021	10	0.00217 [#4]	---	1280 [#4]	---	309 [#4]	---	17.0 [#4]	4.05 [#4]	425 [#4]	1.60 [#4]	---	---	---	---	---	21.6 [#4]	0.190 [#4]	---	< 0.41 [#4]	147 [#4]	---	---	47.1 [#4]	---	---	---	0.00408 [#4]	< 0.25 [#4]	---	---	---	---	---
	12-Oct-2022	9	0.00361	---	2490	---	620	---	32.5	8.67	860	3.03	---	---	---	---	---	47.6	0.40	---	< 0.51	282	---	---	---	80.2	---	---	0.00997	< 0.51	---	---	---	---	---
	13-Sep-2023	5	< 0.0025	---	807	---	153	---	11.7	< 2.2	126	< 0.66	---	---	---	---	---	6.8	< 0.59	335	< 1.2	73.9	---	---	---	27.5	---	---	0.0041	< 1.4	---	29.0	---	---	961
Brook Trout 3+	04-Oct-2006	3	---	2600	---	63	360	< 0.10	---	< 0.10	820	< 0.10	370	< 0.10	1100	< 0.10	< 0.10	< 0.10	< 0.10	720	< 0.10	---	200	---	---	---	1100	13	---	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2400
	11-Aug-2010	5	---	2860	---	110	454	< 2.3	---	< 2.2	471	< 2.7	481	< 2.4	1100	5.4	10.7	16.1	< 2.9	1090	< 1.9	---	316	---	---	---	1220	58.5	---	< 1.5	< 1.6	69.9	10.6	< 1.6	3280
(Duplicate)	11-Aug-2010	5	---	2770	---	107	427	< 2.3	---	< 2.1	461	< 2.7	468	< 2.4	1130	4.8	13.5	16.6	< 2.7	994	< 1.7	---	312	---	---	---	1170	54.7	---	< 1.5	< 1.7	68.1	5.6	< 1.7	3070
(Replicate A)	12-Aug-2010	4	---	7370	---	289	1200	< 3.2	---	< 3.0	1400	< 2.7	883	< 3.2	2200	9.0	28.5	25.5	< 3.8	1640	< 1.9	---	524	---	---	---	2860	110	---	< 1.9	< 2.2	97.1	< 1.9	< 1.9	5060
(Replicate A)	01-Sep-2012	1	---	1640	---	56.1	293	< 0.80	---	< 0.80	196	< 1.0	203	< 0.80	532	2.68 [#1]	6.23 [#1]	8.9	< 2.0	410	< 0.50	---	146	---	---	---	476	24.2	---	< 0.50	< 0.60	31.1	17.5	< 0.50	1300
(Duplicate)	01-Sep-2012	1	---	1560	---	54.4	274	< 0.80	---	< 0.80	180	< 1.0	185	< 0.80	496	3.02	5.86	9.1	< 2.0	405	< 0.50	---	134	---	---	---	425	22.6	---	< 0.50	< 0.60	28.6	16.0	< 0.50	1220
(Replicate B)	01-Sep-2012	1	---	752	---	37.0	129	< 1.0	---	< 1.0	106	< 1.0	99.3	< 1.0	245	< 0.90	3.21 [#1]	3.3	< 2.0	241	< 0.60	---	77.1	---	---	---	277	11.1	---	< 0.60	< 0.70	15.7	10.2	< 0.70	690
(Replicate C)	01-Sep-2013	1	0.0014	---	1020	---	204	275	---	1.05	---	0.524	---	---	---	---	---	13.3	< 0.0815	453	< 2.31	---	---	34.1	---	108	587	---	0.0026	< 0.269	---	33	---	---	1310
(Replicate D)	01-Sep-2013	1	0.00142	---	1340	---	234	296	---	1.11	---	0.248 [#1]	---	---	---	---	---	9.38	< 0.0923	641	< 0.917	---	---	57.6	---	136	737	---	0.00203	< 0.275	---	47.6	---	---	1800
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	---	1510	---	58.2	244	< 5.0	---	< 5.0	200	< 6.0	223	< 6.0	570	< 5.0	< 5.0	< 7.0	< 9.0	611	< 4.0	---	188	---	---	---	627	26.5	---	< 3.0	< 4.0	44.7	19.8	< 4.0	1780
	22-Sep-2014	4	0.00286	---	3420	---	559	656	---	1.87	---	0.67	---	---	---	---	---	28	0.089	1300	< 4.16	---	---	104	---	333	1710	---	0.00693	< 0.127	---	92.1	---	---	4010
(Replicate A)	22-Sep-2014	4	0.00183	---	994	---	173	286	---	1.09 [#1]	---	0.366 [#1]	---	---	---	---	---	5.32	0.073 [#1]	500	< 1.42	---	---	47.6	---	106	649	---	0.0016 [#1]	< 0.22	---	36.7	---	---	1290
(Replicate B)	22-Sep-2014	1	0.0012	---	1750	---	256	230	---	0.674	---	0.159	---	---	---	---	---	7.46	< 0.0574	844	< 2.29	---	---	69.1	---	184	839	---	0.00262	< 0.0961	---	63.6	---	---	2370
(Duplicate)	22-Sep-2014	1	0.00274 [#1]	---	3560	---	588	722	---	2.18	---	0.868	---	---	---	---	---	31.5	0.074 [#1]	1210	< 5.4	---	---	101	---	341	1700	---	0.00605	< 0.266	---	85.7	---	---	3780
	23-Sep-2015	3	0.00924	---	6670	---	1180	2480	---	8.17	---	4.37	---	---	---	---	---	51.4	0.217	2300	< 7.88	---	---	205	---	494	4580	---	0.0058	< 0.405	---	153	---	---	5890
	31-Aug-2016	2	0.00708	---	6960	---	1260	2090	---	5.65	---	2.28	---	---	---	---	---	43.2	0.133 [#1]	2500	< 5.33	---	---	224	---	597	4800	---	0.00472	< 0.296	---	171	---	---	6630
(Replicate A)	31-Aug-2016	2	0.00431	---	4600	---	852	1060	---	3.82	---	1.06	---	---	---	---	---	32.2	0.089 [#1]	1740	< 4.28	---	---	155	---	463	3010	---	0.00548	< 0.281	---	115	---	---	4890
(Duplicate)	31-Aug-2016	1	0.00727	---	6790	---	1240	2080	---	5.78	---	2.27	---	---	---	---	---	43.3	0.111	2400	< 4.05	---	---	214	---	565	4560	---	0.00463	< 0.643	---	168	---	---	6310
	12-Sep-2017	3	0.00169	---	1620	---	279	391	---	1.42	---	0.501	---	---	---	---	---	10	< 0.0559	658	< 0.956	---	---	55.2	---	150	982	---	0.00304	< 0.178	---	43.6	---	---	1870
	29-Aug-2018	3	0.00224	---	1390	---	268	363	---	2.16	---	0.607 [#1]	---	---	---	---	---	13.2	0.096 [#1]	610	< 0.932	---	---	51.7	---	179	890	---	0.00435	< 0.491	---	43.1	---	---	1820
(Duplicate)	29-Aug-2018	3	0.0021	---	1290	---	241	361	---	1.65 [#1]	---	0.517 [#1]	---	---	---	---	---	13.4	< 0.0511	539	< 1.01	---	---	44.4	---	151	795	---	0.00255 [#1]	< 0.274	---	42.3	---	---	1580
(Lab Replicate)	29-Aug-2018	3	0.00176	---	1290	---	242	357	---	2.22 [#1]	---	0.745 [#1]	---	---	---	---	---	13.3	0.092 [#1]	557	< 1.4	---	---	47.7	---	164	806	---	0.00174 [#1]	< 0.414	---	40.5	---	---	1620
	05-Sep-2019	4	0.00184	---	1230	---	229	351	---	2.34	---	0.919	---	---	---	---	---	11.8	0.114	615	< 3.46	---	---	51.9	---	135	888	---	0.00273	< 0.266	---	43.7	---	---	1670
	29-Sep-2021	3	0.0017	---	1050	---	243	---	14.5	3.00	395	1.60	---	---	---	---	---	16.5	< 0.16	---	< 0.62	107	---	---	38.3	---	---	---	0.00330	< 0.61	---	---	---	---	---
(Duplicate)	29-Sep-2021	3	0.0038	---	2540	---	560	---	34.6	7.5	883	3.23	---	---	---	---	---	37.3	< 0.33	---	< 1.0	251	---	---	95.9	---	---	---	0.0098	< 1.1	---	---	---	---	---
	12-Oct-2022	3	< 0.0047	---	2240	---	516	---	28.3	4.9	504	< 1.3	---	---	---	---	---	35.7	< 0.84	---	< 2.3	209	---	---	55.3	---	---	---	0.0078	< 2.5	---	---	---	---	---
	13-Sep-2023	5	0.00246	---	1810	---	372	---	38.7	3.96	297	0.79	---	---	---	---	---	23.2	0.18	627	< 0.54	170	---	---	61.3	---	---	---	0.00579	< 0.22	---	45.4	---	---	1870
Brook Trout 4+	04-Oct-2006	7	---	9000	---	370	1700	< 0.20	---	1.6	1600	< 0.20	1300	4.3	3300	10	24	45	< 0.40	2800	< 0.20	---	970	---	---	---	4300	160	---	< 0.10	< 0.20	190	< 0.20	< 0.20	8700
	01-Sep-2011	2	---	11500	---	447	1950	< 5.0	---	< 5.0	2780	< 7.0	1960	< 5.0	4930	22.0	54.4	101	< 7.0 [#1]	2810	< 4.0	---	943	---	---	---	5150	251	---	< 3.0	< 4.0	158	62.1	< 4.0	9080
	01-Sep-2013	2	0.00923	---	9070	---	1610	2470	---	6.81	---	2.48	---	---	---	---	---	88.5	0.195	2840	< 6.38	---	---	237	---	668	4930	---	0.0113	< 0.312	---	186	---	---	8690
	22-Sep-2014	1	0.0126	---	9950	---	1540	2910	---	6.33	---	3.51	---	---	---	---	---	56	0.181	3940	< 10.5	---	---	347	---	827	6400	---	0.01	< 0.224	---	277	---	---	11200
(Replicate A)	23-Sep-2015	1	0.0042	---	2520	---	415	789	---	2.81	---	1.69	---	---	---	---	---	19	0.102 [#1]	981	< 3.43	---	---	87.1	---	237	1530	---	0.00377	< 0.223	---	68.1	---	---	2630
(Replicate B)	23-Sep-2015	1	0.00373	---	3700	---	600	866	---	2.52	---	1.19	---	---	---	---	---	25.5	0.101	1420	< 4.68	---	---	127	---	347	1920	---	0.00528	< 0.313	---	102	---	---	3920
	12-Sep-2017	1	0.00211	---	2670	---	443	594	---	1.94	---	0.68 [#1]	---	---	---	---	---	15.6	< 0.0737	1080	< 1.66	---	---	82.1	---	230	1360	---	0.00373	< 0.232	---	72.3	---	---	3170
(Replicate A)	29-Aug-2018	1	0.00434	---	3730	---	619	941	---	3.71 [#1]	---	1.31 [#1]	---	---	---	---	---	28.3	0.174 [#1]	1580	< 1.41	---	---	133	---	390	2360	---	0.00407 [#1]	< 1	---	110	---	---	4330
(Replicate B)	29-Aug-2018	1	0.00179 [#1]	---	1720	---	289	283	---	0.904	---	< 0.283	---	---	---	---	---	8.69	< 0.0764	815	< 1.07	---	---	61.3	---	195	876	---	0.00212	< 0.283	---	67.2	---	---	2420
(Replicate C)	29-Aug-2018	1	0.00209	---	1710	---	264	358	---	1.12	---	0.491 [#1]	---	---	---	---	---	10.1	0.054 [#1]	765	< 1.3	---	---	69.3	---	217	940	---	0.00147	< 0.377	---	58	---	---	2120
	25-Aug-2020	1	0.000948	---	587	---	108	157	---	0.666 [#1]	---	0.342	---	---	---	---	---	4	< 0.0579	300	< 0.578	---	---	23.8	---	61.8	358	---	0.00117 [#1]	< 0.079	---	20.7	---	---	812

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 89 (ug/kg)	PCB 90/101 (ng/kg)	PCB 90/101/113 (ng/kg)	PCB 91 (ng/kg)	PCB 92 (ng/kg)	PCB 93/95/98/100/102 (ng/kg)	PCB 93/98/100/102 (ng/kg)	PCB 94 (ng/kg)	PCB 95 (ng/kg)	PCB 96 (ng/kg)	PCB 97 (ng/kg)	PCB 98 (ng/kg)	PCB 99 (ng/kg)	PCB 100 (ng/kg)	PCB 102 (ng/kg)	PCB 103 (ng/kg)	PCB 104 (ng/kg)	PCB 105 (ng/kg)	PCB 106 (ng/kg)	PCB 107 (ng/kg)	PCB 107/109/123 (ng/kg)	PCB 107/124 (ng/kg)	PCB 108/124 (ng/kg)	PCB 109 (ng/kg)	PCB 110/115 (ng/kg)	PCB 111/117 (ng/kg)	PCB 111 (ug/kg)	PCB 112 (ng/kg)	PCB 113 (ng/kg)	PCB 114 (ng/kg)	PCB 115 (ng/kg)	PCB 116 (ng/kg)	PCB 118 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	29-Sep-2021	1	0.00220	---	1400	---	329	---	21.2	5.31	550	2.27	---	---	---	---	---	23.8	0.19	---	< 0.48	144	---	---	---	53.7	---	---	---	0.00519	< 0.21	---	---	---	---	---
Brook Trout 5+	04-Oct-2006	5	---	5600	---	180	1000	< 0.20	---	< 0.20	890	0.67	720	< 0.20	1700	< 0.20	< 0.20	20	< 0.40	1800	< 0.20	---	560	---	---	---	2500	82	---	< 0.10	< 0.20	94	54	< 0.20	5100
	11-Sep-2007	2	---	4600	---	120	730	< 2.4	---	< 2.4	400	< 1.7	360	< 2.5	1200	4.2	7.8	17	< 3.7	990	< 1.7	---	380	---	---	---	1100	70	---	< 1.7	< 1.8	73	< 1.6	< 1.9	3200
	12-Aug-2010	1	---	2190	---	88.7	322	< 2.9	---	< 2.9	368	< 2.4	290	< 2.9	759	< 2.5	10.3	7.4 [#1]	< 3.5	589	< 1.8	---	185	---	---	---	769	33.6	---	< 1.7	< 2.0	38.6	< 1.7	< 1.7	1710
	01-Sep-2013	1	0.0136	---	19000	---	3140	4450	---	8.07	---	4.05	---	---	---	---	---	142	< 0.122	6270	< 10.3	---	---	479	---	1370	9410	---	0.0203	< 0.573	---	397	---	---	18700
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	---	27500	---	874	4400	< 8.0	---	< 8.0	3420	< 8.0	3190	17.3 [#1]	8440	33.6	85.6	137	< 10	7430	< 6.0	---	2320	---	---	---	10200	374	---	< 5.0	< 6.0	427	302	< 6.0	22700
	23-Sep-2015	1	0.0067	---	4320	---	668	1420	---	4.31	---	3.06	---	---	---	---	---	24	0.111 [#1]	1660	< 5.2	---	---	146	---	374	2740	---	0.00486	< 0.272	---	116	---	---	4440
	30-Aug-2016	1	0.00248	---	3850	---	679	657	---	3	---	0.84	---	---	---	---	---	23.6	0.085 [#1]	1440	< 4.94	---	---	125	---	350	1980	---	0.00373	< 0.246	---	114	---	---	4090
	12-Sep-2017	1	0.0059	---	6400	---	1050	1340	---	5.43	---	1.54	---	---	---	---	---	45.4	0.216 [#1]	3750	< 5.72	---	---	308	---	878	4160	---	0.0174	< 0.11	---	236	---	---	10400
(Re-analysis)	12-Sep-2017	1	0.0042	---	4910	---	763	947	---	3.95 [#1]	---	1.12	---	---	---	---	---	32.7	0.135	2730	< 1.05	---	---	189	---	569	2820	---	0.0109 [#1]	< 0.211	---	167	---	---	7220
	29-Sep-2021	1	< 0.0035 [#4]	---	1220 [#4]	---	248 [#4]	---	12.0 [#4]	< 2.9 [#4]	381 [#4]	< 1.3 [#4]	---	---	---	---	---	10.7 [#4]	< 0.87 [#4]	---	< 2.7 [#4]	130 [#4]	---	---	---	43.0 [#4]	---	---	---	< 0.0020 [#4]	< 1.8 [#4]	---	---	---	---
Brook Trout 6+	11-Sep-2007	3	---	4400	---	130	620	< 3.2	---	< 3.0	310	< 2.3	430	< 3.3	1400	5.6	7.5	14	< 4.1	1100	< 2.1	---	380	---	---	---	960	65	---	< 2.3	< 2.4	93	< 2.2	< 2.6	3500
Brook Trout 7+	11-Sep-2007	3	---	1300	---	59	180	< 1.9	---	< 1.9	200	< 1.4	150	< 2.0	360	3.4	3.6	4.5	< 2.5	400	< 1.3	---	100	---	---	---	500	21	---	< 1.4	< 1.5	24	< 1.3	< 1.6	960
(Duplicate)	11-Sep-2007	3	---	1200	---	50	160	< 2.6	---	< 2.5	170	< 1.8	130	< 2.7	340	< 2.2	4.5	< 2.2	< 3.4	350	< 1.8	---	94	---	---	---	430	18	---	< 1.9	< 2.0	21	< 1.8	< 2.1	840
Brook Trout 11+	11-Sep-2007	2	---	5900	---	170	880	< 2.4	---	< 2.3	490	< 1.7	510	< 2.6	1700	5.9	12	22	< 3.6	1200	< 1.6	---	400	---	---	---	1400	72	---	150	< 1.9	89	< 1.7	< 2.0	3600
Brook Trout 12+	11-Sep-2007	2	---	7000	---	210	1100	< 3.0	---	< 3.0	770	< 2.2	670	< 3.2	2100	9.4	15	34	< 4.1	1600	< 2.1	---	580	---	---	---	1800	110	---	190	< 2.3	120	< 2.1	< 2.4	4900
Brook Trout Unknown	23-Jul-2008	3	---	440	---	31	76	< 1.3	---	< 1.3	120	< 1.0	77	< 1.3	210	2.2	2.9	5.4	< 1.3	170	< 0.90	---	55	---	---	---	270	11	---	< 0.80	< 0.90	10	< 0.80	< 0.90	450
(Replicate)	23-Jul-2008	3	---	200	---	30	40	< 1.0	---	< 1.0	78	< 0.80	34	< 1.0	100	2.5	1.8	2.9	< 1.2	52	< 0.70	---	22	---	---	---	130	4.9	---	< 0.60	1.1	3.0	< 0.60	< 0.70	140
(Replicate A)	23-Jul-2008	2	---	600	---	38	100	< 1.0	---	< 1.0	130	1.1	92	< 1.0	300	3.0	3.6	6.9	< 1.1	210	< 0.70	---	83	---	---	---	320	15	---	< 0.60	1.7	13	< 0.60	< 0.70	630
(Replicate B)	23-Jul-2008	2	---	350	---	25	59	< 1.0	---	< 1.0	100	< 0.80	63	< 1.0	160	1.9	2.6	3.0	< 1.1	150	< 0.70	---	46	---	---	---	210	9.0	---	< 0.60	0.79	9.4	< 0.60	< 0.70	390
(Replicate C)	23-Jul-2008	2	---	390	---	25	63	< 1.5	---	< 1.5	90	< 1.2	57	< 1.4	150	1.8	2.1	2.2	< 1.8	160	< 1.0	---	45	---	---	---	210	6.3	---	< 0.90	< 1.0	8.5	< 0.90	< 1.0	390
	12-Oct-2022	1	< 0.0036	---	1750	---	408	---	21.0	< 2.8	570	< 1.7	---	---	---	---	---	28.9	< 1.1	---	< 2.9	158	---	---	---	56.3	---	---	---	< 0.0021	< 1.9	---	---	---	---	---
(Replicate A)	13-Sep-2023	1	0.00160 [#5]	---	1050 [#5]	---	223 [#5]	---	22.4 [#5]	1.77 [#5]	159 [#5]	0.69 [#5]	---	---	---	---	---	13.5 [#5]	0.33 [#5]	421 [#5]	< 0.64 [#5]	109 [#5]	---	---	---	41.3 [#5]	---	---	---	0.00354 [#5]	< 0.30 [#5]	---	32.5 [#5]	---	---	1180 [#5]
(Replicate B)	13-Sep-2023	1	< 0.0017	---	1080	---	220	---	13.0	2.5	170	< 0.60	---	---	---	---	---	12.0	< 0.48	381	< 1.2	95.5	---	---	---	26.4	---	---	---	0.0049	< 0.98	---	28.0	---	---	1210
Brook Trout (Muscle only) 3+	01-Feb-2012	1	---	2550	---	145	426	< 9.0	---	< 9.0	628	< 10	467	< 10	767	< 8.0	10.0	< 20	< 20	528	< 6.0	---	173	---	---	---	1980	50.0	---	< 5.0	< 7.0	41.7	11.6 [#1]	< 6.0	1700
Brook Trout (Skin Only) 3+	01-Feb-2012	1	---	5230	---	284	884	< 9.0	---	< 10	1330	< 10	1010	< 9.0	1840	< 8.0	23.6 [#1]	31	< 10	1160	< 6.0	---	380	---	---	---	3900	107	---	< 5.0	< 7.0	72.5	27.9	< 6.0	3820
Brook Trout (Stomach) 1+	01-Sep-2012	4	---	116	---	15.4	22.2	< 2.0	---	< 2.0	47.9	< 3.0	18.8	< 2.0	36.0	< 2.0	< 2.0	< 3.0	< 4.0	37.3	< 1.0	---	8.2	---	---	---	57.6	< 1.0	---	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	82.3
Brook Trout (Stomach) 2+	01-Sep-2012	4	---	150	---	< 7.0	23.8	< 5.0	---	< 5.0	61.9	< 6.0	15.7 [#1]	< 5.0	68.5	< 4.0	< 4.0	< 7.0	< 10	67.6	< 3.0	---	21.1	---	---	---	68.0	< 3.0	---	< 3.0	< 4.0	< 4.0	< 4.0	< 3.0	241
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	---	94.6	---	9.0	14.4 [#1]	< 2.0	---	< 2.0	38.5 [#1]	< 3.0	13.4 [#1]	< 2.0	29.5	< 2.0	< 2.0	< 3.0	< 4.0	30.5 [#1]	< 1.0	---	10.1 [#1]	---	---	---	49.7	2.2 [#1]	---	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	72.0
(Replicate B)	01-Sep-2012	1	---	266	---	26.9	82.2 [#1]	< 4.0	---	< 4.0	79.6	< 5.0	56.4 [#1]	< 4.0 [#1]	136	< 3.0	< 4.0	< 6.0	< 8.0	140	< 2.0	---	47.7 [#1]	---	---	---	163	5.9	---	< 2.0	< 3.0	10.1 [#1]	< 3.0	< 3.0	356
White Sucker 1+	01-Feb-2012	1	---	2000	---	170	337	< 7.0	---	< 8.0	460	< 10	398	< 7.0	711	< 6.0	< 6.0	< 10	< 10	672	< 5.0	---	204	---	---	---	1920	49.3	---	< 4.0	< 5.0	47.5	45.0	< 4.0	1860
	21-Sep-2014	2	0.000513	---	167	---	21.1	43.5	---	< 0.147	---	< 0.0579	---	---	---	---	---	0.433 [#1]	< 0.0579	71.9	< 0.514	---	---	6.7	---	15.7	131	---	0.000211	< 0.103	---	4.89	---	---	180
White Sucker 2+	01-Feb-2012	1	---	113	---	12.5	16.8	< 3.0	---	< 3.0	53.2	< 5.0	30.0	< 4.0	43.4	< 3.0	< 3.0	< 6.0	< 6.0	35.4	< 2.0	---	14.4 [#1]	---	---	---	102	3.4 [#1]	---	< 2.0	< 3.0	4.9 [#1]	3.9	< 2.0	118
	22-Sep-2014	4	0.000662	---	246	---	30.9	60.1	---	0.319	---	0.194	---	---	---	---	---	0.858	< 0.0573	110	< 0.764	---	---	10.1	---	25.5	185	---	0.000475	< 0.0798	---	8.23	---	---	273
White Sucker 3+	01-Feb-2012	1	---	336	---	39 [#1]	39	< 10	---	< 10	123 [#1]	< 20	73 [#1]	< 10	97	< 10	< 10	< 20	< 20	99.8 [#1]	< 9.0	---	< 8.0	---	---	---	405 [#1]	< 8.0	---	< 8.0	< 10	< 6.0	< 9.0 [#1]	< 9.0	209
White Sucker 6+	11-Sep-2007	4	---	180	---	6.9	19	< 1.5	---	< 1.4	19	< 1.1	17	< 1.5	54	< 1.3	< 1.3	< 1.3	< 2.0	60	< 1.0	---	18	---	---	---	63	2.3	---	< 1.1	< 1.1	4.4	< 1.0	< 1.2	150
White Sucker 7+	11-Sep-2007	3	---	160	---	5.2	17	< 2.1	---	< 2.1	16	< 1.5	19	< 2.2	59	< 1.8	< 1.8	< 1.8	< 2.5	79	< 1.5	---	20	---	---	---	73	< 1.5	---	< 1.6	< 1.6	6.0	< 1.4	< 1.7	200
White Sucker 8+	11-Sep-2007	5	---	160	---	5.1	17	< 1.7	---	< 1.5	20	< 1.2	16	< 1.8	45	< 1.4	< 1.4	< 1.5	< 2.0	61	< 1.1	---	15	---	---	---	60	< 1.1	---	< 1.2	< 1.3	4.3	< 1.2	< 1.4	150
	11-Aug-2009	4	---	465	---	< 26	63	< 58	---	< 32	68	< 24	46	< 37	126	< 27	< 28	< 29	< 34	110	< 11	---	42	---	---	---	205	< 11	---	< 11	< 14	< 12	< 12	< 13	354
White Sucker 9+	11-Sep-2007	4	---	290	---	10	26	< 1.6	---	< 1.5	28	< 1.1	31	< 1.6	86	< 1.4	< 1.3	< 1.4	< 1.8	120	< 1.1	---	33	---	---	---	110	5.1	---	< 1.1	< 1.2	9.2	< 1.1	< 1.3	300
White Sucker 10+	11-Aug-2009	4	---	280	---	23 [#1]	48	< 44	---	< 21	56	< 18	37	< 28	104	< 18	< 21	< 22	< 26	71.5	< 7.2	---	26.0	---	---	---	166	7.0 [#1]	---	< 7.9	< 10	< 9.1	< 9.1	< 10	210
Forage Fish	04-Nov-2014	---	0.0017	---	506	---	82.8	152	---	0.543	---	0.457	---	---	---	---	---	1.27	0.074 [#1]	411	< 2.76	---	---	39	---	98.2	578	---	0.000871 [#1]	2.02 [#1]	---	30.2	---	---	985

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 89 (ug/kg)	PCB 90/101 (ng/kg)	PCB 90/101/113 (ng/kg)	PCB 91 (ng/kg)	PCB 92 (ng/kg)	PCB 93/95/98/100/102 (ng/kg)	PCB 93/98/100/102 (ng/kg)	PCB 94 (ng/kg)	PCB 95 (ng/kg)	PCB 96 (ng/kg)	PCB 97 (ng/kg)	PCB 98 (ng/kg)	PCB 99 (ng/kg)	PCB 100 (ng/kg)	PCB 102 (ng/kg)	PCB 103 (ng/kg)	PCB 104 (ng/kg)	PCB 105 (ng/kg)	PCB 106 (ng/kg)	PCB 107 (ng/kg)	PCB 107/109/123 (ng/kg)	PCB 107/124 (ng/kg)	PCB 108/124 (ng/kg)	PCB 109 (ng/kg)	PCB 110/115 (ng/kg)	PCB 111/117 (ng/kg)	PCB 111 (ug/kg)	PCB 112 (ng/kg)	PCB 113 (ng/kg)	PCB 114 (ng/kg)	PCB 115 (ng/kg)	PCB 116 (ng/kg)	PCB 118 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
Invertebrates	22-Aug-2014	---	0.00174	---	2620	---	386	561	---	0.983	---	0.503 [#1]	---	---	---	---	---	4.79	< 0.295	1610	< 13.3	---	---	156	---	354	1960	---	0.00138 [#1]	16.3	---	108	---	---	4320
Edith Lake																																			
Brook Trout 1+	11-Aug-2009	7	---	367	---	28	55	< 16	---	< 10	51.5	< 6.5	24.2	< 10	73.0	< 8.5	< 7.7	< 7.8	< 16	35.7	< 3.5	---	14.1	---	---	---	102	3.4	---	< 2.9	< 3.7	< 3.7	< 3.3	< 3.6	125
	01-Sep-2011	4	---	331	---	52.3	63.1	< 2.0	---	< 2.0	127	< 3.0	61.2	< 3.0	179	5.9 [#1]	4.9 [#1]	< 4.0	< 3.0	49.9	< 2.0	---	22.1 [#1]	---	---	---	227	10.8	---	< 2.0	< 2.0	< 1.0	< 2.0	< 2.0	179
(Duplicate)	01-Sep-2011	4	---	431	---	56.2	90.3	< 6.0	---	< 6.0	181	< 7.0	76.3	< 6.0	330	< 5.0	7.4 [#1]	< 8.0	< 6.0	75.1	< 4.0	---	31.2	---	---	---	331	12.2	---	< 3.0	< 4.0	< 4.0	< 4.0	< 4.0	246
	01-Sep-2012	3	---	717	---	94.6	133	< 1.0	---	< 1.0	156	< 2.0	95.3	< 1.0	311	8.5 [#1]	5.7 [#1]	7.4	< 3.0	142	< 0.80	---	62.1	---	---	---	314	14.7	---	< 0.80	< 0.90	12.6	< 0.90	< 0.90	464
	22-Sep-2015	3	0.00414	---	1210	---	245	699	---	4.97	---	2.47	---	---	---	---	---	18.4	0.272	292	< 1.01	---	---	30.5	---	85.8	962	---	0.00281	< 0.31	---	18.8	---	---	818
	30-Aug-2016	2	0.00191	---	465	---	113	291	---	2.84	---	1.17	---	---	---	---	---	11.2	0.186	83.4	< 0.39	---	---	11.3	---	42.7	397	---	0.0016	< 0.134	---	5.14	---	---	272
	13-Sep-2017	3	0.0023	---	562	---	128	354	---	3.84	---	1.66	---	---	---	---	---	14.6	0.348	111	< 0.437	---	---	14.8	---	51.8	507	---	0.00279	< 0.169	---	6.57	---	---	368
	30-Aug-2018	3	0.00122 [#1]	---	306	---	67.5	176	---	1.96	---	0.679 [#1]	---	---	---	---	---	8.38	0.216 [#1]	66.2	< 0.65	---	---	8.68	---	32.3	258	---	0.00157 [#1]	< 0.275	---	4.16	---	---	212
(Replicate A)	06-Sep-2019	4	0.0013	---	367	---	81.6	213	---	2.34	---	0.753	---	---	---	---	---	9.1	0.211	94.1	< 0.502	---	---	9.6	---	33.4	312	---	0.00188	< 0.144	---	6.22	---	---	282
(Replicate B)	06-Sep-2019	4	0.00115	---	421	---	93.5	216	---	2.11	---	0.557	---	---	---	---	---	8.97	0.238	107	< 0.437	---	---	11.7	---	42.6	354	---	0.00273	< 0.25	---	7.65	---	---	328
	26-Aug-2020	7	0.00126 [#1]	---	289	---	70.8	181	---	1.94	---	0.741	---	---	---	---	---	7.57	0.175	68.6	< 0.227	---	---	7.48	---	24.3	261	---	0.00131 [#1]	< 0.105	---	4.37	---	---	224
	30-Sep-2021	8	< 0.00070	---	107	---	23.6	---	1.80	< 0.57	64.8	< 0.20	---	---	---	---	---	2.17	< 0.13	---	< 0.32	9.47	---	---	2.89	---	---	---	0.00055	< 0.36	---	---	---	---	---
	13-Oct-2022	2	< 0.0025	---	77.5	---	14.9	---	< 1.9	< 1.9	26.2	< 1.1	---	---	---	---	---	< 1.9	< 0.69	---	< 1.6	8.3	---	---	< 1.5	---	---	---	< 0.0014	< 1.3	---	---	---	---	---
	14-Sep-2023	2	< 0.00088	---	155	---	36.5	---	5.68	< 0.82	83.1	0.78	---	---	---	---	---	3.30	< 0.38	25.8	< 0.58	10.7	---	---	3.43	---	---	---	0.00081	< 0.52	---	1.80	---	---	90.2
Brook Trout 2+	11-Aug-2009	4	---	314	---	27	42	< 16	---	< 11	57.6	< 6.4	22.6	< 9.9	82.4	< 9.2	< 7.6	< 7.7	< 14	35.7	< 3.8	---	13.1	---	---	---	88.8	< 3.7	---	< 2.8	< 3.7	< 3.7	< 3.2	< 3.6	121
	11-Aug-2010	5	---	1600	---	58.6	215	< 2.1	---	< 1.9	382	< 2.4	233	< 2.2	565	< 1.6	6.1	14.4	< 2.5	466	< 1.5	---	163	---	---	---	931	35.8	---	< 1.3	< 1.5	23.3	< 1.4	< 1.5	1690
	01-Sep-2011	4	---	2560	---	95.3	408	< 4.0	---	< 4.0	525	< 5.0	366	< 4.0	857	< 3.0	10.6 [#1]	14.0	< 5.0	590	< 3.0	---	173	---	---	---	1250	45.0	---	< 2.0	< 3.0	28.3	13.1 [#1]	< 3.0	1830
	01-Sep-2012	3	---	2390	---	89.3	338	< 2.0	---	< 2.0	357	< 2.0	259	< 2.0	598	3.7 [#1]	8.5	8.6	< 3.0	554	< 1.0	---	159	---	---	---	894	34.3	---	< 1.0	< 1.0	34.6	19.3	< 1.0	1670
	01-Sep-2013	3	0.00211	---	3300	---	563	906	---	3.46	---	0.854	---	---	---	---	---	39.3	0.107	1050	< 2.51	---	---	74	---	325	2250	---	0.00882	< 0.115	---	56.2	---	---	3410
	21-Sep-2014	4	0.00151	---	2270	---	326	468	---	1.57	---	0.642	---	---	---	---	---	16.3	< 0.0959	455	< 1.46	---	---	33.4	---	101	1450	---	0.00348	< 0.343	---	24.2	---	---	1420
(Replicate A)	21-Sep-2014	1	0.00256	---	1830	---	292	488	---	1.76	---	0.692 [#1]	---	---	---	---	---	14.2	< 0.0565	405	< 1.14	---	---	33.2	---	76.8	1330	---	0.00243	< 0.192	---	24.6	---	---	1080
(Replicate B)	21-Sep-2014	1	0.000338 [#1]	---	311	---	49.5	84	---	0.522	---	0.095 [#1]	---	---	---	---	---	3.11	< 0.0579	59.3	< 0.232	---	---	5.1	---	13.5	208	---	0.000923	< 0.16	---	3.58	---	---	186
	22-Sep-2015	1	< 0.000157	---	97.3	---	13.6	24.9	---	< 0.165	---	< 0.0888	---	---	---	---	---	0.822	< 0.0825	33.4	< 0.285	---	---	2.61	---	8.3	53.8	---	0.000279	< 0.105	---	1.91	---	---	108
	30-Aug-2016	2	0.00168	---	1480	---	259	480	---	2.19	---	0.696	---	---	---	---	---	13.9	0.103	463	< 1.56	---	---	39.5	---	139	1050	---	0.00198	< 0.153	---	30.8	---	---	1450
	13-Sep-2017	3	< 0.00018	---	225	---	36.8	38.5	---	0.215 [#1]	---	< 0.076	---	---	---	---	---	2.18	< 0.0763	68.3	< 0.304	---	---	6.01	---	22.3	126	---	0.00106 [#1]	< 0.129	---	3.91	---	---	219
	30-Aug-2018	3	0.000593 [#1]	---	242	---	46.1	93.4	---	0.573 [#1]	---	< 0.275	---	---	---	---	---	4.86	0.065 [#1]	68.6	< 0.414	---	---	6.2	---	23.4	179	---	< 0.000275	< 0.275	---	4.22	---	---	229
(Replicate A)	06-Sep-2019	4	0.000221	---	129	---	24.1	37.5	---	0.236	---	< 0.0577	---	---	---	---	---	1.72	< 0.0577	40.4	< 0.317	---	---	3.61	---	12.7	87.9	---	0.000484	< 0.0711	---	3	---	---	127
(Replicate B)	06-Sep-2019	4	0.000302	---	229	---	46.1	75.6	---	0.719	---	0.22	---	---	---	---	---	3.4	0.074	72	< 0.123	---	---	7.22	---	21.8	167	---	0.000864	< 0.0567	---	4.94	---	---	215
	26-Aug-2020	2	0.000666	---	306	---	60.8	112	---	0.923	---	0.221 [#1]	---	---	---	---	---	5.47	0.114	87.8	< 0.277	---	---	< 0.298	---	28.6	226	---	0.00153	< 0.0585	---	5.33	---	---	294
	30-Sep-2021	10	< 0.00045	---	125	---	24.1	---	1.50	< 0.37	55.3	< 0.15	---	---	---	---	---	2.14	< 0.10	---	< 0.25	11.5	---	---	4.16	---	---	---	0.00076	< 0.23	---	---	---	---	---
	13-Oct-2022	8	0.00120	---	899	---	166	---	11.2	1.72	367	0.77	---	---	---	---	---	9.91	< 0.11	---	< 0.39	97.6	---	---	31.6	---	---	---	0.00402	< 0.41	---	---	---	---	---
	14-Sep-2023	3	< 0.00059	---	236	---	43.1	---	1.10	< 0.54	28.9	< 0.15	---	---	---	---	---	2.50	< 0.16	83.3	< 0.40	32.2	---	---	5.61	---	---	---	0.00174	< 0.35	---	4.40	---	---	350
Brook Trout 3+	11-Aug-2010	3	---	2100	---	63.3	327	< 2.0	---	< 1.8	523	< 2.3	281	< 2.1	745	< 1.5	7.9	24.7	< 2.2	519	< 1.5	---	219	---	---	---	1200	46.1	---	< 1.3	< 1.4	23.4	< 1.3	< 1.4	2140
	01-Sep-2011	3	---	2200	---	74.2	387	< 6.0	---	< 7.0	444	< 8.0	296	< 6.0	856	< 6.0	9.1	19 [#1]	< 10	453	< 5.0	---	183	---	---	---	1050	47.6	---	< 4.0	< 5.0	33.0	6.7	< 5.0	1810
	01-Sep-2012	5	---	3070	---	118	466	< 2.0	---	< 2.0	493	< 2.0	373	< 2.0	792	3.4 [#1]	9.9	13.5 [#1]	< 4.0	680	< 1.0	---	201	---	---	---	1200	42.4	---	< 1.0	< 1.0	41.4	22.0 [#1]	< 1.0	2100
(Replicate A)	01-Sep-2013	3	0.00191	---	4010	---	543	989	---	1.15	---	0.675	---	---	---	---	---	22.8	< 0.0634	1340	< 4.27	---	---	119	---	313	2740	---	0.00574	< 0.206	---	61.6	---	---	4090
(Duplicate)	01-Sep-2013	3	0.00139	---	3660	---	485	889	---	1.09	---	0.654	---	---	---	---	---	21.7	0.118	1170	< 4.59	---	---	107	---	273	2440	---	0.00565	< 0.0727	---	56.1	---	---	3600
(Replicate B)	01-Sep-2013	3	0.000993	---	3170	---	420	783	---	0.999	---	0.362	---	---	---	---	---	20.9	< 0.062	1180	< 5.23	---	---	103	---	296	2330	---	0.00633	< 0.173	---	52.6	---	---	3470
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	---	6280	---	166	838	< 5.0	---	< 5.0	788	< 5.0	566	< 6.0	1430	< 4.0	14.4 [#1]	23.1	< 10	1700	< 4.0	---	495	---	---	---	2980	89.4	---	< 3.0	< 4.0	75.0	51.5	< 4.0	5600
	21-Sep-2014	4	0.00128	---	2480	---	385	596	---	1.5 [#1]	---	0.615 [#1]	---	---	---	---	---	21.4	0.06 [#1]	847	< 3.92	---	---	74.3	---	243	1540	---	0.00473	< 0.229	---	45.7	---	---	2780
(Replicate A)	21-Sep-2014	1	0.00352	---	1310	---	214	558	---	2.63	---	1.48	---	---	---	---	---	12.2	0.078	543	< 1.96	---	---	53.2	---	125	1050	---	0.00145 [#1]	< 0.15	---	35.6	---	---	1390
(Replicate B)	21-Sep-2014	1	0.000446 [#1]	---	1530	---	204	207	---	0.721	---	0.084 [#1]	---	---	---	---	---	11.1	0.119 [#1]	519	< 3.39	---	---	37	---	137	791	---	0.0028 [#1]	< 0.195	---	25.5	---	---	1720
	22-Sep-2015	3	0.00137	---	1590	---	261	551	---	1.19	---	0.829	---	---	---	---	---	10.2	< 0.057	550	< 1.64	---	---	50.1	---	114	1110	---	0.00163	< 0.322	---	31.6	---	---	1500
(Duplicate)	22-Sep-2015	3	0.00134	---	1530	---	258	543	---	0.99	---	0.832	---	---	---	---	---	10.2	< 0.0837	512	< 2.43	---	---	47.0	---	108	1080	---	0.00141	< 0.363	---	28.8	---	---	1440
	30-Aug-2016	1	0.00103 [#1]	---	1440	---	246	465	---	0.861	---	0.432 [#1]	---	---	---	---	---	9.32	< 0.0576	592	< 1.55	---	---	41.6	---	144	1080	---	0.002	< 0.253	---	33.1	---	---	1750
	13-Sep-2017	3	0.000282 [#1]	---	656	---	94.6	116	---	< 0.166	---	< 0.09	---	---	---	---	---	3.17 [#1]	< 0.0876	263	< 0.693	---	---	19.2	---	57.7	362	---	0.00111	< 0.11	---	13.9	---	---	800

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 89 (ug/kg)	PCB 90/101 (ng/kg)	PCB 90/101/113 (ng/kg)	PCB 91 (ng/kg)	PCB 92 (ng/kg)	PCB 93/95/98/100/102 (ng/kg)	PCB 93/98/100/102 (ng/kg)	PCB 94 (ng/kg)	PCB 95 (ng/kg)	PCB 96 (ng/kg)	PCB 97 (ng/kg)	PCB 98 (ng/kg)	PCB 99 (ng/kg)	PCB 100 (ng/kg)	PCB 102 (ng/kg)	PCB 103 (ng/kg)	PCB 104 (ng/kg)	PCB 105 (ng/kg)	PCB 106 (ng/kg)	PCB 107 (ng/kg)	PCB 107/109/123 (ng/kg)	PCB 107/124 (ng/kg)	PCB 108/124 (ng/kg)	PCB 109 (ng/kg)	PCB 110/115 (ng/kg)	PCB 111/117 (ng/kg)	PCB 111 (ug/kg)	PCB 112 (ng/kg)	PCB 113 (ng/kg)	PCB 114 (ng/kg)	PCB 115 (ng/kg)	PCB 116 (ng/kg)	PCB 118 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																																			
(Duplicate)	13-Sep-2017	3	0.000193 [#1]	---	598	---	87.7	105	---	0.231 [#1]	---	< 0.0746	---	---	---	---	---	2.92	< 0.0776	234	< 0.545	---	---	18.6	---	56.8	330	---	0.00111	< 0.112	---	12.7	---	---	713
	30-Aug-2018	3	< 0.000285	---	191	---	30.6	47.1	---	< 0.285	---	< 0.285	---	---	---	---	---	2.13 [#1]	< 0.0491	65.6	< 0.616	---	---	5.16	---	18.3	118	---	0.000647	< 0.285	---	3.94	---	---	227
	06-Sep-2019	4	0.000207	---	240	---	43.7	60.2	---	0.442	---	0.085	---	---	---	---	---	2.25	0.098	81.3	< 0.925	---	---	7.2	---	31.9	156	---	0.000734	< 0.0883	---	6.15	---	---	272
(Duplicate)	06-Sep-2019	4	0.000271	---	249	---	42.4	68.7	---	0.365	---	0.101	---	---	---	---	---	2.68	< 0.0575	97	< 0.589	---	---	7.57	---	29.6	172	---	0.000874	< 0.0834	---	7.45	---	---	319
	26-Aug-2020	5	0.000269	---	220	---	44.9	59.5	---	0.419 [#1]	---	0.15	---	---	---	---	---	2.84	< 0.0573	83.3	< 0.291	---	---	7.64	---	18.7	144	---	0.000706	< 0.0645	---	5.24	---	---	253
(Duplicate)	26-Aug-2020	5	0.000554 [#1]	---	270	---	48.3	98.9	---	0.953	---	0.207	---	---	---	---	---	4.96	0.097 [#1]	73.9	< 0.227	---	---	7.28	---	24.4	196	---	0.0014	< 0.058	---	4.56	---	---	251
	30-Sep-2021	3	< 0.00097 [#4]	---	213 [#4]	---	39.6 [#4]	---	2.90 [#4]	< 0.77 [#4]	76.2 [#4]	< 0.53 [#4]	---	---	---	---	---	< 0.74 [#4]	< 0.35 [#4]	---	< 0.77 [#4]	16.2 [#4]	---	---	---	6.70 [#4]	---	---	---	< 0.00057 [#4]	< 0.52 [#4]	---	---	---	---
	13-Oct-2022	8	< 0.00062	---	236	---	48.9	---	1.20	0.79	73.7	< 0.21	---	---	---	---	---	3.70	< 0.14	---	< 0.47	23.6	---	---	---	6.56	---	---	---	0.00100	< 0.32	---	---	---	---
	14-Sep-2023	5	< 0.0012	---	365	---	65.0	---	3.7	< 1.1	67.7	< 0.40	---	---	---	---	---	4.5	< 0.35	126	< 1.1	39.7	---	---	---	10.0	---	---	---	0.00251	< 0.73	---	6.5	---	---	474
(Duplicate)	14-Sep-2023	5	< 0.0034	---	391	---	70.1	---	5.2	< 3.2	70.5	< 0.49	---	---	---	---	---	3.8	< 0.52	132	< 1.3	41.1	---	---	---	11.4	---	---	---	0.0025	< 2.0	---	6.0	---	---	497
Brook Trout 4+	04-Oct-2006	5	---	6200	---	210	1000	< 0.20	---	< 0.20	1000	0.85	800	2.6	2000	< 0.20	< 0.20	29	< 0.40	1700	< 0.20	---	650	---	---	---	3000	94	---	< 0.10	< 0.10	93	< 0.10	< 0.20	5600
	01-Sep-2011	2	---	6420	---	272	1030	< 5.0	---	< 5.0	1760	< 7.0	1040	< 5.0	2440	12.0 [#1]	37.1 [#1]	50.7	< 6.0	1430	< 3.0	---	477	---	---	---	3580	112	---	< 3.0	< 4.0	78.1	36.0	< 3.0	4800
	01-Sep-2013	2	0.00392	---	4820	---	680	1350	---	2	---	1.15	---	---	---	---	---	23.2	< 0.0542	1720	< 5.75	---	---	143	---	379	3490	---	0.00459	< 0.213	---	91.4	---	---	4630
	21-Sep-2014	1	0.0013 [#1]	---	3870	---	582	1040	---	1.58	---	0.604	---	---	---	---	---	41	< 0.0556	1080	< 4.23	---	---	103	---	340	2310	---	0.00884	< 0.113	---	53.5	---	---	3640
(Replicate A)	23-Sep-2015	1	0.000937	---	1980	---	382	628	---	2.39	---	0.915	---	---	---	---	---	22.8	< 0.0562	631	< 0.31	---	---	44.6	---	183	1330	---	0.00495	< 0.24	---	38.3	---	---	2050
(Replicate B)	22-Sep-2015	1	0.00168	---	3130	---	470	877	---	1.82	---	0.918	---	---	---	---	---	20.8	< 0.0716	1140	< 5.95	---	---	87.1	---	244	2060	---	0.00361	< 0.481	---	55.1	---	---	3310
	30-Aug-2016	1	0.000855	---	1420	---	257	419	---	0.948	---	0.488	---	---	---	---	---	11.3	< 0.057	595	< 1.42	---	---	34.2	---	148	1010	---	0.00198 [#1]	< 0.198	---	29.9	---	---	1820
	13-Sep-2017	1	0.000483 [#1]	---	768	---	113	204	---	0.375	---	0.152	---	---	---	---	---	3.85	< 0.0675	325	< 0.599	---	---	22.5	---	66.7	587	---	0.0013	< 0.151	---	16.2	---	---	931
	30-Aug-2018	1	< 0.000316	---	456	---	72.8	78.6	---	< 0.321	---	< 0.278	---	---	---	---	---	3.37	< 0.0479	168	< 0.583	---	---	12.6	---	43.3	240	---	0.000824 [#1]	< 0.278	---	11.4	---	---	538
	26-Aug-2020	2	0.00018 [#1]	---	219	---	37.8	62.6	---	0.607	---	0.225 [#1]	---	---	---	---	---	3.03 [#1]	< 0.0576	74.4	< 0.209	---	---	6.94	---	19.2	140	---	0.000713	< 0.0576	---	4.06	---	---	244
	14-Sep-2023	5	< 0.0011	---	264	---	41.1	---	2.20	< 0.99	39.9	< 0.41	---	---	---	---	---	2.00	< 0.41	102	< 0.83	26.6	---	---	7.98	---	---	---	0.00140	< 0.63	---	4.28	---	---	357
Brook Trout 5+	04-Oct-2006	4	---	1700	---	46	300	< 0.20	---	< 0.20	290	< 0.20	210	< 0.20	530	1.4	< 0.10	< 0.20	< 0.30	490	< 0.10	---	160	---	---	---	790	27	---	< 0.10	< 0.10	< 0.20	< 0.10	< 0.10	1600
	01-Sep-2011	2	---	3000	---	81.5	453	< 4.0	---	< 4.0	626	< 6.0	397	< 4.0	1180	5.0 [#1]	11.1	29.5	< 5.0	678	< 3.0	---	245	---	---	---	1490	57.3	---	< 3.0	< 3.0	32.3 [#1]	< 3.0	< 3.0	2440
	01-Sep-2013	1	0.00185	---	2510	---	367	762	---	1.38	---	0.668	---	---	---	---	---	17.2	< 0.152	964	< 4.7	---	---	82.2	---	224	1870	---	0.00396	< 0.251	---	45.7	---	---	2830
	21-Sep-2014	1	0.000836 [#1]	---	2630	---	425	500	---	0.866	---	0.231 [#1]	---	---	---	---	---	22.3	< 0.057	820	< 5.34	---	---	67.4	---	242	1280	---	0.0038	< 0.119	---	48.2	---	---	2650
	30-Aug-2016	1	0.00157 [#1]	---	5640	---	964	1060	---	< 0.192	---	0.494	---	---	---	---	---	45.9	< 0.0692	2010	< 3.59	---	---	167	---	590	3480	---	0.0107	< 0.124	---	101	---	---	6360
(Duplicate)	30-Aug-2016	1	0.0015	---	5920	---	967	1090	---	2.11	---	0.521	---	---	---	---	---	47.4	< 0.0555	2030	< 4.33	---	---	172	---	632	3520	---	0.0109	< 0.278	---	102	---	---	6470
	30-Sep-2021	1	< 0.00089	---	269	---	50.0	---	1.50	< 0.73	71.9	< 0.18	---	---	---	---	---	3.04	< 0.12	---	< 0.40	24.4	---	---	8.57	---	---	---	0.00110	< 0.46	---	---	---	---	---
Brook Trout 6+	14-Sep-2023	3	< 0.00067	---	381	---	51.1	---	4.00	< 0.62	67.0	< 0.20	---	---	---	---	---	3.19	< 0.16	116	< 0.71	31.2	---	---	12.1	---	---	---	0.00150	< 0.39	---	5.23	---	---	429
Brook Trout 11+	11-Sep-2007	2	---	1100	---	23	160	< 2.1	---	< 2.0	160	< 1.5	88	< 2.1	300	< 1.7	< 1.7	8.0	< 2.2	320	< 1.4	---	120	---	---	---	460	25	---	< 1.5	< 1.6	12	< 1.4	< 1.6	1200
Brook Trout 12+	11-Sep-2007	3	---	660	---	18	87	< 1.9	---	< 1.9	88	< 1.4	57	< 2.0	200	< 1.6	< 1.6	3.5	< 2.1	240	< 1.3	---	82	---	---	---	270	15	---	< 1.4	< 1.4	8.5	< 1.3	< 1.5	800
Brook Trout Unknown	23-Jul-2008	2	---	240	---	38	51	< 1.0	---	1.0	100	1.6	58	< 1.0	150	3.2	2.6	3.9	< 1.0	350	< 0.60	---	35	---	---	---	240	8.3	---	< 0.60	1.4	8.5	< 0.60	< 0.70	230
(Replicate A)	23-Jul-2008	2	---	340	---	52	67	< 1.2	---	< 1.2	77	< 1.0	33	< 1.2	110	2.5	2.5	3.2	< 2.1	48	< 0.80	---	22	---	---	---	160	5.0	---	< 0.70	1.3	2.2	< 0.70	< 0.80	130
(Replicate B)	23-Jul-2008	2	---	240	---	17	35	< 0.90	---	< 0.90	64	< 0.70	28	< 0.90	92	1.2	1.2	2.2	< 1.0	69	< 0.60	---	26	---	---	---	140	5.2	---	< 0.60	0.75	2.8	< 0.60	< 0.70	230
(Replicate C)	23-Jul-2008	2	---	180	---	27	38	< 0.90	---	< 0.80	73	1.9	30	< 0.90	100	2.2	1.7	3.6	< 1.0	40	< 0.50	---	20	---	---	---	120	4.7	---	< 0.50	1.1	2.2	< 0.50	< 0.60	120
Brook Trout (Stomach) 1+	01-Sep-2012	3	---	123	---	15.4	19.9 [#1]	< 5.0	---	< 5.0	48.8 [#1]	< 7.0	24.3	< 6.0	49.7	< 5.0	< 5.0	< 8.0	< 9.0	32.5	< 3.0	---	10.5	---	---	---	64.3 [#1]	< 3.0	---	< 3.0	< 4.0	< 4.0	< 4.0	< 4.0	84.1
Brook Trout (Stomach) 2+	01-Sep-2012	3	---	26.5	---	< 0.60	3.78	< 0.50	---	< 0.50	8.81	< 0.60	3.39	< 0.50	6.62	< 0.40	< 0.40	< 0.70	< 0.90	6.34	< 0.30	---	2.20 [#1]	---	---	---	12.4	< 0.30	---	< 0.30	< 0.30	< 0.40	< 0.40	< 0.30	21.2
Brook Trout (Stomach) 3+	01-Sep-2012	5	---	38600	---	1170	6330	< 1.0	---	21.0	9590	19.8	5270	23.7	9910	35.3	156	161	< 3.0	11300	< 0.90	---	3150	---	---	---	20500	731	---	< 0.90	< 1.0	634	315	< 1.0	35300
(Re-analysis)	01-Sep-2012	5	---	60000	---	2960	10100	34.5	---	39.5	23000	49	11000	38.9	16400	42.3	259	198	< 20	26500	< 4.0	---	6230	---	---	---	50400	1470	---	< 4.0	69.9	1190	795	< 5.0	65000
Certified Reference Materials																																			
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WMF-01-CRM	04-Oct-2006	---	---	120000	---	10000	37000	130	---	130	19000	29	23000	< 0.60	58000	310	330	280	2.0	53000	< 0.50	---	23000	---	---	---	73000	< 0.50	---	< 0.30	< 0.40	3800	< 0.40	< 0.40	130000
	11-Sep-2007	---	---	160000	---	14000	37000	< 16	---	160	22000	39	26000	57	76000	360	440	310	< 21	46000	< 10	---	19000	---	---	---	78000	5500	---	7200	760	3600	< 11	< 13	120000
	23-Jul-2008	---	---	110000	---	9500	25000	< 8.5	---	170	21000	52	23000	61	69000	360	420	390	< 9.8	47000	< 5.3	---	19000	---	---	---	79000	4600	---	< 5.2	330	3300	< 5.1	< 5.9	130000
	11-Aug-2009	---	---	151000	---	13400	39400	< 370	---	< 210	30200	< 150	29900	< 230	89100	470	530	450	< 170	41900	< 72	---	19400	---	---	---	111000	5610	---	< 67	316	3320	< 76	< 85	131000
	11-Aug-2010	---	---	107000	---	11000	32200	< 19	---	197	31200	86	37000	< 20	83100	454	646	664	< 19	48400	< 11	---	21500	---	---	---	100000	6130	---	< 12	397	3300	< 13	< 14	126000

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 89 (ug/kg)	PCB 90/101 (ng/kg)	PCB 90/101/113 (ng/kg)	PCB 91 (ng/kg)	PCB 92 (ng/kg)	PCB 93/95/98/100/102 (ng/kg)	PCB 93/98/100/102 (ng/kg)	PCB 94 (ng/kg)	PCB 95 (ng/kg)	PCB 96 (ng/kg)	PCB 97 (ng/kg)	PCB 98 (ng/kg)	PCB 99 (ng/kg)	PCB 100 (ng/kg)	PCB 102 (ng/kg)	PCB 103 (ng/kg)	PCB 104 (ng/kg)	PCB 105 (ng/kg)	PCB 106 (ng/kg)	PCB 107 (ng/kg)	PCB 107/109/123 (ng/kg)	PCB 107/124 (ng/kg)	PCB 108/124 (ng/kg)	PCB 109 (ng/kg)	PCB 110/115 (ng/kg)	PCB 111/117 (ng/kg)	PCB 111 (ug/kg)	PCB 112 (ng/kg)	PCB 113 (ng/kg)	PCB 114 (ng/kg)	PCB 115 (ng/kg)	PCB 116 (ng/kg)	PCB 118 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Materials - Continued																																			
	01-Sep-2011	---	---	125000	---	12500	35400	270	---	266	36000	81	37900	< 20	93300	585	663	550	< 30	49200	< 20	---	21200	---	---	---	105000	7240	---	< 10	537	2980	2310	< 20	128000
	01-Sep-2012	---	---	146000	---	13900	42200	165	---	166	22000	45	28100	74	63900	376	443	355	< 30	43000	< 8.0	---	19800	---	---	---	64100	5130	---	< 7.0	319	3420	< 9.0	< 8.0	115000
NIST SRM 1946	11-Oct-2013	---	---	---	38500	---	---	12600	---	---	---	---	---	---	---	---	---	---	---	21000	---	---	---	2270	---	---	26700	---	---	---	---	---	---	---	---	55300
	31-Aug-2016	---	---	---	32500	---	---	11800	---	---	---	---	---	---	---	---	---	---	---	19800	---	---	---	2090	---	---	24700	---	---	---	---	---	---	---	---	53800
	03-Nov-2018	---	---	---	34300	---	---	10500	---	---	---	---	---	---	---	---	---	---	---	18600	---	---	---	2170	---	---	23500	---	---	---	---	---	---	---	---	50500
EDF-2524	15-Oct-2014	---	---	---	1010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	224	---	---	---	---	---	---	727	---	---	---	---	15	---	---	580
CRM EDF2524	23-Sep-2015	---	---	---	1090	---	---	---	---	---	---	---	---	---	---	---	---	---	---	278	---	---	---	---	---	---	785	---	---	---	---	18.3	---	---	695
CRM EDF-5462	13-Oct-2022	---	< 0.0046	---	874	---	112	---	< 3.6	< 3.8	241	< 1.8	---	---	---	---	---	< 3.7	38.2	---	< 3.3	121	---	---	29.4	---	---	---	0.0392	< 2.4	---	---	---	---	---
	15-Nov-2023	---	< 0.0063	---	832	---	114	---	< 5.1	< 5.9	165	< 2.4	---	---	---	---	---	< 5.2	35.1	823	< 5.7	118	---	---	29.3	---	---	---	0.0420	< 3.7	---	86.8	---	---	1860

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript $^{\#1}$ - EMPC
9. Superscript $^{\#2}$ - RRR
10. Superscript $^{\#3}$ - lock mass intereference (lab qualifier originally G)
11. Superscript $^{\#4}$ - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript $^{\#5}$ - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 120 (ng/kg)	PCB 121 (ng/kg)	PCB 122 (ng/kg)	PCB 123 (ng/kg)	PCB 124 (ng/kg)	PCB 126 (ng/kg)	PCB 127 (ng/kg)	PCB 128/162 (ng/kg)	PCB 128/166 (ng/kg)	PCB 129/138/160/163 (ng/kg)	PCB 129/138/163 (ng/kg)	PCB 129/158 (ng/kg)	PCB 130 (ng/kg)	PCB 131 (ng/kg)	PCB 131/133/142 (ng/kg)	PCB 132 (ng/kg)	PCB 133 (ng/kg)	PCB 134/143 (ng/kg)	PCB 135/151 (ng/kg)	PCB 135/151/154 (ng/kg)	PCB 136 (ng/kg)	PCB 137 (ng/kg)	PCB 137/164 (ng/kg)	PCB 138 (ng/kg)	PCB 139/140 (ng/kg)	PCB 139/143 (ng/kg)	PCB 140 (ng/kg)	PCB 141 (ng/kg)	PCB 142 (ug/kg)	PCB 144 (ng/kg)	PCB 145 (ng/kg)	PCB 146 (ng/kg)	PCB 147/149 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																																			
Brook Trout 0+	04-Oct-2006	10	11	---	< 0.10	---	4.7	< 0.10	< 0.10	< 0.10	---	---	---	27	19	---	8.1	65	---	7.5	---	55	42	7.6	---	350	---	< 0.20	< 0.10	28	---	11	< 0.10	150	290
	11-Sep-2007	10	9.9	---	2.4	---	3.7	< 1.1	< 1.0	38	---	---	---	41	27	---	11	49	---	7.2	---	42	25	10	---	270	---	3.0	2.0	32	---	9.6	< 0.90	110	210
	23-Jul-2008	10	6.0	---	1.5	---	2.2 [#1]	< 0.80	< 0.70	18	---	---	---	15	9.5	---	5.4	22	---	4.1	---	19	11	5.0	---	110	---	1.3	0.94	15	---	5.6	< 0.40	53	110
(Duplicate)	23-Jul-2008	10	7.0	---	1.7	---	2.4	< 0.80	< 0.70	19	---	---	---	17	9.1	---	6.9	31	---	5.1	---	21	12	6.0	---	120	---	1.5	1.2	18	---	6.2	< 0.40	60	130
	11-Aug-2009	10	< 12	---	< 6.4	---	< 7.5	< 6.1	< 4.1	21.6	---	---	---	11.5	< 3.5	---	< 16	19	---	< 17	---	< 13	10.9	< 6.0	---	147	---	< 16	< 13	18.8	---	< 11	< 12	37	106
	11-Aug-2010	10	8.4	---	< 1.1	---	3.4	< 0.80	< 0.70	25.8	---	---	---	13.0	8.1	---	7.1	30.4	---	6.2	---	9.3	6.21	4.8	---	143	---	< 1.7	< 1.6	21.1	---	2.8	< 1.1	33.5	114
	01-Sep-2011	10	23.6	---	< 2.0	---	10.3	< 2.0	< 2.0	72.7	---	---	---	39.9	33.5	---	19.1	95.9	---	< 5.0	---	53.1	29.1 [#1]	15.6 [#1]	---	408	---	< 4.0	< 3.0	43.1	---	12.3	< 3.0	132	331
	01-Sep-2012	10	19.0 [#1]	---	< 1.0	---	6.84 [#1]	< 0.70	< 0.60	51.3	---	---	---	32.0	27.2	---	13.7	48.6	---	9.0	---	46.1	23.9	10.9	---	339	---	2.9 [#1]	3.3 [#1]	36.3	---	9.7	< 1.0	93.7	242
	01-Sep-2013	10	5.68	0.728	2.99	5.88	---	0.542	1.16	---	71.5	567	---	---	39.1	3.55	---	119	20.3	18.5	---	239	44.2	18.9	---	---	11.7	---	---	64.3	< 0.000331	18.3	< 0.0625	191	469
	21-Sep-2014	12	3.04	0.496 [#1]	1.1	2.4	---	0.74	0.438	---	48.7	356	---	---	22.2	1.8	---	63.7	11.4	11.8	---	126	24.8	12.5	---	---	7.11	---	---	37.4	< 0.000613	10.3	0.13	86.5	266
	22-Sep-2015	11	6.46	0.902	2.51	5.97	---	0.669 [#1]	1.12	---	105	726	---	---	46.9	3.91	---	148	27.1	22.3	---	278	56.9	22.6	---	---	13.4	---	---	76.9	< 0.00238	20.5	< 0.0622	211	566
	30-Aug-2016	10	3.32	0.542	1.2	2.41	---	0.52	0.565	---	46.7	351	---	---	21.7	2.23	---	78.3	13.3	10.5	---	138	29.2	8.96	---	---	7.63	---	---	37.9	< 0.000377	10.9	< 0.0551	113	305
	30-Aug-2018	10	2.08	0.445 [#1]	0.583 [#1]	1.37	---	0.332 [#1]	< 0.283	---	41.6	225	---	---	14.1	0.986 [#1]	---	38.4	8.39	7.52	---	80.1	15.9	7.04	---	---	4.3	---	---	20.9	< 0.00019	6	< 0.0658	72.6	165
	06-Sep-2019	10	1.58	0.269	0.536	1.45	---	< 0.299	0.268	18.4	---	157	---	---	9.32	0.648	---	26.2	5.64	4.29	---	49.2	8.74	5	---	---	2.7	---	---	13.6	< 0.000454	3.91	< 0.0574	42.6	105
	26-Aug-2020	11	1.52	0.251	0.366	1.43	---	0.331	0.38	---	19.1	168	---	---	9.97	1.06	---	30.2	6	5.72	---	60.2	11.3	4.69	---	---	2.96	---	---	15	< 0.000177	4.88	< 0.0573	44.8	104
	30-Sep-2021	10	0.57	< 0.19	< 0.25	---	---	---	< 0.20	---	3.46	---	33.1	---	1.58	< 0.22	---	3.00	1.11	0.43	7.77	---	1.44	---	2.05	---	0.34	---	---	2.10	< 0.00022	0.53	< 0.066	7.84	14.1
	13-Oct-2022	10	0.88	< 0.47	2.00	---	---	---	< 0.45	---	8.96	---	92.4	---	5.96	2.50	---	38.2	2.95	12.2	77.6	---	52.5	---	8.40	---	3.78	---	---	11.5	< 0.00027	10.9	0.22	20.9	113
Chrystina Lake																																			
Brook Trout 1+	11-Aug-2009	8	23.1	---	< 1.4	---	9.5	2.3	< 1.1	71.3	---	---	---	87.9	42.8	---	16.3	101	---	21.2	---	56.1	33.9	25.6	---	610	---	4.2 [#1]	2.6 [#1]	133	---	22.6	< 1.5	122	435
	01-Sep-2011	5	37.3	---	10.4	---	20.8	3.8	< 2.0	134 [#1]	---	---	---	132	64.1	---	38.3	239	---	34.7 [#1]	---	93.7	34.5	44.7 [#1]	---	967	---	5.6 [#1]	< 4.0	193	---	39.3	< 4.0	209	606
	01-Sep-2012	4	152	---	29.0	---	71.8	9.6	< 0.80	345	---	---	---	357	148	---	81.5	384	---	90.5	---	247	139	123	---	2300	---	26.7	16.2	400	---	91.4	< 1.0	467	1470
(Replicate A)	01-Sep-2013	1	3.54	0.228	3.79	6.25	---	2.83	1.31	---	74.1	611	---	---	35.5	3.82	---	112	12.7	18.8	---	187	29.7	25.9	---	---	9.98	---	---	102	< 0.00074	23.4	< 0.213	130	382
(Replicate B)	01-Sep-2013	1	3.8	0.283	4	7.61	---	2.38	1.12	---	91.1	711	---	---	40.7	3.53	---	120	15.1	19.5	---	207	30.1	30.4	---	---	10.8	---	---	113	< 0.000496	23.7	< 0.0862	154	394
	23-Sep-2015	1	70.6	5.33	37.1	66.3	---	15.9 [#1]	12.1	---	848 [#3]	7100	---	---	405	37.3	---	1090	233	262	---	2700	377	263	---	---	134	---	---	1150	< 0.00562	212	0.835	2130	4670
	31-Aug-2016	2	7.35	0.897	3.77	6.59	---	2.29	1.16	---	127	1000	---	---	63.6	4.96	---	199	35.8	27.7	---	310	50.9	31.3	---	---	20.3	---	---	114	< 0.000887	25.2	< 0.0672	300	637
	12-Sep-2017	3	6.02	0.577	3.25	7.25	---	2.16	1.03 [#1]	---	101	855	---	---	47.7	3.61	---	121	20.8	19.6	---	261	40.4	36.9	---	---	13.7	---	---	122	< 0.000557	23.5	0.071 [#1]	180	448
	29-Aug-2018	3	4.62	0.302 [#1]	4.14	5.06	---	2.71	0.919	---	118	700	---	---	44.8	3.58	---	137	17.4	23.3	---	220	34	26.7	---	---	12	---	---	106	< 0.00037	25.4	0.143 [#1]	173	504
(Replicate A)	05-Sep-2019	4	6.48	0.687	3.24	6.86	---	1.39	1.5	96.5	---	790	---	---	48.7	3.31	---	140	24.2	21	---	226	37.8	23.8	---	---	12	---	---	93.5	< 0.000677	19.8	< 0.057	203	472
(Replicate B)	05-Sep-2019	4	7.71	0.929	3.04	6.62	---	1.5	1.58	95.9	---	832	---	---	50.3	3.47	---	145	25.3	22.2	---	268	41.9	27.1	---	---	13.8	---	---	97.4	< 0.00095	22.5	0.082	229	526
	25-Aug-2020	7	5.25	0.456	3.04	8.29	---	2.41	1.7	---	88.1	748	---	---	41.5	3.43	---	105	19.5	18	---	239	32.9	31.8	---	---	12.4	---	---	112	< 0.000706	25.3	0.087 [#1]	172	388
	29-Sep-2021	8	16.6	0.90	19.0	---	---	---	3.10	---	245	---	2210	---	114	12.9	---	321	56.1	69.9	993	---	134	---	167	---	30.8	---	---	329	< 0.00054	105	< 0.17	427	1170
	12-Oct-2022	8	4.0	< 2.4	9.6	---	---	---	< 3.2	---	118	---	1090	---	50.8	< 2.2	---	106	22.6	23.0	361	---	32.8	---	83.1	---	12.0	---	---	173	< 0.0022	32.8	< 0.50	190	460
	13-Sep-2023	5	4.2	< 1.3	7.4	5.3	---	2.19	< 1.4	---	68.3	---	569	---	25.0	2.2	---	71.7	12.0	10.0	133	---	17.3	---	37.0	---	6.5	---	---	92.2	< 0.0013	16.2	< 0.26	103	210
Brook Trout 2+	11-Aug-2009	3	62.3	---	35.0	---	41.7	10.0	2.9 [#1]	291	---	---	---	412	200	---	113	379	---	86.8 [#1]	---	215	94.1	117	---	2900	---	19.0	20.5	554	---	89.8	< 2.1	849	1680
	11-Aug-2010	5	114	---	49.6	---	105	15.3	< 1.2	664	---	---	---	650	207	---	114	651	---	134	---	202	86.9	194	---	4780	---	66.3	23.7	1200	---	119	< 1.7	802	2490
	12-Aug-2010	3	264	---	103	---	207	24.2	8.3	1150	---	---	---	1700	677	---	279	1220	---	349	---	709	360	436	---	10300	---	111	70.2	2820	---	374	< 2.3	1840	6150
	01-Sep-2011	4	627	---	219	---	579	62.6	< 5.0	3570	---	---	---	3930	1740	---	1110	6610	---	1300	---	3070	1360	1340	---	28200	---	407	291	6330	---	1320	< 7.0	7750	21800
(Replicate)	01-Sep-2011	4	---	---	---	---	---	85.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	88.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	143	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	82.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	141	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2011	4	1040	---	278	---	778	76.4	< 4.0	3980	---	---	---	5520	2270	---	1120	6440	---	1400	---	4080	2030	1810	---	34100	---	522	343	8420	---	1680	< 6.0	8640	27500
	01-Sep-2012	4	74.0	---	22.4	---	50.3	6.73	2.42	287	---	---	---	323	94.8	---	61.6	238	---	62.3	---	176	75.5	102	---	2130	---	18.9	15.2 [#1]	396	---	74.8	< 1.0	442	1090
	01-Sep-2013	4	14.7	0.452	19.6	43.2	---	10.9	6.46	---	515	4140	---	---	218	18.7	---	609	67.3	109	---	1010	127	198	---	---	63.4	---	---	698	< 0.00124	131	0.349	774	1990
	22-Sep-2014	4	13	0.221 [#1]	15	53.5	---	12.6	5.87	---	591	4260	---	---	208	16.7	---	515	68.6	108	---	952	< 0.0579	175	---	---	60.6	---	---	702	< 0.0018	122	0.409 [#1]	763	1860
(Replicate A)	22-Sep-2014	1	4.55	0.153 [#1]	7.85	16.3	---	4.8	2.03	---	214	1510	---	---	75.4	8.27	---	218	22.8	40.5	---	353	50.5	66.6	---	---	22.5	---	---	260	< 0.000508	49.6	0.143 [#1]	252	746
(Replicate B)	22-Sep-2014	1	6.45	0.257 [#1]	8.17	21.1	---	5.55	2.22	---	242	1710	---	---	87.1	8.48	---	216	26.8	39.4	---	391	50.4	68.3	---	---	24.1	---	---	300	< 0.000729	54.9	0.215	306	732
	23-Sep-2015	4	20.2	1.06	28.1	55.3	---	14.2 [#1]	8.33	---	773	5880	---	---	272	29.5	---	704	88.9	159	---	1510	222	279	---	---	85.4	---	---	1040	< 0.00229	175	0.594	1040	3170

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 120 (ng/kg)	PCB 121 (ng/kg)	PCB 122 (ng/kg)	PCB 123 (ng/kg)	PCB 124 (ng/kg)	PCB 126 (ng/kg)	PCB 127 (ng/kg)	PCB 128/162 (ng/kg)	PCB 128/166 (ng/kg)	PCB 129/138/160/163 (ng/kg)	PCB 129/138/163 (ng/kg)	PCB 129/158 (ng/kg)	PCB 130 (ng/kg)	PCB 131 (ng/kg)	PCB 131/133/142 (ng/kg)	PCB 132 (ng/kg)	PCB 133 (ng/kg)	PCB 134/143 (ng/kg)	PCB 135/151 (ng/kg)	PCB 135/151/154 (ng/kg)	PCB 136 (ng/kg)	PCB 137 (ng/kg)	PCB 137/164 (ng/kg)	PCB 138 (ng/kg)	PCB 139/140 (ng/kg)	PCB 139/143 (ng/kg)	PCB 140 (ng/kg)	PCB 141 (ng/kg)	PCB 142 (ug/kg)	PCB 144 (ng/kg)	PCB 145 (ng/kg)	PCB 146 (ng/kg)	PCB 147/149 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	31-Aug-2016	2	15.9	0.738	17.5	52.7	---	19.7	10.5	---	847	5730	---	---	322	17.9	---	528	107	108	---	1020	129	326	---	---	61.2	---	---	631	< 0.0031	134	0.318 [#1]	1230	2130
(Replicate A)	12-Sep-2017	3	9.84	0.753 [#1]	7.06	17.5	---	5.28	2.43	---	234	2050	---	---	102	6.36	---	219	42.3	40.3	---	521	57.2	94.2	---	---	29.4	---	---	324	< 0.00167	58.8	0.129 [#1]	386	815
(Replicate B)	12-Sep-2017	1	7.37	0.52 [#1]	5.55	13.5	---	4.16	1.99	---	202	1690	---	---	86.1	4.82	---	172	34.9	30.4	---	393	40.8	73.5	---	---	24.7	---	---	255	< 0.000367	44.6	0.079 [#1]	321	615
	29-Aug-2018	3	12.8	0.957 [#1]	9.98	25.4	---	7.54	3.52 [#1]	---	507	3240	---	---	159	9.68	---	424	67.6	84.3	---	883	96.3	141	---	---	50.6	---	---	541	< 0.000371	101	< 0.0636	749	1720
(Replicate A)	05-Sep-2019	4	9.84	0.316	7.97	17.8	---	6.04	2.82	182	---	1570	---	---	88.6	7.28	---	230	30.3	37.2	---	385	52.9	58.2	---	---	20.2	---	---	268	< 0.000761	48.4	0.182	317	790
(Replicate B)	05-Sep-2019	4	9.87	0.386	8.08	20.5	---	5.81	2.97	220	---	1850	---	---	94.4	6.68	---	213	32.5	35.2	---	399	49.6	68.9	---	---	23.5	---	---	294	< 0.00058	49.4	0.193	353	774
(Replicate A)	25-Aug-2020	7	9.8	0.628	6.82 [#1]	16.8	---	6.56	< 0.546	---	200	1810	---	---	85.9	6.3	---	205	36.9	36.4	---	468	54.5	79.9	---	---	26.2	---	---	272	< 0.000931	52.4	0.22 [#1]	349	681
(Replicate B)	25-Aug-2020	7	9.7	0.718	5.77	15.2	---	4.71	< 0.586	---	171	1490	---	---	78.8	6.49	---	200	36.2	37.7	---	463	55.6	63.3	---	---	23.6	---	---	250	< 0.000923	51.2	0.132	324	706
	29-Sep-2021	10	17.7 [#4]	0.99 [#4]	16.8 [#4]	---	---	---	3.60 [#4]	---	279 [#4]	---	2540 [#4]	---	125 [#4]	7.93 [#4]	---	291 [#4]	62.9 [#4]	58.9 [#4]	966 [#4]	---	93.3 [#4]	---	178 [#4]	---	32.4 [#4]	---	---	365 [#4]	< 0.00033 [#4]	100 [#4]	< 0.084 [#4]	495 [#4]	1140 [#4]
	12-Oct-2022	9	35.5	2.46	34.1	---	---	---	5.90	---	502	---	4730	---	230	13.5	---	489	138	116	1750	---	169	---	337	---	59.6	---	---	639	< 0.00088	163	0.56	1010	2080
	13-Sep-2023	5	9.9	< 1.5	14.0	16.0	---	5.14	< 1.1	---	172	---	1460	---	62.5	3.7	---	146	32.8	16.8	278	---	22.1	---	91.8	---	17.2	---	---	222	< 0.0018	33.8	< 0.31	295	465
Brook Trout 3+	04-Oct-2006	3	< 0.10	---	< 0.10	---	< 0.10	< 0.10	< 0.10	< 0.10	---	---	---	540	170	---	< 0.10	240	---	< 0.10	---	270	130	45	---	2300	---	1.1	< 0.10	350	---	56	< 0.10	710	1000
	11-Aug-2010	5	74.3	---	40.7	---	78.8	10.5	< 1.1	490	---	---	---	525	187	---	94.7	426	---	93.4	---	139	55.0	155	---	3800	---	42.2	17.6	891	---	86.6	< 1.5	688	1650
(Duplicate)	11-Aug-2010	5	74.7	---	< 1.8	---	78.6	8.4 [#1]	< 1.1	482	---	---	---	515	180	---	96.4	379	---	91.8	---	130	51.1	152	---	3730	---	48.2	20.0	942	---	81.5	< 1.4	668	1700
(Replicate A)	12-Aug-2010	4	170	---	60.1	---	123	16.4	5.6 [#1]	586	---	---	---	904	344	---	165	778	---	189	---	414	220	248	---	5720	---	54.0	27.8	1370	---	203	< 2.2	1130	3390
(Replicate A)	01-Sep-2012	1	30.0	---	13.3	---	31.8	4.77 [#1]	1.53 [#1]	192	---	---	---	225	81.1	---	37.9	111	---	36.3	---	108	42.4	70.1	---	1420	---	12.9	10.6	271	---	52.7 [#1]	< 0.70	313	675
(Duplicate)	01-Sep-2012	1	26.1	---	13.9	---	28.4	5.24 [#1]	< 0.40	183	---	---	---	203	71.0	---	36.9	109	---	35.5	---	98.6	39.3	68.7	---	1370	---	12.7	9.71	258	---	49.9	< 0.80	288	666
(Replicate B)	01-Sep-2012	1	25.2	---	7.75	---	16.6	3.51 [#1]	< 0.40	117	---	---	---	130	44.3	---	21.1	81.0	---	17.3	---	50.0	22.7	39.9	---	876	---	6.3	3.7 [#1]	146	---	26.0	< 0.90	168	359
(Replicate C)	01-Sep-2013	1	14	0.518	8.34	17.3	---	6.11	3.32	---	232	2060	---	---	101	5.95	---	210	46.8	42.7	---	539	57.9	92.7	---	---	36.6	---	---	287	< 0.00166	53.5	< 0.115	529	818
(Replicate D)	01-Sep-2013	1	12.2	0.302	9.33	30.5	---	5.66	4.08	---	314	2540	---	---	127	8.4 [#1]	---	266	45.6	53.1	---	615	55.9	122	---	---	40.8	---	---	422	< 0.000815	73.6	< 0.0979	514	981
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	44.0	---	18.7 [#1]	---	41.0	7.2 [#1]	< 3.0	263	---	---	---	258	97.8	---	33.5 [#1]	158	---	34.8	---	88.5	39.1	87.0	---	1730	---	16.6 [#1]	10.7	248	---	56.4 [#1]	< 4.0	388	640
	22-Sep-2014	4	35.6	0.966	15.2	56.4	---	14.2	7.06	---	813	5830	---	---	299	20.7	---	759	136	147	---	1460	136	246	---	---	101	---	---	945	< 0.00159	156	0.449 [#1]	1430	2770
(Replicate A)	22-Sep-2014	4	8.52	< 0.23	8.71	21.8	---	6.48	2.91	---	321	2350	---	---	110	7.16	---	251	37.2	44.7	---	495	55.5	103	---	---	34.6	---	---	393	< 0.000922	65.8	0.121 [#1]	423	876
(Replicate B)	22-Sep-2014	1	14	0.278	6.07	32.6	---	6.64	5.56	---	608	3940	---	---	197	8.78	---	412	65.7	74.9	---	734	34.6	194	---	---	66	---	---	697	< 0.0012	105	0.078	748	1600
(Duplicate)	22-Sep-2014	1	34.6	0.839	14.6	49.3	---	10.7	7.67	---	736	5520	---	---	284	21.1	---	785	133	150	---	1540	144	218	---	---	99.4	---	---	946	< 0.00289	170	0.466	1280	2790
	23-Sep-2015	3	30.6	1.49 [#1]	42.9	82.2	---	22 [#1]	16.5	---	1160	8220	---	---	433	55.7	---	1210	142	287	---	2610	342	397	---	---	146	---	---	1670	< 0.00518	319	0.994	1560	5180
	31-Aug-2016	2	31.6	0.772	45.4	110	---	25.9	15.6	---	1340	10100	---	---	497	41.1	---	1390	167	255	---	2680	305	411	---	---	160	---	---	1640	< 0.00458	340	0.836	1870	5490
(Replicate A)	31-Aug-2016	2	30.9	1.53	24.3	63.6	---	18.9	10.3	---	879	7660	---	---	384	35.5	---	1110	157	194	---	1980	177	312	---	---	129	---	---	1240	< 0.00409	226	0.467	1630	4110
(Duplicate)	31-Aug-2016	1	30.6	0.881	44.2	105	---	24.1	14.6	---	1180	9640	---	---	493	38.7	---	1340	159	277	---	2620	306	409	---	---	155	---	---	1580	< 0.00479	338	0.872	1770	5270
	12-Sep-2017	3	11.9	0.598 [#1]	9.06	27.8	---	8.13	3.43	---	337	2600	---	---	128	10.4	---	283	50.4	58.7	---	665	77.5	123	---	---	35.9	---	---	419	< 0.000392	79	0.2	483	1120
	29-Aug-2018	3	15	1.09 [#1]	12.8	27.4	---	10.4	4.05	---	461	3410	---	---	141	9.52	---	333	66.1	69	---	762	72.7	126	---	---	43.4	---	---	489	< 0.000468	89.8	0.146	698	1410
(Duplicate)	29-Aug-2018	3	10.9	1	12.2 [#1]	25.8	---	7.17	3.5	---	469	3230	---	---	127	8.87	---	312	61.4	55.6	---	668	74.1	110	---	---	37.7	---	---	471	< 0.000339	74	0.295 [#1]	648	1160
(Lab Replicate)	29-Aug-2018	3	11.7	0.933 [#1]	11.8	25.5	---	7.74	4.26 [#1]	---	418	3140	---	---	132	8.48	---	309	59.6	61.3	---	690	73.7	108	---	---	39.4	---	---	458	< 0.000575	75.3	< 0.0623	617	1190
	05-Sep-2019	4	13.9	0.57	11.3	31.8	---	7.46	3.79	327	---	2890	---	---	136	7.99	---	316	49.3	53.9	---	604	68.3	105	---	---	34.3	---	---	441	< 0.00074	71.7	0.308	546	1170
	29-Sep-2021	3	12.5	< 0.66	16.4	---	---	---	2.40	---	194	---	1760	---	86.1	6.32	---	219	43.4	45.7	724	---	78.6	---	132	---	22.5	---	---	264	< 0.00064	79.4	< 0.12	329	876
(Duplicate)	29-Sep-2021	3	29.3	< 1.2	43.1	---	---	---	7.1	---	485	---	4440	---	214	14.4	---	530	99.2	111	1600	---	167	---	318	---	54.9	---	---	661	< 0.0014	177	< 0.28	819	2150
	12-Oct-2022	3	28.0	< 2.7	< 2.9	---	---	---	< 2.3	---	477	---	4430	---	223	11.5	---	476	120	105	1530	---	108	---	308	---	63.0	---	---	719	< 0.0023	153	< 0.59	924	2000
	13-Sep-2023	5	25.6	1.63	11.0	29.3	---	9.36	< 0.49	---	337	---	2500	---	112	7.2	---	336	70.3	56.9	638	---	58.6	---	192	---	34.6	---	---	411	< 0.0013	76.8	0.108	627	1260
Brook Trout 4+	04-Oct-2006	7	320	---	110	---	170	25	< 0.10	< 0.20	---	---	---	1600	690	---	280	1900	---	380	---	1300	670	500	---	12000	---	94	67	2100	---	570	< 0.20	3600	8400
	01-Sep-2011	2	327	---	96.4	---	258	26.7 [#1]	< 4.0	1520 [#3]	---	---	---	1720	693	---	451	2430	---	497	---	1270	636	566	---	11500	---	163	103	2470	---	563	< 6.0	3300	8380
	01-Sep-2013	2	74.9	1.52	51.1	124	---	30.5	13.8	---	1270	12100	---	---	603	51	---	1860	258	353	---	4120	484	455	---	---	204	---	---	2090	< 0.00289	426	1.08	2920	7320
	22-Sep-2014	1	57.4	1.23	62.6	179	---	43.8	16.7 [#1]	---	2110	16400	---	---	771	66.8	---	2350	270	453	---	4070	561	682	---	---	234	---	---	2890	< 0.00355	524	1.3 [#1]	3110	8370
(Replicate A)	23-Sep-2015	1	19.4	0.747	16.1	35.4	---	12 [#1]	6.97	---	640	4540	---	---	222	18.6	---	631	76.7	103	---	1080	154	179	---	---	72.0	---	---	792	< 0.00262	147	0.622	906	2140
(Replicate B)	23-Sep-2015	1	28.7	0.705	17	48.9	---	18.2 [#1]	10.9	---	863	6320	---	---	322	21.5	---	829	112	152	---	1560	162	270	---	---	112	---	---	1120	< 0.00549	201	0.62	1290	3100
	12-Sep-2017	1	16.3	0.793	12.5	42.6	---	14.6	5.51 [#1]	---	547	4540	---	---	215	10.2	---	421	85.4	82.8	---	1030	114	224	---	---	57.7	---	---	753	< 0.000726	128	< 0.0666	817	1720
(Replicate A)	29-Aug-2018	1	21	1.55	25.8	72.5	---	18.7	8.32	---	966	7330	---	---	310	27.1	---	844	104	175	---	1660	164	276	---	---	83.3	---	---	1120	< 0.000535	202	0.531 [#1]	1370	3800
(Replicate B)	29-Aug-2018	1	12.3	0.492 [#1]	8.1	38.5	---	8.32	5.29	---	724	4320	---	---	182	9.37	---	285	65.4	67.5	---	772	59.2	197	---	---	56.8	---	---	637	< 0.00158	108	< 0.283	872	1320
(Replicate C)	29-Aug-2018	1	12.6	0.412 [#1]	18.4	34.3	---	11.2	5.96	---	590	4180	---	---	187	12.4	---	377	69.7	77.4	---	816	74.1	188	---	---	54.7	---	---	671	< 0.000361	118	0.316 [#1]	752	1690
	25-Aug-2020	1	6.14	0.191	4.17	14.7	---	3.67	3.27	---	181	1370	---	---	62.3	3.75 [#1]	---	134	22.7	23.6	---	286	31.5	59.3	---	---	18.8	---	---	217	< 0.00101	41.1	0.156	251	405

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 120 (ng/kg)	PCB 121 (ng/kg)	PCB 122 (ng/kg)	PCB 123 (ng/kg)	PCB 124 (ng/kg)	PCB 126 (ng/kg)	PCB 127 (ng/kg)	PCB 128/162 (ng/kg)	PCB 128/166 (ng/kg)	PCB 129/138/160/163 (ng/kg)	PCB 129/138/163 (ng/kg)	PCB 129/158 (ng/kg)	PCB 130 (ng/kg)	PCB 131 (ng/kg)	PCB 131/133/142 (ng/kg)	PCB 132 (ng/kg)	PCB 133 (ng/kg)	PCB 134/143 (ng/kg)	PCB 135/151 (ng/kg)	PCB 135/151/154 (ng/kg)	PCB 136 (ng/kg)	PCB 137 (ng/kg)	PCB 137/164 (ng/kg)	PCB 138 (ng/kg)	PCB 139/140 (ng/kg)	PCB 139/143 (ng/kg)	PCB 140 (ng/kg)	PCB 141 (ng/kg)	PCB 142 (ug/kg)	PCB 144 (ng/kg)	PCB 145 (ng/kg)	PCB 146 (ng/kg)	PCB 147/149 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	29-Sep-2021	1	16.9	0.37	20.8	---	---	---	4.03	---	303	---	2730	---	132	10.2	---	346	62.0	66.6	913	---	104	---	198	---	33.8	---	---	394	< 0.00066	96.2	0.22	507	1250
Brook Trout 5+	04-Oct-2006	5	130	---	50	---	93	15	< 0.10	< 0.20	---	---	---	910	370	---	150	1100	---	190	---	810	390	220	---	5400	---	< 0.30	29	1100	---	310	< 0.20	2200	4500
	11-Sep-2007	2	60	---	53	---	62	14	6.0	490	---	---	---	920	350	---	130	540	---	94	---	480	140	180	---	4300	---	42	30	820	---	180	< 1.3	1700	2100
	12-Aug-2010	1	43.6	---	21.8	---	44.5	6.2	1.9 [#1]	309	---	---	---	406	160	---	58.4	198	---	52.4	---	121	63.7	111	---	2830	---	23.8	10.5 [#1]	510	---	87.1	< 2.3	502	1190
	01-Sep-2013	1	135	2	87.6	221	---	63.5	41.8	---	2890	28500	---	---	1310	78.1	---	3810	497	691	---	8510	888	980	---	---	417	---	---	5040	< 0.00871	933	2.06	6150	16300
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	438	---	239	---	467	78.9	< 5.0	2730	---	---	---	3080	1280	---	495	2840	---	548	---	1800	711	913	---	21500	---	165	124	3460	---	842	< 5.0	5270	11400
	23-Sep-2015	1	24	0.946	29.4	64.3	---	17.2 [#1]	10.9	---	980	7050	---	---	341	33.2	---	910	112	167	---	1630	232	311	---	---	97.0	---	---	1260	< 0.00436	229	0.759	1340	3320
	30-Aug-2016	1	22.9	0.883	12.6	53.7	---	14.4	9.16	---	834	6620	---	---	316	19.8	---	878	122	136	---	1540	116	294	---	---	113	---	---	1210	< 0.00254	197	0.528 [#1]	1490	3210
	12-Sep-2017	1	80.9	2.28	35.3	155	---	67.5	18	---	1960	14800	---	---	824	29.9	---	1190	282	293	---	3050	239	783	---	---	203	---	---	1960	< 0.00114	355	0.849	2730	5980
(Re-analysis)	12-Sep-2017	1	47.3	1.48 [#1]	34.2	125	---	48.6	12	---	1360	10200	---	---	546	19.3	---	794	185	188	---	1980	168	416	---	---	129	---	---	1470	< 0.0083	224	0.678	1800	3570
	29-Sep-2021	1	12.0 [#4]	< 2.0 [#4]	21.0 [#4]	---	---	---	< 2.7 [#4]	---	295 [#4]	---	2510 [#4]	---	120 [#4]	7.1 [#4]	---	268 [#4]	46.6 [#4]	54.0 [#4]	745 [#4]	---	73.4 [#4]	---	177 [#4]	---	28.4 [#4]	---	---	389 [#4]	< 0.0016 [#4]	98.0 [#4]	< 0.55 [#4]	435 [#4]	972 [#4]
Brook Trout 6+	11-Sep-2007	3	57	---	55	---	68	14	< 1.9	580	---	---	---	1200	400	---	120	620	---	110	---	430	110	230	---	5200	---	63	45	1200	---	230	< 1.9	1800	2700
Brook Trout 7+	11-Sep-2007	3	34	---	14	---	23	5.9	< 1.2	150	---	---	---	240	96	---	29	170	---	30	---	130	54	45	---	1200	---	13	7.6	240	---	49	< 1.1	330	670
(Duplicate)	11-Sep-2007	3	28	---	10	---	21	3.6	< 1.5	140	---	---	---	240	78	---	26	150	---	26	---	120	48	42	---	990	---	12	6.3	230	---	47	< 1.4	330	610
Brook Trout 11+	11-Sep-2007	2	57	---	56	---	80	21	8.3	570	---	---	---	1100	380	---	110	600	---	100	---	540	150	230	---	4800	---	57	41	1100	---	240	< 1.3	1600	2700
Brook Trout 12+	11-Sep-2007	2	98	---	78	---	100	19	11	760	---	---	---	1500	500	---	200	800	---	170	---	700	240	280	---	6400	---	84	54	1600	---	300	< 2.3	2400	3800
Brook Trout Unknown	23-Jul-2008	3	20	---	7.0	---	11	2.4	< 1.0	71	---	---	---	92	38	---	20	89	---	18	---	69	32	24	---	500	---	6.4	5.4	110	---	24	< 0.70	220	430
(Replicate)	23-Jul-2008	3	9.6	---	2.5	---	4.1	< 1.0	< 0.80	32	---	---	---	32	17	---	9.6	49	---	7.4	---	39	20	9.3	---	190	---	2.3	1.9	31	---	9.6	< 0.40	98	190
(Replicate A)	23-Jul-2008	2	24	---	9.6	---	14	3.2	< 0.80	110	---	---	---	140	61	---	33	130	---	25	---	100	39	35	---	750	---	9.7	9.3	150	---	34	< 0.50	360	590
(Replicate B)	23-Jul-2008	2	19	---	4.8	---	9.6	1.7	< 0.70	62	---	---	---	75	30	---	15	78	---	14	---	51	27	21	---	410	---	5.6	3.6	91	---	20	< 0.50	150	310
(Replicate C)	23-Jul-2008	2	19	---	6.2	---	11	1.7	< 1.0	57	---	---	---	98	36	---	14	66	---	9.7	---	67	21	18	---	450	---	3.7	1.9	110	---	29	< 0.70	180	220
	12-Oct-2022	1	18.0	< 2.0	23.0	---	---	---	3.1	---	336	---	3020	---	147	11.5	---	397	78.9	75.4	1120	---	125	---	223	---	36.4	---	---	498	< 0.0034	112	< 0.87	583	1420
(Replicate A)	13-Sep-2023	1	14.0 [#5]	0.82 [#5]	8.77 [#5]	16.2 [#5]	---	5.63	< 0.56 [#5]	---	254 [#5]	---	1660 [#5]	---	78.4 [#5]	4.40 [#5]	---	203 [#5]	48.1 [#5]	29.0 [#5]	423 [#5]	---	32.3 [#5]	---	123 [#5]	---	23.3 [#5]	---	---	275 [#5]	< 0.0010 [#5]	53.2 [#5]	< 0.15 [#5]	403 [#5]	666 [#5]
(Replicate B)	13-Sep-2023	1	13.4	1.3	11.0	17.9	---	5.74	2.3	---	179	---	1630	---	71.8	3.6	---	167	57.1	22.1	393	---	26.5	---	109	---	15.9	---	---	246	< 0.0014	37.6	< 0.29	392	606
Brook Trout (Muscle only) 3+	01-Feb-2012	1	124 [#1]	---	18.2	---	44.0	6.6 [#1]	< 2.0	683	---	---	---	341	149	---	25.6 [#1]	353	---	62.6	---	167	108	131 [#1]	---	3640	---	16.5 [#1]	< 7.0	254	---	56	< 6.0	300	941
Brook Trout (Skin Only) 3+	01-Feb-2012	1	236	---	34.7	---	109	11.9	< 2.0	1220	---	---	---	776	306	---	59.8	768	---	126	---	436	252	280	---	7260	---	19.5 [#1]	15.2 [#1]	589	---	172	< 5.0	787	2210
Brook Trout (Stomach) 1+	01-Sep-2012	4	< 2.0	---	< 2.0	---	< 1.0	< 1.0	< 1.0	12.9	---	---	---	10.4	4.4	---	< 3.0	15.4	---	< 3.0	---	8.4	< 2.0	4.9	---	87.0	---	< 2.0	< 2.0	13.4	---	< 2.0	< 2.0	17.0	53.0
Brook Trout (Stomach) 2+	01-Sep-2012	4	< 5.0	---	< 3.0	---	< 3.0	< 3.0	< 3.0	20.9	---	---	---	24.9	9.0 [#1]	---	< 5.0	< 6.0	---	< 5.0	---	< 5.0	8.0 [#1]	15.8 [#1]	---	206	---	< 5.0	< 4.0	19.3	---	7.9 [#1]	< 4.0	22.2 [#1]	66.9
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	< 2.0	---	< 2.0	---	< 1.0	< 1.0	< 1.0	11.4	---	---	---	7.5	2.0 [#1]	---	< 2.0	< 3.0	---	< 3.0	---	5.1 [#1]	3.7	< 1.0	---	61.9	---	< 2.0	< 2.0	11.9	---	3.0 [#1]	< 2.0	14.3 [#1]	30.8
(Replicate B)	01-Sep-2012	1	< 4.0	---	< 3.0	---	8.5 [#1]	< 2.0	< 2.0	71.5	---	---	---	80.1	21.1	---	9.5 [#1]	61.6 [#1]	---	13.0 [#1]	---	24.9 [#1]	16.7	23.6	---	524	---	< 5.0	< 4.0	89.8	---	12.4	< 4.0	90.8	168
White Sucker 1+	01-Feb-2012	1	131 [#1]	---	< 4.0	---	52.7 [#1]	9.3	< 2.0	863	---	---	---	372	151	---	< 6.0	309	---	36.3	---	125	90.5	194	---	5020	---	< 6.0	< 5.0	241	---	57.9	< 4.0	281	799
	21-Sep-2014	2	1.28	< 0.104	1.45 [#1]	3.53	---	0.789	0.529 [#1]	---	47.7	379	---	---	18	2.05	---	49.1	4.5	6	---	57.3	11.6	17.1	---	---	4.76	---	---	65.9	< 0.000633	12.4	< 0.0579	65.8	161
White Sucker 2+	01-Feb-2012	1	< 4.0	---	< 2.0	---	< 2.0	< 1.0	< 1.0	57.7	---	---	---	38.4	11.1	---	< 4.0	25.9	---	< 4.0	---	< 4.0	7.2 [#1]	21.2	---	369	---	< 4.0	< 3.0	24.1	---	7.0	< 3.0	33.0	62.6
	22-Sep-2014	4	2.1	< 0.0802	2.6	5.62	---	1.35	0.938	---	86.1	651	---	---	29.6	3.72	---	74.8	8	9.81	---	89.8	14.5	27.9	---	---	8.63	---	---	109	< 0.000249	21.5	0.091 [#1]	112	242
White Sucker 3+	01-Feb-2012	1	< 10	---	< 8.0	---	< 9.0	< 2.0	< 3.0	116	---	---	---	49.4	21.6 [#1]	---	< 9.0	70 [#1]	---	< 10	---	< 10	< 10	< 10	---	486 [#1]	---	< 9.0	< 8.0	27.5 [#1]	---	< 10	< 6.0	33 [#1]	146 [#1]
White Sucker 6+	11-Sep-2007	4	5.3	---	2.3	---	3.6	< 1.0	< 0.90	37	---	---	---	63	17	---	3.3	22	---	< 1.1	---	9.6	6.5	15	---	310	---	< 1.0	< 1.0	53	---	8.9	< 0.80	91	89
White Sucker 7+	11-Sep-2007	3	4.8	---	3.3	---	4.6	< 1.4	< 1.3	54	---	---	---	100	18	---	4.7	32	---	< 1.8	---	8.3	6.8	18	---	430	---	2.7	< 1.6	73	---	11	< 1.2	110	110
White Sucker 8+	11-Sep-2007	5	< 1.8	---	2.4	---	3.3	< 1.0	< 0.90	51	---	---	---	97	22	---	3.9	27	---	2.0	---	9.4	7.3	18	---	400	---	< 1.3	< 1.3 [#1]	72	---	12	< 1.0	110	100
	11-Aug-2009	4	< 20	---	< 12	---	< 12	< 11	< 7.6	57	---	---	---	51.3	8.2	---	< 26	44	---	< 29	---	< 21 [#1]	< 15	14	---	408	---	< 26	< 22	98	---	< 19	< 19	72	192
White Sucker 9+	11-Sep-2007	4	7.1	---	4.2	---	6.8	< 1.1	< 0.90	78	---	---	---	150	38	---	9.4	61	---	5.7	---	17	10	33	---	680	---	6.0	1.4	140	---	22	< 1.0	180	210
White Sucker 10+	11-Aug-2009	4	< 15	---	< 9.3	---	< 9.0	< 9.3	< 6.3	54	---	---	---	40.6	8.0	---	< 18	30	---	< 20	---	< 19	< 14 [#1]	13.2	---	344	---	< 18	< 15	49.4	---	< 17	< 13	73	111
Forage Fish	04-Nov-2014	---	2.61	< 0.13	12.1	22.5	---	4.35	< 3.29	---	273	1180	---	---	66.4	4.2	---	194	11.6	17	---	124	37.8	40.6	---	---	7.26	---	---	224	< 0.0016	19.6	0.177	147	351

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 120 (ng/kg)	PCB 121 (ng/kg)	PCB 122 (ng/kg)	PCB 123 (ng/kg)	PCB 124 (ng/kg)	PCB 126 (ng/kg)	PCB 127 (ng/kg)	PCB 128/162 (ng/kg)	PCB 128/166 (ng/kg)	PCB 129/138/160/163 (ng/kg)	PCB 129/138/163 (ng/kg)	PCB 129/158 (ng/kg)	PCB 130 (ng/kg)	PCB 131 (ng/kg)	PCB 131/133/142 (ng/kg)	PCB 132 (ng/kg)	PCB 133 (ng/kg)	PCB 134/143 (ng/kg)	PCB 135/151 (ng/kg)	PCB 135/151/154 (ng/kg)	PCB 136 (ng/kg)	PCB 137 (ng/kg)	PCB 137/164 (ng/kg)	PCB 138 (ng/kg)	PCB 139/140 (ng/kg)	PCB 139/143 (ng/kg)	PCB 140 (ng/kg)	PCB 141 (ng/kg)	PCB 142 (ug/kg)	PCB 144 (ng/kg)	PCB 145 (ng/kg)	PCB 146 (ng/kg)	PCB 147/149 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
Invertebrates	22-Aug-2014	---	6.72 #1	< 0.577	40.1	64.3	---	32.4	< 15.9	---	434	4570	---	---	215	17.1 #1	---	517	68.7	109	---	890	47.9	155	---	---	29.1	---	---	948	< 0.00463	126	0.433 #1	779	1630
Edith Lake																																			
Brook Trout 1+	11-Aug-2009	7	< 5.3	---	< 3.8	---	< 3.3	< 1.7	< 1.2	23.2	---	---	---	16.9	5.2	---	< 5.7	11.1	---	< 6.3	---	6.8	5.0 #1	5.3	---	150	---	< 5.7	< 4.8	19.4	---	< 5.8	< 4.2	21.1	54.7
	01-Sep-2011	4	12.6 #1	---	< 2.0	---	7.6 #1	< 1.0	< 2.0	46.8	---	---	---	33.6 #1	25.3	---	14.8	67.2 #1	---	12.8	---	41.8	26.2	12.0 #1	---	337	---	< 3.0	< 3.0	34.1	---	10.0	< 2.0	106	250
(Duplicate)	01-Sep-2011	4	25.0	---	< 4.0	---	< 4.0	< 3.0	< 3.0	91.6	---	---	---	48.0	41.8	---	22.7 #1	105	---	18.7	---	68.4	38.8	20.2	---	580	---	< 7.0	< 6.0	67.0	---	13.9	< 6.0	152	425
	01-Sep-2012	3	21.1	---	6.55 #1	---	12.3 #1	< 0.80	< 0.60	91.7	---	---	---	75.7	41.7	---	26.6	79.7	---	16.9	---	62.7	29.5	27.2	---	626	---	5.8 #1	5.0 #1	70.3	---	15.5	< 1.0	157	396
	22-Sep-2015	3	10.7	1.18	6.59	12.5	---	3.53 #1	2.49	---	203	1460	---	---	88.4	9.18	---	247	42.4	49.4	---	535	92	53.4	---	---	27.1	---	---	217	< 0.00171	47.9	0.135 #1	354	1100
	30-Aug-2016	2	6.6	0.894	2.26	4.35	---	0.857	0.696 #1	---	93	712	---	---	43.4	3.69	---	150	28.1	20.1	---	280	49.4	23.1	---	---	16.5	---	---	81.5	< 0.00128	21.7	0.055 #1	252	613
	13-Sep-2017	3	10.5	1.35	3.05 #1	6.71	---	1.23	1.37	---	119	863	---	---	55	4.13 #1	---	154	31.7	26.2	---	371	62.8	25.4	---	---	16.8	---	---	75.8	< 0.000697	23.9	< 0.135	244	699
	30-Aug-2018	3	5.88 #1	0.47 #1	< 0.788	3.5	---	0.866	< 0.701	---	102	566	---	---	36.4	2.67	---	99.9	20.8	15	---	191	28.3	18.5	---	---	11	---	---	53.9	< 0.000296	14.3	< 0.0865	164	413
(Replicate A)	06-Sep-2019	4	6.8	0.964	2.25	6.5	---	1.03	1.01	83.7	---	626	---	---	39.5	2.5	---	102	21.9	16.7	---	208	34.3	20.3	---	---	11.2	---	---	57.5	< 0.000761	14.6	< 0.058	178	445
(Replicate B)	06-Sep-2019	4	8.57	1.1	2.71	6.78	---	1.12	1.35	110	---	797	---	---	50.2	2.81	---	126	28.8	19.4	---	241	35	25.5	---	---	14.3	---	---	71.5	< 0.000886	16.5	< 0.0564	221	539
	26-Aug-2020	7	4.86	0.782 #1	1.63	4.6	---	0.877	1.04	---	62.5	492	---	---	31.1	2.63	---	86.7	17.7	14.2	---	177	29.4	16.2	---	---	10.4	---	---	45.9	< 0.000427	13.5	< 0.0579	137	322
	30-Sep-2021	8	1.30	< 0.39	1.10	---	---	---	< 0.33	---	17.9	---	164	---	8.41	0.58	---	20.5	4.70	4.30	60.1	---	8.55	---	10.7	---	2.21	---	---	15.8	< 0.00026	5.51	< 0.089	37.7	93.9
	13-Oct-2022	2	< 1.5	< 1.4	< 2.0	---	---	---	< 1.5	---	14.1	---	165	---	5.0	< 1.2	---	12.9	5.1	1.9	44.5	---	3.30	---	8.64	---	1.10	---	---	25.0	< 0.0012	4.50	< 0.33	35.9	59.9
	14-Sep-2023	2	3.06	< 0.55	< 0.66	1.56	---	0.506	< 0.50	---	23.8	---	168	---	10.9	< 0.76	---	25.9	7.15	4.31	50.9	---	8.42	---	12.8	---	2.70	---	---	14.0	< 0.00078	4.20	< 0.25	50.3	97.0
Brook Trout 2+	11-Aug-2009	4	< 5.3	---	< 3.8	---	< 3.2	< 2.2	< 1.5	27.2	---	---	---	19.0	4.0	---	< 6.6	10.9	---	< 7.3	---	10.6	< 5.1	4.8	---	182	---	< 6.7	< 5.6	24.5	---	< 6.3	< 4.9	29.5	66.0
	11-Aug-2010	5	40.5	---	17.3	---	38.7	4.7	< 0.80	157	---	---	---	195	64.9	---	47.8	182	---	41.5	---	77.4	36.4	43.0	---	1350	---	12.0	5.7	278	---	36.3	< 1.4	312	777
	01-Sep-2011	4	57.9	---	18.7 #1	---	48.7	5.7 #1	< 2.0	268	---	---	---	296	122	---	56.9	432	---	77.7	---	244	103	89.0 #1	---	2200	---	18.1 #1	15.1	401	---	104	< 3.0	565	1470
	01-Sep-2012	3	55.7	---	17.8	---	45.6	6.66	< 0.70	185	---	---	---	223	80.7	---	44.8	190	---	43.6	---	150	61.2	62.3	---	1540	---	11.8	8.2	259	---	68.4	< 1.0	328	977
	01-Sep-2013	3	36.9	1.65	12.6	43.3	---	12.8	4.37	---	346	3820	---	---	180	7.69	---	510	138	105	---	1430	139	92.3	---	---	36.3	---	---	440	< 0.00195	97.1	< 0.069	1310	2420
	21-Sep-2014	4	18.5	0.558 #1	4.91 #1	17.2	---	4.87	1.65 #1	---	260	2250	---	---	106	5.28	---	291	53.4	54.9	---	675	51.9	71.4	---	---	29	---	---	342	< 0.00089	73.7	< 0.114	502	1140
(Replicate A)	21-Sep-2014	1	12.7	0.699 #1	6.48	15.2	---	4.02	1.66	---	241	1670	---	---	91.5	7.4	---	243	34.2	49.2	---	469	< 0.0565	68.5	---	---	28.4	---	---	286	< 0.000926	56.8	0.146 #1	336	935
(Replicate B)	21-Sep-2014	1	3.9	0.279 #1	0.89	3.05	---	0.989	< 0.244	---	37.6	317	---	---	16.4	0.99	---	39.7	8.82	7.13	---	96	< 0.0579	10	---	---	3.79	---	---	44.6	< 0.000192	9.9	< 0.0579	79.8	176
	22-Sep-2015	1	1.12	0.151 #1	< 0.331	1.79	---	0.541 #1	< 0.316	---	17.2	161	---	---	7.46	< 0.529	---	14.9	4.44	2.79	---	42.9	3.54	4.79	---	---	1.61	---	---	20.5	< 0.000514	4.7	< 0.13	40.8	79.4
	30-Aug-2016	2	9.53	0.826	7.18	18.4	---	5.4	2.2	---	200	1670	---	---	85.7	8.13	---	269	51.7	49.8	---	530	68.3	58.6	---	---	24.4	---	---	257	< 0.00158	55	0.194	421	1050
	13-Sep-2017	3	3.74	0.295 #1	0.571	3.34	---	0.488 #1	0.559	---	63.8	505	---	---	28.7	1.22	---	58.4	15.3	8.72	---	129	6.56	18.6	---	---	8.94	---	---	56.7	< 0.000485	13.3	< 0.108	131	303
	30-Aug-2018	3	3.92	0.53 #1	< 0.501	3.1	---	1.08	< 0.446	---	80.4	487	---	---	28	1.63	---	63.9	15.8	10.8	---	145	16.6	14.4	---	---	7.31	---	---	50	< 0.000199	11.3	< 0.0772	163	284
(Replicate A)	06-Sep-2019	4	2.15	0.222	0.659	2.68	---	0.418	0.588	39.4	---	315	---	---	18.9	0.754	---	34.9	9.42	5.8	---	69.9	5.72	9.51	---	---	4.43	---	---	36.8	< 0.000443	6.33	< 0.0577	83.6	160
(Replicate B)	06-Sep-2019	4	3.38	0.358	1.71	3.59	---	0.719	0.636	47	---	403	---	---	25.1	1.47	---	53.9	12.8	10.1	---	118	12.3	12.8	---	---	6.3	---	---	57.8	< 0.00111	11.2	< 0.0567	109	251
	26-Aug-2020	2	5.73	0.833	1.13	5.02	---	1.17	1.13 #1	---	73.4	632	---	---	38.1	1.75	---	78.2	22.5	12.4	---	190	19	17.7	---	---	10.5	---	---	61.6	< 0.000619	14.7	< 0.058	176	285
	30-Sep-2021	10	2.06	< 0.25	1.00	---	---	---	< 0.26	---	19.3	---	192	---	9.54	0.64	---	24.9	6.01	5.03	77.1	---	7.99	---	13.2	---	1.91	---	---	19.8	< 0.00025	7.01	< 0.071	41.1	109
	13-Oct-2022	8	13.1	< 0.45	14.0	---	---	---	1.90	---	128	---	1340	---	64.1	3.62	---	167	36.4	29.6	445	---	50.7	---	105	---	9.40	---	---	169	< 0.00052	47.6	< 0.13	273	673
	14-Sep-2023	3	5.11	0.48	0.84	3.11	---	1.80	< 0.35	---	27.0	---	317	---	13.8	< 0.51	---	20.9	16.7	4.37	102	---	4.61	---	20.7	---	1.30	---	---	31.9	< 0.00052	7.86	< 0.21	119	128
Brook Trout 3+	11-Aug-2010	3	45.4	---	23.2	---	40.7	9.0	< 0.90	160	---	---	---	198	71.8 #1	---	59.9	221	---	51.2	---	112	50.7	43.5	---	1510	---	7.6	7.6	289	---	37.7	< 1.3	420	983
	01-Sep-2011	3	45.3	---	< 5.0	---	41.7	12.6	< 4.0	240	---	---	---	250	98.8 #1	---	48.3	259	---	64.6 #1	---	216	94.7	79.5	---	1720	---	16.6	< 6.0	294	---	71.1	< 5.0	572	1250
	01-Sep-2012	5	78.3	---	< 1.0	---	57.3	7.9 #1	< 0.90	240	---	---	---	300	109	---	61.5	268	---	67.2	---	202	87.9	84.6	---	2020	---	13.2	13.6 #1	387	---	89.7	< 2.0	431	1330
(Replicate A)	01-Sep-2013	3	30.6	0.581	18.7	56.6	---	16.1	5.62	---	448	4890	---	---	214	15.7	---	667	110	112	---	1410	138	136	---	---	54.2	---	---	661	< 0.00203	170	0.328	1130	2840
(Duplicate)	01-Sep-2013	3	28.2	0.811	17.1	48.2	---	13.4	< 5.01	---	384	4310	---	---	188	13.4	---	585	98.2	104	---	1270	123	103	---	---	49.9	---	---	572	< 0.00145	152	0.184	1040	2540
(Replicate B)	01-Sep-2013	3	28.2	0.647	15.9	50.6	---	31.2	< 5.72	---	320	3850	---	---	167	7.38	---	476	98.1	89.4	---	1170	108	78.4	---	---	24.6	---	---	475	< 0.00126	122	< 0.0791	1050	2180
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	104	---	49.5 #1	---	115	23.3	< 3.0	407	---	---	---	569	201	---	108	487	---	89.9	---	348	110	121	---	3530	---	19.8 #1	12.8	456	---	154	< 3.0	1050	2090
	21-Sep-2014	4	23.1	0.656	10.8	39.1	---	11.3	< 3.86	---	347	3330	---	---	159	8.12	---	481	96.4	94.2	---	1020	95	106	---	---	35.9	---	---	472	< 0.00161	94	0.16 #1	815	1930
(Replicate A)	21-Sep-2014	1	7.1	0.573 #1	14.7	21.8	---	5.63	2.31	---	238	1830	---	---	101	10.1	---	320	35.2	61.3	---	500	86.5	87.1	---	---	30.3	---	---	288	< 0.000589	58.7	0.259 #1	307	1060
(Replicate B)	21-Sep-2014	1	14.1	0.605 #1	4.08 #1	21.7	---	5.71	< 3.33	---	244	2210	---	---	103	4.29	---	262	59.6	47.9	---	598	33.7	68.3	---	---	28.8	---	---	291	< 0.000932	60.9	< 0.0761	519	1170
	22-Sep-2015	3	8.21	0.451 #1	10.4	24.3	---	5.03 #1	2.93	---	233	1840	---	---	91.4	9.9	---	249	33.4	56.8	---	573	77.3	62.2	---	---	26.8	---	---	346	< 0.00315	67.3	0.25	390	1140
(Duplicate)	22-Sep-2015	3	7.83	0.409	7.9	25.2	---	5.71 #1	2.76	---	219 #3	1760	---	---	84.9	8.77	---	229	31.4	54.2	---	546	70.2	58	---	---	25.1	---	---	303	< 0.00191	64.1	< 0.107	370	1060
	30-Aug-2016	1	7.93	0.472 #1	8.17	26.1	---	7.37	2.02	---	213	1750	---	---	75	6.9	---	232	49.9	44 #1	---	523	63.5	52	---	---	21.4	---	---	263	< 0.00178	56.1	< 0.0576	433	1020
	13-Sep-2017	3	4.45	0.302	1.85	11.8	---	3.02	0.835 #1	---	98.4	869	---	---	40.5	2.25	---	80.4	20.7	19.1	---	259	14.7	33	---	---	10.3	---	---	119	< 0.000367	28.4	< 0.0797	183	453

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 120 (ng/kg)	PCB 121 (ng/kg)	PCB 122 (ng/kg)	PCB 123 (ng/kg)	PCB 124 (ng/kg)	PCB 126 (ng/kg)	PCB 127 (ng/kg)	PCB 128/162 (ng/kg)	PCB 128/166 (ng/kg)	PCB 129/138/160/163 (ng/kg)	PCB 129/138/163 (ng/kg)	PCB 129/158 (ng/kg)	PCB 130 (ng/kg)	PCB 131 (ng/kg)	PCB 131/133/142 (ng/kg)	PCB 132 (ng/kg)	PCB 133 (ng/kg)	PCB 134/143 (ng/kg)	PCB 135/151 (ng/kg)	PCB 135/151/154 (ng/kg)	PCB 136 (ng/kg)	PCB 137 (ng/kg)	PCB 137/164 (ng/kg)	PCB 138 (ng/kg)	PCB 139/140 (ng/kg)	PCB 139/143 (ng/kg)	PCB 140 (ng/kg)	PCB 141 (ng/kg)	PCB 142 (ug/kg)	PCB 144 (ng/kg)	PCB 145 (ng/kg)	PCB 146 (ng/kg)	PCB 147/149 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																																			
(Duplicate)	13-Sep-2017	3	4.29	0.261	1.84	8.92	---	2.96	0.86 #1	---	91.2	788	---	---	36.6	1.93	---	75.1	19.6	18.1	---	235	13.1	29.3	---	---	9.64	---	---	108	< 0.000432	25.5	< 0.0772	167	410
	30-Aug-2018	3	2.48	< 0.285	< 0.746	3.46	---	2	< 0.664	---	50.7	485	---	---	22	1.04 #1	---	45.5	13.2	7.79	---	105	7.4	16.5	---	---	6.48	---	---	49.9	< 0.000113	10.5	< 0.0491	120	207
	06-Sep-2019	4	3.46	0.272	< 1.06	4.58	---	1.53	< 0.944	50.3	---	496	---	---	24.8	0.986	---	46.9	13.7	8.14	---	108	10.4	14.8	---	---	4.87	---	---	53.9	< 0.000421	9.86	< 0.0497	125	234
(Duplicate)	06-Sep-2019	4	3.75	0.276	1.41	5.66	---	2.05	< 0.599	50.9	---	531	---	---	26.9	1.07	---	51.2	14.9	9.91	---	122	11.2	16.8	---	---	5.9	---	---	62.4	< 0.00064	11.1	< 0.0575	132	260
	26-Aug-2020	5	2.67	0.264 #1	1.22	4.03	---	1.3	0.748	---	39.6	407	---	---	22.2	1.61	---	44.1	11.3	9.53	---	123	11.3	12.9	---	---	5.4	---	---	62	< 0.000437	12.6	< 0.0573	98.6	227
(Duplicate)	26-Aug-2020	5	4.91	0.693	1.09	4.28	---	0.983	0.983	---	61.7	547	---	---	33.4	1.56	---	71.3	19.9	11.8	---	174	18	15.2	---	---	9.46	---	---	53.6	< 0.000284	13.5	< 0.058	149	307
	30-Sep-2021	3	1.70 #4	< 0.54 #4	< 0.97 #4	---	---	---	< 0.74 #4	---	31.3 #4	---	313 #4	---	14.6 #4	1.00 #4	---	37.4 #4	8.59 #4	5.80 #4	113 #4	---	12.9 #4	---	23.3 #4	---	3.20 #4	---	---	46.7 #4	< 0.00060 #4	11.0 #4	< 0.24 #4	60.6 #4	165 #4
	13-Oct-2022	8	3.55	< 0.35	< 0.60	---	---	---	< 0.48	---	32.2	---	383	---	16.6	< 0.40	---	40.0	12.3	6.54	145	---	10.8	---	26.5	---	3.40	---	---	41.1	< 0.00040	13.7	< 0.11	87.4	190
	14-Sep-2023	5	5.90	< 0.77	2.1	4.9	---	2.98	< 0.99	---	38.0	---	450	---	17.8	< 1.3	---	39.6	23.4	7.5	175	---	9.76	---	28.0	---	2.8	---	---	43.5	< 0.0014	13.2	< 0.46	137	216
(Duplicate)	14-Sep-2023	5	6.4	< 2.1	< 1.5	5.6	---	3.62	< 1.1	---	42.3	---	495	---	21.0	< 1.2	---	50.5	24.0	7.0	175	---	10.0	---	35.1	---	3.3	---	---	52.0	< 0.0013	16.2	< 0.43	146	238
Brook Trout 4+	04-Oct-2006	5	130	---	< 0.20	---	89	17	< 0.10	< 0.20	---	---	---	800	370	---	150	900	---	160	---	750	360	190	---	5700	---	< 0.30	< 0.20	900	---	290	< 0.20	2300	4100
	01-Sep-2011	2	217 #1	---	48.6 #1	---	140 #1	14.0	< 3.0	676	---	---	---	771	324	---	187	1260	---	222	---	635	321	244	---	5760	---	56.8 #1	35.5 #1	1200	---	259	< 4.0	1380	4210
	01-Sep-2013	2	25.5	0.643	29.8	62.4	---	16.4	7.44	---	604	5690	---	---	269	18.4	---	826	106	156	---	1680	186	178	---	---	57.8	---	---	910	< 0.00242	188	0.249	1220	3170
	21-Sep-2014	1	43.4	1.02 #1	13.3	44.5	---	15	< 4.16	---	434	4320	---	---	204	10.1	---	647	133	125	---	1580	154	118	---	---	60	---	---	621	< 0.00195	165	< 0.0556	1040	2760
(Replicate A)	23-Sep-2015	1	20.8	1.35	9.45	23.5	---	6.82 #1	2.75	---	266	2150	---	---	112	8.38	---	240	83.2	67.6	---	753	75.4	81.6	---	---	30.5	---	---	331	< 0.00236	57.9	0.088	703	1330
(Replicate B)	22-Sep-2015	1	19.4	0.787	13.4	47	---	14.7 #1	< 6.15	---	421	3700	---	---	160	13.2	---	501	80.7	93.4	---	1150	115	107	---	---	45.5	---	---	601	< 0.00342	130	0.19 #1	869	2090
	30-Aug-2016	1	10.1	0.456 #1	6.78	24.8	---	7.13	1.93	---	191	1690	---	---	74.9	6.78	---	229	52.1	48.2	---	586	65.6	47.4	---	---	22.9	---	---	241	< 0.0018	46.9	< 0.057	422	991
	13-Sep-2017	1	4.01	0.28 #1	3.68	12.9	---	3.49	0.854	---	102	928	---	---	38.5	2.14	---	120	20.8	24.6	---	298	28.3	28.5	---	---	8.62	---	---	120	< 0.000389	32.1	< 0.0707	174	515
	30-Aug-2018	1	3.67	0.316	< 0.705	6.68	---	2.48	1.2	---	120	828	---	---	39.7	2.07	---	72.5	20.8	17	---	201	11.5	30.4	---	---	9.8	---	---	117	< 0.00025	21.1	< 0.0484	207	390
	26-Aug-2020	2	2.93	0.301 #1	1.11	4.25	---	1.41	0.77	---	34.1	357	---	---	18.8	1.08	---	33.4	10.8	7.46	---	114	9.72	11.5	---	---	4.9	---	---	42.6	< 0.000347	10.5	< 0.0576	86.3	181
	14-Sep-2023	5	4.20	< 0.66	< 0.94	3.56	---	2.09	< 0.72	---	34.2	---	351	---	13.2	< 0.87	---	29.4	12.9	5.36	109	---	6.00	---	22.8	---	3.10	---	---	37.7	< 0.00090	12.1	< 0.41	88.6	157
Brook Trout 5+	04-Oct-2006	4	26	---	< 0.10	---	19	3.8	< 0.10	< 0.10	---	---	---	250	100	---	35	250	---	36	---	210	96	51	---	1700	---	9.9	5.9	270	---	72	< 0.10	730	1100
	01-Sep-2011	2	43.4 #1	---	18.3	---	67.5	7.3 #1	< 2.0	262	---	---	---	322	145	---	75.0 #1	360	---	71.0	---	247	71.4	87.1	---	2540	---	16.2 #1	13.5	470	---	98.7	< 3.0	616	1480
	01-Sep-2013	1	18	0.395	15.2	36.8	---	12.4	< 4.96	---	276	3000	---	---	133	8.81	---	470	69.1	85.9	---	904	108	68	---	---	22.1	---	---	435	< 0.00419	98.4	< 0.206	689	1770
	21-Sep-2014	1	23.4	0.626	6.93 #1	36	---	8.56	< 5.25	---	410	3710	---	---	180	6.34	---	469	88.5	89.4	---	1160	80.2	135	---	---	51.9	---	---	587	< 0.00188	120	< 0.059	841	2010
	30-Aug-2016	1	58	1.55 #1	18.6	75.3	---	35.7	5.64	---	830	8380	---	---	412	21.6	---	1150	250	195	---	2490	171	214	---	---	106	---	---	1050	< 0.00485	242	< 0.0574	1970 #3	4630
(Duplicate)	30-Aug-2016	1	59.8	1.37	15.8	75.2	---	35.6	8.25	---	833	8720	---	---	432	22.8	---	1200	259	204	---	2580	175	254	---	---	111	---	---	1160	< 0.00213	250	< 0.064	1930	4890
	30-Sep-2021	1	4.01	< 0.50	2.00	---	---	---	0.67	---	39.6	---	438	---	19.4	0.44	---	32.0	13.5	7.68	149	---	9.27	---	28.1	---	3.20	---	---	47.3	< 0.00036	13.9	< 0.064	100	202
Brook Trout 6+	14-Sep-2023	3	5.40	< 0.42	1.10	4.70	---	2.94	< 0.62	---	38.7	---	427	---	16.9	0.85	---	42.7	10.7	4.40	125	---	7.69	---	26.5	---	3.20	---	---	47.5	< 0.00065	15.5	< 0.17	103	215
Brook Trout 11+	11-Sep-2007	2	12	---	12	---	11	< 1.3	< 1.2	73	---	---	---	130	52	---	39	110	---	19	---	120	39	18	---	730	---	< 1.4	2.7	100	---	23	< 1.1	430	460
Brook Trout 12+	11-Sep-2007	3	7.3	---	6.8	---	8.1	4.0	< 1.2	59	---	---	---	90	37	---	23	75	---	12	---	64	18	15	---	560	---	2.8	2.4	82	---	13	< 1.1	250	310
Brook Trout Unknown	23-Jul-2008	2	44	---	5.3	---	6.0	< 0.90	< 0.70	74	---	---	---	40	23	---	14	83	---	12	---	47	25	13	---	260	---	4.0	2.9	34	---	10	< 0.40	120	250
(Replicate A)	23-Jul-2008	2	10	---	2.6	---	3.7	< 0.90	< 0.70	35	---	---	---	34	28	---	8.7	36	---	5.9	---	44	22	8.5	---	220	---	1.7	1.7	23	---	9.4	< 0.40	110	160
(Replicate B)	23-Jul-2008	2	6.9	---	2.5	---	4.1	1.0	< 0.70	25	---	---	---	31	15	---	10	39	---	6.1	---	37	14	7.0	---	190	---	1.5	0.93	28	---	10	< 0.40	100	190
(Replicate C)	23-Jul-2008	2	8.3	---	2.2	---	3.0	< 0.80	< 0.60	26	---	---	---	25	16	---	8.2	34	---	5.9	---	32	17	7.7	---	170	---	1.7	1.5	22	---	6.8	< 0.30	86	150
Brook Trout (Stomach) 1+	01-Sep-2012	3	< 5.0	---	< 4.0	---	< 3.0	< 3.0	< 2.0	14.9	---	---	---	11.5 #1	< 3.0	---	< 5.0	17.8 #1	---	< 5.0	---	8.2 #1	< 4.0	< 3.0	---	86.2 #1	---	< 5.0	< 4.0	9.4 #1	---	< 4.0	< 4.0	17.3	56.6 #1
Brook Trout (Stomach) 2+	01-Sep-2012	3	< 0.50	---	< 0.30	---	< 0.30	< 0.30	< 0.20	1.77	---	---	---	2.09	0.54 #1	---	< 0.40	3.60	---	< 0.40	---	1.95 #1	1.19 #1	< 0.20	---	14.2	---	< 0.40	< 0.30	2.43	---	< 0.40	< 0.30	3.06	10.1
Brook Trout (Stomach) 3+	01-Sep-2012	5	1240	---	276	---	827	143	31.5	2780	---	---	---	3400	1340	---	721	3920	---	1000	---	2710	1730	979	---	20600	---	139	97.8	3730	---	558	2.2	4690	11400
(Re-analysis)	01-Sep-2012	5	2800	---	429	---	1290	332	< 2.0	8680	---	---	---	5740	2330	---	785	8680	---	1930	---	4320	3360	2260	---	54600	---	235	158	5370	---	931	< 4.0 #1	4350	21200
Certified Reference Materials																																			
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WMF-01-CRM	04-Oct-2006	---	4900	---	2000	---	4700	720	< 0.30	27000	---	---	---	23000	21000	---	6900	23000	---	4700	---	21000	470	9400	---	170000	---	2900	910	18000	---	6800	< 0.70	83000	93000
	11-Sep-2007	---	6100	---	2500	---	5000	690	400	25000	---	---	---	28000	23000	---	6300	23000	---	3900	---	22000	6300	9200	---	210000	---	2700	880	25000	---	5000	< 11	62000	84000
	23-Jul-2008	---	5800	---	2000	---	4300	710	250	22000	---	---	---	19000	16000	---	6000	20000	---	3900	---	19000	6200	7900	---	190000	---	2100	890	21000	---	4300	< 7.0	60000	90000
	11-Aug-2009	---	6350	---	2230	---	5090	691	< 47	27900	---	---	---	13600	5810	---	6670	22800	---	4720	---	14900	4710	5840	---	198000	---	2560	760	27400	---	3260	< 110	43700	108000
	11-Aug-2010	---	7670	---	2350	---	6040	731	< 6.6	23900	---	---	---	14400	11400	---	5970	15000	---	3690	---	8860	2700	7250	---	152000	---	1610	660	21400	---	1750	< 7.6	32900	54600

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 120 (ng/kg)	PCB 121 (ng/kg)	PCB 122 (ng/kg)	PCB 123 (ng/kg)	PCB 124 (ng/kg)	PCB 126 (ng/kg)	PCB 127 (ng/kg)	PCB 128/162 (ng/kg)	PCB 128/166 (ng/kg)	PCB 129/138/160/163 (ng/kg)	PCB 129/138/163 (ng/kg)	PCB 129/158 (ng/kg)	PCB 130 (ng/kg)	PCB 131 (ng/kg)	PCB 131/133/142 (ng/kg)	PCB 132 (ng/kg)	PCB 133 (ng/kg)	PCB 134/143 (ng/kg)	PCB 135/151 (ng/kg)	PCB 135/151/154 (ng/kg)	PCB 136 (ng/kg)	PCB 137 (ng/kg)	PCB 137/164 (ng/kg)	PCB 138 (ng/kg)	PCB 139/140 (ng/kg)	PCB 139/143 (ng/kg)	PCB 140 (ng/kg)	PCB 141 (ng/kg)	PCB 142 (ug/kg)	PCB 144 (ng/kg)	PCB 145 (ng/kg)	PCB 146 (ng/kg)	PCB 147/149 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Materials - Continued																																			
	01-Sep-2011	---	8310	---	2060	---	6880	706	< 10	32700	---	---	---	20100	21000	---	10600	38500	---	6640	---	25500	7800	11200	---	234000	---	3180	1230	29500	---	5610	< 20	61400	127000
	01-Sep-2012	---	5840	---	1870	---	5140	713	163	23900	---	---	---	16800	16200	---	6230	18900	---	3980	---	16700	5290	8620	---	159000	---	2180	781	20800	---	3950	< 10	41800	71600
NIST SRM 1946	11-Oct-2013	---	---	---	---	---	---	286	---	---	21700	173000	---	---	---	---	---	6510	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	33800	32500
	31-Aug-2016	---	---	---	---	---	---	366	---	---	19300	157000	---	---	---	---	---	6460	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	30500	28500
	03-Nov-2018	---	---	---	---	---	---	332	---	---	26700	206000	---	---	---	---	---	6780	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	35200	26800
EDF-2524	15-Oct-2014	---	---	---	---	8.11	---	< 1.38	---	---	131	997	---	---	---	---	---	---	---	---	---	372	---	36.1	---	---	---	---	---	126	---	---	---	212	775
CRM EDF2524	23-Sep-2015	---	---	---	---	10.4	---	< 2.65	---	---	156	1160	---	---	---	---	---	---	---	---	---	399	---	36.2	---	---	---	---	---	136	---	---	---	269	873
CRM EDF-5462	13-Oct-2022	---	10.1	< 2.6	9.1	---	---	---	5.4	---	596	---	4410	---	114	7.1	---	227	53.0	36.6	385	---	33.1	---	226	---	22.6	---	---	256	< 0.0035	43.2	< 0.62	465	706
	15-Nov-2023	---	13.0	< 4.0	8.0	59.9	---	54.2	< 5.2	---	568	---	3910	---	95	< 10	---	198	47.0	24	284	---	19.0	---	223	---	23.0	---	---	221	< 0.01	39.1	< 2.5	428	592

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript $^{\#1}$ - EMPC
9. Superscript $^{\#2}$ - RRR
10. Superscript $^{\#3}$ - lock mass intereference (lab qualifier originally G)
11. Superscript $^{\#4}$ - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript $^{\#5}$ - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 148 (ng/kg)	PCB 150 (ng/kg)	PCB 151 (ng/kg)	PCB 152 (ng/kg)	PCB 153/168 (ng/kg)	PCB 154 (ng/kg)	PCB 155 (ng/kg)	PCB 156 (ng/kg)	PCB 156/157 (ng/kg)	PCB 157 (ng/kg)	PCB 158 (ng/kg)	PCB 159 (ng/kg)	PCB 160 (ng/kg)	PCB 160/163 (ng/kg)	PCB 161 (ng/kg)	PCB 162 (ug/kg)	PCB 164 (ng/kg)	PCB 165 (ng/kg)	PCB 166 (ng/kg)	PCB 167 (ng/kg)	PCB 169 (ng/kg)	PCB 170 (ng/kg)	PCB 171/173 (ng/kg)	PCB 172 (ng/kg)	PCB 173 (ng/kg)	PCB 174 (ng/kg)	PCB 175 (ng/kg)	PCB 175/182 (ng/kg)	PCB 176 (ng/kg)	PCB 177 (ng/kg)	PCB 178 (ng/kg)	PCB 179 (ng/kg)	PCB 180/193 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																																			
Brook Trout 0+	04-Oct-2006	10	< 0.20	1.0	110	< 0.10	640	9.9	1.6	---	14	3.2	---	< 0.10	---	73	< 0.20	---	9.3	< 0.10	< 0.10	8.6	< 0.10	27	4.8	6.4	< 0.10	21	---	1.5	2.2	21	13	2.6	130
	11-Sep-2007	10	2.9	2.2	71	< 1.0	350	12	1.3	---	16	4.1	---	< 1.1	---	81	< 1.1	---	15	< 1.0	< 0.90	10	< 1.0	51	21	15	< 1.1	55	---	5.4	7.1	49	32	56	160
	23-Jul-2008	10	0.96	< 0.40	38	< 0.40	210	4.6	0.78	---	7.7	2.0	---	< 0.40	---	24	< 0.40	---	6.2	< 0.40	< 0.30	5.2	< 0.40	18	7.1	5.0	< 0.30	23	---	2.0	3.0	17	12	16	58
(Duplicate)	23-Jul-2008	10	0.70	< 0.40	43	< 0.40	240	5.7	1.2	---	8.8	2.1	---	< 0.40	---	36	< 0.40	---	7.4	< 0.40	< 0.30	5.9	< 0.40	19	7.3	5.5	< 0.30	24	---	2.3	3.3	19	14	17	65
	11-Aug-2009	10	< 13	< 11	27	< 8.7	257	< 12	< 12	---	11.7	< 6.2	---	< 5.4	---	27.6	< 9.0	---	< 2.4	< 11	< 6.3	< 6.7	< 7.1	26.0	10.1	< 6.3	< 5.5	19.0	---	< 4.7	< 3.2	21.5	10.3	10.2	74.4
	11-Aug-2010	10	< 0.90	< 1.1	16.3	< 0.70	183	4.0	< 1.6	---	11.5	3.7	---	< 1.0	---	37.7	< 1.0	---	10.2	< 1.6	< 0.90	6.9	< 1.0	29.5	16.1	16.3 [#1]	< 1.8	43.9	---	< 1.4	3.86	38.5	22.9	16.8	136
	01-Sep-2011	10	< 4.0	< 3.0	89.1	< 3.0	644	19.9	< 2.0	---	25.4 [#1]	4.7	---	< 2.0	---	102	< 3.0	---	17.8 [#1]	137	< 2.0	14.6	< 2.0	58.9	26.2	17.5	< 2.0	60.0 [#1]	---	4.2 [#1]	10.1	76.1	46.7	48.9 [#1]	167
	01-Sep-2012	10	3.2 [#1]	< 1.0	73.6	< 1.0	459	16.4	< 1.0	---	22.9	5.63	---	< 0.60	---	77.5	< 1.0	---	16.7	< 1.0	< 0.60	15.0	< 0.60	60.2	25.7	16.0	< 1.0	72.9	---	7.5	7.98	73.7	43.2	43.2	163
	01-Sep-2013	10	4.51	3.82	---	0.355 [#1]	685	---	1.3	---	34.8	---	37.7	5.87	---	---	< 0.232	0.00298	33	1.91	---	17.7	< 0.447	106	38	32.5	---	111	7.14	---	13.1	90.1	51	58.5	303
	21-Sep-2014	12	2.43	2.14	---	0.211	408	---	1.38	---	17.2	---	20.1	2	---	---	< 0.41	0.00192	15.9	1.26	---	9.07	< 0.375	47	18.8	13.4	---	46.4	3.47	---	6.77	42.2	29.6	32.6	129
	22-Sep-2015	11	6.08	5.11	---	0.443	886	---	1.68	---	38.9	---	43.3	6.43	---	---	< 1.56	0.00315	39.3	2.32	---	20.7	< 1.78	122	45.3	33.5	---	124	9.03	---	16.9	101	68.2	77.2	336
	30-Aug-2016	10	3.01	2.38	---	0.21 [#1]	447	---	0.894	---	17.7	5.04	20.3	0.343	---	---	< 0.245	0.00158	18.1	1.37	---	11.9	0.121 [#1]	57.6	20.3	14.3	---	56.1	3.78	---	7.23	41.5	29.2	33.1	179
	30-Aug-2018	10	2.21	1.71 [#1]	---	0.091	277	---	1.04	---	9.54	3.1	12.5	< 0.135	---	---	< 0.137	0.000992 [#1]	10.2	1.03	---	6.28	0.098	32.2	12.7	9.89	---	31.7	2.76	---	4.5	25.6	20.8	20.7	104
	06-Sep-2019	10	1.1	0.835	---	0.077	191	---	0.68	---	8.63	---	9.19	1.37	---	---	< 0.309	0.00088	7.78	0.563	---	4.22	< 0.38	23	7.7	5.67	---	19.6	1.5	---	2.47	15.8	12.1	12.1	70.4
	26-Aug-2020	11	1.57	1.02 [#1]	---	0.074 [#1]	206	---	0.639	7.79	---	2.33	8.92	1.53 [#1]	---	---	< 0.123	0.000721	7.93	0.621	---	5.55	0.087	24.6	9.53	6.98	---	23.6	2.03	---	3.49	20.2	14.4	15.8	79.5
	30-Sep-2021	10	0.250	0.082	---	< 0.074	38.0	0.942	0.441	---	---	---	1.47	< 0.14	< 0.15	---	< 0.14	0.00015	---	0.22	---	---	---	5.70	1.42	1.09	---	1.95	0.27	---	0.28	2.66	2.48	1.40	12.4
	13-Oct-2022	10	0.53	0.53	---	0.26	90.6	< 0.16	0.33	---	---	---	5.88	< 0.18	< 0.19	---	< 0.17	0.00031	---	< 0.20	---	---	---	8.20	1.89	1.20	---	3.70	0.23	---	0.99	6.21	4.05	3.89	14.3
Chrystina Lake																																			
Brook Trout 1+	11-Aug-2009	8	< 2.0	< 1.5	143	< 1.4	689	13.4	< 1.8	---	49.9	9.9	---	< 1.0	---	132	< 1.3	---	33.5	< 1.6	2.1	24.9	< 1.1	110	40.1	41.5	1.7 [#1]	146	---	7.7 [#1]	14.7	100	46.1	44.9	465
	01-Sep-2011	5	< 4.0	< 3.0	231	< 3.0	1350	25.9	< 3.0	---	68.1 [#1]	13.1	---	< 2.0	---	226	< 3.0	---	52.7	254	3.9 [#1]	37.5	< 2.0	207	88.6	53.6	< 3.0	224	---	12.8 [#1]	25.0 [#1]	225	97.3	84.1	639
	01-Sep-2012	4	11.4	5.1 [#1]	470	< 1.0	2770	57.7	2.2	---	230	52.2	---	< 0.70	---	501	< 1.0	---	141	< 1.0	9.84	112	< 0.70	413	174	102	7.1 [#1]	< 1.0	---	39.2	51.6	473	203	262	1190
(Replicate A)	01-Sep-2013	1	1.64	0.915	---	< 0.189	678	---	0.32	---	57.5	---	53.7	6.35	---	---	< 0.522	0.00291	30	0.647 [#1]	---	26.5	< 0.812	127	41.5	34.5	---	112	7.25	---	12.4	91.1	42.6	43.8	356
(Replicate B)	01-Sep-2013	1	2.09	1.37	---	0.252	778	---	0.476	---	65.2	---	59.4	6.31	---	---	< 0.35	0.00306	32	0.881	---	29.4	< 0.925	157	47.3	40.5	---	119	8.36	---	12.3	99.6	49.2	50.8	411
	23-Sep-2015	1	48.4	17.1	---	4.42	7820	---	1.39	---	362	---	583	59.5	---	---	< 3.8	0.0232	412	5.66	---	234	< 8.1	1240	250	229	---	861	47.6	---	76.8	723	350	361	3110
	31-Aug-2016	2	6.44	4.52	---	0.342	1250	---	1.82 [#1]	---	46.9	12.4	65	2.25	---	---	< 0.58	0.0117	51.7	3.11	---	30.3	0.849	162	51.2	38.9	---	135	9.71	---	15.5	100	69.9	80.6	503
	12-Sep-2017	3	3.88	2.93 [#1]	---	0.379	975	---	0.904	---	69.2	---	66.8	5.11	---	---	< 0.383	0.00399	34.2	1.81 [#1]	---	32.7	< 0.379	159	51.7	41.7	---	118	10.3	---	13.7	100	65.1	64.4	535
	29-Aug-2018	3	2.5 [#1]	2.05	---	0.337 [#1]	788	---	1.08	---	39.9	9.7	52.5	5.81	---	---	< 0.238	0.00258	31.8	1.43	---	23.8	0.362	119	43.5	34.8	---	121	8.71	---	12.5	89.2	51.1	51.1	389
(Replicate A)	05-Sep-2019	4	4.07	3.34	---	0.228	925	---	1.85	---	48.9	---	49.4	7.23	---	---	< 0.457	0.00394	35.3	2.36	---	23.1	< 0.476	124	47.4	36.5	---	124	8.66	---	13.5	102	61	64.6	404
(Replicate B)	05-Sep-2019	4	5.59	3.66	---	0.304	1000	---	1.94	---	52.9	---	51.2	7.91	---	---	< 0.641	0.00424	37.4	2.83	---	25.9	< 0.675	133	43.9	33.7	---	120	8.56	---	13	96.2	64.8	64.5	403
	25-Aug-2020	7	3.17	2.14	---	0.343	943	---	0.982 [#1]	50.2	---	12.5	59.4	7.2	---	---	< 0.495	0.00346 [#1]	30.8	1.52	---	29.8	0.307	142	43.9	37.5	---	103	8.61	---	12.2	86.4	57.6	56.6	468
	29-Sep-2021	8	10.8	5.14	---	1.00	2140	< 0.17	0.66	---	---	---	157	14.9	< 0.37	---	< 0.33	0.00852	---	4.28	---	---	---	491	136	112	---	354	25.1	---	40.9	295	152	158	1280
	12-Oct-2022	8	1.60	< 0.49	---	0.56	1110	< 0.49	< 0.50	---	---	---	87.4	6.5	< 1.4	---	< 1.5	0.0048	---	< 1.5	---	---	---	187	53.7	54.8	---	135	11.0	---	16.2	111	72.7	57.3	529
	13-Sep-2023	5	1.40	1.00	---	0.32	658	7.50	0.55	---	47.1	---	42.7	3.10	< 0.78	---	< 0.83	0.00267	---	1.30	---	22.0	0.230	100	27.2	25.8	---	60.5	6.01	---	5.90	54.8	37.0	25.5	318
Brook Trout 2+	11-Aug-2009	3	13.0	2.6 [#1]	702	< 2.0	3660	80.8	< 2.3	---	273	52.3	---	< 1.4	---	838	< 1.8	---	164	< 2.2	10.3	154	< 1.6	531	172	210	4.5	552	---	45.3	44.9	415	223	178	2490
	11-Aug-2010	5	4.7	2.7	622	< 1.1	5500	62.7	< 2.3	---	477	88.6	---	< 1.7	---	957	< 1.7	---	292	< 2.4	16.6	239	< 1.6	< 1.6	619	516	< 2.7	1580	---	121	92.0	1310	502	375	6140
	12-Aug-2010	3	18.7	8.4 [#1]	2310	< 2.0	9480	179	< 2.2	---	868	166	---	3.1 [#1]	---	2630	< 1.8	---	600	< 2.4	40.9	422	< 1.6	1960	720	784	10.4	2180	---	154	175	1740	784	672	9510
	01-Sep-2011	4	95.5	31.0	8200	< 5.0	43600	957	< 5.0	---	1680	346	---	< 4.0	---	6050	< 6.0	---	1340	8540	98.0	953	< 4.0	4940	1880	1370	26.4	5910	---	416	556	4760	2010	2510	16200
(Replicate)	01-Sep-2011	4	---	---	---	---	---	---	---	---	2680	504	---	---	---	---	---	---	---	---	---	1390	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	---	---	---	3110	596	---	---	---	---	---	---	---	---	---	1550	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	---	---	---	4750	931	---	---	---	---	---	---	---	---	---	2410	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	---	---	---	2610	509	---	---	---	---	---	---	---	---	---	1360	< 2.0	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	---	---	---	4340	865	---	---	---	---	---	---	---	---	---	2310	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2011	4	117	38.7	8830	< 6.0	49800	959	< 5.0	---	2280	435	---	< 4.0	---	8230	< 6.0	---	1960	7990	119	1130	< 4.0	6500	1880	1640	38.7	5730	---	432	655	4580	2120	3020	20500
	01-Sep-2012	4	6.7	2.1 [#1]	444	< 1.0	2750	43.1	< 2.0	---	216	39.8	---	< 0.70	---	429	< 1.0	---	113	< 1.0	6.67	109	< 0.70	470	188	118	6.3 [#1]	527	---	45.1	47.4	456	202	207	1390
	01-Sep-2013	4	7.3	3.56	---	0.826	4230	---	0.831	---	380	---	377	26.9	---	---	< 0.872	0.0171	172	2.91	---	161	< 2.48	678	205	170	---	512	33.4	---	44.1	427	192	199	1830
	22-Sep-2014	4	5.9	2.82 [#1]	---	0.788	4310	---	0.479 [#1]	---	393	---	388	23.6	---	---	< 1.24	0.0188	183	2.43	---	163	< 2.23	728	204	179	---	494	32.7	---	39	435	199	200	2030
(Replicate A)	22-Sep-2014	1	1.71	1.25	---	0.382	1500	---	0.189	---	135	---	143	9.71	---	---	< 0.351	0.00654	66.4	0.967	---	56.2	< 0.893	278	90.5	69.2	---	212	14.5	---	20.7	177	82.3	85.4	764
(Replicate B)	22-Sep-2014	1	2.12	1.26	---	0.398	1810	---	0.347	---	164	---	163	8.98	---	---	< 0.494	0.00898	70	1.38	---	70.9	< 1.39	345	106	84.7	---	198	16.8	---	21.3	172	92.2	87	959
	23-Sep-2015	4	10.7	6	---	1.32	5860	---	0.632	---	450	---	500	38.3	---	---	< 1.54	0.0164	241	3.31	---	197	4.85 [#1]	871	192	147	---	512	35.2	---	47	398	188	218	2350

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 148 (ng/kg)	PCB 150 (ng/kg)	PCB 151 (ng/kg)	PCB 152 (ng/kg)	PCB 153/168 (ng/kg)	PCB 154 (ng/kg)	PCB 155 (ng/kg)	PCB 156 (ng/kg)	PCB 156/157 (ng/kg)	PCB 157 (ng/kg)	PCB 158 (ng/kg)	PCB 159 (ng/kg)	PCB 160 (ng/kg)	PCB 160/163 (ng/kg)	PCB 161 (ng/kg)	PCB 162 (ug/kg)	PCB 164 (ng/kg)	PCB 165 (ng/kg)	PCB 166 (ng/kg)	PCB 167 (ng/kg)	PCB 169 (ng/kg)	PCB 170 (ng/kg)	PCB 171/173 (ng/kg)	PCB 172 (ng/kg)	PCB 173 (ng/kg)	PCB 174 (ng/kg)	PCB 175 (ng/kg)	PCB 175/182 (ng/kg)	PCB 176 (ng/kg)	PCB 177 (ng/kg)	PCB 178 (ng/kg)	PCB 179 (ng/kg)	PCB 180/193 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																				
	31-Aug-2016	2	7.66	3.8	---	0.633 #1	5680	---	0.827	---	488	96.6	470	6.43	---	---	< 2.04	0.0323	160	3.05	---	255	1.28	1210	269	287	---	460	54.8	---	43.2	644	324	198	3810
(Replicate A)	12-Sep-2017	3	5.28	2.18	---	0.429 #1	2210	---	0.789	---	180	---	174	9.75	---	---	< 1.15	0.00839	72.2	2.22	---	82.8	< 1.14	370	109	93	---	227	19.8	---	22.4	205	124	118	1230
(Replicate B)	12-Sep-2017	1	3.93	2.27	---	0.332	1920	---	1.09	---	150	---	146	8	---	---	< 0.252	0.00841	60.1	2.41 #1	---	69.9	< 0.749	325	101	81.7	---	176	17.5	---	19.5	172	105	96.8	1110
	29-Aug-2018	3	9.26	3.92	---	1.09	3470	---	0.876	---	175	35	269	19.2	---	---	< 0.239	0.0097	124	2.89	---	97.5	0.531	460	176	126	---	385	28.7	---	34.8	267	178	171	1670
(Replicate A)	05-Sep-2019	4	2.58	1.93	---	0.466	1790	---	0.529	---	127	---	128	15.6	---	---	< 0.52	0.00876	67.8	1.73	---	62.8	< 0.673	286	96	77.5	---	233	16.8	---	23.7	186	95.4	98	903
(Replicate B)	05-Sep-2019	4	2.98	1.96	---	0.387	2040	---	0.613	---	157	---	153	16.6	---	---	< 0.397	0.0101	72.9	1.85	---	74.8	< 0.79	363	114	96	---	242	19.7	---	24.3	198	112	102	1150
(Replicate A)	25-Aug-2020	7	4.27	2.69	---	0.504 #1	2170	---	0.696	140	---	30.5	145	13.6	---	---	< 0.653	0.00811	61.1	2.2	---	74.5	0.532	371	113	93.8	---	209	19.1	---	23.6	197	118	109	1230
(Replicate B)	25-Aug-2020	7	5.11	3.18	---	0.7 #1	1760	---	0.832	98.9	---	22.2	121	14.4	---	---	< 0.648	0.00704	57	2.24	---	56.9	0.352	268	88.8	68.8	---	201	16.7	---	21.6	174	100	104	872
	29-Sep-2021	10	11.4 #4	4.75 #4	---	1.03 #4	2540 #4	< 0.082 #4	0.727 #4	---	---	---	175 #4	16.2 #4	< 0.23 #4	---	< 0.20 #4	0.00950 #4	---	4.58 #4	---	---	---	569 #4	154 #4	131 #4	---	357 #4	27.7 #4	---	35.8 #4	319 #4	174 #4	160 #4	1500 #4
	12-Oct-2022	9	25.6	8.59	---	1.71	4920	< 0.15	1.06	---	---	---	331	27.8	< 0.62	---	< 0.56	0.0184	---	8.44	---	---	---	968	244	218	---	584	45.8	---	56.2	543	301	255	2530
	13-Sep-2023	5	3.26	1.40	---	< 0.32	1840	23.0	< 0.20	---	137	---	106	7.6	< 1.1	---	< 1.2	0.0081	---	2.8	---	65.4	0.373	255	65.1	68.3	---	137	13.7	---	12.6	131	87.9	54.2	875
Brook Trout 3+	04-Oct-2006	3	0.51	< 0.10	610	< 0.10	2400	18	< 0.10	---	160	13	---	< 0.10	---	470	< 0.10	---	100	< 0.10	< 0.10	76	< 0.10	430	210	77	< 0.10	1100	---	< 0.10	40	740	270	850	1600
	11-Aug-2010	5	4.0	< 1.4	472	< 1.0	4490	45.5	< 2.1	---	382	65.6	---	< 1.5	---	849	< 1.5	---	194	< 2.1	16.1	188	< 1.4	1020	499	449	< 2.6	1130	---	96.8	60.8	1040	432	276	5010
(Duplicate)	11-Aug-2010	5	3.9	< 1.4	444	< 0.90	4400	51.2	< 1.9	---	366	62.0	---	< 1.4	---	874	< 1.3	---	197	< 2.1	13.8	193	< 1.3	1030	486	438	< 2.7	1090	---	94.0	59.1	1030	404	260	4890
(Replicate A)	12-Aug-2010	4	12.6	< 2.1	1330	< 2.0	6140	92.3	< 2.1	---	502	96.5	---	< 1.4	---	1400	< 1.8	---	332	< 2.2	24.5 #1	258	< 1.5	944	323	355	8.9	1090	---	67.2	94.1	841	412	376	4370
(Replicate A)	01-Sep-2012	1	4.51	1.22 #1	322	< 0.70	1890	30.7	< 0.90	---	154	28.5	---	< 0.40	---	338	< 0.70	---	62.7	< 0.70	6.26	75.9	< 0.40	309	123	80.1	2.01	304	---	28.6	27.6	284	136	129	999
(Duplicate)	01-Sep-2012	1	3.8	< 0.70	301	< 0.70	1860	28.4	< 1.0	---	140	26.0	---	< 0.40	---	317	< 0.70	---	62.1	< 0.80	4.60	75.8	< 0.40	295	124	75.3	2.48 #1	281	---	26.7	26.2	273	124	127	949
(Replicate B)	01-Sep-2012	1	< 1.0	< 0.90	161	< 0.90	1140	12.2	< 1.0	---	102	17.8	---	< 0.50	---	185	< 0.90	---	36.7	< 1.0	2.85 #1	51.0	1.37	213	78.4	56.4	2.86	175	---	17.1	15.7	155	89.9	72.8	648
(Replicate C)	01-Sep-2013	1	8.1	2.8	---	0.504	2530	---	0.459	---	211	---	178	12.4	---	---	< 1.17	0.00786	66.4	1.88	---	93.7	< 2.38	482	135	116	---	223	19.8	---	25.6	257	120	108	1410
(Replicate D)	01-Sep-2013	1	5.97	2.39	---	0.4	2750	---	0.451	---	245	---	228	15.6	---	---	< 0.575	0.0106	89.4	1.56	---	106	< 2.19	473	149	119	---	285	24.3	---	27.6	320	134	124	1310
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	< 7.0	< 4.0	321	< 5.0	2270	27.6 #1	< 7.0	---	193	34.1	---	< 4.0	---	328	< 5.0	---	51.2	< 5.0	7.8	104	< 5.0	343	134	79.5	< 6.0	270	---	28.4 #1	27.2 #1	286	140	138	1160
	22-Sep-2014	4	19.5	4.43	---	0.955	6360	---	0.515	---	484	---	510	33.2	---	---	< 1.08	0.0232	253	3.39	---	209	< 2.61	943	280	233	---	717	46.1	---	63.8	661	297	285	2660
(Replicate A)	22-Sep-2014	4	3.29	1.68	---	0.424	2500	---	0.46	---	212	---	207	11.3	---	---	< 0.625	0.011	86.5	1.83	---	94.5	< 1.62	472	146	118	---	248	23.3	---	24.7	251	130	116	1280
(Replicate B)	22-Sep-2014	1	7.08	1.63	---	0.147	4100	---	0.479	---	340	---	371	23.2	---	---	< 0.814	0.0165	151	2.32	---	142	< 2.06	738	248	190	---	523	38	---	29.1	519	197	150	2040
(Duplicate)	22-Sep-2014	1	21.1	5.45	---	1.06	6220	---	0.427	---	438	---	475	33.1	---	---	< 1.96	0.0223	255	2.98	---	192	< 2.63	886	310	233	---	792	48.9	---	72	699	306	339	2500
	23-Sep-2015	3	19	9.63	---	2.51	8830	---	0.611	---	592	---	743	51.9	---	---	< 3.56	0.0227	379	< 4.03	---	259	< 6.44	1110	390	262	---	1140	70.1	---	99.8	861	392	473	3070
	31-Aug-2016	2	17.1	8.04	---	1.66	10500	---	0.484	---	634	123	845	10.9	---	---	< 3.01	0.0347	450	< 3.58	---	324	0.978	1370	413	313	---	1120	69.9	---	94.1	789	411	487	4140
(Replicate A)	31-Aug-2016	2	18.1	6.41	---	1.27	8570	---	0.668	---	489	97.2	618	10.3	---	---	< 2.68	0.0631	339	3.86 #1	---	253	0.894	1080	309	243	---	914	52.9	---	74.2	653	332	369	3560
(Duplicate)	31-Aug-2016	1	16.9	7.81	---	1.6	10200	---	0.431 #1	---	611	120	807	9.11	---	---	< 3.15	0.0248	419	< 3.75	---	309	0.906 #1	1300	399	303	---	1080	68.9	---	91.1	766	397	473	4050
	12-Sep-2017	3	5.11	2.07	---	0.43 #1	2760	---	0.486	---	256	---	232	12.8	---	---	< 0.27	0.0123	95.2	1.97	---	109	< 0.937	470	137	121	---	309	24	---	29.8	269	143	133	1600
	29-Aug-2018	3	6.59	2.87	---	0.563	3530	---	1.08	---	223	43.7	286	16.6	---	---	< 0.302	0.0127	112	2.62	---	121	0.561	556	197	155	---	353	29.9	---	33.3	270	209	160	1970
(Duplicate)	29-Aug-2018	3	6.48	3.25	---	0.695 #1	3530	---	0.925	---	201	40.2	252	14.6	---	---	< 0.245	0.0113	107	2.61	---	109	0.582	513	171	140	---	280	27.8	---	31.2	256	171	149	1760
(Lab Replicate)	29-Aug-2018	3	7.23	3.19	---	0.566	3400	---	0.846 #1	---	206	40	250	14.9	---	---	< 0.415	0.0113	110	2.55	---	114	0.466 #1	508	170	142	---	289	26.7	---	31.9	265	185	159	1740
	05-Sep-2019	4	5.4	2.66	---	0.82	3240	---	0.582	---	244	---	239	22	---	---	< 0.506	0.0126	116	2.41	---	113	< 1.13	509	165	137	---	345	27	---	33.8	278	157	138	1760
	29-Sep-2021	3	7.63	3.14	---	0.77	1730	< 0.12	0.520	---	---	---	126	10.9	< 0.44	---	< 0.38	0.00706	---	2.50	---	---	---	375	98.9	81.1	---	257	18.3	---	24.8	205	113	111	927
(Duplicate)	29-Sep-2021	3	15.8	5.90	---	< 0.32	4500	< 0.28	1.10	---	---	---	317	28.5	< 0.99	---	< 0.86	0.0191	---	7.5	---	---	---	872	238	197	---	574	40.9	---	59.2	475	254	252	2300
	12-Oct-2022	3	22.0	7.53	---	1.00	4660	< 0.58	0.40	---	---	---	335	28.3	< 1.5	---	< 1.4	0.0150	---	7.8	---	---	---	829	248	209	---	630	42.8	---	54.4	557	289	252	2270
	13-Sep-2023	5	12.7	3.16	---	0.660	3250	63.8	0.639	---	242	---	200	13.4	< 0.95	---	< 0.81	0.0136	---	4.64	---	112	0.667	582	171	178	---	365	27.4	---	32.5	319	227	136	1990
Brook Trout 4+	04-Oct-2006	7	17	3.8	3500	< 0.20	20000	230	1.0	---	900	150	---	2.2	---	2300	2.0	---	540	< 0.30	20	480	< 0.2	2200	290	540	8.9	1200	---	68	88	870	360	< 0.10	8200
	01-Sep-2011	2	40.6	15.5 #1	3470	< 5.0 #1	19600	321	< 4.0	---	820	140	---	< 4.0	---	2700	< 6.0	---	575	3510	43.0	450	< 3.0	2140	674	657	17.0 #1	2030	---	158	214	1700	824	923	7700
	01-Sep-2013	2	39.4	12.1	---	2.25	14200	---	0.531	---	906	---	1000	92.4	---	---	< 2.04	0.0371	546	4.79 #1	---	395	< 6.29	1810	598	479	---	1790	102	---	168	1450	621	786	5270
	22-Sep-2014	1	25.8	9.69	---	2.48	17400	---	0.532 #1	---	1350	---	1480	84.4	---	---	< 2.4	0.0569	722	6.8	---	575	< 6.83	2440	724	617	---	1970	126	---	169	1620	704	766	7060
(Replicate A)	23-Sep-2015	1	9.66	4.29	---	1.2	5090	---	0.545	---	370	---	403	26.6	---	---	< 1.8	0.0164	190	2.6	---	171	< 4.13	837	284	208	---	574	47.2	---	68.6	541	242	246	2390
(Replicate B)	23-Sep-2015	1	14.8	5.37	---	1.22	6820	---	0.575	---	515	---	562	35.8	---	---	< 3.77	0.0164	272	< 4.27	---	224	< 5.33	1020	333	243	---	839	58.7	---	76.5	699	305	312	2790
	12-Sep-2017	1	7.32	2.91	---	0.59	5140	---	0.621	---	445	---	391	20.5	---	---	< 0.499	0.0175	157	3.18 #1	---	191	< 1.96	813	224	202	---	504	36.8	---	38.3	445	232	213	2940
(Replicate A)	29-Aug-2018	1	10.4	5.02	---	1.34	7350	---	0.872	---	437	89.6	622	40.9	---	---	< 0.345	0.0173	263	3.19	---	230	0.992	962	372	271	---	917	59.8	---	67	615	400	326	3390
(Replicate B)	29-Aug-2018	1	5.78	2.41 #1	---	0.306 #1	5320	---	1.95	---	337	63.6	354	15	---	---	< 1.04	0.00941	96.1	2.99 #1	---	186	0.75	871	235	192	---	289	34.7	---	31.5	355	205	142	2830
(Replicate C)	29-Aug-2018	1	4.72	2.32	---	0.608	4550	---	0.686	---	284	53.6	340	20.3	---	---	< 0.233	0.0113	125	2.24	---	150	< 0.751	708	255	203	---	443	37.6	---	44.1	371	220	180	2500
	25-Aug-2020	1	2.3	1.31	---	0.369 #1	1610	---	0.338 #1	101	---	20.4	116	10.8	---	---	< 0.71	0.00592	44.1	1.15 #1	---	57	0.347	269	86.8	66.9	---	145	14.3	---	17	152	77.4	68.4	898

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 148 (ng/kg)	PCB 150 (ng/kg)	PCB 151 (ng/kg)	PCB 152 (ng/kg)	PCB 153/168 (ng/kg)	PCB 154 (ng/kg)	PCB 155 (ng/kg)	PCB 156 (ng/kg)	PCB 156/157 (ng/kg)	PCB 157 (ng/kg)	PCB 158 (ng/kg)	PCB 159 (ng/kg)	PCB 160 (ng/kg)	PCB 160/163 (ng/kg)	PCB 161 (ng/kg)	PCB 162 (ug/kg)	PCB 164 (ng/kg)	PCB 165 (ng/kg)	PCB 166 (ng/kg)	PCB 167 (ng/kg)	PCB 169 (ng/kg)	PCB 170 (ng/kg)	PCB 171/173 (ng/kg)	PCB 172 (ng/kg)	PCB 173 (ng/kg)	PCB 174 (ng/kg)	PCB 175 (ng/kg)	PCB 175/182 (ng/kg)	PCB 176 (ng/kg)	PCB 177 (ng/kg)	PCB 178 (ng/kg)	PCB 179 (ng/kg)	PCB 180/193 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
	29-Sep-2021	1	9.14	4.24	---	< 0.21	2720	< 0.20	0.68	---	---	---	191	16.5	< 0.47	---	< 0.42	0.00978	---	4.43	---	---	---	513	146	121	---	333	26.8	---	36.6	291	162	151	1360
Brook Trout 5+	04-Oct-2006	5	8.9	< 0.20	2100	< 0.20	9400	94	< 0.30	---	510	81	---	< 0.20	---	1400	< 0.30	---	300	< 0.20	11	250	< 0.20	1100	160	280	< 0.10	690	---	33	42	490	210	8.6	4300
	11-Sep-2007	2	15	1.8	1300	< 1.7	5600	75	< 1.8	---	380	70	---	2.9	---	1100	< 1.8	---	240	< 1.4	12	220	< 1.5	1100	370	310	6.5	1100	---	82	68	920	430	600	3900
	12-Aug-2010	1	3.8 [#1]	< 2.2	447	< 2.2	2860	41.0	< 2.5	---	233	37.9	---	< 1.5	---	469	< 1.9	---	96.6	< 2.3	8.0 [#1]	132	< 1.5	532	210	176	< 2.3	348	---	41.2	42.4	437	166	129	2250
	01-Sep-2013	1	58.5	18	---	4.91	33700	---	0.775	---	2070	---	2280	217	---	---	< 6.14	0.0793	1260	10.7	---	908	< 15	4390	1410	1190	---	4390	241	---	338	3150	1430	1710	12900
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	54.3	11.5	5260	< 6.0 [#1]	30100	314	< 8.0	---	1990	380	---	< 5.0	---	3650	< 6.0	---	822	< 5.0	79.6	1000	< 5.0	3830	1560	938	17.5	4730	---	316	361	3940	1710	2090	13500
	23-Sep-2015	1	9.93	5.34	---	1.73	7830	---	0.601	---	588	---	628	40.3	---	---	< 3	0.0243	266	3.88 [#1]	---	271	< 6.1	1230	397	315	---	843	67.1	---	89.3	761	343	336	3590
	30-Aug-2016	1	12.5	4.74	---	1.26	7460	---	0.456	---	489	92.8	574	2.96	---	---	< 1.65	0.0315	248	2.95	---	243	0.65	1100	326	264	---	835	49.9	---	59.4	662	301	300	3430
	12-Sep-2017	1	27	7.53	---	2.18	15700	---	1.06	---	1110	---	1440	71.4	---	---	< 0.79	0.0709	511	10	---	632	3.5	2770	821	676	---	1690	147	---	112	1640	781	581	8480
(Re-analysis)	12-Sep-2017	1	16.5	5.48	---	1.5 [#1]	11000	---	0.873	---	770	---	959	46	---	---	< 6.42	0.0484	374	< 7.22	---	441	2.47	1910	654	572	---	1400	113	---	90.2	1340	615	445	5810
	29-Sep-2021	1	4.30 [#4]	1.88 [#4]	---	0.63 [#4]	2530 [#4]	< 0.57 [#4]	0.67 [#4]	---	---	---	182 [#4]	14.9 [#4]	< 1.1 [#4]	---	< 1.0 [#4]	0.0080 [#4]	---	3.5 [#4]	---	---	---	566 [#4]	149 [#4]	123 [#4]	---	288 [#4]	28.0 [#4]	---	30.6 [#4]	278 [#4]	154 [#4]	131 [#4]	1400 [#4]
Brook Trout 6+	11-Sep-2007	3	13	3.3	1300	< 2.3	6600	100	< 2.3	---	460	84	---	< 2.5	---	1500	< 2.4	---	290	< 2.0	16	250	< 2.1	1400	490	370	6.2	1300	---	110	89	1100	450	660	4900
Brook Trout 7+	11-Sep-2007	3	2.3	< 1.1	290	< 1.2	1300	17	1.4	---	120	24	---	< 1.3	---	280	< 1.3	---	75	< 1.2	3.6	58	< 1.3	260	74	68	< 1.1	260	---	16	17	200	93	160	830
(Duplicate)	11-Sep-2007	3	3.6	< 1.3	290	< 1.6	1200	19	< 1.6	---	110	20	---	< 1.8	---	310	< 1.7	---	71	< 1.5	3.2	52	< 1.5	250	70	65	< 1.5	250	---	18	16	190	91	150	820
Brook Trout 11+	11-Sep-2007	2	14	1.8	1400	< 1.7	6600	81	< 1.8	---	460	89	---	3.6	---	1400	< 1.8	---	300	< 1.4	17	220	< 1.4	1400	430	320	< 1.4	1300	---	96	74	1000	430	700	5100
Brook Trout 12+	11-Sep-2007	2	21	2.9	2000	< 2.6	8600	120	< 2.7	---	600	110	---	< 2.9	---	2000	< 2.8	---	410	1500	21	320	< 2.5	1700	560	460	6.8	1700	---	130	110	1400	620	1000	5700
Brook Trout Unknown	23-Jul-2008	3	2.9	< 0.70	160	< 0.70	870	18	1.1	---	49	9.2	---	< 0.60	---	140	< 0.80	---	32	< 0.80	1.5	27	< 0.80	120	37	32	1.4	120	---	10	10	100	48	48	340
(Replicate)	23-Jul-2008	3	1.6	1.2	62	< 0.40	360	8.3	0.78	---	17	4.1	---	< 0.40	---	36	< 0.50	---	12	< 0.40	0.57	10	< 0.40	42	17	12	0.54	49	---	3.9	5.7	43	24	27	120
(Replicate A)	23-Jul-2008	2	4.8	1.5	200	< 0.50	1400	32	0.98	---	77	15	---	0.47	---	180	< 0.50	---	45	< 0.50	2.7	43	< 0.50	190	59	51	1.9	190	---	16	16	170	76	70	550
(Replicate B)	23-Jul-2008	2	1.6	1.0	110	< 0.50	710	9.7	0.73	---	45	8.3	---	< 0.40	---	96	< 0.50	---	24	< 0.50	1.3	24	< 0.60	84	29	24	0.97	75	---	6.7	7.7	71	33	36	240
(Replicate C)	23-Jul-2008	2	1.5	< 0.70	150	< 0.80	770	8.4	0.85	---	47	10	---	< 0.70	---	74	< 0.80	---	33	< 0.70	1.3	26	< 0.70	110	29	32	1.1	120	---	8.9	7.3	79	52	38	290
	12-Oct-2022	1	12.0	5.70	---	< 0.90	3020	< 0.86	0.57	---	---	---	252	24.5	< 2.2	---	< 2.1	0.0126	---	4.0	---	---	---	541	161	129	---	408	30.1	---	39.0	340	197	186	1460
(Replicate A)	13-Sep-2023	1	7.84 [#5]	1.90 [#5]	---	0.62 [#5]	2180 [#5]	45.4 [#5]	0.575 [#5]	---	171 [#5]	---	131 [#5]	7.85 [#5]	< 0.77 [#5]	---	< 0.66 [#5]	0.00860 [#5]	---	3.50 [#5]	---	79.6 [#5]	0.317	326 [#5]	97.8 [#5]	94.4 [#5]	---	179 [#5]	19.7 [#5]	---	16.7 [#5]	189 [#5]	124 [#5]	73.4 [#5]	1100 [#5]
(Replicate B)	13-Sep-2023	1	6.27	1.20	---	0.48	2000	22.1	0.30	---	142	---	112	8.40	< 0.83	---	< 0.89	0.00765	---	4.00	---	67.5	0.380	268	61.4	82.7	---	175	11.7	---	12.0	151	104	66.7	981
Brook Trout (Muscle only) 3+	01-Feb-2012	1	< 10	< 5.0	458	< 8.0	2860	10.6 [#1]	< 50	---	179	35.3	---	< 4.0	---	347	< 8.0	---	81.4	< 6.0	< 4.0	81.7	< 2.0	646	641	85.9	< 30	1940	---	50 [#1]	132 [#1]	1870	350	579	1110
Brook Trout (Skin Only) 3+	01-Feb-2012	1	< 10	< 5.0	1170	< 7.0	6280	26.2 [#1]	< 30	---	381	67.4	---	< 4.0	---	616	< 7.0	---	185	< 5.0	17.5 [#1]	180	< 2.0	1320	1220	222	< 20	4260	---	116 [#1]	280	4000	999	1310	2710
Brook Trout (Stomach) 1+	01-Sep-2012	4	< 2.0	< 2.0	19.8	< 2.0	119	< 2.0	< 3.0	---	11.2	2.8	---	< 1.0	---	16.0	< 2.0	---	4.6	< 2.0	< 1.0	5.4	< 1.0	17.2	< 2.0	< 1.0	< 2.0	20.4	---	< 2.0	< 1.0	15.3	11.7	10.7	54.8
Brook Trout (Stomach) 2+	01-Sep-2012	4	< 5.0	< 4.0	29.5 [#1]	< 4.0	362	< 4.0	< 20	---	53.0	7.7	---	< 2.0	---	36.7	< 4.0	---	4.5	< 4.0	< 2.0	31.9	< 2.0	77.5	< 10	< 3.0	< 20	< 10	---	< 10	< 10	< 20	58	< 10	328
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	< 2.0	< 2.0	15.7	< 2.0	95.2	< 2.0	< 2.0	---	9.7 [#1]	< 1.0	---	< 1.0	---	14.3	< 2.0	---	4.2	< 2.0	< 0.90	6.1	< 1.0	11.7	< 2.0	< 1.0	< 2.0	17.9	---	< 2.0	< 1.0	11.0 [#1]	5.2 [#1]	8.8 [#1]	40.5
(Replicate B)	01-Sep-2012	1	< 5.0	< 4.0	85.2 [#1]	< 4.0	646	7.4	< 5.0	---	65.0	13.5 [#1]	---	< 2.0	---	105	< 4.0	---	21.5	< 4.0	< 2.0	32.6	< 2.0	123	66.3	33.1 [#1]	< 4.0	93.8	---	< 4.0	11.7	63.5	59.3	56.6	385
White Sucker 1+	01-Feb-2012	1	< 7.0	< 4.0	344	< 5.0	2870	< 5.0	< 30	---	248	50.4	---	< 3.0	---	353	< 6.0	---	83.8	< 4.0	< 3.0	133	< 2.0	919	912	107	< 30	1580	---	78 [#1]	143 [#1]	2320	461	398	1290
	21-Sep-2014	2	0.323	0.2	---	0.078 [#1]	439	---	< 0.0579	---	29.1	---	33.8	1.38 [#1]	---	---	< 0.422	0.00132 [#1]	15.1	< 0.484	---	13.6	< 0.401	80.3	27.1	20.4	---	36.7	4.22	---	7.27	47.6	16.9	15.9	235
White Sucker 2+	01-Feb-2012	1	< 4.0	< 3.0	23.9 [#1]	< 3.0	267	< 3.0	< 20	---	28.3	3.7 [#1]	---	< 2.0	---	52.9 [#1]	< 3.0	---	7.5 [#1]	< 3.0	< 2.0	15.0 [#1]	< 1.0	117	156	21.6	< 10	132	---	< 10	23.0 [#1]	263	39	43.3	210
	22-Sep-2014	4	0.492	0.372	---	< 0.0573	737	---	< 0.0573	---	54.7	---	64.4	2.79	---	---	< 0.166	0.00325	24.8	0.446	---	25.3	< 0.534	140	53.4	39.3	---	57.1	7.92	---	12.8	78.2	30.3	25.3	457
White Sucker 3+	01-Feb-2012	1	< 10	< 6.0	71 [#1]	< 10	394	< 7.0	< 60	---	23.5 [#1]	< 5.0	---	< 6.0	---	43.6	< 10	---	10.3	< 7.0	< 6.0	< 8.0	< 2.0	83.3	107 [#1]	< 10	< 40	292 [#1]	---	< 30	< 20	491 [#1]	< 40	87 [#1]	153 [#1]
White Sucker 6+	11-Sep-2007	4	< 1.3	< 0.80	32	< 1.0	460	1.4	< 1.0	---	33	5.2	---	< 1.1	---	64	< 1.0	---	11	< 0.80	1.1	17	< 0.90	96	30	28	< 0.90	36	---	5.5	4.8	45	18	16	360
White Sucker 7+	11-Sep-2007	3	< 1.8	< 1.2	43	< 1.4	570	3.4	< 1.4	---	48	6.8	---	< 1.6	---	120	< 1.5	---	17	< 1.3	2.8	29	< 1.4	150	45	40	< 1.5	48	---	7.1	7.2	57	28	25	500
White Sucker 8+	11-Sep-2007	5	< 1.6	< 1.0	34	< 1.2	510	< 1.1	< 1.2	---	38	< 0.90	---	< 1.3	---	98	< 1.3	---	16	< 1.1	< 0.90	21	< 1.1	120	47	38	< 1.2	49	---	7.3	7.2	66	22	17	480
	11-Aug-2009	4	< 22	< 18	57	< 14	650	< 20	< 29	---	45.5	< 12	---	< 8.9	---	105	< 15	---	7.0	< 19	< 12	31	< 12	127	42	41	< 17	66	---	< 14	< 9.9	91	31	25	340
White Sucker 9+	11-Sep-2007	4	< 1.4	< 1.0	56	< 1.0	950	2.9	< 1.1	---	67	9.4	---	< 1.2	---	170	< 1.1	---	31	< 1.0	2.4	39	< 1.1	210	66	60	< 1.1	77	---	14	14	120	36	37	800
White Sucker 10+	11-Aug-2009	4	< 19	< 13	39	< 13	552	< 14	< 16	---	36.6	< 9.6	---	< 8.0	---	50.6	< 13	---	4.1 [#1]	< 13	< 9.7	25.3	< 8.2	68.1	< 11	28	< 11	48	---	< 9.8	< 6.7	48	19 [#1]	20.0	245
Forage Fish	04-Nov-2014	---	0.368 [#1]	0.467	---	0.165 [#1]	855	---	0.328 [#1]	---	177	---	81.7	5.5	---	---	< 1.1	0.00658	46.4	< 1.27	---	74.7	< 0.861	383	72.9	86.2	---	132	5.04	---	12.4	120	23.2	34.4	977

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 148 (ng/kg)	PCB 150 (ng/kg)	PCB 151 (ng/kg)	PCB 152 (ng/kg)	PCB 153/168 (ng/kg)	PCB 154 (ng/kg)	PCB 155 (ng/kg)	PCB 156 (ng/kg)	PCB 156/157 (ng/kg)	PCB 157 (ng/kg)	PCB 158 (ng/kg)	PCB 159 (ng/kg)	PCB 160 (ng/kg)	PCB 160/163 (ng/kg)	PCB 161 (ng/kg)	PCB 162 (ug/kg)	PCB 164 (ng/kg)	PCB 165 (ng/kg)	PCB 166 (ng/kg)	PCB 167 (ng/kg)	PCB 169 (ng/kg)	PCB 170 (ng/kg)	PCB 171/173 (ng/kg)	PCB 172 (ng/kg)	PCB 173 (ng/kg)	PCB 174 (ng/kg)	PCB 175 (ng/kg)	PCB 175/182 (ng/kg)	PCB 176 (ng/kg)	PCB 177 (ng/kg)	PCB 178 (ng/kg)	PCB 179 (ng/kg)	PCB 180/193 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																																			
Invertebrates	22-Aug-2014	---	1.29 [#1]	1.05 [#1]	---	0.491 [#1]	4710	---	0.49 [#1]	---	638	---	338	31.5	---	---	< 3.19	0.0208	200	< 3.69	---	268	< 4.25	716	121	321	---	694	18.9	---	27.4	410	177	151	3100
Edith Lake																																			
Brook Trout 1+	11-Aug-2009	7	< 6.7	< 4.0	17.1	< 4.4	128	< 4.4	< 9.5	---	10.9	3.6	---	< 2.8	---	25.7	< 4.6	---	2.62	< 4.1	< 2.4	4.5	< 2.6	18.4	14.1	< 3.1	< 7.4	39.6	---	< 6.4	< 4.3	25.3	16.1 [#1]	18.7	65.3
	01-Sep-2011	4	< 3.0	< 2.0	81.7	< 2.0	540	17.9	< 2.0	---	15.7 [#1]	4.8 [#1]	---	< 2.0	---	75.7	< 3.0	---	16.9	105	< 2.0	11.4 [#1]	< 1.0	65.5	20.1	15.5	< 2.0	69.4	---	6.4 [#1]	8.9 [#1]	69.4	43.4 [#1]	37.8	191
(Duplicate)	01-Sep-2011	4	< 7.0	< 5.0	118	< 5.0	873	26.4	< 10	---	38.0	11.1	---	< 4.0	---	158	< 6.0	---	23.2	135	< 4.0	18.2 [#1]	< 3.0	95.3	68.7	19.0	< 9.0	176	---	< 8.0	24.9	190	94.6	125	258
	01-Sep-2012	3	5.7	3.0 [#1]	112	< 1.0	862	24.8	< 2.0	---	52.3	12.5	---	< 0.70	---	145	< 1.0	---	33.6	< 1.0	2.52	26.6	< 0.70	109	50.2	29.6	< 1.0	122	---	12.1 [#1]	12.4	130	80.0	68.9	317
	22-Sep-2015	3	8.64	6.68	---	0.666 [#1]	1720	---	2.2	---	86.9	---	105	11.3	---	---	< 1.18	0.00528	80.8	3.12	---	41.8	< 1.49	205	74.5	52.4	---	225	15	---	23.4	166	102	116	553
	30-Aug-2016	2	5.96	4.76	---	0.307	943	---	1.66	---	33.7	9.4	42.8	< 0.901	---	---	< 0.829	0.00312	32.3	2.42 [#1]	---	22.7	0.236	122	40.9	30	---	107	7.23	---	13.1	85	58.8	67.3	391
	13-Sep-2017	3	8.76	6.57	---	0.509 [#1]	1040	---	2.3	---	53.5	---	52.5	4.98	---	---	< 0.484	0.00558	41.7	3.76	---	27	< 0.493	146	51.2	37.6	---	136	9.9	---	15.1	110	81.5	78	433
	30-Aug-2018	3	4.12	3.25	---	0.226 [#1]	660	---	1.67 [#1]	---	26.6	7.33	32.7	4.35	---	---	< 0.191	0.00283	25.1	2.12	---	17.7	0.236	92.8	30.2	24.7	---	77.9	5.46	---	8.42	66.2	44.9	48.5	294
(Replicate A)	06-Sep-2019	4	5.2	3.93	---	0.242	755	---	1.87	---	36.9	---	36.1	4.98	---	---	< 0.521	0.00335	29.5	2.8	---	18.4	< 0.571	88.6	33.8	24.4	---	84.9	6.48	---	9.53	71.2	54.2	52.3	281
(Replicate B)	06-Sep-2019	4	6.33	4.01	---	0.245	975	---	2.58	---	44.1	---	44.6	6.95	---	---	< 0.604	0.00371	35.8	3.49	---	22	< 0.631	119	43.1	32.8	---	105	8.32	---	11.4	90	70.4	63	384
	26-Aug-2020	7	4.35	2.87	---	0.217 [#1]	613	---	1.56	23.2	---	7.23	30.1	5.26	---	---	< 0.296	0.00219	25.1	1.95	---	15.5	0.16	81.5	29.6	21	---	71.7	5.64	---	8.95	57.9	43.6	44.4	256
	30-Sep-2021	8	0.79	0.605	---	< 0.10	184	< 0.091	0.484	---	---	---	9.12	0.71	< 0.18	---	< 0.17	0.00072	---	0.53	---	---	---	25.7	6.94	5.59	---	17.2	1.50	---	1.90	14.2	11.2	10.3	60.6
	13-Oct-2022	2	0.84	< 0.31	---	< 0.34	200	< 0.33	0.38	---	---	---	9.90	< 0.79	< 0.80	---	< 0.76	0.00097	---	< 0.86	---	---	---	39.9	8.11	11.3	---	2.10	1.80	---	0.97	17.5	16.2	7.16	116
	14-Sep-2023	2	1.90	1.00	---	< 0.24	234	10.7	0.87	---	11.7	---	8.91	0.83	< 0.60	---	< 0.51	0.00129	---	0.75	---	6.67	0.170	27.5	10.1	9.00	---	19.5	2.40	---	2.16	20.3	18.4	11.0	96.6
Brook Trout 2+	11-Aug-2009	4	< 7.2	< 4.6	20.8	< 4.8	168	< 5.1	< 7.7	---	12.1	4.2	---	< 3.0	---	35.3	< 5.0	---	2.7	< 4.8	< 2.8	8.7	< 3.0	29.7	16.8	9.6 [#1]	< 5.6	41.3	---	< 4.8	< 3.3	39.2	22.7	16.1	101
	11-Aug-2010	5	2.7	< 1.3	214	< 1.0	1890	17.7	< 2.1	---	152	31.1	---	< 1.5	---	420	< 1.4	---	97.6	< 2.0	5.2	82.4	< 1.3	328	137	150	< 2.2	481	---	28.8	22.2	334	169	127	1650
	01-Sep-2011	4	5.8 [#1]	< 3.0	631	< 3.0	3460	40.2 [#1]	< 3.0	---	140	27.9	---	< 2.0	---	412	< 4.0	---	111	549	6.7 [#1]	68.9	< 2.0	403	114	105 [#1]	< 2.0	415	---	29.9	32.4	301	126 [#1]	175	1410
	01-Sep-2012	3	4.0	< 1.0	380	< 1.0	2190	26.7	< 2.0	---	134	28.4	---	< 0.70	---	318	< 1.0	---	87.7	< 1.0	5.52	74.2	< 0.70	246	97.1	64.7	3.0 [#1]	371	---	22.4	29.7	244	131	152	810
	01-Sep-2013	3	21.2	4.32	---	1.07	5070	---	1.3	---	319	---	302	29.6	---	---	< 1.37	0.0155	250	4.71	---	144	< 2.28	438	98.9	151	---	593	21.7	---	30.2	356	212	258	1520
	21-Sep-2014	4	5.85	1.34 [#1]	---	0.405 [#1]	2480	---	0.355	---	180	---	204	14.2	---	---	< 0.603	0.00925	118	1.53 [#1]	---	81.9	< 0.964	350	150	151	---	529	24.3	---	28	382	181	192	1070
(Replicate A)	21-Sep-2014	1	4.83	1.81 [#1]	---	0.271	1770	---	0.561	---	149	---	163	9.95	---	---	< 0.628	0.00695	88.7	1.59	---	61	< 0.971	270	111	86.3	---	330	19.3	---	21.4	256	114	116	743
(Replicate B)	21-Sep-2014	1	1.19	0.414	---	0.105 [#1]	392	---	0.367 [#1]	---	26.4	---	27.7	1.81 [#1]	---	---	< 0.13	0.00167	17	0.447	---	13.1	< 0.379	57.8	22.1	21.4	---	65.4	4.07	---	4.41	49.7	28.7	25.3	178
	22-Sep-2015	1	0.44	< 0.121	---	< 0.118	231	---	0.177 [#1]	---	12.4	---	12.3	1.34	---	---	< 0.354	0.000751 [#1]	6.93	< 0.4	---	6.56	< 0.367	26.3	7.25	7.92	---	23.7	1.52	---	1.4	15	10	8.57	87.1
	30-Aug-2016	2	6.29	2.06	---	0.49 [#1]	2010	---	0.508	---	127	25.6	134	< 1.11	---	---	< 1.03	0.00683	80.7	1.41	---	68.7	0.263 [#1]	256	63.6	71.3	---	235	11.2	---	18.4	147	88.4	98.2	944
	13-Sep-2017	3	2.9	0.943	---	< 0.1	654	---	0.74	---	32.7	---	33.9	2.71	---	---	< 0.337	0.00209	18	1.35	---	17.2	< 0.347	99.1	31	26.9	---	66.5	5.68	---	4.84 [#1]	61.2	38	27.1	325
	30-Aug-2018	3	3.04	1.88	---	0.14 [#1]	623	---	0.981	---	24.5	6.84	31.7	3.62	---	---	< 0.143	0.00182 [#1]	21.1	1.43 [#1]	---	16.5	0.264 [#1]	79	29.8	25.5	---	72.9	5.02	---	6.86	54	45.8	39.7	264
(Replicate A)	06-Sep-2019	4	1.53	0.731	---	0.065	400	---	0.584	---	18.6	---	20.6	3.37	---	---	< 0.302	0.00155	13.6	0.805	---	9.79	< 0.299	66.7	21.3	16.5	---	48.8	3.82	---	3.52	41.4	26.9	18.4	216
(Replicate B)	06-Sep-2019	4	2.11	1.11	---	0.141	517	---	0.64	---	26.9	---	30	4.93	---	---	< 0.758	0.00217	21.2	< 0.88	---	13.6	< 0.882	73.4	23	18.9	---	62.5	4.39	---	5.2	48.3	30.4	25.5	240
	26-Aug-2020	2	4.51	2.56	---	0.173 [#1]	823	---	1.51	30.5	---	8.87	39.2	5.9	---	---	< 0.428	0.00249	28.5	2.56	---	20.2	0.3	112	35.6	30	---	85.6	7.41	---	8.04	74	57.9	45.4	363
	30-Sep-2021	10	1.01	0.410	---	< 0.080	223	< 0.073	0.170	---	---	---	11.2	1.04	< 0.18	---	< 0.16	0.00064	---	0.56	---	---	---	33.0	8.95	8.18	---	25.3	1.83	---	2.17	17.5	12.1	13.3	84.9
	13-Oct-2022	8	3.78	0.81	---	0.51	1410	< 0.13	0.390	---	---	---	99.1	8.38	< 0.37	---	< 0.33	0.00654	---	2.15	---	---	---	197	40.2	48.1	---	158	8.79	---	10.1	101	61.5	62.4	538
	14-Sep-2023	3	2.13	< 0.20	---	< 0.20	541	5.08	< 0.15	---	34.4	---	20.9	1.70	< 0.40	---	< 0.34	0.00234	---	1.01	---	20.1	0.175	57.4	8.49	30.2	---	45.5	2.50	---	1.33	33.0	28.3	16.6	345
Brook Trout 3+	11-Aug-2010	3	4.4	< 1.3	271	< 0.90	2290	25.8	< 1.9	---	147	32.5	---	< 1.4	---	464	< 1.3	---	125	< 1.9	4.3	86.8	< 1.2	350	138	146	< 2.2	567	---	31.4 [#1]	30.4	367	196	174	1710
	01-Sep-2011	3	< 7.0	< 6.0	565	< 6.0	2730	25.5	< 4.0	---	137	32.3	---	< 4.0	---	459	< 6.0	---	92.3	472	8.8 [#1]	63.8 [#1]	< 4.0	273	94.0 [#1]	62.9	< 4.0	390	---	22.4	26.3	266	110	158	908
	01-Sep-2012	5	5.8	< 1.0	521	< 1.0	2760	41.0	< 2.0	---	177	35.0	---	< 0.80	---	443	< 1.0	---	123	< 2.0	7.04	93.1	< 0.80	346	138	94.6	4.4 [#1]	504	---	32.2 [#1]	41.4	353	162	201	1090
(Replicate A)	01-Sep-2013	3	9.14	2.69	---	0.81	6050	---	0.522	---	375	---	454	35.2	---	---	< 1.42	0.0171	249	2.9	---	181	< 2.46	587	187	177	---	663	34.9	---	44.9	397	202	255	1800
(Duplicate)	01-Sep-2013	3	8.94	2.37	---	0.74 [#1]	5350	---	0.51	---	334	---	397	28.2	---	---	< 1.01	0.0153	229	2.65	---	161	< 2.62	515	160	155	---	571	30.1	---	36.8	380	176	220	1620
(Replicate B)	01-Sep-2013	3	9.88	1.37	---	0.488 [#1]	4750	---	0.299	---	340	---	344	31.4	---	---	< 0.884	0.0194	241	2.75	---	173	< 3.12	508	114	168	---	587	24.6	---	28.8	297	176	207	1660
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	11.0	< 3.0	917	< 4.0	5860	44.4	< 5.0	---	374	90.8	---	< 3.0	---	884	< 4.0	---	180	< 4.0	15.8	218	< 3.0	520	204	144	< 4.0	749	---	39.7	47.0	492	250	336	1970
	21-Sep-2014	4	11.1	2.19	---	0.539	3940	---	0.297	---	261	---	291	20.4	---	---	< 1.08	0.0143	192	2.52	---	120	< 1.83	410	104	121	---	465	20.1	---	27.6	290	169	204	1310
(Replicate A)	21-Sep-2014	1	4.42	2.34	---	0.587 [#1]	1820	---	0.506	---	159	---	173	10.1	---	---	< 0.394	0.00764	88.8	1.69	---	62.3	< 1.07	262	76.1	64.8	---	236	13.9	---	20.5	182	87.8	97	714
(Replicate B)	21-Sep-2014	1	7.98	2.21 [#1]	---	0.118 [#1]	2760	---	0.769 [#1]	---	179	---	189	14.8	---	---	< 0.623	0.00991	119	2.69	---	87.9	< 1.36	335	86.1	96.5	---	339	15.2	---	20.6	227	125	128	1100
	22-Sep-2015	3	3.54	1.62	---	0.514	2040	---	0.271	---	135	---	163	11.6	---	---	< 2.12	0.00379	96.5	< 2.52	---	59.6	< 2.48	228	76.2	59.5	---	225	13.5	---	18.4	163	78.5	101	648
(Duplicate)	22-Sep-2015	3	3.6	1.71	---	0.395	1940	---	0.294	---	130	---	157	11.7	---	---	< 1.28	0.00497	91.4	< 1.53	---	58.6	< 2.16	223	73.0	55.6	---	217	14	---	17.4	150	78.7	93.7	629
	30-Aug-2016	1	3.59	1.17	---	0.264 [#1]	2050	---	0.205	---	144	29.8	131	1.67	---	---	< 1.16	0.00662	84.6	< 1.4	---	74	0.446	229	54.4	65.4	---	229	9.47	---	13.3	138	79	89.1	852
	13-Sep-2017	3	1.88	0.694 [#1]	---	0.105 [#1]	1050	---	0.301 [#1]	---	79.4	---	75.1	4.87	---	---	< 0.255	0.00321	37.3	0.881	---	35.7	< 0.509	128	33.9	34.2	---	114	7.23	---	5.96	76.5	45	42.4	459

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 148 (ng/kg)	PCB 150 (ng/kg)	PCB 151 (ng/kg)	PCB 152 (ng/kg)	PCB 153/168 (ng/kg)	PCB 154 (ng/kg)	PCB 155 (ng/kg)	PCB 156 (ng/kg)	PCB 156/157 (ng/kg)	PCB 157 (ng/kg)	PCB 158 (ng/kg)	PCB 159 (ng/kg)	PCB 160 (ng/kg)	PCB 160/163 (ng/kg)	PCB 161 (ng/kg)	PCB 162 (ug/kg)	PCB 164 (ng/kg)	PCB 165 (ng/kg)	PCB 166 (ng/kg)	PCB 167 (ng/kg)	PCB 169 (ng/kg)	PCB 170 (ng/kg)	PCB 171/173 (ng/kg)	PCB 172 (ng/kg)	PCB 173 (ng/kg)	PCB 174 (ng/kg)	PCB 175 (ng/kg)	PCB 175/182 (ng/kg)	PCB 176 (ng/kg)	PCB 177 (ng/kg)	PCB 178 (ng/kg)	PCB 179 (ng/kg)	PCB 180/193 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																																			
(Duplicate)	13-Sep-2017	3	1.62	0.441	---	0.111 [#1]	944	---	0.254 [#1]	---	71.4	---	68.5	4.16	---	---	< 0.301	0.00339	34.4	0.661	---	33.7	< 0.519	120	31.5	33.6	---	108	6.47	---	5.61	70.8	41.4	39.8	424
	30-Aug-2018	3	1.55 [#1]	0.716 [#1]	---	0.089 [#1]	668	---	0.524	---	27.6	6.79	36	2.49	---	---	< 0.0816	0.0015 [#1]	16.3	1.03 [#1]	---	17.4	0.382	94.4	25.9	19.6	---	47.2	4.32 [#1]	---	3.63	39.6	33.1	23.7	321
	06-Sep-2019	4	1.57	0.94	---	0.097	614	---	0.66	---	42.6	---	31.3	< 0.296	---	---	< 0.285	0.00247	22.6	0.877	---	21.2	< 0.929	94.3	25.3	29.2	---	72.2	4.69	---	4.55	55.2	33.6	25.5	346
(Duplicate)	06-Sep-2019	4	1.93	1.01	---	0.114	657	---	0.588	---	46.9	---	35.3	5.11	---	---	< 0.437	0.00266	24.1	1.06	---	22.5	< 0.477	104	25.4	27.6	---	75.8	5.4	---	4.75	62.9	38.3	26.4	361
	26-Aug-2020	5	1.7	0.85	---	0.169 [#1]	520	---	0.341	23.8	---	6.05	31.1	4.38	---	---	< 0.302	0.00148	20.5	0.835	---	15.2	0.272	73.8	21.4	19.7	---	64.7	4.65	---	4.87	47.9	28.3	23.8	249
(Duplicate)	26-Aug-2020	5	4.15	2.26	---	0.136 [#1]	728	---	1.45	26	---	7.49	33.5	5.51	---	---	< 0.197	0.00208	24.6	2.41	---	17.1	0.239 [#1]	97.1	31.2	25.5	---	76.1	6.56	---	7.23	65.6	52.2	41.5	316
	30-Sep-2021	3	1.32 [#4]	0.52 [#4]	---	< 0.24 [#4]	349 [#4]	< 0.23 [#4]	0.23 [#4]	---	---	---	23.0 [#4]	2.00 [#4]	< 0.39 [#4]	---	< 0.37 [#4]	0.00087 [#4]	---	0.68 [#4]	---	---	---	51.4 [#4]	16.3 [#4]	14.0 [#4]	---	45.9 [#4]	2.60 [#4]	---	4.40 [#4]	33.3 [#4]	19.1 [#4]	20.8 [#4]	151 [#4]
	13-Oct-2022	8	1.71	0.42	---	< 0.13	438	< 0.12	0.250	---	---	---	26.0	2.37	< 0.28	---	< 0.25	0.00138	---	0.76	---	---	---	65.3	14.6	17.1	---	50.2	2.98	---	3.23	33.1	23.9	21.6	182
	14-Sep-2023	5	2.41	< 0.44	---	< 0.44	643	7.30	< 0.32	---	42.5	---	31.8	2.40	< 1.1	---	< 0.91	0.00336	---	1.4	---	22.7	0.440	68.4	13.8	26.0	---	56.5	2.70	---	2.70	34.8	29.9	25.2	282
(Duplicate)	14-Sep-2023	5	1.80	< 0.41	---	< 0.41	721	10.4	< 0.30	---	46.5	---	34.0	3.10	< 0.97	---	< 0.83	0.00350	---	< 0.94	---	25.8	0.510	78.6	18.6	28.2	---	71.8	5.20	---	3.50	42.3	33.2	28.4	317
Brook Trout 4+	04-Oct-2006	5	10	1.8	2100	< 0.20	10000	110	1.1	---	500	71	---	< 0.20	---	1200	< 0.30	---	270	< 0.20	9.4	250	< 0.20	1100	150	270	2.9	680	---	32	39	480	230	< 0.10	4200
	01-Sep-2011	2	14.4 [#1]	4.3 [#1]	1620	< 4.0	9510	116	< 3.0	---	330	71.5 [#1]	---	< 3.0	---	1150	< 5.0	---	290	1370	21.0 [#1]	202	< 2.0	884	269	262	8.8 [#1]	1030	---	57.3	117	737	326	506	3160
	01-Sep-2013	2	8.38	2.14	---	1.04	6220	---	0.273	---	470	---	500	40.1	---	---	< 1.7	0.0202	308	2.31	---	202	< 3.1	755	193	225	---	827	36.3	---	45.5	566	234	285	2170
	21-Sep-2014	1	17.5	2.7	---	0.659	5440	---	0.814	---	314	---	399	27.5	---	---	< 1.3	0.0173	254	2.53	---	154	< 2.4	579	180	167	---	696	34.9	---	46.3	401	228	303	1850
(Replicate A)	23-Sep-2015	1	11.1	1.88	---	0.569 [#1]	2740	---	0.357 [#1]	---	174	---	168	15.8	---	---	< 1.56	0.00784	114	2.09	---	76.1	< 2.29	325	76.4	86.6	---	317	14.4	---	18.2	239	128	129	937
(Replicate B)	22-Sep-2015	1	7.97	2.91	---	0.557	4170	---	0.329	---	292	---	319	26.1	---	---	< 2.3	0.0107	191	< 2.74	---	132	< 4.76	450	136	130	---	473	25	---	31.4	286	164	197	1340
	30-Aug-2016	1	5.1	1.42	---	0.304 [#1]	2150	---	0.166	---	138	29.6	125	< 1.27	---	---	< 1.17	0.00662	83.7	< 1.41	---	75.1	0.531 [#1]	253	57.3	69.7	---	254	10.2	---	16.1	147	95.6	112	945
	13-Sep-2017	1	1.65	0.455 [#1]	---	0.1 [#1]	962	---	0.153 [#1]	---	86	---	79	5.22	---	---	< 0.27	0.00307	45.2	0.601	---	36.1	< 0.573	130	30.3	39.6	---	140	6.28	---	6.97	79.2	47.4	49.4	468
	30-Aug-2018	1	2.34	0.728	---	0.114 [#1]	1000	---	0.621	---	46.1	10.2	66.1	4.26	---	---	< 0.181	0.00285 [#1]	34.9	0.935	---	27	0.318 [#1]	110	34.5	31	---	88.5	6.54	---	5.84	66.6	47.6	39.4	377
	26-Aug-2020	2	1.72	0.747	---	0.188 [#1]	470	---	0.343	20.9	---	5.81	26.1	3.66	---	---	< 0.24	0.00147	16.7	0.748 [#1]	---	14	0.283	55.6	16.7	15	---	48.7	3.7	---	3.41	38	24.4	21.7	183
	14-Sep-2023	5	1.33	< 0.39	---	< 0.39	505	6.30	< 0.29	---	34.4	---	24.4	1.80	< 0.69	---	< 0.59	0.00230	---	< 0.67	---	18.4	0.342	57.1	12.6	20.7	---	45.8	2.60	---	2.50	30.0	23.0	16.5	232
Brook Trout 5+	04-Oct-2006	4	< 0.30	< 0.10	640	< 0.20	3100	21	0.80	---	130	16	---	< 0.20	---	340	< 0.30	---	68	< 0.20	< 0.10	63	< 0.10	260	34	60	< 0.10	180	---	< 0.10	8.2	130	62	< 0.10	1100
	01-Sep-2011	2	7.3	< 3.0	667	< 3.0	3560	50.0	< 3.0	---	171	38.8	---	< 2.0	---	638	< 3.0	---	131	661	8.7 [#1]	98.7	< 2.0	425	159	137	< 2.0	548	---	35.4	31.2	411	201	186	1590
	01-Sep-2013	1	5.9	0.97	---	0.538	3390	---	< 0.218	---	225	---	272	21.7	---	---	< 2.83	0.0122	185	< 3.18	---	106	< 2.98	335	99.5	112	---	458	17.8	---	26.6	244	127	184	1120
	21-Sep-2014	1	10.7	2.11 [#1]	---	0.461	4100	---	0.283 [#1]	---	274	---	333	20.9	---	---	< 1.25	0.0127	189	2.11	---	119	< 1.67	510	159	140	---	533	26.7	---	30.1	391	191	222	1570
	30-Aug-2016	1	25.7	4.37	---	0.745	10700	---	0.419	---	536	121	722	13.9	---	---	< 3.17	0.0682	432	4.41 [#1]	---	323	1.94	1180	298	321	---	1100	54.6	---	72.3	676	423	462	4350
(Duplicate)	30-Aug-2016	1	27	4.33	---	0.78	11000	---	0.396	---	542	123	742	14.7	---	---	< 1.39	0.0709	437	5.62	---	324	1.74	1200	310	323	---	1100	57.7	---	74.2	685	438	482	4410
	30-Sep-2021	1	1.40	0.530	---	0.110	549	< 0.065	0.320	---	---	---	28.4	2.00	< 0.26	---	< 0.23	0.00170	---	1.00	---	---	---	85.5	16.6	20.8	---	6.14	3.65	---	2.76	39.5	28.0	21.0	225
Brook Trout 6+	14-Sep-2023	3	1.40	< 0.16	---	0.32	641	7.79	< 0.10	---	37.8	---	33.5	2.62	< 0.50	---	< 0.42	0.00307	---	0.79	---	22.6	0.692	88.2	23.9	30.0	---	76.7	5.24	---	3.99	44.8	33.1	27.3	324
Brook Trout 11+	11-Sep-2007	2	3.7	< 1.1	310	< 1.2	1300	14	< 1.3	---	86	16	---	< 1.4	---	370	< 1.3	---	66	< 1.2	2.2	47	< 1.2	150	24	62	< 1.3	200	---	7.5	7.3	110	97	150	690
Brook Trout 12+	11-Sep-2007	3	< 1.6	< 1.1	180	< 1.2	890	11	< 1.2	---	68	12	---	< 1.3	---	230	< 1.3	---	44	< 1.2	1.5	37	< 1.2	110	21	46	< 1.1	130	---	4.7	4.5	75	55	90	540
Brook Trout Unknown	23-Jul-2008	2	2.5	2.0	69	< 0.40	460	13	1.4	---	27	8.3	---	< 0.40	---	67	< 0.40	---	16	< 0.40	0.92	12	< 0.40	40	17	12	0.59	45	---	4.3	6.0	42	27	30	110
(Replicate A)	23-Jul-2008	2	2.5	1.4	68	< 0.50	310	9.4	0.92	---	14	3.7	---	< 0.50	---	43	< 0.60	---	11	< 0.40	0.53	9.0	< 0.40	37	17	11	0.62	49	---	4.2	5.9	43	27	27	110
(Replicate B)	23-Jul-2008	2	1.1	0.86	68	< 0.40	410	7.5	0.69	---	17	4.3	---	< 0.40	---	62	< 0.50	---	13	< 0.40	0.80	11	< 0.40	36	13	9.9	< 0.30	39	---	3.2	3.5	31	18	22	110
(Replicate C)	23-Jul-2008	2	1.8	1.5	51	< 0.40	290	7.9	1.0	---	12	3.4	---	< 0.30	---	36	< 0.40	---	10	< 0.40	0.50	7.6	< 0.40	30	12	8.4	0.47	36	---	3.4	4.4	31	20	20	82
Brook Trout (Stomach) 1+	01-Sep-2012	3	< 5.0	< 4.0	13.8 [#1]	< 3.0	114	< 4.0	< 5.0	---	12.4	< 2.0	---	< 2.0	---	23.0 [#1]	< 3.0	---	6.5	< 4.0	< 2.0	< 2.0	< 2.0	17.6 [#1]	< 2.0	< 2.0	< 2.0	21.5 [#1]	---	< 2.0	< 2.0	19.3 [#1]	12.0	11.3	43.2
Brook Trout (Stomach) 2+	01-Sep-2012	3	< 0.40	< 0.30	4.08	< 0.30	19.4	< 0.30	< 0.40	---	1.78 [#1]	0.70	---	< 0.20	---	4.75	< 0.30	---	1.11	< 0.30	< 0.20	1.12 [#1]	< 0.20	2.43	0.94	0.86 [#1]	< 0.20	3.46	---	< 0.20	< 0.20	2.59 [#1]	1.75	1.51	8.23
Brook Trout (Stomach) 3+	01-Sep-2012	5	56.7	16.5	6470	9.0 [#1]	23200	310	< 1.0	---	2400	498	---	6.85	---	5380	< 1.0	---	1680	< 1.0	115	1150	2.84 [#1]	2750	558	946	37.0	4250	---	185	252	2850	1640	2060	8180
(Re-analysis)	01-Sep-2012	5	31.7	17.9	9010	12.9	33200	148	< 30	---	4700	996	---	4.8	---	9320	< 3.0	---	2980	< 4.0	196	2250	7.8	6240	3730	1230	241	26000	---	454	1270	20100	5960	11000	12600
Certified Reference Materials																																			
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
WMF-01-CRM	04-Oct-2006	---	450	68	39000	< 0.90	240000	2600	520	---	16000	3800	---	240	---	42000	< 1.3	---	5600	< 0.90	< 0.50	11000	---	33000	7000	12000	280	17000	---	2200	1800	21000	11000	1800	120000
	11-Sep-2007	---	440	85	29000	27	250000	2400	480	---	13000	3500	---	280	---	36000	< 13	---	8100	38000	910	9200	82	37000	14000	14000	600	31000	---	4300	3400	38000	21000	18000	130000
	23-Jul-2008	---	400	94	24000	18	320000	2300	460	---	12000	3200	---	180	---	37000	47	---	6600	< 7.1	690	8400	130	28000	10000	10000	400	23000	---	3500	3000	31000	17000	11000	110000
	11-Aug-2009	---	320	120	21600	< 75	315000	2780	430	---	14800	3530	---	107	---	42900	< 78	---	2640	< 110	813	10500	87	35400	14900	14000	458	32800	---	3600	3120	44600	20400	13800	119000
	11-Aug-2010	---	204	79.7	12500	< 5.1	179000	2000	497	---	14800	3710	---	< 7.8	---	41500	< 7.6	---	8290	< 11	781	10000	67.6	41800	23500	24100	707	44900	---	6110	3270	60500	29800	13600	178000

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 148 (ng/kg)	PCB 150 (ng/kg)	PCB 151 (ng/kg)	PCB 152 (ng/kg)	PCB 153/168 (ng/kg)	PCB 154 (ng/kg)	PCB 155 (ng/kg)	PCB 156 (ng/kg)	PCB 156/157 (ng/kg)	PCB 157 (ng/kg)	PCB 158 (ng/kg)	PCB 159 (ng/kg)	PCB 160 (ng/kg)	PCB 160/163 (ng/kg)	PCB 161 (ng/kg)	PCB 162 (ug/kg)	PCB 164 (ng/kg)	PCB 165 (ng/kg)	PCB 166 (ng/kg)	PCB 167 (ng/kg)	PCB 169 (ng/kg)	PCB 170 (ng/kg)	PCB 171/173 (ng/kg)	PCB 172 (ng/kg)	PCB 173 (ng/kg)	PCB 174 (ng/kg)	PCB 175 (ng/kg)	PCB 175/182 (ng/kg)	PCB 176 (ng/kg)	PCB 177 (ng/kg)	PCB 178 (ng/kg)	PCB 179 (ng/kg)	PCB 180/193 (ng/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Certified Reference Materials - Continued																																			
	01-Sep-2011	---	476	144	36800	< 20	302000	3860	472	---	13300	3270	---	211 [#1]	---	46400	< 20	---	8650	67500	< 10	10100	95	41200	20500	16300	< 10	51000	---	6060	6160	65100	33000	23900	145000
	01-Sep-2012	---	372	96	24500	< 10	200000	2270	477	---	14600	3480	---	187	---	37800	< 10	---	6850	< 10	777	9470	212 [#1]	33100	15000	12400	471	33200	---	4500	4120	45400	24900	16000	107000
NIST SRM 1946	11-Oct-2013	---	---	---	---	---	206000	---	---	---	11300	---	7500	---	---	---	---	---	---	---	---	---	< 128	25000	---	---	---	9770	---	---	---	---	---	---	76100
	31-Aug-2016	---	---	---	---	---	186000	---	---	---	8860	---	6490	---	---	---	---	---	---	---	---	---	101	23200	---	---	---	8780	---	---	---	---	---	---	78900
	03-Nov-2018	---	---	---	---	---	234000	---	---	---	8190	---	7440	---	---	---	---	---	---	---	---	---	89	23600	---	---	---	9790	---	---	---	---	---	---	87600
EDF-2524	15-Oct-2014	---	---	---	---	---	1130	---	---	---	60.6	---	58.4	---	---	---	---	---	---	---	---	20.3	< 0.529	111	---	31.5	---	---	---	---	---	125	65.9	---	328
CRM EDF2524	23-Sep-2015	---	---	---	---	---	1300	---	---	---	73.6	---	64.6	---	---	---	---	---	---	---	---	24.2	< 2.29	122	---	33.4	---	---	---	---	---	130	68.3	---	360
CRM EDF-5462	13-Oct-2022	---	< 0.91	1.59	---	< 0.69	3610	< 0.63	40.9	---	---	---	199	12.8	< 2.5	---	< 2.2	0.0591	---	3.0	---	---	---	967	151	119	---	238	19.7	---	16.0	191	186	57.5	2100
	15-Nov-2023	---	< 3.3	< 2.4	---	< 2.5	3540	21.2	35.5	---	619	---	191	10.7	< 7.1	---	< 6.6	0.0638	---	< 7.6	---	274	43.7	751	145	115	---	211	22.0	---	17.0	180	193	55.6	2110

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript [#1] - EMPC
9. Superscript [#2] - RRR
10. Superscript [#3] - lock mass intereference (lab qualifier originally G)
11. Superscript [#4] - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript [#5] - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 181 (ng/kg)	PCB 182 (ng/kg)	PCB 183 (ng/kg)	PCB-183/185 (ng/kg)	PCB 184 (ng/kg)	PCB 185 (ng/kg)	PCB 186 (ng/kg)	PCB 187 (ng/kg)	PCB 188 (ng/kg)	PCB 189 (ng/kg)	PCB 190 (ng/kg)	PCB 191 (ng/kg)	PCB 192 (ng/kg)	PCB 193 (ng/kg)	PCB 194 (ng/kg)	PCB 195 (ng/kg)	PCB 196 (ng/kg)	PCB 196/203 (ng/kg)	PCB 197 (ng/kg)	PCB 197/200 (ng/kg)	PCB 198/199 (ng/kg)	PCB 199 (ng/kg)	PCB 200 (ng/kg)	PCB 201 (ng/kg)	PCB 201/204 (ng/kg)	PCB 202 (ng/kg)	PCB 203 (ug/kg)	PCB 204 (ng/kg)	PCB 205 (ng/kg)	PCB 206 (ng/kg)	PCB 207 (ng/kg)	PCB 208 (ng/kg)	PCB 209 (ng/kg)	PCBs-TOTAL (ug/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2000**
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50**
Hatchery																																				
Brook Trout 0+	04-Oct-2006	10	0	---	---	22	< 0.10	1.7	< 0.10	99	< 0.10	1.3	3.8	1.0 [#1]	< 0.10	3.1	12	2.7	---	32	---	1.5	< 0.10	43	1.3	---	4.8	26	---	---	0.93	44	4.1	26	32	5.5
	11-Sep-2007	10	< 1.0	---	---	55	< 0.80	7.6	< 0.80	190	2.0	2.2	13	2.3	< 0.90	13	33	12	---	54	---	2.6	< 1.1	57	3.2	---	9.3	21	---	---	1.8	29	6.0	16	24	4.5
	23-Jul-2008	10	< 0.20	---	---	22	0.48	3.8	< 0.20	80	0.57	1.1	3.3	0.76	< 0.20	4.3	15	4.8	---	29	---	1.2	1.1	37	3.2	---	6.2	19	---	---	0.95	17	2.9	8.7	7.2	2.8
(Duplicate)	23-Jul-2008	10	0.51	---	---	25	0.48	4.0	< 0.20	90	0.51	1.2	4.6	0.78	< 0.20	3.9	16	5.0	---	32	---	1.4	1.7	37	3.1	---	6.1	20	---	---	1.2	16	2.9	8.5	7.2	3.2
	11-Aug-2009	10	< 5.0	---	---	20.5	< 5.9	< 5.2	< 1.9	63.3	< 6.0	< 3.5	4.9	< 3.9	< 3.9	< 3.4	14.3	< 5.9	---	23.1	---	< 3.2	< 4.7	20.1	< 3.1	---	< 4.8	11.9 [#1]	---	---	< 4.2	7.0 [#1]	< 3.4	< 3.2	4.0 [#1]	3.3
	11-Aug-2010	10	< 1.6	---	---	43.6	< 1.1	< 1.6	< 0.80	145	< 1.0	< 0.70	6.74	< 1.1	< 1.4	7.7	14.7	7.0	---	19.6	---	< 0.80	< 0.70	15.8	< 0.80	---	6.9	7.05	---	---	< 0.80	7.1	< 1.8	< 1.8	8.51	2.88
	01-Sep-2011	10	< 3.0	---	---	57.4	< 4.0	7.4 [#1]	< 2.0	247	< 3.0	< 1.0	15.9	< 1.0	< 2.0	15.0	32.9	12.8 [#1]	---	58.9	---	< 2.0	< 2.0	57.2	< 2.0	---	8.2 [#1]	19.9	---	---	< 1.0	16.4	5.5	12.0	18.7	6.61
	01-Sep-2012	10	< 1.0	---	---	72.3	< 1.0	8.8	< 0.90	234	< 1.0	3.93 [#1]	19.0	2.34 [#1]	< 1.0	16.1	38.1	14.3	---	52.9 [#1]	---	2.91 [#1]	< 0.80	60.9	3.76 [#1]	---	6.42 [#1]	17.7	---	---	2.02	24.7	4.53 [#1]	9.02	16.3	5.73
	01-Sep-2013	10	1.43	2.35	---	111	0.923	---	< 0.0748	300	2.2	4.23	23.1	5.16	< 0.0893	---	68.1	27.6	39.6	---	---	13.4	98.3	---	---	13.6	---	32.4	0.0615	0.3	3.72	45.7	8.68	25	33.7	8.67
	21-Sep-2014	12	0.883 [#1]	1.29	---	51.5	0.887	---	< 0.0568	180	1.04	1.71	10.5	2.38	0.102 [#1]	---	21.2	9.55	< 0.0568	---	---	3.91	39.5	---	---	5.42	---	13.4	0.0199	0.1	1.31	13.4	2.79	7.79	10.5	4.66
	22-Sep-2015	11	1.73	1.68	---	124	1.19	---	< 0.0724	402	2.85	4.83	26	5.47	0.227 [#1]	---	69.2	26	38.5	---	---	13.2	119	---	---	15.6	---	39.5	0.0646	0.391	4.14	45.6	9.13	26.8	34.9	9.95
	30-Aug-2016	10	0.815	< 0.0551	---	56.8	0.6	---	< 0.0551	173	1.4	2.68	11.1	2.38	< 0.0551	---	28.4	11.4	17.6	---	---	5.45	48.5	---	---	6.77	---	16	0.0267	0.162 [#1]	1.64	19.2	4.12	11.2	14.9	5.02
	30-Aug-2018	10	0.314 [#1]	0.853 [#1]	---	34.4	0.542 [#1]	---	< 0.283	161	1.18	1.24	7.27	1.35 [#1]	< 0.283	---	18.2	6.54	9.63	---	---	2.85	27.5	---	---	3.72	---	12.5	0.0151	< 0.283	0.847	11.8	2.42	7.76	10	2.8
	06-Sep-2019	10	0.337	0.506	---	22.1	0.594	---	< 0.0574	73	0.642	0.978	3.98	1.02	< 0.0574	---	12.4	4.61	5.71	---	---	2.02	16.5	---	---	2.79	---	7.19	0.00981	0.061	0.72	7.88	1.49	4.44	6.44	1.9
	26-Aug-2020	11	0.4 [#1]	0.567 [#1]	---	27.2	0.609	---	< 0.0573	79.8	0.732 [#1]	1.17	4.92	1.1	< 0.0573	---	8.6	5.15	7.9	---	---	2.67	22.8	---	---	3.58	---	7.41	0.0123	0.097 [#1]	0.713	8.62	1.85	4.91	8.85	2.05
	30-Sep-2021	10	< 0.16	< 0.13	3.59	---	0.26	0.30	< 0.11	12.4	0.17	---	1.10	0.23	< 0.13	---	2.07	0.550	0.984	---	0.110	---	2.64	---	0.100	0.545	---	1.00	0.00140	< 0.035	0.085	0.68	0.280	0.365	0.650	0.37
	13-Oct-2022	10	< 0.23	< 0.20	4.85	---	0.26	< 0.22	< 0.17	19.6	< 0.16	---	1.60	0.23	< 0.20	---	1.97	0.40	1.10	---	0.324	---	2.54	---	0.071	0.360	---	1.29	0.00140	< 0.067	0.120	0.55	0.29	0.27	0.560	10.6
Chrystina Lake																																				
Brook Trout 1+	11-Aug-2009	8	< 1.5	---	---	143	< 1.6	22.1	< 1.2	335	< 1.9	4.8 [#1]	31.2	6.3	< 1.2	13.5	48.6	15.8	---	72.5	---	3.1 [#1]	2.9	60.0	3.9 [#1]	---	8.5 [#1]	14.7	---	---	3.4 [#1]	10.8	< 1.4	< 1.6	3.40	9.25
	01-Sep-2011	5	4.0 [#1]	---	---	203	< 4.0	40.5	< 2.0	475	< 3.0	4.8 [#1]	62.1	8.1 [#1]	< 2.0	29.7	107	39.1	---	143	---	3.4 [#1]	< 2.0	112	6.8	---	11.6 [#1]	22.8	---	---	6.5 [#1]	22.2 [#1]	3.4 [#1]	14.7 [#1]	14.5 [#1]	12.1
	01-Sep-2012	4	6.2 [#1]	---	---	473	< 1.0	70.1	< 1.0	1190	5.6 [#1]	16.1	130	18.9 [#1]	< 1.0	78.8	178	69.8	---	284	---	8.91	12.4	276	17.1	---	26.4	59.1	---	---	9.93	59.9	7.42	22.1	26.7	34.8
(Replicate A)	01-Sep-2013	1	1.16	2.32	---	125	0.457	---	< 0.2	250	0.863	4.58	26.8	6.46	< 0.241	---	50.4	20.7	31	---	---	8.27	70.3	---	---	8.49	---	15.1	0.0413	< 0.276	2.79	13.8	2.61	6.03	6.13	7.13
(Replicate B)	01-Sep-2013	1	1.44	2.41	---	142	0.537	---	< 0.0896	295	1.16	6.11	32	7.3	< 0.108	---	62.6	25.1	37.5	---	---	9.1	84.8	---	---	9.41	---	18.1	0.0494	< 0.109	3.81	17.1	3.05	7.19	7.09	7.92
	23-Sep-2015	1	6.44	17.1	---	683	1.46	---	< 0.0812	1360 [#3]	5.97	22.7	93.6	39.9	< 0.09	---	537	227	227	---	---	37.5 [#3]	557	---	---	53.6	---	113	0.277	0.303	11.7	57.5	9.73	17.1	13.7	**90.6**
	31-Aug-2016	2	1.64	2.72	---	142	1.1	---	< 0.0554	428	2.91	6.8	30.8	6.32	< 0.0554	---	78.3	32.2	43.2	---	---	12.4	115	---	---	14.8	---	36.4	0.0647	0.302 [#1]	4.09	37.2	7.19	21.2	27.3	11.2
	12-Sep-2017	3	1.67 [#1]	2.15	---	154	0.978 [#1]	---	< 0.0606	353	1.96	5.88	35	7.05	0.107	---	75.1	29.8	41.3	---	---	9.61	103	---	---	12.2	---	29	0.0595	0.184	4.27	26	4.82	12.9	14.3	9.06
	29-Aug-2018	3	1.52 [#1]	< 0.28	---	126	0.557 [#1]	---	< 0.28	391	1.51	4.5	26.9	5.83	< 0.28	---	55.5	21.3	31.2	---	---	8.31	78.7	---	---	9.13	---	22.6	0.0408	0.123 [#1]	2.59	17.3	3.31	9.27	12.1	7.67
(Replicate A)	05-Sep-2019	4	1.46	1.97	---	129	1.08	---	< 0.057	350	2.86	4.65	28.5	5.83	< 0.057	---	71.8	28.1	36.6	---	---	9.8	98.1	---	---	11.8	---	32	0.0558	0.247	3.26	28.6	5.88	16	21.5	8.52
(Replicate B)	05-Sep-2019	4	1.51	2.28	---	134	1.24	---	< 0.0573	372	2.72	4.68	27.7	5.75	< 0.0573	---	63.4	24.9	32.5	---	---	9.94	95.7	---	---	13	---	31.4	0.0524	0.275	3.41	28	7.08	16	22.8	9.53
	25-Aug-2020	7	1.31	2.06	---	145	0.87 [#1]	---	< 0.0578	334	1.47	5.68	28.7	6.4	0.121 [#1]	---	55.1	21.7	33.7	---	---	9	88.3	---	---	10.6	---	18.9	0.0489	0.165 [#1]	3.7	19	3.84	8.98	13.6	8.2
	29-Sep-2021	8	3.00	< 0.23	349	---	0.95	48.6	< 0.19	860	2.23	---	98.2	22.9	< 0.25	---	162	59.1	96.6	---	6.49	---	214	---	13.8	21.8	---	33.7	0.117	0.058	7.09	18.4	2.75	4.81	3.93	24.3
	12-Oct-2022	8	< 1.4	< 1.2	148	---	< 0.89	20.5	< 0.97	374	< 0.99	---	40.6	9.7	< 1.2	---	86.7	31.4	36.0	---	2.8	---	96.0	---	4.7	7.8	---	18.7	0.0589	< 1.3	5.08	9.3	1.10	2.20	1.22	9.89
	13-Sep-2023	5	0.89	< 0.53	82.3	---	0.50	10.3	< 0.46	221	0.81	3.15	20.0	5.50	< 0.51	---	42.6	14.3	22.1	---	1.80	---	56.5	---	2.45	5.51	---	10.1	0.0318	< 0.21	2.10	8.8	2.40	3.62	5.11	5.97
Brook Trout 2+	11-Aug-2009	3	4.7 [#1]	---	---	524	< 2.0	88.2	< 1.5	1520	< 2.4	22.6	141	33.4	< 1.5	69.1	196	76.4	---	261	---	8.2	5.6	203	12.7	---	36.3	42.9	---	---	13.5 [#1]	31.7	< 1.7	8.8 [#1]	6.58	37.4
	11-Aug-2010	5	< 2.4	---	---	1710	< 1.6	296	< 1.3	3380	< 1.6	33.6	310	81.5	< 2.1	231	428	135	---	448	---	18.0	13.8	325	17.0	---	99.0	76.5	---	---	17.4	39.9	4.4 [#1]	7.7	2.60	**59.9**
	12-Aug-2010	3	20.3	---	---	2040	< 2.1	372	< 1.6	5010	5.1	54.0	382	115	< 1.5	173	526	244	---	614	---	24.7	14.5	497	31.1	---	169	142	---	---	27.1 [#1]	60.3	7.4 [#1]	13.7 [#1]	4.64	**129**
	01-Sep-2011	4	47.6	---	---	4860	11.8	997	< 3.0	11900	18.3	105	1060	225	< 3.0	684	1330	536	---	1900	---	74.4	69.6	1820	117	---	251	301	---	---	50.4	93.1 [#1]	14.8 [#1]	18.9	17.6	**364**
(Replicate)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	168	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate A)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	186	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate B)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	281	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate C)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	150	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Replicate D)	01-Sep-2011	4	---	---	---	---	---	---	---	---	---	270	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)	01-Sep-2011	4	48.2	---	---	5560	7.0 [#1]	907	< 3.0	13300	17.8	146	1170	281	< 3.0	669	1450	523	---	2400	---	84.8	74.4	1550	155	---	265	376	---	---	54.0	102	14.2	19.2	4.09	**461**
	01-Sep-2012	4	6.44	---	---	557	< 1.0	96.8	< 0.80	1200	2.5 [#1]	17.5	152	21.0	< 0.80	97.6	187	67.7	---	264	---	8.37 [#1]	12.3	241	14.3	---	21.5	37.8	---	---	10.3	29.5	4.09 [#1]	7.35	4.73	28.2
	01-Sep-2013	4	6.3	8.87	---	600	1.55	---	< 0.0579	1210	2.84	21.5	138	31.3	< 0.0697	---	215	87.4	131	---	---	28.9	281	---	---	29.2	---	52.3	0.167	< 0.0858	12	41.1	7.17	14.6	11.8	40
	22-Sep-2014	4	6.73	8.73	---	600	0.909	---	< 0.0579	1350	1.93	23.6	156	33.1	< 0.0579	---	245	83.6	123	---	---	23.9	281	---	---	24.2	---	46.9	0.171	0.141	11.9	27.8	3.95	7.08	3.53	38.5
(Replicate A)	22-Sep-2014	1	2.75	3.47	---	252	0.572	---	< 0.0573	517	0.896	8.97	61.4	13.6	< 0.0573	---	97.3	39.2	59.3	---	---	13.7	135	---	---	12.8	---	22	0.0756	0.079	5.36	14.5	2.44	3.81	2.07	14.5
(Replicate B)	22-Sep-2014	1	2.75	4.03	---	308	0.691	---	< 0.0487	605	1.17	12.7	85.8	16.5	< 0.0487	---	109	49.6	78	---	---	15.2	160	---	---	14.9	---	24.5	0.101	0.136 [#1]	6.66	16.8	3.04	4.54	3.26	16.5
	23-Sep-2015	4	5.43	6.99	---	558	1.13	---	< 0.0661	1180	3.14	22.5	120	27.1	< 0.0733	---	273	139	132	---	---	28.5 [#3]	297	---	---	32.7	---	66.2	0.165	0.178	11.4	28	5.28	8.77	5.14	**57.9**

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

PROJECT No.: 317011-00057

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 181 (ng/kg)	PCB 182 (ng/kg)	PCB 183 (ng/kg)	PCB-183/185 (ng/kg)	PCB 184 (ng/kg)	PCB 185 (ng/kg)	PCB 186 (ng/kg)	PCB 187 (ng/kg)	PCB 188 (ng/kg)	PCB 189 (ng/kg)	PCB 190 (ng/kg)	PCB 191 (ng/kg)	PCB 192 (ng/kg)	PCB 193 (ng/kg)	PCB 194 (ng/kg)	PCB 195 (ng/kg)	PCB 196 (ng/kg)	PCB 196/203 (ng/kg)	PCB 197 (ng/kg)	PCB 197/200 (ng/kg)	PCB 198/199 (ng/kg)	PCB 199 (ng/kg)	PCB 200 (ng/kg)	PCB 201 (ng/kg)	PCB 201/204 (ng/kg)	PCB 202 (ng/kg)	PCB 203 (ug/kg)	PCB 204 (ng/kg)	PCB 205 (ng/kg)	PCB 206 (ng/kg)	PCB 207 (ng/kg)	PCB 208 (ng/kg)	PCB 209 (ng/kg)	PCBs-TOTAL (ug/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2000**
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50**
Chrystina Lake - Continued																																				
	31-Aug-2016	2	8.56	< 0.0557	---	767	1.23	---	< 0.0557	2190	2.63	43	241	55	< 0.0557	---	357	177	238	---	---	31.7	578	---	---	53.2	---	93	0.329	0.207	19.8	57	8.37	18.1	11.9	**52.3**
(Replicate A)	12-Sep-2017	3	3.48	4.11	---	329	1.02 #1	---	< 0.0582	702	2.11	13.3	82.4	16.6	< 0.0582	---	139	52.2	72.9	---	---	14.6	171	---	---	18.5	---	37.9	0.1	0.193 #1	8.11	28.7	5.06	11.5	12.1	19.4
(Replicate B)	12-Sep-2017	1	2.99	3.63 #1	---	306	1.08	---	< 0.0741	610	2.31	11.7	75.7	14.6	0.13 #1	---	137	53.1	71.6	---	---	14.2	163	---	---	18.7	---	37.4	0.104	0.266	8.15	33.5	6.45	14.5	16.9	15.3
	29-Aug-2018	3	4.29	6.96	---	494	1.29	---	< 0.0636	1200	2.82	12.8	111	25.3	< 0.0752	---	163	69.2	105	---	---	21.9	238	---	---	26.7	---	50.1	0.143	0.194 #1	8.47	29.5	4.73	10.8	9.49	29.3
(Replicate A)	05-Sep-2019	4	2.38	4.04	---	292	0.754	---	< 0.0549	605	1.53	10.3	61.1	13.9	< 0.0549	---	101	40.3	57.5	---	---	13.3	128	---	---	14.7	---	27.9	0.0768	0.14	5.42	19	3.49	7.03	5.97	15
(Replicate B)	05-Sep-2019	4	2.99	5.06	---	360	1.01	---	< 0.0579	726	1.9	13.1	72.4	17.4	< 0.0579	---	135	54.1	77.9	---	---	15.7	161	---	---	17.7	---	33.9	0.112	0.153	7.22	24.5	4.17	8.07	6.33	16.7
(Replicate A)	25-Aug-2020	7	3.07	4.75	---	344	1.06	---	< 0.0574	686	1.91	15.2	81.2	17.1	< 0.0574	---	128	52.5	75.8	---	---	16.1	183	---	---	19.7	---	30.7	0.106	0.184	8.48	25.8	4.28	7.76	8.1	17.4
(Replicate B)	25-Aug-2020	7	2.51	3.76	---	277	1.04	---	< 0.0577	581	2.03	9.82	54.2	11.7	< 0.0587	---	67.1	37.6	60.3	---	---	15.1	146	---	---	17.6	---	27.6	0.077	0.169	5.33	20.4	3.89	8.01	9.86	15.1
	29-Sep-2021	10	4.08 #4	< 0.27 #4	402 #4	---	0.70 #4	53.0 #4	< 0.23 #4	983 #4	2.84 #4	---	117 #4	25.1 #4	< 0.29 #4	---	221 #4	79.9 #4	110 #4	---	8.42 #4	---	257 #4	---	12.9 #4	24.8 #4	---	41.9 #4	0.139 #4	0.183 #4	10.7 #4	26.3 #4	4.00 #4	6.91 #4	5.78 #4	24.8 #4
	12-Oct-2022	9	7.31	< 0.48	672	---	2.12	85.6	< 0.41	1620	4.64	---	197	47.3	< 0.48	---	381	128	176	---	11.7	---	382	---	18.8	36.4	---	58.5	0.23	0.17	16.9	36.2	4.39	7.47	4.17	46
	13-Sep-2023	5	2.50	5.10	219	---	0.52	29.0	< 0.54	558	1.46	10.5	48.7	14.4	< 0.60	---	104	32.0	50.4	---	4.48	---	126	---	3.71	11.2	---	18.8	0.0819	< 0.19	5.55	13.0	2.7	3.1	2.60	13.4
Brook Trout 3+	04-Oct-2006	3	< 0.10	---	---	830	< 0.10	67	< 0.10	2300	< 0.10	1.9	170	< 0.10	< 0.10	79	130	22	---	230	---	< 0.10	< 0.10	270	1.5	---	4.7	26	---	---	< 0.10	13	0.23	4.7	5.2	33
	11-Aug-2010	5	< 2.3	---	---	1360	< 1.6	215	< 1.2	2950	< 1.5	31.2	255	65.8	< 2.0	201	338	114	---	373	---	17.3	13.2	287	10.1	---	81.3	66.6	---	---	13.7	34.5	< 2.6	8.1	4.30	47.5
(Duplicate)	11-Aug-2010	5	14.3	---	---	1340	< 1.6	215	< 1.3	2880	3.7 #1	25.1	243	< 1.7	< 2.1	189	336	113	---	359	---	17.3	9.6	285	10.4	---	77.2	64.6	---	---	15.7	34.7	< 2.4	9.1	4.34	46.7
(Replicate A)	12-Aug-2010	4	8.1 #1	---	---	963	< 2.1	168	< 1.6	2540	< 2.4	34.4	237	57.4	< 1.6	119	312	118	---	395	---	12.7	8.8	334	19.7	---	53.0	77.7	---	---	14.8	35.1	6.4 #1	9.4	3.69	**74.9**
(Replicate A)	01-Sep-2012	1	3.77	---	---	388	< 0.60	62.7	< 0.40	817	1.36	12.7	104	15.1	< 0.40	58.2	115	42.6	---	177	---	5.36	6.55	149	7.07 #1	---	13.5	24.4	---	---	7.34	14.8	2.15 #1	2.99	1.34	18.3
(Duplicate)	01-Sep-2012	1	3.64	---	---	369	< 0.70	60.1	< 0.50	770	< 0.70	11.2 #1	99.0	14.7	< 0.50	53.7	116	40.3	---	174	---	4.30 #1	5.73	144	7.23	---	12.6	23.7	---	---	5.88	14.6	< 0.50	2.68 #1	1.42 #1	17.4
(Replicate B)	01-Sep-2012	1	2.15	---	---	238	< 0.80	33.6	< 0.60	508	< 0.90	9.79	76.8	10.3	< 0.60	46.0	108	39.3	---	143	---	4.34 #1	5.18	129	6.32	---	12.7	23.4	---	---	7.52	20.0	2.88 #1	5.51	4.21	10.6
(Replicate C)	01-Sep-2013	1	3.37	8.87	---	414	1.02	---	< 0.129	799	1.84	21.4	105	24.6	< 0.155	---	218	73.7	109	---	---	20.1	213	---	---	21.6	---	36.2	0.143	< 0.156	11.5	32.2	4.81	8.43	6.34	20.5
(Replicate D)	01-Sep-2013	1	4.43	8.18	---	450	0.996	---	< 0.113	832	2.15	15.9	102	23.7	< 0.136	---	151	64.2	96.3	---	---	19.8	196	---	---	20.6	---	34.5	0.12	0.146 #1	8.89	25.6	4.56	7.69	4.98	23.6
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	< 5.0	---	---	395	< 6.0	61.2	< 4.0	872	< 7.0	15.0 #1	118	14.5 #1	< 4.0	63.9 #1	143	55.1	---	204	---	7.4 #1	7.7 #1	202	7.5 #1	---	19.9	40.9	---	---	10.6 #1	30.3	< 1.0	6.5	5.0	20.5
	22-Sep-2014	4	8.11	17.6	---	827	1.52	---	< 0.0581	2150	3.07	28.1	198	43.7	< 0.0653	---	272	123	205	---	---	40.4	437	---	---	41.2	---	64.5	0.264	0.21 #1	14.8	37	6.56	9.51	4.99	**54.2**
(Replicate A)	22-Sep-2014	4	4.03	5.98	---	418	1.02	---	< 0.0567	863	1.69	16.7	119	22.6	< 0.0567	---	131	66.9	114	---	---	20.2	246	---	---	21.9	---	35.5	0.149	0.189	9.01	26.2	4.55	7.84	5.19	20.8
(Replicate B)	22-Sep-2014	1	7.25	10.8	---	711	1.23	---	< 0.0574	1510	2.57	20.8	163	34.3	< 0.0603	---	256	101	157	---	---	28.2	346	---	---	33.7	---	52.6	0.21	0.206 #1	12.5	39.6	7.26	11.4	8.39	33.3
(Duplicate)	22-Sep-2014	1	9.45	17.6	---	889	1.89	---	< 0.0974	2010	2.92	26.3	200	48.3	< 0.105	---	254	102	171	---	---	35.2	387	---	---	41.2	---	60.4	0.225	0.241 #1	13.1	34.4	5.89	8.82	4.46	**53.1**
	23-Sep-2015	3	11.7	14.6	---	1110	2.02	---	< 0.123	2560	4.29	27.5	206	47.3	< 0.137	---	287	121	201	---	---	44.0	452	---	---	49.6	---	88.5	0.237	0.188	14.2	29.7	5.38	8.01	2.52	**90.9**
	31-Aug-2016	2	11.2	< 0.0584	---	1200	2.03	---	< 0.0551	2650	3.89	42.3	271	59.5	< 0.0551	---	311	149	238	---	---	46.8	541	---	---	54.3	---	84.8	0.321	0.132	16.9	34.5	5.25	7.99	2.39	**98.1**
(Replicate A)	31-Aug-2016	2	8.63	11.4	---	909	1.54	---	< 0.0546	2110	3.67	34.9	208	44.9	< 0.0546	---	287	130	198	---	---	40	461	---	---	43.9	---	72.7	0.26	0.199	14.9	33.3	4.22	7.92	3.48	**71.1**
(Duplicate)	31-Aug-2016	1	10.9	< 0.0734	---	1170	1.82	---	< 0.0609	2570	3.82	39.4	263	57.7	< 0.0687	---	277	137	232	---	---	44.5 #3	529	---	---	52.2	---	79.3	0.316	0.184	16.6	33.9	5.03	7.91	2.25	**94.8**
	12-Sep-2017	3	4.55	4.63	---	413	0.879 #1	---	< 0.0766	873	1.97	17.1	106	20.6	< 0.077	---	175	64.1	89.6	---	---	17.6	213	---	---	21.5	---	38.3	0.124	0.199 #1	9.8	26.8	4.22	7.91	6.22	25.4
	29-Aug-2018	3	5.62	6.78	---	548	1.46	---	< 0.0805	1400	2.6	18.2	147	29.6	< 0.0952	---	221	88.2	117	---	---	24.8	285	---	---	28.3	---	56.9	0.17	0.232 #1	11.8	39.1	6.6	13.7	12.5	29.4
(Duplicate)	29-Aug-2018	3	4.76	6.62	---	498	1.28	---	< 0.0825	1390	2.46	15.5	120	24.9	< 0.0956	---	195	70	108	---	---	23.2	244	---	---	26.7	---	51.9	0.151	0.185 #1	11	35.9	5.43	12.2	10.8	27.1
(Lab Replicate)	29-Aug-2018	3	4.91	< 0.0799	---	515	1.26	---	< 0.0664	1150	2.57	16.2	130	27	0.268 #1	---	185	67.5	110	---	---	21.9	251	---	---	25.3	---	52	0.155	0.266 #1	11	36.4	5.62	12.2	11.5	26.7
	05-Sep-2019	4	4.45	7.05	---	512	1.08	---	< 0.0556	1020	2.25	18.9	113	27.3	< 0.0556	---	203	76.4	90.2	---	---	20.6	230	---	---	24.6	---	42.5	0.095	0.16	11.3	30.7	4.72	8.47	4.91	25.8
	29-Sep-2021	3	1.90	< 0.34	258	---	0.89	25.0	< 0.28	637	1.84	---	75.9	17.8	< 0.36	---	124	46.0	64.0	---	5.00	---	148	---	7.92	14.9	---	25.2	0.0840	0.147	5.24	15.3	2.10	3.88	3.60	18.2
(Duplicate)	29-Sep-2021	3	6.07	< 0.63	612	---	1.30	107	< 0.53	1500	3.50	---	182	43.0	< 0.67	---	310	107	162	---	11.8	---	375	---	20.7	38.3	---	60.7	0.216	< 0.19	14.0	38.7	6.03	10.2	9.21	44.3
	12-Oct-2022	3	5.2	< 1.6	648	---	1.3	71.3	< 1.4	1610	4.0	---	145	42.9	< 1.6	---	273	99.6	164	---	12.2	---	365	---	19.1	38.4	---	60.9	0.199	< 0.30	12.0	28.4	4.10	7.07	4.04	40.1
	13-Sep-2023	5	4.82	8.87	521	---	1.60	62.6	< 0.50	1340	2.86	18.2	120	26.9	< 0.61	---	167	50.6	102	---	9.13	---	251	---	8.50	20.8	---	38.9	0.161	< 0.085	10.2	18.9	3.12	4.52	2.49	28.1
Brook Trout 4+	04-Oct-2006	7	5.1	---	---	930	< 0.10	150	< 0.10	2400	4.3	67	230	91	< 0.10	140	650	190	---	930	---	21	< 0.20	920	43	---	81	180	---	---	18	75	6.5	18	12	**135**
	01-Sep-2011	2	21.5 #1	---	---	1930	< 4.0	360	< 2.0	4570	7.8 #1	60.6	445	91.5	< 2.0	305	758	293	---	1070	---	36.6	25.9	868	57.5 #1	---	113	147	---	---	31.9 #1	61.2	10.9 #1	16.3 #1	6.08 #1	**155**
	01-Sep-2013	2	15.1	37.3	---	1930	3.12	---	< 0.219	4290	5.94	49.2	363	89.5	< 0.263	---	494	195	341	---	---	78.8 #3	724	---	---	78.8	---	131	0.423	0.22 #1	24.6	50	8.14	12.1	4.23	**127**
	22-Sep-2014	1	19.3	29.9	---	2220	2.76	---	< 0.0998	5360	5.53	76.2	547	117	< 0.112	---	706	289	495	---	---	90.4 #3	1050	---	---	96.7	---	146	0.634	0.212 #1	37.5	73.9	11.3	14.3	3.71	**154**
(Replicate A)	23-Sep-2015	1	7.61	9.92	---	820	1.87	---	< 0.13	1690 #3	2.82	28.1	183	39	< 0.144	---	295	126	174	---	---	37.0 #3	412	---	---	43.1	---	68.6	0.246	0.243 #1	16.6	45.2	7.76	11.5	5.18	43.9
(Replicate B)	23-Sep-2015	1	9.65	13.8	---	984	1.89	---	< 0.0994	2160	3.29	31	204	45	< 0.11	---	309	126	194	---	---	40.5 #3	449	---	---	47.1	---	80.4	0.252	0.204 #1	16.1	41	6.86	11	5.33	**58.2**
	12-Sep-2017	1	6.72	7.78	---	698	1.33 #1	---	< 0.0854	1460	2.84	30.5	184	36	< 0.0859	---	324	106	147	---	---	22.7	340	---	---	30.9	---	57.7	0.213	0.238	17.7	43.2	5.85	9.56	7.27	42.4
(Replicate A)	29-Aug-2018	1	10.3	< 0.208	---	1000	1.78	---	< 0.174	2200	3.89	25.1	266	57.6	< 0.206	---	333	112	172	---	---	39.2	404	---	---	42.5	---	---	0.235	< 0.279	16.4	39.8	5.83	11.8	6.76	**63.9**
(Replicate B)	29-Aug-2018	1	8.32	< 0.283	---	697	2.92	---	< 0.283	1890	4.46	28.4	226	42	2.74	---	391	148	194	---	---	28.6	453	---	---	31.9	---	80.8	0.286	< 0.283	17.6	83.1	11.6	24.9	25.3	36.9
(Replicate C)	29-Aug-2018	1	6.97	< 0.134	---	710	1.31 #1	---	< 0.112	1090	2.66	22.1	183	38.5	< 0.133	---	270	113	157	---	---	29.8	370	---	---	35.7	---	62.7	0.227	0.188 #1	13.6	39.4	6.33	11.1	7.26	34.7
	25-Aug-2020	1	2.54	2.97 #1	---	267	0.691 #1	---	< 0.0579	518	1.18	9.87	57.8	12.2	< 0.0579	---	96.3	41.6	57.6	---	---	11.7	141	---	---	15.1	---	22	0.0833	0.154 #1	6.37	20	3.47	5.22	4	12.3

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 181 (ng/kg)	PCB 182 (ng/kg)	PCB 183 (ng/kg)	PCB-183/185 (ng/kg)	PCB 184 (ng/kg)	PCB 185 (ng/kg)	PCB 186 (ng/kg)	PCB 187 (ng/kg)	PCB 188 (ng/kg)	PCB 189 (ng/kg)	PCB 190 (ng/kg)	PCB 191 (ng/kg)	PCB 192 (ng/kg)	PCB 193 (ng/kg)	PCB 194 (ng/kg)	PCB 195 (ng/kg)	PCB 196 (ng/kg)	PCB 196/203 (ng/kg)	PCB 197 (ng/kg)	PCB 197/200 (ng/kg)	PCB 198/199 (ng/kg)	PCB 199 (ng/kg)	PCB 200 (ng/kg)	PCB 201 (ng/kg)	PCB 201/204 (ng/kg)	PCB 202 (ng/kg)	PCB 203 (ug/kg)	PCB 204 (ng/kg)	PCB 205 (ng/kg)	PCB 206 (ng/kg)	PCB 207 (ng/kg)	PCB 208 (ng/kg)	PCB 209 (ng/kg)	PCBs-TOTAL (ug/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2000**
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50**
Chrystina Lake - Continued																																				
	29-Sep-2021	1	4.35	< 0.31	382	---	1.06	49.1	< 0.26	901	2.10	---	103	25.5	< 0.31	---	196	75.8	99.0	---	8.15	---	231	---	12.1	22.5	---	36.5	0.13	0.150	9.07	24.5	3.68	6.17	4.44	26.1
Brook Trout 5+	04-Oct-2006	5	2.9	---	---	500	< 0.10	84	0	1400	1.7	32	140	42	< 0.10	130	280	83	---	520	---	9.1	< 0.20	560	20	---	< 0.10	90	---	---	11	31	3.0	8.6	5.1	**73**
	11-Sep-2007	2	12	---	---	1000	2.2	170	< 1.1	2800	4.7	41	300	65	< 1.2	230	450	150	---	590	---	20	< 1.0	590	27	---	58	100	---	---	23	88	13 [#1]	26	27	**56**
	12-Aug-2010	1	6.4	---	---	550	< 2.1	83.2	< 1.6	1300	< 2.4	20.3	147	27.2	< 1.6	67.6	211	91.7	---	314	---	11.0 [#1]	8.3	254	9.6	---	44.1 [#1]	47.1	---	---	11.6 [#1]	42.0	8.4	14.7 [#1]	11.3	29.2
	01-Sep-2013	1	35.7	74.7	---	4700	6.7	---	< 0.313	10200	11.8	117	901	206	< 0.377	---	1180	452	829	---	---	171	1730	---	---	174	---	298	1.02	0.563	56.3	101	15.5	23	5.34	**274**
(Known (External Reference Material) Duplicate)	01-Sep-2013	1	46.4 [#1]	---	---	4790	< 5.0	793	< 3.0	11500	14.4 [#1]	131	1240	161	< 3.0	707	1220	408	---	1890	---	53.3	69.1	1970	86.2	---	143	319	---	---	65.8	121	14.6 [#1]	26.6	8.12	**280**
	23-Sep-2015	1	11.9	11.1	---	1170	2.18	---	< 0.0776	2560	3.67	40.4	274	57.6	< 0.086	---	450	177	263	---	---	48.9 [#3]	610	---	---	58.5	---	93.6	0.37	0.303 [#1]	25	67.5	10.7	15.2	6.27	**69.5**
	30-Aug-2016	1	10.2	< 0.0564	---	996	1.73	---	< 0.0564	1950	3.42	32.6	220	47.2	< 0.0564	---	301	121	201	---	---	35.3 [#3]	436	---	---	44.2	---	68.2	0.25	0.206 [#1]	14.6	32.9	5.69	9.36	4.07	**59.7**
	12-Sep-2017	1	21.9	27.4	---	2340	4.24	---	< 0.123	4740	8.24	93	595	125	< 0.126	---	834	311	448	---	---	77.9	991	---	---	107	---	173	0.592	0.503 [#1]	47.2	84.4	12.2	18.4	6.25	**129**
(Re-analysis)	12-Sep-2017	1	19.1 [#1]	34.3	---	1860	3.33	---	< 0.136	4020	5.83	61	514	123	< 0.149	---	577	221	343	---	---	57.7	739	---	---	75.7	---	123	0.452	0.252 [#1]	32.8	64.2	8.89	13.9	4.5	**91.4**
	29-Sep-2021	1	4.36 [#4]	< 0.83 [#4]	387 [#4]	---	1.30 [#4]	48.2 [#4]	< 0.70 [#4]	876 [#4]	1.70 [#4]	---	113 [#4]	28.3 [#4]	< 0.83 [#4]	---	195 [#4]	75.5 [#4]	100 [#4]	---	7.62 [#4]	---	238 [#4]	---	11.9 [#4]	22.2 [#4]	---	36.8 [#4]	0.141 [#4]	< 0.31 [#4]	9.60 [#4]	29.4 [#4]	3.90 [#4]	7.00 [#4]	6.66 [#4]	23.2 [#4]
Brook Trout 6+	11-Sep-2007	3	15	---	---	1400	2.6	230	< 1.3	3200	4.4	45	350	81	< 1.5	270	510	180	---	650	---	25	< 1.4	620	30	---	70	97	---	---	20	58	11	20	19	**62**
Brook Trout 7+	11-Sep-2007	3	< 1.0	---	---	200	< 0.70	37	< 0.80	560	2.5	10	71	13	< 0.80	46	97	32	---	120	---	4.4	< 0.90	130	7.0	---	14	31	---	---	4.8	38	5.9	19	21	16
(Duplicate)	11-Sep-2007	3	2.4	---	---	200	< 1.0	35	< 1.0	540	2.3	10	67	12	< 1.1	52	95	32	---	120	---	4.9	< 1.4	130	7.0	---	14	29	---	---	3.9	35	6.5	18	22	14
Brook Trout 11+	11-Sep-2007	2	12	---	---	1300	< 1.0	200	< 1.0	2800	3.5	54	400	75	< 1.1	310	670	190	---	730	---	18	< 1.0	660	26	---	52	91	---	---	31	97	8.7	16	15	**68**
Brook Trout 12+	11-Sep-2007	2	17	---	---	1600	2.7	270	< 1.3	4100	5.7	57	460	97	< 1.4	350	610	200	---	860	---	30	< 1.5	880	40	---	78	140	---	---	28	100	15	29	27	**88**
Brook Trout Unknown	23-Jul-2008	3	1.2	---	---	110	0.52	18	< 0.40	290	1.1	6.9	30	5.7	< 0.40	18	61	24	---	86	---	3.1	< 0.40	88	4.8	---	10	22	---	---	3.8	22	4.1	9.6	10	7.8
(Replicate)	23-Jul-2008	3	0.65	---	---	46	0.52	7.0	< 0.30	140	1.4	2.6	11	1.7	< 0.20	10	29	11	---	41	---	2.1	< 0.20	46	2.7	---	5.8	16	---	---	2.0	22	4.1	10	17	3.7
(Replicate A)	23-Jul-2008	2	2.4	---	---	180	0.82	28	< 0.30	470	2.0	9.9	52	9.4	< 0.20	35	96	38	---	140	---	5.2	< 0.30	140	7.5	---	15	32	---	---	5.9	31	5.3	13	15	11
(Replicate B)	23-Jul-2008	2	1.1	---	---	75	0.56	13	< 0.30	190	0.87	5.5	23	3.9	< 0.20	16	38	16	---	53	---	2.2	< 0.30	63	3.5	---	6.8	18	---	---	2.1	16	3.3	9.2	7.6	6.2
(Replicate C)	23-Jul-2008	2	1.0	---	---	110	0.53	25	< 0.40	210	0.87	6.5	37	5.5	< 0.40	28	66	21	---	94	---	2.5	< 0.30	100	6.6	---	7.9	25	---	---	4.9	24	3.7	9.5	8.6	6.7
	12-Oct-2022	1	4.3	< 0.90	399	---	1.10	61.0	< 0.77	1030	2.40	---	107	29.9	< 0.91	---	190	70.1	103	---	8.26	---	232	---	16.2	24.4	---	39.3	0.134	< 0.33	7.80	22.4	3.30	6.26	5.07	29.8
(Replicate A)	13-Sep-2023	1	2.64 [#5]	4.49 [#5]	308 [#5]	---	0.69 [#5]	36.6 [#5]	< 0.30 [#5]	744 [#5]	1.96 [#5]	13.7 [#5]	74.5 [#5]	17.0 [#5]	< 0.36 [#5]	---	132 [#5]	42.1 [#5]	76.1 [#5]	---	7.65 [#5]	---	185 [#5]	---	6.41 [#5]	17.8 [#5]	---	29.7 [#5]	0.115 [#5]	< 0.097 [#5]	7.83 [#5]	16.8 [#5]	2.76 [#5]	4.03 [#5]	2.09 [#5]	17.4 [#5]
(Replicate B)	13-Sep-2023	1	2.40	< 0.59	203	---	0.57	28.2	< 0.51	700	0.99	11.8	54.8	14.6	< 0.57	---	111	28.8	45.6	---	3.63	---	146	---	4.00	9.01	---	18.6	0.0896	< 0.20	5.62	12.4	1.90	2.56	1.74	15.9
Brook Trout (Muscle only) 3+	01-Feb-2012	1	< 20	---	---	881	< 30	249 [#1]	< 20	2790	< 30	9.2 [#1]	634	17.1	< 20	253	182	99.1 [#1]	---	375	---	< 10	< 20	468	44	---	< 7.0	37	---	---	10.0	16.5 [#1]	< 10	< 8.0	< 4.0	37
Brook Trout (Skin Only) 3+	01-Feb-2012	1	< 20	---	---	2230	< 20	576	< 10	6330	< 20	30.3	1140	35.1	< 20	531	429	207	---	790	---	22.2 [#1]	< 9.0	909	48.5 [#1]	---	26.6	62.1	---	---	13.8	34.6	< 8.0	< 6.0	< 3.0	**80.7**
Brook Trout (Stomach) 1+	01-Sep-2012	4	< 2.0	---	---	30.5	< 2.0	< 2.0	< 1.0	48.2	< 2.0	< 0.90	6.1	< 1.0	< 2.0	5.5	7.5	< 1.0	---	14.8	---	< 1.0	< 1.0	10.2	< 1.0	---	< 0.90	5.2	---	---	< 1.0	< 2.0	< 3.0	< 3.0	< 0.70	2.23
Brook Trout (Stomach) 2+	01-Sep-2012	4	< 10	---	---	164 [#1]	< 20	< 10	< 10	200 [#1]	< 20	11.3	142 [#1]	7.5	< 10	53	84.2	< 3.0	---	98.3 [#1]	---	< 7.0	< 8.0	39.5 [#1]	< 7.0	---	< 3.0	< 8.0	---	---	< 3.0	< 6.0	< 20	< 20	< 6.0	2.97
Brook Trout (Stomach) 3+ (Replicate A)	01-Sep-2012	1	< 2.0	---	---	28.9 [#1]	< 2.0	< 2.0	< 1.0	32.3	< 2.0	< 0.80	< 1.0	< 0.90	< 2.0	5.2 [#1]	6.33 [#1]	< 1.0	---	< 1.0	---	< 1.0	< 1.0	7.6 [#1]	< 1.0	---	< 0.80	< 1.0	---	---	< 0.90	< 1.0	< 2.0	< 2.0	< 0.80	1.54
(Replicate B)	01-Sep-2012	1	< 4.0	---	---	173	< 5.0	25.7	< 3.0	297	< 5.0	< 2.0	54.9	6.9 [#1]	< 4.0	29.5 [#1]	61.1	18.8	---	89.6 [#1]	---	< 2.0	< 3.0	72.8 [#1]	< 2.0	---	8.5 [#1]	< 3.0	---	---	< 2.0	8.0 [#1]	< 2.0	< 2.0	< 0.80	5.96
White Sucker 1+	01-Feb-2012	1	< 20	---	---	1130	< 30	253	< 20	2870	< 30	21.6	978	21.6	< 20	345	238	138	---	480	---	< 10	< 10	528	32 [#1]	---	< 4.0	25.7 [#1]	---	---	12.7	22.5	< 8.0	< 6.0	< 3.0	39.8
	21-Sep-2014	2	0.869 [#1]	0.979	---	84.7	0.187	---	< 0.0579	156	0.218 [#1]	2.1	17.1	4.06	< 0.0579	---	24.9	11.5	15	---	---	3.11	32.5	---	---	4.07	---	4.91	0.0215	0.064 [#1]	1.23	3.73	0.813	1.07	0.586 [#1]	3.36
White Sucker 2+	01-Feb-2012	1	< 10	---	---	187	< 10	38 [#1]	< 8.0	425	< 10	4.8	166	< 2.0	< 10	66.7	54.3	33.8	---	121 [#1]	---	< 7.0	< 7.0	144	< 7.0	---	< 3.0	< 6.0	---	---	2.9 [#1]	9.30 [#1]	< 5.0	< 4.0	< 2.0	4.12
	22-Sep-2014	4	1.58	1.8 [#1]	---	149	0.312	---	< 0.0573	266	0.39	4.82	35.9	8.13	< 0.0573	---	56.1	23.8	31.8	---	---	5.83	67.7	---	---	7.79	---	8.41	0.0451	< 0.0573	3.08	8.12	1.62 [#1]	1.99	1.11	5.56
White Sucker 3+	01-Feb-2012	1	< 30	---	---	182 [#1]	< 40	< 30	< 20	377	< 40	< 4.0	92 [#1]	< 7.0	< 30	71	37.7 [#1]	< 7.0	---	< 10	---	< 10	< 20	< 20	< 20	---	< 7.0	< 10	---	---	< 4.0	< 3.0	< 20	< 10	< 10	3.21
White Sucker 6+	11-Sep-2007	4	< 0.90	---	---	95	< 0.60	12	< 0.70	180	< 0.70	4.3	32	4.5	< 0.70	21	47	16	---	65	---	2.6	< 0.80	54	< 0.60	---	4.5	5.4	---	---	2.5	8.7	1.2	1.8	2.0	3.5
White Sucker 7+	11-Sep-2007	3	< 1.4	---	---	120	< 1.0	19	< 1.0	280	< 1.0	6.9	55	8.6	< 1.1	37	66	31	---	99	---	2.1	< 1.4	91	< 1.0	---	6.7	8.8	---	---	4.8	14	< 0.60	2.5	1.5	4.5
White Sucker 8+	11-Sep-2007	5	< 1.1	---	---	130	< 0.80	19	< 0.90	260	< 0.90	4.1	43	7.3	< 0.90	23	55	23	---	88	---	< 0.80	< 1.2	70	< 0.90	---	5.6	6.0	---	---	3.6	7.9	1.9	1.6 [#1]	1.3	4.1
	11-Aug-2009	4	< 15	---	---	89	< 18	27	< 5.9	240	< 18	< 9.0	38	< 9.9	< 12	13	56.6	24.9	---	80	---	< 7.3	< 11	58	< 7.2	---	< 6.6	< 8.3	---	---	< 5.8	< 2.9 [#1]	< 5.6	< 5.4	< 1.3	5.39
White Sucker 9+	11-Sep-2007	4	< 1.0	---	---	210	< 0.70	27	< 0.80	390	< 0.80	7.5	61	12	< 0.80	41	73	31	---	120	---	3.9	< 1.1	90	2.8	---	9.3	9.3	---	---	4.5	11	1.9	1.9	1.4	6.9
White Sucker 10+	11-Aug-2009	4	< 10	---	---	84	< 12	< 11	< 4.0	157	< 12	< 5.8	26.0	< 6.3	< 8.0	< 7.0	36.3	< 5.4	---	53.6	---	< 5.7	< 8.4	60.1 [#1]	< 5.7	---	< 4.5	< 6.5 [#1]	---	---	< 3.9	< 2.9	< 4.3	< 4.1	< 1.0	4.45
Forage Fish	04-Nov-2014	---	1.36	< 0.0682	---	108	0.201 [#1]	---	< 0.0682	213	1.35 [#1]	13.4	88.5	12.3	0.131 [#1]	---	335	69.6	48.4	---	---	8.19	102	---	---	4.46	---	20.9 [#1]	0.0719	< 0.0682	7.07	17.4	1.46	3.41	1.36 [#1]	11.2

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 181 (ng/kg)	PCB 182 (ng/kg)	PCB 183 (ng/kg)	PCB-183/185 (ng/kg)	PCB 184 (ng/kg)	PCB 185 (ng/kg)	PCB 186 (ng/kg)	PCB 187 (ng/kg)	PCB 188 (ng/kg)	PCB 189 (ng/kg)	PCB 190 (ng/kg)	PCB 191 (ng/kg)	PCB 192 (ng/kg)	PCB 193 (ng/kg)	PCB 194 (ng/kg)	PCB 195 (ng/kg)	PCB 196 (ng/kg)	PCB 196/203 (ng/kg)	PCB 197 (ng/kg)	PCB 197/200 (ng/kg)	PCB 198/199 (ng/kg)	PCB 199 (ng/kg)	PCB 200 (ng/kg)	PCB 201 (ng/kg)	PCB 201/204 (ng/kg)	PCB 202 (ng/kg)	PCB 203 (ug/kg)	PCB 204 (ng/kg)	PCB 205 (ng/kg)	PCB 206 (ng/kg)	PCB 207 (ng/kg)	PCB 208 (ng/kg)	PCB 209 (ng/kg)	PCBs-TOTAL (ug/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2000**
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50**
Chrystina Lake - Continued																																				
Invertebrates	22-Aug-2014	---	5.44	< 0.295	---	467	< 0.295	---	< 0.295	1270	1.37 [#1]	45.3	313	36	< 0.295	---	728	154	134	---	---	33.5	547	---	---	15.7	---	85.6	0.265	< 0.295	22.1	57.5	4.53 [#1]	11.6	3.07	44.7
Edith Lake																																				
Brook Trout 1+	11-Aug-2009	7	< 6.7	---	---	43.3	< 7.9	< 7.0	< 2.6	117	< 8.1	< 1.7	12.1	< 1.9	< 5.2	8.0	15.0	6.9	---	25.1	---	< 2.4	< 3.5	28.5	< 2.3	---	2.4 [#1]	< 2.7	---	---	< 1.7	6.97	< 2.4	< 2.3	2.98	2.98
	01-Sep-2011	4	< 2.0	---	---	57.5	< 3.0	< 2.0	< 2.0	213	< 2.0	< 1.0	12.4	< 1.0	< 2.0	12.0	38.0 [#1]	15.3 [#1]	---	43.4	---	< 1.0	< 1.0	45.0	2.0 [#1]	---	8.3 [#1]	15.7	---	---	< 1.0	17.9	5.4 [#1]	12.2 [#1]	16.7	5.02
(Duplicate)	01-Sep-2011	4	< 8.0	---	---	162	< 9.0	22.8 [#1]	< 7.0	709	< 8.0	5.2	53.0	< 3.0	< 8.0	47.7	56.1	19.8	---	129 [#1]	---	< 4.0	< 4.0	140	< 4.0	---	6.1	37.0 [#1]	---	---	< 2.0	34.4 [#1]	< 2.0	17.8 [#1]	48.9 [#1]	8.69
	01-Sep-2012	3	2.5 [#1]	---	---	142	< 1.0	18.7	< 0.80	441	3.1 [#1]	6.39 [#1]	39.7	5.28 [#1]	< 0.90	28.6	62.3	22.4	---	99.0	---	3.66 [#1]	4.2 [#1]	94.7	4.48 [#1]	---	11.5 [#1]	31.5	---	---	3.50 [#1]	34.8	7.48	15.9	23.9	9.08
	22-Sep-2015	3	2.69	3.31	---	209	1.43	---	< 0.0968	612	3.58	6.78	40.4	9.33	0.132	---	85.9	33	51.1	---	---	14.8	146	---	---	17.5	---	45.8	0.0775	0.333	4.86	43.8	8.27	25.4	34	18.9
	30-Aug-2016	2	1.6	< 0.0548	---	117	1.09	---	< 0.0548	335	3.06	5.23	23.5	4.94	< 0.0548	---	69.4	26.4	36.2	---	---	11.2	102	---	---	14.2	---	33.5	0.0603	0.291	3.76	44.8	9.78	26.3	36.1	9.38
	13-Sep-2017	3	1.99	2.64	---	140	1.43	---	< 0.0879	460	4.4	5.89	29.5	6.11	0.175 [#1]	---	74.8	28.4	42	---	---	12.7	117	---	---	16.8	---	45.3	0.0673	0.373 [#1]	4.58	48.9	9.4	28.9	36.6	11.1
	30-Aug-2018	3	1.36 [#1]	< 0.275	---	85.3	0.95 [#1]	---	< 0.275	338	2.98	3.43	18.4	4.5	< 0.275	---	62.4	21.4	30.1	---	---	9.45	90	---	---	11.1	---	34.2	0.0499	0.25	3.05	34.6	6.37	20.9	28.5	6.66
(Replicate A)	06-Sep-2019	4	1.26	2.2	---	97.9	1.26	---	< 0.058	330	2.66	3.66	18.5	4.26	0.079	---	46.1	17.9	21.6	---	---	8.04	74.2	---	---	10	---	25	0.0371	0.226	2.61	30.9	6.48	17.8	27.4	7.45
(Replicate B)	06-Sep-2019	4	1.46	2.67	---	122	1.54	---	< 0.0564	392	3.77	4.97	27.8	5.97	0.125	---	74.7	28	23.8	---	---	11	104	---	---	14.4	---	39.4	0.0421	0.331	3.91	44.8	9.34	26	35.5	8.86
	26-Aug-2020	7	1	1.61	---	82	1.11	---	< 0.0579	250	1.96	3.33	16.3	3.67	0.115	---	42	17.2	25.8	---	---	7.51	70.2	---	---	9.53	---	21.5	0.0397	0.278	2.56	30.7	6.27	15.9	31.8	6.08
	30-Sep-2021	8	0.30	< 0.18	19.9	---	0.46	1.72	< 0.15	57.6	0.40	---	5.03	0.94	< 0.18	---	11.8	4.22	6.09	---	0.65	---	15.2	---	0.96	1.70	---	4.23	0.00885	< 0.098	0.60	5.53	1.17	2.62	4.55	1.88
	13-Oct-2022	2	< 0.57	< 0.48	29.3	---	0.40	< 0.61	< 0.41	79.7	< 0.37	---	9.96	2.02	< 0.49	---	22.6	6.03	10.4	---	0.66	---	31.3	---	0.90	1.24	---	4.62	0.0143	< 0.16	0.99	3.50	0.46	1.20	1.08	1.62
	14-Sep-2023	2	< 0.56	0.71	28.8	---	1.10	1.63	< 0.41	107	1.15	1.23	10.0	1.10	< 0.49	---	14.9	5.21	9.33	---	1.19	---	24.4	---	< 0.23	3.60	---	8.87	0.0144	< 0.22	1.33	9.17	2.80	4.66	10.0	2.43
Brook Trout 2+	11-Aug-2009	4	< 5.1	---	---	51.4	< 6.0	< 5.3	< 2.0	136	< 6.1	< 2.1	12.4	< 2.3	< 4.0	5.5	34.3	7.1	---	29.1	---	< 2.5	< 3.7	28.4	< 2.5	---	< 2.7	7.6	---	---	< 2.4	118 [#1]	< 6.5	< 6.2	2.59	2.93
	11-Aug-2010	5	< 1.9	---	---	459	< 1.3	78.3	< 1.0	1170	< 1.3	12.5	99.6	23.7	< 1.7	81.6	130	31.3	---	135	---	5.1	2.5	101	7.1	---	24.4	24.3	---	---	6.4	11.8	< 1.6	< 1.5	2.38	20.9
	01-Sep-2011	4	< 2.0	---	---	334	< 3.0	68.2	< 2.0	790	< 3.0	12.5 [#1]	84.0	16.6	< 2.0	60.2	135	49.6 [#1]	---	171	---	4.3 [#1]	4.8	150	12.3	---	24.4	24.4	---	---	< 2.0	12.5	< 1.0	< 1.0	< 0.50	28.6
	01-Sep-2012	3	< 1.0	---	---	348	< 1.0	53.9	< 0.80	829	< 1.0	8.76	76.1	13.0	< 0.90	54.0	91.4	27.0	---	136	---	4.74 [#1]	3.36	115	6.83 [#1]	---	12.6 [#1]	24.7	---	---	5.24 [#1]	16.2 [#1]	2.74 [#1]	6.81 [#1]	5.89	22.1
	01-Sep-2013	3	5.08	12.6	---	427	1.02	---	< 0.0925	1410	3.52	15	106	27.8	< 0.111	---	154	44.5	81.5	---	---	22.7	223	---	---	20.6	---	51.2	0.142	0.252	7.89	38.6	6.78	19.1	19	43.6
	21-Sep-2014	4	4.73	8.04	---	511	0.559	---	< 0.142	1200	1.19 [#1]	7.45	124	29.1	< 0.159	---	97.6	31.2	68.6	---	---	12.3	161	---	---	13	---	27.9	0.0938	< 0.0574	4.47	13.3	2.02	4.23	3.43	25.2
(Replicate A)	21-Sep-2014	1	3.3	5.6	---	324	0.737	---	< 0.082	761	1.28	5.87	79.6	17.2	< 0.0921	---	71.5	25.7	55.9	---	---	9.73 [#3]	125	---	---	12.9	---	21.8	0.0699	0.129 [#1]	3.88	17.1	3.13	6.8	6.82	20.3
(Replicate B)	21-Sep-2014	1	0.677	1.12 [#1]	---	73.3	0.396 [#1]	---	< 0.0579	186	0.433 [#1]	1.62	18.1	4.19	< 0.0579	---	22.9	7.27	14.4	---	---	2.75 [#3]	35.6	---	---	3.53	---	7.12	0.0225	< 0.0579	1.35	7.62	1.45	3.29	3.5	3.83
	22-Sep-2015	1	0.264	0.286	---	26.5	0.23 [#1]	---	< 0.066	68.1	0.217 [#1]	1.36	6.57	1.49	< 0.0732	---	14	3.79	6.94	---	---	1.41	17.9	---	---	1.74	---	4	0.0103	< 0.055	0.708	4.59	0.851	2	2.32	1.67
	30-Aug-2016	2	2.55	< 0.0563	---	206	0.48	---	< 0.0563	608	1.45	10.4	59.5	12.3	< 0.0563	---	79.4	28	48	---	---	10.5	146	---	---	12.1	---	24.3	0.0861	0.104 [#1]	4.94	19.9	3.27	8.31	9.19	20.2
	13-Sep-2017	3	1.12	1.45	---	91.7	0.665	---	< 0.0788	249	1.69	3.5	22	4.35	< 0.0803	---	51.6	17.8	24.8	---	---	6.28	68.4	---	---	8.58	---	19.3	0.0446	0.21 [#1]	3.06	29.1	5.61	14.8	20.1	4.8
	30-Aug-2018	3	0.987	1.5	---	85.1	0.68	---	< 0.0674	304	1.8	2.79	19.1	4.15	0.239 [#1]	---	40.8	13.7	26.9	---	---	7.69 [#1]	68.8	---	---	9.3	---	23.6	0.0414	0.198 [#1]	2.35	25	4.51	14.1	17.2	5.15
(Replicate A)	06-Sep-2019	4	0.716	1.2	---	63	0.405	---	< 0.0577	181	1.19	2.33	16.3	3.15	< 0.0577	---	43.3	15.3	21.4	---	---	4.75	57.7	---	---	5.96	---	14.2	0.0297	0.139	2.22	18.4	3.43	8.86	11.1	3.13
(Replicate B)	06-Sep-2019	4	0.814	1.44	---	72.2	0.44	---	< 0.0567	197	1.01	2.71	15.2	3.36	0.087	---	38.1	13.7	19.5	---	---	4.62	51.3	---	---	6	---	14.3	0.0274	0.102	1.99	15.3	3.12	7.69	10.1	4.37
	26-Aug-2020	2	1.32 [#1]	1.96	---	106	1.28	---	< 0.058	323	2.23	4.76	23.6	5.19	0.151 [#1]	---	59.1	21.9	36.3	---	---	9.26	102	---	---	12.4	---	27.2	0.0546	0.366 [#1]	4.06	33.5	6.81	18	28.6	6.52
	30-Sep-2021	10	0.26	< 0.14	25.8	---	0.25	2.34	< 0.12	72.8	0.42	---	8.05	1.56	< 0.14	---	16.4	5.42	7.66	---	0.820	---	18.9	---	0.955	2.44	---	4.92	0.0114	< 0.052	0.70	6.47	1.00	2.98	4.96	2.12
	13-Oct-2022	8	1.28	< 0.17	127	---	0.41	17.0	< 0.14	355	0.78	---	37.3	11.7	< 0.17	---	60.0	14.7	26.3	---	1.60	---	59.3	---	3.47	5.67	---	10.4	0.0372	0.054	2.75	6.80	0.97	2.06	2.35	14
	14-Sep-2023	3	0.54	1.20	45.3	---	< 0.22	3.92	< 0.24	228	0.50	3.70	25.2	4.30	< 0.29	---	41.6	5.10	10.8	---	0.36	---	42.9	---	1.10	1.60	---	4.91	0.0374	< 0.12	2.60	3.89	0.35	0.68	0.37	3.85
Brook Trout 3+	11-Aug-2010	3	< 2.0	---	---	474	< 1.3	73.4	< 1.0	1360	< 1.3	9.05	95.3	27.5 [#1]	< 1.7	85.0	119	33.9	---	133	---	4.5	2.9	109	9.8	---	22.9	28.4	---	---	5.0	12.9	< 1.5	5.8 [#1]	4.94	25
	01-Sep-2011	3	< 5.0	---	---	281	< 7.0	66.3	< 3.0	893	< 6.0	7.9 [#1]	81.8	11.6 [#1]	< 3.0	43.5 [#1]	102	35.6 [#1]	---	117	---	< 2.0	< 3.0	110	< 3.0	---	15.1	22.5	---	---	< 2.0	9.48 [#1]	< 0.90	< 0.80	< 0.80	24.3
	01-Sep-2012	5	5.7	---	---	432	< 1.0	75.3	< 0.80	1050	< 1.0	11.1	105	15.7	< 0.90	70.3	121	37.9	---	173	---	6.40	5.36 [#1]	163	11.4 [#1]	---	14.9	25.9	---	---	7.26 [#1]	15.8	< 0.80	3.40 [#1]	2.11 [#1]	28.7
(Replicate A)	01-Sep-2013	3	5.56	10.2	---	667	0.826	---	< 0.107	1420	1.94	20.2	136	36.2	< 0.127	---	191	57.6	114	---	---	24.4	215	---	---	25.1	---	44.6	0.147	< 0.0939	9.29	22.6	3.75	7.96	6.32	**50.7**
(Duplicate)	01-Sep-2013	3	4.6	8.46	---	571	0.886	---	< 0.0636	1240	1.72	18.3	115	31	< 0.0759	---	164	48.7	97.5	---	---	21.5	183	---	---	20.9	---	39	0.126	0.105 [#1]	7.94	20.3	3.12	6.56	5.82	45
(Replicate B)	01-Sep-2013	3	4.1	8.17	---	492	0.51	---	< 0.0682	1160	1.51	20.6	127	32.7	< 0.0815	---	175	41.8	86.2	---	---	22.6	172	---	---	17.5	---	39	0.121	< 0.0853	8.57	17.3	2.4	5.22	4	41.1
(Known (External Reference Material) Duplicate)	01-Sep-2013	3	< 3.0	---	---	738	< 4.0	119	< 2.0	1780	< 4.0	27.5	200	28.6	< 3.0	112	213	53.9	---	286	---	4.6 [#1]	7.9 [#1]	242	15.6 [#1]	---	22.6	47.9	---	---	14.5 [#1]	30.1	4.7 [#1]	6.2 [#1]	7.67 [#1]	**55.6**
	21-Sep-2014	4	4.07	8.02	---	400	0.388 [#1]	---	< 0.0569	1150	1.55	11.6	90.7	23.4	< 0.058	---	118	35.8	66.5	---	---	14	156	---	---	13.4	---	30.5	0.0935	0.062 [#1]	5.03	13.9	2.16	4.51	4.11	33.9
(Replicate A)	21-Sep-2014	1	2.58	3.66	---	226	0.479	---	< 0.0571	539	1.2	8.3	54.1	12.7	< 0.0571	---	79.4	29	47.6	---	---	8.62 [#3]	112	---	---	11.1	---	22.2	0.0585	0.107 [#1]	4.2	15.7	2.76	6.38	6.03	20.2
(Replicate B)	21-Sep-2014	1	3.43	6.56	---	306	0.723	---	< 0.0714	860	1.91	10.2	78.7	18.1	< 0.0775	---	117	36.9	57.3	---	---	11.5	148	---	---	14.3	---	32.3	0.088	0.178 [#1]	5.48	23.8	4.46	10.8	9.93	21.3
	22-Sep-2015	3	2.16	2.66	---	225	0.542	---	< 0.0693	552	0.913	6.52	42.1	11.1	< 0.0808	---	60.6	20.3	35.7	---	---	7.9	78.4	---	---	9.01	---	18.4	0.0434	0.091	3.06	7.06	1.42	2.58	2.28	20.4
(Duplicate)	22-Sep-2015	3	2.16	2.96	---	225	0.452	---	< 0.0942	521 [#3]	0.861	6.62	44	10.8	< 0.11	---	57.6	20.2	34.6	---	---	7.37 [#3]	78.2	---	---	8.47	---	17.2	0.0444	< 0.0573	2.63	7.16	1.34	2.72	2.42	19.5
	30-Aug-2016	1	2.39	< 0.0576	---	187	0.371 [#1]	---	< 0.0576	576	0.764 [#1]	9.25	54	10.4	< 0.0576	---	74.9	21.1	33.8	---	---	6.27	103	---	---	7.47	---	16.3	0.0579	< 0.0576	3.94	8.69	1.14	2.42	2.03	19.9
	13-Sep-2017	3	1.08	1.35	---	113	0.246	---	< 0.0896	292	0.562	4.87	29.3	6.55	0.095 [#1]	---	48	12.6	22.3	---	---	4.15	54.2	---	---	5.52	---	12.5	0.033	0.065	2.29	8.2	1.57	3.06	4.73 [#1]	8.82

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 181 (ng/kg)	PCB 182 (ng/kg)	PCB 183 (ng/kg)	PCB-183/185 (ng/kg)	PCB 184 (ng/kg)	PCB 185 (ng/kg)	PCB 186 (ng/kg)	PCB 187 (ng/kg)	PCB 188 (ng/kg)	PCB 189 (ng/kg)	PCB 190 (ng/kg)	PCB 191 (ng/kg)	PCB 192 (ng/kg)	PCB 193 (ng/kg)	PCB 194 (ng/kg)	PCB 195 (ng/kg)	PCB 196 (ng/kg)	PCB 196/203 (ng/kg)	PCB 197 (ng/kg)	PCB 197/200 (ng/kg)	PCB 198/199 (ng/kg)	PCB 199 (ng/kg)	PCB 200 (ng/kg)	PCB 201 (ng/kg)	PCB 201/204 (ng/kg)	PCB 202 (ng/kg)	PCB 203 (ug/kg)	PCB 204 (ng/kg)	PCB 205 (ng/kg)	PCB 206 (ng/kg)	PCB 207 (ng/kg)	PCB 208 (ng/kg)	PCB 209 (ng/kg)	PCBs-TOTAL (ug/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2000**
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50**
Edith Lake - Continued																																				
(Duplicate)	13-Sep-2017	3	1.03	1.15	---	106	0.272	---	< 0.084	275	0.573	4.97	26.6	5.88	< 0.0856	---	44.8	12.3	21.8	---	---	4.03	52.4	---	---	5.27	---	11.4	0.0306	< 0.0551	2.32	8.24	1.23	3.04	4.27 [#1]	8.06
	30-Aug-2018	3	1.27 [#1]	< 0.285	---	74.8	0.669 [#1]	---	< 0.285	219	1.07	3.04	20.2	4.25 [#1]	< 0.285	---	42.1	14	24.1	---	---	4.57	48.7	---	---	5.79	---	15.4	0.038	0.053 [#1]	2.58	19	3.2	8.66	11.4	4.34
	06-Sep-2019	4	0.756	1.2	---	80.2	0.395	---	< 0.0555	246	1.02	3.83	24.2	5.05	0.095	---	52.4	17.3	23.8	---	---	4.32	60.2	---	---	6.01	---	14	0.0371	0.097	2.52	15.4	2.92	7.18	8.02	4.83
(Duplicate)	06-Sep-2019	4	0.911	1.58	---	85.6	0.529	---	< 0.0575	261	1.12	4.19	22.9	4.41	0.103	---	47.6	15.3	17.7	---	---	4.08	53.2	---	---	6.45	---	14.2	0.0318	0.131	2.62	16.5	3.02	7.48	9.04	5.17
	26-Aug-2020	5	0.603 [#1]	1.21 [#1]	---	72.5	0.349	---	< 0.0573	173	0.621 [#1]	3.03	15	3.54	< 0.0573	---	27.7	11.2	19.6	---	---	4.25	47.9	---	---	4.99	---	8.95	0.0268	< 0.0573	2.11	9.88	1.8 [#1]	4.07	5.98	4.19
(Duplicate)	26-Aug-2020	5	1.06	1.65	---	94	1.05	---	< 0.058	279	2.18	4.16	20.4	4.32	0.099 [#1]	---	44.9	18.7	31.6	---	---	8.37	89.6	---	---	11.7	---	23.8	0.048	0.292	3.5	29.8	6.23	15.7	26.5	5.75
	30-Sep-2021	3	0.30 [#4]	< 0.21 [#4]	42.6 [#4]	---	0.25 [#4]	5.61 [#4]	< 0.18 [#4]	119 [#4]	0.49 [#4]	---	11.1 [#4]	2.71 [#4]	< 0.21 [#4]	---	22.2 [#4]	7.61 [#4]	12.5 [#4]	---	0.983 [#4]	---	27.4 [#4]	---	1.80 [#4]	3.18 [#4]	---	6.29 [#4]	0.0165 [#4]	< 0.068 [#4]	0.790 [#4]	5.11 [#4]	0.98 [#4]	2.52 [#4]	4.21 [#4]	3.33 [#4]
	13-Oct-2022	8	0.29	< 0.14	47.3	---	0.23	5.97	< 0.11	138	0.44	---	15.0	3.45	< 0.13	---	28.1	7.66	13.6	---	0.780	---	30.7	---	1.34	3.15	---	5.71	0.0199	< 0.061	1.30	5.84	0.84	2.02	3.25	3.87
	14-Sep-2023	5	1.30	0.92	56.7	---	< 0.51	8.40	< 0.55	217	< 0.52	4.00	29.0	5.10	< 0.67	---	33.4	6.00	12.1	---	0.51	---	37.3	---	1.10	3.02	---	6.70	0.0257	< 0.41	2.40	3.1	< 0.96	1.30	1.78	5.16
(Duplicate)	14-Sep-2023	5	0.91	1.20	67.6	---	< 0.43	9.41	< 0.47	241	< 0.45	4.80	39.0	4.54	< 0.56	---	35.1	6.45	16.0	---	1.10	---	40.9	---	1.60	3.78	---	6.90	0.0319	< 0.26	3.20	5.1	< 0.94	2.14	1.70	5.67
Brook Trout 4+	04-Oct-2006	5	2.5	---	---	520	< 0.10	82	< 0.10	1600	2.8	32	150	41	< 0.10	89	360	91	---	580	---	9.7	< 0.20	590	20	---	< 0.10	120	---	---	14	89	7.1	24	26	**77**
	01-Sep-2011	2	6.4 [#1]	---	---	784	< 4.0	151	< 2.0	2070	< 3.0	21.0	175	42.9	< 2.0	142	265	92.7	---	405	---	11.5 [#1]	11.6 [#1]	335	28.3	---	49.5	56.2	---	---	11.5 [#1]	16.9 [#1]	3.89 [#1]	6.44 [#1]	2.08	**76.9**
	01-Sep-2013	2	6.36	10.5	---	677	0.812	---	< 0.0919	1640	1.78	22.2	168	38.5	< 0.11	---	215	71.6	120	---	---	27.7	277	---	---	23.6	---	47.2	0.172	< 0.0585	10.6	20.1	3.08	5.56	2.67	**60.4**
	21-Sep-2014	1	5.18	13.8	---	693	0.825	---	< 0.0572	1620	1.66	17	130	35.9	< 0.0621	---	164	52.1	108	---	---	20.4	220	---	---	24.6	---	42.5	0.139	0.107 [#1]	7.58	14.5	2.21	3.34	1.5 [#1]	47.8
(Replicate A)	23-Sep-2015	1	2.82	5.71	---	251	0.62	---	< 0.0619	908	1.36	10.9	70.3	14.6	< 0.069	---	102	30.6	51.3	---	---	11.1	152	---	---	11.9	---	27.7	0.079	0.11 [#1]	5.4	13.5	1.96	4.19	2.75	26.6
(Replicate B)	22-Sep-2015	1	4.17	5.48	---	453	0.84	---	< 0.0765	1170	1.35	13.8	90.4	22.1	< 0.0892	---	122	35.5	68	---	---	14.8	155	---	---	15.5	---	35.1	0.0906	0.058 [#1]	6.04	13.7	2.16	4.28	3.37	39.5
	30-Aug-2016	1	1.85	< 0.057	---	192	0.346	---	< 0.057	623	0.818	9.1	53.8	11.5	< 0.057	---	72.2	21.5	42	---	---	7.96	114	---	---	8.81	---	19.2	0.0606	0.079	3.67	7.64	1.01	1.96	2.3 [#1]	20
	13-Sep-2017	1	1.3	1.26	---	114	0.288	---	< 0.104	318	0.45	4.43	32.6	6.42	< 0.106	---	48.8	12.1	21.3	---	---	4.32	57.7	---	---	4.92	---	10.8	0.0352	< 0.0709	2.57	6.91	0.952	2.08	3.38 [#1]	10.2
	30-Aug-2018	1	1.08	1.64	---	111	0.444 [#1]	---	< 0.0613	335	0.804 [#1]	3.18	24.9	5.84	< 0.0711	---	39	11.8	19.7	---	---	4.19	47.7	---	---	5.64	---	13.5	0.0299	< 0.278	1.75	11.1	1.85	4.73	6.35	7.36
	26-Aug-2020	2	0.644	1.04	---	54.4	0.399	---	< 0.0576	149	0.692	2.31	11.8	2.88	< 0.0576	---	16.7	7.78	14	---	---	3.12	34.1	---	---	4.23	---	8.4	0.0192	0.104 [#1]	1.27	9.5	1.75	4.26	6.5	3.73
	14-Sep-2023	5	< 0.60	0.66	51.3	---	< 0.40	6.40	< 0.44	171	0.56	2.93	21.0	4.10	< 0.53	---	27.6	6.79	13.9	---	1.30	---	33.4	---	1.40	2.80	---	5.77	0.0240	< 0.23	2.20	6.8	1.30	2.10	3.40	3.89
Brook Trout 5+	04-Oct-2006	4	< 0.10	---	---	140	< 0.10	19	< 0.10	470	< 0.10	7.5	41	8.0	0	21	85	20	---	160	---	3.2	< 0.20	180	5.1	---	< 0.10	35	---	---	4.1	22	2.7	11	10	22
	01-Sep-2011	2	< 2.0	---	---	441	< 3.0	87.2	< 2.0	1220	< 3.0	11.8	130	22.7	< 2.0	81.8	186	56.6 [#1]	---	219	---	5.7 [#1]	5.2 [#1]	208	11.9 [#1]	---	21.9	28.9	---	---	8.1	19.1	6.34 [#1]	4.91 [#1]	5.42 [#1]	34.1
	01-Sep-2013	1	3.24	6.1	---	377	0.282	---	< 0.24	910	0.815	11.8	90.2	22.6	< 0.307	---	119	30.1	57.6	---	---	12.9	118	---	---	9.77	---	22.2	0.0839	< 0.248	4.59	7.89	0.968	1.62	0.594	32.6
	21-Sep-2014	1	4.44	10.9	---	526	0.652	---	< 0.0821	1340	1.51	13.4	122	30.3	< 0.0891	---	141	50.4	85.7	---	---	14.3	192	---	---	18.2	---	34.8	0.106	< 0.057	6.09	12.5	1.97	2.98	1.56	35.4
	30-Aug-2016	1	8.41	16	---	1040	1.11	---	< 0.057	2670	3.28	42.4	252	60.5	< 0.057	---	380	114	203	---	---	35.7 [#3]	457	---	---	42.3	---	82.6	0.278	0.129 [#1]	16.1	27.5	3.55	5.75	< 0.057	**82.7**
(Duplicate)	30-Aug-2016	1	8.63	18.4	---	1070	1.13	---	< 0.101	2790	3.36	42.4	249	60.1	< 0.11	---	370	115	208	---	---	33.1	460	---	---	42.9	---	83.2	0.276	0.159	16.6	28.3	3.44	5.9	< 0.0555	**85.2**
	30-Sep-2021	1	0.68	< 0.17	57.0	---	0.39	< 0.19	< 0.14	167	0.77	---	18.1	4.24	< 0.17	---	39.6	10.0	17.9	---	1.19	---	38.9	---	1.53	4.33	---	8.19	0.0248	< 0.067	1.78	9.41	1.40	3.21	4.58	4.35
Brook Trout 6+	14-Sep-2023	3	0.99	< 0.78	87.4	---	< 0.63	11.3	< 0.68	256	< 0.89	3.22	25.7	5.42	< 0.82	---	33.0	7.67	17.1	---	1.76	---	36.0	---	1.26	3.40	---	7.60	0.0298	< 0.12	2.10	6.49	1.40	2.10	3.37	5.18
Brook Trout 11+	11-Sep-2007	2	< 1.2	---	---	100	< 0.80	18	< 0.90	580	2.3	6.6	51	8.4	< 1.0	52	65	13	---	83	---	2.4	< 1.3	110	3.7	---	7.4	26	---	---	< 1.0	30	4.7	16	18	13
Brook Trout 12+	11-Sep-2007	3	< 1.0	---	---	73	< 0.70	10	< 0.80	390	1.7	5.9	38	5.4	< 0.80	31	59	9.2	---	68	---	1.9	< 1.2	89	2.8	---	7.3	21	---	---	3.0	33	5.1	16	20	8.6
Brook Trout Unknown	23-Jul-2008	2	0.85	---	---	46	0.58	5.8	< 0.20	150	1.7	2.3	11	1.8	< 0.20	9.7	28	10	---	41	---	2.3	< 0.20	48	2.9	---	7.3	21	---	---	1.4	27	4.5	15	20	5
(Replicate A)	23-Jul-2008	2	0.92	---	---	47	0.51	6.1	< 0.30	160	1.3	2.3	12	1.6	< 0.30	9.5	27	9.1	---	40	---	1.9	< 0.30	47	2.3	---	6.1	17	---	---	1.9	25	3.9	13	21	4.5
(Replicate B)	23-Jul-2008	2	0.45	---	---	38	0.32	5.5	< 0.20	110	0.90	2.4	10	1.8	< 0.20	9.0	25	7.4	---	31	---	1.4	< 0.20	35	1.7	---	4.5	12	---	---	1.6	17	2.7	8.4	11	3.5
(Replicate C)	23-Jul-2008	2	0.64	---	---	33	0.42	4.6	< 0.20	120	1.3	1.8	8.0	1.3	< 0.20	6.5	21	7.1	---	33	---	1.8	< 0.20	39	2.1	---	4.6	15	---	---	1.2	22	3.4	12	17	3.2
Brook Trout (Stomach) 1+	01-Sep-2012	3	< 2.0	---	---	30.8 [#1]	< 3.0	< 2.0	< 2.0	57.5	< 3.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	9.2	< 1.0	---	16.8 [#1]	---	< 1.0	< 1.0	15.8	< 1.0	---	< 1.0	< 1.0	---	---	< 1.0	11.2 [#1]	< 1.0	< 1.0	< 1.0	1.59
Brook Trout (Stomach) 2+	01-Sep-2012	3	< 0.20	---	---	3.57	< 0.30	< 0.20	< 0.20	8.04	< 0.30	< 0.10	0.95 [#1]	< 0.10	< 0.20	0.61 [#1]	1.30	< 0.10	---	2.00	---	< 0.10	< 0.10	1.44	< 0.10	---	< 0.10	< 0.10	---	---	< 0.10	< 0.060	< 0.10	< 0.10	< 0.090	0.335
Brook Trout (Stomach) 3+	01-Sep-2012	5	42.5	---	---	2120	2.31	470	< 0.50	8560	9.75	80.9	845	118	< 0.50	558	754	214	---	1120	---	14.4	31.8	1460	74.4	---	64.6	223	---	---	35.2	66.4	4.35	10.4	1.64	**355**
(Re-analysis)	01-Sep-2012	5	239	---	---	5860	< 7.0	2420	< 5.0	35400	28.0	153	5290	182	< 5.0	2920	1210	582	---	2380	---	23.8	50.6	4470	281	---	52.0	386	---	---	63.6	138	7.0 [#1]	15.7	5.1	**745**
Certified Reference Materials																																				
CRM 918-050	23-Jul-2008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**150**
WMF-01-CRM	04-Oct-2006	---	460	---	---	22000	170	2400	< 0.20	59000	280	2400	7200	1400	< 0.30	3200	19000	6800	---	44000	---	2200	2400	41000	2000	---	4200	14000	---	---	1500	17000	3900	8500	10000 [#1]	**2200**
	11-Sep-2007	---	920	---	---	40000	210	4500	< 6.6	120000	300	2000	12000	1900	81	10000	20000	7300	---	38000	---	2100	< 10	38000	1700	---	5300	11000	---	---	1200	12000	3800	6400	8600	**2600**
	23-Jul-2008	---	700	---	---	33000	210	3600	4.8	100000	330	2000	8400	1200	58	6600	18000	6400	---	28000	---	1700	< 4.2	32000	1400	---	4400	11000	---	---	1200	12000	3100	6700	8300	**2300**
	11-Aug-2009	---	683	---	---	42000	177	4590	< 31	125000	335	1750	12400	1190	< 62	7380	25700	9690	---	49900	---	2210	2360	44800	2220	---	6740	12800	---	---	1310	10400	4940	8190	8600	**2650**
	11-Aug-2010	---	1270	---	---	64300	272	6370	< 7.8	152000	340	2040	13200	2220	101	13500	22500	8280	---	30600	---	2330	1540	27500	1780	---	10200	11600	---	---	1220	12300	3470	6440	9570	**2430**

PROJECT No.: 317011-00057

Table C.2
PCB Congener Analytical Results in Fish Tissue
: Chrystina Lake, Edith Lake, Cold Lake Fish Hatchery, and Sam Livingston Fish Hatchery (2006 to 2023)

Sampling Location	Date (dd-mmm-yyyy)	Number of Individuals	PCB 181 (ng/kg)	PCB 182 (ng/kg)	PCB 183 (ng/kg)	PCB-183/185 (ng/kg)	PCB 184 (ng/kg)	PCB 185 (ng/kg)	PCB 186 (ng/kg)	PCB 187 (ng/kg)	PCB 188 (ng/kg)	PCB 189 (ng/kg)	PCB 190 (ng/kg)	PCB 191 (ng/kg)	PCB 192 (ng/kg)	PCB 193 (ng/kg)	PCB 194 (ng/kg)	PCB 195 (ng/kg)	PCB 196 (ng/kg)	PCB 196/203 (ng/kg)	PCB 197 (ng/kg)	PCB 197/200 (ng/kg)	PCB 198/199 (ng/kg)	PCB 199 (ng/kg)	PCB 200 (ng/kg)	PCB 201 (ng/kg)	PCB 201/204 (ng/kg)	PCB 202 (ng/kg)	PCB 203 (ug/kg)	PCB 204 (ng/kg)	PCB 205 (ng/kg)	PCB 206 (ng/kg)	PCB 207 (ng/kg)	PCB 208 (ng/kg)	PCB 209 (ng/kg)	PCBs-TOTAL (ug/kg)
Health Canada 2020			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**2000**
Great Lakes Unrestricted Consumer Limit 1993			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**50**
Certified Reference Materials - Continued																																				
	01-Sep-2011	---	1070	---	---	57500	385	6310	< 10	163000	349	1820	14500	1630	< 10	12100	27800	11200	---	52700	---	2460	2500	44500	2320	---	7440	11500	---	---	1320	11200	4690	7050	9420	**3060**
	01-Sep-2012	---	877	---	---	47800	262	4750	< 6.0	115000	378	2030	12500	1310	85.9	8750	21100	7360	---	39000	---	1920	1970	36700	1660	---	4830	11000	---	---	1320	12100	3630	6750	8430	**2270**
NIST SRM 1946	11-Oct-2013	---	---	---	---	27000	---	---	---	67000	---	---	---	---	---	---	14400	5320	---	---	---	---	---	---	---	2970	---	---	---	---	5330	---	---	975	---
	31-Aug-2016	---	---	---	---	23500	---	---	---	59400	---	---	---	---	---	---	13300	4450	---	---	---	---	---	---	---	2540	---	---	---	---	4890	---	---	900	---
	03-Nov-2018	---	---	---	---	27900	---	---	---	75400	---	---	---	---	---	---	13900	4470	---	---	---	---	---	---	---	2800	---	---	---	---	5350	---	---	1040	---
EDF-2524	15-Oct-2014	---	---	---	---	140	---	---	---	390	---	4.58	---	---	---	---	36.1	---	28.1	---	---	---	78.9	---	---	---	---	---	---	---	18.8	---	---	11.5	---
CRM EDF2524	23-Sep-2015	---	---	---	---	140	---	---	---	452	---	5.39	---	---	---	---	44.7	---	27.5	---	---	---	87.5	---	---	---	---	---	---	---	21.1	---	---	13.4	---
CRM EDF-5462	13-Oct-2022	---	5.8	< 2.1	331	---	5.3	16.4	< 1.7	801	41.2	---	146	30.2	< 2.0	---	354	120	112	---	11.2	---	234	---	39.1	26.4	---	92.7	0.201	< 0.52	59.5	134	29.4	63.0	452	29.2
	15-Nov-2023	---	< 7.3	10.0	311	---	< 4.9	16.0	< 5.3	843	34.1	86.8	108	26.4	< 6.3	---	288	93.3	108	---	16.2	---	233	---	34.0	26.0	---	95.8	0.192	< 2.3	63.8	136	27	63.1	451	27.3

NOTES:

< X
X

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Highlighting indicates parameters above applied guideline/criteria.
5. Highlighting indicates non-detect parameters above applied guideline/criteria.
6. Highlighting indicates parameters at applied guideline/criteria.
7. Denotes values exceeding
   (Canadian Food Inspection Agency (CFIA), 2009. Fish Product Standards and Methods Manual. Appendix 3: Canadian Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products.)
8. Superscript $^{\#1}$ - EMPC
9. Superscript $^{\#2}$ - RRR
10. Superscript $^{\#3}$ - lock mass intereference (lab qualifier originally G)
11. Superscript $^{\#4}$ - Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.
12. Superscript $^{\#5}$ - The recoveries of certain surrogates are outside method criteria. Native results, calculated via isotope dilution, are not expected to be biased.

worley consulting

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																					
			77				81				105				114				118				123			
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	WHO-TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																										
Brook Trout	**0+**	23-Sep-2006	**5.8**	0.1	0.0001	0.0006	**<0.10**	0.1	0.0003	0.00002	**76**	0.1	0.00003	0.0023	**<0.10**	0.1	0.00003	0.000002	**280**	0.1	0.00003	0.0084	**32**	0.1	0.00003	0.0010
		7-Sep-2007	**4.2**	0.7	0.0001	0.0004	**<0.6**	0.6	0.0003	0.0001	**45**	1.1	0.00003	0.0014	**3.1**	1.3	0.00003	0.0001	**130**	1.2	0.00003	0.0039	**22**	1.3	0.00003	0.0007
		8-Sep-2008	**2**	0.7	0.0001	0.0002	**<0.5**	0.5	0.0003	0.0001	**30**	0.8	0.00003	0.0009	**1.8**	1.8	0.00003	0.0001	**88**	0.6	0.00003	0.0026	**13**	0.7	0.00003	0.0004
(Duplicate)		8-Sep-2008	**2.1**	0.7	0.0001	0.0002	**<0.5**	0.5	0.0003	0.0001	**32**	0.8	0.00003	0.0010	**1.9**	1.8	0.00003	0.0001	98	0.6	0.00003	0.0029	**16**	0.7	0.00003	0.0005
		11-Aug-2009	**<5.6**	5.6	0.0001	0.0003	**<4.1**	4.1	0.0003	0.0006	**37.4**	5.0	0.00003	0.0011	**<6.2**	6.2	0.00003	0.0001	**123**	5.8	0.00003	0.0037	**23**	8.0	0.00003	0.0007
		11-Aug-2010	**3.71**	0.5	0.0001	0.0004	**< 0.50**	0.5	0.0003	0.0001	**34.2**	0.8	0.00003	0.0010	**2.2**	1.0	0.00003	0.0001	**122**	1.1	0.00003	0.0037	**14.8**	1.1	0.00003	0.0004
		1-Sep-2011	**9.02**	0.9	0.0001	0.0009	**< 0.90**	0.9	0.0003	0.0001	**128**	2	0.00003	0.0038	**< 2.0**	2	0.00003	0.00003	**247**	2	0.00003	0.0074	**38.3**	2.0	0.00003	0.0011
		1-Sep-2012	**7.13**	0.4	0.0001	0.0007	**< 0.50**	0.5	0.0003	0.0001	**59.9**	0.70	0.00003	0.0018	**3.9** [#3]	1.0	0.00003	0.0001	**190**	0.9	0.00003	0.0057	**34.0**	1.0	0.00003	0.0010
		1-Sep-2013	**8.68**	0.4	0.0001	0.0009	**0.488**	0.368	0.0003	0.0001	**90.3**	3.990	0.00003	0.0027	**6.51**	3.880	0.00003	0.0002	**235**	3.570	0.00003	0.0071	**5.88** [#1]	0.300	0.00003	0.0002
		30-Sep-2014	**3.19**	0.1	0.0001	0.0003	**< 0.14**	0.14	0.0003	0.00002	**45.1**	0.376	0.00003	0.0014	**3.5**	0.381	0.00003	0.0001	**145**	0.365	0.00003	0.0044	**2.4** [#1]	0.389	0.00003	0.0001
		23-Sep-2015	**6.9**	0.2	0.0001	0.0007	**0.428** [#3]	0.168	0.0003	0.0001	**89.3**	0.199	0.00003	0.0027	**6.22**	0.203	0.00003	0.0002	**280**	0.202	0.00003	0.0084	**5.97** [#1]	0.207	0.00003	0.0002
		30-Aug-2016	**3.04**	0.100	0.0001	0.0003	**0.139**	0.055	0.0003	0.00004	**44.4**	0.100	0.00003	0.0013	**2.76**	0.099	0.00003	0.0001	**148**	0.093	0.00003	0.0044	**2.41** [#1]	0.092	0.00003	0.0001
		30-Aug-2018	**1.88**	0.057	0.0001	0.0002	**<0.134**	0.134	0.0003	0.00002	**25.9**	0.149	0.00003	0.0008	**1.69**	0.141	0.00003	0.0001	**82**	0.134	0.00003	0.0025	**1.37** [#1]	0.150	0.00003	0.00004
		6-Sep-2019	**1.09**	0.435	0.0001	0.0001	**<0.414**	0.414	0.0003	0.00006	**22.4**	0.242	0.00003	0.0007	**1.74**	0.242	0.00003	0.0001	**70**	0.258	0.00003	0.0021	**1.45** [#1,3]	0.278	0.00003	0.00004
		26-Aug-2020	**1.31**	0.057	0.0001	0.0001	**0.126**	0.057	0.0003	0.00004	**22.1**	0.175	0.00003	0.0007	**1.33**	1.330	0.00003	0.00004	**75**	0.160	0.00003	0.0022	**1.43** [#1]	0.079	0.00003	0.00004
		30-Sep-2021	**0.482**	0.028	0.0001	0.00005	**0.033**	0.027	0.0003	0.00001	**4.43**	0.210	0.00003	0.0001	**0.24**	0.190	0.00003	0.00001	**13.9**	0.200	0.00003	0.0004	**0.59**	0.200	0.00003	0.000018
		13-Oct-2022	**14.1**	0.045	0.0001	0.0014	**0.5**	0.049	0.0003	0.00015	**33.7**	0.440	0.00003	0.0010	**4.1**	0.410	0.00003	0.00012	**148.0**	0.420	0.00003	0.0044	**2.59**	0.460	0.00003	0.000078
Brook Trout	**1+**	13-Sep-2017	**5.89**	0.138	0.0001	0.0006	**0.366** [#3]	0.138	0.0003	0.00011	**76.1**	0.298	0.00003	0.0023	**4.31**	0.280	0.00003	0.0001	**254**	0.283	0.00003	0.0076	**4.12** [#1,3]	0.296	0.00003	0.0001
Chrystina Lake																										
Brook Trout	**1+**	11-Aug-2009	**13.4**	5.6	0.0001	0.0013	**<5.1**	5.1	0.0003	0.0008	**158**	8.6	0.00003	0.0047	**<10**	10.0	0.00003	0.0002	**460**	10.1	0.00003	0.0138	**48.0**	14.1	0.00003	0.0014
		1-Sep-2011	**14.3**	1.0	0.0001	0.0014	**<1.0**	1.0	0.0003	0.0002	**222**	2.0	0.00003	0.0067	**11.7** [#3]	2.0	0.00003	0.0004	**582**	2.0	0.00003	0.0175	**66.9**	2.0	0.00003	0.0020
		1-Sep-2012	**51.1**	0.6	0.0001	0.0051	**2.41**	0.6	0.0003	0.0007	**827**	0.90	0.00003	0.0248	**58.6**	1.0	0.00003	0.0018	**2200**	1.0	0.00003	0.0660	**255**	1.0	0.00003	0.0077
(Replicate A)		1-Sep-2013	**13.3**	0.383	0.0001	0.0013	**0.726** [#3]	0.368	0.0003	0.0002	**163**	3.990	0.00003	0.0049	**9.93**	3.880	0.00003	0.0003	**383**	3.570	0.00003	0.0115	**6.3** [#1]	0.705	0.00003	0.0002
(Replicate B)		1-Sep-2013	**13.5**	0.383	0.0001	0.0014	**0.806**	0.368	0.0003	0.0002	**170**	3.990	0.00003	0.0051	**11.9**	3.880	0.00003	0.0004	**410**	3.570	0.00003	0.0123	**7.6** [#1]	0.965	0.00003	0.0002
		23-Sep-2015	**132**	0.662	0.0001	0.0132	**5.23** [#3]	0.622	0.0003	0.0016	**1750**	6.430	0.00003	0.0525	**95.7**	6.260	0.00003	0.0029	**5260**	5.500	0.00003	0.1578	**66.3** [#1]	6.140	0.00003	0.0020
		31-Aug-2016	**10.6**	0.055	0.0001	0.0011	**0.448**	0.055	0.0003	0.0001	**125**	0.111	0.00003	0.0038	**8.43**	0.112	0.00003	0.0003	**372**	0.103	0.00003	0.0112	**6.59** [#1]	0.106	0.00003	0.0002
		12-Sep-2017	**9.11**	0.200	0.0001	0.0009	**0.497** [#3]	0.192	0.0003	0.0001	**145**	0.374	0.00003	0.0044	**9.83**	0.392	0.00003	0.0003	**426**	0.390	0.00003	0.0128	**7.25** [#1]	0.399	0.00003	0.0002
		29-Aug-2018	**11.7**	0.056	0.0001	0.0012	**0.596**	0.178	0.0003	0.0002	**111**	0.210	0.00003	0.0033	**7.82**	0.191	0.00003	0.0002	**295**	0.197	0.00003	0.0089	**5.06** [#1]	0.274	0.00003	0.00015
(Replicate A)		5-Sep-2019	**8.85**	0.247	0.0001	0.0009	**0.632** [#3]	0.237	0.0003	0.0002	**125**	0.584	0.00003	0.0038	**8.89**	0.580	0.00003	0.0003	**347**	0.623	0.00003	0.0104	**6.86** [#1,3]	0.650	0.00003	0.00021
(Replicate B)		5-Sep-2019	**10.2**	0.196	0.0001	0.0010	**0.505** [#3]	0.167	0.0003	0.0002	**142.8**	0.406	0.00003	0.0043	**9.38**	0.452	0.00003	0.0003	**385**	0.448	0.00003	0.0116	**6.62** [#1,3]	0.468	0.00003	0.00020
		25-Aug-2020	**10.5**	0.058	0.0001	0.0011	**0.655**	0.058	0.0003	0.0002	**156**	0.593	0.00003	0.0047	**10.1**	0.301	0.00003	0.0003	**415**	0.496	0.00003	0.0125	**8.29** [#1]	0.292	0.00003	0.00025
		29-Sep-2021	**35.5**	0.092	0.0001	0.0036	**1.36**	0.027	0.0003	0.0004	**508**	0.300	0.00003	0.0152	**35.3**	0.290	0.00003	0.0011	**1440**	0.300	0.00003	0.0432	**19.7**	0.320	0.00003	0.0006
(Lab Duplicate)		29-Sep-2021	**35.4**	0.084	0.0001	0.0035	**1.12**	0.022	0.0003	0.0003	**418**	0.330	0.00003	0.0125	**29.7**	0.310	0.00003	0.0009	**1250**	0.310	0.00003	0.0375	**16.6**	0.340	0.00003	0.0005
		12-Oct-2022	**16.2**	0.030	0.0001	0.0016	**0.584**	0.014	0.0003	0.0002	**249**	2.800	0.00003	0.0075	**14.7**	2.500	0.00003	0.0004	**675**	2.600	0.00003	0.0203	**9.3** [#3]	3.000	0.00003	0.0003
		13-Sep-2023	**10.3**	0.017	0.0001	0.0010	**0.434**	0.015	0.0003	0.0001	**135**	1.400	0.00003	0.0041	**11.7**	1.600	0.00003	0.0004	**374**	1.500	0.00003	0.0112	**5.3** [#3]	1.700	0.00003	0.0002
	2+	11-Aug-2009	**43.3**	6.5	0.0001	0.0043	**2** [#3]	1.1	0.0003	0.0002	**733**	1.5	0.00003	0.0220	**43.4**	1.9	0.00003	0.0013	**2710**	1.8	0.00003	0.0813	**324**	1.7	0.00003	0.0094
		11-Aug-2010	**61.3**	0.7	0.0001	0.0061	**2.5** [#3]	0.8	0.0003	0.0008	**1310**	1.4	0.00003	0.0393	**90.5**	1.9	0.00003	0.0027	**4160**	2.0	0.00003	0.1248	**400**	1.9	0.00003	0.0120
		12-Aug-2010	**128**	1.1	0.0001	0.0128	**4.2** [#3]	1.1	0.0003	0.0013	**2760**	1.9	0.00003	0.0828	**170**	2.3	0.00003	0.0051	**8700**	2.3	0.00003	0.2610	**811**	2.3	0.00003	0.0243
		1-Sep-2011	**229**	3.0	0.0001	0.0229	**12.2** [#3]	3.0	0.0003	0.0037	**6230**	5.0	0.00003	0.1869	**379**	4.0	0.00003	0.0114	**21700**	4.0	0.00003	0.6510	**2170**	4.0	0.00003	0.0651
(Duplicate)		1-Sep-2011	**315**	2.0	0.0001	0.0315	**14.4**	2.0	0.0003	0.0043	**8300**	4.0	0.00003	0.2490	**528**	5.0	0.00003	0.0158	**28000**	5.0	0.00003	0.8400	**2820**	5.0	0.00003	0.0846
(Replicate A)		1-Sep-2011	**316**	2.0	0.0001	0.0316	**13.8**	2.0	0.0003	0.0041	**9370**	4.0	0.00003	0.2811	**567**	8.0	0.00003	0.0170	**30400**	---	0.00003	0.9120	**3240**	---	0.00003	0.0972
(Replicate B)		1-Sep-2011	**349**	2.0	0.0001	0.0349	**16.7**	2.0	0.0003	0.0050	**11600**	5.0	0.00003	0.3480	**702**	9.0	0.00003	0.0211	**35900**	---	0.00003	1.0770	**3940**	---	0.00003	0.1182
(Replicate C)		1-Sep-2011	**549**	2.0	0.0001	0.0549	**22.7**	2.0	0.0003	0.0068	**17300**	4.0	0.00003	0.5190	**1090**	7.0	0.00003	0.0327	**56600**	---	0.00003	1.6980	**5740**	---	0.00003	0.1722
(Replicate D)		1-Sep-2011	**305**	2.0	0.0001	0.0305	**13.5** [#3]	2.0	0.0003	0.0041	**9420**	3.0	0.00003	0.2826	**575**	6.0	0.00003	0.0173	**31100**	8.0	0.00003	0.9330	**3070**	8.0	0.00003	0.0921
(Replicate E)		1-Sep-2011	**496**	2.0	0.0001	0.0496	**24.4**	2.0	0.0003	0.0073	**16200**	4.0	0.00003	0.4860	**1000**	8.0	0.00003	0.0300	**52900**	9.0	0.00003	1.5870	**5450**	---	0.00003	0.1635
		1-Sep-2012	**33.3**	0.5	0.0001	0.0033	**2.07** [#3]	0.5	0.0003	0.0006	**647**	0.800	0.00003	0.0194	**46.5**	1.0	0.00003	0.0014	**1820**	1.0	0.00003	0.0546	**198**	1.0	0.00003	0.0059
		1-Sep-2013	**50.3**	0.383	0.0001	0.0050	**3.46**	0.4	0.0003	0.0010	**1160**	3.990	0.00003	0.0348	**78**	3.880	0.00003	0.0023	**2990**	3.570	0.00003	0.0897	**43.2** [#1]	4.000	0.00003	0.0013
		30-Sep-2014	**40.5**	0.386	0.0001	0.0041	**1.77**	0.386	0.0003	0.0005	**1070**	4.790	0.00003	0.0321	**73.2**	5.530	0.00003	0.0022	**2950**	5.110	0.00003	0.0885	**53.5** [#1]	5.670	0.00003	0.0016
(Replicate A)		30-Sep-2014	**21.6**	0.251	0.0001	0.0022	**0.764**	0.239	0.0003	0.0002	**379**	1.180	0.00003	0.0114	**26.2**	1.340	0.00003	0.0008	**925**	1.290	0.00003	0.0278	**16.3** [#1]	1.440	0.00003	0.0005
(Replicate B)		30-Sep-2014	**24.3**	0.343	0.0001	0.0024	**0.92**	0.330	0.0003	0.0003	**414**	1.610	0.00003	0.0124	**28.9**	1.800	0.00003	0.0009	**1040**	1.710	0.00003	0.0312	**21.1** [#1]	1.850	0.00003	0.0006
		23-Sep-2015	**75**	0.408	0.0001	0.0075	**3.83** [#3]	0.393	0.0003	0.0011	**1460**	0.472	0.00003	0.0438	**100**	0.529	0.00003	0.0030	**3780**	0.468	0.00003	0.1134	**55.3** [#1]	0.533	0.00003	0.0017
		31-Aug-2016	**51.3**	0.056	0.0001	0.0051	**2.72**	0.056	0.0003	0.0008	**1480**	0.848	0.00003	0.0444	**106**	0.887	0.00003	0.0032	**3840**	0.820	0.00003	0.1152	**52.7** [#1]	0.819	0.00003	0.0016
		12-Sep-2017	**19.1**	0.258	0.0001	0.0019	**1.14** [#3]	0.246	0.0003	0.0003	**441**	0.774	0.00003	0.0132	**30.5**	0.765	0.00003	0.0009	**1230**	0.748	0.00003	0.0369	**17.5** [#1]	0.766	0.00003	0.0005
(Replicate A)		12-Sep-2017	**13.5**	0.154	0.0001	0.0014	**0.684** [#3]	0.152	0.0003	0.0002	**314**	0.475	0.00003	0.0094	**22.7**	0.462	0.00003	0.0007	**919**	0.480	0.00003	0.0276	**13.5** [#1]	0.501	0.00003	0.0004
		29-Aug-2018	**27.7**	0.056	0.0001	0.0028	**1.02**	0.715	0.0003	0.0003	**531**	0.274	0.00003	0.0159	**39.9**	0.261	0.00003	0.0012	**1550**	0.242	0.00003	0.0465	**25.4** [#1]	0.661	0.00003	0.0008
(Replicate A)		5-Sep-2019	**26.1**	0.245	0.0001	0.0026	**1.43** [#3]	0.234	0.0003	0.0004	**332**	2.460	0.00003	0.0100	**23**	2.510	0.00003	0.0007	**879**	2.560	0.00003	0.0264	**17.8** [#1,3]	2.770	0.00003	0.0005
(Replicate B)		5-Sep-2019	**24**	0.386	0.0001	0.0024	**1.68** [#3]	0.368	0.0003	0.0005	**374**	2.310	0.00003	0.0112	**27.4**	2.430	0.00003	0.0008	**994**	2.440	0.00003	0.0298	**20.5** [#1,3]	2.550	0.00003	0.0006
(Replicate A)		25-Aug-2020	**21.4**	0.057	0.0001	0.0021	**1.23**	0.057	0.0003	0.0004	**388**	0.686	0.00003	0.0116	**26**	0.685	0.00003	0.0008	**1080**	0.629	0.00003	0.0324	**16.8** [#1]	0.680	0.00003	0.0005
(Replicate B)		25-Aug-2020	**18.7**	0.058	0.0001	0.0019	**1.58**	0.058	0.0003	0.0005	**323**	0.743	0.00003	0.0097	**20.9**	0.750	0.00003	0.0006	**900**	0.679	0.00003	0.0270	**15.2** [#1]	0.745	0.00003	0.0005
		29-Sep-2021	**26.3**	0.055	0.0001	0.0026	**1.11**	0.023	0.0003	0.0003	**490**	0.390	0.00003	0.0147	**38.2**	0.390	0.00003	0.0011	**1480**	0.390	0.00003	0.0444	**20.0**	0.420	0.00003	0.0006
		12-Oct-2022	**56.2**	0.110	0.0001	0.0056	**1.97**	0.022	0.0003	0.0006	**910**	0.480	0.00003	0.0273	**70.8**	0.470	0.00003	0.0021	**2840**	0.480	0.00003	0.0852	**39.2**	0.530	0.00003	0.0012
		13-Sep-2023	**17.4**	0.021	0.0001	0.0017	**0.782**	0.020	0.0003	0.0002	**335**	1.100	0.00003	0.0101	**29**[#3]	1.300	0.00003	0.0009	**961**	1.100	0.00003	0.0288	**16.0**	1.300	0.00003	0.0005
	3+	23-Sep-2006	**21**	---	0.0001	0.0021	**<0.10**	0.1	0.0003	0.00002	**720**	---	0.00003	0.0216	**<0.10**	0.1	0.00003	0.000002	**2400**	---	0.00003	0.0720	**200.0**	---	0.00003	0.0060
		11-Aug-2010	**43.5**	0.7	0.0001	0.0044	**1.82**	0.7	0.0003	0.0005	**1090**	1.4	0.00003	0.0327	**69.9**	1.8	0.00003	0.0021	**3280**	1.8	0.00003	0.0984	**316.0**	1.8	0.00003	0.0095
(Duplicate)		11-Aug-2010	**38.7**	0.6	0.0001	0.0039	**2.39**	0.6	0.0003	0.0007	**994**	1.2	0.00003	0.0298	**68.1**	1.7	0.00003	0.0020	**3070**	1.7	0.00003	0.0921	**312.0**	1.9	0.00003	0.0094
		12-Aug-2010	**83.1**	1.1	0.0001	0.0083	**3.9**	1.1	0.0003	0.0012	**1640**	1.7	0.00003	0.0492	**97.1**	2.0	0.00003	0.0029	**5060**	1.9	0.00003	0.1518	**524.0**	2.0	0.00003	0.0157
		1-Sep-2012	**16.2**	0.3	0.0001	0.0016	**0.97**	0.3	0.0003	0.0003	**410**	0.40	0.00003	0.0123	**31.1**	0.6	0.00003	0.0009	**1300**	0.5	0.00003	0.0390	**146**	0.6	0.00003	0.0044
(Duplicate)		1-Sep-2012	**16.8**	0.3	0.0001	0.0017	**1.30** [#3]	0.3	0.0003	0.0004	**405**	0.40	0.00003	0.0122	**28.6**	0.6	0.00003	0.0009	**1220**	0.6	0.00003	0.0366	**134**	0.6	0.00003	0.0040
		1-Sep-2012	**14.5**	0.3	0.0001	0.0015	**1.05** [#3]	0.4	0.0003	0.0003	**241**	0.50	0.00003	0.0072	**15.7**	0.8	0.00003	0.0005	**690**	0.7	0.00003	0.0207	**77.1**	0.7	0.00003	0.0023
(Replicate C)		1-Sep-2013	**18.9**	0.383	0.0001	0.0019	**1.62**	0.4	0.0003	0.0005	**453**	3.990	0.00003	0.0136	**33**	3.880	0.00003	0.0010	**1310**	3.570	0.00003	0.0393	**17.3** [#1]	2.710	0.00003	0.0005
(Replicate D)		1-Sep-2013	**24.2**	0.383	0.0001	0.0024	**2.24**	0.4	0.0003	0.0007	**641**	3.990	0.00003	0.0192	**47.6**	3.880	0.00003	0.0014	**1800**	3.570	0.00003	0.0540	**30.5** [#1]	1.070	0.00003	0.0009
(Duplicate) [#4]		1-Sep-2013	**31.4** [#3]	0.383	0.0001	0.0031	**< 4.0**	4.0	0.0003	0.0006	**611**	3.990	0.00003	0.0183	**44.7**	3.880	0.00003	0.0013	**1780**	3.570	0.00003	0.0534	**188**	4.000	0.00003	0.0056
		22-Sep-2014	**45**	0.257	0.0001	0.0045	**2.29**	0.232	0.0003	0.0007	**1300**	3.890	0.00003	0.0390	**92.1**	4.540	0.00003	0.0028	**4010**	4.300	0.00003	0.1203	**56.4** [#1]	4.930	0.00003	0.0017
(Duplicate)		22-Sep-2014	**40**	0.29	0.0001	0.0040	**2.08** [#3]	0.265	0.0003	0.0006	**1210**	5.120	0.00003	0.0363	**85.7**	5.770	0.00003	0.0026	**3780**	5.300	0.00003	0.1134	**49.3** [#1]	5.820	0.00003	0.0015
(Replicate A)		22-Sep-2014	**22.3**	0.179	0.0001	0.0022	**0.947**	0.167	0.0003	0.0003	**500**	1.400	0.00003	0.0150	**36.7**	1.550	0.00003	0.0011	**1290**	1.490	0.00003	0.0387	**21.8** [#1]	1.610	0.00003	0.0007
(Replicate B)		22-Sep-2014	**17**	0.783	0.0001	0.0017	**0.97** [#3]	0.749	0.0003	0.0003	**844**	2.230	0.00003	0.0253	**63.6**	2.470	0.00003	0.0019	**2370**	2.360	0.00003	0.0711	**32.6** [#1]	2.600	0.00003	0.0010
		23-Sep-2015	**122**	0.757	0.0001	0.0122	**5.74** [#3]	0.741	0.0003	0.0017	**2300**	8.660	0.00003	0.0690	**153**	9.140	0.00003	0.0046	**5890**	8.180	0.00003	0.1767	**82.2** [#1]	9.150	0.00003	0.0025
		31-Aug-2016	**105**	0.055	0.0001	0.0105	**5.39**	0.055	0.0003	0.0016	**2500**	0.915	0.00003	0.0750	**171**	0.952	0.00003	0.0051	**6630**	0.875	0.00003	0.1989	**110** [#1]	0.896	0.00003	0.0033

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																					
			77				81				105				114				118				123			
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	WHO-TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
(Duplicate)		31-Aug-2016	**102**	0.056	0.0001	0.0102	**5.29**	0.056	0.0003	0.0016	**2400**	1.050	0.00003	0.0720	**168**	1.100	0.00003	0.0050	**6310**	0.972	0.00003	0.1893	**105** [#1]	1.020	0.00003	0.0032
(Replicate A)		31-Aug-2016	**68.9**	0.055	0.0001	0.0069	**3.2**	0.055	0.0003	0.0010	**1740**	0.639	0.00003	0.0522	**115**	0.640	0.00003	0.0035	**4890**	0.577	0.00003	0.1467	**63.6** [#1]	0.609	0.00003	0.0019

worley consulting

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																					
			77				81				105				114				118				123			
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	WHO-TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																										
		12-Sep-2017	**26.9**	0.174	0.0001	0.0027	**1.96** [#3]	0.171	0.0003	0.0006	**658**	0.962	0.00003	0.0197	**43.6**	0.911	0.00003	0.0013	**1870**	0.926	0.00003	0.0561	**27.8** [#1]	0.983	0.00003	0.0008
(Duplicate)		12-Sep-2017	**29**	0.140	0.0001	0.0029	**1.61** [#3]	0.133	0.0003	0.0005	**714**	1.300	0.00003	0.0214	**47.5**	1.220	0.00003	0.0014	**1990**	1.220	0.00003	0.0597	**33.9** [#1]	1.290	0.00003	0.0010
		29-Aug-2018	**28.8**	0.070	0.0001	0.0029	**1.47**	0.292	0.0003	0.0004	**610**	1.540	0.00003	0.0183	**43.1**	1.490	0.00003	0.0013	**1820**	1.370	0.00003	0.0546	**27.4** [#1]	2.640	0.00003	0.0008
(Duplicate)		29-Aug-2018	**27.2**	0.074	0.0001	0.0027	**1.3**	0.382	0.0003	0.0004	**539**	1.540	0.00003	0.0162	**42.3**	1.490	0.00003	0.0013	**1580**	1.370	0.00003	0.0474	**25.8** [#1]	0.453	0.00003	0.0008
(Duplicate)		29-Aug-2018	**26.2**	0.055	0.0001	0.0026	**1.09**	0.629	0.0003	0.0003	**557**	1.350	0.00003	0.0167	**40.5**	1.270	0.00003	0.0012	**1620**	1.160	0.00003	0.0486	**25.5** [#1]	0.583	0.00003	0.0008
		5-Sep-2019	**31.1**	1.650	0.0001	0.0031	**2.16** [#3]	1.570	0.0003	0.0006	**615**	3.420	0.00003	0.0185	**43.7**	3.600	0.00003	0.0013	**1670**	3.690	0.00003	0.0501	**31.8** [#1,3]	4.010	0.00003	0.0010
(Duplicate)		5-Sep-2019	**30.8**	0.262	0.0001	0.0031	**2.74** [#3]	0.248	0.0003	0.0008	**593**	3.580	0.00003	0.0178	**41.3**	3.660	0.00003	0.0012	**1600**	3.650	0.00003	0.0480	**29.2** [#1,3]	3.890	0.00003	0.0009
		29-Sep-2021	**24.1**	0.160	0.0001	0.0024	**0.723**	0.024	0.0003	0.0002	**383**	0.610	0.00003	0.0115	**28.6**	0.600	0.00003	0.0009	**1120**	0.590	0.00003	0.0336	**15.0**	0.620	0.00003	0.0005
(Duplicate)		29-Sep-2021	**59.3**	0.110	0.0001	0.0059	**2.12**	0.022	0.0003	0.0006	**967**	1.000	0.00003	0.0290	**76.5**	0.930	0.00003	0.0023	**2760**	0.970	0.00003	0.0828	**54.1**	1.100	0.00003	0.0016
		12-Oct-2022	**27.3**	0.063	0.0001	0.0027	**1.09**	0.015	0.0003	0.0003	**747**	2.300	0.00003	0.0224	**69**	2.300	0.00003	0.0021	**2410**	2.200	0.00003	0.0723	**37.1**	2.300	0.00003	0.0011
		13-Sep-2023	**34.3**	0.027	0.0001	0.0034	**1.48**	0.025	0.0003	0.0004	**627**	0.470	0.00003	0.0188	**45.4**	0.620	0.00003	0.0014	**1870**	0.460	0.00003	0.0561	**29.3**	0.480	0.00003	0.0009
	4+	23-Sep-2006	**220**	0.2	0.0001	0.0220	**6.3**	0.3	0.0003	0.0019	**2800**	0.2	0.00003	0.0840	**190**	0.2	0.00003	0.0057	**8700**	0.2	0.00003	0.2610	**970.0**	0.2	0.00003	0.0291
(Duplicate)		23-Sep-2006	**250**	0.2	0.0001	0.0250	**<0.20**	0.2	0.0003	0.00003	**3000**	0.2	0.00003	0.0900	**200**	0.2	0.00003	0.0060	**8800**	0.2	0.00003	0.2640	**1000.0**	0.2	0.00003	0.0300
		1-Sep-2011	**139**	2.0	0.0001	0.0139	**6**	2.0	0.0003	0.0018	**2810**	4.0	0.00003	0.0843	**158**	3.0	0.00003	0.0047	**9080**	3.0	0.00003	0.2724	**943.0**	3.0	0.00003	0.0283
		1-Sep-2013	**137**	0.383	0.0001	0.0137	**10.1**	0.368	0.0003	0.0030	**2840**	3.990	0.00003	0.0852	**186**	3.880	0.00003	0.0056	**8690**	3.570	0.00003	0.2607	**124.0** [#1]	7.620	0.00003	0.0037
		22-Sep-2014	**157**	1.33	0.0001	0.0157	**7.15**	1.260	0.0003	0.0021	**3940**	10.000	0.00003	0.1182	**277**	11.100	0.00003	0.0083	**11200**	10.7	0.00003	0.3360	**179.0** [#1]	12.200	0.00003	0.0054
		23-Sep-2015	**45.7**	0.853	0.0001	0.0046	**2.6** [#3]	0.853	0.0003	0.0008	**981**	3.750	0.00003	0.0294	**68.1**	3.830	0.00003	0.0020	**2630**	3.670	0.00003	0.0789	**35.4** [#1]	3.920	0.00003	0.0011
(Replicate A)		23-Sep-2015	**52**	0.377	0.0001	0.0052	**2.95** [#3]	0.380	0.0003	0.0009	**1420**	5.040	0.00003	0.0426	**102**	5.400	0.00003	0.0031	**3920**	5.010	0.00003	0.1176	**48.9** [#1]	5.560	0.00003	0.0015
		12-Sep-2017	**39.7**	0.122	0.0001	0.0040	**1.91** [#3]	0.118	0.0003	0.0006	**1080**	1.560	0.00003	0.0324	**72.3**	1.620	0.00003	0.0022	**3170**	1.670	0.00003	0.0951	**42.6** [#1]	1.760	0.00003	0.0013
(Replicate A)		29-Aug-2018	**67.9**	0.056	0.0001	0.0068	**2.78**	1.300	0.0003	0.0008	**1580**	2.740	0.00003	0.0474	**110**	2.700	0.00003	0.0033	**4330**	2.370	0.00003	0.1299	**72.5** [#1]	2.460	0.00003	0.0022
(Replicate B)		29-Aug-2018	**18.1**	0.057	0.0001	0.0018	**1.06**	0.260	0.0003	0.0003	**815**	1.410	0.00003	0.0245	**67.2**	1.330	0.00003	0.0020	**2420**	1.200	0.00003	0.0726	**38.5** [#1]	0.704	0.00003	0.0012
(Replicate C)		29-Aug-2018	**30.4**	0.056	0.0001	0.0030	**1.53**	0.399	0.0003	0.0005	**765**	1.870	0.00003	0.0230	**58**	1.870	0.00003	0.0017	**2120**	1.720	0.00003	0.0636	**34.3** [#1]	2.540	0.00003	0.0010
		25-Aug-2020	**13.6**	0.058	0.0001	0.0014	**1.16**	0.058	0.0003	0.0003	**300**	0.769	0.00003	0.0090	**20.7**	0.737	0.00003	0.0006	**812**	0.708	0.00003	0.0244	**14.7** [#1]	0.747	0.00003	0.0004
		29-Sep-2021	**31.9**	0.072	0.0001	0.0032	**1.26**	0.019	0.0003	0.0004	**540**	0.500	0.00003	0.0162	**41.1**	0.450	0.00003	0.0012	**1530**	0.450	0.00003	0.0459	**24.5**	0.500	0.00003	0.0007
	5+	23-Sep-2006	**130**	---	0.0001	0.0130	**4**	0.2	0.0003	0.0012	**1800**	0.2	0.00003	0.0540	**94**	0.2	0.00003	0.0028	**5100**	0.2	0.00003	0.1530	**560.0**	0.2	0.00003	0.0168
		7-Sep-2007	**68**	0.9	0.0001	0.0068	**2.4**	1.0	0.0003	0.0007	**990**	1.6	0.00003	0.0297	**73**	2.1	0.00003	0.0022	**3200**	1.8	0.00003	0.0960	**380.0**	1.9	0.00003	0.0114
		12-Aug-2010	**22.4**	0.9	0.0001	0.0022	**2** [#3]	1.0	0.0003	0.0006	**589**	1.7	0.00003	0.0177	**38.6**	1.8	0.00003	0.0012	**1710**	1.8	0.0003	0.5130	**185.0**	1.8	0.00003	0.0056
		1-Sep-2013	**293**	0.383	0.0001	0.0293	**16.8**	0.368	0.0003	0.0050	**6270**	3.990	0.00003	0.1881	**397**	3.880	0.00003	0.0119	**18700**	3.570	0.00003	0.5610	**221.0** [#1]	12.4	0.00003	0.0066
(Duplicate) [#4]		1-Sep-2013	**348**	0.383	0.0001	0.0348	**16.0**	0.368	0.0003	0.0048	**7430**	3.990	0.00003	0.2229	**427**	3.880	0.00003	0.0128	**22700**	3.570	0.00003	0.6810	**2320.0**	4.0	0.00003	0.0696
		23-Sep-2015	**77.1**	0.519	0.0001	0.0077	**4.2** [#3]	0.516	0.0003	0.0013	**1660**	5.620	0.00003	0.0498	**116**	6.070	0.00003	0.0035	**4440**	5.480	0.00003	0.1332	**64.3** [#1]	6.110	0.00003	0.0019
		31-Aug-2016	**41.4**	0.057	0.0001	0.0041	**2.14**	0.056	0.0003	0.0006	**1440**	0.955	0.00003	0.0432	**114**	0.994	0.00003	0.0034	**4090**	0.894	0.00003	0.1227	**53.7** [#1]	0.936	0.00003	0.0016
		12-Sep-2017	**158**	0.058	0.0001	0.0158	**11.1**	0.058	0.0003	0.0033	**3750**	5.630	0.00003	0.1125	**236**	1.890	0.00003	0.0071	**10400**	5.610	0.00003	0.3120	**155.0** [#1]	1.870	0.00003	0.0047
(Re-analysis)		12-Sep-2017	**114**	0.057	0.0001	0.0114	**8.09**	0.057	0.0003	0.0024	**2730**	1.230	0.00003	0.0819	**167**	1.170	0.00003	0.0050	**7220**	1.160	0.00003	0.2166	**125.0** [#1]	1.120	0.00003	0.0038
		29-Sep-2021	**27.5**	0.074	0.0001	0.0028	**1.24**	0.062	0.0003	0.0004	**523**	2.700	0.00003	0.0157	**43.3**	2.500	0.00003	0.0013	**1430**	2.700	0.00003	0.0429	**27** [#3]	2.600	0.00003	0.0008
	6+	7-Sep-2007	**28**	1.0	0.0001	0.0028	**1.6**	1.0	0.0003	0.0005	**1100**	2.0	0.00003	0.0330	**93**	2.6	0.00003	0.0028	**3500**	2.2	0.00003	0.1050	**380.0**	2.6	0.00003	0.0114
	7+	7-Sep-2007	**27**	0.7	0.0001	0.0027	**0.78**	0.7	0.0003	0.0002	**400**	1.3	0.00003	0.0120	**24**	1.5	0.00003	0.0007	**960**	1.4	0.00003	0.0288	**100.0**	1.5	0.00003	0.0030
(Duplicate)		7-Sep-2007	**24**	1.0	0.0001	0.0024	**<0.9**	0.9	0.0003	0.0001	**350**	1.7	0.00003	0.0105	**21**	2.1	0.00003	0.0006	**840**	1.8	0.00003	0.0252	**94.0**	2.1	0.00003	0.0028
	11+	7-Sep-2007	**72**	0.9	0.0001	0.0072	**2.7**	0.8	0.0003	0.0008	**1200**	1.5	0.00003	0.0360	**89**	1.8	0.00003	0.0027	**3600**	1.7	0.00003	0.1080	**400.0**	1.9	0.00003	0.0120
	12+	7-Sep-2007	**100**	1.1	0.0001	0.0100	**3.3**	1.0	0.0003	0.0010	**1600**	2.0	0.00003	0.0480	**120**	2.4	0.00003	0.0036	**4900**	2.2	0.00003	0.1470	**580.0**	2.4	0.00003	0.0174
	Unknown	23-Jul-2008	**14**	0.8	0.0001	0.0014	**0.88**	0.7	0.0003	0.0003	**170**	1.2	0.00003	0.0051	**10**	1.0	0.00003	0.0003	**450**	0.9	0.00003	0.0135	**55.0**	1.0	0.00003	0.0017
(Replicate)		23-Jul-2008	**4.8**	0.5	0.0001	0.0005	**<0.5**	0.5	0.0003	0.0001	**52**	1.0	0.00003	0.0016	**3**	0.8	0.00003	0.0001	**140**	0.7	0.00003	0.0042	**22.0**	0.8	0.00003	0.0007
(Replicate A)		23-Jul-2008	**18**	0.4	0.0001	0.0018	**0.7**	0.4	0.0003	0.0002	**210**	1.0	0.00003	0.0063	**13**	0.8	0.00003	0.0004	**630**	0.7	0.00003	0.0189	**83.0**	0.8	0.00003	0.0025
(Replicate B)		23-Jul-2008	**12**	0.5	0.0001	0.0012	**0.64**	0.5	0.0003	0.0002	**150**	1.0	0.00003	0.0045	**9.4**	0.7	0.00003	0.0003	**390**	0.7	0.00003	0.0117	**46.0**	0.8	0.00003	0.0014
(Replicate C)		23-Jul-2008	**19**	0.7	0.0001	0.0019	**0.9**	0.6	0.0003	0.0003	**160**	1.3	0.00003	0.0048	**8.5**	1.1	0.00003	0.0003	**390**	1.0	0.00003	0.0117	**45.0**	1.2	0.00003	0.0014
		12-Oct-2022	**33.3**	0.1	0.0001	0.0033	**1.34**	0.012	0.0003	0.0004	**621**	3.0	0.00003	0.0186	**53** [#3]	2.6	0.00003	0.0016	**1860**	2.7	0.00003	0.0558	**29.7**	2.9	0.00003	0.0009
(Replicate A)		13-Sep-2023	**18.5**	0.5	0.0001	0.0019	**0.896**	0.440	0.0003	0.0003	**421**	0.5	0.00003	0.0126	**32.5**	0.6	0.00003	0.0010	**1180**	0.5	0.00003	0.0354	**16.2**	0.6	0.00003	0.0005
(Replicate B)		13-Sep-2023	**22**	0.0	0.0001	0.0022	**0.915**	0.020	0.0003	0.0003	**381**	1.2	0.00003	0.0114	**28** [#3]	1.3	0.00003	0.0008	**1210**	1.2	0.00003	0.0363	**17.9**	1.3	0.00003	0.0005
White Sucker	**1+**	1-Feb-2011	**26.3**	1.0	0.0001	0.0026	**2.9**	1.0	0.0003	0.0009	**672**	2.0	0.00003	0.0202	**47.5**	3.0	0.00003	0.0014	**1860**	4.0	0.00003	0.0558	**204**	4.0	0.00003	0.0061
		22-Sep-2014	**3.39**	0.106	0.0001	0.0003	**0.183** [#3]	0.102	0.0003	0.0001	**71.9**	0.467	0.00003	0.0022	**4.89**	0.488	0.00003	0.0001	**180**	0.489	0.00003	0.0054	**3.53** [#1]	0.515	0.00003	0.0001
	2+	1-Feb-2011	**3.68** [#3]	0.6	0.0001	0.0004	**1.53** [#3]	0.6	0.0003	0.0005	**35.4**	1.0	0.00003	0.0011	**4.9** [#3]	2.0	0.00003	0.0001	**118**	2.0	0.00003	0.0035	**14.4** [#3]	2.0	0.00003	0.0004
		22-Sep-2014	**3.99**	0.109	0.0001	0.0004	**0.221** [#3]	0.107	0.0003	0.0001	**110**	0.691	0.00003	0.0033	**8.23**	0.736	0.00003	0.0002	**273**	0.715	0.00003	0.0082	**5.62** [#1]	0.755	0.00003	0.0002
	3+	1-Feb-2011	**9.1**	1.0	0.0001	0.0009	**< 2.0**	2.0	0.0003	0.0003	**99.8** [#3]	3.0	0.00003	0.0030	**< 6.0**	6.0	0.00003	0.0001	**209**	7.0	0.00003	0.0063	**< 8.0**	8.0	0.00003	0.0001
	6+	7-Sep-2007	**2.9**	0.5	0.0001	0.0003	**<0.4**	0.4	0.0003	0.0001	**60**	0.9	0.00003	0.0018	**4.4**	1.1	0.00003	0.0001	**150**	1.1	0.00003	0.0045	**18.0**	1.2	0.00003	0.0005
	7+	7-Sep-2007	**2.8**	0.6	0.0001	0.0003	**<0.6**	0.6	0.0003	0.0001	**79**	1.4	0.00003	0.0024	**6**	1.7	0.00003	0.0002	**200**	1.5	0.00003	0.0060	**20.0**	1.7	0.00003	0.0006
	8+	7-Sep-2007	**2.4**	0.5	0.0001	0.0002	**<0.5**	0.5	0.0003	0.0001	**61**	1.0	0.00003	0.0018	**4.3**	1.2	0.00003	0.0001	**150**	1.1	0.00003	0.0045	**15.0**	1.4	0.00003	0.0005
		11-Aug-2009	**<7**	7.0	0.0001	0.0004	**<5.8**	5.8	0.0003	0.0009	**110**	7.9	0.00003	0.0033	**<11.7**	11.7	0.00003	0.0002	**354**	10.4	0.00003	0.0106	**42.0**	12.7	0.00003	0.0013
	9+	7-Sep-2007	**3.6**	0.5	0.0001	0.0004	**<0.5**	0.5	0.0003	0.0001	**120**	1.0	0.00003	0.0036	**9.2**	1.2	0.00003	0.0003	**300**	1.1	0.00003	0.0090	**33.0**	1.2	0.00003	0.0010
	10+	11-Aug-2009	**<7.5**	7.5	0.0001	0.0004	**<5.3**	5.3	0.0003	0.0008	**71.5**	6.8	0.00003	0.0021	**<9.1**	9.1	0.00003	0.0001	**210**	6.8	0.00003	0.0063	**26.0**	9.6	0.00003	0.0008
Brook Trout (Muscle only)	**3+**	1-Feb-2012	**29.4** [#3]	1.0	0.0001	0.0029	**2.5**	1.0	0.0003	0.0008	**528**	2.0	0.00003	0.0158	**41.7**	4.0	0.00003	0.0013	**1700**	5.0	0.00003	0.0510	**173**	5.0	0.00003	0.0052
Brook Trout (Skin Only)	**3+**	1-Feb-2012	**58.6**	1.0	0.0001	0.0059	**3.2** [#3]	1.0	0.0003	0.0010	**1160**	3.0	0.00003	0.0348	**72.5**	4.0	0.00003	0.0022	**3820**	5.0	0.00003	0.1146	**380**	5.0	0.00003	0.0114
	2+	1-Sep-2012	**9.2**	2.0	0.0001	0.0009	**< 2.0**	2.0	0.0003	0.0003	**67.6**	3.0	0.00003	0.0020	**< 4.0**	4.0	0.00003	0.0001	**241**	4.0	0.00003	0.0072	**21.1**	4.0	0.00003	0.0006
	3+	1-Sep-2012	**5.5**	1.0	0.0001	0.0006	**< 1.0**	1.0	0.0003	0.0002	**30.5** [#3]	1.0	0.00003	0.0009	**< 2.0**	2.0	0.00003	0.00003	**72.0**	2.0	0.00003	0.0022	**10.1** [#3]	2.0	0.00003	0.0003
		1-Sep-2012	**12.7**	2.0	0.0001	0.0013	**< 2.0**	2.0	0.0003	0.0003	**140**	2.0	0.00003	0.0042	**10.1** [#3]	3.0	0.00003	0.0003	**356**	3.0	0.00003	0.0107	**47.7** [#3]	3.0	0.00003	0.0014
Forage Fish	**---**	4-Nov-2014	**17.7**	0.224	0.0001	0.0018	**1.03**	0.2	0.0003	0.0003	**411**	1.840	0.00003	0.0123	**30.2**	2.780	0.00003	0.0009	**985**	2.810	0.00003	0.0296	**22.5** [#1]	3.610	0.00003	0.0007
Aquatic Invertebrates	**---**	22-Aug-2014	**125**	1.410	0.0001	0.0125	**4.85**	1.3	0.0003	0.0015	**1610**	12.200	0.00003	0.0483	**108**	13.200	0.00003	0.0032	**4320**	13.300	0.00003	0.1296	**64.3** [#1]	15.100	0.00003	0.0019
Edith Lake																										
Brook Trout	**1+**	11-Aug-2009	**3.7**	1.4	0.0001	0.0004	**<1.2**	1.2	0.0003	0.0002	**35.7**	1.7	0.00003	0.0011	**<3.7**	3.7	0.00003	0.0001	**125**	3.3	0.00003	0.0038	**14.1**	3.5	0.00003	0.0004
		1-Sep-2011	**9** [#3]	2.0	0.0001	0.0009	**<2.0**	2.0	0.0003	0.0003	**75.1**	3.0	0.00003	0.0023	**<4.0**	4.0	0.00003	0.0001	**246**	3.0	0.00003	0.0074	**31.2**	3.0	0.00003	0.0009
(Duplicate)		1-Sep-2011	**4.84** [#3]	0.8	0.0001	0.0005	**<0.8**	0.8	0.0003	0.0001	**49.9**	1.0	0.00003	0.0015	**<1.0**	1.0	0.00003	0.00002	**179**	2.0	0.00003	0.0054	**22.1** [#3]	2.0	0.00003	0.0007
		1-Sep-2012	**10.1**	0.5	0.0001	0.0010	**< 0.60**	0.6	0.0003	0.0001	**142**	0.7	0.00003	0.0043	**12.6**	0.9	0.00003	0.0004	**464**	0.9	0.00003	0.0139	**62.1**	0.9	0.00003	0.0019
		22-Sep-2015	**31.9**	0.332	0.0001	0.0032	**1.55** [#3]	0.343	0.0003	0.0005	**292**	1.120	0.00003	0.0088	**18.8**	1.2	0.00003	0.0006	**818**	1.120	0.00003	0.0245	**12.5** [#1]	1.2	0.00003	0.0004
		30-Aug-2016	**5.93**	0.055	0.0001	0.0006	**0.247**	0.055	0.0003	0.0001	**83.4**	0.193	0.00003	0.0025	**5.14**	0.2	0.00003	0.0002	**272**	0.180	0.00003	0.0082	**4.35** [#1]	0.2	0.00003	0.0001
		13-Sep-2017	**8.52**	0.188	0.0001	0.0009	**0.408** [#3]	0.188	0.0003	0.0001	**111**	0.444	0.00003	0.0033	**6.57**	0.4	0.00003	0.0002	**368**	0.420	0.00003	0.0110	**6.71** [#1]	0.4	0.00003	0.0002

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																					
			77				81				105				114				118				123			
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	WHO-TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		30-Aug-2018	**5.56**	0.055	0.0001	0.0006	**0.188** [#3]	0.180	0.0003	0.0001	**66.2**	0.203	0.00003	0.0020	**4.16**	0.2	0.00003	0.0001	**212**	0.179	0.00003	0.0064	**3.5** [#1]	0.3	0.00003	0.0001
(Replicate A)		6-Sep-2019	**6.11**	0.777	0.0001	0.0006	**<0.697**	0.697	0.0003	0.0001	**94.1**	0.501	0.00003	0.0028	**6.22**	0.5	0.00003	0.0002	**282**	0.569	0.00003	0.0085	**6.5** [#1,3]	0.6	0.00003	0.0002
(Replicate B)		6-Sep-2019	**6.78**	0.264	0.0001	0.0007	**0.494** [#3]	0.267	0.0003	0.0001	**107**	0.480	0.00003	0.0032	**7.65**	0.5	0.00003	0.0002	**328**	0.499	0.00003	0.0098	**6.78** [#1,3]	0.5	0.00003	0.0002

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Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																					
			77				81				105				114				118				123			
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	WHO-TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																										
		26-Aug-2020	**4.84**	0.058	0.0001	0.0005	**0.286**	0.058	0.0003	0.0001	**68.6**	0.292	0.00003	0.0021	**4.37**	0.2	0.00003	0.0001	**224**	0.267	0.00003	0.0067	**4.6** [#1]	0.181	0.00003	0.0001
		30-Sep-2021	**2.2**	0.047	0.0001	0.0002	**0.0875**	0.049	0.0003	0.0000	**26.1**	0.320	0.00003	0.0008	**1.6** [#3]	0.3	0.00003	0.0000	**86.4**	0.310	0.00003	0.0026	**1.5**	0.330	0.00003	0.0000
		13-Oct-2022	**2.51**	0.020	0.0001	0.0003	**0.099**	0.014	0.0003	0.0000	**26.3**	1.600	0.00003	0.0008	**<1.4**	1.4	0.00003	0.0000	**77.1**	1.600	0.00003	0.0023	**<1.5**	1.500	0.00003	0.0000
		14-Sep-2023	**2.96**	0.019	0.0001	0.0003	**0.11** [#3]	0.018	0.0003	0.0000	**25.8**	0.440	0.00003	0.0008	**1.8** [#3]	0.5	0.00003	0.0001	**90.2**	0.470	0.00003	0.0027	**1.6**	0.520	0.00003	0.0000
	2+	11-Aug-2009	**2.4**	1.4	0.0001	0.0002	**<1.3**	1.3	0.0003	0.0002	**35.7**	2.1	0.00003	0.0011	**<3.7**	3.7	0.00003	0.0001	**121**	3.6	0.00003	0.0036	**13.1**	3.4	0.00003	0.0004
		11-Aug-2010	**35.7**	0.6	0.0001	0.0036	**1.27**	0.6	0.0003	0.0004	**466**	1.0	0.00003	0.0140	**23.3**	1.5	0.00003	0.0007	**1690**	1.5	0.00003	0.0507	**163.0**	1.7	0.00003	0.0049
		1-Sep-2011	**31.3**	1.0	0.0001	0.0031	**<1.0**	1.0	0.0003	0.0002	**590**	3.0	0.00003	0.0177	**28.3**	2.0	0.00003	0.0008	**1830**	2.0	0.00003	0.0549	**173.0**	2.0	0.00003	0.0052
		1-Sep-2012	**38.3**	0.6	0.0001	0.0038	**2.05** [#3]	0.6	0.0003	0.0006	**554**	0.90	0.00003	0.0166	**34.6**	1.0	0.00003	0.0010	**1670**	1.0	0.00003	0.0501	**159**	1.0	0.00003	0.0048
		1-Sep-2013	**68.7**	0.383	0.0001	0.0069	**2.87**	0.368	0.0003	0.0009	**1050**	3.990	0.00003	0.0315	**56.2**	3.880	0.00003	0.0017	**3410**	3.570	0.00003	0.1023	**43.3** [#1]	2.630	0.00003	0.0013
		21-Sep-2014	**20.1**	0.202	0.0001	0.0020	**0.844** [#3]	0.194	0.0003	0.0003	**455**	1.530	0.00003	0.0137	**24.2**	1.670	0.00003	0.0007	**1420**	1.620	0.00003	0.0426	**17.2** [#1]	1.730	0.00003	0.0005
(Replicate A)		21-Sep-2014	**19.9**	0.192	0.0001	0.0020	**0.876** [#3]	0.183	0.0003	0.0003	**405**	1.240	0.00003	0.0122	**24.6**	1.290	0.00003	0.0007	**1080**	1.250	0.00003	0.0324	**15.2** [#1]	1.330	0.00003	0.0005
(Replicate B)		21-Sep-2014	**4.57**	0.066	0.0001	0.0005	**0.144** [#3]	0.0666	0.0003	0.00004	**59.3**	0.259	0.00003	0.0018	**3.58**	0.264	0.00003	0.0001	**186**	0.258	0.00003	0.0056	**3.05** [#1]	0.275	0.00003	0.0001
		22-Sep-2015	**2.5**	0.130	0.0001	0.0003	**0.156** [#3]	0.1	0.0003	0.00005	**33.4**	0.307	0.00003	0.0010	**1.91**	0.320	0.00003	0.0001	**108**	0.320	0.00003	0.0032	**1.79** [#1]	0.333	0.00003	0.0001
		30-Aug-2016	**28.3**	0.056	0.0001	0.0028	**1.17**	0.1	0.0003	0.0004	**463**	0.293	0.00003	0.0139	**30.8**	0.302	0.00003	0.0009	**1450**	0.269	0.00003	0.0435	**18.4** [#1]	0.283	0.00003	0.0006
		13-Sep-2017	**2.28**	0.076	0.0001	0.0002	**0.134** [#3]	0.1	0.0003	0.00004	**68.3**	0.313	0.00003	0.0020	**3.91**	0.295	0.00003	0.0001	**219**	0.288	0.00003	0.0066	**3.34** [#1]	0.293	0.00003	0.0001
		30-Aug-2018	**4.85**	0.055	0.0001	0.0005	**0.156** [#3]	0.1	0.0003	0.00005	**68.6**	0.185	0.00003	0.0021	**4.22**	0.171	0.00003	0.0001	**229**	0.159	0.00003	0.0069	**3.1** [#1]	0.206	0.00003	0.0001
(Replicate A)		6-Sep-2019	**1.94**	0.247	0.0001	0.0002	**<0.236**	0.2	0.0003	0.00004	**40.4**	0.335	0.00003	0.0012	**3**	0.346	0.00003	0.0001	**127**	0.370	0.00003	0.0038	**2.68** [#1,3]	0.377	0.00003	0.0001
(Replicate B)		6-Sep-2019	**4.42**	0.348	0.0001	0.0004	**<0.325**	0.3	0.0003	0.00005	**72**	0.133	0.00003	0.0022	**4.94**	0.133	0.00003	0.0001	**215**	0.141	0.00003	0.0065	**3.59** [#1,3]	0.148	0.00003	0.0001
		26-Aug-2020	**5.26**	0.058	0.0001	0.0005	**0.383**	0.1	0.0003	0.00011	**87.8**	0.350	0.00003	0.0026	**5.33**	0.194	0.00003	0.0002	**294**	0.324	0.00003	0.0088	**5.02** [#1]	0.193	0.00003	0.0002
		30-Sep-2021	**3.46**	0.028	0.0001	0.0003	**0.126**	0.015	0.0003	0.0000	**39.4**	0.250	0.00003	0.0012	**2.4** [#3]	0.230	0.00003	0.0001	**132**	0.250	0.00003	0.0040	**1.7** [#3]	0.250	0.00003	0.0001
		13-Oct-2022	**69.8**	0.061	0.0001	0.0070	**1.92**	0.017	0.0003	0.0006	**397**	0.410	0.00003	0.0119	**20.4**	0.360	0.00003	0.0006	**1140**	0.370	0.00003	0.0342	**18** [#3]	0.390	0.00003	0.0005
		14-Sep-2023	**6.63**	0.025	0.0001	0.0007	**0.25** [#3]	0.024	0.0003	0.0001	**83.3**	0.340	0.00003	0.0025	**4.4** [#3]	0.400	0.00003	0.0001	**350**	0.330	0.00003	0.0105	**3.1**	0.340	0.00003	0.0001
	3+	11-Aug-2010	**53.7**	0.6	0.0001	0.0054	**1.89**	0.6	0.0003	0.0006	**519**	1.0	0.00003	0.0156	**23.4**	1.5	0.00003	0.0007	**2140**	1.5	0.00003	0.0642	**219.0**	1.6	0.00003	0.0066
		1-Sep-2011	**37.4**	2.0	0.0001	0.0037	**4.2** [#3]	2.0	0.0003	0.0013	**453**	4.0	0.00003	0.0136	**33**	4.0	0.00003	0.0010	**1810**	5.0	0.00003	0.0543	**183.0**	4.0	0.00003	0.0055
		1-Sep-2012	**42.1**	0.5	0.0001	0.0042	**2.67**	0.6	0.0003	0.0008	**680**	1.0	0.00003	0.0204	**41.4**	1.0	0.00003	0.0012	**2100**	1.0	0.00003	0.0630	**201**	1.0	0.00003	0.0060
		1-Sep-2013	**84.8**	0.383	0.0001	0.0085	**3.77**	0.4	0.0003	0.0011	**1340**	3.990	0.00003	0.0402	**61.6**	3.880	0.00003	0.0018	**4090**	3.570	0.00003	0.1227	**56.6** [#1]	4.560	0.00003	0.0017
(Duplicate)		1-Sep-2013	**73.1**	0.383	0.0001	0.0073	**3.02**	0.4	0.0003	0.0009	**1170**	3.990	0.00003	0.0351	**56.1**	3.880	0.00003	0.0017	**3600**	3.570	0.00003	0.1080	**48.2** [#1]	4.820	0.00003	0.0014
(Duplicate) [#4]		1-Sep-2013	**118**	0.383	0.0001	0.0118	**< 4.0**	4.0	0.0003	0.0006	**1700**	3.990	0.00003	0.0510	**75.0**	3.880	0.00003	0.0023	**5600**	3.570	0.00003	0.1680	**495**	4.000	0.00003	0.0149
(Replicate B)		1-Sep-2013	**137**	0.383	0.0001	0.0137	**5.14**	0.4	0.0003	0.0015	**1180**	3.990	0.00003	0.0354	**52.6**	3.880	0.00003	0.0016	**3470**	3.570	0.00003	0.1041	**50.6** [#1]	5.470	0.00003	0.0015
		21-Sep-2014	**47**	1.830	0.0001	0.0047	**< 1.77**	1.77	0.0003	0.0003	**847**	3.780	0.00003	0.0254	**45.7**	3.690	0.00003	0.0014	**2780**	3.570	0.00003	0.0834	**39.1** [#1]	3.760	0.00003	0.0012
(Replicate A)		21-Sep-2014	**30.8**	0.371	0.0001	0.0031	**1.31** [#3]	0.347	0.0003	0.0004	**543**	2.080	0.00003	0.0163	**35.6**	1.820	0.00003	0.0011	**1390**	1.730	0.00003	0.0417	**21.8** [#1]	1.890	0.00003	0.0007
(Replicate B)		21-Sep-2014	**14.8**	1.200	0.0001	0.0015	**< 1.11**	1.11	0.0003	0.0002	**519**	3.220	0.00003	0.0156	**25.5**	3.170	0.00003	0.0008	**1720**	3.060	0.00003	0.0516	**21.7** [#1]	3.360	0.00003	0.0007
		22-Sep-2015	**32.7**	0.352	0.0001	0.0033	**1.46** [#3]	0.347	0.0003	0.0004	**550**	1.620	0.00003	0.0165	**31.6**	1.750	0.00003	0.0009	**1500**	1.700	0.00003	0.0450	**24.3** [#1]	1.830	0.00003	0.0007
(Duplicate)		22-Sep-2015	**31.1**	0.947	0.0001	0.0031	**1.54** [#3]	0.918	0.0003	0.0005	**512**	2.530	0.00003	0.0154	**28.8**	2.540	0.00003	0.0009	**1440**	2.490	0.00003	0.0432	**25.2** [#1]	2.700	0.00003	0.0008
		30-Aug-2016	**38.6**	0.058	0.0001	0.0039	**1.63**	0.058	0.0003	0.0005	**592**	0.229	0.00003	0.0178	**33.1**	0.223	0.00003	0.0010	**1750**	0.200	0.00003	0.0525	**26.1** [#1]	0.205	0.00003	0.0008
		13-Sep-2017	**11.3**	0.141	0.0001	0.0011	**0.557** [#3]	0.140	0.0003	0.0002	**263**	0.694	0.00003	0.0079	**13.9**	0.659	0.00003	0.0004	**800**	0.670	0.00003	0.0240	**11.8** [#1]	0.709	0.00003	0.0004
(Duplicate)		13-Sep-2017	**10.7**	0.149	0.0001	0.0011	**0.458** [#3]	0.148	0.0003	0.0001	**234**	0.552	0.00003	0.0070	**12.7**	0.523	0.00003	0.0004	**713**	0.497	0.00003	0.0214	**8.92** [#1]	0.541	0.00003	0.0003
		30-Aug-2018	**4.62**	0.057	0.0001	0.0005	**<0.15**	0.150	0.0003	0.00002	**65.6**	0.199	0.00003	0.0020	**3.94**	0.187	0.00003	0.0001	**227**	0.172	0.00003	0.0068	**3.46** [#1]	0.283	0.00003	0.0001
		6-Sep-2019	**6.46**	0.240	0.0001	0.0006	**0.515** [#3]	0.235	0.0003	0.00015	**81.3**	0.707	0.00003	0.0024	**6.15**	0.857	0.00003	0.0002	**272**	0.892	0.00003	0.0082	**4.58** [#1]	0.944	0.00003	0.0001
(Duplicate)		6-Sep-2019	**7.17**	0.295	0.0001	0.0007	**0.415** [#3]	0.296	0.0003	0.00012	**97**	0.594	0.00003	0.0029	**7.45**	0.603	0.00003	0.0002	**319**	0.665	0.00003	0.0096	**5.66** [#1,3]	0.665	0.00003	0.0002
		26-Aug-2020	**5.59**	0.057	0.0001	0.0006	**0.327**	0.057	0.0003	0.00010	**83.3**	0.366	0.00003	0.0025	**5.24**	0.240	0.00003	0.0002	**253**	0.350	0.00003	0.0076	**4.03** [#1]	0.230	0.00003	0.0001
(Duplicate)		26-Aug-2020	**4.31**	0.058	0.0001	0.0004	**0.461**	0.058	0.0003	0.00014	**73.9**	0.291	0.00003	0.0022	**4.56**	0.237	0.00003	0.0001	**251**	0.268	0.00003	0.0075	**4.28** [#1]	0.241	0.00003	0.0001
		30-Sep-2021	**5.52**	0.042	0.0001	0.0006	**0.2**	0.027	0.0003	0.000060	**73.2**	0.790	0.00003	0.0022	**4.4** [#3]	0.710	0.00003	0.0001	**213**	0.730	0.00003	0.0064	**4.00** [#3]	0.800	0.00003	0.0001
		13-Oct-2022	**7**	0.033	0.0001	0.0007	**0.234**	0.024	0.0003	0.0001	**81.5**	0.490	0.00003	0.0024	**3.7** [#3]	0.420	0.00003	0.0001	**277**	0.450	0.00003	0.0083	**3.6** [#3]	0.470	0.00003	0.0001
		14-Sep-2023	**12.8**	0.019	0.0001	0.0013	**0.435**	0.019	0.0003	0.0001	**126**	1.100	0.00003	0.0038	**6.54**	1.100	0.00003	0.0002	**474**	1.000	0.00003	0.0142	**4.9** [#3]	1.100	0.00003	0.0001
(Duplicate)		14-Sep-2023	**14.1**	0.019	0.0001	0.0014	**0.483**	0.018	0.0003	0.0001	**132**	1.100	0.00003	0.0040	**5.96**	1.300	0.00003	0.0002	**497**	1.000	0.00003	0.0149	**5.6**	1.200	0.00003	0.0002
	4+	23-Sep-2006	**170**	0.2	0.0001	0.0170	**4**	0.2	0.0003	0.0012	**1700**	0.2	0.00003	0.0510	**93**	0.2	0.00003	0.0028	**5600**	0.2	0.00003	0.1680	**650.0**	0.2	0.00003	0.0195
		1-Sep-2011	**84.5**	2.0	0.0001	0.0085	**5.3** [#3]	2.0	0.0003	0.0016	**1430**	3.0	0.00003	0.0429	**78.1**	3.0	0.00003	0.0023	**4800**	3.0	0.00003	0.1440	**477.0**	3.0	0.00003	0.0143
		1-Sep-2013	**101**	0.142	0.0001	0.0101	**4.85**	0.142	0.0003	0.0015	**1720**	0.166	0.00003	0.0516	**91.4**	0.154	0.00003	0.0027	**4630**	0.159	0.00003	0.1389	**62.4** [#1]	0.168	0.00003	0.0019
		21-Sep-2014	**70.4**	0.357	0.0001	0.0070	**2.25**	0.338	0.0003	0.0007	**1080**	4.570	0.00003	0.0324	**53.5**	3.950	0.00003	0.0016	**3640**	3.730	0.00003	0.1092	**44.5** [#1]	4.040	0.00003	0.0013
		22-Sep-2015	**48.4**	0.527	0.0001	0.0048	**1.64** [#3]	0.505	0.0003	0.0005	**631**	0.337	0.00003	0.0189	**38.3**	0.360	0.00003	0.0011	**2050**	0.335	0.00003	0.0615	**23.5** [#1]	0.363	0.00003	0.0007
(Replicate A)		22-Sep-2015	**62.5**	0.304	0.0001	0.0063	**2.72** [#3]	0.298	0.0003	0.0008	**1140**	5.990	0.00003	0.0342	**55.1**	6.580	0.00003	0.0017	**3310**	5.950	0.00003	0.0993	**47** [#1]	6.460	0.00003	0.0014
		30-Aug-2016	**39.1**	0.057	0.0001	0.0039	**1.59**	0.057	0.0003	0.0005	**595**	0.273	0.00003	0.0179	**29.9**	0.273	0.00003	0.0009	**1820**	0.247	0.00003	0.0546	**24.8** [#1]	0.253	0.00003	0.0007
		13-Sep-2017	**16**	0.198	0.0001	0.0016	**0.72** [#3]	0.194	0.0003	0.0002	**325**	0.600	0.00003	0.0098	**16.2**	0.569	0.00003	0.0005	**931**	0.583	0.00003	0.0279	**12.9** [#1]	0.611	0.00003	0.0004
		30-Aug-2018	**8.17**	0.056	0.0001	0.0008	**0.27** [#3]	0.210	0.0003	0.0001	**168**	0.361	0.00003	0.0050	**11.4**	0.341	0.00003	0.0003	**538**	0.313	0.00003	0.0161	**6.7**	0.431	0.00003	0.0002
		26-Aug-2020	**5.7**	0.058	0.0001	0.0006	**0.37**	0.058	0.0003	0.0001	**74.4**	0.271	0.00003	0.0022	**4.06**	0.181	0.00003	0.0001	**244**	0.244	0.00003	0.0073	**4.25** [#1]	0.180	0.00003	0.0001
		14-Sep-2023	**8.79**	0.015	0.0001	0.0009	**0.34**	0.014	0.0003	0.0001	**102**	0.710	0.00003	0.0031	**4.28**	0.770	0.00003	0.0001	**357**	0.720	0.00003	0.0107	**3.6**	0.710	0.00003	0.0001
	5+	23-Sep-2006	**34**	0.2	0.0001	0.0034	**1.7**	0.2	0.0003	0.0005	**490**	0.2	0.00003	0.0147	**<0.20**	0.2	0.00003	0.000003	**1600**	0.2	0.00003	0.0480	**160**	0.2	0.00003	0.0048
		1-Sep-2011	**37**	1.0	0.0001	0.0037	**1.5**	1.0	0.0003	0.0005	**678**	2.0	0.00003	0.0203	**32.3** [#3]	2.0	0.00003	0.0010	**2440**	2.0	0.00003	0.0732	**245**	3.0	0.00003	0.0074
		1-Sep-2013	**66**	1.0	0.0001	0.0066	**2.71**	1.0	0.0003	0.0008	**964**	2.0	0.00003	0.0289	**45.7**	2.000	0.00003	0.0014	**2830**	2.0	0.00003	0.0849	**36.8** [#1]	3.000	0.00003	0.0011
		21-Sep-2014	**33**	0.501	0.0001	0.0033	**1.29** [#3]	0.492	0.0003	0.0004	**820**	5.15	0.00003	0.0246	**48.2**	4.910	0.00003	0.0014	**2650**	4.920	0.00003	0.0795	**36** [#1]	5.420	0.00003	0.0011
		30-Aug-2016	**133**	0.057	0.0001	0.0133	**5.7**	0.1	0.0003	0.0017	**2010**	1.1	0.00003	0.0603	**101**	1.180	0.00003	0.0030	**6360**	1.050	0.00003	0.1908	**75.3** [#1]	1.110	0.00003	0.0023
		30-Sep-2021	**7.52**	0.075	0.0001	0.0008	**0.289**	0.063	0.0003	0.0001	**90.3**	0.410	0.00003	0.0027	**5.2** [#3]	0.380	0.00003	0.0002	**313**	0.390	0.00003	0.0094	**5.7** [#3]	0.410	0.00003	0.0002
	6+	14-Sep-2023	**12.4**	0.014	0.0001	0.0012	**0.499**	0.012	0.0003	0.0001	**116**	0.620	0.00003	0.0035	**5.23**	0.900	0.00003	0.0002	**429**	0.610	0.00003	0.0129	**4.7** [#3]	0.610	0.00003	0.0001
	11+	7-Sep-2007	**38**	0.9	0.0001	0.0038	**1**	0.8	0.0003	0.0003	**320**	1.3	0.00003	0.0096	**12**	1.6	0.00003	0.0004	**1200**	1.5	0.00003	0.0360	**120**	1.6	0.00003	0.0036
	12+	7-Sep-2007	**25**	0.7	0.0001	0.0025	**<0.7**	0.7	0.0003	0.0001	**240**	1.2	0.00003	0.0072	**8.5**	1.6	0.00003	0.0003	**800**	1.4	0.00003	0.0240	**82**	1.5	0.00003	0.0025
	Unknown	24-Jul-2008	**21**	0.4	0.0001	0.0021	**0.52**	0.4	0.0003	0.0002	**350**	0.9	0.00003	0.0105	**8.5**	0.7	0.00003	0.0003	**230**	0.7	0.00003	0.0069	**35**	0.8	0.00003	0.0011
(Replicate A)		25-Jul-2008	**4.2**	0.5	0.0001	0.0004	**<0.5**	0.5	0.0003	0.0001	**48**	0.9	0.00003	0.0014	**2.2**	1.0	0.00003	0.0001	**130**	0.9	0.00003	0.0039	**22**	1.0	0.00003	0.0007
(Replicate B)		26-Jul-2008	**7.4**	0.4	0.0001	0.0007	**<0.4**	0.4	0.0003	0.0001	**69**	0.9	0.00003	0.0021	**2.8**	0.7	0.00003	0.0001	**230**	0.6	0.00003	0.0069	**26**	0.8	0.00003	0.0008
(Replicate C)		27-Jul-2008	**3.7**	0.4	0.0001	0.0004	**<0.4**	0.4	0.0003	0.0001	**40**	0.8	0.00003	0.0012	**2.2**	0.7	0.00003	0.0001	**120**	0.6	0.00003	0.0036	**20**	0.7	0.00003	0.0006
Brook Trout (Stomach)	**1+**	1-Sep-2012	**6.6** [#3]	1.0	0.0001	0.0007	**< 1.0**	1.0	0.0003	0.0002	**32.5**	3.0	0.00003	0.0010	**< 4.0**	4.0	0.00003	0.0001	**84.1**	4.0	0.00003	0.0025	**10.5**	4.0	0.00003	0.0003
	2+	1-Sep-2012	**1.29** [#3]	0.1	0.0001	0.0001	**< 0.10**	0.10	0.0003	0.00002	**6.34**	0.3	0.00003	0.0002	**< 0.40**	0.40	0.00003	0.00001	**21.2**	0.3	0.00003	0.0006	**2.20** [#3]	0.4	0.00003	0.0001
	3+	1-Sep-2012	**1100**	0.5	0.0001	0.1100	**36.0**	0.5	0.0003	0.0108	**11300**	0.8	0.00003	0.3390	**634**	1.0	0.00003	0.0190	**35300**	1.0	0.00003	1.0590	**3150**	1.0	0.00003	0.0945
(Re-analysis)		1-Sep-2012	**2260**	2.0	0.0001	0.2260	**85.2**	3.0	0.0003	0.0256	**26500**	3.0	0.00003	0.7950	**1190**	4.0	0.00003	0.0357	**65000**	5.0	0.00003	1.9500	**6230**	5.0	0.00003	0.1869

Notes: 1. Superscript [#1] - Congener 123 does not coelute with other congeners during analysis, results before 2013 are based on the 107/109/123 coelution
2. Superscript [#2] - Reported result is based on the coelution of the coplanar congeners 156/157.
3. Superscript [#3] - Result does not meet all quantification criteria and value denotes the estimated maximum possible concentration (EMPC)
4. Superscript [#4] - Duplicate analyzed by alternative laboratory

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																					
			77				81				105				114				118				123			
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	WHO-TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

5. TEQ - 2, 3, 7, 8, TCDD Toxic Equivalency Quotient.
6. TEF - World Health Organization - Toxic Equivalency Factor for Mammals.
7. Values exceed CCME (2001) Mammalian Tissue Residue Guideline for the Protection of Wildlife Consumers of Aquatic Biota, (CCME, 1999 and updated 2001)

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																				Total
			126				156				157				167				169				189				
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	PCB TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.79**
Hatchery																											
Brook Trout	**0+**	23-Sep-2006	**<0.10**	0.1	0.1	0.0050	**14**	0.1	0.00003	0.0004	**3.2**	0.1	0.00003	0.0001	**8.6**	0.1	0.00003	0.0003	**<0.10**	0.1	0.03	0.0015	**1.3**	0.1	0.00003	0.00004	0.0195
		7-Sep-2007	**<1.1**	1.1	0.1	0.0550	**16**	1.9	0.00003	0.0005	**4.1**	0.9	0.00003	0.0001	**10**	0.9	0.00003	0.0003	**<0.1**	0.1	0.03	0.0150	**2.2**	0.8	0.00003	0.0001	0.0775
		8-Sep-2008	**<0.8**	0.8	0.1	0.0400	**7.7**	0.3	0.00003	0.0002	**2**	0.3	0.00003	0.0001	**5.2**	0.3	0.00003	0.0002	**<0.4**	0.4	0.03	0.0060	**1.1**	0.2	0.00003	0.00003	0.0507
(Duplicate)		8-Sep-2008	**<0.8**	0.8	0.1	0.0400	**8.8**	0.3	0.00003	0.0003	**2.1**	0.3	0.00003	0.0001	**5.9**	0.3	0.00003	0.0002	**<0.4**	0.4	0.03	0.0060	**1.2**	0.2	0.00003	0.00004	0.0513
		11-Aug-2009	**<6.1**	6.1	0.1	0.3050	**11.7**	5.2	0.00003	0.0004	**<6.2**	6.2	0.00003	0.0001	**<6.7**	6.7	0.00003	0.0001	**<7.1**	7.1	0.03	0.1065	**<3.5**	3.5	0.00003	0.0001	0.4186
		11-Aug-2010	**< 0.80**	0.8	0.1	0.0400	**11.5**	1.1	0.00003	0.0003	**3.7**	1.2	0.00003	0.0001	**6.9**	1.1	0.00003	0.0002	**< 1.0**	1.0	0.03	0.0150	**< 0.70**	0.7	0.00003	0.00001	0.0613
		1-Sep-2011	**< 0.20**	2	0.1	0.1000	**25.4** [#3]	2	0.00003	0.0008	**4.7**	2	0.00003	0.0001	**14.6**	2	0.00003	0.0004	**< 2.0**	2	0.03	0.0300	**< 1.0**	1	0.00003	0.00002	0.1448
		1-Sep-2012	**< 0.70**	0.7	0.1	0.0350	**22.9**	0.7	0.00003	0.0007	**5.63**	0.7	0.00003	0.0002	**15.0**	0.6	0.00003	0.0005	**< 0.60**	0.6	0.03	0.0090	**3.93** [#3]	0.6	0.00003	0.0001	0.0548
		1-Sep-2013	**0.542**	4.600	0.1	0.0542	**34.8** [#2]	0.700	0.00003	0.0010	**---**	---	---	---	**17.7**	0.932	0.00003	0.0005	**< 0.447**	0.447	0.03	0.0067	**4.23**	0.139	0.00003	0.0001	0.0738
		30-Sep-2014	**0.74**	0.428	0.1	0.0740	**17.2** [#2]	0.462	0.00003	0.0005	**---**	---	---	---	**9.07**	0.325	0.00003	0.0003	**< 0.375**	0.375	0.03	0.0056	**1.71**	0.057	0.00003	0.0001	0.0867
		23-Sep-2015	**0.669** [#3]	0.233	0.1	0.0669	**38.9** [#2]	1.840	0.00003	0.0012	**---**	---	---	---	**20.7**	1.570	0.00003	0.0006	**< 1.78**	1.780	0.03	0.0267	**4.83**	0.139	0.00003	0.0001	0.1078
		30-Aug-2016	**0.52**	0.114	0.1	0.0520	**17.7**	0.055	0.00003	0.0005	**5.04**	0.055	0.00003	0.0002	**11.9**	0.055	0.00003	0.0004	**0.121** [#3]	0.055	0.03	0.0036	**2.68**	0.055	0.00003	0.0001	0.0630
		30-Aug-2018	**0.332** [#3]	0.171	0.1	0.0332	**9.5**	0.057	0.00003	0.0003	**3.1**	0.057	0.00003	0.0001	**6.3**	0.057	0.00003	0.0002	**0.098**	0.057	0.03	0.0029	**1.24**	0.099	0.00003	0.00004	0.0403
		6-Sep-2019	**<0.299**	0.299	0.1	0.0150	**8.63** [#2]	0.383	0.00003	0.0003	**---**	---	---	---	**4.2**	0.290	0.00003	0.0001	**<0.38**	0.380	0.03	0.0057	**0.98**	0.077	0.00003	0.00003	0.0241
		26-Aug-2020	**0.331**	0.095	0.1	0.0331	**7.8**	0.057	0.00003	0.0002	**2.33**	0.1	0.00003	0.00007	**5.6**	0.057	0.00003	0.0002	**0.087**	0.057	0.03	0.0026	**1.17**	0.057	0.00003	0.00004	0.0394
		30-Sep-2021	**0.13**	0.086	0.1	0.0130	**1.87**	0.210	0.00003	0.0001	**---**	---	---	---	**1.13**	0.160	0.00003	0.00003	**<0.052**	0.052	0.03	0.0008	**0.267**	0.098	0.00003	0.000008	0.0145
		13-Oct-2022	**0.462**	0.110	0.1	0.0462	**3.91**	0.270	0.00003	0.0001	**---**	---	---	---	**2.1**	0.190	0.00003	0.0001	**0.083**	0.024	0.03	0.0025	**0.312**	0.095	0.00003	0.0000	0.0561
Brook Trout	**1+**	13-Sep-2017	**0.891** [#3]	0.300	0.1	0.0891	**38.2** [#2]	0.202	0.00003	0.0011	**---**	---	---	---	**19.5**	0.172	0.00003	0.0006	**< 0.354**	0.354	0.03	0.0053	**4.85**	0.234	0.00003	0.0001	0.1071
Chrystina Lake																											
Brook Trout	**1+**	11-Aug-2009	**2.3**	1.1	0.1	0.2300	**49.9**	1.1	0.00003	0.0015	**9.9**	1.2	0.00003	0.0003	**24.9**	1.2	0.00003	0.0007	**<1.1**	1.1	0.03	0.0165	**4.8** [#3]	1.1	0.00003	0.0001	0.2714
		1-Sep-2011	**3.8**	2.0	0.1	0.3800	**61.8** [#3]	2.0	0.00003	0.0020	**13.1**	2.0	0.00003	0.0004	**37.5**	2.0	0.00003	0.0011	**<2.0**	2.0	0.03	0.0300	**4.8** [#3]	1.0	0.00003	0.0001	0.4418
		1-Sep-2012	**9.6**	1.0	0.1	0.9600	**230**	0.8	0.00003	0.0069	**52.2**	0.8	0.00003	0.0016	**112**	0.7	0.00003	0.0034	**< 0.70**	0.700	0.03	0.0105	**16.1**	0.6	0.00003	0.0005	**1.0889**
(Replicate A)		1-Sep-2013	**2.83**	4.6	0.1	0.2830	**57.5** [#2]	1.2	0.00003	0.0017	**---**	---	---	---	**26.5**	0.932	0.00003	0.0008	**< 0.812**	0.812	0.03	0.0122	**4.58**	0.1	0.00003	0.0001	0.3163
(Replicate B)		1-Sep-2013	**2.38**	4.6	0.1	0.2380	**65.2** [#2]	1.2	0.00003	0.0020	**---**	---	---	---	**29.4**	0.932	0.00003	0.0009	**< 0.925**	0.925	0.03	0.0139	**6.11**	0.1	0.00003	0.0002	0.2745
		23-Sep-2015	**15.9** [#3]	6.9	0.1	1.5900	**362** [#2]	5.0	0.00003	0.0109	**---**	---	---	---	**234**	4.000	0.00003	0.0070	**< 8.1**	8.100	0.03	0.1215	**22.7**	0.304	0.00003	0.0007	**1.9600**
		31-Aug-2016	**2.29**	0.1	0.1	0.2290	**46.9**	0.1	0.00003	0.0014	**12.4**	0.1	0.00003	0.0004	**30.3**	0.055	0.00003	0.0009	**0.849**	0.055	0.03	0.0255	**6.8**	0.055	0.00003	0.0002	0.2739
		12-Sep-2017	**2.16**	0.4	0.1	0.2160	**69.2** [#2]	0.5	0.00003	0.0021	**---**	---	---	---	**32.7**	0.388	0.00003	0.0010	**< 0.379**	<0.379	0.03	0.0057	**5.88**	0.209	0.00003	0.0002	0.2436
		29-Aug-2018	**2.71**	0.2	0.1	0.2710	**39.9**	0.1	0.00003	0.0012	**9.7**	0.1	0.00003	0.0003	**23.8**	0.090	0.00003	0.0007	**0.362**	0.117	0.03	0.0109	**4.5**	0.280	0.00003	0.0001	0.2981
(Replicate A)		5-Sep-2019	**1.39** [#3]	0.7	0.1	0.1390	**48.9** [#2]	0.6	0.00003	0.0015	**---**	---	---	---	**23.1**	0.453	0.00003	0.0007	**<0.476**	0.476	0.03	0.0071	**4.65**	0.141	0.00003	0.0001	0.1641
(Replicate B)		5-Sep-2019	**1.5** [#3]	0.5	0.1	0.1500	**52.9** [#2]	0.9	0.00003	0.0016	**---**	---	---	---	**25.9**	0.625	0.00003	0.0008	**<0.675**	0.675	0.03	0.0101	**4.68**	0.180	0.00003	0.0001	0.1801
		25-Aug-2020	**2.41**	0.4	0.1	0.2410	**50.2**	0.1	0.00003	0.0015	**12.5**	0.1	0.00003	0.0004	**29.8**	0.058	0.00003	0.0009	**0.307**	0.066	0.03	0.0092	**5.68**	0.058	0.00003	0.0002	0.2721
		29-Sep-2021	**7.75**	0.041	0.1	0.7750	**193**	0.5	0.00003	0.0058	**---**	---	---	---	**86.2**	0.390	0.00003	0.0026	**0.453**	0.130	0.03	0.0136	**14.2**	0.130	0.00003	0.0004	**0.8614**
(Lab Duplicate)		29-Sep-2021	**7.18**	0.034	0.1	0.7180	**159**	0.9	0.00003	0.0048	**---**	---	---	---	**71.2**	0.660	0.00003	0.0021	**0.384**	0.082	0.03	0.0115	**12.3**	0.120	0.00003	0.0004	**0.7921**
		12-Oct-2022	**4.21**	0.052	0.1	0.4210	**99.3**	2.1	0.00003	0.0030	**---**	---	---	---	**45.7**	1.400	0.00003	0.0014	**0.218**	0.060	0.03	0.0065	**6.8** [#3]	0.830	0.00003	0.0002	0.4623
		13-Sep-2023	**2.19**	0.040	0.1	0.2190	**47.1**	1.3	0.00003	0.0014	**---**	---	---	---	**22**	0.800	0.00003	0.0007	**0.23** [#3]	0.034	0.03	0.0069	**3.15**	0.410	0.00003	0.0001	0.2450
	2+	11-Aug-2009	**10**	1.6	0.1	1.0000	**273**	1.6	0.00003	0.0082	**52.3**	1.7	0.00003	0.0016	**154**	1.6	0.00003	0.0046	**<1.6**	1.6	0.03	0.0240	**22.6**	1.7	0.00003	0.0007	**1.1575**
		11-Aug-2010	**15.3**	1.4	0.1	1.5300	**477**	1.7	0.00003	0.0143	**88.6**	1.8	0.00003	0.0027	**239**	1.7	0.00003	0.0072	**<1.6**	1.6	0.03	0.0240	**33.6**	1.1	0.00003	0.0010	**1.7648**
		12-Aug-2010	**24.2**	1.7	0.1	2.4200	**868**	1.5	0.00003	0.0260	**166**	1.7	0.00003	0.0050	**422**	1.4	0.00003	0.0127	**<1.6**	1.6	0.03	0.0240	**54**	1.8	0.00003	0.0016	**2.8766**
		1-Sep-2011	**62.6**	5.0	0.1	6.2600	**1680**	3.0	0.00003	0.0504	**346**	4.0	0.00003	0.0104	**953**	3.0	0.00003	0.0286	**< 4.0**	4.0	0.03	0.0600	**105**	2.0	0.00003	0.0032	**7.3535**
(Duplicate)		1-Sep-2011	**76.4**	3.0	0.1	7.6400	**2280**	4.0	0.00003	0.0684	**435**	4.0	0.00003	0.0131	**1130**	4.0	0.00003	0.0339	**< 4.0**	4.0	0.03	0.0600	**146**	2.0	0.00003	0.0044	**9.0450**
(Replicate A)		1-Sep-2011	**85.5**	3.0	0.1	8.5500	**2680**	4.0	0.00003	0.0804	**504**	4.0	0.00003	0.0151	**1390**	7.0	0.00003	0.0417	**< 2.0**	2.0	0.03	0.0300	**168**	4.0	0.00003	0.0050	**10.0653**
(Replicate B)		1-Sep-2011	**88.1**	3.0	0.1	8.8100	**3110**	5.0	0.00003	0.0933	**596**	5.0	0.00003	0.0179	**1550**	8.0	0.00003	0.0465	**< 2.0**	2.0	0.03	0.0300	**186**	4.0	0.00003	0.0056	**10.6074**
(Replicate C)		1-Sep-2011	**143**	3.0	0.1	14.3000	**4750**	4.0	0.00003	0.1425	**931**	4.0	0.00003	0.0279	**2410**	8.0	0.00003	0.0723	**< 2.0**	2.0	0.03	0.0300	**281**	3.0	0.00003	0.0084	**17.0648**
(Replicate D)		1-Sep-2011	**82.1**	3.0	0.1	8.2100	**2610**	4.0	0.00003	0.0783	**509**	4.0	0.00003	0.0153	**1360**	8.0	0.00003	0.0408	**< 2.0**	2.0	0.03	0.0300	**150**	3.0	0.00003	0.0045	**9.7384**
(Replicate E)		1-Sep-2011	**141**	3.0	0.1	14.1000	**4340**	5.0	0.00003	0.1302	**865**	5.0	0.00003	0.0260	**2310**	10.0	0.00003	0.0693	**< 3.0**	3.0	0.03	0.0450	**270**	4.0	0.00003	0.0081	**16.7020**
		1-Sep-2012	**6.73**	0.8	0.1	0.6730	**216**	0.7	0.00003	0.0065	**39.8**	0.8	0.00003	0.0012	**109**	0.8	0.00003	0.0033	**< 0.70**	0.7	0.03	0.0105	**17.5**	0.5	0.00003	0.0005	0.7803
		1-Sep-2013	**10.9**	4.600	0.1	1.0900	**380** [#2]	1.230	0.00003	0.0114	**---**	---	---	---	**161**	0.932	0.00003	0.0048	**< 2.48**	2.5	0.03	0.0372	**21.5**	0.139	0.00003	0.0006	**1.2783**
		30-Sep-2014	**12.6**	5.680	0.1	1.2600	**393** [#2]	1.580	0.00003	0.0118	**---**	---	---	---	**163**	1.100	0.00003	0.0049	**< 2.23**	2.230	0.03	0.0335	**23.6**	0.150	0.00003	0.0007	**1.4398**
(Replicate A)		30-Sep-2014	**4.8**	1.430	0.1	0.4800	**135** [#2]	0.458	0.00003	0.0041	**---**	---	---	---	**56.2**	0.316	0.00003	0.0017	**< 0.893**	0.893	0.03	0.0134	**8.97**	0.082	0.00003	0.0003	0.5422
(Replicate B)		30-Sep-2014	**5.55**	1.950	0.1	0.5550	**164** [#2]	0.675	0.00003	0.0049	**---**	---	---	---	**70.9**	0.471	0.00003	0.0021	**< 1.39**	1.390	0.03	0.0209	**12.7**	0.105	0.00003	0.0004	0.6311
		23-Sep-2015	**14.2** [#3]	0.566	0.1	1.4200	**450** [#2]	2.050	0.00003	0.0135	**---**	---	---	---	**197**	1.600	0.00003	0.0059	**4.85** [#3]	1.850	0.03	0.1455	**22.5**	0.207	0.00003	0.0007	**1.7561**
		31-Aug-2016	**19.7**	1.030	0.1	1.9700	**488**	0.056	0.00003	0.0146	**96.6**	0.0557	0.00003	0.0029	**255**	0.056	0.00003	0.0077	**1.28**	0.056	0.03	0.0384	**43**	0.056	0.00003	0.0013	**2.2052**
		12-Sep-2017	**5.28**	0.769	0.1	0.5280	**180** [#2]	1.350	0.00003	0.0054	---	---	---	---	**82.8**	1.150	0.00003	0.0025	**< 1.14**	1.140	0.03	0.0171	**13.3**	0.241	0.00003	0.0004	0.6072
(Replicate A)		12-Sep-2017	**4.16**	0.495	0.1	0.4160	**150** [#2]	0.299	0.00003	0.0045	**---**	---	---	---	**69.9**	0.247	0.00003	0.0021	**< 0.749**	0.749	0.03	0.0112	**11.7**	0.350	0.00003	0.0004	0.4738
		29-Aug-2018	**7.54**	0.607	0.1	0.7540	**175**	0.056	0.00003	0.0053	**35**	0.056	0.00003	0.0011	**97.5**	0.056	0.00003	0.0029	**0.531**	0.128	0.03	0.0159	**12.8**	0.198	0.00003	0.0004	**0.8470**
(Replicate A)		5-Sep-2019	**6.04** [#3]	2.880	0.1	0.6040	**127** [#2]	0.670	0.00003	0.0038	**---**	---	---	---	**62.8**	0.501	0.00003	0.0019	**<0.673**	0.673	0.03	0.0101	**10.3**	0.305	0.00003	0.0003	0.6607
(Replicate B)		5-Sep-2019	**5.81** [#3]	2.690	0.1	0.5810	**157** [#2]	0.499	0.00003	0.0047	**---**	---	---	---	**74.8**	0.374	0.00003	0.0022	**<0.79**	0.790	0.03	0.0119	**13.1**	0.297	0.00003	0.0004	0.6456
(Replicate A)		25-Aug-2020	**6.56**	0.813	0.1	0.6560	**140**	0.078	0.00003	0.0042	**30.5**	0.0826	0.00003	0.0009	**74.5**	0.075	0.00003	0.0022	**0.532**	0.096	0.03	0.0160	**15.2**	0.057	0.00003	0.0005	0.7276
(Replicate B)		25-Aug-2020	**4.71**	0.878	0.1	0.4710	**98.9**	0.153	0.00003	0.0030	**22.2**	0.166	0.00003	0.0007	**56.9**	0.152	0.00003	0.0017	**0.352**	0.196	0.03	0.0106	**9.82**	0.058	0.00003	0.0003	0.5273
		29-Sep-2021	**7.44**	0.034	0.1	0.7440	**219**	0.330	0.00003	0.0066	**---**	---	---	---	**102**	0.240	0.00003	0.0031	**0.5** [#3]	0.061	0.03	0.0150	**17.8**	0.130	0.00003	0.0005	**0.8330**
		12-Oct-2022	**15.2**	0.250	0.1	1.5200	**393**	0.860	0.00003	0.0118	**---**	---	---	---	**177**	0.610	0.00003	0.0053	**0.989**	0.054	0.03	0.0297	**33**	0.210	0.00003	0.0010	**1.6898**
		13-Sep-2023	**5.14**	0.061	0.1	0.5140	**137**	1.800	0.00003	0.0041	**---**	---	---	---	**65.4**	1.200	0.00003	0.0020	**0.373**	0.038	0.03	0.0112	**10.5**	0.600	0.00003	0.0003	0.5738
	3+	23-Sep-2006	**<0.1**	0.1	0.1	0.0050	**160**	0.1	0.00003	0.0048	**13**	0.1	0.00003	0.0004	**76**	0.1	0.00003	0.0023	**<0.10**	0.1	0.03	0.0015	**1.9**	---	0.00003	0.0001	0.1157
		11-Aug-2010	**10.5**	1.2	0.1	1.0500	**382**	1.6	0.00003	0.0115	**65.6**	1.6	0.00003	0.0020	**188**	1.4	0.00003	0.0056	**< 1.4**	1.4	0.03	0.0210	**31.2**	1.1	0.00003	0.0009	**1.2386**
(Duplicate)		11-Aug-2010	**8.4** [#3]	1.2	0.1	0.8400	**366**	1.4	0.00003	0.0110	**62**	1.5	0.00003	0.0019	**193**	1.3	0.00003	0.0058	**< 1.3**	1.3	0.03	0.0195	**25.1**	1.1	0.00003	0.0008	**1.0168**
		12-Aug-2010	**16.4**	1.6	0.1	1.6400	**502**	1.5	0.00003	0.0151	**96.5**	1.5	0.00003	0.0029	**258**	1.4	0.00003	0.0077	**<1.5**	1.5	0.03	0.0225	**34.4**	1.6	0.00003	0.0010	**1.9183**
		1-Sep-2012	**4.77** [#3]	0.4	0.1	0.4770	**154**	0.4	0.00003	0.0046	**28.5**	0.4	0.00003	0.0009	**75.9**	0.4	0.00003	0.0023	**< 0.40**	0.4	0.03	0.0060	**12.7**	0.3	0.00003	0.0004	0.5497
(Duplicate)		1-Sep-2012	**5.24** [#3]	0.4	0.1	0.5240	**140**	0.4	0.00003	0.0042	**26.0**	0.5	0.00003	0.0008	**75.8**	0.5	0.00003	0.0023	**< 0.40**	0.4	0.03	0.0060	**11.2** [#3]	0.3	0.00003	0.0003	0.5933
		1-Sep-2012	**3.51** [#3]	0.5	0.1	0.3510	**102**	0.5	0.00003	0.0031	**17.8**	0.5	0.00003	0.0005	**51.0**	0.5	0.00003	0.0015	**1.37**	0.5	0.03	0.0411	**9.79**	0.4	0.00003	0.0003	0.4300
(Replicate C)		1-Sep-2013	**6.11**	4.600	0.1	0.6110	**211** [#2]	1.230	0.00003	0.0063	**---**	---	---	---	**93.7**	0.932	0.00003	0.0028	**< 2.38**	2.380	0.03	0.0357	**21.4**	0.139	0.00003	0.0006	0.7133
(Replicate D)		1-Sep-2013	**5.66**	4.600	0.1	0.5660	**245** [#2]	1.230	0.00003	0.0074	**---**	---	---	---	**106**	0.932	0.00003	0.0032	**< 2.19**	2.190	0.03	0.0329	**15.9**	0.139	0.00003	0.0005	0.6885
(Duplicate) [#4]		1-Sep-2013	**7.2** [#3]	4.600	0.1	0.7200	**193**	1.230	0.00003	0.0058	**34.1**	1.2	0.00003	0.0010	**104**	0.932	0.00003	0.0031	**< 5.0**	5.000	0.03	0.0750	**15.0** [#3]	0.139	0.00003	0.0005	**0.8878**
		22-Sep-2014	**14.2**	4.880	0.1	1.4200	**484** [#2]	1.470	0.00003	0.0145	**---**	---	---	---	**209**	1.040	0.00003	0.0063	**< 2.61**	2.610	0.03	0.0392	**28.1**	0.189	0.00003	0.0008	**1.6497**
(Duplicate)		22-Sep-2014	**10.7**	6.500	0.1	1.0700	**438** [#2]	2.420	0.00003	0.0131	**---**	---	---	---	**192**	1.710	0.00003	0.0058	**< 2.63**	2.630	0.03	0.0395	**26.3**	0.326	0.00003	0.0008	**1.2875**
(Replicate A)		22-Sep-2014	**6.48**	1.770	0.1	0.6480	**212** [#2]	0.874	0.00003	0.0064	**---**	---	---	---	**94.5**	0.610	0.00003	0.0028	**< 1.62**	1.620	0.03	0.0243	**16.7**	0.095	0.00003	0.0005	0.7400
(Replicate B)		22-Sep-2014	**6.64**	2.640	0.1	0.6640	**340** [#2]	1.080	0.00003	0.0102	**---**	---	---	---	**142**	0.750	0.00003	0.0043	**< 2.06**	2.060	0.03	0.0309	**20.8**	0.144	0.00003	0.0006	**0.8113**
		23-Sep-2015	**22** [#3]	10.400	0.1	2.2000	**592** [#2]	4.120	0.00003	0.0178	**---**	---	---	---	**259**	3.460	0.00003	0.0078	**< 6.44**	6.440	0.03	0.0966	**27.5**	0.235	0.00003	0.0008	**2.5896**
		31-Aug-2016	**25.9**	1.140	0.1	2.5900	**634**	0.055	0.00003	0.0190	**123**	0.1	0.00003	0.0037	**324**	0.055	0.00003	0.0097	**0.978**	0.055	0.03	0.0293	**42.3**	0.055	0.00003	0.0013	**2.9475**

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																						
			126				156				157				167				169				189				Total
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	PCB TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.79
(Duplicate)		31-Aug-2016	**24.1**	1.310	0.1	2.4100	**611**	0.079	0.00003	0.0183	**120**	0.1	0.00003	0.0036	**309**	0.081	0.00003	0.0093	**0.906** [#3]	0.098	0.03	0.0272	**39.4**	0.056	0.00003	0.0012	**2.7508**
(Replicate A)		31-Aug-2016	**18.9**	0.749	0.1	1.8900	**489**	0.055	0.00003	0.0147	**97.2**	0.1	0.00003	0.0029	**253**	0.055	0.00003	0.0076	**0.894**	0.055	0.03	0.0268	**34.9**	0.055	0.00003	0.0010	**2.1552**

worley consulting

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																						Total
			126				156				157				167				169				189				
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	PCB TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.79
Chrystina Lake - Continued																											
		12-Sep-2017	**8.13**	0.933	0.1	0.8130	**256** [#2]	0.329	0.00003	0.0077	**---**	---	---	---	**109**	0.267	0.00003	0.0033	**< 0.937**	0.937	0.03	0.0141	**17.1**	0.434	0.00003	0.0005	**0.9198**
(Duplicate)		12-Sep-2017	**8.58**	1.230	0.1	0.8580	**273** [#2]	1.300	0.00003	0.0082	**---**	---	---	---	**115**	1.030	0.00003	0.0035	**< 1.07**	1.070	0.03	0.0161	**18.1**	0.416	0.00003	0.0005	**0.9732**
		29-Aug-2018	**10.4**	1.730	0.1	1.0400	**223**	1.160	0.00003	0.0067	**43.7**	1.1	0.00003	0.0013	**121**	1.190	0.00003	0.0036	**0.561**	0.550	0.03	0.0168	**18.2**	0.235	0.00003	0.0005	**1.1473**
(Duplicate)		29-Aug-2018	**7.17**	1.810	0.1	0.7170	**201**	0.139	0.00003	0.0060	**40.2**	0.139	0.00003	0.0012	**109**	0.134	0.00003	0.0033	**0.582**	0.182	0.03	0.0175	**15.5**	0.112	0.00003	0.0005	**0.8142**
(Duplicate)		29-Aug-2018	**7.74**	1.600	0.1	0.7740	**206**	0.064	0.00003	0.0062	**40**	0.062	0.00003	0.0012	**114**	0.063	0.00003	0.0034	**0.466** [#3]	0.078	0.03	0.0140	**16.2**	0.277	0.00003	0.0005	**0.8695**
		5-Sep-2019	**7.46** [#3]	4.080	0.1	0.7460	**244** [#2]	0.631	0.00003	0.0073	**---**	---	---	---	**113**	0.486	0.00003	0.0034	**<1.13**	1.130	0.03	0.0170	**18.9**	0.426	0.00003	0.0006	**0.8488**
(Duplicate)		5-Sep-2019	**8.03** [#3]	4.290	0.1	0.8030	**238** [#2]	0.862	0.00003	0.0071	**---**	---	---	---	**110**	0.659	0.00003	0.0033	**<1.08**	1.080	0.03	0.0162	**18.1**	0.584	0.00003	0.0005	**0.9020**
		29-Sep-2021	**5.75**	0.038	0.1	0.5750	**147**	0.630	0.00003	0.0044	**---**	---	---	---	**69.2**	0.460	0.00003	0.0021	**0.319**	0.069	0.03	0.0096	**10.9**	0.190	0.00003	0.0003	0.6404
(Duplicate)		29-Sep-2021	**14.4**	0.190	0.1	1.4400	**373**	1.400	0.00003	0.0112	**---**	---	---	---	**174**	1.100	0.00003	0.0052	**0.881**	0.071	0.03	0.0264	**27.2**	0.350	0.00003	0.0008	**1.6060**
		12-Oct-2022	**9.3**	0.160	0.1	0.9300	**306**	2.200	0.00003	0.0092	**---**	---	---	---	**137**	1.500	0.00003	0.0041	**0.485**	0.089	0.03	0.0146	**20.1**	0.690	0.00003	0.0006	**1.0594**
		13-Sep-2023	**9.36**	0.038	0.1	0.9360	**242**	1.300	0.00003	0.0073	**---**	---	---	---	**112**	0.900	0.00003	0.0034	**0.667**	0.031	0.03	0.0200	**18.2**	0.250	0.00003	0.0005	**1.0482**
	4+	23-Sep-2006	**25**	0.2	0.1	2.5000	**900**	0.2	0.00003	0.0270	**150**	0.2	0.00003	0.0045	**480**	0.2	0.00003	0.0144	**<0.20**	0.2	0.03	0.0030	**67**	0.1	0.00003	0.0020	**2.9546**
(Duplicate)		23-Sep-2006	**33**	0.2	0.1	3.3000	**880**	0.2	0.00003	0.0264	**170**	0.2	0.00003	0.0051	**450**	0.2	0.00003	0.0135	**<0.30**	0.2	0.03	0.0030	**77**	0.2	0.00003	0.0023	**3.7653**
		1-Sep-2011	**26.7**	3.0	0.1	2.6700	**820**	3.0	0.00003	0.0246	**140**	3.0	0.00003	0.0042	**450**	3.0	0.00003	0.0135	**<3.0**	3.0	0.03	0.0450	**60.6**	2.0	0.00003	0.0018	**3.1645**
		1-Sep-2013	**30.5**	4.600	0.1	3.0500	**906** [#2]	1.230	0.00003	0.0272	**---**	---	---	---	**395**	0.932	0.00003	0.0119	**< 6.29**	6.290	0.03	0.0944	**49.2**	0.139	0.00003	0.0015	**3.5568**
		22-Sep-2014	**43.8**	12.700	0.1	4.3800	**1350** [#2]	3.210	0.00003	0.0405	**---**	---	---	---	**575**	2.320	0.00003	0.0173	**< 6.83**	6.830	0.03	0.1025	**76.2**	0.306	0.00003	0.0023	**5.0282**
		23-Sep-2015	**12** [#3]	4.230	0.1	1.2000	**370** [#2]	2.110	0.00003	0.0111	**---**	---	---	---	**171**	1.720	0.00003	0.0051	**< 4.13**	4.130	0.03	0.0620	**28.1**	0.184	0.00003	0.0008	**1.3958**
(Replicate A)		23-Sep-2015	**18.2** [#3]	5.930	0.1	1.8200	**515** [#2]	4.460	0.00003	0.0155	**---**	---	---	---	**224**	3.700	0.00003	0.0067	**< 5.33**	5.330	0.03	0.0800	**31**	0.246	0.00003	0.0009	**2.0939**
		12-Sep-2017	**14.6**	1.710	0.1	1.4600	**445** [#2]	0.597	0.00003	0.0134	**---**	---	---	---	**191**	0.497	0.00003	0.0057	**< 1.96**	1.960	0.03	0.0294	**30.5**	0.757	0.00003	0.0009	**1.6449**
(Replicate A)		29-Aug-2018	**18.7**	3.280	0.1	1.8700	**437**	0.118	0.00003	0.0131	**89.6**	0.1	0.00003	0.0027	**230**	0.1	0.00003	0.0069	**0.992**	0.148	0.03	0.0298	**25.1**	0.148	0.00003	0.0008	**2.1136**
(Replicate B)		29-Aug-2018	**8.32**	1.710	0.1	0.8320	**337**	0.087	0.00003	0.0101	**63.6**	0.1	0.00003	0.0019	**186**	0.089	0.00003	0.0056	**0.75**	0.116	0.03	0.0225	**28.4**	0.382	0.00003	0.0009	**0.9753**
(Replicate C)		29-Aug-2018	**11.2**	2.190	0.1	1.1200	**284**	0.600	0.00003	0.0085	**53.6**	0.6	0.00003	0.0016	**150**	0.605	0.00003	0.0045	**<0.751**	0.751	0.03	0.0113	**22.1**	0.214	0.00003	0.0007	**1.2394**
		25-Aug-2020	**3.67**	0.902	0.1	0.3670	**101**	0.073	0.00003	0.0030	**20.4**	0.1	0.00003	0.0006	**57**	0.074	0.00003	0.0017	**0.347**	0.094	0.03	0.0104	**9.87**	0.058	0.00003	0.0003	0.4192
		29-Sep-2021	**7.72**	0.029	0.1	0.7720	**218**	0.640	0.00003	0.0065	**---**	---	---	---	**100**	0.470	0.00003	0.0030	**0.476**	0.052	0.03	0.0143	**15.8**	0.160	0.00003	0.0005	**0.8639**
	5+	23-Sep-2006	**15**	0.2	0.1	1.5000	**510**	0.2	0.00003	0.0153	**81**	0.2	0.00003	0.0024	**250**	0.2	0.00003	0.0075	**<0.20**	0.2	0.03	0.0030	**32**	0.1	0.00003	0.0010	**1.7700**
		7-Sep-2007	**14**	1.7	0.1	1.4000	**380**	1.3	0.00003	0.0114	**70**	1.3	0.00003	0.0021	**220**	1.3	0.00003	0.0066	**<1.5**	1.5	0.03	0.0225	**41**	1.0	0.00003	0.0012	**1.5906**
		12-Aug-2010	**6.2**	1.6	0.1	0.6200	**233**	1.6	0.00003	0.0070	**37.9**	1.9	0.00003	0.0011	**132**	1.6	0.00003	0.0040	**<1.5**	1.5	0.03	0.0225	**34.4**	1.6	0.00003	0.0010	**1.1958**
		1-Sep-2013	**63.5**	4.600	0.1	6.3500	**2070** [#2]	1.230	0.00003	0.0621	**---**	---	---	---	**908**	0.932	0.00003	0.0272	**< 15**	15.000	0.03	0.2250	**117**	0.139	0.00003	0.0035	**7.4698**
(Duplicate) [#4]		1-Sep-2013	**78.9**	4.600	0.1	7.8900	**1990**	1.230	0.00003	0.0597	**380**	1.2	0.00003	0.0114	**1000**	0.932	0.00003	0.0300	**< 5.0**	5.000	0.03	0.0750	**131**	0.139	0.00003	0.0039	**9.0959**
		23-Sep-2015	**17.2** [#3]	6.540	0.1	1.7200	**588** [#2]	3.490	0.00003	0.0176	**---**	---	---	---	**271**	2.920	0.00003	0.0081	**< 6.1**	6.100	0.03	0.0915	**40.4**	0.259	0.00003	0.0012	**2.0359**
		31-Aug-2016	**14.4**	1.160	0.1	1.4400	**489**	0.056	0.00003	0.0147	**92.8**	0.1	0.00003	0.0028	**243**	0.056	0.00003	0.0073	**0.65**	0.056	0.03	0.0159	**32.6**	0.056	0.00003	0.0010	**1.6574**
		12-Sep-2017	**67.5**	2.120	0.1	6.7500	**1110**	0.058	0.00003	0.0333	**218**	0.1	0.00003	0.0065	**632**	0.580	0.00003	0.0190	**3.5**	0.060	0.03	0.1050	**93**	0.058	0.00003	0.0028	**7.3720**
(Re-analysis)		12-Sep-2017	**48.6**	1.370	0.1	4.8600	**770**	0.057	0.00003	0.0231	**154**	0.1	0.00003	0.0046	**441**	0.057	0.00003	0.0132	**2.47**	0.063	0.03	0.0741	**61**	0.057	0.00003	0.0018	**5.2980**
		29-Sep-2021	**8.09**	0.032	0.1	0.8090	**225**	1.5	0.00003	0.0068	**---**	---	---	---	**103**	1.100	0.00003	0.0031	**0.631**	0.055	0.03	0.0189	**17.1**	0.520	0.00003	0.0005	**0.9021**
	6+	7-Sep-2007	**14**	2.2	0.1	1.4000	**460**	1.8	0.00003	0.0138	**84**	1.9	0.00003	0.0025	**250**	1.8	0.00003	0.0075	**<2.1**	2.1	0.03	0.0315	**45**	1.4	0.00003	0.0014	**1.6121**
	7+	7-Sep-2007	**5.9**	1.3	0.1	0.5900	**120**	1.0	0.00003	0.0036	**24**	1.1	0.00003	0.0007	**58**	1.0	0.00003	0.0017	**<1.3**	1.3	0.03	0.0195	**10**	0.8	0.00003	0.0003	0.6633
(Duplicate)		7-Sep-2007	**3.6**	1.7	0.1	0.3600	**110**	1.4	0.00003	0.0033	**20**	1.3	0.00003	0.0006	**52**	1.3	0.00003	0.0016	**<1.5**	1.5	0.03	0.0225	**10**	1.1	0.00003	0.0003	0.4299
	11+	7-Sep-2007	**21**	1.6	0.1	2.1000	**460**	1.3	0.00003	0.0138	**89**	1.3	0.00003	0.0027	**220**	1.3	0.00003	0.0066	**<1.4**	1.4	0.03	0.0210	**54**	0.9	0.00003	0.0016	**2.3124**
	12+	7-Sep-2007	**19**	2.1	0.1	1.9000	**600**	2.1	0.00003	0.0180	**110**	1.2	0.00003	0.0033	**320**	2.2	0.00003	0.0096	**<2.5**	2.5	0.03	0.0375	**57**	1.2	0.00003	0.0017	**2.1971**
	Unknown	23-Jul-2008	**2.4**	1.2	0.1	0.2400	**49**	0.6	0.00003	0.0015	**9.2**	0.6	0.00003	0.0003	**27**	0.6	0.00003	0.0008	**<0.8**	0.8	0.03	0.0120	**6.9**	0.5	0.00003	0.0002	0.2770
(Replicate)		23-Jul-2008	**<1.0**	1.0	0.1	0.0500	**17**	0.4	0.00003	0.0005	**4.1**	0.4	0.00003	0.0001	**10**	0.4	0.00003	0.0003	**<0.40**	0.4	0.03	0.0060	**2.6**	0.3	0.00003	0.0001	0.0641
(Replicate A)		23-Jul-2008	**3.2**	1.0	0.1	0.3200	**77**	0.4	0.00003	0.0023	**15**	0.4	0.00003	0.0005	**43**	0.4	0.00003	0.0013	**<0.5**	0.5	0.03	0.0075	**9.9**	0.3	0.00003	0.0003	0.3619
(Replicate B)		23-Jul-2008	**1.7**	0.9	0.1	0.1700	**45**	0.4	0.00003	0.0014	**8.3**	0.4	0.00003	0.0002	**24**	0.5	0.00003	0.0007	**<0.6**	0.6	0.03	0.0090	**5.5**	0.3	0.00003	0.0002	0.2007
(Replicate C)		23-Jul-2008	**1.7**	1.3	0.1	0.1700	**47**	0.6	0.00003	0.0014	**10**	0.6	0.00003	0.0003	**26**	0.6	0.00003	0.0008	**<0.70**	0.7	0.03	0.0105	**6.5**	0.5	0.00003	0.0002	0.2035
		12-Oct-2022	**8.77**	0.1	0.1	0.8770	**227**	3.3	0.00003	0.0068	**---**	---	---	---	**105**	2.3	0.00003	0.0032	**0.413**	0.1	0.03	0.0124	**15.9**	0.6	0.00003	0.0005	**0.9805**
(Replicate A)		13-Sep-2023	**5.63**	0.1	0.1	0.5630	**171**	1.0	0.00003	0.0051	**---**	---	---	---	**79.6**	0.7	0.00003	0.0024	**0.317**	0.1	0.03	0.0095	**13.7**	0.3	0.00003	0.0004	0.6320
(Replicate B)		13-Sep-2023	**5.74**	0.1	0.1	0.5740	**142**	1.3	0.00003	0.0043	**---**	---	---	---	**67.5**	0.9	0.00003	0.0020	**0.38** [#3]	0.0	0.03	0.0114	**11.8**	0.5	0.00003	0.0004	0.6436
White Sucker	**1+**	1-Feb-2011	**9.3**	2.0	0.1	0.9300	**248**	2.0	0.00003	0.0074	**50.4**	2.0	0.00003	0.0015	**133**	4.0	0.00003	0.0040	**< 2.0**	2.0	0.03	0.0300	**21.6**	2.0	0.00003	0.0006	**1.0606**
		22-Sep-2014	**0.789**	0.547	0.1	0.0789	**29.1** [#2]	0.504	0.00003	0.0009	**---**	---	---	---	**13.6**	0.371	0.00003	0.0004	**< 0.401**	0.401	0.03	0.0060	**2.1**	0.0653	0.00003	0.0001	0.0945
	2+	1-Feb-2011	**< 1.0**	1.0	0.1	0.0500	**28.3**	1.0	0.00003	0.0008	**3.7**	1.0	0.00003	0.0001	**15.0**	2.0	0.00003	0.0005	**< 1.0**	1.0	0.03	0.0150	**4.8**	1.0	0.00003	0.0001	0.0726
		22-Sep-2014	**1.35**	0.824	0.1	0.1350	**54.7** [#2]	0.195	0.00003	0.0016	**---**	---	---	---	**25.3**	0.136	0.00003	0.0008	**< 0.534**	0.534	0.03	0.0080	**4.82**	0.0574	0.00003	0.0001	0.1579
	3+	1-Feb-2011	**< 2.0**	2.0	0.1	0.1000	**23.5** [#3]	5.0	0.00003	0.0007	**< 5.0**	5.0	0.00003	0.0001	**< 8.0**	8.0	0.00003	0.0001	**< 2.0**	2.0	0.03	0.0300	**< 4.0**	4.0	0.00003	0.0001	0.1416
	6+	7-Sep-2007	**<1.0**	1.0	0.1	0.0500	**33**	0.7	0.00003	0.0010	**5.2**	0.8	0.00003	0.0002	**17**	0.8	0.00003	0.0005	**<0.9**	0.9	0.03	0.0135	**4.3**	0.6	0.00003	0.0001	0.0726
	7+	7-Sep-2007	**<1.4**	1.4	0.1	0.0700	**48**	1.2	0.00003	0.0014	**6.8**	1.2	0.00003	0.0002	**29**	1.2	0.00003	0.0009	**<1.4**	1.4	0.03	0.0210	**6.9**	1.0	0.00003	0.0002	0.1032
	8+	7-Sep-2007	**<1**	1.0	0.1	0.0500	**38**	0.9	0.00003	0.0011	**<0.9**	0.9	0.00003	0.00001	**21**	0.9	0.00003	0.0006	**<1.1**	1.0	0.03	0.0150	**4.1**	0.8	0.00003	0.0001	0.0741
		11-Aug-2009	**<11.3**	11.3	0.1	0.5650	**45.5**	8.6	0.00003	0.0014	**<11.8**	11.8	0.00003	0.0002	**31**	11.9	0.00003	0.0009	**<11.8**	11.8	0.03	0.1770	**<9**	9.0	0.00003	0.0001	0.7612
	9+	7-Sep-2007	**<1.1**	1.1	0.1	0.0550	**67**	0.9	0.00003	0.0020	**9.4**	0.9	0.00003	0.0003	**39**	0.9	0.00003	0.0012	**<1.1**	1.1	0.03	0.0165	**7.5**	0.8	0.00003	0.0002	0.0895
	10+	11-Aug-2009	**<9.3**	9.3	0.1	0.4650	**36.6**	7.7	0.00003	0.0011	**<9.6**	9.6	0.00003	0.0001	**25.3**	9.6	0.00003	0.0008	**<8.2**	8.2	0.03	0.1230	**<5.8**	5.8	0.00003	0.0001	0.6006
Brook Trout (Muscle only)	**3+**	1-Feb-2012	**6.6** [#3]	2.0	0.1	0.6600	**179**	4.0	0.00003	0.0054	**35.3**	4.0	0.00003	0.0011	**81.7**	6.0	0.00003	0.0025	**< 2.0**	2.0	0.03	0.0300	**9.2** [#3]	3.0	0.00003	0.0003	0.7761
Brook Trout (Skin Only)	**3+**	1-Feb-2012	**11.9**	2.0	0.1	1.1900	**381**	3.0	0.00003	0.0114	**67.4**	3.0	0.00003	0.0020	**180**	4.0	0.00003	0.0054	**< 2.0**	2.0	0.03	0.0300	**30.3**	3.0	0.00003	0.0009	**1.4096**
	2+	1-Sep-2012	**< 3.0**	3.0	0.1	0.1500	**53.0**	2.0	0.00003	0.0016	**7.7**	2.0	0.00003	0.0002	**31.9**	2.0	0.00003	0.0010	**< 2.0**	2.0	0.03	0.0300	**11.3**	2.0	0.00003	0.0003	0.1943
	3+	1-Sep-2012	**< 1.0**	1.0	0.1	0.0500	**9.7** [#3]	1.0	0.00003	0.0003	**< 1.0**	1.0	0.00003	0.00002	**6.1**	1.0	0.00003	0.0002	**< 1.0**	1.0	0.03	0.0150	**< 0.80**	0.8	0.00003	0.00001	0.0696
		1-Sep-2012	**< 2.0**	2.0	0.1	0.1000	**65.0**	2.0	0.00003	0.0020	**13.5** [#3]	2.0	0.00003	0.0004	**32.6**	2.0	0.00003	0.0010	**< 2.0**	2.0	0.03	0.0300	**< 2.0**	2.0	0.00003	0.00003	0.1515
Forage Fish	**---**	4-Nov-2014	**4.35**	2.260	0.1	0.4350	**177** [#2]	1.280	0.00003	0.0053	**---**	---	---	---	**74.7**	1.300	0.00003	0.0022	**<0.861**	0.861	0.03	0.0129	**13.4**	0.091	0.00003	0.0004	0.5014
Aquatic Invertebrates	**---**	22-Aug-2014	**32.4**	16.200	0.1	3.2400	**638** [#2]	4.140	0.00003	0.0191	**---**	---	---	---	**268**	3.140	0.00003	0.0080	**<4.25**	4.25	0.03	0.0638	**45.3**	0.295	0.00003	0.0014	**3.5293**
Edith Lake																											
Brook Trout	**1+**	11-Aug-2009	**<1.7**	1.7	0.1	0.0850	**10.9**	2.6	0.00003	0.0003	**3.6**	2.4	0.00003	0.0001	**4.5**	2.4	0.00003	0.0001	**<2.6**	2.6	0.03	0.0390	**<1.7**	1.7	0.00003	0.00003	0.1304
		1-Sep-2011	**<3.0**	3.0	0.1	0.1500	**38**	3.0	0.00003	0.0011	**11.1**	4.0	0.00003	0.0003	**18.2** [#3]	3.0	0.00003	0.0005	**<3**	3.0	0.03	0.0450	**<8**	8.0	0.00003	0.00002	0.2089
(Duplicate)		1-Sep-2011	**<1.0**	1.0	0.1	0.0500	**15.7** [#3]	1.0	0.00003	0.0005	**4.8** [#3]	1.0	0.00003	0.0001	**11.4** [#3]	1.0	0.00003	0.0003	**<1.0**	1.0	0.03	0.0150	**<1.0**	1.0	0.00003	0.0002	0.0743
		1-Sep-2012	**< 0.80**	0.8	0.1	0.0400	**52.3**	0.8	0.00003	0.0016	**12.5**	0.8	0.00003	0.0004	**26.6**	0.7	0.00003	0.0008	**< 0.70**	0.70	0.03	0.0105	**6.39** [#3]	0.5	0.00003	0.0002	0.0750
		22-Sep-2015	**3.53** [#3]	1.300	0.1	0.3530	**86.9** [#2]	1.380	0.00003	0.0026	**---**	---	---	---	**41.8**	1.120	0.00003	0.0013	**< 1.49**	1.490	0.03	0.0224	**6.78**	0.2	0.00003	0.0002	0.4173
		30-Aug-2016	**0.857**	0.221	0.1	0.0857	**33.7**	0.055	0.00003	0.0010	**9.4**	0.1	0.00003	0.0003	**22.7**	0.055	0.00003	0.0007	**0.236**	0.055	0.03	0.0071	**5.23**	0.1	0.00003	0.0002	0.1065
		13-Sep-2017	**1.23**	0.443	0.1	0.1230	**53.5**	0.567	0.00003	0.0016	**---**	---	---	---	**27**	0.477	0.00003	0.0008	**< 0.493**	0.493	0.03	0.0074	**5.89**	0.2	0.00003	0.0002	0.1487

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																						
			126				156				157				167				169				189				Total
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	PCB TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.79**
		30-Aug-2018	**0.866**	0.218	0.1	0.0866	**26.6**	0.055	0.00003	0.0008	**7.33**	0.055	0.00003	0.0002	**17.7**	0.055	0.00003	0.0005	**0.236**	0.055	0.03	0.0071	**3.43**	0.3	0.00003	0.0001	0.1045
(Replicate A)		6-Sep-2019	**1.03** [#3]	0.613	0.1	0.1030	**36.9** [#2]	0.661	0.00003	0.0011	**---**	---	---	---	**18.4**	0.510	0.00003	0.0006	**<0.571**	0.571	0.03	0.0086	**3.66**	0.2	0.00003	0.0001	0.1257
(Replicate B)		6-Sep-2019	**1.12** [#3]	0.535	0.1	0.1120	**44.1** [#2]	0.772	0.00003	0.0013	**---**	---	---	---	**22**	0.577	0.00003	0.0007	**<0.631**	0.631	0.03	0.0095	**4.97**	0.3	0.00003	0.0001	0.1379

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																				Total
			126				156				157				167				169				189				
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	PCB TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**0.79**
Edith Lake - Continued																											
		26-Aug-2020	**0.877**	0.219	0.1	0.0877	**23.2**	0.058	0.00003	0.0007	**7.23**	0.1	0.00003	0.0002	**15.5**	0.058	0.00003	0.0005	**0.16**	0.058	0.03	0.0048	**3.33**	0.1	0.00003	0.0001	0.1036
		30-Sep-2021	**0.43**	0.036	0.1	0.0430	**10.3**	0.260	0.00003	0.0003	---	---	---	---	**5.3**	0.180	0.00003	0.0002	**0.133**	0.096	0.03	0.0040	**0.91** [#3]	0.1	0.00003	0.0000	0.0512
		13-Oct-2022	**0.659**	0.024	0.1	0.0659	**10.5**	1.1	0.00003	0.0003	---	---	---	---	**6.34**	0.840	0.00003	0.0002	**0.168**	0.031	0.03	0.0050	**1.86**	0.360	0.00003	0.0001	0.0749
		14-Sep-2023	**0.506**	0.038	0.1	0.0506	**11.7**	0.7	0.00003	0.0004	---	---	---	---	**6.67**	0.530	0.00003	0.0002	**0.17** [#3]	0.025	0.03	0.0051	**1.23**	0.370	0.00003	0.0000	0.0602
	2+	11-Aug-2009	**<2.2**	2.2	0.1	0.1100	**12.1**	2.8	0.00003	0.0004	**4.2**	2.8	0.00003	0.0001	**8.7**	2.8	0.00003	0.0003	**<3.0**	3.0	0.03	0.0450	**<2.1**	2.1	0.00003	0.00003	0.1614
		11-Aug-2010	**4.7**	1.0	0.1	0.4700	**152**	1.5	0.00003	0.0046	**31.1**	1.5	0.00003	0.0009	**82.4**	1.5	0.00003	0.0025	**< 1.3**	1.3	0.03	0.0195	**12.5**	1.0	0.00003	0.0004	0.5721
		1-Sep-2011	**5.7** [#3]	5.7	0.1	0.5700	**140**	2.0	0.00003	0.0042	**27.9**	2.0	0.00003	0.0008	**68.9**	2.9	0.00003	0.0021	**< 2.0**	2.0	0.03	0.0300	**12.5** [#3]	1.0	0.00003	0.0004	0.6894
		1-Sep-2012	**6.66**	0.9	0.1	0.6660	**134**	0.7	0.00003	0.0040	**28.4**	0.8	0.00003	0.0009	**74.2**	0.7	0.00003	0.0022	**< 0.70**	0.7	0.03	0.0105	**8.76**	0.5	0.00003	0.0003	0.7608
		1-Sep-2013	**12.8**	4.6	0.1	1.2800	**319** [#2]	1.230	0.00003	0.0096	---	---	---	---	**144**	0.932	0.00003	0.0043	**< 2.28**	2.280	0.03	0.0342	**15**	0.139	0.00003	0.0005	**1.4731**
		21-Sep-2014	**4.87**	1.770	0.1	0.4870	**180** [#2]	0.762	0.00003	0.0054	---	---	---	---	**81.9**	0.543	0.00003	0.0025	**< 0.964**	0.964	0.03	0.0145	**7.45**	0.110	0.00003	0.0002	0.5693
(Replicate A)		21-Sep-2014	**4.02**	1.400	0.1	0.4020	**149** [#2]	0.839	0.00003	0.0045	---	---	---	---	**61**	0.577	0.00003	0.0018	**< 0.971**	0.971	0.03	0.0146	**5.87**	0.086	0.00003	0.0002	0.4710
(Replicate B)		21-Sep-2014	**0.989**	0.298	0.1	0.0989	**26.4** [#2]	0.176	0.00003	0.0008	---	---	---	---	**13.1**	0.123	0.00003	0.0004	**< 0.379**	0.379	0.03	0.0057	**1.62**	0.058	0.00003	0.0000	0.1139
		22-Sep-2015	**0.541** [#3]	0.358	0.1	0.0541	**12.4** [#2]	0.420	0.00003	0.0004	---	---	---	---	**6.56**	0.350	0.00003	0.0002	**< 0.367**	0.367	0.03	0.0055	**1.36**	0.109	0.00003	0.0000	0.0649
		30-Aug-2016	**5.4**	0.337	0.1	0.5400	**127**	0.056	0.00003	0.0038	**25.6**	0.1	0.00003	0.0008	**68.7**	0.056	0.00003	0.0021	**0.263** [#3]	0.056	0.03	0.0079	**10.4**	0.056	0.00003	0.0003	0.6169
		13-Sep-2017	**0.488** [#3]	0.345	0.1	0.0488	**32.7** [#2]	0.390	0.00003	0.0010	---	---	---	---	**17.2**	0.345	0.00003	0.0005	**< 0.347**	0.347	0.03	0.0052	**3.5**	0.216	0.00003	0.0001	0.0647
		30-Aug-2018	**1.08**	0.205	0.1	0.1080	**24.5**	0.055	0.00003	0.0007	**6.84**	0.055	0.00003	0.0002	**16.5**	0.055	0.00003	0.0005	**0.264** [#3]	0.055	0.03	0.0079	**2.79**	0.113	0.00003	0.0001	0.1271
(Replicate A)		6-Sep-2019	**0.418** [#3]	0.399	0.1	0.0418	**18.6** [#2]	0.387	0.00003	0.0006	---	---	---	---	**9.79**	0.282	0.00003	0.0003	**<0.299**	0.299	0.03	0.0045	**2.33**	0.120	0.00003	0.0001	0.0526
(Replicate B)		6-Sep-2019	**0.719** [#3]	0.157	0.1	0.0719	**26.9** [#2]	0.934	0.00003	0.0008	---	---	---	---	**13.6**	0.723	0.00003	0.0004	**<0.882**	0.882	0.03	0.0132	**2.71**	0.147	0.00003	0.0001	0.0958
		26-Aug-2020	**1.17**	0.230	0.1	0.1170	**30.5**	0.064	0.00003	0.0009	**8.87**	0.1	0.00003	0.0003	**20.2**	0.063	0.00003	0.0006	**0.300**	0.082	0.03	0.0090	**4.76**	0.058	0.00003	0.0001	0.1403
		30-Sep-2021	**0.726**	0.039	0.1	0.0726	**12.9**	0.240	0.00003	0.0004	---	---	---	---	**7.6**	0.170	0.00003	0.0002	**0.166**	0.053	0.03	0.0050	**1.03**	0.050	0.00003	0.0000	0.0839
		13-Oct-2022	**13**	0.069	0.1	1.3000	**99.5**	0.500	0.00003	0.0030	---	---	---	---	**58.6**	0.370	0.00003	0.0018	**0.884**	0.058	0.03	0.0265	**6.63**	0.120	0.00003	0.0002	**1.3863**
		14-Sep-2023	**1.8**	0.029	0.1	0.1800	**34.4**	0.490	0.00003	0.0010	---	---	---	---	**20.1**	0.350	0.00003	0.0006	**0.175**	0.015	0.03	0.0053	**3.7** [#3]	0.180	0.00003	0.0001	0.2010
	3+	11-Aug-2010	**9**	1.0	0.1	0.9000	**147**	1.4	0.00003	0.0044	**32.5**	1.4	0.00003	0.0010	**86.8**	1.4	0.00003	0.0026	**< 1.2**	1.2	0.03	0.0180	**9.05**	0.9	0.00003	0.0003	**1.0192**
		1-Sep-2011	**12.6**	4.0	0.1	1.2600	**137**	3.0	0.00003	0.0041	**32.3**	4.0	0.00003	0.0010	**63.8** [#3]	3.0	0.00003	0.0019	**< 4.0**	4.0	0.03	0.0600	**7.9** [#3]	2.0	0.00003	0.0002	**1.4066**
		1-Sep-2012	**7.9** [#3]	1.0	0.1	0.7900	**177**	0.8	0.00003	0.0053	**35.0**	0.9	0.00003	0.0011	**93.1**	0.8	0.00003	0.0028	**< 0.80**	0.8	0.03	0.0120	**11.1**	0.6	0.00003	0.0003	**0.9072**
		1-Sep-2013	**16.1**	4.600	0.1	1.6100	**375** [#2]	1.230	0.00003	0.0113	---	---	---	---	**181**	0.932	0.00003	0.0054	**< 2.46**	2.460	0.03	0.0369	**20.2**	0.139	0.00003	0.0006	**1.8402**
(Duplicate)		1-Sep-2013	**13.4**	4.600	0.1	1.3400	**334** [#2]	1.230	0.00003	0.0100	---	---	---	---	**161**	0.932	0.00003	0.0048	**< 2.62**	2.620	0.03	0.0393	**18.3**	0.139	0.00003	0.0005	**1.5491**
(Duplicate) [#4]		1-Sep-2013	**23.3**	4.600	0.1	2.3300	**374**	1.230	0.00003	0.0112	**90.8**	1.2	0.00003	0.0027	**218**	0.932	0.00003	0.0065	**< 3.0**	3.000	0.03	0.0450	**27.5**	0.139	0.00003	0.0008	**2.6448**
(Replicate B)		1-Sep-2013	**31.2**	4.600	0.1	3.1200	**340** [#2]	1.230	0.00003	0.0102	---	---	---	---	**173**	0.932	0.00003	0.0052	**< 3.12**	3.120	0.03	0.0468	**20.6**	0.139	0.00003	0.0006	**3.3406**
		21-Sep-2014	**11.3**	4.180	0.1	1.1300	**261** [#2]	1.270	0.00003	0.0078	---	---	---	---	**120**	0.885	0.00003	0.0036	**< 1.83**	1.830	0.03	0.0275	**11.6**	0.112	0.00003	0.0003	**1.2855**
(Replicate A)		21-Sep-2014	**5.63**	2.100	0.1	0.5630	**159** [#2]	0.478	0.00003	0.0048	---	---	---	---	**62.3**	0.328	0.00003	0.0019	**< 1.07**	1.070	0.03	0.0161	**8.3**	0.096	0.00003	0.0002	0.6491
(Replicate B)		21-Sep-2014	**5.71**	3.600	0.1	0.5710	**179** [#2]	0.733	0.00003	0.0054	---	---	---	---	**87.9**	0.519	0.00003	0.0026	**< 1.36**	1.360	0.03	0.0204	**10.2**	0.124	0.00003	0.0003	0.6699
		22-Sep-2015	**5.03** [#3]	2.030	0.1	0.5030	**135** [#2]	2.540	0.00003	0.0041	---	---	---	---	**59.6**	2.160	0.00003	0.0018	**< 2.48**	2.480	0.03	0.0372	**6.52**	0.102	0.00003	0.0002	0.6131
(Duplicate)		22-Sep-2015	**5.71** [#3]	2.840	0.1	0.5710	**130** [#2]	1.530	0.00003	0.0039	---	---	---	---	**58.6**	1.320	0.00003	0.0018	**< 2.16**	2.160	0.03	0.0324	**6.62**	0.155	0.00003	0.0002	0.6730
		30-Aug-2016	**7.37**	0.271	0.1	0.7370	**144**	0.058	0.00003	0.0043	**29.8**	0.1	0.00003	0.0009	**74**	0.058	0.00003	0.0022	**0.446**	0.058	0.03	0.0134	**9.25**	0.058	0.00003	0.0003	**0.8345**
		13-Sep-2017	**3.02**	0.695	0.1	0.3020	**79.4** [#2]	0.305	0.00003	0.0024	---	---	---	---	**35.7**	0.247	0.00003	0.0011	**< 0.509**	0.509	0.03	0.0076	**4.87**	0.223	0.00003	0.0001	0.3472
(Duplicate)		13-Sep-2017	**2.96**	0.562	0.1	0.2960	**71.4** [#2]	0.362	0.00003	0.0021	---	---	---	---	**33.7**	0.294	0.00003	0.0010	**< 0.519**	0.519	0.03	0.0078	**4.97**	0.218	0.00003	0.0001	0.3374
		30-Aug-2018	**2**	0.221	0.1	0.2000	**27.6**	0.057	0.00003	0.0008	**6.79**	0.057	0.00003	0.0002	**17.4**	0.057	0.00003	0.0005	**0.382**	0.057	0.03	0.0115	**3.04**	0.162	0.00003	0.0001	0.2226
		6-Sep-2019	**1.53** [#3]	0.919	0.1	0.1530	**42.6** [#2]	0.313	0.00003	0.0013	---	---	---	---	**21.2**	0.268	0.00003	0.0006	**<0.929**	0.929	0.03	0.0139	**3.83**	0.087	0.00003	0.0001	0.1807
(Duplicate)		6-Sep-2019	**2.05** [#3]	0.689	0.1	0.2050	**46.9** [#2]	0.550	0.00003	0.0014	---	---	---	---	**22.5**	0.419	0.00003	0.0007	**<0.477**	0.477	0.03	0.0072	**4.19**	0.095	0.00003	0.0001	0.2281
		26-Aug-2020	**1.3**	0.267	0.1	0.1300	**23.8**	0.057	0.00003	0.0007	**6.05**	0.1	0.00003	0.0002	**15.2**	0.057	0.00003	0.0005	**0.272**	0.057	0.03	0.0082	**3.03**	0.057	0.00003	0.0001	0.1506
(Duplicate)		26-Aug-2020	**0.983**	0.281	0.1	0.0983	**26**	0.074	0.00003	0.0008	**7.49**	0.1	0.00003	0.0002	**17.1**	0.070	0.00003	0.0005	**0.239** [#3]	0.095	0.03	0.0072	**4.16**	0.058	0.00003	0.0001	0.1177
		30-Sep-2021	**1.26**	0.098	0.1	0.1260	**23**	0.540	0.00003	0.0007	---	---	---	---	**12.0** [#3]	0.400	0.00003	0.0004	**0.27** [#3]	0.110	0.03	0.0081	**1.76**	0.210	0.00003	0.0001	0.1447
		13-Oct-2022	**1.72**	0.066	0.1	0.1720	**28.1**	0.380	0.00003	0.0008	---	---	---	---	**15.3**	0.280	0.00003	0.0005	**0.25**	0.044	0.03	0.0075	**2.22**	0.110	0.00003	0.0001	0.1926
		14-Sep-2023	**2.98**	0.034	0.1	0.2980	**42.5**	1.300	0.00003	0.0013	---	---	---	---	**22.7**	0.950	0.00003	0.0007	**0.44** [#3]	0.031	0.03	0.0132	**4** [#3]	0.490	0.00003	0.0001	0.3330
(Duplicate)		14-Sep-2023	**3.62**	0.030	0.1	0.3620	**46.5**	1.200	0.00003	0.0014	---	---	---	---	**25.8**	0.910	0.00003	0.0008	**0.51** [#3]	0.017	0.03	0.0153	**4.8**	0.360	0.00003	0.0001	0.4004
	4+	23-Sep-2006	**17**	0.2	0.1	1.7000	**500**	0.2	0.00003	0.0150	**71**	0.2	0.00003	0.0021	**250**	0.2	0.00003	0.0075	**<0.20**	0.2	0.03	0.0030	**32**	0.2	0.00003	0.0010	**1.9881**
		1-Sep-2011	**14**	3.0	0.1	1.4000	**330**	2.0	0.00003	0.0099	**71.5** [#3]	2.0	0.00003	0.0021	**202**	3.0	0.00003	0.0061	**<2.0**	2.0	0.03	0.0300	**21**	1.0	0.00003	0.0006	**1.6623**
		1-Sep-2013	**16.4**	0.182	0.1	1.6400	**470** [#2]	0.207	0.00003	0.0141	---	---	---	---	**202**	0.152	0.00003	0.0061	**<3.1**	3.100	0.03	0.0465	**22.2**	0.210	0.00003	0.0007	**1.9140**
		21-Sep-2014	**15**	4.370	0.1	1.5000	**314** [#2]	1.520	0.00003	0.0094	---	---	---	---	**154**	1.110	0.00003	0.0046	**< 2.4**	2.400	0.03	0.0360	**17**	0.116	0.00003	0.0005	**1.7028**
		22-Sep-2015	**6.82** [#3]	0.401	0.1	0.6820	**174** [#2]	1.830	0.00003	0.0052	---	---	---	---	**76.1**	1.590	0.00003	0.0023	**< 2.29**	2.290	0.03	0.0344	**10.9**	0.140	0.00003	0.0003	**0.8118**
(Replicate A)		22-Sep-2015	**14.7** [#3]	7.390	0.1	1.4700	**292** [#2]	2.750	0.00003	0.0088	---	---	---	---	**132**	2.300	0.00003	0.0040	**< 4.76**	4.760	0.03	0.0714	**13.8**	0.152	0.00003	0.0004	**1.6982**
		30-Aug-2016	**7.13**	0.322	0.1	0.7130	**138**	0.057	0.00003	0.0041	**29.6**	0.1	0.00003	0.0009	**75.1**	0.057	0.00003	0.0023	**0.531** [#3]	0.057	0.03	0.0159	**9.1**	0.057	0.00003	0.0003	**0.8150**
		13-Sep-2017	**3.49**	0.593	0.1	0.3490	**86** [#2]	0.324	0.00003	0.0026	---	---	---	---	**36.1**	0.271	0.00003	0.0011	**< 0.573**	0.573	0.03	0.0086	**4.43**	0.181	0.00003	0.0001	0.4018
		30-Aug-2018	**2.48**	0.414	0.1	0.2480	**46.1**	0.056	0.00003	0.0014	**10.2**	0.056	0.00003	0.0003	**27**	0.056	0.00003	0.0008	**0.318** [#3]	0.056	0.03	0.0095	**3.18**	0.099	0.00003	0.0001	0.2828
		26-Aug-2020	**1.41**	0.207	0.1	0.1410	**20.9**	0.058	0.00003	0.0006	**5.81**	0.058	0.00003	0.0002	**14**	0.058	0.00003	0.0004	**0.283**	0.058	0.03	0.0085	**2.31**	0.058	0.00003	0.0001	0.1613
		14-Sep-2023	**2.09**	0.029	0.1	0.2090	**34.4**	0.830	0.00003	0.0010	---	---	---	---	**18.4**	0.610	0.00003	0.0006	**0.342**	0.027	0.03	0.0103	**2.93**	0.320	0.00003	0.0001	0.2359
	5+	23-Sep-2006	**3.8**	0.2	0.1	0.3800	**130**	0.1	0.00003	0.0039	**16**	0.1	0.00003	0.0005	**63**	0.1	0.00003	0.0019	**<0.10**	0.1	0.03	0.0015	**7.5**	0.100	0.00003	0.0002	0.4594
		1-Sep-2011	**7.3** [#3]	2.0	0.1	0.7300	**171**	2.0	0.00003	0.0051	**38.8**	2.0	0.00003	0.0012	**98.7**	2.0	0.00003	0.0030	**<2.0**	2.0	0.03	0.0300	**11.8**	1.000	0.00003	0.0004	**0.8756**
		1-Sep-2013	**12.4**	2.000	0.1	1.2400	**225** [#2]	2.0	0.00003	0.0068	---	---	---	---	**106**	2.000	0.00003	0.0032	**<2.98**	2.980	0.03	0.0300	**11.8**	1.000	0.00003	0.0004	**1.4040**
		21-Sep-2014	**8.56**	5.740	0.1	0.8560	**274** [#2]	1.410	0.00003	0.0082	---	---	---	---	**119**	1.040	0.00003	0.0036	**< 1.67**	1.670	0.03	0.0251	**13.4**	0.136	0.00003	0.0004	**1.0036**
		30-Aug-2016	**35.7**	1.340	0.1	3.5700	**536**	0.057	0.00003	0.0161	**121**	0.1	0.00003	0.00363	**323**	0.057	0.00003	0.0097	**1.94**	0.057	0.03	0.0582	**42.4**	0.057	0.00003	0.0013	**3.9303**
		30-Sep-2021	**2.05**	0.120	0.1	0.2050	**32.6**	0.360	0.00003	0.0010	---	---	---	---	**19.4**	0.250	0.00003	0.0006	**0.612**	0.084	0.03	0.0184	**3.14**	0.092	0.00003	0.0001	0.2383
	6+	14-Sep-2023	**2.94**	0.038	0.1	0.2940	**37.8**	0.620	0.00003	0.0011	---	---	---	---	**22.6**	0.450	0.00003	0.0007	**0.692**	0.018	0.03	0.0208	**3.22**	0.230	0.00003	0.0001	0.3347
	11+	7-Sep-2007	**<1.3**	1.3	0.1	0.0650	**86**	1.1	0.00003	0.0026	**16**	1.0	0.00003	0.0005	**47**	1.1	0.00003	0.0014	**<1.2**	1.2	0.03	0.0180	**6.6**	0.9	0.00003	0.0002	0.1413
	12+	7-Sep-2007	**4**	1.3	0.1	0.4000	**68**	1.0	0.00003	0.0020	**12**	1.0	0.00003	0.0004	**37**	1.0	0.00003	0.0011	**<1.2**	1.2	0.03	0.0180	**5.9**	0.8	0.00003	0.0002	0.4582
	Unknown	24-Jul-2008	**<0.9**	0.9	0.1	0.0450	**27**	0.4	0.00003	0.0008	**8.3**	0.4	0.00003	0.0002	**12**	0.4	0.00003	0.0004	**<0.4**	0.4	0.03	0.0060	**2.3**	0.3	0.00003	0.0001	0.0734
(Replicate A)		25-Jul-2008	**<0.9**	0.9	0.1	0.0450	**14**	0.4	0.00003	0.0004	**3.7**	0.4	0.00003	0.0001	**9**	0.4	0.00003	0.0003	**<0.4**	0.4	0.03	0.0060	**2.3**	0.3	0.00003	0.0001	0.0584
(Replicate B)		26-Jul-2008	**1**	0.9	0.1	0.1000	**17**	0.4	0.00003	0.0005	**4.3**	0.4	0.00003	0.0001	**11**	0.4	0.00003	0.0003	**<0.4**	0.4	0.03	0.0060	**2.4**	0.3	0.00003	0.0001	0.1177
(Replicate C)		27-Jul-2008	**<0.8**	0.8	0.1	0.0400	**12**	0.3	0.00003	0.0004	**3.4**	0.3	0.00003	0.0001	**7.6**	0.3	0.00003	0.0002	**<0.4**	0.4	0.03	0.0060	**1.8**	0.2	0.00003	0.0001	0.0526
Brook Trout (Stomach)	**1+**	1-Sep-2012	**< 3.0**	3.0	0.1	0.1500	**12.4**	2.0	0.00003	0.0004	**< 2.0**	2.0	0.00003	0.00003	**< 2.0**	2.0	0.00003	0.00003	**< 2.0**	2.0	0.03	0.0300	**< 1.0**	1.0	0.00003	0.00002	0.1851
	2+	1-Sep-2012	**< 0.30**	0.3	0.1	0.0150	**1.78** [#3]	0.2	0.00003	0.0001	**0.70**	0.2	0.00003	0.0000	**1.12** [#3]	0.2	0.00003	0.0000	**< 0.20**	0.2	0.03	0.0030	**< 0.10**	0.1	0.00003	0.000002	0.0192
	3+	1-Sep-2012	**143**	0.8	0.1	14.30	**2400**	0.8	0.00003	0.0720	**498**	0.8	0.00003	0.0149	**1150**	0.8	0.00003	0.0345	**2.84** [#3]	0.7	0.03	0.0852	**80.9**	0.3	0.00003	0.0024	**16.1414**
(Re-analysis)		1-Sep-2012	**332**	3.0	0.1	33.20	**4700**	2.0	0.00003	0.1410	**996**	2.0	0.00003	0.0299	**2250**	3.0	0.00003	0.0675	**7.8**	2.0	0.03	0.2340	**153**	1.0	0.00003	0.0046	**36.8961**

Notes: 1. Superscript [#1] - Congener 123 does not coelute with other congeners during analysis, results before 2013 are based on the 107/109/123 coelution
2. Superscript [#2] - Reported result is based on the coelution of the coplanar congeners 156/157.
3. Superscript [#3] - Result does not meet all quantification criteria and value denotes the estimated maximum possible concentration (EMPC)
4. Superscript [#4] - Duplicate analyzed by alternative laboratory

Table C.3

Project Number: 317011-00057

Coplanar PCB Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and Hatchery Fish (2006-2023)

Sample Location	Age Class	Sample Date	Congener IUPAC No. - Concentration (pg/g ww)																						
			126				156				157				167				169				189				Total
			Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	PCB TEQ
CCME Tissue Residue 2001			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.79

5. TEQ - 2, 3, 7, 8, TCDD Toxic Equivalency Quotient.
6. TEF - World Health Organization - Toxic Equivalency Factor for Mammals.
7. Values exceed CCME (2001) Mammalian Tissue Residue Guideline for the Protection of Wildlife Consumers of Aquatic Biota, (CCME, 1999 and updated 2001)

worley consulting

PROJECT No.: 317011-00057

Table C.4

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																					
Brook Trout 0+	24-Jun-1997	**< 0.20**	0.2	1	0.1000	**< 0.1**	0.1	1	0.0500	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100
	25-Jun-1998	**< 0.30**	0.3	1	0.1500	**< 0.4**	0.4	1	0.2000	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	01-Sep-1999	**< 0.30**	0.3	1	0.1500	**< 0.3**	0.3	1	0.1500	**< 0.4**	0.4	0.1	0.0200	**< 0.5**	0.5	0.1	0.0250	**< 0.4**	0.4	0.1	0.0200
	09-Sep-2001	**0.2**	0.1	1	0.2000	**0.3**	0.1	1	0.3000	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**0.3**	0.1	0.1	0.0300
	10-Sep-2002	**< 0.30**	0.3	1	0.1500	**< 0.6**	0.6	1	0.3000	**< 0.6**	0.6	0.1	0.0300	**< 0.6**	0.6	0.1	0.0300	**< 0.6**	0.6	0.1	0.0300
	5-Sep-2003	**<0.20**	0.2	1	0.1000	**<0.10**	0.1	1	0.0500	**<0.1**	0.1	0.1	0.0050	**<0.1**	0.1	0.1	0.0050	**<0.1**	0.1	0.1	0.0050
	9-Sep-2004	**0.1**	0.1	1	0.1000	**0.2**	0.1	1	0.0500	**<0.10**	0.1	0.1	0.0050	**<0.10**	0.1	0.1	0.0050	**0.1**	0.1	0.1	0.0100
	10-Sep-2005	**<0.10**	0.1	1	0.0500	**<0.1**	0.1	1	0.0500	**<0.1**	0.1	0.1	0.0050	**<0.1**	0.1	0.1	0.0050	**<0.1**	0.1	0.1	0.0050
	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2009	**< 0.60**	0.6	1	0.3000	**< 0.30**	0.3	1	0.1500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2010	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.30**	0.3	1	0.1500	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.1	0.0100
	01-Sep-2012	**< 0.07**	0.070	1	0.0350	**< 0.10**	0.10	1	0.0500	**< 0.060**	0.060	0.1	0.0030	**< 0.070**	0.070	0.1	0.0035	**< 0.070**	0.07	0.1	0.0035
	01-Sep-2013	**0.069** [#1]	0.0488	1	0.0690	**< 0.0488**	0.0488	1	0.0244	**< 0.0488**	0.0488	0.1	0.0024	**< 0.0488**	0.0488	0.1	0.0024	**< 0.0488**	0.0488	0.1	0.0024
	21-Sep-2014	**< 0.0568**	0.0568	1	0.0284	**< 0.0568**	0.0568	1	0.0284	**< 0.0568**	0.0568	0.1	0.0028	**< 0.0568**	0.0568	0.1	0.0028	**< 0.0568**	0.0568	0.1	0.0028
	22-Sep-2015	**< 0.0563**	0.0563	1	0.0282	**< 0.0563**	0.0563	1	0.0282	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028
	30-Aug-2016	**< 0.0551**	0.0551	1	0.0276	**< 0.0551**	0.0551	1	0.0276	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
	30-Aug-2018	**< 0.0566**	0.0566	1	0.0283	**< 0.0566**	0.0566	1	0.0283	**< 0.0566**	0.0566	0.1	0.0028	**< 0.0566**	0.0566	0.1	0.0028	**< 0.0566**	0.0566	0.1	0.0028
	6-Sep-2019	**< 0.0574**	0.0574	1	0.0287	**< 0.0574**	0.0574	1	0.0287	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	26-Aug-2020	**< 0.0496**	0.0496	1	0.0248	**< 0.0496**	0.0496	1	0.0248	**< 0.0496**	0.0496	0.1	0.00248	**< 0.0496**	0.0496	0.1	0.00248	**< 0.0496**	0.0496	0.1	0.00248
	29-Sep-2021	**< 0.043**	0.043	1	0.0215	**< 0.05**	0.05	1	0.025	**< 0.052**	0.052	0.1	0.0026	**< 0.047**	0.047	0.1	0.00235	**< 0.048**	0.048	0.1	0.0024
	13-Oct-2022	**< 0.034**	0.034	1	0.017	**< 0.032**	0.032	1	0.016	**< 0.047**	0.047	0.1	0.00235	**< 0.044**	0.044	0.1	0.0022	**< 0.047**	0.047	0.1	0.00235
Brook Trout 1+	13-Sep-2017	**<0.059**	0.059	1	0.0295	**0.07** [#1]	0.059	1	0.0700	**<0.059**	0.059	0.1	0.0030	**<0.059**	0.059	0.1	0.0030	**<0.059**	0.059	0.1	0.0030
Chrystina Lake																					
Brook Trout 1+	11-Aug-2009	**< 0.60**	0.6	1	0.3000	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.30**	0.3	1	0.1500	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.1	0.0100
	01-Sep-2012	**< 0.040**	0.040	1	0.0200	**< 0.070**	0.070	1	0.0350	**< 0.050**	0.050	0.1	0.0025	**< 0.060**	0.060	0.1	0.0030	**< 0.060**	0.06	0.1	0.0030
(Replicate A)	01-Sep-2013	**< 0.193**	0.193	1	0.0965	**< 0.193**	0.193	1	0.0965	**< 0.193**	0.193	0.1	0.0097	**< 0.193**	0.193	0.1	0.0097	**< 0.193**	0.193	0.1	0.0097
(Replicate B)	01-Sep-2013	**< 0.0722**	0.0722	1	0.0361	**< 0.0722**	0.0722	1	0.0361	**< 0.0722**	0.0722	0.1	0.0036	**< 0.0722**	0.0722	0.1	0.0036	**< 0.0722**	0.0722	0.1	0.0036
	23-Sep-2015	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
	31-Aug-2016	**< 0.0554**	0.0554	1	0.0277	**< 0.0554**	0.0554	1	0.0277	**< 0.0554**	0.0554	0.1	0.0028	**< 0.0554**	0.0554	0.1	0.0028	**< 0.0554**	0.0554	0.1	0.0028
	12-Sep-2017	**< 0.056**	0.056	1	0.0280	**<0.056**	0.056	1	0.0280	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
	29-Aug-2018	**< 0.056**	0.056	1	0.0280	**0.075**	0.056	1	0.0750	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
(Replicate A)	5-Sep-2019	**< 0.057**	0.057	1	0.0285	**0.075** [#1]	0.057	1	0.0750	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
(Replicate B)	5-Sep-2019	**< 0.0573**	0.0573	1	0.0287	**0.067** [#1]	0.0591	1	0.0670	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
	25-Aug-2020	**< 0.05**	0.05	1	0.0250	**0.068** [#1]	0.05	1	0.0680	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025
	29-Sep-2021	**< 0.041**	0.041	1	0.0205	**< 0.058**	0.058	1	0.029	**< 0.065**	0.065	0.1	0.0033	**< 0.08**	0.08	0.1	0.004	**< 0.088**	0.088	0.1	0.0044
	29-Sep-2021	**< 0.026**	0.026	1	0.013	**< 0.035**	0.035	1	0.0175	**< 0.054**	0.054	0.1	0.0027	**< 0.045**	0.045	0.1	0.00225	**< 0.043**	0.043	0.1	0.0022
	12-Oct-2022	**< 0.021**	0.021	1	0.0105	**< 0.041**	0.041	1	0.0205	**< 0.056**	0.056	0.1	0.0028	**< 0.06**	0.06	0.1	0.003	**< 0.039**	0.039	0.1	0.0020
	13-Sep-2023	**0.0391**	0.026	1	0.0391	**0.05** [#1]	0.04	1	0.05	**< 0.033**	0.033	0.1	0.0017	**0.048** [#1]	0.033	0.1	0.0048	**< 0.039**	0.039	0.1	0.0020
Brook Trout 2+	05-Oct-1995	**< 5.8**	5.8	1	2.9000	**< 3.5**	3.5	1	1.7500	**< 8.5**	8.5	0.1	0.4250	**< 9.7**	9.7	0.1	0.4850	**< 9.0**	9	0.1	0.4500
	26-Jun-1997	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	11-Aug-2009	**< 0.40**	0.4	1	0.2000	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																					
	11-Aug-2010	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.090**	0.09	1	0.0450	**< 0.40**	0.4	1	0.2000	**< 0.080**	0.08	0.1	0.0040	**< 0.10**	0.1	0.1	0.0050	**< 0.090**	0.09	0.1	0.0045
	01-Sep-2012	**< 0.050**	0.050	1	0.0250	**< 0.060**	0.060	1	0.0300	**< 0.050**	0.050	0.1	0.0025	**< 0.060**	0.060	0.1	0.0030	**< 0.050**	0.05	0.1	0.0025
	01-Sep-2013	**0.052** [#1]	0.0489	1	0.0520	**< 0.0489**	0.0489	1	0.0245	**< 0.0489**	0.0489	0.1	0.0024	**0.062** [#1]	0.0489	0.1	0.0062	**< 0.0489**	0.0489	0.1	0.0024
	22-Sep-2014	**< 0.0579**	0.0579	1	0.0290	**< 0.0579**	0.0579	1	0.0290	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
(Replicate A)	22-Sep-2014	**< 0.0573**	0.0573	1	0.0287	**< 0.0573**	0.0573	1	0.0287	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
(Replicate B)	22-Sep-2014	**< 0.056**	0.056	1	0.0280	**< 0.056**	0.056	1	0.0280	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
	23-Sep-2015	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
	31-Aug-2016	**< 0.0557**	0.0557	1	0.0279	**< 0.0557**	0.0557	1	0.0279	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028
	12-Sep-2017	**< 0.0582**	0.0582	1	0.0291	**< 0.0582**	0.0582	1	0.0291	**< 0.0582**	0.0582	0.1	0.0029	**<0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.1	0.0029
(Replicate A)	12-Sep-2017	**< 0.058**	0.058	1	0.0290	**< 0.058**	0.058	1	0.0290	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
	29-Aug-2018	**< 0.056**	0.056	1	0.0280	**0.085** [#1]	0.0593	1	0.0850	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
(Replicate A)	5-Sep-2019	**< 0.0549**	0.0549	1	0.0275	**< 0.0549**	0.0549	1	0.0275	**< 0.0549**	0.0549	0.1	0.0027	**< 0.0549**	0.0549	0.1	0.0027	**< 0.0549**	0.0549	0.1	0.0027
(Replicate B)	5-Sep-2019	**< 0.0579**	0.0579	1	0.0290	**0.07** [#1]	0.0579	1	0.0700	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
	25-Aug-2020	**< 0.0498**	0.0498	1	0.0249	**< 0.0498**	0.0498	1	0.0249	**< 0.0498**	0.0498	0.1	0.0025	**< 0.0498**	0.0498	0.1	0.0025	**< 0.0498**	0.0498	0.1	0.0025
	25-Aug-2020	**< 0.0497**	0.0497	1	0.0249	**< 0.0497**	0.0497	1	0.0249	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.1	0.0025
	29-Sep-2021	**< 0.031**	0.031	1	0.0155	**< 0.044**	0.044	1	0.022	**< 0.036**	0.036	0.1	0.0018	**< 0.047**	0.047	0.1	0.00235	**< 0.06**	0.06	0.1	0.0030
	12-Oct-2022	**< 0.042**	0.042	1	0.021	**< 0.068**	0.068	1	0.034	**< 0.044**	0.044	0.1	0.0022	**< 0.072**	0.072	0.1	0.0036	**< 0.046**	0.046	0.1	0.0023
	13-Sep-2023	**< 0.018**	0.018	1	0.009	**< 0.023**	0.023	1	0.0115	**< 0.032**	0.032	0.1	0.0016	**< 0.032**	0.032	0.1	0.0016	**< 0.035**	0.035	0.1	0.0018
Brook Trout 3+	25-Jun-1997	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.2**	0.2	0.1	0.0100	**< 0.1**	0.1	0.1	0.0050
	04-Sep-2000	**< 0.14**	0.14	1	0.0700	**< 1.1**	1.1	1	0.5500	**< 0.6**	0.6	0.1	0.0300	**< 0.59**	0.59	0.1	0.0295	**< 0.6**	0.6	0.1	0.0300
	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2010	**< 0.30**	0.3	1	0.1500	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	11-Aug-2010	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate A)	01-Sep-2012	**< 0.070**	0.070	1	0.0350	**< 0.090**	0.090	1	0.0450	**< 0.080**	0.080	0.1	0.0040	**< 0.10**	0.10	0.1	0.0050	**< 0.090**	0.09	0.1	0.0045
(Duplicate)	01-Sep-2012	**< 0.080**	0.080	1	0.0400	**< 0.090**	0.090	1	0.0450	**< 0.070**	0.070	0.1	0.0035	**< 0.080**	0.080	0.1	0.0040	**< 0.070**	0.07	0.1	0.0035
(Replicate B)	01-Sep-2012	**< 0.080**	0.080	1	0.0400	**< 0.10**	0.10	1	0.0500	**< 0.080**	0.080	0.1	0.0040	**< 0.090**	0.090	0.1	0.0045	**< 0.080**	0.08	0.1	0.0040
(Replicate C)	01-Sep-2013	**< 0.0644**	0.0644	1	0.0322	**< 0.0644**	0.0644	1	0.0322	**< 0.0644**	0.0644	0.1	0.0032	**< 0.0644**	0.0644	0.1	0.0032	**< 0.0644**	0.0644	0.1	0.0032
(Replicate D)	01-Sep-2013	**< 0.0651**	0.0651	1	0.0326	**< 0.0651**	0.0651	1	0.0326	**< 0.0651**	0.0651	0.1	0.0033	**< 0.0651**	0.0651	0.1	0.0033	**< 0.0651**	0.0651	0.1	0.0033
	22-Sep-2014	**< 0.0578**	0.0578	1	0.0289	**< 0.0578**	0.0578	1	0.0289	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.1	0.0029
(Duplicate)	22-Sep-2014	**< 0.056**	0.056	1	0.0280	**< 0.056**	0.056	1	0.0280	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
(Replicate A)	22-Sep-2014	**0.066** [#1]	0.0567	1	0.0660	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
(Replicate B)	22-Sep-2014	**< 0.0574**	0.0574	1	0.0287	**< 0.0574**	0.0574	1	0.0287	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	23-Sep-2015	**< 0.0572**	0.0572	1	0.0286	**< 0.0572**	0.0572	1	0.0286	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029
	31-Aug-2016	**< 0.0551**	0.0551	1	0.0276	**< 0.0551**	0.0551	1	0.0276	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
(Duplicate)	31-Aug-2016	**< 0.0561**	0.0561	1	0.0281	**< 0.0561**	0.0561	1	0.0281	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028
(Replicate A)	31-Aug-2016	**< 0.0546**	0.0546	1	0.0273	**< 0.0546**	0.0546	1	0.0273	**0.061**	0.0546	0.1	0.0061	**0.061** [#1]	0.0546	0.1	0.0061	**< 0.0546**	0.0546	0.1	0.0027
	12-Sep-2017	**< 0.0559**	0.0559	1	0.0280	**< 0.0559**	0.0559	1	0.0280	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028
(Duplicate)	12-Sep-2017	**< 0.0588**	0.0588	1	0.0294	**< 0.0588**	0.0588	1	0.0294	**< 0.0588**	0.0588	0.1	0.0029	**< 0.0588**	0.0588	0.1	0.0029	**< 0.0588**	0.0588	0.1	0.0029
	29-Aug-2018	**< 0.0493**	0.0493	1	0.0247	**< 0.0493**	0.0493	1	0.0247	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025
(Duplicate)	29-Aug-2018	**< 0.0548**	0.0548	1	0.0274	**< 0.0548**	0.0548	1	0.0274	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027
(Duplicate)	29-Aug-2018	**< 0.0548**	0.0548	1	0.0274	**< 0.0548**	0.0548	1	0.0274	**< 0.0604**	0.0604	0.1	0.0030	**< 0.0604**	0.0604	0.1	0.0030	**< 0.0604**	0.0604	0.1	0.0030
	5-Sep-2019	**< 0.0556**	0.0556	1	0.0278	**< 0.0726**	0.0726	1	0.0363	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028
(Lab - Duplicate)	5-Sep-2019	**< 0.0575**	0.0575	1	0.0288	**< 0.0575**	0.0575	1	0.0288	**< 0.0577**	0.0577	0.1	0.0029	**< 0.0577**	0.0577	0.1	0.0029	**< 0.0577**	0.0577	0.1	0.0029
	29-Sep-2021	**< 0.048**	0.048	1	0.0240	**< 0.049**	0.049	1	0.0245	**< 0.064**	0.064	0.1	0.0032	**< 0.069**	0.069	0.1	0.00345	**< 0.086**	0.086	0.1	0.0043

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																					
	29-Sep-2021	**< 0.069**	0.069	1	0.0345	**< 0.071**	0.071	1	0.0355	**< 0.083**	0.083	0.1	0.0042	**< 0.086**	0.086	0.1	0.0043	**< 0.081**	0.081	0.1	0.0041
	12-Oct-2022	**0.018** [#1]	0.016	1	0.0180	**< 0.036**	0.036	1	0.0180	**< 0.03**	0.03	0.1	0.0015	**< 0.05**	0.05	0.1	0.0025	**< 0.035**	0.035	0.1	0.0018
	13-Sep-2023	**< 0.037**	0.037	1	0.0185	**< 0.034**	0.034	1	0.0170	**< 0.039**	0.039	0.1	0.0020	**< 0.038**	0.038	0.1	0.0019	**< 0.042**	0.042	0.1	0.0021
(Lab - Duplicate)	13-Sep-2023	**< 0.024**	0.024	1	0.0120	**< 0.024**	0.024	1	0.0120	**< 0.037**	0.037	0.1	0.0019	**< 0.034**	0.034	0.1	0.0017	**< 0.039**	0.039	0.1	0.0020
Brook Trout 4+	27-Jun-1998	**< 0.1**	0.1	1	0.0500	**< 0.4**	0.4	1	0.2000	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	01-Sep-1999	**< 0.2**	0.2	1	0.1000	**< 0.3**	0.3	1	0.1500	**< 0.5**	0.5	0.1	0.0250	**< 0.6**	0.6	0.1	0.0300	**< 0.5**	0.5	0.1	0.0250
	10-Sep-2001	**< 0.05**	0.05	1	0.0250	**0.1**	0.1	1	0.1000	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.40**	0.4	1	0.2000	**< 0.10**	0.1	0.1	0.0050	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.1	0.0100
	01-Sep-2013	**0.051** [#1]	0.0496	1	0.0510	**< 0.0496**	0.0496	1	0.0496	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025
	22-Sep-2014	**0.07** [#1]	0.0574	1	0.0700	**0.073** [#1]	0.0574	1	0.0730	**< 0.0574**	0.0574	0.1	0.0029	**0.067** [#1]	0.0574	0.1	0.0067	**< 0.0574**	0.0574	0.1	0.0029
	23-Sep-2015	**< 0.0557**	0.0557	1	0.0279	**< 0.0557**	0.0557	1	0.0279	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028
(Replicate A)	23-Sep-2015	**< 0.0562**	0.0562	1	0.0281	**< 0.0562**	0.0562	1	0.0281	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028
	12-Sep-17	**< 0.0582**	0.0582	1	0.0291	**0.063** [#1]	0.0582	1	0.0630	**< 0.0582**	0.0582	0.1	0.0029	**0.059** [#1]	0.0582	0.1	0.0059	**< 0.0582**	0.0582	0.1	0.0029
(Replicate A)	29-Aug-18	**< 0.0561**	0.0561	1	0.0281	**< 0.0561**	0.0561	1	0.0281	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028
(Replicate B)	29-Aug-18	**< 0.0558**	0.0558	1	0.0279	**0.063** [#1]	0.0558	1	0.0630	**< 0.0578**	0.0578	0.1	0.0029	**0.071**	0.0578	0.1	0.0071	**< 0.0578**	0.0578	0.1	0.0029
(Replicate C)	29-Aug-18	**< 0.0542**	0.0542	1	0.0271	**0.067** [#1]	0.05	1	0.0670	**< 0.0546**	0.0546	0.1	0.0027	**< 0.0546**	0.0546	0.1	0.0027	**< 0.0546**	0.0546	0.1	0.0027
	25-Aug-20	**< 0.0496**	0.0496	1	0.0248	**< 0.0496**	0.0496	1	0.0248	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025
	29-Sep-2021	**< 0.036**	0.036	1	0.018	**< 0.045**	0.045	1	0.0225	**< 0.05**	0.05	0.1	0.0025	**< 0.049**	0.049	0.1	0.00245	**< 0.03**	0.03	0.1	0.0015
Brook Trout 5+	05-Oct-1995	**< 4.0**	4	1	2.0000	**< 4.1**	4.1	1	2.0500	**< 7.6**	7.6	0.1	0.3800	**< 9.4**	9.4	0.1	0.4700	**< 8.4**	8.4	0.1	0.4200
	01-Sep-1999	**< 0.1**	0.1	1	0.0500	**< 0.2**	0.2	1	0.1000	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250
	04-Sep-2000	**< 0.18**	0.18	1	0.0900	**< 0.91**	0.91	1	0.4550	**< 0.48**	0.48	0.1	0.0240	**< 0.47**	0.47	0.1	0.0235	**< 0.48**	0.48	0.1	0.0240
	10-Sep-2002	**< 0.2**	0.2	1	0.1000	**< 0.5**	0.5	1	0.2500	**< 0.7**	0.7	0.1	0.0350	**< 0.7**	0.7	0.1	0.0350	**< 0.7**	0.7	0.1	0.0350
	07-Sep-2003	**< 0.2**	0.2	1	0.1000	**< 0.1**	0.1	1	0.0500	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100	**< 0.1**	0.1	0.1	0.0050
	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2013	**< 0.0712**	0.0712	1	0.0356	**0.075**	0.0712	1	0.0750	**< 0.0712**	0.0712	0.1	0.0036	**< 0.0712**	0.0712	0.1	0.0036	**< 0.0712**	0.0712	0.1	0.0036
	23-Sep-2015	**< 0.0572**	0.0572	1	0.0286	**< 0.0572**	0.0572	1	0.0286	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029
	31-Aug-2016	**< 0.0564**	0.0564	1	0.0282	**< 0.0564**	0.0564	1	0.0282	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028
	12-Sep-2017	**< 0.058**	0.058	1	0.0290	**< 0.058**	0.058	1	0.0290	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
	29-Sep-2021	**< 0.037**	0.037	1	0.0185	**< 0.051**	0.051	1	0.0255	**< 0.053**	0.053	0.1	0.00265	**< 0.054**	0.054	0.1	0.0027	**< 0.044**	0.044	0.1	0.0022
Brook Trout 6+	27-Jun-1998	**< 0.2**	0.2	1	0.1000	**< 0.5**	0.5	1	0.2500	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250
	11-Sep-2001	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
(Duplicate)	10-Sep-2005	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 7+	10-Sep-2002	**< 0.2**	0.2	1	0.1000	**< 0.5**	0.5	1	0.2500	**< 0.7**	0.7	0.1	0.0350	**< 0.8**	0.8	0.1	0.0400	**< 0.8**	0.8	0.1	0.0400
(Duplicate)	10-Sep-2002	**< 0.2**	0.2	1	0.1000	**< 0.4**	0.4	1	0.2000	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250
	06-Sep-2003	**< 0.2**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																					
(Duplicate)	06-Sep-2003	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
(Duplicate)	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**0.1**	0.1	1	0.1000	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 9+	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
Brook Trout 11+	11-Sep-2007	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 12+	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout Unknown	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate A)	23-Jul-2008	**< 0.20**	0.2	1	0.1000	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate B)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**0.11**	0.1	0.1	0.0110	**0.24**	0.1	0.1	0.0240	**0.22**	0.1	0.1	0.0220
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	12-Oct-2022	**< 0.019**	0.019	1	0.0095	**< 0.04**	0.04	1	0.0200	**< 0.039**	0.039	0.1	0.0020	**< 0.027**	0.027	0.1	0.0014	**< 0.03**	0.03	0.1	0.0015
(Replicate A)	13-Sep-2023	**< 0.06**	0.06	1	0.0300	**< 0.059**	0.059	1	0.0295	**< 0.091**	0.091	0.1	0.0046	**0.096**	0.096	0.1	0.0048	**< 0.099**	0.099	0.1	0.0050
(Replicate B)	13-Sep-2023	**< 0.017**	0.017	1	0.0085	**< 0.036**	0.036	1	0.0180	**< 0.022**	0.022	0.1	0.0011	**0.02**	0.02	0.1	0.0010	**< 0.022**	0.022	0.1	0.0011
White Sucker 1+	21-Sep-2014	**< 0.0579**	0.0579	1	0.0290	**< 0.0579**	0.0579	1	0.0290	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
White Sucker 2+	22-Sep-2014	**< 0.0573**	0.0573	1	0.0287	**< 0.0573**	0.0573	1	0.0287	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
White Sucker 5+	25-Jun-1997	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
White Sucker 6+	24-Jun-1997	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	25-Jun-1998	**< 0.2**	0.2	1	0.1000	**< 0.3**	0.3	1	0.1500	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 7+	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 8+	27-Jun-1998	**< 0.4**	0.4	1	0.2000	**< 0.5**	0.5	1	0.2500	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2009	**< 0.50**	0.5	1	0.2500	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 9+	02-Sep-2000	**< 0.28**	0.28	1	0.1400	**< 0.91**	0.91	1	0.4550	**< 0.52**	0.52	0.1	0.0260	**< 0.53**	0.53	0.1	0.0265	**< 0.53**	0.53	0.1	0.0265
	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**0.11**	0.1	0.1	0.0110	**0.14**	0.1	0.1	0.0140	**0.15**	0.1	0.1	0.0150
White Sucker 10+	11-Aug-2009	**< 0.40**	0.4	1	0.2000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 11+	12-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
Forage Fish	4-Nov-2014	**<0.0551**	0.0551	1	0.0276	**<0.0551**	0.0551	1	0.0276	**<0.0551**	0.0551	0.1	0.0028	**<0.0551**	0.0551	0.1	0.0028	**<0.0551**	0.0551	0.1	0.0028
Aquatic Invertebrates	22-Aug-2014	**<0.281**	0.281	1	0.1405	**<0.281**	0.281	1	0.1405	**<0.281**	0.281	0.1	0.0141	**<0.281**	0.281	0.1	0.0141	**<0.281**	0.281	0.1	0.0141
Edith Lake																					
Brook Trout 1+	11-Aug-2009	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.20**	0.2	1	0.1000	**< 0.50**	0.5	1	0.2500	**< 0.20**	0.2	0.1	0.0100	**< 0.30**	0.3	0.1	0.0150	**< 0.30**	0.3	0.1	0.0150
(Duplicate)	01-Sep-2011	**< 0.070**	0.07	1	0.0350	**< 0.10**	0.1	1	0.0500	**< 0.080**	0.08	0.1	0.0040	**< 0.090**	0.09	0.1	0.0045	**< 0.090**	0.09	0.1	0.0045

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																					
	01-Sep-2012	**< 0.050**	0.050	1	0.0250	**< 0.070**	0.070	1	0.0350	**< 0.050**	0.050	0.1	0.0025	**< 0.050**	0.050	0.1	0.0025	**< 0.050**	0.050	0.1	0.0025
	22-Sep-2015	**< 0.0559**	0.0559	1	0.0280	**< 0.0559**	0.0559	1	0.0280	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028
	30-Aug-2016	**< 0.0548**	0.0548	1	0.0274	**< 0.0548**	0.0548	1	0.0274	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027
	13-Sep-2017	**< 0.0584**	0.0584	1	0.0292	**0.146** [#1]	0.0584	1	0.1460	**< 0.0584**	0.0584	0.1	0.0029	**0.119** [#1]	0.0584	0.1	0.0119	**0.065**	0.0584	0.1	0.0070
	30-Aug-2018	**< 0.0551**	0.0551	1	0.0276	**< 0.0551**	0.0551	1	0.0276	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
(Replicate A)	6-Sep-2019	**< 0.058**	0.058	1	0.0290	**< 0.058**	0.058	1	0.0290	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
(Replicate B)	6-Sep-2019	**< 0.0564**	0.0564	1	0.0282	**0.08** [#1]	0.0564	1	0.0800	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028
	26-Aug-2020	**< 0.0493**	0.0493	1	0.0247	**< 0.0493**	0.0493	1	0.0247	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025
	30-Sep-2021	**< 0.039**	0.039	1	0.0195	**< 0.067**	0.067	1	0.0335	**< 0.057**	0.057	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.052**	0.052	0.1	0.0026
	13-Oct-2022	**< 0.025**	0.025	1	0.0125	**0.0357**	0.021	1	0.0357	**< 0.045**	0.045	0.1	0.0023	**<0.064**	0.064	0.1	0.0032	**< 0.041**	0.041	0.1	0.00205
	14-Sep-2023	**< 0.015**	0.015	1	0.0075	**0.064**	0.029	1	0.0640	**< 0.065**	0.065	0.1	0.0033	**< 0.064**	0.064	0.1	0.0032	**< 0.066**	0.066	0.1	0.0033
Brook Trout 2+	11-Aug-2009	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2010	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.30**	0.3	1	0.1500	**< 0.090**	0.09	0.1	0.0045	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2012	**< 0.030**	0.030	1	0.0150	**< 0.030**	0.030	1	0.0150	**< 0.040**	0.040	0.1	0.0020	**< 0.040**	0.040	0.1	0.0020	**< 0.040**	0.040	0.1	0.0020
	01-Sep-2013	**0.067**	0.0494	1	0.0670	**0.1** [#1]	0.0494	1	0.1000	**< 0.0494**	0.0494	0.1	0.0025	**0.085** [#1]	0.0494	0.1	0.0085	**0.057** [#1]	0.0494	0.1	0.0057
	21-Sep-2014	**0.059** [#1]	0.0574	1	0.0590	**0.079**	0.0574	1	0.0790	**< 0.0574**	0.0574	0.1	0.0029	**0.09**	0.0574	0.1	0.0090	**0.063** [#1]	0.0574	0.1	0.0063
(Replicate A)	21-Sep-2014	**0.097** [#1]	0.0565	1	0.0970	**0.081** [#1]	0.0565	1	0.0810	**< 0.0565**	0.0565	0.1	0.0028	**0.062** [#1]	0.0565	0.1	0.0062	**< 0.0565**	0.0565	0.1	0.0028
(Replicate B)	21-Sep-2014	**< 0.0579**	0.0579	1	0.0290	**0.061** [#1]	0.0579	1	0.0610	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
	22-Sep-2015	**< 0.055**	0.055	1	0.0275	**< 0.055**	0.055	1	0.0275	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028
	30-Aug-2016	**< 0.0563**	0.0563	1	0.0282	**< 0.0563**	0.0563	1	0.0282	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028
	13-Sep-2017	**< 0.059**	0.059	1	0.0295	**< 0.059**	0.059	1	0.0295	**< 0.059**	0.059	0.1	0.0030	**< 0.059**	0.059	0.1	0.0030	**< 0.059**	0.059	0.1	0.0030
	30-Aug-2018	**< 0.055**	0.055	1	0.0275	**0.091** [#1]	0.0643	1	0.0910	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028
(Replicate A)	6-Sep-2019	**< 0.118**	0.118	1	0.0590	**< 0.0577**	0.0577	1	0.0289	**< 0.0577**	0.0577	0.1	0.0029	**0.063** [#1]	0.0577	0.1	0.0063	**< 0.0577**	0.0577	0.1	0.0029
(Replicate B)	6-Sep-2019	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	1	0.0284	**< 0.0567**	0.0567	0.1	0.0028	**0.059** [#1]	0.0567	0.1	0.0059	**< 0.0567**	0.0567	0.1	0.0028
	26-Aug-2020	**< 0.0499**	0.0499	1	0.0250	**< 0.0499**	0.0499	1	0.0250	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.1	0.0025
	30-Sep-2021	**< 0.033**	0.033	1	0.0165	**< 0.038**	0.038	1	0.019	**< 0.033**	0.033	0.1	0.00165	**< 0.037**	0.037	0.1	0.0019	**< 0.038**	0.038	0.1	0.0019
	13-Oct-2022	**0.0331**	0.026	1	0.0331	**0.0447**	0.017	1	0.0447	**< 0.041**	0.041	0.1	0.00205	**0.0715**	0.05	0.1	0.0072	**< 0.043**	0.043	0.1	0.0022
	14-Sep-2023	**< 0.019**	0.019	1	0.0095	**< 0.035**	0.035	1	0.0175	**< 0.042**	0.042	0.1	0.0021	**< 0.042**	0.042	0.1	0.0021	**< 0.044**	0.044	0.1	0.0022
Brook Trout 3+	11-Aug-2010	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.20**	0.2	1	0.1000	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2012	**< 0.030**	0.030	1	0.0150	**< 0.050**	0.050	1	0.0250	**< 0.050**	0.050	0.1	0.0025	**< 0.050**	0.050	0.1	0.0025	**< 0.050**	0.050	0.1	0.0025
(Replicate A)	01-Sep-2013	**< 0.0466**	0.0466	1	0.0233	**0.06** [#1]	0.0466	1	0.0600	**0.126** [#1]	0.0466	0.1	0.0126	**< 0.0466**	0.0466	0.1	0.0023	**< 0.0466**	0.0466	0.1	0.0023
(Duplicate)	01-Sep-2013	**< 0.0485**	0.0485	1	0.0243	**0.053** [#1]	0.0485	1	0.0530	**< 0.0485**	0.0485	0.1	0.0024	**0.105** [#1]	0.0485	0.1	0.0105	**< 0.0485**	0.0485	0.1	0.0024
(Replicate B)	01-Sep-2013	**< 0.0487**	0.0487	1	0.0244	**< 0.0487**	0.0487	1	0.0244	**< 0.0487**	0.0487	0.1	0.0024	**< 0.0487**	0.0487	0.1	0.0024	**< 0.0487**	0.0487	0.1	0.0024
	21-Sep-2014	**0.061** [#1]	0.0569	1	0.0610	**0.071** [#1]	0.0569	1	0.0710	**< 0.0569**	0.0569	0.1	0.0028	**0.082**	0.0569	0.1	0.0082	**< 0.0569**	0.0569	0.1	0.0028
(Replicate A)	21-Sep-2014	**< 0.0571**	0.0571	1	0.0286	**< 0.0571**	0.0571	1	0.0286	**< 0.0571**	0.0571	0.1	0.0029	**0.165** [#1]	0.0571	0.1	0.0165	**< 0.0571**	0.0571	0.1	0.0029
(Replicate B)	21-Sep-2014	**< 0.0574**	0.0574	1	0.0287	**0.069** [#1]	0.0574	1	0.0690	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	22-Sep-2015	**< 0.057**	0.057	1	0.0285	**< 0.057**	0.057	1	0.0285	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
(Duplicate)	22-Sep-2015	**< 0.0573**	0.0573	1	0.0287	**< 0.0573**	0.0573	1	0.0287	**< 0.0573**	0.0573	0.1	0.0029	**0.062**	0.0573	0.1	0.0062	**< 0.0573**	0.0573	0.1	0.0029
	30-Aug-2016	**< 0.0576**	0.0576	1	0.0288	**< 0.0576**	0.0576	1	0.0288	**< 0.0576**	0.0576	0.1	0.0029	**< 0.0576**	0.0576	0.1	0.0029	**< 0.0576**	0.0576	0.1	0.0029

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																					
	13-Sep-2017	**< 0.0594**	0.0594	1	0.0297	**< 0.0594**	0.0594	1	0.0297	**< 0.0594**	0.0594	0.1	0.0030	**0.074** [#1]	0.0594	0.1	0.0074	**< 0.0594**	0.0594	0.1	0.0030
(Duplicate)	13-Sep-2017	**< 0.0551**	0.0551	1	0.0276	**0.062** [#1]	0.0551	1	0.0620	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
	30-Aug-2018	**< 0.0569**	0.0569	1	0.0285	**0.094**	0.0569	1	0.0940	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.1	0.0028
	6-Sep-2019	**< 0.058**	0.058	1	0.0290	**0.067** [#1]	0.058	1	0.0670	**< 0.058**	0.058	0.1	0.0029	**0.078**	0.058	0.1	0.0078	**< 0.058**	0.058	0.1	0.0029
(Duplicate)	6-Sep-2019	**< 0.0575**	0.0575	1	0.0288	**0.086**	0.0575	1	0.0860	**< 0.0575**	0.0575	0.1	0.0029	**0.096** [#1]	0.0575	0.1	0.0096	**< 0.0575**	0.0575	0.1	0.0029
	26-Aug-2020	**< 0.0497**	0.0497	1	0.0249	**0.053**	0.0497	1	0.0530	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.1	0.0025
(Duplicate)	26-Aug-2020	**< 0.05**	0.05	1	0.0250	**< 0.05**	0.05	1	0.0250	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025
	30-Sep-2021	**< 0.043**	0.043	1	0.0215	**< 0.067**	0.067	1	0.0335	**< 0.08**	0.08	0.1	0.004	**< 0.084**	0.084	0.1	0.0042	**< 0.06**	0.06	0.1	0.0030
	13-Oct-2022	**< 0.026**	0.026	1	0.0130	**< 0.047**	0.047	1	0.0235	**< 0.052**	0.052	0.1	0.0026	**< 0.052**	0.052	0.1	0.0026	**< 0.049**	0.049	0.1	0.0025
	14-Sep-2023	**< 0.026**	0.026	1	0.0130	**< 0.032**	0.032	1	0.0160	**< 0.036**	0.036	0.1	0.0018	**0.04** [#1]	0.036	0.1	0.0040	**< 0.039**	0.039	0.1	0.0020
(Duplicate)	14-Sep-2023	**0.035** [#1]	0.019	1	0.0350	**0.0672**	0.019	1	0.0672	**< 0.041**	0.041	0.1	0.0021	**0.048** [#1]	0.036	0.1	0.0048	**< 0.042**	0.042	0.1	0.0021
Brook Trout 4+	29-Jun-1998	**< 0.5**	0.5	1	0.2500	**< 0.3**	0.3	1	0.1500	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	01-Sep-1999	**< 0.1**	0.1	1	0.0500	**< 0.3**	0.3	1	0.1500	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150
	03-Sep-2000	**< 0.21**	0.21	1	0.1050	**< 0.74**	0.74	1	0.3700	**< 0.55**	0.55	0.1	0.0275	**< 0.51**	0.51	0.1	0.0255	**< 0.53**	0.53	0.1	0.0265
(Duplicate)	03-Sep-2000	**< 0.27**	0.27	1	0.1350	**< 0.21**	0.21	1	0.1050	**< 0.49**	0.49	0.1	0.0245	**< 0.52**	0.52	0.1	0.0260	**< 0.51**	0.51	0.1	0.0255
	15-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.37**	0.37	1	0.1850	**< 0.17**	0.17	1	0.0850	**< 0.18**	0.18	0.1	0.0090	**< 0.16**	0.16	0.1	0.0080	**< 0.16**	0.16	0.1	0.0080
	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.20**	0.2	1	0.1000	**< 0.080**	0.08	0.1	0.0040	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2013	**< 0.519**	0.519	1	0.2595	**< 0.376**	0.376	1	0.1880	**< 0.284**	0.284	0.1	0.0142	**< 0.284**	0.284	0.1	0.0142	**< 0.284**	0.284	0.1	0.0142
	21-Sep-2014	**0.092** [#1]	0.0556	1	0.0920	**0.129** [#1]	0.0556	1	0.1290	**< 0.0556**	0.0556	0.1	0.0028	**0.158**	0.0556	0.1	0.0158	**0.075** [#1]	0.0556	0.1	0.0075
(Replicate A)	23-Sep-2015	**< 0.0562**	0.0562	1	0.0281	**< 0.0562**	0.0562	1	0.0281	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028
(Replicate B)	22-Sep-2015	**< 0.056**	0.056	1	0.0280	**0.067**	0.056	1	0.0670	**< 0.056**	0.056	0.1	0.0028	**0.081** [#1]	0.056	0.1	0.0081	**< 0.056**	0.056	0.1	0.0028
	30-Aug-2016	**< 0.057**	0.057	1	0.0285	**0.062** [#1]	0.057	1	0.0620	**< 0.057**	0.057	0.1	0.0029	**0.074**	0.057	0.1	0.0074	**< 0.057**	0.057	0.1	0.0029
	13-Sep-2017	**< 0.0578**	0.0578	1	0.0289	**< 0.0578**	0.0578	1	0.0289	**< 0.0578**	0.0578	0.1	0.0029	**0.083** [#1]	0.0578	0.1	0.0083	**< 0.0578**	0.0578	0.1	0.0029
	30-Aug-2018	**< 0.0556**	0.0556	1	0.0278	**< 0.0556**	0.0556	1	0.0278	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028
	26-Aug-2020	**< 0.0499**	0.0499	1	0.0250	**< 0.0499**	0.0499	1	0.0250	**< 0.0499**	0.0499	0.1	0.0025	**0.057**	0.0499	0.1	0.0057	**< 0.0499**	0.0499	0.1	0.0025
	14-Sep-2023	**< 0.011**	0.011	1	0.0055	**0.031** [#1]	0.018	1	0.0310	**< 0.034**	0.034	0.1	0.0017	**0.048** [#1]	0.034	0.1	0.0048	**< 0.035**	0.035	0.1	0.0018
Brook Trout 5+	26-Sep-2001	**< 0.05**	0.05	1	0.0250	**< 0.1**	0.1	1	0.0500	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025
	15-Sep-2004	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Oct-2006	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	1	0.0500	**< 0.30**	0.3	1	0.1500	**< 0.10**	0.1	0.1	0.0050	**< 0.20**	0.2	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2013	**< 0.124**	0.124	1	0.0620	**0.084** [#1]	0.0538	1	0.0840	**< 0.0463**	0.0463	0.1	0.0023	**0.086** [#1]	0.0463	0.1	0.0086	**< 0.0463**	0.0463	0.1	0.0023
	21-Sep-2014	**< 0.057**	0.057	1	0.0285	**0.069** [#1]	0.057	1	0.0690	**< 0.057**	0.057	0.1	0.0029	**0.087**	0.057	0.1	0.0087	**< 0.057**	0.057	0.1	0.0029
	30-Aug-2016	**0.076** [#1]	0.057	1	0.0760	**0.106**	0.057	1	0.1060	**< 0.057**	0.057	0.1	0.0029	**0.165**	0.057	0.1	0.0165	**< 0.057**	0.057	0.1	0.0029
	30-Sep-2021	**< 0.056**	0.056	1	0.0280	**< 0.092**	0.092	1	0.0460	**< 0.093**	0.093	0.1	0.0047	**0.0703**	0.067	0.1	0.00703	**< 0.088**	0.088	0.1	0.0044
Brook Trout 6+	14-Sep-2023	**0.032** [#1]	0.015	1	0.0320	**0.052** [#1]	0.032	1	0.0520	**< 0.037**	0.037	0.1	0.0019	**0.063** [#1]	0.037	0.1	0.0063	**< 0.04**	0.04	0.1	0.0020
Brook Trout 7+	10-Sep-2003	**< 0.2**	0.2	1	0.1000	**< 0.1**	0.1	1	0.0500	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
Brook Trout 8+	10-Sep-2002	**< 0.3**	0.3	1	0.1500	**< 0.5**	0.5	1	0.2500	**< 0.5**	0.5	0.1	0.0250	**< 0.6**	0.6	0.1	0.0300	**< 0.5**	0.5	0.1	0.0250
Brook Trout 11+	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDD)				1,2,3,7,8-(PeCDD)				1,2,3,4,7,8-(HxCDD)				1,2,3,6,7,8- (HxCDD)				1,2,3,7,8,9-(HxCDD)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																					
Brook Trout 12+	11-Sep-2007	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout Unknown	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**0.22**	0.1	0.1	0.0220	**0.24**	0.6	0.1	0.0240	**0.23**	0.1	0.1	0.0230
(Replicate A)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10** [#1]	0.1	0.1	0.0050	**0.13**	0.1	0.1	0.0130	**< 0.10** [#1]	0.1	0.1	0.0050
(Replicate B)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10** [#1]	0.1	0.1	0.0050	**0.11**	0.1	0.1	0.0110	**< 0.10**	0.1	0.1	0.0050
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	1	0.0500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050

NOTES: 1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Superscript [#1] - Result does not meet all quantification criteria and value denotes the estimated maximum possible concentration (EMPC)

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	**0.71**
Hatchery										
Brook Trout 0+	24-Jun-1997	**< 0.6**	0.6	0.01	0.0030	**4.5**	0.6	0.0003	0.0014	**0.1844**
	25-Jun-1998	**< 0.9**	0.9	0.01	0.0045	**6.8**	1.2	0.0003	0.0020	**0.4165**
	01-Sep-1999	**< 0.4**	0.4	0.01	0.0020	**< 0.6**	0.6	0.0003	0.0001	**0.3671**
	09-Sep-2001	**0.6**	0.1	0.01	0.0060	**2**	0.2	0.0003	0.0006	**0.5466**
	10-Sep-2002	**< 1.6**	1.6	0.01	0.0080	**< 4.7**	4.7	0.0003	0.0007	**0.5487**
	5-Sep-2003	**<0.3**	0.3	0.01	0.0015	**<0.7**	0.7	0.0003	0.0001	**0.1666**
	9-Sep-2004	**<0.10**	0.1	0.01	0.0005	**<0.20**	0.2	0.0003	0.00003	**0.1705**
	10-Sep-2005	**0.59**	0.1	0.01	0.0059	**<0.1**	0.1	0.0003	0.00002	**0.1209**
	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1155**
	11-Sep-2007	**0.27**	0.1	0.01	0.0027	**2.4**	0.1	0.0003	0.0007	**0.1184**
	23-Jul-2008	**< 0.10**	0.1	0.01	0.0005	**0.43**	0.1	0.0003	0.0001	**0.1156**
(Duplicate)	23-Jul-2008	**< 0.10**	0.1	0.01	0.0005	**0.4**	0.1	0.0003	0.00002	**0.1155**
	11-Aug-2009	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.4655**
	11-Aug-2010	**< 0.10**	0.1	0.01	0.0005	**0.20** [#1]	0.1	0.0003	0.0001	**0.1656**
	01-Sep-2011	**< 0.20**	0.2	0.01	0.0010	**1.41**	0.2	0.0003	0.0004	**0.2314**
	01-Sep-2012	**< 0.070**	0.070	0.01	0.0004	**< 0.10**	0.1	0.0003	0.00002	**0.0954**
	01-Sep-2013	**0.118** [#1]	0.0488	0.01	0.0012	**0.265**	0.0488	0.0003	0.0001	**0.1020**
	21-Sep-2014	**< 0.0568**	0.0568	0.01	0.0003	**0.081** [#1]	0.0568	0.0003	0.00002	**0.0656**
	22-Sep-2015	**0.057**	0.0563	0.01	0.0006	**0.177** [#1]	0.0563	0.0003	0.0001	**0.0654**
	30-Aug-2016	**< 0.0551**	0.0551	0.01	0.0003	**0.147**	0.0551	0.0003	0.00004	**0.0637**
	30-Aug-2018	**< 0.0566**	0.0566	0.01	0.0003	**0.068** [#1]	0.0566	0.0003	0.00002	**0.0654**
	6-Sep-2019	**< 0.0574**	0.0574	0.01	0.0003	**0.207** [#1]	0.0574	0.0003	0.00006	**0.0664**
	26-Aug-2020	**< 0.0496**	0.0496	0.01	0.0002	**0.051**	0.0496	0.0003	0.00002	**0.0573**
	29-Sep-2021	**0.0708**	0.064	0.01	0.000708	**0.184**	0.13	0.0003	0.0000552	**0.0546**
	13-Oct-2022	**0.0501**	0.04	0.01	0.000501	**0.066** [#1]	0.054	0.0003	0.0000198	**0.0404**
Brook Trout 1+	13-Sep-2017	**<0.059**	0.059	0.01	0.0003	**0.16**	0.059	0.0003	0.00005	**0.1087**
Chrystina Lake										
Brook Trout 1+	11-Aug-2009	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	**0.4160**
	01-Sep-2011	**< 0.20**	0.2	0.01	0.0010	**< 0.30**	0.3	0.0003	0.00005	**0.2310**
	01-Sep-2012	**0.510**	0.050	0.01	0.0051	**< 0.070**	0.07	0.0003	0.00001	**0.0686**
(Replicate A)	01-Sep-2013	**0.232**	0.193	0.01	0.0023	**0.699**	0.193	0.0003	0.0002	**0.2245**
(Replicate B)	01-Sep-2013	**0.086** [#1]	0.0722	0.01	0.0009	**0.155** [#1]	0.0722	0.0003	0.0000	**0.0839**
	23-Sep-2015	**0.08**	0.0567	0.01	0.0008	**0.262**	0.0567	0.0003	0.0001	**0.0661**
	31-Aug-2016	**0.082**	0.0554	0.01	0.0008	**0.251**	0.0554	0.0003	0.0001	**0.0646**
	12-Sep-2017	**<0.056**	0.056	0.01	0.0003	**0.099** [#1]	0.056	0.0003	0.00003	**0.0647**
	29-Aug-2018	**0.069** [#1]	0.056	0.01	0.0007	**< 0.056**	0.056	0.0003	0.00001	**0.1121**
(Replicate A)	5-Sep-2019	**0.097** [#1]	0.057	0.01	0.0010	**0.099** [#1]	0.057	0.0003	0.00003	**0.1130**
(Replicate B)	5-Sep-2019	**0.073**	0.0573	0.01	0.0007	**0.263**	0.0573	0.0003	0.00008	**0.1051**
	25-Aug-2020	**0.056** [#1]	0.05	0.01	0.0006	**0.082**	0.05	0.0003	0.00002	**0.1011**
	29-Sep-2021	**0.066** [#1]	0.044	0.01	0.0007	**0.092** [#1]	0.081	0.0003	0.0000276	**0.0618**
	29-Sep-2021	**0.0712**	0.042	0.01	0.0007	**0.13** [#1]	0.1	0.0003	0.000039	**0.0384**
	12-Oct-2022	**0.092** [#1]	0.015	0.01	0.0009	**0.11**	0.062	0.0003	0.000033	**0.0397**
	13-Sep-2023	**0.0978**	0.022	0.01	0.0010	**0.13** [#1]	0.027	0.0003	0.000039	**0.0985**
Brook Trout 2+	05-Oct-1995	**< 8.3**	8.3	0.01	0.0415	**< 8.4**	8.4	0.0003	0.0013	**6.0528**
	26-Jun-1997	**0.2**	0.1	0.01	0.0020	**0.8**	0.2	0.0003	0.0002	**0.1172**
	11-Aug-2009	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.3155**

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	**0.71**
Chrystina Lake - Continued										
	11-Aug-2010	**< 0.10**	0.1	0.01	0.0005	**0.40**	0.1	0.0003	0.0001	**0.1156**
	01-Sep-2011	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.2590**
	01-Sep-2012	**< 0.060**	0.060	0.01	0.0003	**0.840**	0.84	0.0003	0.0003	**0.0636**
	01-Sep-2013	**0.083** [#1]	0.0489	0.01	0.0008	**0.148** [#1]	0.0489	0.0003	0.00004	**0.0884**
	22-Sep-2014	**0.147** [#1]	0.0579	0.01	0.0015	**0.131** [#1]	0.0579	0.0003	0.00004	**0.0681**
(Replicate A)	22-Sep-2014	**< 0.0819**	0.0819	0.01	0.0004	**0.094** [#1]	0.0573	0.0003	0.00003	**0.0663**
(Replicate B)	22-Sep-2014	**< 0.105**	0.105	0.01	0.0005	**0.107**	0.056	0.0003	0.00003	**0.0650**
	23-Sep-2015	**0.099**	0.0567	0.01	0.0010	**0.094** [#1]	0.0567	0.0003	0.00003	**0.0662**
	31-Aug-2016	**0.086**	0.0557	0.01	0.0009	**0.078** [#1]	0.0557	0.0003	0.00002	**0.0649**
	12-Sep-2017	**0.061** [#1]	0.0582	0.01	0.0006	**0.063** [#1]	0.0582	0.0003	0.00002	**0.0676**
(Replicate A)	12-Sep-2017	**< 0.058**	0.058	0.01	0.0003	**0.08** [#1]	0.058	0.0003	0.00002	**0.0670**
	29-Aug-2018	**< 0.056**	0.056	0.01	0.0003	**0.058** [#1]	0.056	0.0003	0.00002	**0.1217**
(Replicate A)	5-Sep-2019	**< 0.0549**	0.0549	0.01	0.0003	**0.071** [#1]	0.0549	0.0003	0.00002	**0.0634**
(Replicate B)	5-Sep-2019	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0857**	0.0857	0.0003	0.00001	**0.1079**
	25-Aug-2020	**< 0.0498**	0.0498	0.01	0.0002	**0.053**	0.0498	0.0003	0.00002	**0.0575**
	25-Aug-2020	**< 0.0497**	0.0497	0.01	0.0002	**0.052**	0.0497	0.0003	0.00002	**0.0574**
	29-Sep-2021	**0.0773**	0.051	0.01	0.000773	**< 0.19**	0.19	0.0003	0.0000285	**0.0455**
	12-Oct-2022	**0.077** [#1]	0.045	0.01	0.00077	**0.257**	0.13	0.0003	0.0000771	**0.0639**
	13-Sep-2023	**0.1** [#1]	0.016	0.01	0.001	**0.084** [#1]	0.029	0.0003	0.0000252	**0.0265**
Brook Trout 3+	25-Jun-1997	**0.4**	0.2	0.01	0.0040	**1.7**	0.3	0.0003	0.0005	**0.1245**
	04-Sep-2000	**< 0.6**	0.6	0.01	0.0030	**2.2**	0.49	0.0003	0.0007	**0.7132**
	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1155**
	11-Aug-2010	**0.18** [#1]	0.1	0.01	0.0018	**0.70**	0.1	0.0003	0.00021	**0.2670**
(Duplicate)	11-Aug-2010	**< 0.10**	0.1	0.01	0.0005	**0.40** [#1]	0.1	0.0003	0.0001	**0.1156**
(Replicate A)	01-Sep-2012	**0.840**	0.080	0.01	0.0084	**1.02**	1.02	0.0003	0.0003	**0.1022**
(Duplicate)	01-Sep-2012	**< 0.080**	0.080	0.01	0.0004	**< 0.10**	0.1	0.0003	0.00002	**0.0964**
(Replicate B)	01-Sep-2012	**< 0.090**	0.090	0.01	0.0005	**2.06**	2.06	0.0003	0.0006	**0.1036**
(Replicate C)	01-Sep-2013	**0.074** [#1]	0.0644	0.01	0.0007	**0.096** [#1]	0.0718	0.0003	0.00003	**0.0748**
(Replicate D)	01-Sep-2013	**< 0.0651**	0.0651	0.01	0.0003	**0.162**	0.0651	0.0003	0.00005	**0.0752**
	22-Sep-2014	**< 0.102**	0.102	0.01	0.0005	**0.099**	0.0578	0.0003	0.00003	**0.0670**
(Duplicate)	22-Sep-2014	**0.074** [#1]	0.0637	0.01	0.0007	**0.134** [#1]	0.056	0.0003	0.00004	**0.0652**
(Replicate A)	22-Sep-2014	**< 0.0619**	0.0619	0.01	0.0003	**0.088** [#1]	0.0567	0.0003	0.00003	**0.1032**
(Replicate B)	22-Sep-2014	**< 0.0574**	0.0574	0.01	0.0003	**0.075** [#1]	0.0574	0.0003	0.00002	**0.0663**
	23-Sep-2015	**0.067**	0.0572	0.01	0.0007	**0.227**	0.0572	0.0003	0.0001	**0.0665**
	31-Aug-2016	**0.086**	0.0551	0.01	0.0009	**0.081**	0.0551	0.0003	0.00002	**0.0642**
(Duplicate)	31-Aug-2016	**0.086** [#1]	0.0561	0.01	0.0009	**0.093**	0.0561	0.0003	0.00003	**0.0654**
(Replicate A)	31-Aug-2016	**0.187**	0.0546	0.01	0.0019	**0.234**	0.0546	0.0003	0.0001	**0.0715**
	12-Sep-2017	**< 0.0559**	0.0559	0.01	0.0003	**< 0.0559**	0.0559	0.0003	0.00001	**0.0646**
(Duplicate)	12-Sep-2017	**< 0.0588**	0.0588	0.01	0.0003	**< 0.0588**	0.0588	0.0003	0.00001	**0.0679**
	29-Aug-2018	**0.057**	0.0493	0.01	0.0006	**< 0.0493**	0.0493	0.0003	0.00001	**0.0573**
(Duplicate)	29-Aug-2018	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.0003	0.00001	**0.0633**
(Duplicate)	29-Aug-2018	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.0003	0.00001	**0.0641**
	5-Sep-2019	**< 0.0556**	0.0556	0.01	0.0003	**0.084** [#1]	0.0556	0.0003	0.00003	**0.0727**
(Lab - Duplicate)	5-Sep-2019	**< 0.0575**	0.0575	0.01	0.0003	**0.065**	0.0575	0.0003	0.00002	**0.0665**
	29-Sep-2021	**0.102**	0.047	0.01	0.0010	**< 0.22**	0.22	0.0003	0.000033	**0.0605**

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	0.71
Chrystina Lake - Continued										
	29-Sep-2021	**0.0935**	0.057	0.01	0.0009	**0.71**	0.18	0.0003	0.000213	**0.0836**
	12-Oct-2022	**0.0686**	0.041	0.01	0.0007	**< 0.084**	0.084	0.0003	0.0000126	**0.0424**
	13-Sep-2023	**0.0746**	0.019	0.01	0.0007	**0.092** [#1]	0.027	0.0003	0.0000276	**0.0422**
(Lab - Duplicate)	13-Sep-2023	**0.11** [#1]	0.024	0.01	0.0011	**0.079** [#1]	0.041	0.0003	0.0000237	**0.0306**
Brook Trout 4+	27-Jun-1998	**< 0.9**	0.9	0.01	0.0045	**7.0**	1.1	0.0003	0.0021	**0.3166**
	01-Sep-1999	**< 0.4**	0.4	0.01	0.0020	**2.3**	0.7	0.0003	0.0007	**0.3327**
	10-Sep-2001	**< 0.1**	0.1	0.01	0.0005	**1.5**	0.1	0.0003	0.0005	**0.1410**
	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1155**
(Duplicate)	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1155**
	01-Sep-2011	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	**0.2760**
	01-Sep-2013	**0.086** [#1]	0.0496	0.01	0.0009	**0.361**	0.0496	0.0003	0.0001	**0.1090**
	22-Sep-2014	**0.122** [#1]	0.0629	0.01	0.0012	**0.188**	0.0574	0.0003	0.0001	**0.1567**
	23-Sep-2015	**0.071** [#1]	0.0557	0.01	0.0007	**0.155**	0.0557	0.0003	0.00005	**0.0648**
(Replicate A)	23-Sep-2015	**0.074**	0.0562	0.01	0.0007	**0.157**	0.0562	0.0003	0.00005	**0.0654**
	12-Sep-17	**< 0.0582**	0.0582	0.01	0.0003	**< 0.0582**	0.0582	0.0003	0.00001	**0.1041**
(Replicate A)	29-Aug-18	**< 0.0561**	0.0561	0.01	0.0003	**< 0.0561**	0.0561	0.0003	0.00001	**0.0648**
(Replicate B)	29-Aug-18	**0.072**	0.0558	0.01	0.0007	**< 0.0558**	0.0558	0.0003	0.00001	**0.1045**
(Replicate C)	29-Aug-18	**< 0.121**	0.121	0.01	0.0006	**< 0.105**	0.105	0.0003	0.00002	**0.1029**
	25-Aug-20	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.0003	0.00001	**0.0573**
	29-Sep-2021	**0.086** [#1]	0.049	0.01	0.00074	**0.323**	0.029	0.0003	0.0000969	**0.0478**
Brook Trout 5+	05-Oct-1995	**< 8.5**	8.5	0.01	0.0425	**< 9.4**	9.4	0.0003	0.0014	**5.3639**
	01-Sep-1999	**< 0.4**	0.4	0.01	0.0020	**0.7**	0.5	0.0003	0.0002	**0.2272**
	04-Sep-2000	**< 0.55**	0.55	0.01	0.0028	**2.2**	0.47	0.0003	0.0007	**0.6199**
	10-Sep-2002	**< 1.4**	1.4	0.01	0.0070	**< 2.7**	2.7	0.0003	0.0004	**0.4624**
	07-Sep-2003	**< 0.4**	0.4	0.01	0.0020	**< 0.9**	0.9	0.0003	0.0001	**0.1771**
	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.0003	0.00003	**0.1155**
	10-Sep-2005	**0.59**	0.1	0.01	0.0059	**< 0.1**	0.1	0.0003	0.00002	**0.1209**
	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1155**
	11-Sep-2007	**< 0.10**	0.1	0.01	0.0005	**0.76**	0.1	0.0003	0.0002	**0.1157**
	01-Sep-2013	**0.083** [#1]	0.0712	0.01	0.0008	**0.176** [#1]	0.0712	0.0003	0.0001	**0.1222**
	23-Sep-2015	**0.061**	0.0572	0.01	0.0006	**0.068** [#1]	0.0572	0.0003	0.00002	**0.0664**
	31-Aug-2016	**0.088**	0.0564	0.01	0.0009	**0.117**	0.0564	0.0003	0.00004	**0.0658**
	12-Sep-2017	**0.077** [#1]	0.058	0.01	0.0008	**0.11** [#1]	0.058	0.0003	0.00003	**0.0675**
	29-Sep-2021	**0.0932**	0.046	0.01	0.000932	**0.14** [#1]	0.09	0.0003	0.000042	**0.0525**
Brook Trout 6+	27-Jun-1998	**< 1.0**	1	0.01	0.0050	**8.3**	1	0.0003	0.0025	**0.4325**
	11-Sep-2001	**< 0.1**	0.1	0.01	0.0005	**2.1**	0.2	0.0003	0.0006	**0.1161**
	10-Sep-2005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	**0.1155**
(Duplicate)	10-Sep-2005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	**0.1155**
	11-Sep-2007	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1655**
Brook Trout 7+	10-Sep-2002	**< 1.4**	1.4	0.01	0.0070	**< 2.7**	2.7	0.0003	0.0004	**0.4724**
(Duplicate)	10-Sep-2002	**< 1.4**	1.4	0.01	0.0070	**< 4.2**	4.2	0.0003	0.0006	**0.3826**
	06-Sep-2003	**< 0.3**	0.3	0.01	0.0015	**< 0.60**	0.6	0.0003	0.0001	**0.1666**

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	**0.71**
Chrystina Lake - Continued										
(Duplicate)	06-Sep-2003	**< 0.2**	0.2	0.01	0.0010	**< 0.60**	0.6	0.0003	0.0001	**0.1161**
	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	**0.1155**
(Duplicate)	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**< 0.5**	0.5	0.0003	0.0001	**0.1656**
	10-Sep-2005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	**0.1155**
	11-Sep-2007	**0.19**	0.1	0.01	0.0019	**1.0**	0.1	0.0003	0.0003	**0.1172**
(Duplicate)	11-Sep-2007	**0.16**	0.1	0.01	0.0016	**1.2**	0.1	0.0003	0.0004	**0.1170**
Brook Trout 9+	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**0.4**	0.2	0.0003	0.0001	**0.1156**
Brook Trout 11+	11-Sep-2007	**< 0.10**	0.1	0.01	0.0005	**1.6**	0.1	0.0003	0.0005	**0.1660**
Brook Trout 12+	11-Sep-2007	**0.21**	0.1	0.01	0.0021	**1.3**	0.1	0.0003	0.0004	**0.1175**
Brook Trout Unknown	23-Jul-2008	**< 0.10**	0.1	0.01	0.0000	**0.55**	0.1	0.0003	0.0002	**0.1152**
(Replicate)	23-Jul-2008	**< 0.10**	0.1	0.01	0.0005	**0.50**	0.1	0.0003	0.0002	**0.1157**
(Replicate A)	23-Jul-2008	**< 0.20**	0.2	0.01	0.0005	**0.89**	0.1	0.0003	0.0003	**0.2158**
(Replicate B)	23-Jul-2008	**< 0.10**	0.1	0.01	0.0005	**0.84**	0.1	0.0003	0.0003	**0.1578**
(Replicate C)	23-Jul-2008	**< 0.20**	0.2	0.01	0.0010	**0.98**	0.1	0.0003	0.0003	**0.1163**
	12-Oct-2022	**0.0546**	0.024	0.01	0.0005	**0.068** [#1]	0.038	0.0003	0.00002	**0.0349**
(Replicate A)	13-Sep-2023	**0.098** [#1]	0.031	0.01	0.0010	**0.111**	0.06	0.0003	0.00003	**0.0748**
(Replicate B)	13-Sep-2023	**0.0727**	0.013	0.01	0.0007	**0.071** [#1]	0.027	0.0003	0.00002	**0.0304**
White Sucker 1+	21-Sep-2014	**< 0.0579**	0.0579	0.01	0.0003	**0.067** [#1]	0.0579	0.0003	0.00002	**0.0669**
White Sucker 2+	22-Sep-2014	**< 0.0573**	0.0573	0.01	0.0003	**0.077** [#1]	0.0573	0.0003	0.00002	**0.0662**
White Sucker 5+	25-Jun-1997	**< 0.2**	0.2	0.01	0.0010	**< 0.7**	0.7	0.0003	0.0001	**0.1161**
White Sucker 6+	24-Jun-1997	**0.2**	0.1	0.01	0.0020	**1.8**	0.3	0.0003	0.0005	**0.1175**
	25-Jun-1998	**< 1.2**	1.2	0.01	0.0060	**7.1**	1.9	0.0003	0.0021	**0.3181**
	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**< 0.3**	0.3	0.0003	0.00005	**0.1155**
	11-Sep-2007	**0.14**	0.1	0.01	0.0014	**1.2**	0.1	0.0003	0.0004	**0.1168**
White Sucker 7+	11-Sep-2007	**0.12**	0.1	0.01	0.0012	**1.7**	0.1	0.0003	0.0005	**0.1167**
White Sucker 8+	27-Jun-1998	**1.5**	0.7	0.01	0.0150	**16.0**	1.5	0.0003	0.0048	**0.5298**
	11-Sep-2007	**0.28**	0.1	0.01	0.0028	**3.4**	0.1	0.0003	0.0010	**0.1188**
	11-Aug-2009	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	**0.3660**
White Sucker 9+	02-Sep-2000	**< 0.41**	0.41	0.01	0.0021	**4.0**	0.47	0.0003	0.0012	**0.6773**
	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**0.2**	0.2	0.0003	0.0001	**0.1156**
	11-Sep-2007	**0.31**	0.1	0.01	0.0031	**3.5**	0.1	0.0003	0.0011	**0.1442**
White Sucker 10+	11-Aug-2009	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.2655**
White Sucker 11+	12-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**0.4**	0.2	0.0003	0.0001	**0.1156**
Forage Fish	4-Nov-2014	**0.062**	0.0551	0.01	0.0006	**0.157**	0.0551	0.0003	0.00005	**0.0640**
Aquatic Invertebrates	22-Aug-2014	**1.37**	0.281	0.01	0.0137	**4.3**	0.281	0.0003	0.0013	**0.3381**
Edith Lake										
Brook Trout 1+	11-Aug-2009	**0.41**	0.1	0.01	0.0041	**0.77**	0.1	0.0003	0.0002	**0.1693**
	01-Sep-2011	**< 0.30**	0.3	0.01	0.0015	**< 0.20**	0.2	0.0003	0.00003	**0.3915**
(Duplicate)	01-Sep-2011	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.0985**

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	**0.71**
Edith Lake - Continued										
	01-Sep-2012	**< 0.050**	0.050	0.01	0.0003	**0.500**	0.5	0.0003	0.0002	**0.0679**
	22-Sep-2015	**0.065**	0.0559	0.01	0.0007	**0.108** [#1]	0.0559	0.0003	0.00003	**0.0650**
	30-Aug-2016	**0.059** [#1]	0.0548	0.01	0.0006	**0.089**	0.0548	0.0003	0.00003	**0.0636**
	13-Sep-2017	**0.111** [#1]	0.0584	0.01	0.0011	**0.283** [#1]	0.0584	0.0003	0.00008	**0.1982**
	30-Aug-2018	**0.076** [#1]	0.0551	0.01	0.0008	**0.072** [#1]	0.0551	0.0003	0.00002	**0.0641**
(Replicate A)	6-Sep-2019	**0.083** [#1]	0.058	0.01	0.0008	**0.146** [#1]	0.058	0.0003	0.00004	**0.0676**
(Replicate B)	6-Sep-2019	**0.108**	0.0564	0.01	0.0011	**0.259**	0.0564	0.0003	0.00008	**0.1178**
	26-Aug-2020	**0.062**	0.0493	0.01	0.0006	**0.155** [#1]	0.0493	0.0003	0.00005	**0.0574**
	30-Sep-2021	**0.065** [#1]	0.038	0.01	0.0007	**< 0.082**	0.082	0.0003	0.00001	**0.0620**
	13-Oct-2022	**0.0947**	0.033	0.01	0.0009	**0.09** [#1]	0.058	0.0003	0.00003	**0.0567**
	14-Sep-2023	**0.092** [#1]	0.026	0.01	0.0009	**0.081** [#1]	0.027	0.0003	0.00002	**0.0822**
Brook Trout 2+	11-Aug-2009	**< 0.10**	0.1	0.01	0.0005	**0.72** [#1]	0.1	0.0003	0.0002	**0.1657**
	11-Aug-2010	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1655**
	01-Sep-2011	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.2150**
	01-Sep-2012	**< 0.040**	0.040	0.01	0.0002	**0.400**	0.4	0.0003	0.0001	**0.0363**
	01-Sep-2013	**0.165** [#1]	0.0494	0.01	0.0017	**0.251**	0.0494	0.0003	0.0001	**0.1854**
	21-Sep-2014	**0.149** [#1]	0.0772	0.01	0.0015	**0.163** [#1]	0.0574	0.0003	0.00005	**0.1577**
(Replicate A)	21-Sep-2014	**0.145** [#1]	0.0565	0.01	0.0015	**0.147** [#1]	0.0565	0.0003	0.00004	**0.1913**
(Replicate B)	21-Sep-2014	**0.092**	0.0579	0.01	0.0009	**0.148**	0.0579	0.0003	0.00004	**0.0996**
	22-Sep-2015	**0.154**	0.055	0.01	0.0015	**0.255**	0.055	0.0003	0.0001	**0.0649**
	30-Aug-2016	**< 0.0563**	0.0563	0.01	0.0003	**0.1**	0.0563	0.0003	0.00003	**0.0651**
	13-Sep-2017	**0.067** [#1]	0.059	0.01	0.0007	**0.069** [#1]	0.059	0.0003	0.00002	**0.0685**
	30-Aug-2018	**0.089** [#1]	0.055	0.01	0.0009	**0.069**	0.055	0.0003	0.00002	**0.1277**
(Replicate A)	6-Sep-2019	**0.108** [#1]	0.0577	0.01	0.0011	**0.156** [#1]	0.0577	0.0003	0.00005	**0.1010**
(Replicate B)	6-Sep-2019	**0.079** [#1]	0.0567	0.01	0.0008	**0.12** [#1]	0.0567	0.0003	0.00004	**0.0691**
	26-Aug-2020	**0.076**	0.0499	0.01	0.0008	**0.127**	0.0499	0.0003	0.00004	**0.0582**
	30-Sep-2021	**0.074** [#1]	0.036	0.01	0.0007	**0.11**	0.049	0.0003	0.00003	**0.0417**
	13-Oct-2022	**0.104**	0.035	0.01	0.0010	**0.07** [#1]	0.053	0.0003	0.00001	**0.0902**
	14-Sep-2023	**0.076** [#1]	0.012	0.01	0.0008	**0.086** [#1]	0.032	0.0003	0.00003	**0.0342**
Brook Trout 3+	11-Aug-2010	**< 0.10**	0.1	0.01	0.0005	**0.15**	0.1	0.0003	0.00005	**0.1155**
	01-Sep-2011	**< 0.10**	0.1	0.01	0.0005	**1.04** [#1]	0.2	0.0003	0.0003	**0.1658**
	01-Sep-2012	**< 0.050**	0.050	0.01	0.0003	**< 0.080**	0.08	0.0003	0.00001	**0.0478**
(Replicate A)	01-Sep-2013	**0.192** [#1]	0.0466	0.01	0.0019	**0.38** [#1]	0.0466	0.0003	0.0001	**0.1026**
(Duplicate)	01-Sep-2013	**0.163** [#1]	0.0485	0.01	0.0016	**0.138** [#1]	0.0485	0.0003	0.00004	**0.0943**
(Replicate B)	01-Sep-2013	**0.081**	0.0487	0.01	0.0008	**0.151** [#1]	0.0487	0.0003	0.00005	**0.0569**
	21-Sep-2014	**0.096** [#1]	0.0569	0.01	0.0010	**0.155** [#1]	0.0569	0.0003	0.00005	**0.1469**
(Replicate A)	21-Sep-2014	**0.436**	0.079	0.01	0.0044	**0.438**	0.0571	0.0003	0.0001	**0.0838**
(Replicate B)	21-Sep-2014	**0.12** [#1]	0.0639	0.01	0.0012	**0.121** [#1]	0.0574	0.0003	0.00004	**0.1075**
	22-Sep-2015	**0.15**	0.057	0.01	0.0015	**0.087**	0.057	0.0003	0.00003	**0.0671**
(Duplicate)	22-Sep-2015	**0.116**	0.0573	0.01	0.0012	**0.121**	0.0573	0.0003	0.00004	**0.0704**
	30-Aug-2016	**0.06** [#1]	0.0576	0.01	0.0006	**0.084** [#1]	0.0828	0.0003	0.00003	**0.0669**

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	**0.71**
Edith Lake - Continued										
	13-Sep-2017	**0.154** [#1]	0.0594	0.01	0.0015	**0.145** [#1]	0.0594	0.0003	0.00004	**0.0743**
(Duplicate)	13-Sep-2017	**0.084** [#1]	0.0551	0.01	0.0008	**0.064** [#1]	0.0551	0.0003	0.00002	**0.0987**
	30-Aug-2018	**0.088** [#1]	0.0569	0.01	0.0009	**0.121** [#1]	0.0569	0.0003	0.00004	**0.1319**
	6-Sep-2019	**0.153**	0.058	0.01	0.0015	**0.213** [#1]	0.058	0.0003	0.00006	**0.1112**
(Duplicate)	6-Sep-2019	**0.122** [#1]	0.0575	0.01	0.0012	**0.15**	0.0575	0.0003	0.00005	**0.1314**
	26-Aug-2020	**0.076**	0.0497	0.01	0.0008	**0.103**	0.0497	0.0003	0.00003	**0.0861**
(Duplicate)	26-Aug-2020	**0.07**	0.05	0.01	0.0007	**0.093**	0.05	0.0003	0.00003	**0.0582**
	30-Sep-2021	**0.113**	0.047	0.01	0.00113	**< 0.11**	0.11	0.0003	0.00002	**0.0673**
	13-Oct-2022	**< 0.051**	0.051	0.01	0.000255	**< 0.12**	0.12	0.0003	0.00002	**0.0444**
	14-Sep-2023	**0.1** [#1]	0.014	0.01	0.0010	**0.11** [#1]	0.027	0.0003	0.00003	**0.0378**
(Duplicate)	14-Sep-2023	**0.089** [#1]	0.02	0.01	0.0009	**0.077** [#1]	0.026	0.0003	0.00002	**0.1121**
Brook Trout 4+	29-Jun-1998	**< 1.0**	1	0.01	0.0050	**12.0**	1.2	0.0003	0.0036	**0.4686**
	01-Sep-1999	**< 0.3**	0.3	0.01	0.0015	**1.3**	0.6	0.0003	0.0004	**0.2469**
	03-Sep-2000	**< 0.34**	0.34	0.01	0.0017	**2.5**	0.62	0.0003	0.0008	**0.5570**
(Duplicate)	03-Sep-2000	**< 0.47**	0.47	0.01	0.0024	**2.6**	0.62	0.0003	0.0008	**0.3191**
	15-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**< 0.3**	0.3	0.0003	0.00005	**0.1155**
	10-Sep-2005	**< 0.22**	0.22	0.01	0.0011	**< 0.37**	0.37	0.0003	0.0001	**0.2962**
	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**1.6**	0.1	0.0003	0.0005	**0.1160**
	01-Sep-2011	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	**0.1645**
	01-Sep-2013	**0.539** [#1]	0.137	0.01	0.0054	**1.11**	0.253	0.0003	0.0003	**0.4958**
	21-Sep-2014	**0.244**	0.0556	0.01	0.0024	**0.218**	0.0556	0.0003	0.0001	**0.2496**
(Replicate A)	23-Sep-2015	**0.074** [#1]	0.0562	0.01	0.0007	**0.069**	0.0562	0.0003	0.00002	**0.0654**
(Replicate B)	22-Sep-2015	**0.101**	0.056	0.01	0.0010	**0.171**	0.056	0.0003	0.0001	**0.1098**
	30-Aug-2016	**0.133**	0.057	0.01	0.0013	**0.483**	0.057	0.0003	0.0001	**0.1051**
	13-Sep-2017	**0.149** [#1]	0.0578	0.01	0.0015	**< 0.0578**	0.0578	0.0003	0.00001	**0.0734**
	30-Aug-2018	**< 0.0556**	0.0556	0.01	0.0003	**< 0.0556**	0.0556	0.0003	0.00001	**0.0642**
	26-Aug-2020	**0.094**	0.0499	0.01	0.0009	**0.085**	0.0499	0.0003	0.00003	**0.0616**
	14-Sep-2023	**0.11** [#1]	0.012	0.01	0.0011	**0.1** [#1]	0.021	0.0003	0.00003	**0.0459**
Brook Trout 5+	26-Sep-2001	**0.4**	0.1	0.01	0.0040	**6.6**	0.1	0.0003	0.0020	**0.0885**
	15-Sep-2004	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.0003	0.00003	**0.1155**
	10-Sep-2005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	**0.1155**
	04-Oct-2006	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	**0.1155**
	01-Sep-2011	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	**0.2210**
	01-Sep-2013	**0.417** [#1]	0.0463	0.01	0.0042	**0.218** [#1]	0.0463	0.0003	0.0001	**0.1635**
	21-Sep-2014	**0.146**	0.0579	0.01	0.0015	**0.125**	0.057	0.0003	0.00004	**0.1134**
	30-Aug-2016	**0.151**	0.057	0.01	0.0015	**0.18** [#1]	0.057	0.0003	0.0001	**0.2058**
	30-Sep-2021	**0.2** [#1]	0.045	0.01	0.002	**0.145**	0.13	0.0003	0.0000435	**0.0921**
Brook Trout 6+	14-Sep-2023	**0.092** [#1]	0.037	0.01	0.00092	**0.0883** [#1]	0.032	0.0003	0.00003	**0.0951**
Brook Trout 7+	10-Sep-2003	**< 0.2**	0.2	0.01	0.0010	**< 0.4**	0.4	0.0003	0.0001	**0.1661**
Brook Trout 8+	10-Sep-2002	**< 1.2**	1.2	0.01	0.0060	**< 3.3**	3.3	0.0003	0.0005	**0.4865**
Brook Trout 11+	11-Sep-2007	**< 0.10**	0.1	0.01	0.0005	**1.7**	0.1	0.0003	0.0005	**0.1160**

Dioxin Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997 - 2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,4,6,7,8-(HpCDD)				1,2,3,4,6,7,8,9-(OCDD)				Total
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Dioxin TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	**0.71**
Edith Lake - Continued										
Brook Trout 12+	11-Sep-2007	**< 0.10**	0.1	0.01	0.0005	**1.2**	0.1	0.0003	0.0004	**0.1159**
Brook Trout Unknown	23-Jul-2008	**0.40**	0.1	0.01	0.0040	**1.5**	0.1	0.0003	0.0005	**0.1735**
(Replicate A)	23-Jul-2008	**0.23**	0.1	0.01	0.0023	**0.77**	0.1	0.0003	0.0002	**0.1255**
(Replicate B)	23-Jul-2008	**< 0.10**	0.1	0.01	0.0005	**0.45**	0.1	0.0003	0.0001	**0.1216**
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	0.01	0.0005	**0.64**	0.1	0.0003	0.0002	**0.1207**

NOTES:

1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Superscript #1 - Result does not meet all quantification criteria and value denotes the estimated maximum possible concentration (EMPC)

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PROJECT No.: 317011-00057

Table C.5

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

Sampling Location	Date	2,3,7,8-(TCDF)				1,2,3,7,8-(PeCDF)				2,3,4,7,8-(PeCDF)				1,2,3,4,7,8-(HxCDF)				1,2,3,6,7,8-(HxCDF)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Hatchery																					
Brook Trout 0+	24-Jun-1997	**< 0.4**	0.4	0.1	0.0200	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100
	25-Jun-1998	**< 0.4**	0.4	0.1	0.0200	**< 0.9**	0.9	0.03	0.0135	**< 1.2**	1.2	0.3	0.1800	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150
	01-Sep-1999	**0.6**	0.3	0.1	0.0600	**< 0.3**	0.3	0.03	0.0045	**< 0.3**	0.3	0.3	0.0450	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100
	09-Sep-2001	**0.5**	0.1	0.1	0.0500	**< 0.1**	0.1	0.03	0.0015	**0.2**	0.1	0.3	0.0600	**0.1**	0.1	0.1	0.0100	**0.1** [#1]	0.1	0.1	0.0100
	10-Sep-2002	**< 0.3**	0.3	0.1	0.0150	**< 0.4**	0.4	0.03	0.0060	**< 0.2**	0.2	0.3	0.0300	**< 0.3**	0.3	0.1	0.0150	**< 0.4**	0.4	0.1	0.0200
	6-Sep-2003	**0.2**	0.1	0.1	0.0200	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	9-Sep-2004	**1.7**	0.1	0.1	0.1700	**0.2**	0.1	0.03	0.0060	**< 0.1**	0.1	0.3	0.0150	**0.1**	0.1	0.1	0.0100	**0.1**	0.1	0.1	0.0100
	10-Sep-2005	**1.2**	0.1	0.1	0.1200	**< 0.1**	0.1	0.03	0.0015	**0.28**	0.1	0.3	0.0840	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2009	**< 0.60**	0.6	0.1	0.0300	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.080**	0.08	0.1	0.0040	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2012	**< 0.060**	0.06	0.1	0.0030	**< 0.060**	0.060	0.03	0.0009	**< 0.060**	0.060	0.3	0.0090	**< 0.040**	0.040	0.1	0.0020	**< 0.040**	0.040	0.1	0.0020
	01-Sep-2013	**0.139** [#1]	0.0488	0.1	0.0139	**< 0.0488**	0.0488	0.03	0.0007	**0.061** [#1]	0.0488	0.3	0.0183	**< 0.0488**	0.0488	0.1	0.0024	**< 0.0488**	0.0488	0.1	0.0024
	21-Sep-2014	**0.21**	0.116	0.1	0.0210	**< 0.0568**	0.0568	0.03	0.0009	**< 0.0568**	0.0568	0.3	0.0085	**< 0.0568**	0.0568	0.1	0.0028	**< 0.0568**	0.0568	0.1	0.0028
	22-Sep-2015	**0.095** [#1]	0.0563	0.1	0.0095	**< 0.0563**	0.0563	0.03	0.0008	**< 0.0563**	0.0563	0.3	0.0084	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028
	30-Aug-2016	**0.07**	0.0475	0.1	0.0070	**< 0.0551**	0.0551	0.03	0.0008	**< 0.0551**	0.0551	0.3	0.0083	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
	30-Aug-2018	**< 0.0566**	0.0566	0.1	0.0028	**< 0.0566**	0.0566	0.03	0.0008	**< 0.0566**	0.0566	0.3	0.0085	**< 0.0566**	0.0566	0.1	0.0028	**< 0.0566**	0.0566	0.1	0.0028
	6-Sep-2019	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.03	0.0009	**< 0.0574**	0.0574	0.3	0.0086	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	26-Aug-2020	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.03	0.0007	**< 0.0496**	0.0496	0.3	0.0074	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025
	30-Sep-2021	**0.079** [#1]	0.0280	0.1	0.0079	**< 0.038**	0.0380	0.03	0.00057	**< 0.029**	0.0290	0.3	0.00435	**< 0.029**	0.0290	0.1	0.00145	**< 0.031**	0.0310	0.1	0.00155
	13-Oct-2022	**0.4990**	0.0510	0.1	0.0499	**< 0.046**	0.0460	0.03	0.00069	**< 0.04**	0.0400	0.3	0.006	**< 0.022**	0.0220	0.1	0.0011	**< 0.022**	0.0220	0.1	0.0011
Brook Trout 1+	13-Sep-2017	**0.107**	0.059	0.1	0.0107	**< 0.059**	0.059	0.03	0.0009	**< 0.059**	0.059	0.3	0.0089	**<0.059**	0.059	0.1	0.0030	**<0.059**	0.059	0.1	0.0030
Chrystina Lake																					
Brook Trout 1+	11-Aug-2009	**< 0.70**	0.7	0.1	0.0350	**< 0.20**	0.2	0.03	0.0030	**< 0.20**	0.2	0.3	0.0300	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.080**	0.08	0.1	0.0040	**< 0.20**	0.2	0.03	0.0030	**< 0.20**	0.2	0.3	0.0300	**< 0.10**	0.1	0.1	0.0050	**< 0.090**	0.09	0.1	0.0045
	01-Sep-2012	**0.890**	0.06	0.1	0.0890	**< 0.030**	0.030	0.03	0.0005	**< 0.040**	0.040	0.3	0.0060	**< 0.03**	0.030	0.1	0.0015	**< 0.030**	0.030	0.1	0.0015
(Replicate A)	01-Sep-2013	**0.492** [#1]	0.0193	0.1	0.0492	**< 0.193**	0.193	0.03	0.0029	**< 0.193**	0.193	0.3	0.0290	**< 0.193**	0.193	0.1	0.0097	**< 0.193**	0.193	0.1	0.0097
(Replicate B)	01-Sep-2013	**0.397**	0.0722	0.1	0.0397	**< 0.0722**	0.0722	0.03	0.0011	**0.108** [#1]	0.0722	0.3	0.0324	**< 0.0722**	0.0722	0.1	0.0036	**< 0.0722**	0.0722	0.1	0.0036
	23-Sep-2015	**1.51** [#1]	0.0567	0.1	0.1510	**< 0.0567**	0.0567	0.03	0.0009	**0.153**	0.0567	0.3	0.0459	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
	31-Aug-2016	**0.276**	0.0478	0.1	0.0276	**< 0.0554**	0.0554	0.03	0.0008	**0.085** [#1]	0.0554	0.3	0.0255	**< 0.0554**	0.0554	0.1	0.0028	**< 0.0554**	0.0554	0.1	0.0028
	12-Sep-2017	**0.314**	0.056	0.1	0.0314	**< 0.056**	0.056	0.03	0.0008	**0.065** [#1]	0.056	0.3	0.0195	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
	29-Aug-2018	**0.349**	0.056	0.1	0.0349	**< 0.056**	0.056	0.03	0.0008	**0.073** [#1]	0.056	0.3	0.0219	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
(Replicate A)	05-Sep-2019	**0.285**	0.057	0.1	0.0285	**< 0.057**	0.057	0.03	0.0009	**< 0.057**	0.057	0.3	0.0086	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
(Replicate B)	05-Sep-2019	**0.299**	0.0573	0.1	0.0299	**< 0.0573**	0.0573	0.03	0.0009	**0.059**	0.0573	0.3	0.0177	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
	25-Aug-2020	**0.29**	0.05	0.1	0.0290	**0.059**	0.05	0.03	0.0018	**0.054**	0.05	0.3	0.0162	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025
	29-Sep-2021	**0.499**	0.11	0.1	0.0499	**< 0.078**	0.078	0.03	0.001	**0.0521**	0.026	0.3	0.01563	**< 0.036**	0.036	0.1	0.0018	**< 0.035**	0.035	0.1	0.00175
	29-Sep-2021	**0.395**	0.061	0.1	0.0395	**< 0.089**	0.089	0.03	0.001	**0.0507**	0.024	0.3	0.01521	**< 0.031**	0.031	0.1	0.0016	**< 0.034**	0.034	0.1	0.0017
	12-Oct-2022	**0.317**	0.026	0.1	0.0317	**0.0421**	0.026	0.03	0.001	**0.047** [#1]	0.024	0.3	0.0141	**< 0.023**	0.023	0.1	0.0012	**< 0.03**	0.03	0.1	0.0015
	13-Sep-2023	**0.287**	0.02	0.1	0.0287	**0.045** [#1]	0.015	0.03	0.001	**< 0.014**	0.014	0.3	0.0021	**< 0.013**	0.013	0.1	0.0007	**< 0.013**	0.013	0.1	0.0007
Brook Trout 2+	05-Oct-1995	**13.0**	3.8	0.1	1.3000	**< 3.4**	3.4	0.03	0.0510	**4.4**	3.1	0.3	1.3200	**< 7.0**	7	0.1	0.3500	**< 6.9**	6.9	0.1	0.3450
	24-Jun-1997	**17.0**	0.2	0.1	1.7000	**0.4**	0.1	0.03	0.0120	**1.5**	0.1	0.3	0.4500	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2009	**< 0.40**	0.4	0.1	0.0200	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDF)				1,2,3,7,8-(PeCDF)				2,3,4,7,8-(PeCDF)				1,2,3,4,7,8-(HxCDF)				1,2,3,6,7,8-(HxCDF)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																					
	11-Aug-2010	**0.97**	0.1	0.1	0.0970	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**3.11**	0.07	0.1	0.3110	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.050**	0.05	0.1	0.0025	**< 0.040**	0.04	0.1	0.0020
	01-Sep-2012	**0.37**	0.06	0.1	0.0370	**< 0.030**	0.030	0.03	0.0005	**< 0.030**	0.030	0.3	0.0045	**< 0.030**	0.030	0.1	0.0015	**< 0.020**	0.020	0.1	0.0010
	01-Sep-2013	**0.865**	0.0489	0.1	0.0865	**0.053**	0.0489	0.03	0.0016	**0.143** [#1]	0.0489	0.3	0.0429	**< 0.0489**	0.0489	0.1	0.0024	**< 0.0489**	0.0489	0.1	0.0024
	22-Sep-2014	**0.758**	0.156	0.1	0.0758	**< 0.0579**	0.0579	0.03	0.0009	**0.2** [#1]	0.0579	0.3	0.0600	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
(Replicate A)	22-Sep-2014	**0.488**	0.115	0.1	0.0488	**< 0.0573**	0.0573	0.03	0.0009	**0.092**	0.0573	0.3	0.0276	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
(Replicate B)	22-Sep-2014	**0.764**	0.143	0.1	0.0764	**< 0.056**	0.056	0.03	0.0008	**0.127**	0.056	0.3	0.0381	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
	23-Sep-2015	**1.49**	0.0567	0.1	0.1490	**< 0.0567**	0.0567	0.03	0.0009	**0.148**	0.0567	0.3	0.0444	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
	31-Aug-2016	**0.998**	0.0476	0.1	0.0998	**< 0.0557**	0.0557	0.03	0.0008	**0.202**	0.0557	0.3	0.0606	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028
	12-Sep-2017	**0.558**	0.0582	0.1	0.0558	**0.064** [#1]	0.0582	0.03	0.0019	**0.1**	0.0582	0.3	0.0300	**< 0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.1	0.0029
(Replicate A)	12-Sep-2017	**0.419**	0.058	0.1	0.0419	**< 0.058**	0.058	0.03	0.0009	**0.125** [#1]	0.058	0.3	0.0375	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
	29-Aug-2018	**0.647** [#1]	0.056	0.1	0.0647	**0.071**	0.056	0.03	0.0021	**0.173**	0.056	0.3	0.0519	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
(Replicate A)	05-Sep-2019	**0.505**	0.0549	0.1	0.0505	**< 0.0549**	0.0549	0.03	0.0008	**0.071** [#1]	0.0549	0.3	0.0213	**< 0.0549**	0.0549	0.1	0.0027	**< 0.0549**	0.0549	0.1	0.0027
(Replicate B)	05-Sep-2019	**0.549**	0.0579	0.1	0.0549	**< 0.0579**	0.0579	0.03	0.0009	**0.07**	0.0579	0.3	0.0210	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
(Replicate A)	25-Aug-2020	**0.632**	0.0498	0.1	0.0632	**0.056**	0.0498	0.03	0.0017	**0.108**	0.0498	0.3	0.0324	**< 0.0498**	0.0498	0.1	0.0025	**< 0.0498**	0.0498	0.1	0.0025
(Replicate B)	25-Aug-2020	**0.522**	0.0497	0.1	0.0522	**< 0.0497**	0.0497	0.03	0.0007	**0.076**	0.0497	0.3	0.0228	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.1	0.0025
	29-Sep-2021	**0.462**	0.0720	0.1	0.0462	**0.024** [#1]	0.02	0.03	0.0007	**0.067**	0.031	0.3	0.0201	**< 0.03**	0.03	0.1	0.0015	**< 0.03**	0.03	0.1	0.0015
	12-Oct-2022	**0.954**	0.0460	0.1	0.0954	**0.049** [#1]	0.032	0.03	0.0015	**0.132**	0.04	0.3	0.0396	**< 0.042**	0.042	0.1	0.0021	**< 0.041**	0.041	0.1	0.00205
	13-Sep-2023	**0.521**	0.0330	0.1	0.0521	**0.06** [#1]	0.02	0.03	0.0018	**0.1** [#1]	0.018	0.3	0.0300	**< 0.024**	0.024	0.1	0.0012	**< 0.024**	0.024	0.1	0.0012
Brook Trout 3+	24-Jun-1997	**6.1**	0.2	0.1	0.6100	**0.2**	0.1	0.03	0.0060	**1.3**	0.1	0.3	0.3900	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Sep-2000	**1.6**	0.75	0.1	0.1600	**< 0.52**	0.52	0.03	0.0078	**< 0.67**	0.67	0.3	0.1005	**< 0.4**	0.4	0.1	0.0200	**< 0.39**	0.39	0.1	0.0195
	04-Oct-2006	**0.34**	0.1	0.1	0.0340	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2010	**< 0.30**	0.3	0.1	0.0150	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	11-Aug-2010	**0.84**	0.1	0.1	0.0840	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate A)	01-Sep-2012	**0.94**	0.1	0.1	0.0940	**< 0.050**	0.050	0.03	0.0008	**< 0.050**	0.050	0.3	0.0075	**< 0.040**	0.040	0.1	0.0020	**< 0.040**	0.040	0.1	0.0020
(Duplicate)	01-Sep-2012	**1.4**	0.1	0.1	0.1400	**< 0.050**	0.050	0.03	0.0008	**< 0.050**	0.050	0.3	0.0075	**< 0.030**	0.030	0.1	0.0015	**< 0.030**	0.030	0.1	0.0015
(Replicate B)	01-Sep-2012	**< 0.060**	0.06	0.1	0.0030	**< 0.060**	0.060	0.03	0.0009	**< 0.060**	0.060	0.3	0.0090	**< 0.040**	0.040	0.1	0.0020	**< 0.040**	0.040	0.1	0.0020
(Replicate C)	01-Sep-2013	**0.545**	0.0644	0.1	0.0545	**< 0.0644**	0.0644	0.03	0.0010	**0.148** [#1]	0.0644	0.3	0.0444	**< 0.0644**	0.0644	0.1	0.0032	**< 0.0644**	0.0644	0.1	0.0032
(Replicate D)	01-Sep-2013	**0.616**	0.0651	0.1	0.0616	**< 0.0651**	0.0651	0.03	0.0010	**0.093**	0.0651	0.3	0.0279	**< 0.0651**	0.0651	0.1	0.0033	**< 0.0651**	0.0651	0.1	0.0033
	22-Sep-2014	**0.823**	0.0834	0.1	0.0823	**< 0.0578**	0.0578	0.03	0.0009	**0.174** [#1]	0.0578	0.3	0.0522	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.1	0.0029
(Duplicate)	22-Sep-2014	**0.921**	0.0737	0.1	0.0921	**< 0.056**	0.0567	0.03	0.0009	**0.18**	0.056	0.3	0.0540	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
(Replicate A)	22-Sep-2014	**0.861**	0.056	0.1	0.0861	**0.06** [#1]	0.056	0.03	0.0018	**0.18**	0.0567	0.3	0.0540	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
(Replicate B)	22-Sep-2014	**0.386**	0.0612	0.1	0.0386	**< 0.0574**	0.0574	0.03	0.0009	**0.087**	0.0574	0.3	0.0261	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	23-Sep-2015	**1.66** [#1]	0.0572	0.1	0.1660	**0.067**	0.0572	0.03	0.0020	**0.147**	0.0572	0.3	0.0441	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029
	31-Aug-2016	**1.46**	0.0471	0.1	0.1460	**< 0.0551**	0.0551	0.03	0.0008	**0.167**	0.0551	0.3	0.0501	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
(Duplicate)	31-Aug-2016	**1.39**	0.048	0.1	0.1390	**< 0.0561**	0.0561	0.03	0.0008	**0.182**	0.0561	0.3	0.0546	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028
(Replicate A)	31-Aug-2016	**1.35**	0.0471	0.1	0.1350	**0.077**	0.0546	0.03	0.0023	**0.245**	0.0546	0.3	0.0735	**< 0.0546**	0.0546	0.1	0.0027	**< 0.0546**	0.0546	0.1	0.0027
	12-Sep-2017	**0.742**	0.0559	0.1	0.0742	**< 0.0559**	0.0559	0.03	0.0008	**0.106** [#1]	0.0559	0.3	0.0318	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028
(Duplicate)	12-Sep-2017	**0.767**	0.0588	0.1	0.0767	**0.078**	0.0588	0.03	0.0023	**0.112** [#1]	0.0588	0.3	0.0336	**< 0.0588**	0.0588	0.1	0.0029	**< 0.0588**	0.0588	0.1	0.0029
	29-Aug-2018	**0.621**	0.0493	0.1	0.0621	**0.053**	0.0493	0.03	0.0016	**0.132**	0.0493	0.3	0.0396	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025
(Duplicate)	29-Aug-2018	**0.699**	0.0548	0.1	0.0699	**< 0.0548**	0.0548	0.03	0.0008	**0.072**	0.0548	0.3	0.0216	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027
(Duplicate)	29-Aug-2018	**0.7**	0.0548	0.1	0.0700	**< 0.0548**	0.0548	0.03	0.0008	**0.092** [#1]	0.0548	0.3	0.0276	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027
	05-Sep-2019	**0.75**	0.0556	0.1	0.0750	**< 0.0556**	0.0556	0.03	0.0008	**0.162** [#1]	0.0556	0.3	0.0486	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028
(Lab - Duplicate)	05-Sep-2019	**0.679**	0.0575	0.1	0.0679	**0.062**	0.0575	0.03	0.0019	**0.121**	0.0575	0.3	0.0363	**< 0.0575**	0.0575	0.1	0.0029	**< 0.0575**	0.0575	0.1	0.0029
	29-Sep-2021	**0.394**	0.12	0.1	0.0394	**< 0.075**	0.075	0.03	0.0011	**0.0747**	0.049	0.3	0.0224	**< 0.044**	0.044	0.1	0.0022	**< 0.047**	0.047	0.1	0.0024
	29-Sep-2021	**0.846**	0.039	0.1	0.0846	**0.055** [#1]	0.028	0.03	0.0017	**0.135**	0.058	0.3	0.0405	**< 0.047**	0.047	0.1	0.0024	**< 0.053**	0.053	0.1	0.0027

PROJECT No.: 317011-00057

Table C.5

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

Sampling Location	Date	2,3,7,8-(TCDF)				1,2,3,7,8-(PeCDF)				2,3,4,7,8-(PeCDF)				1,2,3,4,7,8-(HxCDF)				1,2,3,6,7,8-(HxCDF)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																					
	12-Oct-2022	**0.409**	0.039	0.1	0.0409	**0.034** [#1]	0.022	0.03	0.0010	**0.0658**	0.012	0.3	0.0197	**< 0.027**	0.027	0.1	0.0014	**< 0.027**	0.027	0.1	0.0014
	13-Sep-2023	**0.86** [#1]	0.021	0.1	0.0860	**0.069** [#1]	0.048	0.03	0.0021	**0.132**	0.045	0.3	0.0396	**< 0.022**	0.022	0.1	0.0011	**< 0.021**	0.021	0.1	0.0011
(Lab - Duplicate)	13-Sep-2023	**0.705**	0.036	0.1	0.0705	**0.044** [#1]	0.026	0.03	0.0013	**0.0752**	0.023	0.3	0.0226	**< 0.027**	0.027	0.1	0.0014	**< 0.025**	0.025	0.1	0.0013
Brook Trout 4+	27-Jun-1998	**2.5**	0.4	0.1	0.2500	**< 0.2**	0.2	0.03	0.0030	**5.3**	0.2	0.3	1.5900	**< 0.8**	0.8	0.1	0.0400	**< 0.8**	0.8	0.1	0.0400
	01-Sep-1999	**1.4**	0.2	0.1	0.1400	**< 0.2**	0.2	0.03	0.0030	**0.3**	0.2	0.3	0.0900	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	10-Sep-2001	**2.0**	0.05	0.1	0.2000	**0.2**	0.05	0.03	0.0060	**0.4**	0.05	0.3	0.1200	**0.1**	0.05	0.1	0.0100	**0.1**	0.05	0.1	0.0100
	04-Oct-2006	**1.2**	0.1	0.1	0.1200	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	04-Oct-2006	**1.2**	0.1	0.1	0.1200	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**2.71**	0.08	0.1	0.2710	**< 0.20**	0.2	0.03	0.0030	**< 0.20**	0.2	0.3	0.0300	**< 0.090**	0.09	0.1	0.0045	**< 0.080**	0.08	0.1	0.0040
	01-Sep-2013	**2.45**	0.0496	0.1	0.2450	**< 0.0496**	0.0496	0.03	0.0007	**0.204** [#1]	0.0496	0.3	0.0612	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025
	22-Sep-2014	**1.9**	0.175	0.1	0.1900	**0.104** [#1]	0.0574	0.03	0.0031	**0.356** [#1]	0.0574	0.3	0.1068	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	23-Sep-2015	**1.34** [#1]	0.0557	0.1	0.1340	**< 0.0557**	0.0557	0.03	0.0008	**0.131** [#1]	0.0557	0.3	0.0393	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028
(Replicate A)	23-Sep-2015	**1.48** [#1]	0.0562	0.1	0.1480	**< 0.0562**	0.0562	0.03	0.0008	**0.186**	0.0562	0.3	0.0558	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028
	12-Sep-2017	**1.01**	0.0582	0.1	0.1010	**0.069** [#1]	0.0582	0.03	0.0021	**0.248** [#1]	0.0582	0.3	0.0744	**< 0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.1	0.0029
(Replicate A)	29-Aug-2018	**1.28** [#1]	0.0558	0.1	0.1280	**< 0.0558**	0.0558	0.03	0.0008	**0.224**	0.0558	0.3	0.0672	**< 0.0558**	0.0558	0.1	0.0028	**< 0.0558**	0.0558	0.1	0.0028
(Replicate B)	29-Aug-2018	**0.629**	0.05	0.1	0.0629	**0.053** [#1]	0.053	0.03	0.0016	**0.12** [#1]	0.05	0.3	0.0360	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025
(Replicate C)	29-Aug-2018	**0.786**	0.0561	0.1	0.0786	**0.075** [#1]	0.0561	0.03	0.0023	**0.164** [#1]	0.0561	0.3	0.0492	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028
	25-Aug-2020	**0.555**	0.0496	0.1	0.0555	**0.051**	0.0496	0.03	0.0015	**0.062**	0.0496	0.3	0.0186	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025
	29-Sep-2021	**0.561**	0.027	0.1	0.0561	**0.0392**	0.031	0.03	0.0012	**0.0875**	0.031	0.3	0.0263	**< 0.032**	0.032	0.1	0.0016	**< 0.03**	0.03	0.1	0.0015
Brook Trout 5+	05-Oct-1995	**23.0**	2.8	0.1	2.3000	**< 2.9**	2.9	0.03	0.0435	**6.9**	2.6	0.3	2.0700	**< 6.4**	6.4	0.1	0.3200	**< 5.9**	5.9	0.1	0.2950
	01-Sep-1999	**1.2**	0.2	0.1	0.1200	**< 0.9**	0.9	0.03	0.0135	**< 0.6**	0.6	0.3	0.0900	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100
	04-Sep-2000	**1.8**	0.51	0.1	0.1800	**< 0.42**	0.42	0.03	0.0063	**< 0.51**	0.51	0.3	0.0765	**< 0.33**	0.33	0.1	0.0165	**< 0.34**	0.34	0.1	0.0170
	10-Sep-2002	**0.9**	0.2	0.1	0.0900	**< 0.4**	0.4	0.03	0.0060	**< 0.3**	0.3	0.3	0.0450	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250
	07-Sep-2003	**0.8**	0.1	0.1	0.0800	**< 0.1**	0.1	0.03	0.0015	**0.1**	0.1	0.3	0.0300	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	12-Sep-2004	**0.9**	0.1	0.1	0.0900	**0.2**	0.1	0.03	0.0060	**0.2**	0.1	0.3	0.0600	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	10-Sep-2005	**1.2**	0.1	0.1	0.1200	**< 0.1**	0.1	0.03	0.0015	**0.28**	0.1	0.3	0.0840	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	04-Oct-2006	**0.36**	0.1	0.1	0.0360	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Sep-2007	**1.5**	0.1	0.1	0.1500	**< 0.10**	0.1	0.03	0.0015	**0.21**	0.1	0.3	0.0630	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2013	**4.89**	0.0712	0.1	0.4890	**0.151**	0.0712	0.03	0.0045	**0.442**	0.0712	0.3	0.1326	**< 0.0712**	0.0712	0.1	0.0036	**< 0.0712**	0.0712	0.1	0.0036
	23-Sep-2015	**1.54**	0.0572	0.1	0.1540	**< 0.0572**	0.0572	0.03	0.0009	**0.183**	0.0572	0.3	0.0549	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029
	30-Aug-2016	**0.702**	0.0486	0.1	0.0702	**< 0.0564**	0.0564	0.03	0.0008	**0.136** [#1]	0.0564	0.3	0.0408	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028
	12-Sep-2017	**1.84**	0.058	0.1	0.1840	**0.083**	0.058	0.03	0.0025	**0.262** [#1]	0.058	0.3	0.0786	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
	29-Sep-2021	**0.766**	0.037	0.1	0.0766	**0.0472**	0.026	0.03	0.001416	**0.108**	0.039	0.3	0.0324	**< 0.031**	0.031	0.1	0.00155	**< 0.034**	0.034	0.1	0.0017
Brook Trout 6+	27-Jun-1998	**1.0**	0.5	0.1	0.1000	**< 1.5**	1.5	0.03	0.0225	**1.8**	1.7	0.3	0.5400	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150
	11-Sep-2001	**1.4**	0.05	0.1	0.1400	**0.2**	0.1	0.03	0.0060	**0.3**	0.1	0.3	0.0900	**0.2**	0.05	0.1	0.0200	**0.1**	0.05	0.1	0.0100
	10-Sep-2005	**1.6**	0.1	0.1	0.1600	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
(Duplicate)	10-Sep-2005	**1.5**	0.1	0.1	0.1500	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**0.78**	0.1	0.1	0.0780	**< 0.10**	0.1	0.03	0.0015	**0.26**	0.1	0.3	0.0780	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 7+	10-Sep-2002	**0.8**	0.2	0.1	0.0800	**< 0.4**	0.4	0.03	0.0060	**< 0.3**	0.3	0.3	0.0450	**< 0.5**	0.5	0.1	0.0250	**< 0.4**	0.4	0.1	0.0200
(Duplicate)	10-Sep-2002	**0.6**	0.2	0.1	0.0600	**< 0.3**	0.3	0.03	0.0045	**< 0.1**	0.1	0.3	0.0150	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150
	06-Sep-2003	**0.8**	0.2	0.1	0.0800	**< 0.10**	0.1	0.03	0.0015	**0.1**	0.1	0.3	0.0300	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	06-Sep-2003	**1**	0.1	0.1	0.1000	**< 0.10**	0.1	0.03	0.0015	**0.2**	0.1	0.3	0.0600	**0.1**	0.1	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050
	12-Sep-2004	**0.5**	0.1	0.1	0.0500	**< 0.1**	0.1	0.03	0.0015	**0.2**	0.1	0.3	0.0600	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDF)				1,2,3,7,8-(PeCDF)				2,3,4,7,8-(PeCDF)				1,2,3,4,7,8-(HxCDF)				1,2,3,6,7,8-(HxCDF)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Chrystina Lake - Continued																					
(Duplicate)	12-Sep-2004	**1.5**	0.1	0.1	0.1500	**0.3**	0.1	0.03	0.0090	**0.4**	0.1	0.3	0.1200	**0.2**	0.1	0.1	0.0200	**0.1**	0.1	0.1	0.0100
	10-Sep-2005	**1.2**	0.1	0.1	0.1200	**< 0.1**	0.1	0.03	0.0015	**0.42**	0.1	0.3	0.1260	**< 0.1**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Sep-2007	**0.58**	0.1	0.1	0.0580	**< 0.10**	0.1	0.03	0.0015	**0.14**	0.1	0.3	0.0420	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	11-Sep-2007	**0.39**	0.1	0.1	0.0390	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 9+	12-Sep-2004	**0.3**	0.1	0.1	0.0300	**0.2**	0.1	0.03	0.0060	**0.1**	0.1	0.3	0.0300	**< 0.1**	0.1	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050
Brook Trout 11+	11-Sep-2007	**1.6**	0.1	0.1	0.1600	**< 0.10**	0.1	0.03	0.0015	**0.42**	0.1	0.3	0.1260	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 12+	11-Sep-2007	**2.3**	0.1	0.1	0.2300	**< 0.10**	0.1	0.03	0.0015	**0.27**	0.1	0.3	0.0810	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout Unknown	23-Jul-2008	**0.41**	0.1	0.1	0.0410	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**0.10**	0.1	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050
(Replicate)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate A)	23-Jul-2008	**0.32**	0.2	0.1	0.0320	**< 0.20**	0.2	0.03	0.0030	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Replicate B)	23-Jul-2008	**0.41**	0.1	0.1	0.0410	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**0.26**	0.1	0.1	0.0260	**0.16**	0.1	0.1	0.0160
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**0.14**	0.1	0.1	0.0140	**< 0.10**	0.1	0.1	0.0050
	12-Oct-2022	**0.525**	0.051	0.1	0.0525	**0.033** [#1]	0.019	0.03	0.0010	**0.0621**	0.016	0.3	0.0186	**< 0.021**	0.021	0.1	0.0011	**< 0.02**	0.02	0.1	0.0010
(Replicate A)	13-Sep-2023	**0.54** [#1]	0.055	0.1	0.0540	**< 0.046**	0.046	0.03	0.0007	**< 0.043**	0.043	0.3	0.0065	**< 0.036**	0.036	0.1	0.0018	**< 0.036**	0.036	0.1	0.0018
(Replicate B)	13-Sep-2023	**0.44** [#1]	0.018	0.1	0.0440	**< 0.042**	0.042	0.03	0.0006	**0.0599**	0.038	0.3	0.0180	**< 0.02**	0.02	0.1	0.0010	**< 0.019**	0.019	0.1	0.0010
White Sucker 1+	21-Sep-2014	**0.134**	0.0579	0.1	0.0134	**< 0.0579**	0.0579	0.03	0.0009	**0.071** [#1]	0.0579	0.3	0.0213	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
White Sucker 2+	22-Sep-2014	**0.213** [#1]	0.112	0.1	0.0213	**< 0.0573**	0.0573	0.03	0.0009	**< 0.0573**	0.0573	0.3	0.0086	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
White Sucker 5+	25-Jun-1997	**22.0**	0.1	0.1	2.2000	**0.5**	0.1	0.03	0.0150	**2.7**	0.1	0.3	0.8100	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
White Sucker 6+	24-Jun-1997	**27.0**	0.2	0.1	2.7000	**0.4**	0.1	0.03	0.0120	**2.5**	0.1	0.3	0.7500	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100
	25-Jun-1998	**1.2**	0.4	0.1	0.1200	**< 0.8**	0.8	0.03	0.0120	**< 1.1**	1.1	0.3	0.1650	**< 0.6**	0.6	0.1	0.0300	**< 0.5**	0.5	0.1	0.0250
	12-Sep-2004	**0.3**	0.1	0.1	0.0300	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**0.1**	0.1	0.1	0.0100	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 7+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 8+	27-Jun-1998	**4.1**	0.4	0.1	0.4100	**< 0.4**	0.4	0.03	0.0060	**< 0.6**	0.6	0.3	0.0900	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2009	**< 0.50**	0.5	0.1	0.0250	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 9+	02-Sep-2000	**< 0.77**	0.77	0.1	0.0385	**< 0.48**	0.48	0.03	0.0072	**< 0.58**	0.58	0.3	0.0870	**< 0.42**	0.42	0.1	0.0210	**< 0.44**	0.44	0.1	0.0220
	12-Sep-2004	**0.2**	0.1	0.1	0.0200	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**0.1**	0.1	0.1	0.0100	**< 0.1**	0.1	0.1	0.0050
	11-Sep-2007	**2.3**	0.1	0.1	0.2300	**< 0.10**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**0.11**	0.1	0.1	0.0110	**0.11**	0.1	0.1	0.0110
White Sucker 10+	11-Aug-2009	**< 0.30**	0.3	0.1	0.0150	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
White Sucker 11+	12-Sep-2004	**0.3**	0.1	0.1	0.0300	**< 0.1**	0.1	0.05	0.0025	**< 0.1**	0.1	0.3	0.0150	**0.1**	0.1	0.1	0.0100	**< 0.1**	0.1	0.1	0.0050
Forage Fish	4-Nov-2014	**0.232**	0.0551	0.1	0.0232	**< 0.0551**	0.0551	0.03	0.0008	**< 0.0551**	0.0551	0.3	0.0083	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
Aquatic Invertebrates	22-Aug-2014	**0.524**	0.281	0.1	0.0524	**< 0.281**	0.281	0.03	0.0042	**0.308**	0.281	0.3	0.0924	**< 0.281**	0.281	0.1	0.0141	**< 0.281**	0.281	0.1	0.0141
Edith Lake																					
Brook Trout 1+	11-Aug-2009	**< 0.20**	0.2	0.1	0.0100	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.10**	0.1	0.1	0.0050	**< 0.30**	0.3	0.03	0.0045	**< 0.30**	0.3	0.3	0.0450	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
(Duplicate)	01-Sep-2011	**< 0.050**	0.05	0.1	0.0025	**< 0.080**	0.08	0.03	0.0012	**< 0.070**	0.07	0.3	0.0105	**< 0.050**	0.05	0.1	0.0025	**< 0.040**	0.04	0.1	0.0020
	01-Sep-2012	**< 0.030**	0.03	0.1	0.0015	**< 0.040**	0.040	0.03	0.0006	**< 0.040**	0.040	0.3	0.0060	**< 0.030**	0.030	0.1	0.0015	**< 0.030**	0.030	0.1	0.0015
	22-Sep-2015	**0.194**	0.0559	0.1	0.0194	**< 0.0559**	0.0559	0.03	0.0008	**< 0.0559**	0.0559	0.3	0.0084	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028
	30-Aug-2016	**0.097**	0.0472	0.1	0.0097	**< 0.0548**	0.0548	0.03	0.0008	**< 0.0548**	0.0548	0.3	0.0082	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027
	13-Sep-2017	**0.162**	0.0584	0.1	0.0162	**0.075**	0.0584	0.03	0.0023	**< 0.0584**	0.0584	0.3	0.0088	**< 0.0584**	0.0584	0.1	0.0029	**< 0.0584**	0.0584	0.1	0.0029
	30-Aug-2018	**0.088**	0.0551	0.1	0.0088	**< 0.0551**	0.0551	0.03	0.0008	**< 0.0551**	0.0551	0.3	0.0083	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
(Replicate A)	6-Sep-2019	**0.11**	0.058	0.1	0.0110	**< 0.058**	0.058	0.03	0.0009	**< 0.058**	0.058	0.3	0.0087	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
(Replicate B)	6-Sep-2019	**0.118**	0.0564	0.1	0.0118	**0.066**	0.0564	0.03	0.0020	**< 0.0564**	0.0564	0.3	0.0085	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDF)				1,2,3,7,8-(PeCDF)				2,3,4,7,8-(PeCDF)				1,2,3,4,7,8-(HxCDF)				1,2,3,6,7,8-(HxCDF)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																					
	26-Aug-2020	**0.105**	0.0493	0.1	0.0105	**0.056** [#1]	0.0493	0.03	0.0017	**< 0.0493**	0.0493	0.3	0.0074	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025
	30-Sep-2021	**0.056** [#1]	0.025	0.1	0.0056	**< 0.044**	0.044	0.03	0.0007	**< 0.034**	0.034	0.3	0.0051	**< 0.032**	0.032	0.1	0.0016	**< 0.025**	0.025	0.1	0.0013
	13-Oct-2022	**0.0739**	0.034	0.1	0.00739	**0.0339**	0.028	0.03	0.0010	**0.0138**	0.013	0.3	0.00414	**< 0.027**	0.027	0.1	0.0014	**< 0.04**	0.04	0.1	0.0020
	14-Sep-2023	**0.172**	0.029	0.1	0.0172	**< 0.025**	0.025	0.03	0.0004	**< 0.024**	0.024	0.3	0.0036	**< 0.016**	0.016	0.1	0.0008	**< 0.015**	0.015	0.1	0.0008
Brook Trout 2+	11-Aug-2009	**< 0.20**	0.2	0.1	0.0100	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.070**	0.07	0.1	0.0035	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.060**	0.06	0.1	0.0030	**< 0.050**	0.05	0.1	0.0025
	01-Sep-2012	**< 0.060**	0.06	0.1	0.0030	**< 0.020**	0.020	0.03	0.0003	**< 0.020**	0.020	0.3	0.0030	**< 0.020**	0.020	0.1	0.0010	**< 0.020**	0.020	0.1	0.0010
	01-Sep-2013	**1.05**	0.0494	0.1	0.1050	**< 0.0494**	0.0494	0.03	0.0007	**0.11** [#1]	0.0494	0.3	0.0330	**< 0.0494**	0.0494	0.1	0.0025	**< 0.0494**	0.0494	0.1	0.0025
	21-Sep-2014	**0.279**	0.113	0.1	0.0279	**< 0.0574**	0.0574	0.03	0.0009	**< 0.0574**	0.0574	0.3	0.0086	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
(Replicate A)	21-Sep-2014	**0.302**	0.0737	0.1	0.0302	**< 0.0565**	0.0565	0.03	0.0008	**0.069**	0.0565	0.3	0.0207	**< 0.0565**	0.0565	0.1	0.0028	**< 0.0565**	0.0565	0.1	0.0028
(Replicate B)	21-Sep-2014	**0.098**	0.0719	0.1	0.0098	**< 0.0579**	0.0579	0.03	0.0009	**< 0.0579**	0.0579	0.3	0.0087	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029
	22-Sep-2015	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.03	0.0008	**< 0.055**	0.055	0.3	0.0083	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028
	30-Aug-2016	**0.396**	0.0481	0.1	0.0396	**< 0.0563**	0.0563	0.03	0.0008	**0.057** [#1]	0.0563	0.3	0.0171	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028
	13-Sep-2017	**< 0.059**	0.059	0.1	0.0030	**< 0.059**	0.059	0.03	0.0009	**< 0.059**	0.059	0.3	0.0089	**< 0.059**	0.059	0.1	0.0030	**< 0.059**	0.059	0.1	0.0030
	30-Aug-2018	**0.117**	0.0551	0.1	0.0117	**0.073** [#1]	0.0551	0.03	0.0022	**< 0.055**	0.055	0.3	0.0083	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028
(Replicate A)	6-Sep-2019	**< 0.0577**	0.0577	0.1	0.0029	**< 0.0577**	0.0577	0.03	0.0009	**< 0.0577**	0.0577	0.3	0.0087	**< 0.0577**	0.0577	0.1	0.0029	**< 0.0577**	0.0577	0.1	0.0029
(Replicate B)	6-Sep-2019	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.03	0.0009	**< 0.0567**	0.0567	0.3	0.0085	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028
	26-Aug-2020	**0.054**	0.0499	0.1	0.0054	**< 0.0499**	0.0499	0.03	0.0007	**< 0.0499**	0.0499	0.3	0.0075	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.1	0.0025
	30-Sep-2021	**0.056**	0.022	0.1	0.0056	**0.0288**	0.0170	0.03	0.000864	**0.0141**	0.0078	0.3	0.00423	**< 0.019**	0.019	0.1	0.0010	**< 0.021**	0.021	0.1	0.00105
	13-Oct-2022	**0.253**	0.036	0.1	0.0253	**0.0495**	0.0230	0.03	0.001485	**0.029** [#1]	0.0150	0.3	0.0087	**< 0.027**	0.027	0.1	0.0014	**< 0.035**	0.035	0.1	0.00175
	14-Sep-2023	**0.14** [#1]	0.018	0.1	0.014	**0.056** [#1]	0.0260	0.03	0.00168	**< 0.024**	0.0240	0.3	0.0036	**< 0.017**	0.017	0.1	0.0009	**< 0.016**	0.016	0.1	0.0008
Brook Trout 3+	11-Aug-2010	**0.61**	0.1	0.1	0.0610	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.060**	0.06	0.1	0.0030	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.060**	0.06	0.1	0.0030	**< 0.060**	0.06	0.1	0.0030
	01-Sep-2012	**< 0.020**	0.02	0.1	0.0010	**< 0.020**	0.020	0.03	0.0003	**< 0.020**	0.020	0.3	0.0030	**< 0.020**	0.020	0.1	0.0010	**< 0.020**	0.020	0.1	0.0010
(Replicate A)	01-Sep-2013	**0.643** [#1]	0.0466	0.1	0.0643	**0.049**	0.049	0.03	0.0015	**0.067** [#1]	0.0466	0.3	0.0201	**< 0.0466**	0.0466	0.1	0.0023	**< 0.0466**	0.0466	0.1	0.0023
(Duplicate)	01-Sep-2013	**0.634**	0.0485	0.1	0.0634	**< 0.0485**	0.0485	0.03	0.0007	**< 0.0485**	0.0485	0.3	0.0073	**< 0.0485**	0.0485	0.1	0.0024	**< 0.0485**	0.0485	0.1	0.0024
(Replicate B)	01-Sep-2013	**0.729**	0.0487	0.1	0.0729	**< 0.0487**	0.0487	0.03	0.0007	**< 0.0487**	0.0487	0.3	0.0073	**< 0.0487**	0.0487	0.1	0.0024	**< 0.0487**	0.0487	0.1	0.0024
	21-Sep-2014	**0.568**	0.0839	0.1	0.0568	**< 0.0569**	0.0569	0.03	0.0009	**0.077** [#1]	0.0569	0.3	0.0231	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.1	0.0028
(Replicate A)	21-Sep-2014	**0.254** [#1]	0.103	0.1	0.0254	**< 0.0571**	0.0571	0.03	0.0009	**0.079** [#1]	0.0571	0.3	0.0237	**< 0.0571**	0.0571	0.1	0.0029	**< 0.0571**	0.0571	0.1	0.0029
(Replicate B)	21-Sep-2014	**0.301**	0.0574	0.1	0.0301	**< 0.0574**	0.0574	0.03	0.0009	**< 0.0574**	0.0574	0.3	0.0086	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029
	22-Sep-2015	**0.32**	0.057	0.1	0.0320	**< 0.057**	0.057	0.03	0.0009	**< 0.057**	0.057	0.3	0.0086	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
(Duplicate)	22-Sep-2015	**0.247** [#1]	0.0573	0.1	0.0247	**< 0.0573**	0.0573	0.03	0.0009	**0.061**	0.0573	0.3	0.0183	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029
	30-Aug-2016	**0.542**	0.0492	0.1	0.0542	**< 0.0576**	0.0576	0.03	0.0009	**0.084** [#1]	0.0576	0.3	0.0252	**< 0.0576**	0.0576	0.1	0.0029	**< 0.0576**	0.0576	0.1	0.0029
	13-Sep-2017	**0.186**	0.0594	0.1	0.0186	**< 0.0594**	0.0594	0.03	0.0009	**< 0.0594**	0.0594	0.3	0.0089	**< 0.0594**	0.0594	0.1	0.0030	**< 0.0594**	0.0594	0.1	0.0030
(Duplicate)	13-Sep-2017	**0.206**	0.0551	0.1	0.0206	**0.06** [#1]	0.0551	0.03	0.0018	**< 0.0551**	0.0551	0.3	0.0083	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028
	30-Aug-2018	**0.074**	0.0569	0.1	0.0074	**< 0.0569**	0.0569	0.03	0.0009	**< 0.0569**	0.0569	0.3	0.0085	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.1	0.0028
	6-Sep-2019	**0.119**	0.058	0.1	0.0119	**0.061** [#1]	0.058	0.03	0.0018	**0.069**	0.058	0.3	0.0207	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029
(Duplicate)	6-Sep-2019	**0.103**	0.0575	0.1	0.0103	**< 0.0575**	0.0575	0.03	0.0009	**< 0.0575**	0.0575	0.3	0.0086	**< 0.0575**	0.0575	0.1	0.0029	**< 0.0575**	0.0575	0.1	0.0029
	26-Aug-2020	**0.078**	0.0497	0.1	0.0078	**< 0.0497**	0.0497	0.03	0.0007	**< 0.0497**	0.0497	0.3	0.0075	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.1	0.0025
(Duplicate)	26-Aug-2020	**0.067** [#1]	0.05	0.1	0.0067	**< 0.05**	0.05	0.03	0.0008	**< 0.05**	0.05	0.3	0.0075	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025
	30-Sep-2021	**0.0699**	0.054	0.1	0.0070	**< 0.053**	0.053	0.03	0.0008	**< 0.032**	0.032	0.3	0.0048	**< 0.038**	0.038	0.1	0.0019	**< 0.038**	0.038	0.1	0.0019
	13-Oct-2022	**0.0997**	0.029	0.1	0.0100	**< 0.022**	0.022	0.03	0.0003	**< 0.028**	0.028	0.3	0.0042	**< 0.021**	0.021	0.1	0.0011	**< 0.027**	0.027	0.1	0.0014
	14-Sep-2023	**0.248**	0.031	0.1	0.0248	**0.07** [#1]	0.032	0.03	0.0021	**0.049** [#1]	0.03	0.3	0.0147	**< 0.022**	0.022	0.1	0.0011	**< 0.023**	0.023	0.1	0.0012
(Duplicate)	14-Sep-2023	**0.298**	0.044	0.1	0.0298	**0.029** [#1]	0.021	0.03	0.0009	**0.057** [#1]	0.019	0.3	0.0171	**< 0.017**	0.017	0.1	0.0009	**< 0.017**	0.017	0.1	0.0009
Brook Trout 4+	29-Jun-1998	**< 0.7**	0.7	0.1	0.0350	**< 2.5**	2.5	0.03	0.0375	**< 4.0**	4	0.3	0.6000	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150
	01-Sep-1999	**0.7**	0.1	0.1	0.0700	**< 0.3**	0.3	0.03	0.0045	**< 0.3**	0.3	0.3	0.0450	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.1	0.0100
	03-Sep-2000	**< 0.74**	0.74	0.1	0.0370	**< 0.5**	0.5	0.03	0.0075	**< 0.58**	0.58	0.3	0.0870	**< 0.59**	0.59	0.1	0.0295	**< 0.55**	0.55	0.1	0.0275

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	2,3,7,8-(TCDF)				1,2,3,7,8-(PeCDF)				2,3,4,7,8-(PeCDF)				1,2,3,4,7,8-(HxCDF)				1,2,3,6,7,8-(HxCDF)			
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Edith Lake - Continued																					
(Duplicate)	03-Sep-2000	**< 0.49**	0.49	0.1	0.0245	**< 0.21**	0.21	0.03	0.0032	**< 0.25**	0.25	0.3	0.0375	**< 0.43**	0.43	0.1	0.0215	**< 0.44**	0.44	0.1	0.0220
	15-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.15**	0.15	0.1	0.0075	**< 0.11**	0.11	0.03	0.0017	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Oct-2006	**1.9**	0.1	0.1	0.1900	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**1.49**	0.07	0.1	0.1490	**< 0.090**	0.09	0.03	0.0014	**< 0.070**	0.07	0.3	0.0105	**< 0.050**	0.05	0.1	0.0025	**< 0.050**	0.05	0.1	0.0025
	01-Sep-2013	**1.6**	0.32	0.1	0.1600	**< 0.29**	0.29	0.03	0.0044	**< 0.29**	0.29	0.3	0.0435	**< 0.213**	0.213	0.1	0.0107	**< 0.213**	0.213	0.1	0.0107
	21-Sep-2014	**0.954**	0.468	0.1	0.0954	**0.065**	0.0556	0.03	0.0020	**0.118** [#1]	0.0556	0.3	0.0354	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028
	23-Sep-2015	**0.582**	0.0562	0.1	0.0582	**< 0.0562**	0.0562	0.03	0.0008	**0.061** [#1]	0.0562	0.3	0.0183	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028
(Replicate A)	22-Sep-2015	**0.527** [#1]	0.056	0.1	0.0527	**< 0.056**	0.056	0.03	0.0008	**0.065**	0.056	0.3	0.0195	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028
	30-Aug-2016	**0.521**	0.0492	0.1	0.0521	**< 0.057**	0.057	0.03	0.0009	**0.076**	0.057	0.3	0.0228	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
	13-Sep-2017	**0.309**	0.0578	0.1	0.0309	**< 0.0578**	0.0578	0.03	0.0009	**< 0.0578**	0.0578	0.3	0.0087	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.1	0.0029
	30-Aug-2018	**0.094** [#1]	0.0556	0.1	0.0094	**< 0.0556**	0.0556	0.03	0.0008	**< 0.0556**	0.0556	0.3	0.0083	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028
	26-Aug-2020	**0.088**	0.0499	0.1	0.0088	**< 0.0499**	0.0499	0.03	0.0007	**< 0.0499**	0.0499	0.3	0.0075	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.1	0.0025
	14-Sep-2023	**0.19** [#1]	0.02	0.1	0.0190	**0.037** [#1]	0.021	0.03	0.0011	**0.0417**	0.02	0.3	0.0125	**< 0.018**	0.018	0.1	0.0009	**< 0.017**	0.017	0.1	0.0009
Brook Trout 5+	26-Sep-2001	**0.3**	0.05	0.1	0.0300	**< 0.05**	0.05	0.03	0.0008	**< 0.05**	0.05	0.3	0.0075	**0.1**	0.05	0.1	0.0100	**0.1**	0.05	0.1	0.0100
	15-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	10-Sep-2005	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050
	04-Oct-2006	**0.42**	0.1	0.1	0.0420	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
	01-Sep-2011	**< 0.090**	0.09	0.1	0.0045	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.070**	0.07	0.1	0.0035	**< 0.070**	0.07	0.1	0.0035
	01-Sep-2013	**0.634**	0.0463	0.1	0.0634	**< 0.0463**	0.0463	0.03	0.0007	**0.075**	0.0463	0.3	0.0225	**< 0.0463**	0.0463	0.1	0.0023	**< 0.0463**	0.0463	0.1	0.0023
	21-Sep-2014	**0.494**	0.057	0.1	0.0494	**< 0.057**	0.057	0.03	0.0009	**0.121** [#1]	0.057	0.3	0.0363	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
	30-Aug-2016	**1.27**	0.0491	0.1	0.1270	**0.063**	0.057	0.03	0.0019	**0.147** [#1]	0.057	0.3	0.0441	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029
	30-Sep-2021	**0.087** [#1]	0.061	0.1	0.0087	**0.056** [#1]	0.037	0.03	0.0017	**0.0341**	0.032	0.3	0.0102	**< 0.055**	0.055	0.1	0.0028	**< 0.053**	0.053	0.1	0.0027
Brook Trout 6+	14-Sep-2023	**0.267**	0.02	0.1	0.0267	**< 0.033**	0.033	0.03	0.0005	**0.0408**	0.031	0.3	0.0122	**< 0.013**	0.013	0.1	0.0007	**< 0.013**	0.013	0.1	0.0007
Brook Trout 7+	10-Sep-2003	**0.3**	0.1	0.1	0.0300	**< 0.1**	0.1	0.03	0.0015	**< 0.1**	0.1	0.3	0.0150	**0.1**	0.1	0.1	0.0100	**< 0.1**	0.1	0.1	0.0050
Brook Trout 8+	10-Sep-2002	**< 0.2**	0.2	0.1	0.0100	**< 0.3**	0.3	0.03	0.0045	**< 0.2**	0.2	0.3	0.0300	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150
Brook Trout 11+	11-Sep-2007	**0.42**	0.1	0.1	0.0420	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout 12+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050
Brook Trout Unknown	23-Jul-2008	**0.19**	0.1	0.1	0.0190	**< 0.10**	0.1	0.03	0.0015	**0.20**	0.1	0.3	0.0600	**0.18**	0.1	0.1	0.0180	**0.17**	0.1	0.1	0.0170
(Replicate A)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**0.12**	0.1	0.1	0.0120	**< 0.10**	0.1	0.1	0.0050
(Replicate B)	23-Jul-2008	**0.14**	0.1	0.1	0.0140	**< 0.10**	0.1	0.03	0.0015	**< 0.10**	0.1	0.3	0.0150	**0.10**	0.1	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.20**	0.2	0.03	0.0030	**< 0.10**	0.1	0.3	0.0150	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050

NOTES:
1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Superscript [#1] - Result does not meet all quantification criteria and value denotes the estimated maximum possible concentration (EMPC)

PROJECT No.: 317011-00057

Table C.5

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

Sampling Location	Date	1,2,3,7,8,9-(HxCDF)				2,3,4,6,7,8-(HxCDF)				1,2,3,4,6,7,8-(HpCDF)				1,2,3,4,7,8,9-(HpCDF)				OCDF				Total Furan TEQ
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.71
Hatchery																						
Brook Trout 0+	24-Jun-1997	**< 0.3**	0.3	0.1	0.0150	**< 0.2**	0.2	0.1	0.0100	**< 0.3**	0.3	0.01	0.0015	**< 0.4**	0.4	0.01	0.0020	**1.2**	0.6	0.0003	0.0004	0.0854
	25-Jun-1998	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250	**< 0.4**	0.4	0.01	0.0020	**< 0.5**	0.5	0.01	0.0025	**< 0.8**	0.8	0.0003	0.0001	0.2981
	01-Sep-1999	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.1	0.0150	**< 0.3**	0.3	0.01	0.0015	**< 0.4**	0.4	0.01	0.0020	**< 0.2**	0.2	0.0003	0.00003	0.1630
	09-Sep-2001	**< 0.1**	0.1	0.1	0.0050	**0.1**	0.1	0.1	0.0100	**0.3** [#1]	0.1	0.01	0.0030	**0.2** [#1]	0.1	0.01	0.0020	**0.4**	0.1	0.0003	0.0001	0.1516
	10-Sep-2002	**< 0.4**	0.4	0.1	0.0200	**< 0.4**	0.4	0.1	0.0200	**< 0.8**	0.8	0.01	0.0040	**< 1.3**	1.3	0.01	0.0065	**< 3.7**	3.7	0.0003	0.0006	0.1371
	6-Sep-2003	**< 0.1**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.01	0.0010	**< 0.5**	0.5	0.0003	0.0001	0.0581
	9-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.2220
	10-Sep-2005	**< 0.1**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**0.4**	0.1	0.01	0.0040	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.2300
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.43**	0.1	0.0003	0.0001	0.0426
	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
(Duplicate)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
	11-Aug-2009	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.0680
	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
	01-Sep-2011	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0415
	01-Sep-2012	**< 0.050**	0.050	0.1	0.0025	**< 0.040**	0.040	0.1	0.0020	**< 0.10**	0.10	0.01	0.0005	**< 0.10**	0.10	0.01	0.0005	**< 0.090**	0.090	0.0003	0.00001	0.0224
	01-Sep-2013	**< 0.0488**	0.0488	0.1	0.0024	**< 0.0488**	0.0488	0.1	0.0024	**< 0.0488**	0.0488	0.01	0.0002	**< 0.0488**	0.0488	0.01	0.0002	**< 0.0488**	0.0488	0.0003	0.00001	0.0432
	21-Sep-2014	**< 0.0568**	0.0568	0.1	0.0028	**< 0.0568**	0.0568	0.1	0.0028	**< 0.0568**	0.0568	0.01	0.0003	**< 0.0568**	0.0568	0.01	0.0003	**< 0.0568**	0.0568	0.0003	0.00001	0.0423
	22-Sep-2015	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.01	0.0003	**< 0.0563**	0.0563	0.01	0.0003	**< 0.0563**	0.0563	0.0003	0.00001	0.0306
	30-Aug-2016	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.0003	0.00001	0.0277
	30-Aug-2018	**< 0.0566**	0.0566	0.1	0.0028	**< 0.0566**	0.0566	0.1	0.0028	**< 0.0566**	0.0566	0.01	0.0003	**< 0.0566**	0.0566	0.01	0.0003	**< 0.0566**	0.0566	0.0003	0.00001	0.0241
	6-Sep-2019	**0.091**	0.0574	0.1	0.0091	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.01	0.0003	**< 0.0574**	0.0574	0.01	0.0003	**0.063** [#1]	0.0574	0.0003	0.00002	0.0306
	26-Aug-2020	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.0003	0.00001	0.0211
	30-Sep-2021	**< 0.036**	0.0360	0.1	0.0018	**< 0.032**	0.0320	0.1	0.0016	**< 0.036**	0.0360	0.01	0.00018	**< 0.047**	0.0470	0.01	0.000235	**< 0.076**	0.0760	0.0003	0.00001	0.0196
	13-Oct-2022	**< 0.025**	0.0250	0.1	0.00125	**< 0.022**	0.0220	0.1	0.0011	**< 0.031**	0.0310	0.01	0.000155	**< 0.031**	0.0310	0.01	0.000155	**< 0.049**	0.0490	0.0003	0.00001	0.0615
Brook Trout 1+	13-Sep-2017	**<0.059**	0.059	0.1	0.0030	**<0.059**	0.059	0.1	0.0030	**<0.059**	0.059	0.01	0.0003	**<0.059**	0.059	0.01	0.0003	**<0.059**	0.059	0.0003	0.00001	0.0328
Chrystina Lake																						
Brook Trout 1+	11-Aug-2009	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.01	0.0010	**< 0.30**	0.3	0.0003	0.00005	0.0900
	01-Sep-2011	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0575
	01-Sep-2012	**< 0.040**	0.040	0.1	0.0020	**< 0.030**	0.030	0.1	0.0015	**< 0.030**	0.030	0.01	0.0002	**< 0.040**	0.040	0.01	0.0002	**< 0.070**	0.070	0.0003	0.00001	0.1023
(Replicate A)	01-Sep-2013	**< 0.193**	0.193	0.1	0.0097	**< 0.193**	0.193	0.1	0.0097	**< 0.193**	0.193	0.01	0.0010	**< 0.193**	0.193	0.01	0.0010	**< 0.193**	0.193	0.0003	0.00003	0.1216
(Replicate B)	01-Sep-2013	**< 0.0722**	0.0722	0.1	0.0036	**< 0.0722**	0.0722	0.1	0.0036	**< 0.0722**	0.0722	0.01	0.0004	**< 0.0722**	0.0722	0.01	0.0004	**< 0.0722**	0.0722	0.0003	0.00001	0.0884
	23-Sep-2015	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.0003	0.00001	0.2097
	31-Aug-2016	**< 0.0554**	0.0554	0.1	0.0028	**< 0.0554**	0.0554	0.1	0.0028	**< 0.0554**	0.0554	0.01	0.0003	**< 0.0554**	0.0554	0.01	0.0003	**< 0.0554**	0.0554	0.0003	0.00001	0.0656
	12-Sep-2017	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.0003	0.00001	0.0635
	29-Aug-2018	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.0003	0.00001	0.0694
(Replicate A)	05-Sep-2019	**0.058** [#1]	0.057	0.1	0.0058	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.01	0.0003	**0.063** [#1]	0.57	0.0003	0.00002	0.0528
(Replicate B)	05-Sep-2019	**0.081** [#1]	0.0573	0.1	0.0081	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.01	0.0003	**< 0.0573**	0.0573	0.01	0.0003	**0.098** [#1]	0.0573	0.0003	0.00003	0.0658
	25-Aug-2020	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.01	0.0003	**< 0.05**	0.05	0.01	0.0003	**< 0.05**	0.05	0.0003	0.00001	0.0575
	29-Sep-2021	**< 0.063**	0.063	0.1	0.00315	**< 0.048**	0.048	0.1	0.0024	**< 0.064**	0.064	0.01	0.0003	**< 0.061**	0.061	0.01	0.0003	**< 0.096**	0.096	0.0003	0.0000144	0.0764
	29-Sep-2021	**< 0.037**	0.037	0.1	0.00185	**< 0.029**	0.029	0.1	0.00145	**< 0.05**	0.05	0.01	0.0003	**< 0.033**	0.033	0.01	0.0002	**< 0.062**	0.062	0.0003	0.0000093	0.0630
	12-Oct-2022	**< 0.038**	0.038	0.1	0.0019	**< 0.03**	0.03	0.1	0.0015	**< 0.032**	0.032	0.01	0.0002	**< 0.029**	0.029	0.01	0.0001	**< 0.079**	0.079	0.0003	0.00001185	0.0534
	13-Sep-2023	**< 0.019**	0.019	0.1	0.0010	**< 0.014**	0.014	0.1	0.0007	**0.026** [#1]	0.026	0.01	0.0003	**< 0.013**	0.013	0.01	0.0001	**0.07** [#1]	0.029	0.0003	0.000021	0.0354
Brook Trout 2+	05-Oct-1995	**< 9.4**	9.4	0.1	0.4700	**< 7.9**	7.9	0.1	0.3950	**< 6.2**	6.2	0.01	0.0310	**< 7.8**	7.8	0.01	0.0390	**< 7.4**	7.4	0.0003	0.0011	**4.3021**
	24-Jun-1997	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.2**	0.2	0.01	0.0010	**< 0.2**	0.2	0.0003	0.00003	**2.1835**
	11-Aug-2009	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.0580

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,7,8,9-(HxCDF)				2,3,4,6,7,8-(HxCDF)				1,2,3,4,6,7,8-(HpCDF)				1,2,3,4,7,8,9-(HpCDF)				OCDF				Total Furan TEQ
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.71
Chrystina Lake - Continued																						
	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.1345
	01-Sep-2011	**< 0.060**	0.06	0.1	0.0030	**< 0.050**	0.05	0.1	0.0025	**< 0.070**	0.07	0.01	0.0004	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.3384
	01-Sep-2012	**< 0.040**	0.040	0.1	0.0020	**< 0.030**	0.030	0.1	0.0015	**< 0.030**	0.030	0.01	0.0002	**< 0.040**	0.040	0.01	0.0002	**< 0.090**	0.090	0.0003	0.00001	0.0483
	01-Sep-2013	**< 0.0489**	0.0489	0.1	0.0024	**< 0.0489**	0.0489	0.1	0.0024	**< 0.0489**	0.0489	0.01	0.0002	**0.053** [#1]	0.0489	0.01	0.0005	**0.058** [#1]	0.0489	0.0003	0.00002	0.1416
	22-Sep-2014	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.0003	0.00001	0.1488
(Replicate A)	22-Sep-2014	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029	**< 0.059**	0.059	0.01	0.0003	**< 0.059**	0.059	0.01	0.0003	**< 0.0573**	0.0573	0.0003	0.00001	0.0893
(Replicate B)	22-Sep-2014	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.0003	0.00001	0.1271
	23-Sep-2015	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.0003	0.00001	0.2062
	31-Aug-2016	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.01	0.0003	**< 0.0557**	0.0557	0.01	0.0003	**< 0.0557**	0.0557	0.0003	0.00001	0.1729
	12-Sep-2017	**< 0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.01	0.0003	**< 0.0582**	0.0582	0.01	0.0003	**< 0.0582**	0.0582	0.0003	0.00001	0.1000
(Replicate A)	12-Sep-2017	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.01	0.0003	**< 0.058**	0.058	0.01	0.0003	**< 0.058**	0.058	0.0003	0.00001	0.0925
	29-Aug-2018	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.0003	0.00001	0.1305
(Replicate A)	05-Sep-2019	**0.074** [#1]	0.0549	0.1	0.0074	**< 0.0549**	0.0549	0.1	0.0027	**< 0.0549**	0.0549	0.01	0.0003	**< 0.0549**	0.0549	0.01	0.0003	**< 0.0549**	0.0549	0.0003	0.00001	0.0888
(Replicate B)	05-Sep-2019	**0.079** [#1]	0.0579	0.1	0.0079	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.0003	0.00001	0.0939
(Replicate A)	25-Aug-2020	**0.06** [#1]	0.0498	0.1	0.0060	**< 0.0498**	0.0498	0.1	0.0025	**< 0.0498**	0.0498	0.01	0.0002	**< 0.0498**	0.0498	0.01	0.0002	**< 0.0498**	0.0498	0.0003	0.00001	0.1113
(Replicate B)	25-Aug-2020	**0.052** [#1]	0.0497	0.1	0.0052	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.01	0.0002	**< 0.0497**	0.0497	0.01	0.0002	**< 0.0497**	0.0497	0.0003	0.00001	0.0889
	29-Sep-2021	**< 0.049**	0.049	0.1	0.00245	**< 0.03**	0.03	0.1	0.0015	**< 0.056**	0.056	0.01	0.0003	**< 0.034**	0.034	0.01	0.0002	**< 0.059**	0.059	0.0003	0.00000885	0.0744
	12-Oct-2022	**< 0.03**	0.03	0.1	0.0015	**< 0.038**	0.038	0.1	0.0019	**< 0.049**	0.049	0.01	0.0002	**< 0.036**	0.036	0.01	0.0002	**< 0.1**	0.1	0.0003	0.000015	0.1445
	13-Sep-2023	**< 0.036**	0.036	0.1	0.0018	**< 0.025**	0.025	0.1	0.0013	**< 0.014**	0.014	0.01	0.0001	**< 0.021**	0.021	0.01	0.0001	**0.037** [#1]	0.026	0.0003	0.0000111	0.0895
Brook Trout 3+	24-Jun-1997	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.01	0.0010	**< 0.3**	0.3	0.0003	0.00005	**1.0275**
	04-Sep-2000	**< 0.35**	0.35	0.1	0.0175	**< 0.28**	0.28	0.1	0.0140	**< 0.2**	0.2	0.01	0.0010	**< 0.27**	0.27	0.01	0.0014	**< 0.45**	0.45	0.0003	0.0001	0.3417
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0715
	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0525
(Duplicate)	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.10**	0.1	0.0003	0.00002	0.1220
(Replicate A)	01-Sep-2012	**< 0.050**	0.050	0.1	0.0025	**< 0.040**	0.040	0.1	0.0020	**< 0.040**	0.040	0.01	0.0002	**< 0.060**	0.060	0.01	0.0003	**< 0.10**	0.10	0.0003	0.00002	0.1113
(Duplicate)	01-Sep-2012	**< 0.040**	0.040	0.1	0.0020	**< 0.030**	0.030	0.1	0.0015	**< 0.040**	0.040	0.01	0.0002	**< 0.050**	0.050	0.01	0.0003	**< 0.10**	0.10	0.0003	0.00002	0.1552
(Replicate B)	01-Sep-2012	**< 0.050**	0.050	0.1	0.0025	**< 0.050**	0.050	0.1	0.0025	**< 0.050**	0.050	0.01	0.0003	**< 0.070**	0.070	0.01	0.0004	**< 0.10**	0.10	0.0003	0.00002	0.0225
(Replicate C)	01-Sep-2013	**< 0.0644**	0.0644	0.1	0.0032	**< 0.0644**	0.0644	0.1	0.0032	**< 0.0644**	0.0644	0.01	0.0003	**< 0.0644**	0.0644	0.01	0.0003	**< 0.0644**	0.0644	0.0003	0.00001	0.1134
(Replicate D)	01-Sep-2013	**< 0.0651**	0.0651	0.1	0.0033	**< 0.0651**	0.0651	0.1	0.0033	**< 0.0651**	0.0651	0.01	0.0003	**< 0.0651**	0.0651	0.01	0.0003	**< 0.0651**	0.0651	0.0003	0.00001	0.1042
	22-Sep-2014	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.01	0.0003	**< 0.0578**	0.0578	0.01	0.0003	**< 0.0578**	0.0578	0.0003	0.00001	0.1475
(Duplicate)	22-Sep-2014	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.01	0.0003	**0.094** [#1]	0.056	0.0003	0.00003	0.1587
(Replicate A)	22-Sep-2014	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.0003	0.00001	0.1538
(Replicate B)	22-Sep-2014	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.01	0.0003	**< 0.0574**	0.0574	0.01	0.0003	**< 0.0574**	0.0574	0.0003	0.00001	0.0776
	23-Sep-2015	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.01	0.0003	**< 0.0572**	0.0572	0.01	0.0003	**< 0.0572**	0.0572	0.0003	0.00001	0.2241
	31-Aug-2016	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.0003	0.00001	0.2085
(Duplicate)	31-Aug-2016	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.01	0.0003	**< 0.0561**	0.0561	0.01	0.0003	**< 0.0561**	0.0561	0.0003	0.00001	0.2062
(Replicate A)	31-Aug-2016	**< 0.0546**	0.0546	0.1	0.0027	**< 0.0546**	0.0546	0.1	0.0027	**< 0.0546**	0.0546	0.01	0.0003	**< 0.0546**	0.0546	0.01	0.0003	**< 0.0546**	0.0546	0.0003	0.00001	0.2223
	12-Sep-2017	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.01	0.0003	**< 0.0559**	0.0559	0.01	0.0003	**< 0.0559**	0.0559	0.0003	0.00001	0.1186
(Duplicate)	12-Sep-2017	**< 0.0588**	0.0588	0.1	0.0029	**< 0.0588**	0.0588	0.1	0.0029	**< 0.0588**	0.0588	0.01	0.0003	**< 0.0588**	0.0588	0.01	0.0003	**< 0.0588**	0.0588	0.0003	0.00001	0.1250
	29-Aug-2018	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.01	0.0002	**< 0.0493**	0.0493	0.01	0.0002	**< 0.0493**	0.0493	0.0003	0.00001	0.1137
(Duplicate)	29-Aug-2018	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.0003	0.00001	0.1038
(Duplicate)	29-Aug-2018	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.0003	0.00001	0.1099
	05-Sep-2019	**0.082**	0.0556	0.1	0.0082	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.01	0.0003	**< 0.0556**	0.0556	0.01	0.0003	**< 0.0556**	0.0556	0.0003	0.00001	0.1415
(Lab - Duplicate)	05-Sep-2019	**< 0.0575**	0.0575	0.1	0.0029	**< 0.0575**	0.0575	0.1	0.0029	**< 0.0575**	0.0575	0.01	0.0003	**< 0.0575**	0.0575	0.01	0.0003	**< 0.0575**	0.0575	0.0003	0.00001	0.1181
	29-Sep-2021	**< 0.047**	0.047	0.1	0.0024	**< 0.044**	0.044	0.1	0.0022	**< 0.055**	0.055	0.01	0.0003	**< 0.041**	0.041	0.01	0.0002	**< 0.099**	0.099	0.0003	0.00001	0.0725
	29-Sep-2021	**< 0.058**	0.058	0.1	0.0029	**< 0.055**	0.055	0.1	0.0028	**< 0.058**	0.058	0.01	0.0003	**< 0.057**	0.057	0.01	0.0003	**0.096** [#1]	0.085	0.0003	0.00003	0.1380

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,7,8,9-(HxCDF)				2,3,4,6,7,8-(HxCDF)				1,2,3,4,6,7,8-(HpCDF)				1,2,3,4,7,8,9-(HpCDF)				OCDF				Total Furan TEQ
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.71
Chrystina Lake - Continued																						
	12-Oct-2022	**< 0.033**	0.033	0.1	0.0017	**< 0.029**	0.029	0.1	0.0015	**< 0.04**	0.04	0.01	0.0002	**< 0.028**	0.028	0.01	0.0001	**< 0.073**	0.073	0.0003	0.00001	0.0678
	13-Sep-2023	**< 0.028**	0.028	0.1	0.0014	**< 0.021**	0.021	0.1	0.0011	**< 0.0093**	0.0093	0.01	0.00005	**< 0.014**	0.014	0.01	0.0001	**< 0.035**	0.035	0.0003	0.00001	0.1324
(Lab - Duplicate)	13-Sep-2023	**< 0.037**	0.037	0.1	0.0019	**< 0.026**	0.026	0.1	0.0013	**< 0.01**	0.01	0.01	0.00005	**< 0.016**	0.016	0.01	0.0001	**< 0.044**	0.044	0.0003	0.00001	0.1003
Brook Trout 4+	27-Jun-1998	**< 1.0**	1	0.1	0.0500	**< 1.1**	1.1	0.1	0.0550	**< 0.5**	0.5	0.01	0.0025	**< 0.7**	0.7	0.01	0.0035	**< 0.6**	0.6	0.0003	0.0001	**2.0341**
	01-Sep-1999	**< 0.6**	0.6	0.1	0.0300	**< 0.5**	0.5	0.1	0.0250	**0.9**	0.3	0.01	0.0090	**< 0.7**	0.7	0.01	0.0035	**2.8**	0.5	0.0003	0.0008	0.3413
	10-Sep-2001	**< 0.05**	0.05	0.1	0.0025	**0.1**	0.05	0.1	0.0100	**0.2**	0.05	0.01	0.0020	**< 0.1**	0.1	0.01	0.0005	**0.4**	0.1	0.0003	0.0001	0.3611
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.1575
(Duplicate)	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.1575
	01-Sep-2011	**< 0.10**	0.1	0.1	0.0050	**< 0.090**	0.09	0.1	0.0045	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.3235
	01-Sep-2013	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.0003	0.00001	0.3174
	22-Sep-2014	**< 0.0574**	0.0574	0.1	0.0029	**0.059** [#1]	0.0574	0.1	0.0059	**< 0.0574**	0.0574	0.01	0.0003	**< 0.0574**	0.0574	0.01	0.0003	**0.101** [#1]	0.0574	0.0003	0.00003	0.3150
	23-Sep-2015	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.1	0.0028	**< 0.0557**	0.0557	0.01	0.0003	**< 0.0557**	0.0557	0.01	0.0003	**< 0.0557**	0.0557	0.0003	0.00001	0.1858
(Replicate A)	23-Sep-2015	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.01	0.0003	**< 0.0562**	0.0562	0.01	0.0003	**< 0.0562**	0.0562	0.0003	0.00001	0.2165
	12-Sep-2017	**< 0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.1	0.0029	**< 0.0582**	0.0582	0.01	0.0003	**< 0.0582**	0.0582	0.01	0.0003	**< 0.0582**	0.0582	0.0003	0.00001	0.1897
(Replicate A)	29-Aug-2018	**< 0.0558**	0.0558	0.1	0.0028	**< 0.0558**	0.0558	0.1	0.0028	**< 0.0558**	0.0558	0.01	0.0003	**< 0.0558**	0.0558	0.01	0.0003	**< 0.0558**	0.0558	0.0003	0.00001	0.2078
(Replicate B)	29-Aug-2018	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.01	0.0003	**< 0.05**	0.05	0.01	0.0003	**0.097** [#1]	0.0737	0.0003	0.00003	0.1110
(Replicate C)	29-Aug-2018	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.1	0.0028	**< 0.0561**	0.0561	0.01	0.0003	**< 0.0561**	0.0561	0.01	0.0003	**< 0.0561**	0.0561	0.0003	0.00001	0.1418
	25-Aug-2020	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.1	0.0025	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.01	0.0002	**< 0.0496**	0.0496	0.0003	0.00001	0.0861
	29-Sep-2021	**< 0.026**	0.026	0.1	0.0013	**< 0.029**	0.029	0.1	0.0015	**< 0.032**	0.032	0.01	0.0002	**< 0.035**	0.035	0.01	0.0002	**< 0.08**	0.08	0.0003	0.00001	0.0897
Brook Trout 5+	05-Oct-1995	**< 9.1**	9.1	0.1	0.4550	**< 7.0**	7	0.1	0.3500	**< 4.9**	4.9	0.01	0.0245	**< 6.5**	6.5	0.01	0.0325	**< 6.2**	6.2	0.0003	0.0009	**5.8914**
	01-Sep-1999	**< 0.4**	0.4	0.1	0.0200	**< 0.3**	0.3	0.1	0.0150	**< 0.2**	0.2	0.01	0.0010	**< 0.4**	0.4	0.01	0.0020	**< 0.5**	0.5	0.0003	0.0001	0.2816
	04-Sep-2000	**< 0.3**	0.3	0.1	0.0150	**< 0.27**	0.27	0.1	0.0135	**< 0.18**	0.18	0.01	0.0009	**< 0.25**	0.25	0.01	0.0013	**< 0.44**	0.44	0.0003	0.0001	0.3270
	10-Sep-2002	**< 0.7**	0.7	0.1	0.0350	**< 0.5**	0.5	0.1	0.0250	**< 0.8**	0.8	0.01	0.0040	**< 1.2**	1.2	0.01	0.0060	**< 2.4**	2.4	0.0003	0.0004	0.2614
	07-Sep-2003	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.2**	0.2	0.01	0.0010	**< 0.3**	0.3	0.01	0.0015	**< 0.6**	0.6	0.0003	0.0001	0.1341
	12-Sep-2004	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.1770
	10-Sep-2005	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**0.4**	0.1	0.01	0.0040	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.2300
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0735
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.28**	0.1	0.0003	0.0001	0.2356
	01-Sep-2013	**< 0.0712**	0.0712	0.1	0.0036	**< 0.0712**	0.0712	0.1	0.0036	**< 0.0712**	0.0712	0.01	0.0004	**< 0.0712**	0.0712	0.01	0.0004	**< 0.0712**	0.0712	0.0003	0.00001	0.6411
	23-Sep-2015	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.1	0.0029	**< 0.0572**	0.0572	0.01	0.0003	**< 0.0572**	0.0572	0.01	0.0003	**< 0.0572**	0.0572	0.0003	0.00001	0.2218
	30-Aug-2016	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.01	0.0003	**< 0.0564**	0.0564	0.01	0.0003	**< 0.0564**	0.0564	0.0003	0.00001	0.1237
	12-Sep-2017	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.01	0.0003	**< 0.058**	0.058	0.01	0.0003	**< 0.058**	0.058	0.0003	0.00001	0.2773
	29-Sep-2021	< 0.035	0.035	0.1	0.00175	**< 0.036**	0.036	0.1	0.0018	**< 0.048**	0.048	0.01	0.00024	**< 0.041**	0.041	0.01	0.000205	**< 0.062**	0.062	0.0003	0.0000093	0.1177
Brook Trout 6+	27-Jun-1998	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.01	0.0025	**< 0.6**	0.6	0.01	0.0030	**< 0.6**	0.6	0.0003	0.0001	**0.7481**
	11-Sep-2001	**< 0.1**	0.1	0.1	0.0050	**< 0.05**	0.05	0.1	0.0025	**0.3**	0.1	0.01	0.0030	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.2770
	10-Sep-2005	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.1975
(Duplicate)	10-Sep-2005	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.1875
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.1785
Brook Trout 7+	10-Sep-2002	**< 0.6**	0.6	0.1	0.0300	**< 0.5**	0.5	0.1	0.0250	**< 0.8**	0.8	0.01	0.0040	**< 1.1**	1.1	0.01	0.0055	**< 2.5**	2.5	0.0003	0.0004	0.2409
(Duplicate)	10-Sep-2002	**< 0.4**	0.4	0.1	0.0200	**< 0.3**	0.3	0.1	0.0150	**< 0.7**	0.7	0.01	0.0035	**< 1.1**	1.1	0.01	0.0055	**< 3.3**	3.3	0.0003	0.0005	0.1540
	06-Sep-2003	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.1330
(Duplicate)	06-Sep-2003	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.40**	0.4	0.0003	0.0001	0.1881
	12-Sep-2004	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.1325

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,7,8,9-(HxCDF)				2,3,4,6,7,8-(HxCDF)				1,2,3,4,6,7,8-(HpCDF)				1,2,3,4,7,8,9-(HpCDF)				OCDF				Total Furan TEQ
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.71
Chrystina Lake - Continued																						
(Duplicate)	12-Sep-2004	**0.1**	0.1	0.1	0.0100	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.40**	0.4	0.0003	0.0001	0.3251
	10-Sep-2005	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.2685
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.34**	0.1	0.0003	0.0001	0.1226
(Duplicate)	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.32**	0.1	0.0003	0.0001	0.0766
Brook Trout 9+	12-Sep-2004	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.2**	0.2	0.0003	0.00003	0.0920
Brook Trout 11+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.22**	0.1	0.0003	0.0001	0.3086
Brook Trout 12+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.22**	0.1	0.0003	0.0001	0.3336
Brook Trout Unknown	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0835
(Replicate)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
(Replicate A)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**0.19**	0.1	0.1	0.0190	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.30**	0.3	0.0003	0.00005	0.0855
(Replicate B)	23-Jul-2008	**0.20**	0.1	0.1	0.0200	**0.20**	0.1	0.1	0.0200	**0.31**	0.1	0.01	0.0031	**< 0.10**	0.1	0.01	0.0005	**0.49**	0.1	0.0003	0.0001	0.1432
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.10**	0.1	0.0003	0.00002	0.0520
	12-Oct-2022	**< 0.027**	0.027	0.1	0.0014	**< 0.019**	0.019	0.1	0.0010	**< 0.026**	0.026	0.01	0.0001	**< 0.013**	0.013	0.01	0.0001	**< 0.056**	0.056	0.0003	0.000008	0.0767
(Replicate A)	13-Sep-2023	**< 0.05**	0.05	0.1	0.0025	**< 0.036**	0.036	0.1	0.0018	**< 0.012**	0.012	0.01	0.0001	**< 0.018**	0.018	0.01	0.0001	**< 0.053**	0.053	0.0003	0.000008	0.0692
(Replicate B)	13-Sep-2023	**< 0.026**	0.026	0.1	0.0013	**< 0.02**	0.02	0.1	0.0010	**0.02** [#1]	0.009	0.01	0.0002	**< 0.012**	0.012	0.01	0.0001	**< 0.021**	0.021	0.0003	0.000003	0.0671
White Sucker 1+	21-Sep-2014	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.0003	0.00001	0.0477
White Sucker 2+	22-Sep-2014	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.01	0.0003	**< 0.0573**	0.0573	0.01	0.0003	**< 0.0573**	0.0573	0.0003	0.00001	0.0428
White Sucker 5+	25-Jun-1997	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.01	0.0010	**< 0.2**	0.2	0.0003	0.00003	**3.0465**
White Sucker 6+	24-Jun-1997	**< 0.3**	0.3	0.1	0.0150	**< 0.2**	0.2	0.1	0.0100	**< 0.2**	0.2	0.01	0.0010	**< 0.2**	0.2	0.01	0.0010	**< 0.2**	0.2	0.0003	0.00003	**3.5090**
	25-Jun-1998	**< 0.9**	0.9	0.1	0.0450	**< 0.7**	0.7	0.1	0.0350	**< 1.4**	1.4	0.01	0.0070	**< 2.1**	2.1	0.01	0.0105	**< 1.5**	1.5	0.0003	0.0002	0.4497
	12-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.0003	0.00003	0.0725
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.20**	0.1	0.0003	0.0001	0.0426
White Sucker 7+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.26**	0.1	0.0003	0.0001	0.0426
White Sucker 8+	27-Jun-1998	**< 0.7**	0.7	0.1	0.0350	**< 0.5**	0.5	0.1	0.0250	**< 1.2**	1.2	0.01	0.0060	**< 1.5**	1.5	0.01	0.0075	**< 1.7**	1.7	0.0003	0.0003	0.6198
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**0.16**	0.1	0.01	0.0016	**< 0.10**	0.1	0.01	0.0005	**0.43**	0.1	0.0003	0.0001	0.0437
	11-Aug-2009	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.0635
White Sucker 9+	02-Sep-2000	**< 0.35**	0.35	0.1	0.0175	**< 0.31**	0.31	0.1	0.0155	**< 0.21**	0.21	0.01	0.0011	**< 0.25**	0.25	0.01	0.0013	**< 0.53**	0.53	0.0003	0.0001	0.2111
	12-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**0.1**	0.1	0.01	0.0010	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.0630
	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**0.12**	0.1	0.1	0.0120	**0.22**	0.1	0.01	0.0022	**< 0.10**	0.1	0.01	0.0005	**0.53**	0.1	0.0003	0.0002	0.2884
White Sucker 10+	11-Aug-2009	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0525
White Sucker 11+	12-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.0735
Forage Fish	4-Nov-2014	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.0003	0.00001	0.0439
Aquatic Invertebrates	22-Aug-2014	**< 0.281**	0.281	0.1	0.0141	**< 0.281**	0.281	0.1	0.0141	**< 0.281**	0.281	0.01	0.0014	**< 0.281**	0.281	0.01	0.0014	**< 0.281**	0.281	0.0003	0.00004	0.2081
Edith Lake																						
Brook Trout 1+	11-Aug-2009	**0.32**	0.1	0.1	0.0320	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**0.31** [#1]	0.1	0.01	0.0031	**< 0.10**	0.1	0.0003	0.00002	0.0771
	01-Sep-2011	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.1	0.0100	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.0865
(Duplicate)	01-Sep-2011	**< 0.060**	0.06	0.1	0.0030	**< 0.040**	0.04	0.1	0.0020	**< 0.070**	0.07	0.01	0.0004	**< 0.090**	0.09	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0245
	01-Sep-2012	**< 0.040**	0.040	0.1	0.0020	**< 0.030**	0.030	0.1	0.0015	**< 0.070**	0.070	0.01	0.0004	**< 0.090**	0.090	0.01	0.0005	**< 0.070**	0.070	0.0003	0.00001	0.0154
	22-Sep-2015	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.1	0.0028	**< 0.0559**	0.0559	0.01	0.0003	**< 0.0559**	0.0559	0.01	0.0003	**< 0.0559**	0.0559	0.0003	0.00001	0.0404
	30-Aug-2016	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.1	0.0027	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.01	0.0003	**< 0.0548**	0.0548	0.0003	0.00001	0.0303
	13-Sep-2017	**< 0.0584**	0.0584	0.1	0.0029	**< 0.0584**	0.0584	0.1	0.0029	**< 0.0584**	0.0584	0.01	0.0003	**< 0.0584**	0.0584	0.01	0.0003	**< 0.0584**	0.0584	0.0003	0.00001	0.0395
	30-Aug-2018	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**0.119** [#1]	0.0551	0.01	0.0012	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.0003	0.00001	0.0304
(Replicate A)	6-Sep-2019	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.1	0.0029	**< 0.058**	0.058	0.01	0.0003	**< 0.058**	0.058	0.01	0.0003	**< 0.058**	0.058	0.0003	0.00001	0.0328
(Replicate B)	6-Sep-2019	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.1	0.0028	**< 0.0564**	0.0564	0.01	0.0003	**< 0.0564**	0.0564	0.01	0.0003	**< 0.0564**	0.0564	0.0003	0.00001	0.0341

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,7,8,9-(HxCDF)				2,3,4,6,7,8-(HxCDF)				1,2,3,4,6,7,8-(HpCDF)				1,2,3,4,7,8,9-(HpCDF)				OCDF				Total Furan TEQ
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.71
Edith Lake - Continued																						
	26-Aug-2020	**0.052** [#1]	0.0493	0.1	0.0052	**< 0.0493**	0.0493	0.1	0.0025	**< 0.0493**	0.0493	0.01	0.0002	**< 0.0493**	0.0493	0.01	0.0002	**0.052**	0.0493	0.0003	0.00002	0.0327
	30-Sep-2021	**< 0.038**	0.038	0.1	0.0019	**< 0.033**	0.033	0.1	0.0017	**0.0363**	0.025	0.01	0.000363	**< 0.032**	0.032	0.01	0.00016	**< 0.066**	0.066	0.0003	0.0000099	0.0183
	13-Oct-2022	**< 0.027**	0.027	0.1	0.0014	**< 0.02**	0.02	0.1	0.0010	**< 0.03**	0.03	0.01	0.00015	**< 0.022**	0.022	0.01	0.00011	**< 0.044**	0.044	0.0003	0.0000066	0.0185
	14-Sep-2023	**< 0.02**	0.02	0.1	0.0010	**< 0.015**	0.015	0.1	0.0008	**< 0.0087**	0.0087	0.01	0.00004	**< 0.012**	0.012	0.01	0.00006	**< 0.025**	0.025	0.0003	0.000004	0.0246
Brook Trout 2+	11-Aug-2009	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0475
	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
	01-Sep-2011	**< 0.070**	0.07	0.1	0.0035	**< 0.050**	0.05	0.1	0.0025	**< 0.090**	0.09	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0325
	01-Sep-2012	**< 0.020**	0.020	0.1	0.0010	**< 0.020**	0.020	0.1	0.0010	**< 0.020**	0.020	0.01	0.0001	**< 0.030**	0.030	0.01	0.0002	**< 0.070**	0.070	0.0003	0.00001	0.0106
	01-Sep-2013	**< 0.0494**	0.0494	0.1	0.0025	**< 0.0494**	0.0494	0.1	0.0025	**< 0.0494**	0.0494	0.01	0.0002	**< 0.0494**	0.0494	0.01	0.0002	**< 0.0494**	0.0494	0.0003	0.00001	0.1491
	21-Sep-2014	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0602**	0.0602	0.01	0.0003	**< 0.0602**	0.0602	0.01	0.0003	**0.089**	0.0574	0.0003	0.00003	0.0495
(Replicate A)	21-Sep-2014	**< 0.0565**	0.0565	0.1	0.0028	**< 0.0565**	0.0565	0.1	0.0028	**< 0.0565**	0.0565	0.01	0.0003	**< 0.0565**	0.0565	0.01	0.0003	**0.057** [#1]	0.0565	0.0003	0.00002	0.0636
(Replicate B)	21-Sep-2014	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.1	0.0029	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.01	0.0003	**< 0.0579**	0.0579	0.0003	0.00001	0.0315
	22-Sep-2015	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.01	0.0003	**< 0.055**	0.055	0.01	0.0003	**< 0.055**	0.055	0.0003	0.00001	0.0234
	30-Aug-2016	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.1	0.0028	**< 0.0563**	0.0563	0.01	0.0003	**< 0.0563**	0.0563	0.01	0.0003	**< 0.0563**	0.0563	0.0003	0.00001	0.0694
	13-Sep-2017	**< 0.059**	0.059	0.1	0.0030	**< 0.059**	0.059	0.1	0.0030	**< 0.059**	0.059	0.01	0.0003	**< 0.059**	0.059	0.01	0.0003	**< 0.059**	0.059	0.0003	0.00001	0.0251
	30-Aug-2018	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.1	0.0028	**< 0.055**	0.055	0.01	0.0003	**< 0.055**	0.055	0.01	0.0003	**< 0.055**	0.055	0.0003	0.00001	0.0337
(Replicate A)	6-Sep-2019	**0.104** [#1]	0.0577	0.1	0.0104	**< 0.0577**	0.0577	0.1	0.0029	**< 0.0577**	0.0577	0.01	0.0003	**< 0.0577**	0.0577	0.01	0.0003	**< 0.0577**	0.0577	0.0003	0.00001	0.0320
(Replicate B)	6-Sep-2019	**0.058** [#1]	0.0567	0.1	0.0058	**< 0.0567**	0.0567	0.1	0.0028	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.01	0.0003	**< 0.0567**	0.0567	0.0003	0.00001	0.0271
	26-Aug-2020	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.01	0.0002	**< 0.0499**	0.0499	0.01	0.0002	**< 0.0499**	0.0499	0.0003	0.00001	0.0241
	30-Sep-2021	**< 0.016**	0.016	0.1	0.0008	**< 0.021**	0.021	0.1	0.00105	**< 0.035**	0.035	0.01	0.000175	**< 0.029**	0.029	0.01	0.0001	**< 0.061**	0.061	0.0003	0.00000915	0.0149
	13-Oct-2022	**< 0.026**	0.026	0.1	0.0013	**< 0.033**	0.033	0.1	0.00165	**< 0.039**	0.039	0.01	0.000195	**< 0.03**	0.03	0.01	0.0002	**< 0.062**	0.062	0.0003	0.0000093	0.0419
	14-Sep-2023	**< 0.022**	0.022	0.1	0.0011	**< 0.016**	0.016	0.1	0.0008	**< 0.0049**	0.0049	0.01	0.00002	**< 0.0074**	0.0074	0.01	0.00004	**< 0.02**	0.02	0.0003	0.000003	0.0229
Brook Trout 3+	11-Aug-2010	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0985
	01-Sep-2011	**< 0.090**	0.09	0.1	0.0045	**< 0.070**	0.07	0.1	0.0035	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0345
	01-Sep-2012	**< 0.030**	0.030	0.1	0.0015	**< 0.020**	0.020	0.1	0.0010	**< 0.020**	0.020	0.01	0.0001	**< 0.030**	0.030	0.01	0.0002	**< 0.070**	0.070	0.0003	0.00001	0.0091
(Replicate A)	01-Sep-2013	**< 0.0466**	0.0466	0.1	0.0023	**< 0.0466**	0.0466	0.1	0.0023	**< 0.0466**	0.0466	0.01	0.0002	**< 0.0466**	0.0466	0.01	0.0002	**< 0.0466**	0.0466	0.0003	0.00001	0.0957
(Duplicate)	01-Sep-2013	**< 0.0485**	0.0485	0.1	0.0024	**< 0.0485**	0.0485	0.1	0.0024	**< 0.0485**	0.0485	0.01	0.0002	**< 0.0485**	0.0485	0.01	0.0002	**< 0.0485**	0.0485	0.0003	0.00001	0.0816
(Replicate B)	01-Sep-2013	**< 0.0487**	0.0487	0.1	0.0024	**< 0.0487**	0.0487	0.1	0.0024	**< 0.0487**	0.0487	0.01	0.0002	**< 0.0487**	0.0487	0.01	0.0002	**< 0.0487**	0.0487	0.0003	0.00001	0.0912
	21-Sep-2014	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.01	0.0003	**< 0.0569**	0.0569	0.01	0.0003	**< 0.0569**	0.0569	0.0003	0.00001	0.0927
(Replicate A)	21-Sep-2014	**< 0.0571**	0.0571	0.1	0.0029	**< 0.0571**	0.0571	0.1	0.0029	**< 0.0571**	0.0571	0.01	0.0003	**< 0.0571**	0.0571	0.01	0.0003	**< 0.0571**	0.0571	0.0003	0.00001	0.0620
(Replicate B)	21-Sep-2014	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.1	0.0029	**< 0.0574**	0.0574	0.01	0.0003	**< 0.0574**	0.0574	0.01	0.0003	**< 0.0574**	0.0574	0.0003	0.00001	0.0516
	22-Sep-2015	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.0003	0.00001	0.0534
(Duplicate)	22-Sep-2015	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.1	0.0029	**< 0.0573**	0.0573	0.01	0.0003	**< 0.0573**	0.0573	0.01	0.0003	**< 0.0573**	0.0573	0.0003	0.00001	0.0559
	30-Aug-2016	**< 0.0576**	0.0576	0.1	0.0029	**< 0.0576**	0.0576	0.1	0.0029	**< 0.0576**	0.0576	0.01	0.0003	**< 0.0576**	0.0576	0.01	0.0003	**< 0.0576**	0.0576	0.0003	0.00001	0.0924
	13-Sep-2017	**< 0.0594**	0.0594	0.1	0.0030	**< 0.0594**	0.0594	0.1	0.0030	**< 0.0594**	0.0594	0.01	0.0003	**< 0.0594**	0.0594	0.01	0.0003	**< 0.0594**	0.0594	0.0003	0.00001	0.0409
(Duplicate)	13-Sep-2017	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.1	0.0028	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.01	0.0003	**< 0.0551**	0.0551	0.0003	0.00001	0.0422
	30-Aug-2018	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.1	0.0028	**< 0.0569**	0.0569	0.01	0.0003	**< 0.0569**	0.0569	0.01	0.0003	**< 0.0569**	0.0569	0.0003	0.00001	0.0287
	6-Sep-2019	**0.108** [#1]	0.058	0.1	0.0108	**< 0.058**	0.058	0.1	0.0029	**0.073** [#1]	0.058	0.01	0.0007	**< 0.058**	0.058	0.01	0.0003	**0.088** [#1]	0.058	0.0003	0.00003	0.0550
(Duplicate)	6-Sep-2019	**0.059**	0.0575	0.1	0.0059	**< 0.0575**	0.0575	0.1	0.0029	**< 0.0575**	0.0575	0.01	0.0003	**< 0.0575**	0.0575	0.01	0.0003	**0.064**	0.0575	0.0003	0.00002	0.0349
	26-Aug-2020	**0.06** [#1]	0.0497	0.1	0.0060	**< 0.0497**	0.0497	0.1	0.0025	**< 0.0497**	0.0497	0.01	0.0002	**< 0.0497**	0.0497	0.01	0.0002	**< 0.0497**	0.0497	0.0003	0.00001	0.0300
(Duplicate)	26-Aug-2020	**0.057** [#1]	0.05	0.1	0.0057	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.01	0.0003	**< 0.05**	0.05	0.01	0.0003	**< 0.05**	0.05	0.0003	0.00001	0.0287
	30-Sep-2021	**< 0.054**	0.054	0.1	0.0027	**< 0.039**	0.039	0.1	0.0020	**< 0.052**	0.052	0.01	0.0003	**< 0.047**	0.047	0.01	0.0002	**< 0.096**	0.096	0.0003	0.00001	0.0215
	13-Oct-2022	**< 0.031**	0.031	0.1	0.0016	**< 0.026**	0.026	0.1	0.0013	**< 0.024**	0.024	0.01	0.0001	**< 0.025**	0.025	0.01	0.0001	**< 0.037**	0.037	0.0003	0.00001	0.0200
	14-Sep-2023	**< 0.033**	0.033	0.1	0.0017	**< 0.023**	0.023	0.1	0.0012	**< 0.0077**	0.0077	0.01	0.00004	**< 0.011**	0.011	0.01	0.0001	**< 0.024**	0.024	0.0003	0.000004	0.0467
(Duplicate)	14-Sep-2023	**< 0.024**	0.024	0.1	0.0012	**< 0.018**	0.018	0.1	0.0009	**< 0.01**	0.01	0.01	0.0001	**< 0.016**	0.016	0.01	0.0001	**< 0.025**	0.025	0.0003	0.000004	0.0517
Brook Trout 4+	29-Jun-1998	**< 0.5**	0.5	0.1	0.0250	**< 0.5**	0.5	0.1	0.0250	**< 0.4**	0.4	0.01	0.0020	**< 0.6**	0.6	0.01	0.0030	**< 0.9**	0.9	0.0003	0.0001	**0.7576**
	01-Sep-1999	**< 0.3**	0.3	0.1	0.0150	**< 0.2**	0.2	0.1	0.0100	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.01	0.0010	**< 0.4**	0.4	0.0003	0.0001	0.1661
	03-Sep-2000	**< 0.47**	0.47	0.1	0.0235	**< 0.45**	0.45	0.1	0.0225	**< 0.17**	0.17	0.01	0.0009	**< 0.24**	0.24	0.01	0.0012	**< 0.53**	0.53	0.0003	0.0001	0.2366

Table C.5

Furan Analytical Results for Fish Tissue in Chrystina Lake, Edith Lake and the Hatchery (1997-2023)

PROJECT No.: 317011-00057

Sampling Location	Date	1,2,3,7,8,9-(HxCDF)				2,3,4,6,7,8-(HxCDF)				1,2,3,4,6,7,8-(HpCDF)				1,2,3,4,7,8,9-(HpCDF)				OCDF				Total Furan TEQ
		Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	Conc.	D.L.	TEF	TEQ	
	(dd-mmm-yyyy)	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	(pg/g)	---	---	---	---
CCME Tissue Residue 2001		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.71
Edith Lake - Continued																						
(Duplicate)	03-Sep-2000	**< 0.39**	0.39	0.1	0.0195	**< 0.33**	0.33	0.1	0.0165	**< 0.25**	0.25	0.01	0.0013	**< 0.31**	0.31	0.01	0.0016	**< 0.5**	0.5	0.0003	0.0001	0.1475
	15-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.0003	0.00003	0.0425
	10-Sep-2005	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.14**	0.14	0.01	0.0007	**< 0.29**	0.29	0.0003	0.00004	0.0454
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.2275
	01-Sep-2011	**< 0.060**	0.06	0.1	0.0030	**< 0.050**	0.05	0.1	0.0025	**< 0.060**	0.06	0.01	0.0003	**< 0.080**	0.08	0.01	0.0004	**< 0.20**	0.2	0.0003	0.00003	0.1721
	01-Sep-2013	**< 0.213**	0.213	0.1	0.0107	**< 0.213**	0.213	0.1	0.0107	**0.239**	0.229	0.01	0.0024	**< 0.229**	0.229	0.01	0.0011	**< 0.493**	0.493	0.0003	0.0001	0.2541
	21-Sep-2014	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028	**0.057** [#1]	0.0556	0.01	0.0006	**< 0.0556**	0.0556	0.01	0.0003	**0.144** [#1]	0.0556	0.0003	0.00004	0.1448
	23-Sep-2015	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.1	0.0028	**< 0.0562**	0.0562	0.01	0.0003	**< 0.0562**	0.0562	0.01	0.0003	**< 0.0562**	0.0562	0.0003	0.00001	0.0892
(Replicate A)	22-Sep-2015	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.1	0.0028	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.01	0.0003	**< 0.056**	0.056	0.0003	0.00001	0.0848
	30-Aug-2016	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.0003	0.00001	0.0877
	13-Sep-2017	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.1	0.0029	**< 0.0578**	0.0578	0.01	0.0003	**< 0.0578**	0.0578	0.01	0.0003	**< 0.0578**	0.0578	0.0003	0.00001	0.0526
	30-Aug-2018	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.1	0.0028	**< 0.0556**	0.0556	0.01	0.0003	**< 0.0556**	0.0556	0.01	0.0003	**< 0.0556**	0.0556	0.0003	0.00001	0.0303
	26-Aug-2020	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.1	0.0025	**< 0.0499**	0.0499	0.01	0.0002	**< 0.0499**	0.0499	0.01	0.0002	**< 0.0499**	0.0499	0.0003	0.00001	0.0275
	14-Sep-2023	**< 0.024**	0.024	0.1	0.0012	**< 0.018**	0.018	0.1	0.0009	**0.039** [#1]	0.01	0.01	0.0004	**< 0.015**	0.015	0.01	0.0001	**0.038** [#1]	0.021	0.0003	0.00001	0.0369
Brook Trout 5+	26-Sep-2001	**< 0.05**	0.05	0.1	0.0025	**< 0.05**	0.05	0.1	0.0025	**0.2**	0.05	0.01	0.0020	**< 0.05**	0.05	0.01	0.0003	**0.5**	0.1	0.0003	0.0002	0.0657
	15-Sep-2004	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.01	0.0005	**< 0.1**	0.1	0.0003	0.00002	0.0425
	10-Sep-2005	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0425
	04-Oct-2006	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0795
	01-Sep-2011	**< 0.10**	0.1	0.1	0.0050	**< 0.080**	0.08	0.1	0.0040	**< 0.080**	0.08	0.01	0.0004	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.0003	0.00003	0.0379
	01-Sep-2013	**< 0.0463**	0.0463	0.1	0.0023	**< 0.0463**	0.0463	0.1	0.0023	**0.051** [#1]	0.0463	0.01	0.0005	**0.074** [#1]	0.0463	0.01	0.0007	**0.086** [#1]	0.0463	0.0003	0.00003	0.0971
	21-Sep-2014	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.0003	0.00001	0.0985
	30-Aug-2016	**< 0.057**	0.057	0.1	0.0029	**< 0.057**	0.057	0.1	0.0029	**0.078** [#1]	0.057	0.01	0.0008	**< 0.057**	0.057	0.01	0.0003	**< 0.057**	0.057	0.0003	0.00001	0.1855
	30-Sep-2021	**< 0.04**	0.04	0.1	0.0020	**< 0.045**	0.045	0.1	0.0023	**< 0.06**	0.06	0.01	0.0003	**< 0.048**	0.048	0.01	0.0002	**< 0.082**	0.082	0.0003	0.00001	0.0308
Brook Trout 6+	14-Sep-2023	**< 0.018**	0.018	0.1	0.0009	**< 0.014**	0.014	0.1	0.0007	**< 0.008**	0.008	0.01	0.00004	**< 0.012**	0.012	0.01	0.0001	**< 0.021**	0.021	0.0003	0.000003	0.0424
Brook Trout 7+	10-Sep-2003	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.1	0.0050	**< 0.1**	0.1	0.01	0.0005	**< 0.2**	0.2	0.01	0.0010	**< 0.3**	0.3	0.0003	0.00005	0.0730
Brook Trout 8+	10-Sep-2002	**< 0.4**	0.4	0.1	0.0200	**< 0.3**	0.3	0.1	0.0150	**< 0.7**	0.7	0.01	0.0035	**< 1.0**	1	0.01	0.0050	**< 2.6**	2.4	0.0003	0.0004	0.1184
Brook Trout 11+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.35**	0.1	0.0003	0.0001	0.0796
Brook Trout 12+	11-Sep-2007	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.23**	0.1	0.0003	0.0001	0.0426
Brook Trout Unknown	23-Jul-2008	**0.22**	0.1	0.1	0.0220	**0.15**	0.1	0.1	0.0150	**0.26**	0.1	0.01	0.0026	**< 0.10**	0.1	0.01	0.0005	**0.72**	0.1	0.0003	0.0002	0.1558
(Replicate A)	23-Jul-2008	**0.11**	0.1	0.1	0.0110	**0.13**	0.1	0.1	0.0130	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**0.22**	0.1	0.0003	0.0001	0.0636
(Replicate B)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**< 0.10** [#1]	0.1	0.1	0.0050	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.01	0.0005	**< 0.10**	0.1	0.0003	0.00002	0.0565
(Replicate C)	23-Jul-2008	**< 0.10**	0.1	0.1	0.0050	**0.14**	0.1	0.1	0.0140	**< 0.10**	0.1	0.01	0.0005	**< 0.20**	0.2	0.01	0.0010	**< 0.20**	0.2	0.0003	0.00003	0.0535

NOTES:
1. --- in guideline row(s) denotes no criteria for that parameter.
2. --- in detail data row(s) denotes parameter not analyzed.
3. Highlighting indicates parameters above applied guideline/criteria.
4. Superscript [#1] - Result does not meet all quantification criteria and value denotes the estimated maximum possible concentration (EMPC)

Appendix D. Analytical Laboratory Results

Cambridge Isotope Laboratories, Inc.

50 Frontage Road, Andover, MA 01810-5413 USA
800.322.1174 (N.AMERICA) 978.749.8000 (INTERNATIONAL)
www.isotope.com

CERTIFICATE OF ANALYSIS

Fortified Cod Liver Oil Reference Material

Name:	Fortified Cod Liver Oil Reference Material
Catalog number:	EDF-5462
Lot number:	I1-12578A
Date Created:	March 14, 2011
Expiration Date:	May 26, 2020 (unopened bottle only)
Amount per Ampoule:	10 g
Storage and Handling:	EDF-5462 contains trace amounts of dioxin, furans, PCBs, BFRs, PAHs, and pesticides. It should be handled according to OSHA guidelines for hazardous material. Store in the dark at 4°C.
Intended Use:	For laboratory use only. This product is a sample of homogeneous Cod Liver Oil matrix. This sample is intended for use in evaluating the performance of an analytical laboratory for the listed analytes.
Preparation:	EDF-5462 is a Fortified Cod Liver Oil Material purchased from TestAmerica Corporation in Knoxville, TN. The pure Norwegian cod liver oil is commercially available and has been spiked with known amounts of dioxins, furans, and polychlorinated biphenyls. This sample is meant to be used to evaluate the performance of an analytical laboratory for the analytes given.
Interlaboratory Analyis:	EDF-5462 was analyzed in an International Interlaboratory Study conducted by Cambridge Isotope Laboratories. Participating laboratories used a variety of sample preparation and analytical techniques.
Interlaboratory results:	Results of the international interlaboratory study are attached. Consensus values were independently assigned by TRIUM Inc. (Canada) using statistical analysis software. These numbers are certified reference values. All values are presented at three significant figures. Analytes with fewer than five laboratories contributing acceptable data do not have assigned values reported in this study.

Authorized Signature: Thomas Dorsey 3/15/2011

Quality Assurance Date

Participating Laboratories

AgriQuality Limited - Wellington Laboratory, New Zealand

Biodetection Systems, The Netherlands

California Department of Fish & Game, USA

Columbia Analytical Services, USA

Ehime University, Japan

Food GmbH Jena, Germany

Health Canada, Canada

IDEA Consultants, Inc., Japan

Institut National de Santé Publique du Québec, Canada

Münster Analytical Solutions GmbH, Germany

National Measurement Institute, Australia

Ontario Ministry of Environment, Canada

State Institute for Chemical and Veterinary Analysis of Food, Germany

Taiwan Agricultural Chemicals and Toxic Substances Research Institute (TACTRI,COA), Taiwan

Vista Analytical, USA

(all values in ng/kg)

Analyte	Assigned Value[1]	Standard Deviation	Reference Value[2]	Target Value[3]	(n)[4]
Polychlorinated dioxins & furans					
2,3,7,8-TetraCDD	16.1	1.72	16.1 ± 3.44	17.5	11
Total TetraCDD	15.8	2.10	15.8 ± 4.20		7
2,3,7,8-TetraCDF	1430	140	1430 ± 280	1520	10
Total TetraCDF	1490	135	1490 ± 270		6
1,2,3,7,8-PentaCDD	39.3	2.37	39.3 ± 4.74	43.8	11
Total PentaCDD	39.0	2.80	39.0 ± 5.60		7
1,2,3,7,8-PentaCDF	387	30.4	387 ± 60.8	394	10
2,3,4,7,8-PentaCDF	40.2	3.22	40.2 ± 6.44	38.2	10
Total PentaCDF	435	33.0	435 ± 66.0		7
1,2,3,4,7,8-HexaCDD	39.1	4.88	39.1 ± 9.76	43.8	10
1,2,3,6,7,8-HexaCDD	39.2	3.92	39.2 ± 7.84	43.8	10
1,2,3,7,8,9-HexaCDD	41.1	4.63	41.1 ± 9.26	43.8	9
Total HexaCDD	122	23.3	122 ± 46.6		7
1,2,3,4,7,8-HexaCDF	39.5	2.69	39.5 ± 5.38	43.8	10
1,2,3,6,7,8-HexaCDF	40.9	2.42	40.9 ± 4.84	43.8	10
1,2,3,7,8,9-HexaCDF	39.6	4.15	39.6 ± 8.30	43.8	10
2,3,4,6,7,8-HexaCDF	39.2	3.01	39.2 ± 6.02	43.8	10
Total HexaCDF	157	12.2	157 ± 24.4		7
1,2,3,4,6,7,8-HeptaCDD	40.6	3.25	40.6 ± 6.50	43.8	10
Total HeptaCDD	40.3	3.57	40.3 ± 7.14		7
1,2,3,4,6,7,8-HeptaCDF	41.0	4.58	41.0 ± 9.16	43.8	10
1,2,3,4,7,8,9-HeptaCDF	41.0	3.84	41.0 ± 7.68	43.8	10
Total HeptaCDF	81.0	9.61	81.0 ± 19.2		7

(all values in ng/kg)

Analyte	Assigned Value[1]	Standard Deviation	Reference Value[2]	Target Value[3]	(n)[4]
Polychlorinated dioxins & furans (continued)					
OctaCDD	115	7.66	115 ± 15.3	128	10
OctaCDF	75.4	10.3	75.4 ± 20.6	87.5	10
Polychlorinated biphenyls[5]					
2,2',5-TriCB (#18)	56.7	18.4	56.7 ± 36.8	40.0	7
2,4,4'-TriCB (#28)	450	98.0	450 ± 196	340	9
3,4,4'-TriCB (#37)	56.7	21.5	56.7 ± 43.0	40.0	6
2,2',3,5'-TetraCB (#44)	100	14.0	100 ± 28.0	40.0	5
2,2',4,5'-TetraCB (#49)	101	15.8	101 ± 31.6	40.0	6
2,2',5,5'-TetraCB (#52)	533	112	533 ± 224	340	8
2,3',4,4'-TetraCB (#66)	211	25.7	211 ± 51.4	40.0	5
2,4,4',5-TetraCB (#74)	142	33.7	142 ± 67.4	80.0	6
3,3',4,4'-TetraCB (#77)	50.7	8.03	50.7 ± 16.1	40.0	10
3,4,4',5-TetraCB (#81)	40.7	4.84	40.7 ± 9.68	40.0	10
2,2',4,4',5-PentaCB (#99)	519	62.9	519 ± 126	40.0	8
2,2',4,5,5'-PentaCB (#101)	1020	138	1020 ± 276	340	8
2,3,3',4,4'-PentaCB (#105)	769	76.9	769 ± 154	40.0	12
2,3,3',4',6-PentaCB (#110)	599	81.4	599 ± 163	40.0	8
2,3,4,4',5-PentaCB (#114)	75.4	8.21	75.4 ± 16.4	40.0	11
2,3',4,4',5-PentaCB (#118)	1670	133	1670 ± 266	40.0	11
2',3,4,4',5-PentaCB (#123)	58.2	9.64	58.2 ± 19.3	40.0	10
3,3',4,4',5-PentaCB (#126)	53.3	3.79	53.3 ± 7.58	40.0	10
2,2',3,3',4,4'-HexaCB (#128)	812	255	812 ± 510		9
2,2',3,4,4',5-HexaCB (#137)	143	23.0	143 ± 46.0		5

(all values in ng/kg)

Analyte	Assigned Value[1]	Standard Deviation	Reference Value[2]	Target Value[3]	(n)[4]
Polychlorinated biphenyls[5](continued)					
2,2',3,4,4',5'-HexaCB (#138)	4190	793	4190 ± 1590	340	10
2,2',3,4,5,5'-HexaCB (#141)	256	40.6	256 ± 81.2		6
2,2',3,4',5',6-HexaCB (#149)	819	242	819 ± 484	40.0	7
2,2',3,5,5',6-HexaCB (#151)	231	69.7	231 ± 139		7
2,2',4,4',5,5'-HexaCB (#153)	4240	333	4240 ± 666	340	11
2,3,3',4,4',5-HexaCB (#156)	501	66.9	501 ± 134	80.0	12
2,3,3',4,4',5'-HexaCB (#157)	168	14.8	168 ± 29.6	80.0	10
2,3,3',4,4',6-HexaCB (#158)	274	17.8	274 ± 35.6		5
2,3',4,4',5,5'-HexaCB (#167)	271	27.2	271 ± 54.4	40.0	10
3,3',4,4',5,5'-HexaCB (#169)	44.1	4.79	44.1 ± 9.58	40.0	11
2,2',3,3',4,4',5-HeptaCB (#170)	956	84.8	956 ± 170	40.0	10
2,2',3,3',4',5,6-HeptaCB (#177)	207	22.7	207 ± 45.4		7
2,2',3,3',5,5',6-HeptaCB (#178)	194	25.2	194 ± 50.4	40.0	6
2,2',3,4,4',5,5'-HeptaCB (#180)	2500	203	2500 ± 406	340	11
2,2',3,4,4',5',6-HeptaCB (#183)	338	36.4	338 ± 72.8		9
2,2',3,4',5,5',6-HeptaCB (#187)	859	86.9	859 ± 174	40.0	9
2,3,3',4,4',5,5'-HeptaCB (#189)	93.2	8.31	93.2 ± 16.6	40.0	11
2,2',3,3',4,4',5,5'-OctaCB (#194)	302	57.9	302 ± 116	40.0	7
2,2',3,3',4,4',5,5',6-NonaCB(#206)	130	30.7	130 ± 61.4	40.0	7
2,2',3,3',4,5,5',6,6'-NonaCB(#208)	72.1	11.4	72.1 ± 22.8	40.0	6
DecaCB (#209)	488	82.0	488 ± 164	340	7

(all values in ng/kg)

Analyte	Assigned Value[1]	Standard Deviation	Reference Value[2]	Target Value[3]	(n)[4]
Brominated Diphenyl ethers[5]					
2,2',4-TriBDE (#17)	8.83	2.88	8.83 ± 5.76		7
2,4,4'-TriBDE (#28)	40.1	6.95	40.1 ± 13.9		6
2,2',4,4'-TetraBDE (#47)	1480	240	1480 ± 480		8
2,3',4,4'-TetraBDE (#66)	48.4	14.7	48.4 ± 29.4		6
2,2',4,4',5-PentaBDE (#99)	193	35.2	193 ± 70.4		7
2,2',4,4',6-PentaBDE (#100)	357	25.3	357 ± 50.6		7
2,2',4,4',5,5'-HexaBDE (#153)	33.9	3.32	33.9 ± 6.64		7
2,2',4,4',5,6'-HexaBDE (#154)	229	44.4	229 ± 88.8		7

[1] Assigned value as determined by TRIUM Inc. (Canada) using STATISTICA data analysis software analysis of raw interlaboratory study data.

[2] Reference value is the Assigned Value plus or minus two standard deviations. Negative numbers resulting from two standard deviations being greater than the assigned value have no significance.

[3] Target value is the value provided by TestAmerica, Inc. that was used to spike the Cod liver oil sample. This value is independent of and may be in addition to analytes present in blank.

[4] Number of laboratories providing results for this analyte.

[5] All numbers in parentheses refer to the IUPAC designation for the compound.

National Research Council Canada | Conseil national de recherches Canada

Certificate of Analysis

Certified Reference Material

DORM-5

Fish Protein Certified Reference Material

DORM-5 is a fish protein Certified Reference Material (CRM) from the National Research Council Canada (NRC) with information on total trace element and species content. A unit of DORM-5 consists of approximately 18 grams of fish protein in an amber glass vial.

Table 1 shows the certified, reference and information values established for DORM-5. The expanded uncertainties associated with the certified and reference values were calculated according to the JCGM Guide [1] and correspond to approx. 95 % confidence (k = 2). All listed values are expressed on a dry mass basis.

Table 1: Mass fractions and expanded uncertainty (k = 2) for DORM-5

Analyte	Mass fraction, mg/kg	Type of value	International recognition of measurement capability (CMC)
aluminium (b,c,d,e)	250 ± 13	certified	TEB-01
antimony (a,c)	0.0062 ± 0.0024	reference	--
arsenic (b,c,d,e)	13.3 ± 0.7	certified	MEF-14
arsenobetaine (as As) (f,g,h)	11.8 ± 0.4	certified	--
barium (a,c,d,e)	0.396 ± 0.023	certified	MEF-4
boron (a,c)	3.63 ± 0.16	certified	--
bromine (c)	50.7	information	--
cadmium (a,c)	0.148 ± 0.007	certified	MEF-16
calcium (b,c,d,e)	2010 ± 260	certified	MEF-17
chlorine (c)	12200	information	--
chromium (a,c,d,e)	0.515 ± 0.068	certified	MEF-18
cobalt (b,c)	0.063 ± 0.004	certified	MEF-19
copper (a,c,d,e)	3.30 ± 0.07	certified	MEF-20
iodine (c)	7.5 ± 1.4	reference	--
iron (a,c,d,e)	113 ± 8	certified	MEF-21
lead (a,c)	0.058 ± 0.006	certified	MEF-22
lithium (a,c)	0.391 ± 0.120	certified	--
magnesium (b,c,d,e)	1030 ± 80	certified	MEF-23
manganese (b,c,d,e)	1.06 ± 0.04	certified	MEF-24
mercury (a,c)	0.316 ± 0.017	certified	MEF-25
molybdenum (a,c)	0.134 ± 0.023	certified	MEF-27

Canada

Analyte	Mass fraction, mg/kg	Type of value	International recognition of measurement capability (CMC)
nickel (a,c,d,e)	0.44 ± 0.03	certified	MEF-28
phosphorus (b,c,d,e)	6230 ± 240	certified	--
potassium (b,c,d,e)	11600 ± 400	certified	MEF-29
rubidium (b)	2.76 ± 0.19	certified	--
selenium (a,c,d,e)	2.40 ± 0.11	certified	MEF-30
selenomethionine (as Se) (f)	0.62 ± 0.14	certified	--
silver (a,c)	0.135 ± 0.014	certified	MEF-31
sodium (b,c,d,e)	9200 ± 400	certified	MEF-32
strontium (a,c,d,e)	9.87 ± 0.23	certified	MEF-33
sulfur (b,d,e)	8400 ± 200	reference	--
tin (a,c)	0.077 ± 0.008	certified	--
uranium (a,c)	0.0163 ± 0.0039	certified	--
vanadium (b,c,d,e)	0.347 ± 0.029	certified	MEF-34
zinc (a,c,d,e)	28.7 ± 1.0	certified	MEF-35

Coding

The coding refers to the instrumental method of analyte determination.

- **a** Isotope dilution inductively-coupled plasma mass spectrometry (ID-ICP-MS)
- **b** Standard addition inductively-coupled plasma mass spectrometry (SA-ICP-MS)
- **c** Inductively-coupled plasma mass spectrometry (ICP-MS)
- **d** Standard addition Inductively-coupled plasma atomic emission spectroscopy (SA-ICP-AES)
- **e** Inductively-coupled plasma atomic emission spectroscopy (ICP-AES)
- **f** Isotope dilution liquid chromatography ICP-MS (ID-LC-ICP-MS)
- **g** Isotope dilution liquid chromatography mass spectrometry (ID-LC-MS)
- **h** Standard addition liquid chromatography mass spectrometry (SA-LC-MS)

Supplementary data

The accompanying datasheets (available from doi.org/10.4224/crm.2021.dorm-5) provide data from individual laboratories.

International recognition of measurement capability

The measurement capabilities supporting these results are registered at the Calibration and Measurement Capabilities (CMC) database of the Bureau international des poids et mesures (BIPM) indicating recognition of the measurement certificates by National Metrology Institutes (NMIs) participating in the Mutual Recognition Arrangement (MRA) with the corresponding identifiers. Lists of all registered measurement capabilities in a food matrix can be found in the BIPM database at https://www.bipm.org/kcdb/.

Certified values

Certified values are considered to be those for which the NRC has the highest confidence in accuracy and that all known and suspected sources of bias have been taken into account and are reflected in the stated expanded uncertainties. Certified values are the best estimate of the true value and uncertainty.

Reference values

Reference values are those for which insufficient data are available to provide a comprehensive estimate of uncertainty.

Information values

Information values are those for which insufficient data are available to provide any estimate of uncertainty.

Intended use

DORM-5 is intended for use in the method development, validation, and quality control for the analysis of trace and matrix constituents in marine fauna and similar sample matrices.

Storage and sampling

It is recommended that the material is stored at approximately –20 ºC or below under typical freezer conditions. Each vial is packaged in a trilaminate foil pouch. Prior to use, the vial should be allowed to warm to room temperature and the contents should be well mixed, and tightly closed immediately thereafter. Certified values are based on a minimum 250 mg sub-sample.

Instructions for drying

To obtain dry weight a sample aliquot should be dried to a constant mass. The estimated moisture content of DORM-5 is approximately 0.04 g/g.

Preparation of material

This reference material was prepared from a commercial fish protein homogenate. The material was produced using an enzymatic hydrolysis procedure subsequent to removal of the bones and the majority of the oil. The protein hydrolysate was flash-pasteurized, spray dried, sieved to pass an 850 µm nylon screen, blended and bottled in amber glass vials. After bottling the material was sterilized by subjecting it to a minimum dose of 25 kGy gamma irradiation.

Stability

DORM-5 stability was assessed and deemed to be both physically and chemically stable in long term storage and transportation. Long term stability was assessed by proxy using similar CRMs and transportation stability study was carried out using an isochronous approach under elevated temperature.

Homogeneity

Homogeneity of the material using 250 mg sub-samples was assessed. Results from randomly selected bottles were evaluated using Bayesian analysis of variance (ANOVA) [2].

Uncertainty

Evaluation of the uncertainty associated with certified and reference values was carried out. Included in the overall combined uncertainty estimate are uncertainties in the batch characterization, uncertainties related to possible between-bottle variation, and uncertainties related to inconsistency between the various measurement methods [3,4]. Further information is presented in the supplementary datasheets doi.org/10.4224/crm.2021.dorm-5.

Metrological traceability

Results presented in this certificate are traceable to the SI through CRMs produced by National Metrology Institutes and gravimetrically prepared standards of established purity. As such, DORM-5 serves as suitable reference material for laboratory quality assurance programs, as outlined in ISO/IEC 17025.

Quality Management System (ISO 17034, ISO/IEC 17025)

This material was produced in compliance with the NRC Metrology Quality Management System, which conforms to the requirements of ISO 17034 and ISO/IEC 17025. The Metrology Quality Management System supporting NRC Calibration and Measurement Capabilities, as listed in the *Bureau international des poids et mesures* (BIPM) Key Comparison Database (kcdb.bipm.org/), has been reviewed and approved under the authority of the Inter-American Metrology System (SIM) and found to be in compliance with the expectations of the *Comité international des poids et mesures* (CIPM) Mutual Recognition Arrangement. The SIM approval is available upon request.

Updates

For updates please refer to doi.org/10.4224/crm.2021.dorm-5.

References

1. Evaluation of measurement data: Guide to the expression of uncertainty in measurement JCGM100:2008. https://www.bipm.org/en/publications/guides/gum.html
2. van der Veen AMH (2017) Bayesian analysis of homogeneity studies in the production of reference materials. *Accred. Qual. Assur.* 22: 307-319. doi.org/10.1007/s00769-017-1292-6.
3. Possolo A, Toman B (2007) Assessment of measurement uncertainty via observation equations. *Metrologia*, 44: 464-475. doi.org/10.1088/0026-1394/44/6/005
4. Thompson M, Ellison SLR (2011) Dark uncertainty. *Accred. Qual. Assur.* 16: 483-487. doi.org/10.1007/s00769-011-0803-0

Cited by

A list of scientific publications citing DORM-5 can be found at doi.org/10.4224/crm.2021.dorm-5.

Authorship

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Canada

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Citation

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DORM-5

Date of issue: August 2021
Date of expiry: August 2026

Approved by:

Zoltan Mester, Ph. D.
Team Leader, Inorganic Chemical Metrology
NRC Metrology

This Certificate is only valid if the corresponding material was obtained directly from the NRC or an Authorized Reseller.

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Certificate of Analysis

ALS Project Contact:	Lynne Wrona	**Client Name:**	Advisian/ Worley
ALS Project ID:	10283	**Client Address:**	Suite 150 205 Quarry Park Blvd SE
ALS WO#:	L2740805		Calgary, AB T2C 3E7
Date of Sample Receipt	16-Nov-22		Canada
Date of Report	22-Feb-23	**Client Contact:**	Graham Young
		Client Project ID:	317011-00057

COMMENTS: **Toxic PCDD/F and PCB Congeners by GC/MS/MS and GC/HRMS**

Reporting units of pg/g are equivalent to ng/Kg
Reporting units of ng/g are equivalent to µg/Kg

Results have been calculated on an as-received (wet) basis

For the method blank and the most of the client samples, the recoveries of the labelled extraction standards were outside the method control limits. Native results, calculated via isotope dilutions, are not expected to be biased.

Co-elutions may cause a high bias to selected PCDD/PCDF or PCB analytical results. Secondary column confirmations to uniquely define the toxic congeners for PCB targets or for PCDD/F targets is recommended where it is of value to resolve such sources of potential high bias.

Certified by:

Sabrina Jin
Technical Specialist

Sample Analysis Summary Report

Sample Name	Method Blank	Reagent Blank	[2021] [SVOC] CHBKTR 1+	Duplicate of [2021] [SVOC] CHBKTR 1+	[2021] [SVOC] CHBKTR 2+	[2021] [SVOC] CHBKTR 3+
ALS Sample ID	WG3777732-1	WG3777732-4	L2740805-1	WG3777732-5	L2740805-2	L2740805-3
Sample Size	10.00	10.33	10.18	10.08	10.08	10.03
Sample units	g wwt	g wwt	g wwt	g wwt	g wwt	g wwt
Moisture Content	n/a	n/a	n/a	n/a	n/a	n/a
Matrix	qc	qc	fish tissue	qc	fish tissue	fish tissue
Sampling Date	n/a	n/a	29-Sep-21	n/a	29-Sep-21	29-Sep-21
Extraction Date	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23
Polychlorinated Dibenzo(p)dioxins	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.033	<0.034	<0.041	<0.026	<0.031	<0.048
1,2,3,7,8-PeCDD	<0.035	<0.038	<0.058	<0.035	<0.044	<0.049
1,2,3,4,7,8-HxCDD	<0.047	<0.053	<0.065	<0.054	<0.036	<0.064
1,2,3,6,7,8-HxCDD	<0.060	<0.050	<0.080	<0.045	<0.047	<0.069
1,2,3,7,8,9-HxCDD	<0.046	<0.042	<0.088	<0.043	<0.060	<0.086
1,2,3,4,6,7,8-HpCDD	<0.040	0.0759	<0.066	0.0712	0.0773	0.102
OCDD	0.0874	<0.11	<0.092	<0.13	<0.19	<0.22
Polychlorinated Dibenzofurans						
2,3,7,8-TCDF	<0.039	<0.029	0.499	0.395	0.462	0.394
1,2,3,7,8-PeCDF	<0.050	<0.065	<0.078	<0.089	<0.024	<0.075
2,3,4,7,8-PeCDF	<0.040	<0.049	0.0521	0.0507	0.0670	0.0747
1,2,3,4,7,8-HxCDF	<0.031	<0.043	<0.036	<0.031	<0.030	<0.044
1,2,3,6,7,8-HxCDF	<0.030	<0.048	<0.035	<0.034	<0.030	<0.047
2,3,4,6,7,8-HxCDF	<0.030	<0.048	<0.048	<0.029	<0.030	<0.044
1,2,3,7,8,9-HxCDF	<0.038	<0.060	<0.063	<0.037	<0.049	<0.047
1,2,3,4,6,7,8-HpCDF	<0.043	<0.052	<0.064	<0.050	<0.056	<0.055
1,2,3,4,7,8,9-HpCDF	<0.041	<0.062	<0.061	<0.033	<0.034	<0.041
OCDF	<0.11	<0.055	<0.096	<0.062	<0.059	<0.099
Dioxin-like Polychlorinated Biphenyls						
PCB-81	<0.027	<0.030	1.36	1.12	1.11	0.723
PCB-77	<0.032	<0.031	35.5	35.4	26.3	24.1
PCB-123	<0.21	<0.19	19.7	16.6	20.0	15.0
PCB-118	0.523	<0.18	1440	1250	1480	1120
PCB-114	<0.19	<0.17	35.3	29.7	38.2	28.6
PCB-105	<0.21	<0.19	508	418	490	383
PCB-126	<0.050	<0.064	7.75	7.18	7.44	5.75
PCB-167	<0.093	<0.084	86.2	71.2	102	69.2
PCB-156/157	<0.13	<0.12	193	159	219	147
PCB-169	<0.041	<0.064	0.453	0.384	<0.50	0.319
PCB-189	<0.067	<0.088	14.2	12.3	17.8	10.9
Toxic Equivalency WHO (2005) Mammal	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Lower Bound TEQ - PCDD/F	0.0000262	0.000759	0.0655	0.0554	0.0671	0.0628
Upper Bound TEQ - PCDD/F	0.115	0.128	0.210	0.147	0.172	0.203
Lower Bound TEQ - PCB	0.0000157	0.00	0.861	0.792	0.818	0.640
Upper Bound TEQ - PCB	0.00628	0.00836	0.861	0.792	0.833	0.640
Lower Bound TEQ - TOTAL	0.0000419	0.000759	0.927	0.848	0.885	0.703
Upper Bound TEQ - TOTAL	0.121	0.136	1.07	0.939	1.00	0.844
Marker Polychlorinated Biphenyls	**ng/g**	**ng/g**	**ng/g**	**ng/g**	**ng/g**	**ng/g**
PCB-28	0.00136	<0.0014	0.0622	0.0862	0.0459	0.0452
PCB-52	<0.0013	0.00100	0.376	0.457	0.266	0.267
PCB-101	<0.00039	<0.00018	1.37	1.40	1.28	1.05
PCB-118	0.000523	<0.00018	1.44	1.25	1.48	1.12
PCB-153	0.000260	0.000229	2.14	2.05	2.54	1.73
PCB-138	<0.00049	<0.00033	2.21	2.04	2.54	1.76
PCB-180	<0.000076	<0.00017	1.28	1.13	1.50	0.927
Lower Bound Marker PCB Total - ICES6	0.00162	0.00123	7.44	7.16	8.17	5.78
Mid Point Marker PCB Total - ICES6	0.00384	0.00313	7.44	7.16	8.17	5.78
Upper Bound Marker PCB Total - ICES6	0.00388	0.00331	7.44	7.16	8.17	5.78
Lower Bound Marker PCB Total - ICES7	0.00214	0.00123	8.88	8.41	9.65	6.90
Mid Point Marker PCB Total - ICES7	0.00436	0.00322	8.88	8.41	9.65	6.90
Upper Bound Marker PCB Total - ICES7	0.00440	0.00349	8.88	8.41	9.65	6.90
Lower Bound Total PCB via EPA 1668C	0.0164	0.0156	24.3	24.3	24.8	18.3
Mid Point Total PCB via EPA 1668C	0.0294	0.0288	24.3	24.3	24.8	18.3
Upper Bound Total PCB via EPA 1668C	0.0422	0.0419	24.3	24.3	24.8	18.3

Sample Analysis Summary Report

Sample Name	[2021] [SVOC] CHBKTR SPLIT	[2021] [SVOC] CHBKTR 4+	[2021] [SVOC] CHBKTR 5+	[2021] [SVOC] EDBKTR 1+	[2021] [SVOC] EDBKTR 2+	[2021] [SVOC] EDBKTR 3+
ALS Sample ID	L2740805-4	L2740805-5	L2740805-6	L2740805-7	L2740805-8	L2740805-9
Sample Size	10.32	10.07	10.03	10.20	10.35	10.09
Sample units	g wwt	g wwt	g wwt	g wwt	g wwt	g wwt
Moisture Content	n/a	n/a	n/a	n/a	n/a	n/a
Matrix	fish tissue	fish tissue	fish tissue	fish tissue	fish tissue	fish tissue
Sampling Date	29-Sep-21	29-Sep-21	29-Sep-21	30-Sep-21	30-Sep-21	30-Sep-21
Extraction Date	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23
Polychlorinated Dibenzo(p)dioxins	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.069	<0.036	<0.037	<0.039	<0.033	<0.043
1,2,3,7,8-PeCDD	<0.071	<0.045	<0.051	<0.067	<0.038	<0.067
1,2,3,4,7,8-HxCDD	<0.083	<0.050	<0.053	<0.057	<0.033	<0.080
1,2,3,6,7,8-HxCDD	<0.086	<0.049	<0.054	<0.058	<0.037	<0.084
1,2,3,7,8,9-HxCDD	<0.081	<0.030	<0.044	<0.052	<0.038	<0.060
1,2,3,4,6,7,8-HpCDD	0.0935	<0.086	0.0932	<0.065	<0.074	0.113
OCDD	0.710	0.323	<0.14	<0.082	0.110	<0.11
Polychlorinated Dibenzofurans						
2,3,7,8-TCDF	0.846	0.561	0.766	<0.056	0.0560	0.0699
1,2,3,7,8-PeCDF	<0.055	0.0392	0.0472	<0.044	0.0288	<0.053
2,3,4,7,8-PeCDF	0.135	0.0875	0.108	<0.034	0.0141	<0.032
1,2,3,4,7,8-HxCDF	<0.047	<0.032	<0.031	<0.032	<0.019	<0.038
1,2,3,6,7,8-HxCDF	<0.053	<0.030	<0.034	<0.025	<0.021	<0.038
2,3,4,6,7,8-HxCDF	<0.055	<0.029	<0.036	<0.033	<0.021	<0.039
1,2,3,7,8,9-HxCDF	<0.058	<0.026	<0.035	<0.038	<0.016	<0.054
1,2,3,4,6,7,8-HpCDF	<0.058	<0.032	<0.048	0.0363	<0.035	<0.052
1,2,3,4,7,8,9-HpCDF	<0.057	<0.035	<0.041	<0.032	<0.029	<0.047
OCDF	<0.096	<0.080	<0.062	<0.066	<0.061	<0.096
Dioxin-like Polychlorinated Biphenyls						
PCB-81	2.12	1.26	1.24	0.0875	0.126	0.200
PCB-77	59.3	31.9	27.5	2.20	3.46	5.52
PCB-123	54.1	24.5	<27	1.49	<1.7	<4.0
PCB-118	2760	1530	1430	86.4	132	213
PCB-114	76.5	41.1	43.3	<1.6	<2.4	<4.4
PCB-105	967	540	523	26.1	39.4	73.2
PCB-126	14.4	7.72	8.09	0.430	0.726	1.26
PCB-167	174	100	103	5.30	7.60	<12
PCB-156/157	373	218	225	10.3	12.9	23.0
PCB-169	0.881	0.476	0.631	0.133	0.166	<0.27
PCB-189	27.2	15.8	17.1	<0.91	1.03	1.76
Toxic Equivalency WHO (2005) Mammal	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Lower Bound TEQ - PCDD/F	0.126	0.0836	0.111	0.000363	0.0107	0.00812
Upper Bound TEQ - PCDD/F	0.315	0.191	0.229	0.154	0.102	0.170
Lower Bound TEQ - PCB	1.61	0.864	0.901	0.0511	0.0838	0.136
Upper Bound TEQ - PCB	1.61	0.864	0.902	0.0512	0.0839	0.145
Lower Bound TEQ - TOTAL	1.73	0.948	1.01	0.0515	0.0945	0.144
Upper Bound TEQ - TOTAL	1.92	1.05	1.13	0.205	0.186	0.314
Marker Polychlorinated Biphenyls	**ng/g**	**ng/g**	**ng/g**	**ng/g**	**ng/g**	**ng/g**
PCB-28	0.100	0.0611	0.0580	0.0148	0.00824	0.0124
PCB-52	0.617	0.358	0.254	0.0580	0.0390	0.0562
PCB-101	2.54	1.40	1.22	0.107	0.125	0.213
PCB-118	2.76	1.53	1.43	0.0864	0.132	0.213
PCB-153	4.50	2.72	2.53	0.184	0.223	0.349
PCB-138	4.44	2.73	2.51	0.164	0.192	0.313
PCB-180	2.30	1.36	1.40	0.0606	0.0849	0.151
Lower Bound Marker PCB Total - ICES6	14.5	8.63	7.97	0.588	0.672	1.09
Mid Point Marker PCB Total - ICES6	14.5	8.63	7.97	0.588	0.672	1.09
Upper Bound Marker PCB Total - ICES6	14.5	8.63	7.97	0.588	0.672	1.09
Lower Bound Marker PCB Total - ICES7	17.3	10.2	9.40	0.675	0.804	1.31
Mid Point Marker PCB Total - ICES7	17.3	10.2	9.40	0.675	0.804	1.31
Upper Bound Marker PCB Total - ICES7	17.3	10.2	9.40	0.675	0.804	1.31
Lower Bound Total PCB via EPA 1668C	44.3	26.1	23.3	1.88	2.13	3.34
Mid Point Total PCB via EPA 1668C	44.3	26.1	23.3	1.89	2.13	3.36
Upper Bound Total PCB via EPA 1668C	44.3	26.1	23.4	1.90	2.14	3.38

Sample Analysis Summary Report

Sample Name	[2021] [SVOC] EDBKTR 5+	[2021] [SVOC] HATCH	[SVOC] EDF-5462	[2022] [SVOC] CHBKTR 2+	[2022] [SVOC] EDBKTR 2+	[2022] [SVOC] EDBKTR 3+
ALS Sample ID	L2740805-10	L2740805-11	L2740805-12	L2740805-14	L2740805-18	L2740805-19
Sample Size	10.23	10.32	1.01	10.12	10.48	10.26
Sample units	g wwt	g wwt	g wwt	g wwt	g wwt	g wwt
Moisture Content	n/a	n/a	n/a	n/a	n/a	n/a
Matrix	fish tissue	fish tissue	crm	fish tissue	fish tissue	fish tissue
Sampling Date	30-Sep-21	30-Sep-21	n/a	12-Oct-22	13-Oct-22	13-Oct-22
Extraction Date	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23	11-Jan-23
Polychlorinated Dibenzo(p)dioxins	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
2,3,7,8-TCDD	<0.056	<0.043	14.8	<0.042	0.0331	<0.026
1,2,3,7,8-PeCDD	<0.092	<0.050	37.7	<0.068	0.0447	<0.047
1,2,3,4,7,8-HxCDD	<0.093	<0.052	33.6	<0.044	<0.041	<0.052
1,2,3,6,7,8-HxCDD	0.0703	<0.047	34.4	<0.072	0.0715	<0.052
1,2,3,7,8,9-HxCDD	<0.088	<0.048	40.2	<0.046	<0.043	<0.049
1,2,3,4,6,7,8-HpCDD	<0.20	0.0708	38.4	<0.077	0.104	<0.051
OCDD	0.145	0.184	109	0.257	<0.070	<0.12
Polychlorinated Dibenzofurans						
2,3,7,8-TCDF	<0.087	<0.079	1490	0.954	0.253	0.0997
1,2,3,7,8-PeCDF	<0.056	<0.038	402	<0.049	0.0495	<0.022
2,3,4,7,8-PeCDF	0.0341	<0.029	38.1	0.132	<0.029	<0.028
1,2,3,4,7,8-HxCDF	<0.055	<0.029	37.5	<0.042	<0.027	<0.021
1,2,3,6,7,8-HxCDF	<0.053	<0.031	40.0	<0.041	<0.035	<0.027
2,3,4,6,7,8-HxCDF	<0.045	<0.032	36.5	<0.038	<0.033	<0.026
1,2,3,7,8,9-HxCDF	<0.040	<0.036	36.6	<0.030	<0.026	<0.031
1,2,3,4,6,7,8-HpCDF	<0.060	<0.036	38.6	<0.049	<0.039	<0.024
1,2,3,4,7,8,9-HpCDF	<0.048	<0.047	39.3	<0.036	<0.030	<0.025
OCDF	<0.082	<0.076	77.6	<0.10	<0.062	<0.037
Dioxin-like Polychlorinated Biphenyls						
PCB-81	0.289	<0.033	35.9	1.97	1.92	0.234
PCB-77	7.52	0.482	47.1	56.2	69.8	7.00
PCB-123	<5.7	<0.59	60.4	39.2	<18	<3.6
PCB-118	313	13.9	1750	2840	1140	277
PCB-114	<5.2	<0.24	78.4	70.8	20.4	<3.7
PCB-105	90.3	4.43	766	910	397	81.5
PCB-126	2.05	<0.13	56.5	15.2	13.0	1.72
PCB-167	19.4	1.13	282	177	58.6	15.3
PCB-156/157	32.6	1.87	629	393	99.5	28.1
PCB-169	0.612	<0.052	41.3	0.989	0.884	0.250
PCB-189	3.14	0.267	90.9	33.0	6.63	2.22
Toxic Equivalency WHO (2005) Mammal	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**pg/g**
Lower Bound TEQ - PCDD/F	0.0173	0.000763	252	0.135	0.113	0.00997
Upper Bound TEQ - PCDD/F	0.216	0.140	252	0.279	0.143	0.119
Lower Bound TEQ - PCB	0.238	0.000696	7.01	1.69	1.39	0.192
Upper Bound TEQ - PCB	0.238	0.0153	7.01	1.69	1.39	0.193
Lower Bound TEQ - TOTAL	0.255	0.00146	259	1.82	1.50	0.202
Upper Bound TEQ - TOTAL	0.454	0.155	259	1.97	1.53	0.311
Marker Polychlorinated Biphenyls	**ng/g**	**ng/g**	**ng/g**	**ng/g**	**ng/g**	**ng/g**
PCB-28	0.0151	0.00682	0.434	0.105	0.0438	0.0116
PCB-52	0.0561	0.0133	0.568	0.571	0.267	0.0563
PCB-101	0.269	0.0154	0.874	2.49	0.899	0.236
PCB-118	0.313	0.0139	1.75	2.84	1.14	0.277
PCB-153	0.549	0.0380	3.61	4.92	1.41	0.438
PCB-138	0.438	0.0331	4.41	4.73	1.34	0.383
PCB-180	0.225	0.0124	2.10	2.53	0.538	0.182
Lower Bound Marker PCB Total - ICES6	1.55	0.119	12.0	15.3	4.50	1.31
Mid Point Marker PCB Total - ICES6	1.55	0.119	12.0	15.3	4.50	1.31
Upper Bound Marker PCB Total - ICES6	1.55	0.119	12.0	15.3	4.50	1.31
Lower Bound Marker PCB Total - ICES7	1.87	0.133	13.7	18.2	5.64	1.58
Mid Point Marker PCB Total - ICES7	1.87	0.133	13.7	18.2	5.64	1.58
Upper Bound Marker PCB Total - ICES7	1.87	0.133	13.7	18.2	5.64	1.58
Lower Bound Total PCB via EPA 1668C	4.35	0.378	29.2	46.0	14.1	3.88
Mid Point Total PCB via EPA 1668C	4.36	0.383	29.3	46.0	14.1	3.88
Upper Bound Total PCB via EPA 1668C	4.37	0.388	29.3	46.0	14.1	3.89

Sample Analysis Summary Report

Sample Name	[2022] [SVOC] HATCH	Laboratory Control Sample
ALS Sample ID	L2740805-20	WG3777732-2
Sample Size	10.48	1
Sample units	g wwt	n/a
Moisture Content	n/a	n/a
Matrix	fish tissue	qc
Sampling Date	13-Oct-22	n/a
Extraction Date	11-Jan-23	11-Jan-23
Polychlorinated Dibenzo(p)dioxins	**pg/g**	**% Rec**
2,3,7,8-TCDD	<0.034	94
1,2,3,7,8-PeCDD	<0.032	106
1,2,3,4,7,8-HxCDD	<0.047	87
1,2,3,6,7,8-HxCDD	<0.044	91
1,2,3,7,8,9-HxCDD	<0.047	92
1,2,3,4,6,7,8-HpCDD	0.0501	93
OCDD	<0.066	86
Polychlorinated Dibenzofurans		
2,3,7,8-TCDF	0.499	102
1,2,3,7,8-PeCDF	<0.046	103
2,3,4,7,8-PeCDF	<0.040	93
1,2,3,4,7,8-HxCDF	<0.022	90
1,2,3,6,7,8-HxCDF	<0.022	101
2,3,4,6,7,8-HxCDF	<0.022	90
1,2,3,7,8,9-HxCDF	<0.025	92
1,2,3,4,6,7,8-HpCDF	<0.031	96
1,2,3,4,7,8,9-HpCDF	<0.031	97
OCDF	<0.049	97
Dioxin-like Polychlorinated Biphenyls		
PCB-81	0.500	97
PCB-77	14.1	103
PCB-123	2.59	99
PCB-118	148	104
PCB-114	<4.1	98
PCB-105	33.7	97
PCB-126	0.462	107
PCB-167	2.10	103
PCB-156/157	3.91	103
PCB-169	<0.083	105
PCB-189	0.312	99
Toxic Equivalency WHO (2005) Mammal	**pg/g**	
Lower Bound TEQ - PCDD/F	0.0504	
Upper Bound TEQ - PCDD/F	0.153	
Lower Bound TEQ - PCB	0.0535	
Upper Bound TEQ - PCB	0.0561	
Lower Bound TEQ - TOTAL	0.104	
Upper Bound TEQ - TOTAL	0.209	
Marker Polychlorinated Biphenyls	**ng/g**	
PCB-28	0.0774	
PCB-52	2.58	
PCB-101	0.704	
PCB-118	0.148	104
PCB-153	0.0906	
PCB-138	0.0924	
PCB-180	0.0143	
Lower Bound Marker PCB Total - ICES6	3.56	
Mid Point Marker PCB Total - ICES6	3.56	
Upper Bound Marker PCB Total - ICES6	3.56	
Lower Bound Marker PCB Total - ICES7	3.71	
Mid Point Marker PCB Total - ICES7	3.71	
Upper Bound Marker PCB Total - ICES7	3.71	
Lower Bound Total PCB via EPA 1668C	10.7	
Mid Point Total PCB via EPA 1668C	10.7	
Upper Bound Total PCB via EPA 1668C	10.7	

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a	
ALS Sample ID	WG3777732-1	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.00 g wwt	*E. Sabljic*
Analysis Type	Blank	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A09.D	6-230202A05 Sa
Run Date	18-Jan-23 11:46	02-Feb-23 20:48
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	<0.033	0.033	U	1				
1,2,3,7,8-PeCDD	13.67	<0.035	0.035	U	1				
1,2,3,4,7,8-HxCDD	15.27	<0.047	0.047	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.060	0.060	U	0.1				
1,2,3,7,8,9-HxCDD	15.47	<0.046	0.046	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.97	<0.040	0.035	J R	0.01				
OCDD	18.48	0.0874	0.065	J	0.0003				
2,3,7,8-TCDF	11.74	<0.039	0.039	U	0.1				
1,2,3,7,8-PeCDF	13.18	<0.050	0.050	U	0.03				
2,3,4,7,8-PeCDF	13.56	<0.040	0.040	U	0.3				
1,2,3,4,7,8-HxCDF	14.89	<0.031	0.031	U	0.1				
1,2,3,6,7,8-HxCDF	14.92	<0.030	0.030	U	0.1				
2,3,4,6,7,8-HxCDF	15.24	<0.030	0.030	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.038	0.038	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.39	<0.043	0.043	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.28	<0.041	0.041	U	0.01				
OCDF	18.60	<0.11	0.11	U	0.0003				
PCB-28 m						16.60	1.36	0.36	J
PCB-52 m						17.57	<1.3	0.21	J R
PCB-81 t	10.28	<0.027	0.027	U	0.0003				
PCB-77 t	10.46	<0.032	0.032	U	0.0001				
PCB-101 m						21.21	<0.39	0.21	J R
PCB-123 t					0.00003	NotFnd	<0.21	0.21	U
PCB-118 t,m					0.00003	23.86	0.523	0.19	J
PCB-114 t					0.00003	NotFnd	<0.19	0.19	U
PCB-105 t					0.00003	NotFnd	<0.21	0.21	U
PCB-126 t	12.07	<0.050	0.050	U	0.1				
PCB-153 m						24.75	0.260	0.070	J
PCB-138 m						25.45	<0.49	0.090	J R
PCB-167 t					0.00003	NotFnd	<0.093	0.093	U
PCB-156/157 t					0.00003	27.61	<0.13	0.13	U
PCB-169 t	13.61	<0.041	0.041	U	0.03				
PCB-180 m						28.25	<0.076	0.076	U
PCB-189 t					0.00003	NotFnd	<0.067	0.067	U

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	36	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	45	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	41	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	43	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.46	43	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.97	47	15-140		
13C12-OCDD	18.49	46	15-140		
13C12-2,3,7,8-TCDF	11.70	41	30-140		
13C12-1,2,3,7,8-PeCDF	13.16	38	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	41	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	36	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.92	33	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.20	36	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	41	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	39	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.24	42	15-140		
13C12-OCDF	18.59	39	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.28	25	15-140		
13C12-PCB-77 t	10.46	26	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.66	109
13C12-PCB-118 t,m			15-140	23.83	112
13C12-PCB-114 t			15-140	24.13	119
13C12-PCB-105 t			15-140	24.48	112
13C12-PCB-126 t	12.06	32	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	109
13C12-PCB-156/157 t			15-140	27.59	111
13C12-PCB-169 t	13.63	37	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.50	147

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	1.62	2.14	16.4
Mid Point Total via EPA 1668C	3.84	4.36	29.4
Upper Bound Total via EPA 1668C	3.88	4.40	42.2

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0000262	0.00000874	0.00000874	0.00000874	0.0000874
Mid Point TEQ - PCDD/F	0.0577	0.0621	0.0867	0.0654	0.0535
Upper Bound TEQ - PCDD/F	0.115	0.124	0.173	0.131	0.107
Lower Bound TEQ - PCB	0.0000157	0.0000523	0.00000523	0.00000262	
Mid Point TEQ - PCB	0.00315	0.00287	0.00470	0.000139	
Upper Bound TEQ - PCB	0.00628	0.00568	0.00940	0.000276	
Lower Bound TEQ - TOTAL	0.0000419	0.0000610	0.0000140	0.0000114	
Mid Point TEQ - TOTAL	0.0608	0.0650	0.0914	0.0656	
Upper Bound TEQ - TOTAL	0.121	0.130	0.183	0.131	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB

U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	**Reagent Blank**	Sampling Date	n/a	
ALS Sample ID	WG3777732-4	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.33 g wwt	*E. Sabljic*
Analysis Type	Blank	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A08.D	6-230202A06 Sa
Run Date	18-Jan-23 11:24	02-Feb-23 21:32
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.93	<0.034	0.034	U	1				
1,2,3,7,8-PeCDD	13.66	<0.038	0.038	U	1				
1,2,3,4,7,8-HxCDD	15.31	<0.053	0.053	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.050	0.050	U	0.1				
1,2,3,7,8,9-HxCDD	15.50	<0.042	0.042	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	0.0759	0.046	J	0.01				
OCDD	18.51	<0.11	0.11	U	0.0003				
2,3,7,8-TCDF	11.71	<0.029	0.029	U	0.1				
1,2,3,7,8-PeCDF	13.16	<0.065	0.065	U	0.03				
2,3,4,7,8-PeCDF	13.56	<0.049	0.049	U	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.043	0.043	U	0.1				
1,2,3,6,7,8-HxCDF	14.92	<0.048	0.048	U	0.1				
2,3,4,6,7,8-HxCDF	15.22	<0.048	0.048	U	0.1				
1,2,3,7,8,9-HxCDF	15.64	<0.060	0.060	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.39	<0.052	0.052	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.26	<0.062	0.062	U	0.01				
OCDF	18.59	<0.055	0.055	U	0.0003				
PCB-28 m						16.58	<1.4	0.32	J R
PCB-52 m						17.57	1.00	0.14	J
PCB-81 t	10.28	<0.030	0.030	U	0.0003				
PCB-77 t	10.46	<0.031	0.026	J R	0.0001				
PCB-101 m						NotFnd	<0.18	0.18	U
PCB-123 t					0.00003	NotFnd	<0.19	0.19	U
PCB-118 t,m					0.00003	NotFnd	<0.18	0.18	U
PCB-114 t					0.00003	NotFnd	<0.17	0.17	U
PCB-105 t					0.00003	NotFnd	<0.19	0.19	U
PCB-126 t	12.07	<0.064	0.064	U	0.1				
PCB-153 m						24.74	0.229	0.064	J
PCB-138 m						25.45	<0.33	0.082	J R
PCB-167 t					0.00003	NotFnd	<0.084	0.084	U
PCB-156/157 t					0.00003	NotFnd	<0.12	0.12	U
PCB-169 t	13.66	<0.064	0.064	U	0.03				
PCB-180 m						NotFnd	<0.17	0.17	U
PCB-189 t					0.00003	NotFnd	<0.088	0.088	U

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	32	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	40	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	38	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.32	36	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.46	38	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	42	15-140		
13C12-OCDD	18.48	42	15-140		
13C12-2,3,7,8-TCDF	11.70	39	30-140		
13C12-1,2,3,7,8-PeCDF	13.16	35	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	38	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.86	31	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.92	31	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.20	33	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.64	37	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.39	35	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	38	15-140		
13C12-OCDF	18.58	36	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.27	23	15-140		
13C12-PCB-77 t	10.46	22	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	127
13C12-PCB-118 t,m			15-140	23.82	131
13C12-PCB-114 t			15-140	24.12	142
13C12-PCB-105 t			15-140	24.48	130
13C12-PCB-126 t	12.06	30	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	130
13C12-PCB-156/157 t			15-140	27.59	133
13C12-PCB-169 t	13.63	33	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.49	165

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	1.23	1.23	15.6
Mid Point Total via EPA 1668C	3.13	3.22	28.8
Upper Bound Total via EPA 1668C	3.31	3.49	41.9

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.000759	0.000759	0.0000759	0.0000759	0.000759
Mid Point TEQ - PCDD/F	0.0643	0.0699	0.0925	0.0749	0.0604
Upper Bound TEQ - PCDD/F	0.128	0.139	0.185	0.150	0.120
Lower Bound TEQ - PCB	0.00	0.00	0.00	0.00	
Mid Point TEQ - PCB	0.00418	0.00363	0.00631	0.000175	
Upper Bound TEQ - PCB	0.00836	0.00726	0.0111	0.000346	
Lower Bound TEQ - TOTAL	0.000759	0.000759	0.0000759	0.0000759	
Mid Point TEQ - TOTAL	0.0685	0.0735	0.0988	0.0751	
Upper Bound TEQ - TOTAL	0.136	0.146	0.196	0.150	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB

U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] CHBKTR 1+**	Sampling Date	29-Sep-21	
ALS Sample ID	L2740805-1	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.18 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A10.D	6-230202A12 Sa
Run Date	18-Jan-23 12:08	03-Feb-23 02:02
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	<0.041	0.041	U	1				
1,2,3,7,8-PeCDD	13.68	<0.058	0.058	U	1				
1,2,3,4,7,8-HxCDD	15.30	<0.065	0.065	U	0.1				
1,2,3,6,7,8-HxCDD	15.31	<0.080	0.080	U	0.1				
1,2,3,7,8,9-HxCDD	15.46	<0.088	0.088	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	<0.066	0.044	J R	0.01				
OCDD	18.48	<0.092	0.081	J R	0.0003				
2,3,7,8-TCDF	11.71	0.499	0.11	J	0.1				
1,2,3,7,8-PeCDF	13.17	<0.078	0.078	U	0.03				
2,3,4,7,8-PeCDF	13.57	0.0521	0.026	J	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.036	0.036	U	0.1				
1,2,3,6,7,8-HxCDF	14.94	<0.035	0.035	U	0.1				
2,3,4,6,7,8-HxCDF	15.21	<0.048	0.048	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.063	0.063	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	<0.064	0.064	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.061	0.061	U	0.01				
OCDF	18.61	<0.096	0.096	U	0.0003				
PCB-28 m						16.59	62.2	0.34	
PCB-52 m						17.57	376	0.11	
PCB-81 t	10.28	1.36	0.027	J	0.0003				
PCB-77 t	10.47	35.5	0.092	J	0.0001				
PCB-101 m						21.21	1370	0.52	
PCB-123 t					0.00003	23.66	19.7	0.32	M
PCB-118 t,m					0.00003	23.83	1440	0.30	
PCB-114 t					0.00003	24.13	35.3	0.29	
PCB-105 t					0.00003	24.50	508	0.30	
PCB-126 t	12.06	7.75	0.041	J	0.1				
PCB-153 m						24.75	2140	0.29	
PCB-138 m						25.44	2210	0.37	
PCB-167 t					0.00003	26.96	86.2	0.39	
PCB-156/157 t					0.00003	27.59	193	0.54	
PCB-169 t	13.64	0.453	0.13	J	0.03				
PCB-180 m						28.24	1280	0.24	
PCB-189 t					0.00003	30.52	14.2	0.13	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	30	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	36	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	31	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	33	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.46	33	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	36	15-140		
13C12-OCDD	18.48	34	15-140		
13C12-2,3,7,8-TCDF	11.70	37	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	31	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	34	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	28	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	25	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.20	29	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.64	31	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.39	29	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	31	15-140		
13C12-OCDF	18.58	29	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.28	21	15-140		
13C12-PCB-77 t	10.47	21	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	98
13C12-PCB-118 t,m			15-140	23.82	100
13C12-PCB-114 t			15-140	24.12	111
13C12-PCB-105 t			15-140	24.48	103
13C12-PCB-126 t	12.06	26	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	101
13C12-PCB-156/157 t			15-140	27.59	104
13C12-PCB-169 t	13.63	29	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.50	129

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	7440	8880	24300
Mid Point Total via EPA 1668C	7440	8880	24300
Upper Bound Total via EPA 1668C	7440	8880	24300

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0655	0.0760	0.551	0.0510	0.0760
Mid Point TEQ - PCDD/F	0.138	0.149	0.621	0.129	0.135
Upper Bound TEQ - PCDD/F	0.210	0.222	0.690	0.208	0.193
Lower Bound TEQ - PCB	0.861	1.10	2.78	0.0545	
Mid Point TEQ - PCB	0.861	1.10	2.78	0.0545	
Upper Bound TEQ - PCB	0.861	1.10	2.78	0.0545	
Lower Bound TEQ - TOTAL	0.927	1.17	3.33	0.105	
Mid Point TEQ - TOTAL	1.00	1.25	3.40	0.184	
Upper Bound TEQ - TOTAL	1.07	1.32	3.47	0.262	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**Duplicate of [2021] [SVOC] CHBKTR 1+**	Sampling Date	n/a	
ALS Sample ID	WG3777732-5	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.08 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A11.D	6-230202A13 Sa
Run Date	18-Jan-23 12:30	03-Feb-23 02:47
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.97	<0.026	0.026	U	1				
1,2,3,7,8-PeCDD	13.69	<0.035	0.035	U	1				
1,2,3,4,7,8-HxCDD	15.31	<0.054	0.054	U	0.1				
1,2,3,6,7,8-HxCDD	15.36	<0.045	0.045	U	0.1				
1,2,3,7,8,9-HxCDD	15.49	<0.043	0.043	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	0.0712	0.042	J	0.01				
OCDD	18.49	<0.13	0.10	J R	0.0003				
2,3,7,8-TCDF	11.70	0.395	0.061	J	0.1				
1,2,3,7,8-PeCDF	13.18	<0.089	0.089	U	0.03				
2,3,4,7,8-PeCDF	13.56	0.0507	0.024	J	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.031	0.031	U	0.1				
1,2,3,6,7,8-HxCDF	14.93	<0.034	0.034	U	0.1				
2,3,4,6,7,8-HxCDF	15.21	<0.029	0.029	U	0.1				
1,2,3,7,8,9-HxCDF	15.63	<0.037	0.037	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.41	<0.050	0.050	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.24	<0.033	0.033	U	0.01				
OCDF	18.60	<0.062	0.062	U	0.0003				
PCB-28 m						16.59	86.2	0.36	
PCB-52 m						17.57	457	0.15	
PCB-81 t	10.28	1.12	0.022	J	0.0003				
PCB-77 t	10.46	35.4	0.084	J	0.0001				
PCB-101 m						21.21	1400	0.36	
PCB-123 t					0.00003	23.66	16.6	0.34	M
PCB-118 t,m					0.00003	23.83	1250	0.31	
PCB-114 t					0.00003	24.13	29.7	0.31	
PCB-105 t					0.00003	24.50	418	0.33	
PCB-126 t	12.06	7.18	0.034	J	0.1				
PCB-153 m						24.75	2050	0.48	
PCB-138 m						25.44	2040	0.62	
PCB-167 t					0.00003	26.96	71.2	0.66	
PCB-156/157 t					0.00003	27.58	159	0.91	
PCB-169 t	13.64	0.384	0.082	J	0.03				
PCB-180 m						28.24	1130	0.18	
PCB-189 t					0.00003	30.52	12.3	0.12	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	34	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	41	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	42	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	37	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	39	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	44	15-140		
13C12-OCDD	18.49	42	15-140		
13C12-2,3,7,8-TCDF	11.70	43	30-140		
13C12-1,2,3,7,8-PeCDF	13.16	36	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	40	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	33	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	31	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	35	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	36	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	37	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	39	15-140		
13C12-OCDF	18.58	36	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.27	24	15-140		
13C12-PCB-77 t	10.46	24	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	116
13C12-PCB-118 t,m			15-140	23.82	118
13C12-PCB-114 t			15-140	24.12	128
13C12-PCB-105 t			15-140	24.48	119
13C12-PCB-126 t	12.06	30	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	117
13C12-PCB-156/157 t			15-140	27.59	121
13C12-PCB-169 t	13.63	34	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.50	152

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	7160	8410	24300
Mid Point Total via EPA 1668C	7160	8410	24300
Upper Bound Total via EPA 1668C	7160	8410	24300

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0554	0.0656	0.446	0.0452	0.0656
Mid Point TEQ - PCDD/F	0.101	0.112	0.491	0.0988	0.104
Upper Bound TEQ - PCDD/F	0.147	0.159	0.537	0.152	0.142
Lower Bound TEQ - PCB	0.792	0.990	2.67	0.0498	
Mid Point TEQ - PCB	0.792	0.990	2.67	0.0498	
Upper Bound TEQ - PCB	0.792	0.990	2.67	0.0498	
Lower Bound TEQ - TOTAL	0.848	1.06	3.12	0.0950	
Mid Point TEQ - TOTAL	0.893	1.10	3.17	0.149	
Upper Bound TEQ - TOTAL	0.939	1.15	3.21	0.202	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor
TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity
m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] CHBKTR 2+**	Sampling Date	29-Sep-21	
ALS Sample ID	L2740805-2	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.08 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A12.D	6-230202A14 Sa
Run Date	18-Jan-23 12:53	03-Feb-23 03:32
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.95	<0.031	0.031	U	1				
1,2,3,7,8-PeCDD	13.69	<0.044	0.044	U	1				
1,2,3,4,7,8-HxCDD	15.29	<0.036	0.036	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.047	0.047	U	0.1				
1,2,3,7,8,9-HxCDD	15.46	<0.060	0.060	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.95	0.0773	0.051	J	0.01				
OCDD	18.51	<0.19	0.19	U	0.0003				
2,3,7,8-TCDF	11.71	0.462	0.072	J	0.1				
1,2,3,7,8-PeCDF	13.17	<0.024	0.020	J R	0.03				
2,3,4,7,8-PeCDF	13.55	0.0670	0.031	J	0.3				
1,2,3,4,7,8-HxCDF	14.86	<0.030	0.030	U	0.1				
1,2,3,6,7,8-HxCDF	14.92	<0.030	0.030	U	0.1				
2,3,4,6,7,8-HxCDF	15.26	<0.030	0.030	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.049	0.049	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.38	<0.056	0.056	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.034	0.034	U	0.01				
OCDF	18.62	<0.059	0.059	U	0.0003				
PCB-28 m						16.58	45.9	0.20	
PCB-52 m						17.56	266	0.11	
PCB-81 t	10.28	1.11	0.023	J	0.0003				
PCB-77 t	10.47	26.3	0.055	J	0.0001				
PCB-101 m						21.20	1280	0.33	
PCB-123 t					0.00003	23.65	20.0	0.42	M
PCB-118 t,m					0.00003	23.82	1480	0.39	
PCB-114 t					0.00003	24.12	38.2	0.39	
PCB-105 t					0.00003	24.48	490	0.39	
PCB-126 t	12.06	7.44	0.034	J	0.1				
PCB-153 m						24.74	2540	0.18	
PCB-138 m						25.43	2540	0.23	
PCB-167 t					0.00003	26.95	102	0.24	
PCB-156/157 t					0.00003	27.58	219	0.33	
PCB-169 t	13.64	<0.50	0.061	J R	0.03				
PCB-180 m						28.23	1500	0.28	
PCB-189 t					0.00003	30.50	17.8	0.13	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	33	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	40	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	39	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	34	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	37	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	40	15-140		
13C12-OCDD	18.49	39	15-140		
13C12-2,3,7,8-TCDF	11.70	41	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	35	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	39	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	31	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	29	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.20	34	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	35	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.39	33	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	36	15-140		
13C12-OCDF	18.59	32	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.28	25	15-140		
13C12-PCB-77 t	10.46	25	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.64	157
13C12-PCB-118 t,m			15-140	23.81	160
13C12-PCB-114 t			15-140	24.11	175
13C12-PCB-105 t			15-140	24.47	163
13C12-PCB-126 t	12.06	29	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.94	158
13C12-PCB-156/157 t			15-140	27.58	161
13C12-PCB-169 t	13.63	32	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.49	196

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	8170	9650	24800
Mid Point Total via EPA 1668C	8170	9650	24800
Upper Bound Total via EPA 1668C	8170	9650	24800

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0671	0.0805	0.529	0.0567	0.0805
Mid Point TEQ - PCDD/F	0.120	0.134	0.581	0.112	0.123
Upper Bound TEQ - PCDD/F	0.172	0.186	0.630	0.167	0.164
Lower Bound TEQ - PCB	0.818	1.08	2.26	0.0522	
Mid Point TEQ - PCB	0.833	1.08	2.26	0.0522	
Upper Bound TEQ - PCB	0.833	1.08	2.26	0.0522	
Lower Bound TEQ - TOTAL	0.885	1.16	2.79	0.109	
Mid Point TEQ - TOTAL	0.953	1.22	2.84	0.165	
Upper Bound TEQ - TOTAL	1.00	1.27	2.89	0.219	

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF	Indicates the Toxic Equivalency Factor
TEQ	Indicates the Toxic Equivalency
t	Indicates a PCB with dioxin-like toxicity
m	Indicates a marker PCB
M	Indicates that a peak has been manually integrated
U	Indicates that this compound was not detected above the EDL
J	Indicates that a target analyte was detected below the calibrated range but above the EDL
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] CHBKTR 3+**	Sampling Date	29-Sep-21	
ALS Sample ID	L2740805-3	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.03 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A13.D	6-230202A15 Sa
Run Date	18-Jan-23 13:15	03-Feb-23 04:17
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.95	<0.048	0.048	U	1				
1,2,3,7,8-PeCDD	13.72	<0.049	0.049	U	1				
1,2,3,4,7,8-HxCDD	15.28	<0.064	0.064	U	0.1				
1,2,3,6,7,8-HxCDD	15.35	<0.069	0.069	U	0.1				
1,2,3,7,8,9-HxCDD	15.45	<0.086	0.086	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.97	0.102	0.047	J	0.01				
OCDD	18.49	<0.22	0.22	U	0.0003				
2,3,7,8-TCDF	11.71	0.394	0.12	J	0.1				
1,2,3,7,8-PeCDF	13.17	<0.075	0.075	U	0.03				
2,3,4,7,8-PeCDF	13.57	0.0747	0.049	J	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.044	0.044	U	0.1				
1,2,3,6,7,8-HxCDF	14.97	<0.047	0.047	U	0.1				
2,3,4,6,7,8-HxCDF	15.23	<0.044	0.044	U	0.1				
1,2,3,7,8,9-HxCDF	15.65	<0.047	0.047	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.42	<0.055	0.055	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.29	<0.041	0.041	U	0.01				
OCDF	18.59	<0.099	0.099	U	0.0003				
PCB-28 m						16.58	45.2	0.48	
PCB-52 m						17.56	267	0.21	
PCB-81 t	10.28	0.723	0.024	J	0.0003				
PCB-77 t	10.47	24.1	0.16	J	0.0001				
PCB-101 m						21.20	1050	0.80	
PCB-123 t					0.00003	23.65	15.0	0.62	M
PCB-118 t,m					0.00003	23.82	1120	0.59	
PCB-114 t					0.00003	24.12	28.6	0.60	
PCB-105 t					0.00003	24.48	383	0.61	
PCB-126 t	12.06	5.75	0.038	J	0.1				
PCB-153 m						24.74	1730	0.34	
PCB-138 m						25.43	1760	0.44	
PCB-167 t					0.00003	26.95	69.2	0.46	
PCB-156/157 t					0.00003	27.58	147	0.63	
PCB-169 t	13.64	0.319	0.069	J	0.03				
PCB-180 m						28.23	927	0.35	
PCB-189 t					0.00003	30.50	10.9	0.19	J

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.94	27	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	32	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.29	32	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	31	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	31	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	34	15-140		
13C12-OCDD	18.50	31	15-140		
13C12-2,3,7,8-TCDF	11.71	33	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	29	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	32	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	26	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	25	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	28	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	28	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	28	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.24	29	15-140		
13C12-OCDF	18.59	25	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.28	22	15-140		
13C12-PCB-77 t	10.46	22	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.64	73
13C12-PCB-118 t,m			15-140	23.81	73
13C12-PCB-114 t			15-140	24.11	79
13C12-PCB-105 t			15-140	24.47	76
13C12-PCB-126 t	12.06	25	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.94	73
13C12-PCB-156/157 t			15-140	27.58	77
13C12-PCB-169 t	13.64	29	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.49	96

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	5780	6900	18300
Mid Point Total via EPA 1668C	5780	6900	18300
Upper Bound Total via EPA 1668C	5780	6900	18300

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0628	0.0778	0.469	0.0572	0.0778
Mid Point TEQ - PCDD/F	0.133	0.149	0.537	0.134	0.137
Upper Bound TEQ - PCDD/F	0.203	0.220	0.605	0.211	0.195
Lower Bound TEQ - PCB	0.640	0.822	1.92	0.0404	
Mid Point TEQ - PCB	0.640	0.822	1.92	0.0404	
Upper Bound TEQ - PCB	0.640	0.822	1.92	0.0404	
Lower Bound TEQ - TOTAL	0.703	0.900	2.39	0.0976	
Mid Point TEQ - TOTAL	0.773	0.971	2.46	0.174	
Upper Bound TEQ - TOTAL	0.844	1.04	2.53	0.251	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] CHBKTR SPLIT**	Sampling Date	29-Sep-21	
ALS Sample ID	L2740805-4	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.32 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A14.D	6-230202A16 Sa
Run Date	18-Jan-23 13:37	03-Feb-23 05:02
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	<0.069	0.069	U	1				
1,2,3,7,8-PeCDD	13.71	<0.071	0.071	U	1				
1,2,3,4,7,8-HxCDD	15.30	<0.083	0.083	U	0.1				
1,2,3,6,7,8-HxCDD	15.33	<0.086	0.086	U	0.1				
1,2,3,7,8,9-HxCDD	15.48	<0.081	0.081	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.97	0.0935	0.057	J	0.01				
OCDD	18.51	0.710	0.18	J B	0.0003				
2,3,7,8-TCDF	11.71	0.846	0.039		0.1				
1,2,3,7,8-PeCDF	13.20	<0.055	0.028	J R	0.03				
2,3,4,7,8-PeCDF	13.58	0.135	0.058	J	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.047	0.047	U	0.1				
1,2,3,6,7,8-HxCDF	14.97	<0.053	0.053	U	0.1				
2,3,4,6,7,8-HxCDF	15.25	<0.055	0.055	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.058	0.058	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.38	<0.058	0.058	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.057	0.057	U	0.01				
OCDF	18.60	<0.096	0.085	J R	0.0003				
PCB-28 m						16.59	100	1.2	
PCB-52 m						17.57	617	0.32	
PCB-81 t	10.28	2.12	0.022	J	0.0003				
PCB-77 t	10.47	59.3	0.11	J	0.0001				
PCB-101 m						21.21	2540	1.4	
PCB-123 t					0.00003	23.65	54.1	1.1	M
PCB-118 t,m					0.00003	23.83	2760	0.97	
PCB-114 t					0.00003	24.13	76.5	0.93	
PCB-105 t					0.00003	24.50	967	1.0	
PCB-126 t	12.06	14.4	0.19	J	0.1				
PCB-153 m						24.74	4500	0.77	
PCB-138 m						25.44	4440	0.98	
PCB-167 t					0.00003	26.96	174	1.1	
PCB-156/157 t					0.00003	27.58	373	1.4	
PCB-169 t	13.65	0.881	0.071	J	0.03				
PCB-180 m						28.24	2300	0.65	
PCB-189 t					0.00003	30.50	27.2	0.35	

Extraction Standards		**% Rec**		**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.94	27		30-140			
13C12-1,2,3,7,8-PeCDD	13.69	31		30-140			
13C12-1,2,3,4,7,8-HxCDD	15.29	36		30-140			
13C12-1,2,3,6,7,8-HxCDD	15.34	31		30-140			
13C12-1,2,3,7,8,9-HxCDD	15.48	32		30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.97	35		15-140			
13C12-OCDD	18.50	32		15-140			
13C12-2,3,7,8-TCDF	11.71	33		30-140			
13C12-1,2,3,7,8-PeCDF	13.17	29		30-140			
13C12-2,3,4,7,8-PeCDF	13.57	31		30-140			
13C12-1,2,3,4,7,8-HxCDF	14.88	29		30-140			
13C12-1,2,3,6,7,8-HxCDF	14.94	27		30-140			
13C12-2,3,4,6,7,8-HxCDF	15.22	30		30-140			
13C12-1,2,3,7,8,9-HxCDF	15.66	27		30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.41	28		15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.24	30		15-140			
13C12-OCDF	18.59	26		15-140			
13C12-PCB-28 m							
13C12-PCB-52 m							
13C12-PCB-81 t	10.28	23		15-140			
13C12-PCB-77 t	10.47	24		15-140			
13C12-PCB-101 m							
13C12-PCB-123 t				15-140	23.65	90	
13C12-PCB-118 t,m				15-140	23.82	95	
13C12-PCB-114 t				15-140	24.12	103	
13C12-PCB-105 t				15-140	24.48	93	
13C12-PCB-126 t	12.06	23		30-140			
13C12-PCB-153 m							
13C12-PCB-138 m							
13C12-PCB-167 t				15-140	26.94	89	
13C12-PCB-156/157 t				15-140	27.59	92	
13C12-PCB-169 t	13.64	28		30-140			
13C12-PCB-180 m							
13C12-PCB-189 t				15-140	30.49	112	

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	14500	17300	44300
Mid Point Total via EPA 1668C	14500	17300	44300
Upper Bound Total via EPA 1668C	14500	17300	44300

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.126	0.153	0.981	0.110	0.154
Mid Point TEQ - PCDD/F	0.222	0.250	1.07	0.216	0.233
Upper Bound TEQ - PCDD/F	0.315	0.343	1.16	0.318	0.309
Lower Bound TEQ - PCB	1.61	2.06	4.79	0.101	
Mid Point TEQ - PCB	1.61	2.06	4.79	0.101	
Upper Bound TEQ - PCB	1.61	2.06	4.79	0.101	
Lower Bound TEQ - TOTAL	1.73	2.22	5.77	0.211	
Mid Point TEQ - TOTAL	1.83	2.31	5.86	0.317	
Upper Bound TEQ - TOTAL	1.92	2.41	5.95	0.420	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] CHBKTR 4+**	Sampling Date	29-Sep-21	
ALS Sample ID	L2740805-5	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.07 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A15.D	6-230202A20 Sa
Run Date	18-Jan-23 13:59	03-Feb-23 08:10
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.93	<0.036	0.036	U	1				
1,2,3,7,8-PeCDD	13.68	<0.045	0.045	U	1				
1,2,3,4,7,8-HxCDD	15.29	<0.050	0.050	U	0.1				
1,2,3,6,7,8-HxCDD	15.32	<0.049	0.049	U	0.1				
1,2,3,7,8,9-HxCDD	15.51	<0.030	0.030	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.97	<0.086	0.049	J R	0.01				
OCDD	18.51	0.323	0.029	J B	0.0003				
2,3,7,8-TCDF	11.71	0.561	0.027	J	0.1				
1,2,3,7,8-PeCDF	13.18	0.0392	0.031	J	0.03				
2,3,4,7,8-PeCDF	13.56	0.0875	0.031	J	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.032	0.032	U	0.1				
1,2,3,6,7,8-HxCDF	14.95	<0.030	0.030	U	0.1				
2,3,4,6,7,8-HxCDF	15.22	<0.029	0.029	U	0.1				
1,2,3,7,8,9-HxCDF	15.68	<0.026	0.026	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.43	<0.032	0.032	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.035	0.035	U	0.01				
OCDF	18.59	<0.080	0.080	U	0.0003				
PCB-28 m						16.59	61.1	0.43	
PCB-52 m						17.57	358	0.21	
PCB-81 t	10.28	1.26	0.019	J	0.0003				
PCB-77 t	10.47	31.9	0.072	J	0.0001				
PCB-101 m						21.20	1400	0.28	
PCB-123 t					0.00003	23.65	24.5	0.50	M
PCB-118 t,m					0.00003	23.83	1530	0.45	
PCB-114 t					0.00003	24.13	41.1	0.45	
PCB-105 t					0.00003	24.48	540	0.50	
PCB-126 t	12.06	7.72	0.029	J	0.1				
PCB-153 m						24.74	2720	0.37	
PCB-138 m						25.44	2730	0.47	
PCB-167 t					0.00003	26.95	100	0.47	
PCB-156/157 t					0.00003	27.58	218	0.64	
PCB-169 t	13.64	0.476	0.052	J	0.03				
PCB-180 m						28.23	1360	0.30	
PCB-189 t					0.00003	30.50	15.8	0.16	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	39	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	47	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	45	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	42	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	43	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	48	15-140		
13C12-OCDD	18.49	45	15-140		
13C12-2,3,7,8-TCDF	11.70	50	30-140		
13C12-1,2,3,7,8-PeCDF	13.16	42	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	47	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	36	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	35	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	40	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	41	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	39	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.24	42	15-140		
13C12-OCDF	18.59	38	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.28	28	15-140		
13C12-PCB-77 t	10.46	28	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	87
13C12-PCB-118 t,m			15-140	23.82	90
13C12-PCB-114 t			15-140	24.12	98
13C12-PCB-105 t			15-140	24.47	89
13C12-PCB-126 t	12.06	34	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.94	86
13C12-PCB-156/157 t			15-140	27.58	89
13C12-PCB-169 t	13.64	39	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.49	112

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	8630	10200	26100
Mid Point Total via EPA 1668C	8630	10200	26100
Upper Bound Total via EPA 1668C	8630	10200	26100

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0836	0.102	0.652	0.0738	0.102
Mid Point TEQ - PCDD/F	0.138	0.156	0.702	0.133	0.145
Upper Bound TEQ - PCDD/F	0.191	0.209	0.752	0.193	0.187
Lower Bound TEQ - PCB	0.864	1.12	2.59	0.0548	
Mid Point TEQ - PCB	0.864	1.12	2.59	0.0548	
Upper Bound TEQ - PCB	0.864	1.12	2.59	0.0548	
Lower Bound TEQ - TOTAL	0.948	1.22	3.24	0.129	
Mid Point TEQ - TOTAL	1.00	1.28	3.29	0.188	
Upper Bound TEQ - TOTAL	1.05	1.33	3.34	0.248	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] CHBKTR 5+**	Sampling Date	29-Sep-21	
ALS Sample ID	L2740805-6	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.03 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A16.D	6-230202A21 Sa
Run Date	18-Jan-23 14:22	03-Feb-23 08:55
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	<0.037	0.037	U	1				
1,2,3,7,8-PeCDD	13.70	<0.051	0.051	U	1				
1,2,3,4,7,8-HxCDD	15.30	<0.053	0.053	U	0.1				
1,2,3,6,7,8-HxCDD	15.32	<0.054	0.054	U	0.1				
1,2,3,7,8,9-HxCDD	15.49	<0.044	0.044	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.95	0.0932	0.046	J	0.01				
OCDD	18.48	<0.14	0.090	J R	0.0003				
2,3,7,8-TCDF	11.71	0.766	0.037		0.1				
1,2,3,7,8-PeCDF	13.17	0.0472	0.026	J	0.03				
2,3,4,7,8-PeCDF	13.57	0.108	0.039	J	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.031	0.031	U	0.1				
1,2,3,6,7,8-HxCDF	14.88	<0.034	0.034	U	0.1				
2,3,4,6,7,8-HxCDF	15.22	<0.036	0.036	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.035	0.035	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	<0.048	0.048	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.28	<0.041	0.041	U	0.01				
OCDF	18.60	<0.062	0.062	U	0.0003				
PCB-28 m						16.59	58.0	1.6	
PCB-52 m						17.57	254	1.4	
PCB-81 t	10.28	1.24	0.062	J	0.0003				
PCB-77 t	10.47	27.5	0.074	J	0.0001				
PCB-101 m						21.21	1220	2.4	
PCB-123 t					0.00003	23.65	<27	2.6	M R
PCB-118 t,m					0.00003	23.83	1430	2.7	
PCB-114 t					0.00003	24.13	43.3	2.5	
PCB-105 t					0.00003	24.50	523	2.7	
PCB-126 t	12.06	8.09	0.032	J	0.1				
PCB-153 m						24.74	2530	0.90	
PCB-138 m						25.43	2510	1.1	
PCB-167 t					0.00003	26.95	103	1.1	
PCB-156/157 t					0.00003	27.58	225	1.5	
PCB-169 t	13.64	0.631	0.055	J	0.03				
PCB-180 m						28.23	1400	0.81	
PCB-189 t					0.00003	30.50	17.1	0.52	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	38	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	44	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	43	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	40	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	43	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	47	15-140		
13C12-OCDD	18.49	45	15-140		
13C12-2,3,7,8-TCDF	11.70	48	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	41	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	42	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	36	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	34	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	38	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	40	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	39	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	41	15-140		
13C12-OCDF	18.59	38	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.28	28	15-140		
13C12-PCB-77 t	10.46	28	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	106
13C12-PCB-118 t,m			15-140	23.82	108
13C12-PCB-114 t			15-140	24.12	113
13C12-PCB-105 t			15-140	24.48	108
13C12-PCB-126 t	12.06	33	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.94	108
13C12-PCB-156/157 t			15-140	27.58	111
13C12-PCB-169 t	13.64	38	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.49	148

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	7970	9400	23300
Mid Point Total via EPA 1668C	7970	9400	23300
Upper Bound Total via EPA 1668C	7970	9400	23400

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.111	0.134	0.879	0.0948	0.134
Mid Point TEQ - PCDD/F	0.170	0.193	0.934	0.160	0.180
Upper Bound TEQ - PCDD/F	0.229	0.252	0.989	0.225	0.226
Lower Bound TEQ - PCB	0.901	1.15	2.40	0.0556	
Mid Point TEQ - PCB	0.902	1.15	2.40	0.0557	
Upper Bound TEQ - PCB	0.902	1.15	2.40	0.0557	
Lower Bound TEQ - TOTAL	1.01	1.28	3.28	0.150	
Mid Point TEQ - TOTAL	1.07	1.35	3.34	0.215	
Upper Bound TEQ - TOTAL	1.13	1.40	3.39	0.280	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] EDBKTR 1+**	Sampling Date	30-Sep-21	
ALS Sample ID	L2740805-7	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.2 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A17.D	6-230202A22 Sa
Run Date	18-Jan-23 14:44	03-Feb-23 09:39
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.95	<0.039	0.039	U	1				
1,2,3,7,8-PeCDD	13.67	<0.067	0.067	U	1				
1,2,3,4,7,8-HxCDD	15.28	<0.057	0.057	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.058	0.058	U	0.1				
1,2,3,7,8,9-HxCDD	15.49	<0.052	0.052	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.95	<0.065	0.038	J R	0.01				
OCDD	18.48	<0.082	0.082	U	0.0003				
2,3,7,8-TCDF	11.71	<0.056	0.025	J R	0.1				
1,2,3,7,8-PeCDF	13.16	<0.044	0.044	U	0.03				
2,3,4,7,8-PeCDF	13.55	<0.034	0.034	U	0.3				
1,2,3,4,7,8-HxCDF	14.86	<0.032	0.032	U	0.1				
1,2,3,6,7,8-HxCDF	14.93	<0.025	0.025	U	0.1				
2,3,4,6,7,8-HxCDF	15.21	<0.033	0.033	U	0.1				
1,2,3,7,8,9-HxCDF	15.63	<0.038	0.038	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	0.0363	0.025	J	0.01				
1,2,3,4,7,8,9-HpCDF	17.24	<0.032	0.032	U	0.01				
OCDF	18.60	<0.066	0.066	U	0.0003				
PCB-28 m						16.59	14.8	0.40	
PCB-52 m						17.57	58.0	0.22	
PCB-81 t	10.28	0.0875	0.049	J	0.0003				
PCB-77 t	10.46	2.20	0.047	J	0.0001				
PCB-101 m						21.21	107	0.47	
PCB-123 t					0.00003	23.66	1.49	0.33	M J
PCB-118 t,m					0.00003	23.83	86.4	0.31	
PCB-114 t					0.00003	24.13	<1.6	0.30	J R
PCB-105 t					0.00003	24.50	26.1	0.32	
PCB-126 t	12.06	0.430	0.036	J	0.1				
PCB-153 m						24.75	184	0.14	
PCB-138 m						25.44	164	0.18	
PCB-167 t					0.00003	26.96	5.30	0.18	J
PCB-156/157 t					0.00003	27.59	10.3	0.26	J
PCB-169 t	13.63	0.133	0.096	J	0.03				
PCB-180 m						28.24	60.6	0.17	
PCB-189 t					0.00003	30.52	<0.91	0.10	J R

Extraction Standards		**% Rec**	**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.93	32	30-140			
13C12-1,2,3,7,8-PeCDD	13.68	43	30-140			
13C12-1,2,3,4,7,8-HxCDD	15.28	39	30-140			
13C12-1,2,3,6,7,8-HxCDD	15.33	40	30-140			
13C12-1,2,3,7,8,9-HxCDD	15.46	41	30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.96	45	15-140			
13C12-OCDD	18.49	44	15-140			
13C12-2,3,7,8-TCDF	11.70	38	30-140			
13C12-1,2,3,7,8-PeCDF	13.16	35	30-140			
13C12-2,3,4,7,8-PeCDF	13.56	41	30-140			
13C12-1,2,3,4,7,8-HxCDF	14.87	34	30-140			
13C12-1,2,3,6,7,8-HxCDF	14.93	31	30-140			
13C12-2,3,4,6,7,8-HxCDF	15.20	36	30-140			
13C12-1,2,3,7,8,9-HxCDF	15.64	39	30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.39	36	15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.23	40	15-140			
13C12-OCDF	18.58	37	15-140			
13C12-PCB-28 m			10-140			
13C12-PCB-52 m			10-140			
13C12-PCB-81 t	10.27	19	15-140			
13C12-PCB-77 t	10.46	19	15-140			
13C12-PCB-101 m			10-140			
13C12-PCB-123 t			15-140		23.65	96
13C12-PCB-118 t,m			15-140		23.82	101
13C12-PCB-114 t			15-140		24.12	108
13C12-PCB-105 t			15-140		24.48	101
13C12-PCB-126 t	12.05	29	30-140			
13C12-PCB-153 m			10-140			
13C12-PCB-138 m			10-140			
13C12-PCB-167 t			15-140		26.95	101
13C12-PCB-156/157 t			15-140		27.59	103
13C12-PCB-169 t	13.63	35	30-140			
13C12-PCB-180 m			10-140			
13C12-PCB-189 t			15-140		30.50	132

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	588	675	1880
Mid Point Total via EPA 1668C	588	675	1890
Upper Bound Total via EPA 1668C	588	675	1900

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.000363	0.000363	0.000363	0.000363	0.000363
Mid Point TEQ - PCDD/F	0.0803	0.0841	0.140	0.0872	0.0674
Upper Bound TEQ - PCDD/F	0.154	0.162	0.223	0.171	0.128
Lower Bound TEQ - PCB	0.0511	0.0612	0.166	0.00307	
Mid Point TEQ - PCB	0.0512	0.0621	0.167	0.00308	
Upper Bound TEQ - PCB	0.0512	0.0621	0.167	0.00308	
Lower Bound TEQ - TOTAL	0.0515	0.0615	0.167	0.00343	
Mid Point TEQ - TOTAL	0.132	0.146	0.306	0.0903	
Upper Bound TEQ - TOTAL	0.205	0.224	0.389	0.174	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] EDBKTR 2+**	Sampling Date	30-Sep-21	
ALS Sample ID	L2740805-8	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.35 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A18.D	6-230202A23 Sa
Run Date	18-Jan-23 15:06	03-Feb-23 10:24
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	<0.033	0.033	U	1				
1,2,3,7,8-PeCDD	13.68	<0.038	0.038	U	1				
1,2,3,4,7,8-HxCDD	15.28	<0.033	0.033	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.037	0.037	U	0.1				
1,2,3,7,8,9-HxCDD	15.47	<0.038	0.038	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	<0.074	0.036	J R	0.01				
OCDD	18.48	0.110	0.049	J B	0.0003				
2,3,7,8-TCDF	11.70	0.0560	0.022	J	0.1				
1,2,3,7,8-PeCDF	13.17	0.0288	0.017	J	0.03				
2,3,4,7,8-PeCDF	13.59	0.0141	0.0078	J	0.3				
1,2,3,4,7,8-HxCDF	14.86	<0.019	0.019	U	0.1				
1,2,3,6,7,8-HxCDF	14.96	<0.021	0.021	U	0.1				
2,3,4,6,7,8-HxCDF	15.21	<0.021	0.021	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.016	0.016	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	<0.035	0.035	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.029	0.029	U	0.01				
OCDF	18.59	<0.061	0.061	U	0.0003				
PCB-28 m						16.59	8.24	0.20	J B
PCB-52 m						17.57	39.0	0.16	
PCB-81 t	10.28	0.126	0.015	J	0.0003				
PCB-77 t	10.47	3.46	0.028	J	0.0001				
PCB-101 m						21.21	125	0.30	
PCB-123 t					0.00003	23.66	<1.7	0.25	M J R
PCB-118 t,m					0.00003	23.83	132	0.25	
PCB-114 t					0.00003	24.13	<2.4	0.23	J R
PCB-105 t					0.00003	24.50	39.4	0.25	
PCB-126 t	12.06	0.726	0.039	J	0.1				
PCB-153 m						24.75	223	0.14	
PCB-138 m						25.44	192	0.18	
PCB-167 t					0.00003	26.96	7.60	0.17	J
PCB-156/157 t					0.00003	27.59	12.9	0.24	
PCB-169 t	13.64	0.166	0.053	J	0.03				
PCB-180 m						28.24	84.9	0.14	
PCB-189 t					0.00003	30.52	1.03	0.050	M J

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	53	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	63	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	60	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	55	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	60	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	63	15-140		
13C12-OCDD	18.49	60	15-140		
13C12-2,3,7,8-TCDF	11.70	64	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	54	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	61	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	49	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	46	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.20	54	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	55	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.39	53	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	55	15-140		
13C12-OCDF	18.58	51	15-140		
13C12-PCB-28 m			10-140		
13C12-PCB-52 m			10-140		
13C12-PCB-81 t	10.28	38	15-140		
13C12-PCB-77 t	10.47	39	15-140		
13C12-PCB-101 m			10-140		
13C12-PCB-123 t			15-140	23.65	99
13C12-PCB-118 t,m			15-140	23.82	101
13C12-PCB-114 t			15-140	24.12	110
13C12-PCB-105 t			15-140	24.48	100
13C12-PCB-126 t	12.06	47	30-140		
13C12-PCB-153 m			10-140		
13C12-PCB-138 m			10-140		
13C12-PCB-167 t			15-140	26.95	96
13C12-PCB-156/157 t			15-140	27.59	99
13C12-PCB-169 t	13.63	52	30-140		
13C12-PCB-180 m			10-140		
13C12-PCB-189 t			15-140	30.50	119

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	672	804	2130
Mid Point Total via EPA 1668C	672	804	2130
Upper Bound Total via EPA 1668C	672	804	2140

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0107	0.0141	0.0730	0.0113	0.0142
Mid Point TEQ - PCDD/F	0.0565	0.0599	0.116	0.0597	0.0505
Upper Bound TEQ - PCDD/F	0.102	0.105	0.158	0.108	0.0861
Lower Bound TEQ - PCB	0.0838	0.0984	0.265	0.00501	
Mid Point TEQ - PCB	0.0839	0.0998	0.265	0.00503	
Upper Bound TEQ - PCB	0.0839	0.0998	0.265	0.00503	
Lower Bound TEQ - TOTAL	0.0945	0.112	0.338	0.0163	
Mid Point TEQ - TOTAL	0.140	0.160	0.381	0.0647	
Upper Bound TEQ - TOTAL	0.186	0.205	0.423	0.113	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor
TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity
m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

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Sample Analysis Report

Sample Name	**[2021] [SVOC] EDBKTR 3+**	Sampling Date	30-Sep-21	
ALS Sample ID	L2740805-9	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.09 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A19.D	6-230207B23 Sa
Run Date	18-Jan-23 15:28	08-Feb-23 06:48
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.95	<0.043	0.043	U	1				
1,2,3,7,8-PeCDD	13.69	<0.067	0.067	U	1				
1,2,3,4,7,8-HxCDD	15.34	<0.080	0.080	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.084	0.084	U	0.1				
1,2,3,7,8,9-HxCDD	15.48	<0.060	0.060	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.97	0.113	0.047	J	0.01				
OCDD	18.49	<0.11	0.11	U	0.0003				
2,3,7,8-TCDF	11.72	0.0699	0.054	J	0.1				
1,2,3,7,8-PeCDF	13.19	<0.053	0.053	U	0.03				
2,3,4,7,8-PeCDF	13.57	<0.032	0.032	U	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.038	0.038	U	0.1				
1,2,3,6,7,8-HxCDF	14.91	<0.038	0.038	U	0.1				
2,3,4,6,7,8-HxCDF	15.23	<0.039	0.039	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.054	0.054	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.43	<0.052	0.052	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.24	<0.047	0.047	U	0.01				
OCDF	18.60	<0.096	0.096	U	0.0003				
PCB-28 m						16.57	12.4	1.1	B
PCB-52 m						17.54	56.2	0.52	
PCB-81 t	10.28	0.200	0.027	J	0.0003				
PCB-77 t	10.47	5.52	0.042	J	0.0001				
PCB-101 m						21.19	213	0.67	
PCB-123 t					0.00003	23.64	<4.0	0.80	M J R
PCB-118 t,m					0.00003	23.82	213	0.73	
PCB-114 t					0.00003	24.13	<4.4	0.71	J R
PCB-105 t					0.00003	24.48	73.2	0.79	
PCB-126 t	12.06	1.26	0.098	J	0.1				
PCB-153 m						24.74	349	0.32	
PCB-138 m						25.42	313	0.41	
PCB-167 t					0.00003	26.95	<12	0.40	R
PCB-156/157 t					0.00003	27.57	23.0	0.54	
PCB-169 t	13.64	<0.27	0.11	J R	0.03				
PCB-180 m						28.24	151	0.20	
PCB-189 t					0.00003	30.50	1.76	0.21	J

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.94	36	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	42	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	42	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	37	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	41	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	43	15-140		
13C12-OCDD	18.49	41	15-140		
13C12-2,3,7,8-TCDF	11.71	44	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	37	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	41	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	34	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	33	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	36	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	38	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	37	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	38	15-140		
13C12-OCDF	18.58	35	15-140		
13C12-PCB-28 m			10-140		
13C12-PCB-52 m			10-140		
13C12-PCB-81 t	10.28	27	15-140		
13C12-PCB-77 t	10.47	27	15-140		
13C12-PCB-101 m			10-140		
13C12-PCB-123 t			15-140	23.64	119
13C12-PCB-118 t,m			15-140	23.80	126
13C12-PCB-114 t			15-140	24.11	134
13C12-PCB-105 t			15-140	24.47	123
13C12-PCB-126 t	12.06	32	30-140		
13C12-PCB-153 m			10-140		
13C12-PCB-138 m			10-140		
13C12-PCB-167 t			15-140	26.93	125
13C12-PCB-156/157 t			15-140	27.57	131
13C12-PCB-169 t	13.64	36	30-140		
13C12-PCB-180 m			10-140		
13C12-PCB-189 t			15-140	30.50	168

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	1090	1310	3340
Mid Point Total via EPA 1668C	1090	1310	3360
Upper Bound Total via EPA 1668C	1090	1310	3380

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.00812	0.00812	0.0700	0.00361	0.00812
Mid Point TEQ - PCDD/F	0.0889	0.0926	0.158	0.0976	0.0759
Upper Bound TEQ - PCDD/F	0.170	0.177	0.246	0.192	0.144
Lower Bound TEQ - PCB	0.136	0.167	0.434	0.00851	
Mid Point TEQ - PCB	0.145	0.172	0.435	0.00862	
Upper Bound TEQ - PCB	0.145	0.172	0.435	0.00862	
Lower Bound TEQ - TOTAL	0.144	0.175	0.504	0.0121	
Mid Point TEQ - TOTAL	0.234	0.265	0.593	0.106	
Upper Bound TEQ - TOTAL	0.314	0.349	0.681	0.200	

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF	Indicates the Toxic Equivalency Factor
TEQ	Indicates the Toxic Equivalency
t	Indicates a PCB with dioxin-like toxicity
m	Indicates a marker PCB
M	Indicates that a peak has been manually integrated
U	Indicates that this compound was not detected above the EDL
J	Indicates that a target analyte was detected below the calibrated range but above the EDL
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2021] [SVOC] EDBKTR 5+**	Sampling Date	30-Sep-21	
ALS Sample ID	L2740805-10	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.23 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A20.D	6-230202A25 Sa
Run Date	18-Jan-23 16:09	03-Feb-23 11:54
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.95	<0.056	0.056	U	1				
1,2,3,7,8-PeCDD	13.69	<0.092	0.092	U	1				
1,2,3,4,7,8-HxCDD	15.29	<0.093	0.093	U	0.1				
1,2,3,6,7,8-HxCDD	15.33	0.0703	0.067	J	0.1				
1,2,3,7,8,9-HxCDD	15.48	<0.088	0.088	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	<0.20	0.045	J R	0.01				
OCDD	18.51	0.145	0.13	J B	0.0003				
2,3,7,8-TCDF	11.71	<0.087	0.061	J R	0.1				
1,2,3,7,8-PeCDF	13.18	<0.056	0.037	J R	0.03				
2,3,4,7,8-PeCDF	13.58	0.0341	0.032	J	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.055	0.055	U	0.1				
1,2,3,6,7,8-HxCDF	14.95	<0.053	0.053	U	0.1				
2,3,4,6,7,8-HxCDF	15.23	<0.045	0.045	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.040	0.040	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.38	<0.060	0.060	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.23	<0.048	0.048	U	0.01				
OCDF	18.59	<0.082	0.082	U	0.0003				
PCB-28 m						16.58	15.1	0.24	
PCB-52 m						17.56	56.1	0.48	
PCB-81 t	10.29	0.289	0.063	J	0.0003				
PCB-77 t	10.47	7.52	0.075	J	0.0001				
PCB-101 m						21.20	269	0.60	
PCB-123 t					0.00003	23.64	<5.7	0.41	M J R
PCB-118 t,m					0.00003	23.83	313	0.39	
PCB-114 t					0.00003	24.12	<5.2	0.38	J R
PCB-105 t					0.00003	24.48	90.3	0.41	
PCB-126 t	12.07	2.05	0.12	J	0.1				
PCB-153 m						24.74	549	0.20	
PCB-138 m						25.43	438	0.26	
PCB-167 t					0.00003	26.95	19.4	0.25	
PCB-156/157 t					0.00003	27.58	32.6	0.36	
PCB-169 t	13.64	0.612	0.084	J	0.03				
PCB-180 m						28.23	225	0.16	
PCB-189 t					0.00003	30.50	3.14	0.092	J

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.94	22	30-140		
13C12-1,2,3,7,8-PeCDD	13.69	32	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.29	31	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	32	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	33	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.97	35	15-140		
13C12-OCDD	18.49	33	15-140		
13C12-2,3,7,8-TCDF	11.71	27	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	26	30-140		
13C12-2,3,4,7,8-PeCDF	13.57	31	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.88	26	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	25	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	29	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.66	30	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	29	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.24	30	15-140		
13C12-OCDF	18.59	28	15-140		
13C12-PCB-28 m			10-140		
13C12-PCB-52 m			10-140		
13C12-PCB-81 t	10.28	10	15-140		
13C12-PCB-77 t	10.47	11	15-140		
13C12-PCB-101 m			10-140		
13C12-PCB-123 t			15-140	23.65	90
13C12-PCB-118 t,m			15-140	23.82	92
13C12-PCB-114 t			15-140	24.12	98
13C12-PCB-105 t			15-140	24.47	91
13C12-PCB-126 t	12.07	21	30-140		
13C12-PCB-153 m			10-140		
13C12-PCB-138 m			10-140		
13C12-PCB-167 t			15-140	26.94	88
13C12-PCB-156/157 t			15-140	27.58	91
13C12-PCB-169 t	13.64	26	30-140		
13C12-PCB-180 m			10-140		
13C12-PCB-189 t			15-140	30.49	114

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	1550	1870	4350
Mid Point Total via EPA 1668C	1550	1870	4360
Upper Bound Total via EPA 1668C	1550	1870	4370

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0173	0.0241	0.0348	0.0178	0.0242
Mid Point TEQ - PCDD/F	0.123	0.131	0.219	0.133	0.108
Upper Bound TEQ - PCDD/F	0.216	0.224	0.309	0.241	0.178
Lower Bound TEQ - PCB	0.238	0.269	0.626	0.0135	
Mid Point TEQ - PCB	0.238	0.272	0.627	0.0135	
Upper Bound TEQ - PCB	0.238	0.272	0.627	0.0135	
Lower Bound TEQ - TOTAL	0.255	0.293	0.661	0.0312	
Mid Point TEQ - TOTAL	0.361	0.403	0.845	0.147	
Upper Bound TEQ - TOTAL	0.454	0.496	0.936	0.254	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor
TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity
m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

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Sample Analysis Report

Sample Name	**[2021] [SVOC] HATCH**	Sampling Date	30-Sep-21	
ALS Sample ID	L2740805-11	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.32 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A21.D	6-230202A26 Sa
Run Date	18-Jan-23 16:31	03-Feb-23 12:39
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.93	<0.043	0.043	U	1				
1,2,3,7,8-PeCDD	13.69	<0.050	0.050	U	1				
1,2,3,4,7,8-HxCDD	15.27	<0.052	0.052	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.047	0.047	U	0.1				
1,2,3,7,8,9-HxCDD	15.47	<0.048	0.048	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	0.0708	0.064	J	0.01				
OCDD	18.49	0.184	0.13	J B	0.0003				
2,3,7,8-TCDF	11.71	<0.079	0.028	J R	0.1				
1,2,3,7,8-PeCDF	13.19	<0.038	0.038	U	0.03				
2,3,4,7,8-PeCDF	13.55	<0.029	0.029	U	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.029	0.029	U	0.1				
1,2,3,6,7,8-HxCDF	14.94	<0.031	0.031	U	0.1				
2,3,4,6,7,8-HxCDF	15.26	<0.032	0.032	U	0.1				
1,2,3,7,8,9-HxCDF	15.62	<0.036	0.036	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	<0.036	0.036	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.26	<0.047	0.047	U	0.01				
OCDF	18.60	<0.076	0.076	U	0.0003				
PCB-28 m						16.58	6.82	0.19	J B
PCB-52 m						17.56	13.3	0.10	
PCB-81 t	10.28	<0.033	0.027	J R	0.0003				
PCB-77 t	10.47	0.482	0.028	J	0.0001				
PCB-101 m						21.20	15.4	0.22	
PCB-123 t					0.00003	23.63	<0.59	0.20	M J R
PCB-118 t,m					0.00003	23.82	13.9	0.20	
PCB-114 t					0.00003	24.13	<0.24	0.19	J R
PCB-105 t					0.00003	24.48	4.43	0.21	J
PCB-126 t	12.06	<0.13	0.086	J R	0.1				
PCB-153 m						24.74	38.0	0.12	
PCB-138 m						25.43	33.1	0.15	
PCB-167 t					0.00003	26.95	1.13	0.16	J
PCB-156/157 t					0.00003	27.56	1.87	0.21	J
PCB-169 t	13.64	<0.052	0.052	U	0.03				
PCB-180 m						28.23	12.4	0.13	
PCB-189 t					0.00003	30.50	0.267	0.098	M J

Extraction Standards		**% Rec**	**Limits**		**% Rec**		
13C12-2,3,7,8-TCDD	11.94	30	30-140				
13C12-1,2,3,7,8-PeCDD	13.68	36	30-140				
13C12-1,2,3,4,7,8-HxCDD	15.28	36	30-140				
13C12-1,2,3,6,7,8-HxCDD	15.33	33	30-140				
13C12-1,2,3,7,8,9-HxCDD	15.47	34	30-140				
13C12-1,2,3,4,6,7,8-HpCDD	16.96	38	15-140				
13C12-OCDD	18.49	37	15-140				
13C12-2,3,7,8-TCDF	11.70	36	30-140				
13C12-1,2,3,7,8-PeCDF	13.17	31	30-140				
13C12-2,3,4,7,8-PeCDF	13.56	35	30-140				
13C12-1,2,3,4,7,8-HxCDF	14.87	29	30-140				
13C12-1,2,3,6,7,8-HxCDF	14.93	28	30-140				
13C12-2,3,4,6,7,8-HxCDF	15.20	32	30-140				
13C12-1,2,3,7,8,9-HxCDF	15.65	33	30-140				
13C12-1,2,3,4,6,7,8-HpCDF	16.40	32	15-140				
13C12-1,2,3,4,7,8,9-HpCDF	17.24	34	15-140				
13C12-OCDF	18.59	32	15-140				
13C12-PCB-28 m			10-140				
13C12-PCB-52 m			10-140				
13C12-PCB-81 t	10.28	21	15-140				
13C12-PCB-77 t	10.46	21	15-140				
13C12-PCB-101 m			10-140				
13C12-PCB-123 t			15-140			23.64	105
13C12-PCB-118 t,m			15-140			23.81	108
13C12-PCB-114 t			15-140			24.11	117
13C12-PCB-105 t			15-140			24.47	107
13C12-PCB-126 t	12.06	27	30-140				
13C12-PCB-153 m			10-140				
13C12-PCB-138 m			10-140				
13C12-PCB-167 t			15-140			26.94	107
13C12-PCB-156/157 t			15-140			27.58	112
13C12-PCB-169 t	13.64	31	30-140				
13C12-PCB-180 m			10-140				
13C12-PCB-189 t			15-140			30.49	135

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	119	133	378
Mid Point Total via EPA 1668C	119	133	383
Upper Bound Total via EPA 1668C	119	133	388

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.000763	0.000726	0.0000892	0.0000892	0.000892
Mid Point TEQ - PCDD/F	0.0743	0.0775	0.153	0.0790	0.0652
Upper Bound TEQ - PCDD/F	0.140	0.146	0.226	0.154	0.122
Lower Bound TEQ - PCB	0.000696	0.00285	0.0249	0.000156	
Mid Point TEQ - PCB	0.0145	0.0163	0.0412	0.000828	
Upper Bound TEQ - PCB	0.0153	0.0166	0.0413	0.000829	
Lower Bound TEQ - TOTAL	0.00146	0.00358	0.0250	0.000245	
Mid Point TEQ - TOTAL	0.0888	0.0938	0.194	0.0799	
Upper Bound TEQ - TOTAL	0.155	0.163	0.268	0.155	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

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Sample Analysis Report

Sample Name	**[SVOC] EDF-5462**	Sampling Date	n/a	
ALS Sample ID	L2740805-12	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	1.01 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	crm	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A22.D	6-230202A27 Sa
Run Date	18-Jan-23 16:53	03-Feb-23 13:24
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	14.8	0.20		1				
1,2,3,7,8-PeCDD	13.69	37.7	0.24		1				
1,2,3,4,7,8-HxCDD	15.29	33.6	10	J	0.1				
1,2,3,6,7,8-HxCDD	15.33	34.4	10	J	0.1				
1,2,3,7,8,9-HxCDD	15.48	40.2	12		0.1				
1,2,3,4,6,7,8-HpCDD	16.96	38.4	0.88		0.01				
OCDD	18.49	109	1.6		0.0003				
2,3,7,8-TCDF	11.71	1490	1.4		0.1				
1,2,3,7,8-PeCDF	13.17	402	0.98		0.03				
2,3,4,7,8-PeCDF	13.57	38.1	1.2		0.3				
1,2,3,4,7,8-HxCDF	14.88	37.5	0.81		0.1				
1,2,3,6,7,8-HxCDF	14.93	40.0	0.92		0.1				
2,3,4,6,7,8-HxCDF	15.22	36.5	0.95	J	0.1				
1,2,3,7,8,9-HxCDF	15.65	36.6	1.1	J	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	38.6	0.80		0.01				
1,2,3,4,7,8,9-HpCDF	17.24	39.3	0.72		0.01				
OCDF	18.60	77.6	1.1		0.0003				
PCB-28 m						16.59	434	2.5	
PCB-52 m						17.56	568	1.7	
PCB-81 t	10.28	35.9	0.25	J	0.0003				
PCB-77 t	10.47	47.1	0.47	J	0.0001				
PCB-101 m						21.20	874	3.1	
PCB-123 t					0.00003	23.65	60.4	3.3	M J
PCB-118 t,m					0.00003	23.83	1750	3.2	
PCB-114 t					0.00003	24.13	78.4	3.0	J
PCB-105 t					0.00003	24.50	766	3.5	
PCB-126 t	12.06	56.5	0.80	J	0.1				
PCB-153 m						24.74	3610	1.9	
PCB-138 m						25.44	4410	2.5	
PCB-167 t					0.00003	26.95	282	2.5	
PCB-156/157 t					0.00003	27.58	629	3.4	
PCB-169 t	13.64	41.3	2.2	J	0.03				
PCB-180 m						28.23	2100	2.0	
PCB-189 t					0.00003	30.50	90.9	1.2	M J

Extraction Standards		**% Rec**		**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.93	31		30-140			
13C12-1,2,3,7,8-PeCDD	13.68	37		30-140			
13C12-1,2,3,4,7,8-HxCDD	15.29	35		30-140			
13C12-1,2,3,6,7,8-HxCDD	15.33	32		30-140			
13C12-1,2,3,7,8,9-HxCDD	15.47	33		30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.96	37		15-140			
13C12-OCDD	18.49	34		15-140			
13C12-2,3,7,8-TCDF	11.71	38		30-140			
13C12-1,2,3,7,8-PeCDF	13.17	32		30-140			
13C12-2,3,4,7,8-PeCDF	13.56	35		30-140			
13C12-1,2,3,4,7,8-HxCDF	14.87	28		30-140			
13C12-1,2,3,6,7,8-HxCDF	14.93	27		30-140			
13C12-2,3,4,6,7,8-HxCDF	15.21	30		30-140			
13C12-1,2,3,7,8,9-HxCDF	15.65	34		30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.40	31		15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.24	33		15-140			
13C12-OCDF	18.59	30		15-140			
13C12-PCB-28 m				10-140			
13C12-PCB-52 m				10-140			
13C12-PCB-81 t	10.28	23		15-140			
13C12-PCB-77 t	10.47	24		15-140			
13C12-PCB-101 m				10-140			
13C12-PCB-123 t				15-140	23.65	109	
13C12-PCB-118 t,m				15-140	23.82	111	
13C12-PCB-114 t				15-140	24.12	120	
13C12-PCB-105 t				15-140	24.48	109	
13C12-PCB-126 t	12.06	28		30-140			
13C12-PCB-153 m				10-140			
13C12-PCB-138 m				10-140			
13C12-PCB-167 t				15-140	26.94	108	
13C12-PCB-156/157 t				15-140	27.58	111	
13C12-PCB-169 t	13.64	30		30-140			
13C12-PCB-180 m				10-140			
13C12-PCB-189 t				15-140	30.49	138	

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	12000	13700	29200
Mid Point Total via EPA 1668C	12000	13700	29300
Upper Bound Total via EPA 1668C	12000	13700	29300

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	252	268	1640	200	249
Mid Point TEQ - PCDD/F	252	268	1640	200	249
Upper Bound TEQ - PCDD/F	252	268	1640	200	249
Lower Bound TEQ - PCB	7.01	6.69	11.8	0.326	
Mid Point TEQ - PCB	7.01	6.69	11.8	0.326	
Upper Bound TEQ - PCB	7.01	6.69	11.8	0.326	
Lower Bound TEQ - TOTAL	259	274	1650	200	
Mid Point TEQ - TOTAL	259	274	1650	200	
Upper Bound TEQ - TOTAL	259	274	1650	200	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor
TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity
m Indicates a marker PCB
M Indicates that a peak has been manually integrated
J Indicates that a target analyte was detected below the calibrated range but above the EDL

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] CHBKTR 2+**	Sampling Date	12-Oct-22	
ALS Sample ID	L2740805-14	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.12 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A24.D	6-230202A28 Sa
Run Date	18-Jan-23 17:37	03-Feb-23 14:09
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.94	<0.042	0.042	U	1				
1,2,3,7,8-PeCDD	13.69	<0.068	0.068	U	1				
1,2,3,4,7,8-HxCDD	15.28	<0.044	0.044	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.072	0.072	U	0.1				
1,2,3,7,8,9-HxCDD	15.47	<0.046	0.046	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	<0.077	0.045	J R	0.01				
OCDD	18.49	0.257	0.13	J B	0.0003				
2,3,7,8-TCDF	11.71	0.954	0.046		0.1				
1,2,3,7,8-PeCDF	13.17	<0.049	0.032	J R	0.03				
2,3,4,7,8-PeCDF	13.57	0.132	0.040	J	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.042	0.042	U	0.1				
1,2,3,6,7,8-HxCDF	14.92	<0.041	0.041	U	0.1				
2,3,4,6,7,8-HxCDF	15.22	<0.038	0.038	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.030	0.030	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.38	<0.049	0.049	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.24	<0.036	0.036	U	0.01				
OCDF	18.59	<0.10	0.10	U	0.0003				
PCB-28 m						16.59	105	0.57	M
PCB-52 m						17.56	571	0.28	
PCB-81 t	10.28	1.97	0.022	J	0.0003				
PCB-77 t	10.47	56.2	0.11	J	0.0001				
PCB-101 m						21.20	2490	0.66	
PCB-123 t					0.00003	23.65	39.2	0.53	M
PCB-118 t,m					0.00003	23.82	2840	0.48	
PCB-114 t					0.00003	24.13	70.8	0.47	
PCB-105 t					0.00003	24.48	910	0.48	
PCB-126 t	12.06	15.2	0.25	J	0.1				
PCB-153 m						24.74	4920	0.49	
PCB-138 m						25.43	4730	0.62	
PCB-167 t					0.00003	26.95	177	0.61	
PCB-156/157 t					0.00003	27.58	393	0.86	
PCB-169 t	13.64	0.989	0.054	J	0.03				
PCB-180 m						28.23	2530	0.47	
PCB-189 t					0.00003	30.50	33.0	0.21	

Extraction Standards		**% Rec**		**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.93	39		30-140			
13C12-1,2,3,7,8-PeCDD	13.68	47		30-140			
13C12-1,2,3,4,7,8-HxCDD	15.28	46		30-140			
13C12-1,2,3,6,7,8-HxCDD	15.33	43		30-140			
13C12-1,2,3,7,8,9-HxCDD	15.47	44		30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.96	49		15-140			
13C12-OCDD	18.49	46		15-140			
13C12-2,3,7,8-TCDF	11.70	49		30-140			
13C12-1,2,3,7,8-PeCDF	13.17	41		30-140			
13C12-2,3,4,7,8-PeCDF	13.56	46		30-140			
13C12-1,2,3,4,7,8-HxCDF	14.87	37		30-140			
13C12-1,2,3,6,7,8-HxCDF	14.93	36		30-140			
13C12-2,3,4,6,7,8-HxCDF	15.21	41		30-140			
13C12-1,2,3,7,8,9-HxCDF	15.65	42		30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.40	40		15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.23	42		15-140			
13C12-OCDF	18.59	38		15-140			
13C12-PCB-28 m				10-140			
13C12-PCB-52 m				10-140			
13C12-PCB-81 t	10.27	26		15-140			
13C12-PCB-77 t	10.46	27		15-140			
13C12-PCB-101 m				10-140			
13C12-PCB-123 t				15-140	23.65	86	
13C12-PCB-118 t,m				15-140	23.81	90	
13C12-PCB-114 t				15-140	24.12	94	
13C12-PCB-105 t				15-140	24.47	91	
13C12-PCB-126 t	12.06	33		30-140			
13C12-PCB-153 m				10-140			
13C12-PCB-138 m				10-140			
13C12-PCB-167 t				15-140	26.94	85	
13C12-PCB-156/157 t				15-140	27.58	88	
13C12-PCB-169 t	13.64	38		30-140			
13C12-PCB-180 m				10-140			
13C12-PCB-189 t				15-140	30.49	112	

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	15300	18200	46000
Mid Point Total via EPA 1668C	15300	18200	46000
Upper Bound Total via EPA 1668C	15300	18200	46000

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.135	0.161	1.09	0.114	0.162
Mid Point TEQ - PCDD/F	0.208	0.236	1.16	0.191	0.219
Upper Bound TEQ - PCDD/F	0.279	0.307	1.22	0.265	0.273
Lower Bound TEQ - PCB	1.69	2.15	4.70	0.105	
Mid Point TEQ - PCB	1.69	2.15	4.70	0.105	
Upper Bound TEQ - PCB	1.69	2.15	4.70	0.105	
Lower Bound TEQ - TOTAL	1.82	2.31	5.78	0.219	
Mid Point TEQ - TOTAL	1.90	2.39	5.85	0.296	
Upper Bound TEQ - TOTAL	1.97	2.46	5.92	0.370	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] EDBKTR 2+**	Sampling Date	13-Oct-22	
ALS Sample ID	L2740805-18	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.48 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A28.D	6-230202A29 Sa
Run Date	18-Jan-23 19:06	03-Feb-23 14:54
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.93	0.0331	0.026	J	1				
1,2,3,7,8-PeCDD	13.69	0.0447	0.017	J	1				
1,2,3,4,7,8-HxCDD	15.30	<0.041	0.041	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	0.0715	0.050	J	0.1				
1,2,3,7,8,9-HxCDD	15.47	<0.043	0.043	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	0.104	0.035	J	0.01				
OCDD	18.48	<0.070	0.053	J R	0.0003				
2,3,7,8-TCDF	11.71	0.253	0.036	J	0.1				
1,2,3,7,8-PeCDF	13.18	0.0495	0.023	J	0.03				
2,3,4,7,8-PeCDF	13.56	<0.029	0.015	J R	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.027	0.027	U	0.1				
1,2,3,6,7,8-HxCDF	14.93	<0.035	0.035	U	0.1				
2,3,4,6,7,8-HxCDF	15.22	<0.033	0.033	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.026	0.026	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	<0.039	0.039	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.23	<0.030	0.030	U	0.01				
OCDF	18.60	<0.062	0.062	U	0.0003				
PCB-28 m						16.58	43.8	0.31	
PCB-52 m						17.56	267	0.11	
PCB-81 t	10.28	1.92	0.017	J	0.0003				
PCB-77 t	10.46	69.8	0.061	J	0.0001				
PCB-101 m						21.19	899	0.54	
PCB-123 t					0.00003	23.64	<18	0.39	M R
PCB-118 t,m					0.00003	23.82	1140	0.37	
PCB-114 t					0.00003	24.12	20.4	0.36	
PCB-105 t					0.00003	24.48	397	0.41	
PCB-126 t	12.06	13.0	0.069	J	0.1				
PCB-153 m						24.73	1410	0.29	
PCB-138 m						25.43	1340	0.37	
PCB-167 t					0.00003	26.95	58.6	0.37	
PCB-156/157 t					0.00003	27.56	99.5	0.50	
PCB-169 t	13.64	0.884	0.058	J	0.03				
PCB-180 m						28.23	538	0.17	
PCB-189 t					0.00003	30.50	6.63	0.12	J

Extraction Standards		**% Rec**	**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.93	48	30-140			
13C12-1,2,3,7,8-PeCDD	13.68	56	30-140			
13C12-1,2,3,4,7,8-HxCDD	15.28	57	30-140			
13C12-1,2,3,6,7,8-HxCDD	15.33	49	30-140			
13C12-1,2,3,7,8,9-HxCDD	15.47	53	30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.96	58	15-140			
13C12-OCDD	18.49	55	15-140			
13C12-2,3,7,8-TCDF	11.70	57	30-140			
13C12-1,2,3,7,8-PeCDF	13.17	49	30-140			
13C12-2,3,4,7,8-PeCDF	13.56	53	30-140			
13C12-1,2,3,4,7,8-HxCDF	14.87	45	30-140			
13C12-1,2,3,6,7,8-HxCDF	14.93	43	30-140			
13C12-2,3,4,6,7,8-HxCDF	15.20	48	30-140			
13C12-1,2,3,7,8,9-HxCDF	15.65	52	30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.40	48	15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.23	51	15-140			
13C12-OCDF	18.59	48	15-140			
13C12-PCB-28 m			10-140			
13C12-PCB-52 m			10-140			
13C12-PCB-81 t	10.28	34	15-140			
13C12-PCB-77 t	10.46	34	15-140			
13C12-PCB-101 m			10-140			
13C12-PCB-123 t			15-140		23.64	94
13C12-PCB-118 t,m			15-140		23.81	98
13C12-PCB-114 t			15-140		24.11	106
13C12-PCB-105 t			15-140		24.47	95
13C12-PCB-126 t	12.06	42	30-140			
13C12-PCB-153 m			10-140			
13C12-PCB-138 m			10-140			
13C12-PCB-167 t			15-140		26.92	93
13C12-PCB-156/157 t			15-140		27.58	96
13C12-PCB-169 t	13.63	46	30-140			
13C12-PCB-180 m			10-140			
13C12-PCB-189 t			15-140		30.49	114

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	4500	5640	14100
Mid Point Total via EPA 1668C	4500	5640	14100
Upper Bound Total via EPA 1668C	4500	5640	14100

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.113	0.114	0.337	0.0937	0.0914
Mid Point TEQ - PCDD/F	0.132	0.139	0.375	0.125	0.117
Upper Bound TEQ - PCDD/F	0.143	0.149	0.385	0.142	0.127
Lower Bound TEQ - PCB	1.39	1.53	5.05	0.0816	
Mid Point TEQ - PCB	1.39	1.53	5.05	0.0817	
Upper Bound TEQ - PCB	1.39	1.53	5.05	0.0817	
Lower Bound TEQ - TOTAL	1.50	1.64	5.38	0.175	
Mid Point TEQ - TOTAL	1.52	1.67	5.42	0.207	
Upper Bound TEQ - TOTAL	1.53	1.68	5.43	0.224	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] EDBKTR 3+**	Sampling Date	13-Oct-22	
ALS Sample ID	L2740805-19	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.26 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A29.D	6-230202A30 Sa
Run Date	18-Jan-23 19:28	03-Feb-23 15:39
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.96	<0.026	0.026	U	1				
1,2,3,7,8-PeCDD	13.70	<0.047	0.047	U	1				
1,2,3,4,7,8-HxCDD	15.34	<0.052	0.052	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.052	0.052	U	0.1				
1,2,3,7,8,9-HxCDD	15.47	<0.049	0.049	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.96	<0.051	0.051	U	0.01				
OCDD	18.48	<0.12	0.12	U	0.0003				
2,3,7,8-TCDF	11.71	0.0997	0.029	J	0.1				
1,2,3,7,8-PeCDF	13.16	<0.022	0.022	U	0.03				
2,3,4,7,8-PeCDF	13.55	<0.028	0.028	U	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.021	0.021	U	0.1				
1,2,3,6,7,8-HxCDF	14.93	<0.027	0.027	U	0.1				
2,3,4,6,7,8-HxCDF	15.23	<0.026	0.026	U	0.1				
1,2,3,7,8,9-HxCDF	15.62	<0.031	0.031	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.41	<0.024	0.024	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.28	<0.025	0.025	U	0.01				
OCDF	18.61	<0.037	0.037	U	0.0003				
PCB-28 m						16.58	11.6	0.36	B
PCB-52 m						17.56	56.3	0.18	
PCB-81 t	10.28	0.234	0.024	J	0.0003				
PCB-77 t	10.46	7.00	0.033	J	0.0001				
PCB-101 m						21.19	236	0.41	
PCB-123 t					0.00003	23.64	<3.6	0.47	M J R
PCB-118 t,m					0.00003	23.82	277	0.45	
PCB-114 t					0.00003	24.12	<3.7	0.42	J R
PCB-105 t					0.00003	24.48	81.5	0.49	
PCB-126 t	12.06	1.72	0.066	J	0.1				
PCB-153 m						24.73	438	0.22	
PCB-138 m						25.43	383	0.28	
PCB-167 t					0.00003	26.94	15.3	0.28	
PCB-156/157 t					0.00003	27.56	28.1	0.38	
PCB-169 t	13.64	0.250	0.044	J	0.03				
PCB-180 m						28.22	182	0.13	
PCB-189 t					0.00003	30.49	2.22	0.11	M J

Extraction Standards		**% Rec**	**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.93	36	30-140			
13C12-1,2,3,7,8-PeCDD	13.68	44	30-140			
13C12-1,2,3,4,7,8-HxCDD	15.28	41	30-140			
13C12-1,2,3,6,7,8-HxCDD	15.33	42	30-140			
13C12-1,2,3,7,8,9-HxCDD	15.46	42	30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.96	48	15-140			
13C12-OCDD	18.49	46	15-140			
13C12-2,3,7,8-TCDF	11.70	42	30-140			
13C12-1,2,3,7,8-PeCDF	13.17	39	30-140			
13C12-2,3,4,7,8-PeCDF	13.56	42	30-140			
13C12-1,2,3,4,7,8-HxCDF	14.87	36	30-140			
13C12-1,2,3,6,7,8-HxCDF	14.92	33	30-140			
13C12-2,3,4,6,7,8-HxCDF	15.20	37	30-140			
13C12-1,2,3,7,8,9-HxCDF	15.65	40	30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.39	39	15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.23	42	15-140			
13C12-OCDF	18.59	39	15-140			
13C12-PCB-28 m			10-140			
13C12-PCB-52 m			10-140			
13C12-PCB-81 t	10.27	24	15-140			
13C12-PCB-77 t	10.46	24	15-140			
13C12-PCB-101 m			10-140			
13C12-PCB-123 t			15-140		23.64	76
13C12-PCB-118 t,m			15-140		23.81	78
13C12-PCB-114 t			15-140		24.11	84
13C12-PCB-105 t			15-140		24.47	76
13C12-PCB-126 t	12.06	34	30-140			
13C12-PCB-153 m			10-140			
13C12-PCB-138 m			10-140			
13C12-PCB-167 t			15-140		26.92	76
13C12-PCB-156/157 t			15-140		27.56	78
13C12-PCB-169 t	13.63	37	30-140			
13C12-PCB-180 m			10-140			
13C12-PCB-189 t			15-140		30.48	97

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	1310	1580	3880
Mid Point Total via EPA 1668C	1310	1580	3880
Upper Bound Total via EPA 1668C	1310	1580	3890

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.00997	0.00997	0.0997	0.00499	0.00997
Mid Point TEQ - PCDD/F	0.0644	0.0674	0.161	0.0681	0.0557
Upper Bound TEQ - PCDD/F	0.119	0.125	0.222	0.131	0.102
Lower Bound TEQ - PCB	0.192	0.225	0.560	0.0115	
Mid Point TEQ - PCB	0.193	0.228	0.560	0.0115	
Upper Bound TEQ - PCB	0.193	0.228	0.560	0.0115	
Lower Bound TEQ - TOTAL	0.202	0.235	0.659	0.0164	
Mid Point TEQ - TOTAL	0.257	0.295	0.721	0.0796	
Upper Bound TEQ - TOTAL	0.311	0.353	0.782	0.143	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL
B Indicates that this compound was detected in the method blank at greater than 10% of the sample concentration
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] HATCH**	Sampling Date	13-Oct-22	
ALS Sample ID	L2740805-20	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.48 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A30.D	6-230202A31 Sa
Run Date	18-Jan-23 19:50	03-Feb-23 16:24
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.91	<0.034	0.034	U	1				
1,2,3,7,8-PeCDD	13.66	<0.032	0.032	U	1				
1,2,3,4,7,8-HxCDD	15.33	<0.047	0.047	U	0.1				
1,2,3,6,7,8-HxCDD	15.33	<0.044	0.044	U	0.1				
1,2,3,7,8,9-HxCDD	15.46	<0.047	0.047	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.97	0.0501	0.040	J	0.01				
OCDD	18.52	<0.066	0.054	J R	0.0003				
2,3,7,8-TCDF	11.71	0.499	0.051	J	0.1				
1,2,3,7,8-PeCDF	13.17	<0.046	0.046	U	0.03				
2,3,4,7,8-PeCDF	13.56	<0.040	0.040	U	0.3				
1,2,3,4,7,8-HxCDF	14.86	<0.022	0.022	U	0.1				
1,2,3,6,7,8-HxCDF	14.97	<0.022	0.022	U	0.1				
2,3,4,6,7,8-HxCDF	15.25	<0.022	0.022	U	0.1				
1,2,3,7,8,9-HxCDF	15.65	<0.025	0.025	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.40	<0.031	0.031	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.25	<0.031	0.031	U	0.01				
OCDF	18.60	<0.049	0.049	U	0.0003				
PCB-28 m						16.59	77.4	0.56	
PCB-52 m						17.57	2580	0.21	
PCB-81 t	10.28	0.500	0.049	J	0.0003				
PCB-77 t	10.47	14.1	0.045	J	0.0001				
PCB-101 m						21.21	704	0.56	
PCB-123 t					0.00003	23.65	2.59	0.46	M J
PCB-118 t,m					0.00003	23.83	148	0.42	
PCB-114 t					0.00003	24.13	<4.1	0.41	J R
PCB-105 t					0.00003	24.50	33.7	0.44	
PCB-126 t	12.06	0.462	0.11	J	0.1				
PCB-153 m						24.75	90.6	0.15	
PCB-138 m						25.44	92.4	0.19	
PCB-167 t					0.00003	26.96	2.10	0.19	J
PCB-156/157 t					0.00003	27.58	3.91	0.27	J
PCB-169 t	13.64	<0.083	0.024	J R	0.03				
PCB-180 m						28.24	14.3	0.19	
PCB-189 t					0.00003	30.50	0.312	0.095	M J

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.93	33	30-140		
13C12-1,2,3,7,8-PeCDD	13.68	43	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.28	46	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.33	41	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.47	45	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.96	50	15-140		
13C12-OCDD	18.49	47	15-140		
13C12-2,3,7,8-TCDF	11.70	40	30-140		
13C12-1,2,3,7,8-PeCDF	13.17	37	30-140		
13C12-2,3,4,7,8-PeCDF	13.56	41	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.87	36	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.93	35	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.20	40	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.65	43	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.40	41	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.23	44	15-140		
13C12-OCDF	18.58	40	15-140		
13C12-PCB-28 m			10-140		
13C12-PCB-52 m			10-140		
13C12-PCB-81 t	10.28	21	15-140		
13C12-PCB-77 t	10.46	22	15-140		
13C12-PCB-101 m			10-140		
13C12-PCB-123 t			15-140	23.65	73
13C12-PCB-118 t,m			15-140	23.82	75
13C12-PCB-114 t			15-140	24.12	81
13C12-PCB-105 t			15-140	24.48	76
13C12-PCB-126 t	12.06	31	30-140		
13C12-PCB-153 m			10-140		
13C12-PCB-138 m			10-140		
13C12-PCB-167 t			15-140	26.95	76
13C12-PCB-156/157 t			15-140	27.59	77
13C12-PCB-169 t	13.63	37	30-140		
13C12-PCB-180 m			10-140		
13C12-PCB-189 t			15-140	30.50	95

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	3560	3710	10700
Mid Point Total via EPA 1668C	3560	3710	10700
Upper Bound Total via EPA 1668C	3560	3710	10700

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0504	0.0504	0.499	0.0250	0.0504
Mid Point TEQ - PCDD/F	0.102	0.106	0.563	0.0862	0.0984
Upper Bound TEQ - PCDD/F	0.153	0.162	0.627	0.147	0.146
Lower Bound TEQ - PCB	0.0535	0.0681	0.806	0.00492	
Mid Point TEQ - PCB	0.0561	0.0710	0.807	0.00495	
Upper Bound TEQ - PCB	0.0561	0.0710	0.807	0.00495	
Lower Bound TEQ - TOTAL	0.104	0.118	1.31	0.0299	
Mid Point TEQ - TOTAL	0.158	0.177	1.37	0.0912	
Upper Bound TEQ - TOTAL	0.209	0.233	1.43	0.152	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	**Laboratory Control Sample**	Sampling Date	n/a	
ALS Sample ID	WG3777732-2	Extraction Date	11-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	1 n/a	*E. Sabljic*
Analysis Type	LCS	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230118A06.D	6-230202A03 Sa
Run Date	18-Jan-23 10:38	02-Feb-23 19:18
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	%	%
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**% Rec**	**Flags**	**Limits**	**Ret. Time.**	**% Rec**	**Flags**
2,3,7,8-TCDD	11.95	94		67-158			
1,2,3,7,8-PeCDD	13.70	106		70-142			
1,2,3,4,7,8-HxCDD	15.29	87		70-164			
1,2,3,6,7,8-HxCDD	15.34	91		76-134			
1,2,3,7,8,9-HxCDD	15.48	92		64-162			
1,2,3,4,6,7,8-HpCDD	16.98	93		70-140			
OCDD	18.51	86		78-144			
2,3,7,8-TCDF	11.72	102		75-158			
1,2,3,7,8-PeCDF	13.19	103		80-134			
2,3,4,7,8-PeCDF	13.58	93		68-160			
1,2,3,4,7,8-HxCDF	14.88	90		72-134			
1,2,3,6,7,8-HxCDF	14.94	101		84-130			
2,3,4,6,7,8-HxCDF	15.23	90		78-130			
1,2,3,7,8,9-HxCDF	15.66	92		70-156			
1,2,3,4,6,7,8-HpCDF	16.41	96		82-122			
1,2,3,4,7,8,9-HpCDF	17.25	97		78-138			
OCDF	18.61	97		63-170			
PCB-28 m				50-150			
PCB-52 m				50-150			
PCB-81 t	10.29	97		50-150			
PCB-77 t	10.48	103		50-150			
PCB-101 m				50-150			
PCB-123 t				50-150	23.67	99	
PCB-118 t,m				50-150	23.84	104	
PCB-114 t				50-150	24.15	98	
PCB-105 t				50-150	24.50	97	
PCB-126 t	12.08	107		50-150			
PCB-153 m				50-150			
PCB-138 m				50-150			
PCB-167 t				50-150	26.96	103	
PCB-156/157 t				50-150	27.60	103	
PCB-169 t	13.65	105		50-150			
PCB-180 m				50-150			
PCB-189 t				50-150	30.52	99	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.95	49	30-140		
13C12-1,2,3,7,8-PeCDD	13.69	55	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.29	56	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.34	50	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.48	54	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.98	57	15-140		
13C12-OCDD	18.50	59	15-140		
13C12-2,3,7,8-TCDF	11.72	58	30-140		
13C12-1,2,3,7,8-PeCDF	13.18	51	30-140		
13C12-2,3,4,7,8-PeCDF	13.57	49	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.88	44	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.94	42	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.21	46	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.66	50	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.41	37	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.25	52	15-140		
13C12-OCDF	18.60	49	15-140		
13C12-PCB-28 m			10-140		
13C12-PCB-52 m			10-140		
13C12-PCB-81 t	10.29	40	15-140		
13C12-PCB-77 t	10.48	40	15-140		
13C12-PCB-101 m			10-140		
13C12-PCB-123 t			15-140	23.66	90
13C12-PCB-118 t,m			15-140	23.83	91
13C12-PCB-114 t			15-140	24.13	97
13C12-PCB-105 t			15-140	24.48	89
13C12-PCB-126 t	12.07	44	30-140		
13C12-PCB-153 m			10-140		
13C12-PCB-138 m			10-140		
13C12-PCB-167 t			15-140	26.95	91
13C12-PCB-156/157 t			15-140	27.59	88
13C12-PCB-169 t	13.65	39	30-140		
13C12-PCB-180 m			10-140		
13C12-PCB-189 t			15-140	30.50	109

t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact:	Lynne Wrona	**Client Name:**	Advisian/ Worley
ALS Project ID:	10283	**Client Address:**	Suite 150 205 Quarry Park Blvd SE
ALS WO#:	L2740805		Calgary, AB T2C 3E7
Date of Sample Receipt	16-Nov-22		Canada
Date of Report	22-Feb-23	**Client Contact:**	Graham Young
		Client Project ID:	317011-00057

COMMENTS: **Toxic PCDD/F and PCB Congeners by GC/MS/MS and GC/HRMS**

Reporting units of pg/g are equivalent to ng/Kg
Reporting units of ng/g are equivalent to µg/Kg

Results have been calculated on an as-received (wet) basis

For the reagent blank, the recovery of 13C12-2,3,7,8-TCDD standard was below the method control limit.
No negative impact to data quality is expected as a result.

Co-elutions may cause a high bias to selected PCDD/PCDF or PCB analytical results. Secondary column confirmations to uniquely define the toxic congeners for PCB targets or for PCDD/F targets is recommended where it is of value to resolve such sources of potential high bias.

Certified by:

Sabrina Jin
Technical Specialist

ALS Life Sciences

Sample Analysis Summary Report

Sample Name	Method Blank	Reagent Blank	[2022] [SVOC] CHBKTR 1+	Laboratory Control Sample
ALS Sample ID	WG3778662-1	WG3778662-4	L2740805-13	WG3778662-2
Sample Size	10.00	10.31	10.12	1
Sample units	g wwt	g wwt	g wwt	n/a
Moisture Content	n/a	n/a	n/a	n/a
Matrix	qc	qc	fish tissue	qc
Sampling Date	n/a	n/a	12-Oct-22	n/a
Extraction Date	23-Jan-23	23-Jan-23	23-Jan-23	23-Jan-23
Polychlorinated Dibenzo(p)dioxins	**pg/g**	**pg/g**	**pg/g**	**% Rec**
2,3,7,8-TCDD	<0.023	<0.021	<0.021	93
1,2,3,7,8-PeCDD	<0.029	<0.057	<0.041	100
1,2,3,4,7,8-HxCDD	<0.036	<0.068	<0.056	87
1,2,3,6,7,8-HxCDD	<0.037	<0.065	<0.060	92
1,2,3,7,8,9-HxCDD	<0.046	<0.070	<0.039	97
1,2,3,4,6,7,8-HpCDD	0.0472	<0.088	<0.092	91
OCDD	<0.067	<0.16	0.110	85
Polychlorinated Dibenzofurans				
2,3,7,8-TCDF	<0.030	<0.039	0.317	100
1,2,3,7,8-PeCDF	<0.041	0.0453	0.0421	100
2,3,4,7,8-PeCDF	<0.029	<0.034	<0.047	93
1,2,3,4,7,8-HxCDF	<0.027	<0.039	<0.023	95
1,2,3,6,7,8-HxCDF	<0.026	<0.044	<0.030	92
2,3,4,6,7,8-HxCDF	<0.033	<0.043	<0.030	87
1,2,3,7,8,9-HxCDF	<0.033	<0.066	<0.038	93
1,2,3,4,6,7,8-HpCDF	<0.029	<0.050	<0.032	94
1,2,3,4,7,8,9-HpCDF	<0.031	<0.050	<0.029	97
OCDF	0.0398	<0.081	<0.079	94
Dioxin-like Polychlorinated Biphenyls				
PCB-81	<0.014	<0.028	0.584	95
PCB-77	0.0360	0.138	16.2	101
PCB-123	<2.3	<2.3	<9.3	112
PCB-118	<2.2	<2.2	675	102
PCB-114	<2.3	<2.1	14.7	100
PCB-105	<2.5	<2.3	249	100
PCB-126	<0.036	<0.039	4.21	106
PCB-167	<0.92	<0.75	45.7	110
PCB-156/157	<1.4	<1.0	99.3	110
PCB-169	<0.026	<0.038	0.218	102
PCB-189	<0.46	<0.38	<6.8	97
Toxic Equivalency WHO (2005) Mammal	**pg/g**	**pg/g**	**pg/g**	
Lower Bound TEQ - PCDD/F	0.000484	0.00136	0.0330	
Upper Bound TEQ - PCDD/F	0.0898	0.135	0.138	
Lower Bound TEQ - PCB	0.00000360	0.0000138	0.462	
Upper Bound TEQ - PCB	0.00475	0.00539	0.462	
Lower Bound TEQ - TOTAL	0.000488	0.00137	0.495	
Upper Bound TEQ - TOTAL	0.0946	0.140	0.601	
Marker Polychlorinated Biphenyls	**ng/g**	**ng/g**	**ng/g**	
PCB-28	<0.0056	<0.0057	<0.026	
PCB-52	<0.0020	<0.0021	0.113	
PCB-101	<0.0026	<0.0022	0.503	
PCB-118	<0.0022	<0.0022	0.675	102
PCB-153	<0.0013	0.00126	1.11	
PCB-138	<0.0039	0.00239	1.09	
PCB-180	<0.00093	<0.00055	0.529	
Lower Bound Marker PCB Total - ICES6	0.00	0.00365	3.35	
Mid Point Marker PCB Total - ICES6	0.0108	0.0100	3.37	
Upper Bound Marker PCB Total - ICES6	0.0163	0.0142	3.37	
Lower Bound Marker PCB Total - ICES7	0.00	0.00365	4.02	
Mid Point Marker PCB Total - ICES7	0.0119	0.0111	4.05	
Upper Bound Marker PCB Total - ICES7	0.0185	0.0164	4.05	
Lower Bound Total PCB via EPA 1668C	0.0171	0.0120	9.96	
Mid Point Total PCB via EPA 1668C	0.217	0.219	10.1	
Upper Bound Total PCB via EPA 1668C	0.416	0.423	10.2	

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Laboratory Method Blank Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a	
ALS Sample ID	WG3778662-1	Extraction Date	23-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.00 g wwt	*E. Sabljic*
Analysis Type	Blank	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	07-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A07.D	6-230206B09 Sa
Run Date	30-Jan-23 10:44	06-Feb-23 23:13
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-9 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.97	<0.023	0.023	U	1				
1,2,3,7,8-PeCDD	13.70	<0.029	0.029	U	1				
1,2,3,4,7,8-HxCDD	15.33	<0.036	0.036	U	0.1				
1,2,3,6,7,8-HxCDD	15.35	<0.037	0.037	U	0.1				
1,2,3,7,8,9-HxCDD	15.48	<0.046	0.046	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.99	0.0472	0.023	J	0.01				
OCDD	18.53	<0.067	0.067	U	0.0003				
2,3,7,8-TCDF	11.72	<0.030	0.030	U	0.1				
1,2,3,7,8-PeCDF	13.20	<0.041	0.041	U	0.03				
2,3,4,7,8-PeCDF	13.59	<0.029	0.029	U	0.3				
1,2,3,4,7,8-HxCDF	14.88	<0.027	0.027	U	0.1				
1,2,3,6,7,8-HxCDF	14.96	<0.026	0.026	U	0.1				
2,3,4,6,7,8-HxCDF	15.24	<0.033	0.033	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.033	0.033	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.42	<0.029	0.029	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.28	<0.031	0.031	U	0.01				
OCDF	18.63	0.0398	0.029	J	0.0003				
PCB-28 m						NotFnd	<5.6	5.6	U
PCB-52 m						NotFnd	<2.0	2.0	U
PCB-81 t	10.29	<0.014	0.014	U	0.0003				
PCB-77 t	10.49	0.0360	0.0087	J	0.0001				
PCB-101 m						NotFnd	<2.6	2.6	U
PCB-123 t					0.00003	NotFnd	<2.3	2.3	U
PCB-118 t,m					0.00003	NotFnd	<2.2	2.2	U
PCB-114 t					0.00003	NotFnd	<2.3	2.3	U
PCB-105 t					0.00003	NotFnd	<2.5	2.5	U
PCB-126 t	12.10	<0.036	0.036	U	0.1				
PCB-153 m						24.75	<1.3	0.79	M J R
PCB-138 m						25.46	<3.9	1.0	M J R
PCB-167 t					0.00003	NotFnd	<0.92	0.92	U
PCB-156/157 t					0.00003	NotFnd	<1.4	1.4	U
PCB-169 t	13.66	<0.026	0.026	U	0.03				
PCB-180 m						NotFnd	<0.93	0.93	U
PCB-189 t					0.00003	NotFnd	<0.46	0.46	U

Extraction Standards		**% Rec**		**Limits**		**% Rec**		
13C12-2,3,7,8-TCDD	11.96	58		30-140				
13C12-1,2,3,7,8-PeCDD	13.70	75		30-140				
13C12-1,2,3,4,7,8-HxCDD	15.31	74		30-140				
13C12-1,2,3,6,7,8-HxCDD	15.35	71		30-140				
13C12-1,2,3,7,8,9-HxCDD	15.49	75		30-140				
13C12-1,2,3,4,6,7,8-HpCDD	16.99	77		15-140				
13C12-OCDD	18.53	76		15-140				
13C12-2,3,7,8-TCDF	11.73	71		30-140				
13C12-1,2,3,7,8-PeCDF	13.19	66		30-140				
13C12-2,3,4,7,8-PeCDF	13.58	73		30-140				
13C12-1,2,3,4,7,8-HxCDF	14.89	57		30-140				
13C12-1,2,3,6,7,8-HxCDF	14.95	59		30-140				
13C12-2,3,4,6,7,8-HxCDF	15.23	63		30-140				
13C12-1,2,3,7,8,9-HxCDF	15.67	73		30-140				
13C12-1,2,3,4,6,7,8-HpCDF	16.42	65		15-140				
13C12-1,2,3,4,7,8,9-HpCDF	17.27	68		15-140				
13C12-OCDF	18.62	65		15-140				
13C12-PCB-28 m								
13C12-PCB-52 m								
13C12-PCB-81 t	10.29	44		15-140				
13C12-PCB-77 t	10.48	45		15-140				
13C12-PCB-101 m								
13C12-PCB-123 t				15-140		23.67	63	
13C12-PCB-118 t,m				15-140		23.84	62	
13C12-PCB-114 t				15-140		24.14	63	
13C12-PCB-105 t				15-140		24.49	63	R
13C12-PCB-126 t	12.08	65		30-140				
13C12-PCB-153 m								
13C12-PCB-138 m								
13C12-PCB-167 t				15-140		26.97	53	
13C12-PCB-156/157 t				15-140		27.61	53	
13C12-PCB-169 t	13.66	65		30-140				
13C12-PCB-180 m								
13C12-PCB-189 t				15-140		30.53	83	

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	0.00	0.00	17.1
Mid Point Total via EPA 1668C	10.8	11.9	217
Upper Bound Total via EPA 1668C	16.3	18.5	416

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.000484	0.000476	0.0000512	0.0000512	0.000512
Mid Point TEQ - PCDD/F	0.0452	0.0485	0.0672	0.0507	0.0413
Upper Bound TEQ - PCDD/F	0.0898	0.0964	0.134	0.101	0.0820
Lower Bound TEQ - PCB	0.00000360	0.00000360	0.00180	0.00000360	
Mid Point TEQ - PCB	0.00238	0.00324	0.00465	0.000128	
Upper Bound TEQ - PCB	0.00475	0.00647	0.00750	0.000252	
Lower Bound TEQ - TOTAL	0.000488	0.000480	0.00185	0.0000548	
Mid Point TEQ - TOTAL	0.0475	0.0517	0.0719	0.0509	
Upper Bound TEQ - TOTAL	0.0946	0.103	0.142	0.102	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**Reagent Blank**	Sampling Date	n/a	
ALS Sample ID	WG3778662-4	Extraction Date	23-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.31 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	07-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A06.D	6-230206B12 Sa
Run Date	30-Jan-23 10:22	07-Feb-23 01:24
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-9 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.98	<0.021	0.021	U	1				
1,2,3,7,8-PeCDD	13.70	<0.057	0.057	U	1				
1,2,3,4,7,8-HxCDD	15.31	<0.068	0.068	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.065	0.065	U	0.1				
1,2,3,7,8,9-HxCDD	15.49	<0.070	0.070	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.99	<0.088	0.041	J R	0.01				
OCDD	18.55	<0.16	0.16	U	0.0003				
2,3,7,8-TCDF	11.73	<0.039	0.039	U	0.1				
1,2,3,7,8-PeCDF	13.20	0.0453	0.011	J	0.03				
2,3,4,7,8-PeCDF	13.57	<0.034	0.034	U	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.039	0.039	U	0.1				
1,2,3,6,7,8-HxCDF	14.96	<0.044	0.044	U	0.1				
2,3,4,6,7,8-HxCDF	15.23	<0.043	0.043	U	0.1				
1,2,3,7,8,9-HxCDF	15.66	<0.066	0.066	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.43	<0.050	0.050	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.050	0.050	U	0.01				
OCDF	18.62	<0.081	0.042	J R	0.0003				
PCB-28 m						NotFnd	<5.7	5.7	U
PCB-52 m						17.56	<2.1	2.1	U
PCB-81 t	10.29	<0.028	0.028	U	0.0003				
PCB-77 t	10.48	0.138	0.013	J	0.0001				
PCB-101 m						21.24	<2.2	1.8	J R
PCB-123 t					0.00003	NotFnd	<2.3	2.3	U
PCB-118 t,m					0.00003	NotFnd	<2.2	2.2	U
PCB-114 t					0.00003	NotFnd	<2.1	2.1	U
PCB-105 t					0.00003	NotFnd	<2.3	2.3	U
PCB-126 t	12.07	<0.039	0.039	U	0.1				
PCB-153 m						24.76	1.26	0.61	J
PCB-138 m						25.46	2.39	0.80	J
PCB-167 t					0.00003	NotFnd	<0.75	0.75	U
PCB-156/157 t					0.00003	NotFnd	<1.0	1.0	U
PCB-169 t	13.65	<0.038	0.038	U	0.03				
PCB-180 m						NotFnd	<0.55	0.55	U
PCB-189 t					0.00003	NotFnd	<0.38	0.38	U

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	20	30-140		
13C12-1,2,3,7,8-PeCDD	13.70	41	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.30	44	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.35	39	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	39	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.98	47	15-140		
13C12-OCDD	18.53	50	15-140		
13C12-2,3,7,8-TCDF	11.72	39	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	38	30-140		
13C12-2,3,4,7,8-PeCDF	13.58	40	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.89	39	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.95	37	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	36	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.67	37	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	41	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	41	15-140		
13C12-OCDF	18.62	44	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	31	15-140		
13C12-PCB-77 t	10.48	30	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.66	84
13C12-PCB-118 t,m			15-140	23.83	89
13C12-PCB-114 t			15-140	24.14	95
13C12-PCB-105 t			15-140	24.49	83
13C12-PCB-126 t	12.08	42	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.97	74
13C12-PCB-156/157 t			15-140	27.61	73
13C12-PCB-169 t	13.66	49	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.53	116

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	3.65	3.65	12.0
Mid Point Total via EPA 1668C	10.0	11.1	219
Upper Bound Total via EPA 1668C	14.2	16.4	423

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.00136	0.00227	0.00453	0.00227	0.00227
Mid Point TEQ - PCDD/F	0.0686	0.0729	0.0958	0.0786	0.0588
Upper Bound TEQ - PCDD/F	0.135	0.143	0.187	0.155	0.114
Lower Bound TEQ - PCB	0.0000138	0.0000138	0.00690	0.0000138	
Mid Point TEQ - PCB	0.00270	0.00329	0.0106	0.000147	
Upper Bound TEQ - PCB	0.00539	0.00657	0.0142	0.000280	
Lower Bound TEQ - TOTAL	0.00137	0.00228	0.0114	0.00228	
Mid Point TEQ - TOTAL	0.0713	0.0762	0.106	0.0788	
Upper Bound TEQ - TOTAL	0.140	0.149	0.201	0.155	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB

U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] CHBKTR 1+**	Sampling Date	12-Oct-22	
ALS Sample ID	L2740805-13	Extraction Date	23-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.12 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	07-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A08.D	6-230206B13 Sa
Run Date	30-Jan-23 11:07	07-Feb-23 02:08
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-9 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.96	<0.021	0.021	U	1				
1,2,3,7,8-PeCDD	13.71	<0.041	0.041	U	1				
1,2,3,4,7,8-HxCDD	15.30	<0.056	0.056	U	0.1				
1,2,3,6,7,8-HxCDD	15.36	<0.060	0.060	U	0.1				
1,2,3,7,8,9-HxCDD	15.49	<0.039	0.039	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.99	<0.092	0.015	J R	0.01				
OCDD	18.53	0.110	0.062	J	0.0003				
2,3,7,8-TCDF	11.73	0.317	0.026	J	0.1				
1,2,3,7,8-PeCDF	13.20	0.0421	0.026	J	0.03				
2,3,4,7,8-PeCDF	13.59	<0.047	0.024	J R	0.3				
1,2,3,4,7,8-HxCDF	14.90	<0.023	0.023	U	0.1				
1,2,3,6,7,8-HxCDF	14.96	<0.030	0.030	U	0.1				
2,3,4,6,7,8-HxCDF	15.25	<0.030	0.030	U	0.1				
1,2,3,7,8,9-HxCDF	15.68	<0.038	0.038	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.42	<0.032	0.032	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.029	0.029	U	0.01				
OCDF	18.62	<0.079	0.079	U	0.0003				
PCB-28 m						16.59	<26	3.7	R
PCB-52 m						17.57	113	3.8	
PCB-81 t	10.29	0.584	0.014	J	0.0003				
PCB-77 t	10.48	16.2	0.030	J	0.0001				
PCB-101 m						21.22	503	2.9	
PCB-123 t					0.00003	23.67	<9.3	3.0	M J R
PCB-118 t,m					0.00003	23.85	675	2.6	
PCB-114 t					0.00003	24.16	14.7	2.5	
PCB-105 t					0.00003	24.52	249	2.8	
PCB-126 t	12.08	4.21	0.052	J	0.1				
PCB-153 m						24.76	1110	1.2	
PCB-138 m						25.46	1090	1.6	
PCB-167 t					0.00003	26.98	45.7	1.4	
PCB-156/157 t					0.00003	27.61	99.3	2.1	
PCB-169 t	13.66	0.218	0.060	J	0.03				
PCB-180 m						28.26	529	1.2	
PCB-189 t					0.00003	30.54	<6.8	0.83	J R

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	60	30-140		
13C12-1,2,3,7,8-PeCDD	13.70	65	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.31	63	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.35	61	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	66	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.98	65	15-140		
13C12-OCDD	18.53	67	15-140		
13C12-2,3,7,8-TCDF	11.73	68	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	58	30-140		
13C12-2,3,4,7,8-PeCDF	13.58	64	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.89	49	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.95	50	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	58	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.68	60	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	52	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	55	15-140		
13C12-OCDF	18.62	55	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	44	15-140		
13C12-PCB-77 t	10.48	46	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.67	98
13C12-PCB-118 t,m			15-140	23.84	100
13C12-PCB-114 t			15-140	24.14	111
13C12-PCB-105 t			15-140	24.51	101
13C12-PCB-126 t	12.08	53	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.97	83
13C12-PCB-156/157 t			15-140	27.61	83
13C12-PCB-169 t	13.66	56	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.53	123

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	3350	4020	9960
Mid Point Total via EPA 1668C	3370	4050	10100
Upper Bound Total via EPA 1668C	3370	4050	10200

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0330	0.0338	0.321	0.0180	0.0339
Mid Point TEQ - PCDD/F	0.0931	0.103	0.409	0.0934	0.0932
Upper Bound TEQ - PCDD/F	0.138	0.148	0.450	0.145	0.128
Lower Bound TEQ - PCB	0.462	0.575	1.33	0.0284	
Mid Point TEQ - PCB	0.462	0.576	1.33	0.0285	
Upper Bound TEQ - PCB	0.462	0.576	1.33	0.0285	
Lower Bound TEQ - TOTAL	0.495	0.609	1.65	0.0464	
Mid Point TEQ - TOTAL	0.555	0.680	1.74	0.122	
Upper Bound TEQ - TOTAL	0.601	0.725	1.78	0.174	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	**Laboratory Control Sample**	Sampling Date	n/a	
ALS Sample ID	WG3778662-2	Extraction Date	23-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	1 n/a	*E. Sabljic*
Analysis Type	LCS	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	07-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A04.D	6-230206B05 Sa
Run Date	30-Jan-23 09:37	06-Feb-23 20:17
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	%	%
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-9 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**% Rec**	**Flags**	**Limits**	**Ret. Time.**	**% Rec**	**Flags**
2,3,7,8-TCDD	11.96	93		67-158			
1,2,3,7,8-PeCDD	13.71	100		70-142			
1,2,3,4,7,8-HxCDD	15.31	87		70-164			
1,2,3,6,7,8-HxCDD	15.35	92		76-134			
1,2,3,7,8,9-HxCDD	15.49	97		64-162			
1,2,3,4,6,7,8-HpCDD	16.99	91		70-140			
OCDD	18.53	85		78-144			
2,3,7,8-TCDF	11.73	100		75-158			
1,2,3,7,8-PeCDF	13.19	100		80-134			
2,3,4,7,8-PeCDF	13.59	93		68-160			
1,2,3,4,7,8-HxCDF	14.90	95		72-134			
1,2,3,6,7,8-HxCDF	14.96	92		84-130			
2,3,4,6,7,8-HxCDF	15.24	87		78-130			
1,2,3,7,8,9-HxCDF	15.68	93		70-156			
1,2,3,4,6,7,8-HpCDF	16.42	94		82-122			
1,2,3,4,7,8,9-HpCDF	17.27	97		78-138			
OCDF	18.62	94		63-170			
PCB-28 m				50-150			
PCB-52 m				50-150			
PCB-81 t	10.29	95		50-150			
PCB-77 t	10.48	101		50-150			
PCB-101 m				50-150			
PCB-123 t				50-150	23.70	112	
PCB-118 t,m				50-150	23.87	102	
PCB-114 t				50-150	24.17	100	
PCB-105 t				50-150	24.53	100	
PCB-126 t	12.08	106		50-150			
PCB-153 m				50-150			
PCB-138 m				50-150			
PCB-167 t				50-150	26.99	110	
PCB-156/157 t				50-150	27.64	110	
PCB-169 t	13.66	102		50-150			
PCB-180 m				50-150			
PCB-189 t				50-150	30.56	97	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	42	30-140		
13C12-1,2,3,7,8-PeCDD	13.70	50	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.30	45	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.35	42	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	45	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.99	53	15-140		
13C12-OCDD	18.53	48	15-140		
13C12-2,3,7,8-TCDF	11.73	48	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	44	30-140		
13C12-2,3,4,7,8-PeCDF	13.58	45	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.89	39	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.95	39	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	38	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.67	44	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	41	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	44	15-140		
13C12-OCDF	18.62	40	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	33	15-140		
13C12-PCB-77 t	10.48	33	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.68	80
13C12-PCB-118 t,m			15-140	23.85	81
13C12-PCB-114 t			15-140	24.16	92
13C12-PCB-105 t			15-140	24.51	80
13C12-PCB-126 t	12.08	40	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.98	75
13C12-PCB-156/157 t			15-140	27.62	73
13C12-PCB-169 t	13.66	43	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.54	120

t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB

1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact:	Lynne Wrona	**Client Name:**	Advisian/ Worley
ALS Project ID:	10283	**Client Address:**	Suite 150 205 Quarry Park Blvd SE
ALS WO#:	L2740805		Calgary, AB T2C 3E7
Date of Sample Receipt	16-Nov-22		Canada
Date of Report	22-Feb-23	**Client Contact:**	Graham Young
		Client Project ID:	317011-00057

COMMENTS: **Toxic PCDD/F and PCB Congeners by GC/MS/MS and GC/HRMS**

Reporting units of pg/g are equivalent to ng/Kg
Reporting units of ng/g are equivalent to µg/Kg

Results have been calculated on an as-received (wet) basis

For the laboratory control sample (LCS), the recovery of 13C12-PCB-189 was marginally above the method control limit.
However, its native analyte is well within the limit.

For the method blank, the recoveries of the labelled PCB extraction standards were above the method control limits.
No negative impact to overall data quality is expected as a result.

Co-elutions may cause a high bias to selected PCDD/PCDF or PCB analytical results. Secondary column confirmations to uniquely define the toxic congeners for PCB targets or for PCDD/F targets is recommended where it is of value to resolve such sources of potential high bias.

Certified by:

Sabrina Jin
Technical Specialist

ALS Life Sciences

Sample Analysis Summary Report

Sample Name	Method Blank	[2022] [SVOC] CHBKTR 3+	[2022] [SVOC] CHBKTR UNK	[2022] [SVOC] EDBKTR 1+	Laboratory Control Sample
ALS Sample ID	WG3778052-1	L2740805-15	L2740805-16	L2740805-17	WG3778052-2
Sample Size	10.24	10.44	10.41	10.39	1
Sample units	g wwt	g wwt	g wwt	g wwt	n/a
Moisture Content	n/a	n/a	n/a	n/a	n/a
Matrix	qc	fish tissue	fish tissue	fish tissue	qc
Sampling Date	n/a	12-Oct-22	12-Oct-22	13-Oct-22	n/a
Extraction Date	25-Jan-23	25-Jan-23	25-Jan-23	25-Jan-23	25-Jan-23
Polychlorinated Dibenzo(p)dioxins	**pg/g**	**pg/g**	**pg/g**	**pg/g**	**% Rec**
2,3,7,8-TCDD	<0.018	<0.018	<0.019	<0.025	89
1,2,3,7,8-PeCDD	<0.030	<0.036	<0.040	0.0357	101
1,2,3,4,7,8-HxCDD	<0.045	<0.030	<0.039	<0.045	86
1,2,3,6,7,8-HxCDD	<0.042	<0.050	<0.027	<0.064	90
1,2,3,7,8,9-HxCDD	<0.048	<0.035	<0.030	<0.041	93
1,2,3,4,6,7,8-HpCDD	<0.051	0.0686	0.0546	0.0947	90
OCDD	<0.15	<0.084	<0.068	<0.090	83
Polychlorinated Dibenzofurans					
2,3,7,8-TCDF	<0.017	0.409	0.525	0.0739	99
1,2,3,7,8-PeCDF	<0.049	<0.034	<0.033	0.0339	99
2,3,4,7,8-PeCDF	<0.030	0.0658	0.0621	0.0138	91
1,2,3,4,7,8-HxCDF	<0.034	<0.027	<0.021	<0.027	96
1,2,3,6,7,8-HxCDF	<0.037	<0.027	<0.020	<0.040	94
2,3,4,6,7,8-HxCDF	<0.027	<0.029	<0.019	<0.020	88
1,2,3,7,8,9-HxCDF	<0.031	<0.033	<0.027	<0.027	92
1,2,3,4,6,7,8-HpCDF	<0.030	<0.040	<0.026	<0.030	93
1,2,3,4,7,8,9-HpCDF	<0.042	<0.028	<0.013	<0.022	95
OCDF	0.0726	<0.073	<0.056	<0.044	91
Dioxin-like Polychlorinated Biphenyls					
PCB-81	<0.013	1.09	1.34	0.0990	94
PCB-77	0.0229	27.3	33.3	2.51	100
PCB-123	<1.1	37.1	29.7	<1.5	96
PCB-118	<1.1	2410	1860	77.1	100
PCB-114	<1.0	69.0	<53	<1.4	95
PCB-105	<1.1	747	621	26.3	101
PCB-126	<0.036	9.30	8.77	0.659	105
PCB-167	<0.24	137	105	6.34	97
PCB-156/157	<0.32	306	227	10.5	102
PCB-169	<0.021	0.485	0.413	0.168	102
PCB-189	<0.12	20.1	15.9	1.86	95
Toxic Equivalency WHO (2005) Mammal	**pg/g**	**pg/g**	**pg/g**	**pg/g**	
Lower Bound TEQ - PCDD/F	0.0000218	0.0613	0.0717	0.0492	
Upper Bound TEQ - PCDD/F	0.0879	0.140	0.150	0.101	
Lower Bound TEQ - PCB	0.00000229	1.06	0.979	0.0749	
Upper Bound TEQ - PCB	0.00439	1.06	0.980	0.0750	
Lower Bound TEQ - TOTAL	0.0000241	1.12	1.05	0.124	
Upper Bound TEQ - TOTAL	0.0923	1.20	1.13	0.176	
Marker Polychlorinated Biphenyls	**ng/g**	**ng/g**	**ng/g**	**ng/g**	
PCB-28	<0.0011	0.0493	0.0577	0.0118	
PCB-52	<0.00068	0.347	0.395	0.0295	
PCB-101	<0.00093	2.24	1.75	0.0775	
PCB-118	<0.0011	2.41	1.86	0.0771	100
PCB-153	<0.00029	4.66	3.02	0.200	
PCB-138	<0.00064	4.43	3.02	0.165	
PCB-180	<0.00024	2.27	1.46	0.116	
Lower Bound Marker PCB Total - ICES6	0.00	14.0	9.70	0.600	
Mid Point Marker PCB Total - ICES6	0.00241	14.0	9.70	0.600	
Upper Bound Marker PCB Total - ICES6	0.00388	14.0	9.70	0.600	
Lower Bound Marker PCB Total - ICES7	0.00	16.4	11.6	0.677	
Mid Point Marker PCB Total - ICES7	0.00296	16.4	11.6	0.677	
Upper Bound Marker PCB Total - ICES7	0.00498	16.4	11.6	0.677	
Lower Bound Total PCB via EPA 1668C	0.000932	40.1	29.9	1.63	
Mid Point Total PCB via EPA 1668C	0.0534	40.2	29.9	1.69	
Upper Bound Total PCB via EPA 1668C	0.105	40.3	30.0	1.75	

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a	
ALS Sample ID	WG3778052-1	Extraction Date	25-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.24 g wwt	*E. Sabljic*
Analysis Type	Blank	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A19.D	6-230207B22 Sa
Run Date	30-Jan-23 23:10	08-Feb-23 06:04
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.96	<0.018	0.018	U	1				
1,2,3,7,8-PeCDD	13.69	<0.030	0.030	U	1				
1,2,3,4,7,8-HxCDD	15.30	<0.045	0.045	U	0.1				
1,2,3,6,7,8-HxCDD	15.35	<0.042	0.042	U	0.1				
1,2,3,7,8,9-HxCDD	15.49	<0.048	0.048	U	0.1				
1,2,3,4,6,7,8-HpCDD	17.00	<0.051	0.037	J R	0.01				
OCDD	18.52	<0.15	0.15	U	0.0003				
2,3,7,8-TCDF	11.74	<0.017	0.017	U	0.1				
1,2,3,7,8-PeCDF	13.19	<0.049	0.049	U	0.03				
2,3,4,7,8-PeCDF	13.59	<0.030	0.030	U	0.3				
1,2,3,4,7,8-HxCDF	14.89	<0.034	0.034	U	0.1				
1,2,3,6,7,8-HxCDF	14.95	<0.037	0.037	U	0.1				
2,3,4,6,7,8-HxCDF	15.24	<0.027	0.027	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.031	0.031	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.42	<0.030	0.030	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.25	<0.042	0.042	U	0.01				
OCDF	18.62	0.0726	0.036	J	0.0003				
PCB-28 m						NotFnd	<1.1	1.1	U
PCB-52 m						NotFnd	<0.68	0.68	U
PCB-81 t	10.30	<0.013	0.013	U	0.0003				
PCB-77 t	10.48	0.0229	0.016	J	0.0001				
PCB-101 m						NotFnd	<0.93	0.93	U
PCB-123 t					0.00003	NotFnd	<1.1	1.1	U
PCB-118 t,m					0.00003	NotFnd	<1.1	1.1	U
PCB-114 t					0.00003	NotFnd	<1.0	1.0	U
PCB-105 t					0.00003	NotFnd	<1.1	1.1	U
PCB-126 t	12.08	<0.036	0.036	U	0.1				
PCB-153 m						24.75	<0.29	0.20	M J R
PCB-138 m						25.42	<0.64	0.25	M J R
PCB-167 t					0.00003	NotFnd	<0.24	0.24	U
PCB-156/157 t					0.00003	NotFnd	<0.32	0.32	U
PCB-169 t	13.66	<0.021	0.021	U	0.03				
PCB-180 m						NotFnd	<0.24	0.24	U
PCB-189 t					0.00003	NotFnd	<0.12	0.12	U

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	53	30-140		
13C12-1,2,3,7,8-PeCDD	13.70	63	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.30	59	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.35	55	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	55	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.99	67	15-140		
13C12-OCDD	18.53	63	15-140		
13C12-2,3,7,8-TCDF	11.73	65	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	55	30-140		
13C12-2,3,4,7,8-PeCDF	13.59	62	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.89	50	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.95	46	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	52	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.67	52	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	55	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	55	15-140		
13C12-OCDF	18.62	54	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	46	15-140		
13C12-PCB-77 t	10.48	46	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	143
13C12-PCB-118 t,m			15-140	23.82	141
13C12-PCB-114 t			15-140	24.12	148
13C12-PCB-105 t			15-140	24.48	145
13C12-PCB-126 t	12.08	59	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	139
13C12-PCB-156/157 t			15-140	27.59	141
13C12-PCB-169 t	13.66	60	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.50	180

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	0.00	0.00	0.932
Mid Point Total via EPA 1668C	2.41	2.96	53.4
Upper Bound Total via EPA 1668C	3.88	4.98	105

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0000218	0.00000726	0.00000726	0.00000726	0.0000726
Mid Point TEQ - PCDD/F	0.0442	0.0477	0.0606	0.0517	0.0403
Upper Bound TEQ - PCDD/F	0.0879	0.0948	0.121	0.103	0.0800
Lower Bound TEQ - PCB	0.00000229	0.00000229	0.00115	0.00000229	
Mid Point TEQ - PCB	0.00219	0.00241	0.00374	0.000109	
Upper Bound TEQ - PCB	0.00439	0.00482	0.00633	0.000215	
Lower Bound TEQ - TOTAL	0.0000241	0.00000955	0.00115	0.00000955	
Mid Point TEQ - TOTAL	0.0464	0.0501	0.0643	0.0518	
Upper Bound TEQ - TOTAL	0.0923	0.0996	0.127	0.104	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] CHBKTR 3+**	Sampling Date	12-Oct-22	
ALS Sample ID	L2740805-15	Extraction Date	25-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.44 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A21.D	6-230207B24 Sa
Run Date	30-Jan-23 23:54	08-Feb-23 07:32
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.97	<0.018	0.016	J R	1				
1,2,3,7,8-PeCDD	13.68	<0.036	0.036	U	1				
1,2,3,4,7,8-HxCDD	15.30	<0.030	0.030	U	0.1				
1,2,3,6,7,8-HxCDD	15.37	<0.050	0.050	U	0.1				
1,2,3,7,8,9-HxCDD	15.50	<0.035	0.035	U	0.1				
1,2,3,4,6,7,8-HpCDD	17.00	0.0686	0.041	J	0.01				
OCDD	18.53	<0.084	0.084	U	0.0003				
2,3,7,8-TCDF	11.73	0.409	0.039	J	0.1				
1,2,3,7,8-PeCDF	13.20	<0.034	0.022	J R	0.03				
2,3,4,7,8-PeCDF	13.59	0.0658	0.012	J	0.3				
1,2,3,4,7,8-HxCDF	14.89	<0.027	0.027	U	0.1				
1,2,3,6,7,8-HxCDF	14.97	<0.027	0.027	U	0.1				
2,3,4,6,7,8-HxCDF	15.25	<0.029	0.029	U	0.1				
1,2,3,7,8,9-HxCDF	15.68	<0.033	0.033	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.43	<0.040	0.040	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.25	<0.028	0.028	U	0.01				
OCDF	18.64	<0.073	0.073	U	0.0003				
PCB-28 m						16.58	49.3	2.1	M
PCB-52 m						17.55	347	1.4	
PCB-81 t	10.30	1.09	0.015	J	0.0003				
PCB-77 t	10.48	27.3	0.063	J	0.0001				
PCB-101 m						21.20	2240	3.2	
PCB-123 t					0.00003	23.65	37.1	2.3	M
PCB-118 t,m					0.00003	23.83	2410	2.2	
PCB-114 t					0.00003	24.13	69.0	2.3	
PCB-105 t					0.00003	24.49	747	2.3	
PCB-126 t	12.08	9.30	0.16	J	0.1				
PCB-153 m						24.74	4660	1.2	
PCB-138 m						25.44	4430	1.6	
PCB-167 t					0.00003	26.96	137	1.5	
PCB-156/157 t					0.00003	27.59	306	2.2	
PCB-169 t	13.66	0.485	0.089	J	0.03				
PCB-180 m						28.24	2270	1.6	
PCB-189 t					0.00003	30.52	20.1	0.69	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	58	30-140		
13C12-1,2,3,7,8-PeCDD	13.70	69	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.31	67	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.36	71	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	71	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.99	72	15-140		
13C12-OCDD	18.53	72	15-140		
13C12-2,3,7,8-TCDF	11.73	71	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	61	30-140		
13C12-2,3,4,7,8-PeCDF	13.58	67	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.89	57	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.95	54	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	64	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.68	64	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	61	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	61	15-140		
13C12-OCDF	18.62	60	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	48	15-140		
13C12-PCB-77 t	10.48	48	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	99
13C12-PCB-118 t,m			15-140	23.82	100
13C12-PCB-114 t			15-140	24.12	102
13C12-PCB-105 t			15-140	24.47	100
13C12-PCB-126 t	12.08	60	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	101
13C12-PCB-156/157 t			15-140	27.59	101
13C12-PCB-169 t	13.66	63	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.50	124

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	14000	16400	40100
Mid Point Total via EPA 1668C	14000	16400	40200
Upper Bound Total via EPA 1668C	14000	16400	40300

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0613	0.0745	0.475	0.0534	0.0745
Mid Point TEQ - PCDD/F	0.110	0.124	0.523	0.105	0.115
Upper Bound TEQ - PCDD/F	0.140	0.154	0.550	0.137	0.136
Lower Bound TEQ - PCB	1.06	1.45	2.54	0.0684	
Mid Point TEQ - PCB	1.06	1.45	2.54	0.0684	
Upper Bound TEQ - PCB	1.06	1.45	2.54	0.0684	
Lower Bound TEQ - TOTAL	1.12	1.52	3.02	0.122	
Mid Point TEQ - TOTAL	1.17	1.57	3.07	0.174	
Upper Bound TEQ - TOTAL	1.20	1.60	3.09	0.206	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL

J Indicates that a target analyte was detected below the calibrated range but above the EDL

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] CHBKTR UNK**	Sampling Date	12-Oct-22	
ALS Sample ID	L2740805-16	Extraction Date	25-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.41 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A22.D	6-230207B25 Sa
Run Date	31-Jan-23 00:17	08-Feb-23 08:16
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.96	<0.019	0.019	U	1				
1,2,3,7,8-PeCDD	13.70	<0.040	0.040	U	1				
1,2,3,4,7,8-HxCDD	15.31	<0.039	0.039	U	0.1				
1,2,3,6,7,8-HxCDD	15.34	<0.027	0.027	U	0.1				
1,2,3,7,8,9-HxCDD	15.53	<0.030	0.030	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.98	0.0546	0.024	J	0.01				
OCDD	18.53	<0.068	0.038	J R	0.0003				
2,3,7,8-TCDF	11.73	0.525	0.051	J	0.1				
1,2,3,7,8-PeCDF	13.19	<0.033	0.019	J R	0.03				
2,3,4,7,8-PeCDF	13.60	0.0621	0.016	J	0.3				
1,2,3,4,7,8-HxCDF	14.89	<0.021	0.021	U	0.1				
1,2,3,6,7,8-HxCDF	14.96	<0.020	0.020	U	0.1				
2,3,4,6,7,8-HxCDF	15.27	<0.019	0.019	U	0.1				
1,2,3,7,8,9-HxCDF	15.67	<0.027	0.027	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.42	<0.026	0.026	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.27	<0.013	0.013	U	0.01				
OCDF	18.63	<0.056	0.056	U	0.0003				
PCB-28 m						16.57	57.7	2.4	
PCB-52 m						17.55	395	1.9	
PCB-81 t	10.29	1.34	0.012	J	0.0003				
PCB-77 t	10.48	33.3	0.050	J	0.0001				
PCB-101 m						21.19	1750	2.5	
PCB-123 t					0.00003	23.65	29.7	2.9	M
PCB-118 t,m					0.00003	23.82	1860	2.7	
PCB-114 t					0.00003	24.13	<53	2.6	R
PCB-105 t					0.00003	24.48	621	3.0	
PCB-126 t	12.08	8.77	0.10	J	0.1				
PCB-153 m						24.74	3020	1.9	
PCB-138 m						25.44	3020	2.4	
PCB-167 t					0.00003	26.96	105	2.3	
PCB-156/157 t					0.00003	27.57	227	3.3	
PCB-169 t	13.66	0.413	0.13	J	0.03				
PCB-180 m						28.24	1460	0.87	
PCB-189 t					0.00003	30.52	15.9	0.62	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	64	30-140		
13C12-1,2,3,7,8-PeCDD	13.71	75	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.31	69	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.36	73	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	73	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.99	76	15-140		
13C12-OCDD	18.53	76	15-140		
13C12-2,3,7,8-TCDF	11.73	78	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	68	30-140		
13C12-2,3,4,7,8-PeCDF	13.58	73	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.90	61	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.96	57	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	66	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.68	69	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	64	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	66	15-140		
13C12-OCDF	18.62	64	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	51	15-140		
13C12-PCB-77 t	10.48	52	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.64	61
13C12-PCB-118 t,m			15-140	23.80	62
13C12-PCB-114 t			15-140	24.12	67
13C12-PCB-105 t			15-140	24.47	63
13C12-PCB-126 t	12.08	61	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.93	59
13C12-PCB-156/157 t			15-140	27.57	59
13C12-PCB-169 t	13.66	65	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.50	78

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	9700	11600	29900
Mid Point Total via EPA 1668C	9700	11600	29900
Upper Bound Total via EPA 1668C	9700	11600	30000

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0717	0.0841	0.587	0.0574	0.0841
Mid Point TEQ - PCDD/F	0.112	0.125	0.627	0.103	0.115
Upper Bound TEQ - PCDD/F	0.150	0.163	0.664	0.147	0.144
Lower Bound TEQ - PCB	0.979	1.25	2.78	0.0622	
Mid Point TEQ - PCB	0.980	1.28	2.79	0.0624	
Upper Bound TEQ - PCB	0.980	1.28	2.79	0.0624	
Lower Bound TEQ - TOTAL	1.05	1.34	3.37	0.120	
Mid Point TEQ - TOTAL	1.09	1.40	3.41	0.166	
Upper Bound TEQ - TOTAL	1.13	1.44	3.45	0.210	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**[2022] [SVOC] EDBKTR 1+**	Sampling Date	13-Oct-22	
ALS Sample ID	L2740805-17	Extraction Date	25-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	10.39 g wwt	*E. Sabljic*
Analysis Type	Sample	Percent Moisture	n/a	--e-signature--
Sample Matrix	fish tissue	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A23.D	6-230207B26 Sa
Run Date	31-Jan-23 00:39	08-Feb-23 09:00
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	pg/g	pg/g
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**Conc. pg/g**	**EDL pg/g**	**Flags**	**TEF WHO (2005) Mammal**	**Ret. Time.**	**Conc. pg/g**	**EDL pg/g**	**Flags**
2,3,7,8-TCDD	11.96	<0.025	0.025	U	1				
1,2,3,7,8-PeCDD	13.70	0.0357	0.021	J	1				
1,2,3,4,7,8-HxCDD	15.30	<0.045	0.045	U	0.1				
1,2,3,6,7,8-HxCDD	15.36	<0.064	0.064	U	0.1				
1,2,3,7,8,9-HxCDD	15.51	<0.041	0.041	U	0.1				
1,2,3,4,6,7,8-HpCDD	16.98	0.0947	0.033	J	0.01				
OCDD	18.54	<0.090	0.058	J R	0.0003				
2,3,7,8-TCDF	11.73	0.0739	0.034	J	0.1				
1,2,3,7,8-PeCDF	13.21	0.0339	0.028	J	0.03				
2,3,4,7,8-PeCDF	13.60	0.0138	0.013	J	0.3				
1,2,3,4,7,8-HxCDF	14.87	<0.027	0.027	U	0.1				
1,2,3,6,7,8-HxCDF	14.96	<0.040	0.040	U	0.1				
2,3,4,6,7,8-HxCDF	15.24	<0.020	0.020	U	0.1				
1,2,3,7,8,9-HxCDF	15.71	<0.027	0.027	U	0.1				
1,2,3,4,6,7,8-HpCDF	16.42	<0.030	0.030	U	0.01				
1,2,3,4,7,8,9-HpCDF	17.28	<0.022	0.022	U	0.01				
OCDF	18.65	<0.044	0.044	U	0.0003				
PCB-28 m						16.57	11.8	1.6	
PCB-52 m						17.54	29.5	1.6	
PCB-81 t	10.30	0.0990	0.014	J	0.0003				
PCB-77 t	10.48	2.51	0.020	J	0.0001				
PCB-101 m						21.18	77.5	1.7	
PCB-123 t					0.00003	NotFnd	<1.5	1.5	U
PCB-118 t,m					0.00003	23.82	77.1	1.6	
PCB-114 t					0.00003	NotFnd	<1.4	1.4	U
PCB-105 t					0.00003	24.48	26.3	1.6	
PCB-126 t	12.08	0.659	0.024	J	0.1				
PCB-153 m						24.72	200	0.67	
PCB-138 m						25.42	165	0.85	
PCB-167 t					0.00003	26.95	6.34	0.84	J
PCB-156/157 t					0.00003	27.56	10.5	1.1	J
PCB-169 t	13.66	0.168	0.031	J	0.03				
PCB-180 m						28.23	116	0.47	
PCB-189 t					0.00003	30.50	1.86	0.36	M J

Extraction Standards		**% Rec**		**Limits**		**% Rec**	
13C12-2,3,7,8-TCDD	11.96	63		30-140			
13C12-1,2,3,7,8-PeCDD	13.71	70		30-140			
13C12-1,2,3,4,7,8-HxCDD	15.31	63		30-140			
13C12-1,2,3,6,7,8-HxCDD	15.36	68		30-140			
13C12-1,2,3,7,8,9-HxCDD	15.50	67		30-140			
13C12-1,2,3,4,6,7,8-HpCDD	16.99	71		15-140			
13C12-OCDD	18.53	71		15-140			
13C12-2,3,7,8-TCDF	11.73	74		30-140			
13C12-1,2,3,7,8-PeCDF	13.19	63		30-140			
13C12-2,3,4,7,8-PeCDF	13.58	69		30-140			
13C12-1,2,3,4,7,8-HxCDF	14.90	57		30-140			
13C12-1,2,3,6,7,8-HxCDF	14.95	52		30-140			
13C12-2,3,4,6,7,8-HxCDF	15.23	61		30-140			
13C12-1,2,3,7,8,9-HxCDF	15.68	64		30-140			
13C12-1,2,3,4,6,7,8-HpCDF	16.42	59		15-140			
13C12-1,2,3,4,7,8,9-HpCDF	17.26	62		15-140			
13C12-OCDF	18.62	59		15-140			
13C12-PCB-28 m							
13C12-PCB-52 m							
13C12-PCB-81 t	10.29	51		15-140			
13C12-PCB-77 t	10.48	51		15-140			
13C12-PCB-101 m							
13C12-PCB-123 t				15-140		23.64	97
13C12-PCB-118 t,m				15-140		23.80	101
13C12-PCB-114 t				15-140		24.11	107
13C12-PCB-105 t				15-140		24.47	100
13C12-PCB-126 t	12.08	61		30-140			
13C12-PCB-153 m							
13C12-PCB-138 m							
13C12-PCB-167 t				15-140		26.93	100
13C12-PCB-156/157 t				15-140		27.57	107
13C12-PCB-169 t	13.66	63		30-140			
13C12-PCB-180 m							
13C12-PCB-189 t				15-140		30.49	130

Marker and Total PCB	**Marker PCB Totals ICES-6 pg/g**	**ICES-7 pg/g**	**Total PCB pg/g**
Lower Bound Total via EPA 1668C	600	677	1630
Mid Point Total via EPA 1668C	600	677	1690
Upper Bound Total via EPA 1668C	600	677	1750

Toxic Equivalencies	**WHO (2005) Mammal pg/g**	**WHO (1998) Mammal pg/g**	**WHO (1998) Avian pg/g**	**WHO (1998) Fish pg/g**	**ITEQ (1989) pg/g**
Lower Bound TEQ - PCDD/F	0.0492	0.0526	0.127	0.0481	0.0348
Mid Point TEQ - PCDD/F	0.0752	0.0786	0.149	0.0783	0.0609
Upper Bound TEQ - PCDD/F	0.101	0.105	0.171	0.109	0.0868
Lower Bound TEQ - PCB	0.0749	0.0837	0.206	0.00421	
Mid Point TEQ - PCB	0.0749	0.0841	0.206	0.00422	
Upper Bound TEQ - PCB	0.0750	0.0845	0.206	0.00423	
Lower Bound TEQ - TOTAL	0.124	0.136	0.333	0.0523	
Mid Point TEQ - TOTAL	0.150	0.163	0.355	0.0826	
Upper Bound TEQ - TOTAL	0.176	0.189	0.377	0.113	

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample
TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB
M Indicates that a peak has been manually integrated
U Indicates that this compound was not detected above the EDL
J Indicates that a target analyte was detected below the calibrated range but above the EDL
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	**Laboratory Control Sample**	Sampling Date	n/a	
ALS Sample ID	WG3778052-2	Extraction Date	25-Jan-23	Approved:
Analysis Method	Mod. 1613B/1668A	Sample Size	1 n/a	*E. Sabljic*
Analysis Type	LCS	Percent Moisture	n/a	--e-signature--
Sample Matrix	qc	Split Ratio	1	09-Feb-23

Run Information	**HR Injection 1**	**HR Injection 2**
Filename	8-230130A16.D	6-230207B20 Sa
Run Date	30-Jan-23 22:02	08-Feb-23 04:37
Final Volume	15 uL	45 uL
Dilution Factor	1	1
Analysis Units	%	%
Instrument - Column	QQQ-8 DB5MS-US2530334H	HRMS-6 SPBOCTYL273027-03

Target Analytes	**Ret. Time**	**% Rec**	**Flags**	**Limits**	**Ret. Time.**	**% Rec**	**Flags**
2,3,7,8-TCDD	11.96	89		67-158			
1,2,3,7,8-PeCDD	13.71	101		70-142			
1,2,3,4,7,8-HxCDD	15.31	86		70-164			
1,2,3,6,7,8-HxCDD	15.36	90		76-134			
1,2,3,7,8,9-HxCDD	15.49	93		64-162			
1,2,3,4,6,7,8-HpCDD	16.99	90		70-140			
OCDD	18.53	83		78-144			
2,3,7,8-TCDF	11.73	99		75-158			
1,2,3,7,8-PeCDF	13.20	99		80-134			
2,3,4,7,8-PeCDF	13.59	91		68-160			
1,2,3,4,7,8-HxCDF	14.90	96		72-134			
1,2,3,6,7,8-HxCDF	14.96	94		84-130			
2,3,4,6,7,8-HxCDF	15.24	88		78-130			
1,2,3,7,8,9-HxCDF	15.68	92		70-156			
1,2,3,4,6,7,8-HpCDF	16.42	93		82-122			
1,2,3,4,7,8,9-HpCDF	17.27	95		78-138			
OCDF	18.63	91		63-170			
PCB-28 m				50-150			
PCB-52 m				50-150			
PCB-81 t	10.30	94		50-150			
PCB-77 t	10.48	100		50-150			
PCB-101 m				50-150			
PCB-123 t				50-150	23.66	96	
PCB-118 t,m				50-150	23.83	100	
PCB-114 t				50-150	24.14	95	
PCB-105 t				50-150	24.49	101	
PCB-126 t	12.08	105		50-150			
PCB-153 m				50-150			
PCB-138 m				50-150			
PCB-167 t				50-150	26.96	97	
PCB-156/157 t				50-150	27.61	102	
PCB-169 t	13.66	102		50-150			
PCB-180 m				50-150			
PCB-189 t				50-150	30.53	95	

Extraction Standards		**% Rec**	**Limits**		**% Rec**
13C12-2,3,7,8-TCDD	11.96	57	30-140		
13C12-1,2,3,7,8-PeCDD	13.70	68	30-140		
13C12-1,2,3,4,7,8-HxCDD	15.31	62	30-140		
13C12-1,2,3,6,7,8-HxCDD	15.35	59	30-140		
13C12-1,2,3,7,8,9-HxCDD	15.49	63	30-140		
13C12-1,2,3,4,6,7,8-HpCDD	16.99	71	15-140		
13C12-OCDD	18.53	70	15-140		
13C12-2,3,7,8-TCDF	11.73	69	30-140		
13C12-1,2,3,7,8-PeCDF	13.19	60	30-140		
13C12-2,3,4,7,8-PeCDF	13.58	65	30-140		
13C12-1,2,3,4,7,8-HxCDF	14.89	53	30-140		
13C12-1,2,3,6,7,8-HxCDF	14.95	52	30-140		
13C12-2,3,4,6,7,8-HxCDF	15.23	57	30-140		
13C12-1,2,3,7,8,9-HxCDF	15.67	60	30-140		
13C12-1,2,3,4,6,7,8-HpCDF	16.42	57	15-140		
13C12-1,2,3,4,7,8,9-HpCDF	17.26	60	15-140		
13C12-OCDF	18.62	59	15-140		
13C12-PCB-28 m					
13C12-PCB-52 m					
13C12-PCB-81 t	10.29	46	15-140		
13C12-PCB-77 t	10.48	48	15-140		
13C12-PCB-101 m					
13C12-PCB-123 t			15-140	23.65	105
13C12-PCB-118 t,m			15-140	23.83	107
13C12-PCB-114 t			15-140	24.12	112
13C12-PCB-105 t			15-140	24.48	108
13C12-PCB-126 t	12.08	57	30-140		
13C12-PCB-153 m					
13C12-PCB-138 m					
13C12-PCB-167 t			15-140	26.95	107
13C12-PCB-156/157 t			15-140	27.60	107
13C12-PCB-169 t	13.66	60	30-140		
13C12-PCB-180 m					
13C12-PCB-189 t			15-140	30.52	144

t Indicates a PCB with dioxin-like toxicity m Indicates a marker PCB

Worley Canada Services, LTD
ATTN: Graham Young
Suite 150 205 Quarry Park Blvd SE
Calgary AB T2C 3E7

Date Received: 16-NOV-22
Report Date: 22-FEB-23 13:48 (MT)
Version: FINAL

Client Phone: 403-968-1545

Certificate of Analysis

Lab Work Order #: L2740805

Project P.O. #: NOT SUBMITTED
Job Reference: 317011-00057
C of C Numbers:
Legal Site Desc: W 6-67-8 W5M

Lynne Wrona, M.Sc.
Project Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-1 [2021] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.89	[U]	0.89	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.51	[U]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.55	[U]	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.64	[U]	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<0.44	[U]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.77	[U]	0.77	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	4.29	J,B	0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.74	[U]	0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.72	[U]	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	0.76	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	9.84		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	3.22	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	0.38	J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	1.20	J,R	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	6.96		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.32	[U]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	11.4		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	11.9		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	28.7		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	62.2		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	2.15	[J]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	9.15		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.34	[U]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	0.62	J,R	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	8.15		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.840	[J]	0.055	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	19.2		0.092	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	18.1		0.096	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	2.23	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	376		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.066	[U]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	214		0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	12.5		0.093	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	282		0.088	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	16.8		0.072	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	45.7		0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	22.3		0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	54.0		0.068	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	10.9		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	9.98		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-1 [2021] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 57	2.89	[J]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	8.64		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	17.2		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	473		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	292		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	63.8		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	50.3		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.32	[U]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	10.4		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	7.53		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	1.36	[J]	0.027	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	35.5		0.092	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	3.07	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	22.6		0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	6.22		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	595		0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	21.2		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	126		0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	85.4		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	2.50	J,R	0.77	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	0.90	[J]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	319		0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	1370		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	1020		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	650	M	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	1280	M	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	90.3		0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	4.66		0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	16.6		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	47.3		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	140	M	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	19.7	M	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1440		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	19.0	R	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	35.3		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	508		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	3.10	J,R	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	7.75		0.041	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.66	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	1.00	J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	5.14		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	134		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	10.8		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	993		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-1 [2021] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 144	105		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	1170		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	69.9		0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	30.8		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	12.9		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.54	[U]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	321		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	56.1		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	4.28	[J]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	427		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	2140		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	329		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	114		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	167	M	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	2210		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	157		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	245		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	14.9		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	8.52		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	86.2		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	193		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.45	[J]	0.13	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	2.23	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	158		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.95	J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	40.9		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	152		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	25.1		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	860		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	349		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	48.6		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	354		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	295		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	3.00	J,R	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	136		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	112		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	1280		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	22.9		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	491		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	98.2		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	14.2		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	33.7		0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	21.8		0.049	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	0.058	J,R	0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	6.49		0.052	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	13.8		0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-1 [2021] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 198/199	214		0.079	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	96.6		0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	117		0.073	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	59.1		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	162		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	7.09		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	4.81		0.096	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	2.75	[J]	0.097	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	18.4		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	3.93	[J]	0.038	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	72.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	76.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	85.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	84.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	82.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	21.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	21.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	100.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	111.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	26.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	104.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	29.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	97.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	129.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	99.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	107.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	121.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	98.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	4.29	[J]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	157	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	2050	[J]	0.027	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	7830	[J]	0.041	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	9010	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	4440	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	732	[J]	0.049	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	26.0	[J]	0.096	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	3.93	[J]	0.038	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	24300	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.861			pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-1 [2021] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Mid Point PCB TEQ (WHO 2005)	0.861			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.861			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-2 [2021] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	0.225	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.090	[U]	0.090	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.190	J,R	0.078	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.30	[U]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.38	[U]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	1.46	M,J	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	4.86	[B]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	1.10	[J]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	0.52	M,J	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	7.62		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	2.17	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	0.22	M,J	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	0.83	J,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	3.01	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	8.59		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	8.42		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	22.2		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	45.9		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	1.76	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	7.07		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	0.42	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	4.91		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.379	[J]	0.040	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	10.5		0.096	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	11.0		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	1.17	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	266		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.069	[U]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	176		0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	8.90		0.097	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	242		0.092	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-2 [2021] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 59/62/75	14.4		0.075	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	32.2		0.099	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	11.3		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	39.8		0.071	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	10.9		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	10.3		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	3.06	[J]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	8.62		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	15.6		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	402		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	252		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	41.2		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	41.1		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	8.40	R	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	7.08		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	1.11	[J]	0.023	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	26.3		0.055	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	0.190	J,R	0.089	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	1.60	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	21.6		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	4.05	[J]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	425		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	17.0		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	109		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	52.4		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	2.17	[J]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	0.99	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	309		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	1280		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	1010		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	586	M	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	1100	M	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	60.1		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	4.08	[J]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	17.7		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	47.1		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	147	M	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	20.0	M	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1480		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	16.8		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	38.2		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	490		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	3.60	J,R	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	7.44		0.034	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.727	[J]	0.055	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	1.03	[J]	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-2 [2021] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 150	4.75		0.078	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	93.3		0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.084	[U]	0.084	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	11.4		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	966		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.082	[U]	0.082	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	100		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	1140		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	58.9		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	32.4		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	7.93		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	291		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	62.9		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	4.58		0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	495		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	2540		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	365		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	125		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	178	M	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	2540		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	175		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	279		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	16.2		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	9.50	R	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	102		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	219		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.410	J,R	0.061	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	2.84	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	160		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.70	J,R	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	35.8		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	174		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	27.7		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	983		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	402		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	53.0		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	357		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	319		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	4.08	[J]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	154		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	131		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.29	[U]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	1500		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	25.1		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	569		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	117		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-2 [2021] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 189	17.8		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	41.9		0.051	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	24.8		0.047	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	0.183	[J]	0.048	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	8.42		0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	12.9		0.051	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	257		0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	110		0.075	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	139		0.070	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	79.9		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	221		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	10.7		0.090	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	6.91		0.078	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	4.00	[J]	0.081	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	26.3		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	5.78		0.023	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	112.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	103.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	119.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	130.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	99.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	130.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	125.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	25.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	25.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	143.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	157.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	160.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	175.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	163.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	29.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	147.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	158.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	161.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	32.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	152.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	196.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	142.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	175.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	155.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	167.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	200.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	152.0	G	5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	151.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	157.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.415	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	7.42	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	114	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	1640	[J]	0.023	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	7250	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	9820	[J]	0.055	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-2 [2021] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Total HeptaCB	5030	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	906	[J]	0.047	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	37.2	[J]	0.078	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	5.78	[J]	0.023	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	24800	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.818			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.830			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.830			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Note: Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.							
L2740805-3 [2021] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	0.40	J,R	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.29	[U]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<1.9	[U]	1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	3.00	J,R	0.96	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.97	[U]	0.97	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	14.2	[B]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.94	[U]	0.94	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.96	[U]	0.96	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<0.42	[U]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	8.28		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	2.53	[J]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	1.30	M,J,R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	3.60	J,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.45	[U]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	9.25		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	9.60		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	23.2		0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	45.2		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	2.70	J,R	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	7.12		0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.54	[U]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.58	[U]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	3.90	[J]	0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.42	M,J	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-3 [2021] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 50/53	11.9		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	11.8		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	1.32	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	267		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	160		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	8.78		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	211		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	12.4		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	29.2		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	12.3		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	38.5		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	8.69		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	8.48		0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	2.30	[J]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	7.06		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	13.1		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	381		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	218		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.46	[U]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	42.1		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	35.6		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	7.02		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	5.55		0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	0.723	[J]	0.024	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	24.1		0.16	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	1.60	J,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	16.5		0.93	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	3.00	J,R	0.94	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	395		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	14.5		0.88	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	88.0		0.97	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	50.2		0.94	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	1.7	J,R	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.66	[U]	0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	243		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	1050		0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	768		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.61	[U]	0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	479	M	0.81	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	940	M	0.77	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	53.2		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	3.30	J,R	0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	12.5		0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	38.3		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	107	M	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	15.0	M	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-3 [2021] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 106	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1120		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	16.4		0.78	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	28.6		0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	383		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	2.40	J,R	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	5.75		0.038	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.520	J,R	0.082	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	0.77	M,J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	3.14	M,J	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	78.6		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	7.63		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	724		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	79.4		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	876		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	45.7		0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	22.5		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	6.32		0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.64	[U]	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	219		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	43.4		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	2.50	J,R	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	329		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.38	[U]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	1730		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	264		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	86.1		0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	132	M	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	1760		0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.44	[U]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	126		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	194		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	10.9		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	7.06		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	69.2		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	147		0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.319	[J]	0.069	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	1.84	[J]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	111		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.89	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	24.8		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.28	[U]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	113		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	18.3		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	637		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.34	[U]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	258		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	25.0	R	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	257		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-3 [2021] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 177	205		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	1.90	J,R	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	98.9		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	81.1		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.36	[U]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	927		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	17.8		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	375		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	75.9		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	10.9		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	25.2		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	14.9		0.092	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	0.147	[J]	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	5.00		0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	7.92		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	148		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	64.0		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	84.0		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	46.0		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	124		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	5.24		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	3.88	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	2.10	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	15.3		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	3.60	J,R	0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	45.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	43.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	52.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	57.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	45.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	60.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	59.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	22.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	22.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	67.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	73.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	73.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	79.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	25.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	69.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	73.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	77.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	29.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	72.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	96.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	68.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	74.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	78.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-3 [2021] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 28	75.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	72.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	80.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.40	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	17.2	[J]	0.94	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	117	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	1520	[J]	0.024	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	5840	[J]	0.038	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	6970	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	3240	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	524	[J]	0.092	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	21.3	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	3.60	[J]	0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	18200	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.640			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.640			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.640			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-4 [2021] [SVOC] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	<0.49	[U]	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<2.9	[U]	2.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<1.8	[U]	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<2.0	[U]	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<1.9	[U]	1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<1.9	[U]	1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<2.4	[U]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<1.6	[U]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<2.5	[U]	2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	<2.6	[U]	2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<2.4	[U]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<2.8	[U]	2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<0.83	[U]	0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	14.4		0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	3.99	[J]	0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.67	[U]	0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.68	[U]	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	5.60	R	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	20.2		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	21.2		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	49.7		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	100		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	14.4		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-4 [2021] [SVOC] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 36	9.2		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	9.2		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.76	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	23.6		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	23.2		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	2.60	J,R	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	617		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	367		0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	18.6		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	475		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	29.3		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	62.3		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	22.1		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	87.2		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	16.0	R	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	15.0	R	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	4.9		1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<1.9	[U]	1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	16.9		1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	30.3		1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	914		1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	534		1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	92.3		2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	86.1		2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<1.5	[U]	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	16.1		1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	12.7		2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	2.12		0.022	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	59.3		0.11	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	3.23	[J]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	37.3		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	7.5		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	883		2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	34.6		1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	195		1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	112		1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	3.8	J,R	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	560		1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	2540		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	1840		1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	1160	M	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	2260	M	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-4 [2021] [SVOC] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 82	123		2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	9.8		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	29.3		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	95.9		0.97	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	251	M	0.90	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	54.1	M	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	2760		0.97	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	43.1		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	76.5		0.93	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	967		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	7.1		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	14.4		0.19	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	1.10	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.32	[U]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	5.90	M,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	167		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.28	[U]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	15.8		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	1600		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.28	[U]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	177		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	2150		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	111		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	54.9		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	14.4		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	530		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	99.2		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	7.5	R	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	819		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.86	[U]	0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	4500		0.96	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	661		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	214		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	318	M	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	4440		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.99	[U]	0.99	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	317		0.76	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	485		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	28.5		0.94	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	19.1		0.96	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	174		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	373		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.881	[J]	0.071	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	3.50	J,R	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	252		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	1.30	J,R	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	59.2		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	254		0.77	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-4 [2021] [SVOC] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 175	40.9		0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	1500		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.63	[U]	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	612		0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	107	M	0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	574	M	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	475		0.78	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	6.07		0.78	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	238		0.79	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	197		0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.67	[U]	0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	2300		0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	43.0		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	872		0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	182		0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	27.2		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	60.7		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	38.3		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	11.8		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	20.7		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	375		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	162		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	216		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	107		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	310		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	14.0		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	10.2		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	6.03		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	38.7		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	9.21		0.097	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	68.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	65.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	71.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	80.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	67.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	72.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	73.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	23.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	24.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	90.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	23.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	92.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	28.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-4 [2021] [SVOC] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 189	112.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	88.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	118.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	89.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	97.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	99.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	<1.6	[U]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	248	[J]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	3530	[J]	0.022	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	14100	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	17300	[J]	0.071	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	7740	[J]	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	1320	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	54.9	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	9.21	[J]	0.097	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	44300	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	1.61			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	1.61			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	1.61			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-5 [2021] [SVOC] CHBKTR 4+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	0.23	J,R	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.42	M,J	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.94	[U]	0.94	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.61	[U]	0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	1.65	[J]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.72	[U]	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	1.90	J,R	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.68	[U]	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	5.90	R	0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.64	[U]	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	1.90	M,J,R	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	0.87	J,R	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	10.7		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	3.15	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	0.35	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	1.46	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	4.64		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.46	[U]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-5 [2021] [SVOC] CHBKTR 4+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 29/26	12.4		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	13.2		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	30.4		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	61.1		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	1.40	J,R	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	9.07		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.46	[U]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	5.14		0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.569	[J]	0.081	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	17.0		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	15.7		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	1.72	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	358		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	221		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	10.7		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	291		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	17.2		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	39.5		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	15.6		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	50.8		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	13.0		0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	11.6		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	3.66	[J]	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.64	[U]	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	9.91		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	18.4		0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	516		0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	294		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.58	[U]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	54.1		0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	49.3		0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	9.41		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	7.64		0.71	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	1.26	[J]	0.019	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	31.9		0.072	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	0.19	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	2.27	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	23.8		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	5.31		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	550		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	21.2		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	128		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	74.9		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	2.20	J,R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	0.37	J,R	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-5 [2021] [SVOC] CHBKTR 4+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 92	329		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	1400		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	1010		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	652	M	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	1280	M	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	81.0		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	5.19		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	16.9		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	53.7		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	144	M	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	24.5	M	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1530		0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	20.8		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	41.1		0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	540		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	4.03	[J]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	7.72		0.029	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.68	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	4.24	M,J	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	104		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	0.22	J,R	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	9.14		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	913		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	96.2		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	1250		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	66.6		0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	33.8		0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	10.2		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.66	[U]	0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	346		0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	62.0		0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	4.43	[J]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	507		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.42	[U]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	2720		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	394		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	132		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	198	M	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	2730		0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.47	[U]	0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	191		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	303		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	16.5		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	9.78		0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	100		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	218		0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.476	[J]	0.052	pg/g wwt	11-JAN-23	18-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-5 [2021] [SVOC] CHBKTR 4+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 188	2.10	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	151		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	1.06	[J]	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	36.6		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	162		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	26.8		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	901		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	382		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	49.1	M	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	333	M	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	291		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	4.35	[J]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	146		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	121		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	1360		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	25.5		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	513		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	103		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	15.8		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	36.5		0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	22.5		0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	0.150	J,R	0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	8.15		0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	12.1		0.081	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	231		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	99.0		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	130		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	75.8		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	196		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	9.07		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	6.17		0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	3.68	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	24.5		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	4.44	[J]	0.033	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	63.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	76.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	81.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	63.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	77.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	76.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	28.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	28.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	87.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	90.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-5 [2021] [SVOC] CHBKTR 4+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 126	34.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	86.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	39.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	83.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	112.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	79.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	83.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	102.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	97.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.65	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	11.4	[J]	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	154	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	2060	[J]	0.019	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	7950	[J]	0.029	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	10400	[J]	0.052	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	4620	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	820	[J]	0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	34.4	[J]	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	4.44	[J]	0.033	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	26100	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.864			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.864			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.864			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-6 [2021] [SVOC] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.70	[U]	0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.95	[U]	0.95	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	<0.90	[U]	0.90	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<5.4	[U]	5.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<3.9	[U]	3.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<4.1	[U]	4.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<3.9	[U]	3.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<3.8	[U]	3.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<4.8	[U]	4.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<3.3	[U]	3.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<3.7	[U]	3.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	<3.7	[U]	3.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<3.5	[U]	3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<4.6	[U]	4.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	9.6		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	2.6	M,J,R	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-6 [2021] [SVOC] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 27	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<1.5	[U]	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	<2.2	[U]	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	2.6	[J]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<1.5	[U]	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	<1.5	[U]	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	6.5		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	29.2		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	58.0		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	10.3		1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<1.5	[U]	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	2.9	[J]	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	<0.43	[U]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	8.6		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	8.0		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	254		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.85	[U]	0.85	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<1.6	[U]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	122		0.98	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	11.9		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	153		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	13.9		0.91	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	22.0	R	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	6.1	R	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	44.7		0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	5.3	R	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	4.4	J,R	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	<2.2	[U]	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<2.2	[U]	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	4.8		1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	11.0	R	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	477		2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	254		2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<2.0	[U]	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	49.2		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	43.6		2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	6.8	R	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	6.2		2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	1.24	[J]	0.062	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	27.5		0.074	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.87	[U]	0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	10.7		2.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	<2.9	[U]	2.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-6 [2021] [SVOC] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 95	381		3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	12.0	R	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	69.6		2.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	39.0	R	2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<3.5	[U]	3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<2.0	[U]	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	248		3.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	1220		2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	832		3.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<1.8	[U]	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	576	M	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	1050	M	2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	55.0	R	3.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	<2.0	[U]	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	12.0	R	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	43.0	R	2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	130	M	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	25.0	M,R	2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<2.7	[U]	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1430		2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	21.0	R	3.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	43.3		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	523		2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	<2.7	[U]	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	8.09		0.032	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.67	[J]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	0.63	J,R	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	1.88	[J]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	73.4		0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.55	[U]	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	4.30	J,R	0.82	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	745		0.90	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	98.0		0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	972		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	54.0		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	28.4		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	7.1	R	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<1.6	[U]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	268		1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	46.6		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	3.5	[J]	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	435		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	2530		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	389		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	120		1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	177	M	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	2510		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	182		0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-6 [2021] [SVOC] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 128/166	295		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	14.9		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	8.0	R	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	103		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	225		1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.631	[J]	0.055	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	1.70	J,R	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	131		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	1.30	J,R	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	30.6		0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.70	[U]	0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	154		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	28.0		0.95	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	876		0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.83	[U]	0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	387		0.90	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	48.2		0.95	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	288		0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	278		0.99	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	4.36	[J]	0.99	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	149		0.99	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	123		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.83	[U]	0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	1400		0.81	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	28.3		0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	566		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	113		0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	17.1		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	36.8		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	22.2		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	7.62		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	11.9		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	238		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	100		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	141		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	75.5		0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	195		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	9.60	R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	7.00	R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	3.90	J,R	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	29.4		0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	6.66		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	84.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	77.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	81.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	82.0	R	5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	74.0	R	5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	78.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	90.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	28.0		10-145	%	11-JAN-23	18-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-6 [2021] [SVOC] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 77	28.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	113.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	33.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	100.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	111.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	38.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	100.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	148.0	G	10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	110.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	112.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	131.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	120.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	117.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	123.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	<0.70	[U]	0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	<3.3	[U]	3.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	122	[J]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	1540	[J]	0.062	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	6730	[J]	0.032	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	9290	[J]	0.055	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	4620	[J]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	838	[J]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	40.3	[J]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	6.66	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	23200	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.901			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.902			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.902			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Note: Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.							
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8-PeCDD	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8-HxCDD	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,6,7,8-HxCDD	<0.097	[U]	0.097	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8,9-HxCDD	<0.099	[U]	0.099	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,6,7,8-HpCDD	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
OCDD	0.36	J,R	0.33	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,7,8-TCDF	0.85		0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8-PeCDF	<0.072	[U]	0.072	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,4,7,8-PeCDF	0.093	J,R	0.068	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8-HxCDF	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,6,7,8-HxCDF	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,4,6,7,8-HxCDF	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-6 [2021] [SVOC] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Dioxins and Furans HR 1613B							
1,2,3,7,8,9-HxCDF	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,6,7,8-HpCDF	<0.092	[U]	0.092	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8,9-HpCDF	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
OCDF	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total-TCDD	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total TCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-PeCDD	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total PeCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HxCDD	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HxCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HpCDD	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HpCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-TCDF	0.85		0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total TCDF # Homologues	1				11-JAN-23	19-JAN-23	R5919160
Total-PeCDF	<0.072	[U]	0.072	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total PeCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HxCDF	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HxCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HpCDF	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HpCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,7,8-TCDD	36.0		25-164	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8-PeCDD	37.0		25-181	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	97.0		32-141	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	104.0		28-130	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	84.0		23-140	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-OCDD	65.0		17-157	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,7,8-TCDF	37.0		24-169	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8-PeCDF	39.0		21-192	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,4,7,8-PeCDF	39.0		21-178	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	108.0		26-152	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	116.0		26-123	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	105.0		29-147	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	95.0		28-136	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	88.0		28-143	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	42.0		31-197	%	11-JAN-23	19-JAN-23	R5919160
Lower Bound PCDD/F TEQ (WHO 2005)	0.0848			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Mid Point PCDD/F TEQ (WHO 2005)	0.281			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Upper Bound PCDD/F TEQ (WHO 2005)	0.450			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
L2740805-7 [2021] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.85	[U]	0.85	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.55	[U]	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.58	[U]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-7 [2021] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 6	<0.55	[U]	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.68	[U]	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	1.30	J,R	0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.72	[U]	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	4.20	J,R	0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.68	[U]	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.75	[U]	0.75	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<0.24	M,U	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	3.37	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	1.60	[J]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	0.96	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.43	[U]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.38	[U]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	1.89	[J]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	1.00	J,R	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	9.68	[B]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	14.8		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	1.48	[J]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	2.57	[J]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.45	[U]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.43	[U]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.45	[U]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	1.69	M,J	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	<0.070	[U]	0.070	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	2.50	J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	3.36	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	0.41	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	58.0		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	1.43	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	26.0		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	3.12	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	34.6		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	3.00	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	6.20		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	3.21	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	11.6		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	0.88	J,R	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	1.25	[J]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	<0.34	[U]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.34	[U]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	0.91	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	1.58	[J]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	54.5		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	29.6		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	6.56		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-7 [2021] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 60	5.00	R	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	1.00	J,R	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	0.088	[J]	0.049	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	2.20		0.047	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	2.17	[J]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	64.8		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	1.80	J,R	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	13.0		0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	8.03		0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<0.70	[U]	0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	23.6		0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	107		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	84.5		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.36	[U]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	46.6	M	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	107	M	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	6.05		0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	0.55	[J]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	1.30	J,R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	2.89	[J]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	9.47	M	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	1.49	M,J	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.32	[U]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	86.4		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	1.10	J,R	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	1.30	J,R	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	26.1		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	0.430	[J]	0.036	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.484	[J]	0.057	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.605	[J]	0.086	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	8.55		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.089	[U]	0.089	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	0.79	J,R	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	60.1		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.091	[U]	0.091	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	5.51		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	93.9		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	4.30	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	2.21	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	0.58	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	20.5		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	4.70	R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-7 [2021] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 165	0.53	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	37.7		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	184		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	15.8		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	8.41		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	10.7	M	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	164		0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	9.12		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	17.9		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	0.71	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	0.72	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	5.30		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	10.3		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.133	[J]	0.096	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.40	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	10.3		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.46	[J]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	1.90	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	11.2		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	1.50	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	57.6		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	19.9	M	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	1.72	M,J	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	17.2	M	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	14.2		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	0.30	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	6.94		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	5.59		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	60.6		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	0.94	J,R	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	25.7		0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	5.03		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	0.78	J,R	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	4.23	[J]	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	1.70	J,R	0.096	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.098	[U]	0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	0.65	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	0.96	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	15.2		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	6.09		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	8.85		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	4.22	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	11.8		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	0.60	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	2.62	[J]	0.089	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	1.17	[J]	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-7 [2021] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 206	5.53		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	4.55		0.043	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	77.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	72.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	78.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	79.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	69.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	76.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	83.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	19.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	19.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	96.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	29.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	35.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	132.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	113.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	132.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	101.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	100.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	5.50	[J]	0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	39.0	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	257	[J]	0.047	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	596	[J]	0.036	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	668	[J]	0.057	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	242	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	54.3	[J]	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	9.32	[J]	0.089	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	4.55	[J]	0.043	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	1880	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.0511			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.0512			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.0512			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8-PeCDD	<0.091	[U]	0.091	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8-HxCDD	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,6,7,8-HxCDD	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8,9-HxCDD	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	19-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-7 [2021] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Dioxins and Furans HR 1613B							
1,2,3,4,6,7,8-HpCDD	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
OCDD	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,7,8-TCDF	<0.090	[U]	0.090	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8-PeCDF	<0.055	[U]	0.055	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,4,7,8-PeCDF	<0.049	[U]	0.049	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8-HxCDF	<0.046	[U]	0.046	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,6,7,8-HxCDF	<0.047	[U]	0.047	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,4,6,7,8-HxCDF	<0.050	[U]	0.050	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8,9-HxCDF	<0.078	[U]	0.078	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,6,7,8-HpCDF	<0.092	[U]	0.092	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8,9-HpCDF	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
OCDF	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total-TCDD	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total TCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-PeCDD	<0.091	[U]	0.091	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total PeCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HxCDD	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HxCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HpCDD	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HpCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-TCDF	<0.090	[U]	0.090	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total TCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-PeCDF	<0.055	[U]	0.055	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total PeCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HxCDF	<0.078	[U]	0.078	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HxCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HpCDF	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HpCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,7,8-TCDD	30.0		25-164	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8-PeCDD	36.0		25-181	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	101.0		32-141	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	105.0		28-130	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	87.0		23-140	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-OCDD	65.0		17-157	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,7,8-TCDF	31.0		24-169	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8-PeCDF	37.0		21-192	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,4,7,8-PeCDF	37.0		21-178	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	106.0		26-152	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	121.0		26-123	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	107.0		29-147	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	93.0		28-136	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	92.0		28-143	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	89.0		26-138	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	32.0		31-197	%	11-JAN-23	19-JAN-23	R5919160
Lower Bound PCDD/F TEQ (WHO 2005)	0.00			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Mid Point PCDD/F TEQ (WHO 2005)	0.142			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Upper Bound PCDD/F TEQ (WHO 2005)	0.283			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
L2740805-8 [2021] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-8 [2021] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	0.25	M,J,R	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.18	M,J,R	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.86	[U]	0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.51	[U]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<0.42	[U]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.59	[U]	0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	4.99	[B]	0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	1.61	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	0.60	J,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	<0.30	[U]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	0.33	[J]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	1.55	[J]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	1.27	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	5.64	[B]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	8.24	[B]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	0.62	J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	1.02	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	1.20	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	<0.080	[U]	0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	1.24	[J]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	1.70	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	39.0		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	24.6		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	1.50	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	25.5	[B]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	2.07	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	3.80	[J]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	1.55	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	8.44		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	1.40	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	1.91	[J]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-8 [2021] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 58	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	0.77	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	1.47	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	56.0		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	31.9		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	4.10	J,R	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	4.30	J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	0.64	J,R	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	0.126	[J]	0.015	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	3.46		0.028	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	2.14	[J]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	55.3		0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	1.50	J,R	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	12.6		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	6.28		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<0.45	[U]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	24.1		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	125		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	81.9		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	48.6	M	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	120	M	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	4.59		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	0.76	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	2.06	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	4.16	[J]	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	11.5	M	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	1.50	M,J,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	132		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	1.00	J,R	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	2.10	J,R	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	39.4		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	0.726	[J]	0.039	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.170	J,R	0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.080	[U]	0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.410	J,R	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	7.99		0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.071	[U]	0.071	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	1.01	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	77.1		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.073	[U]	0.073	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	7.01		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-8 [2021] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 147/149	109		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	5.03		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	1.91	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	0.64	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	24.9		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	6.01		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	0.56	[J]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	41.1		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	223		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	19.8		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	9.54		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	13.2	M	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	192		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	11.2		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	19.3		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	1.04	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	0.64	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	7.60		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	12.9		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.166	[J]	0.053	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.42	J,R	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	13.3		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.25	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	2.17	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	12.1		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	1.83	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	72.8		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	25.8		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	2.34	M,J	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	25.3	M	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	17.5		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	0.26	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	8.95		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	8.18		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	84.9		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	1.56	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	33.0	R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	8.05		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	1.03	M,J	0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	4.92		0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	2.44	[J]	0.051	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.052	[U]	0.052	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	0.820	[J]	0.054	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	0.955	[J]	0.055	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	18.9		0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-8 [2021] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 196	7.66		0.079	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	11.4		0.072	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	5.42		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	16.4		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	0.70	J,R	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	2.98	[J]	0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	1.00	J,R	0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	6.47		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	4.96		0.027	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	67.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	67.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	81.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	64.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	80.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	74.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	38.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	39.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	87.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	99.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	110.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	100.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	47.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	88.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	96.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	99.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	52.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	119.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	85.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	99.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	116.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	95.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.43	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	4.99	[J]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	22.1	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	215	[J]	0.015	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	677	[J]	0.039	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	793	[J]	0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	320	[J]	0.050	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	69.6	[J]	0.051	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	10.5	[J]	0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	4.96	[J]	0.027	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	2120	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.0838			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.0839			pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-8 [2021] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Upper Bound PCB TEQ (WHO 2005)	0.0839			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-9 [2021] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 2	<0.36	[U]	0.36	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 3	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 4	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 10	<0.86	[U]	0.86	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 9	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 7	<0.91	[U]	0.91	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 6	<0.90	[U]	0.90	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 5	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 8	<0.74	[U]	0.74	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 14	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 11	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 13/12	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 15	<1.5	[U]	1.5	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 19	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 30/18	2.26	[J]	0.43	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 17	0.93	J,R	0.49	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 27	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 24	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 16	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 32	0.59	[J]	0.36	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 34	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 23	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 29/26	2.1	[J]	1.0	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 25	<0.91	[U]	0.91	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 31	7.85	[B]	0.98	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 28/20	12.4	[B]	1.1	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 21/33	<0.96	[U]	0.96	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 22	1.5	J,R	1.1	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 36	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 39	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 38	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 35	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 37	1.8	[J]	1.3	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 54	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 50/53	1.43	[J]	0.44	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 45/51	1.71	[J]	0.45	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 46	<0.47	[U]	0.47	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 52	56.2		0.52	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 73	<0.29	[U]	0.29	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 43	<0.65	[U]	0.65	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 69/49	24.2		0.37	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 48	2.00	J,R	0.44	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 44/47/65	29.4		0.41	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 59/62/75	1.90	J,R	0.33	pg/g wwt	11-JAN-23	08-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-9 [2021] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 42	3.40	J,R	0.45	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 41/71/40	1.52	M,J	0.45	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 64	8.42		0.32	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 72	1.30	J,R	0.53	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 68	1.60	[J]	0.49	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 57	<0.55	[U]	0.55	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 58	<0.54	[U]	0.54	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 67	1.05	[J]	0.44	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 63	2.21	[J]	0.53	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 61/70/74/76	86.3		0.55	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 66	44.2		0.53	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 55	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 56	7.97		0.64	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 60	7.09		0.54	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 80	<0.43	[U]	0.43	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 79	1.21	M,J	0.52	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 78	0.64	J,R	0.63	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 81	0.200	[J]	0.027	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	5.52		0.042	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 96	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 103	<0.74	[U]	0.74	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 94	<0.77	[U]	0.77	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 95	76.2		0.84	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 100/93/102/98	2.90	J,R	0.74	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 88/91	15.1		0.80	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 84	10.8		0.79	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 89	<0.97	[U]	0.97	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 121	<0.54	[U]	0.54	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 92	39.6		0.89	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 113/90/101	213		0.67	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 83/99	138		0.86	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 112	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 109/119/86/97/125/87	86.2	M	0.67	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 117/116/85/110/115	193	M	0.64	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 82	8.3	R	1.0	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 111	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 120	1.70	J,R	0.58	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 108/124	6.70		0.73	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 107	16.2	M	0.65	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 123	3.40	M,J,R	0.80	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 106	<0.77	[U]	0.77	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 118	213		0.73	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 122	<0.97	[U]	0.97	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 114	2.60	J,R	0.71	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 105	73.2		0.79	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 127	<0.74	[U]	0.74	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 126	1.26	[J]	0.098	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.23	J,R	0.15	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 152	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 150	0.52	M,J	0.22	pg/g wwt	11-JAN-23	08-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-9 [2021] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 136	12.9		0.25	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 145	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 148	1.32	[J]	0.34	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 151/135	113		0.37	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 154	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 144	11.0	R	0.35	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 147/149	165		0.46	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 134/143	5.80	R	0.57	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 139/140	3.20	J,R	0.46	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 131	1.00	J,R	0.58	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 142	<0.60	[U]	0.60	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 132	37.4		0.55	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 133	8.59		0.57	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 165	0.68	J,R	0.41	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 146	60.6		0.46	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 161	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 168/153	349		0.40	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 141	46.7		0.47	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 130	14.6		0.58	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 137/164	23.3	M	0.42	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 138/163/129	313		0.51	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 160	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 158	23.0		0.33	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 128/166	31.3		0.44	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 159	2.00	J,R	0.38	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 162	0.87	J,R	0.39	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 167	11.0	R	0.40	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 156/157	23.0		0.54	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 169	0.23	J,R	0.11	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.49	J,R	0.16	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 179	20.8		0.17	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 184	0.25	[J]	0.16	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 176	4.40	[J]	0.17	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 186	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 178	19.1		0.25	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 175	2.60	J,R	0.24	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 187	119		0.22	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 182	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 183	42.6		0.22	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 185	5.61		0.26	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 174	45.9		0.22	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 177	33.3		0.25	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 181	0.30	J,R	0.25	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 171/173	16.3		0.25	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 172	14.0		0.26	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 192	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 180/193	151		0.20	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 191	2.71	[J]	0.19	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 170	51.4		0.26	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 190	11.1		0.17	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 189	1.76	[J]	0.21	pg/g wwt	11-JAN-23	08-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-9 [2021] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 202	6.29		0.069	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 201	3.18	[J]	0.067	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 204	<0.068	[U]	0.068	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 197	0.983	[J]	0.070	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 200	1.80	[J]	0.075	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 198/199	27.4		0.10	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 196	12.5		0.10	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 203	16.5		0.097	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 195	7.61		0.11	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 194	22.2		0.10	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 205	0.790	J,R	0.089	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 208	2.52	[J]	0.14	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 207	0.98	[J]	0.14	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 206	5.11		0.22	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
PCB 209	4.21	[J]	0.046	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 1	102.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 3	89.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 4	98.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 15	101.0	R	5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 19	77.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 37	95.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 54	97.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 81	27.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	27.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	104.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 123	119.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 118	126.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 114	134.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 105	123.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 126	32.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	120.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 167	125.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	131.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 169	36.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	121.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 189	168.0	G	10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 202	108.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 205	138.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 208	120.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 206	134.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 209	139.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 28	129.0		5-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 111	123.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Surrogate: 13C12 PCB 178	127.0		10-145	%	11-JAN-23	08-FEB-23	R5919160
Total MonoCB	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total DiCB	<0.74	[U]	0.74	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total TriCB	29.4	[J]	0.36	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total TetraCB	289	[J]	0.027	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total PentaCB	1100	[J]	0.098	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total HexaCB	1260	[J]	0.11	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total HeptaCB	543	[J]	0.16	pg/g wwt	11-JAN-23	08-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-9 [2021] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Total OctaCB	99.3	[J]	0.067	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total NonaCB	8.61	[J]	0.14	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
DecaCB	4.21	[J]	0.046	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Total PCB	3330	[J]	1.0	pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.136			pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.143			pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.143			pg/g wwt	11-JAN-23	08-FEB-23	R5919160
Note: Labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.							
L2740805-10 [2021] [SVOC] EDBKTR 5+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	0.37	J,R	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.38	M,J,R	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.79	[U]	0.79	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	0.97	J,R	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	2.33	[J]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.61	[U]	0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	18.1	[B]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.58	[U]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	0.37	M,J,R	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	3.91	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	1.00	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	0.77	J,R	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	0.94	M,J	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	2.39	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	1.74	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	10.2	[B]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	15.1		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	2.44	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	2.39	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	2.25	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	<0.060	[U]	0.060	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	1.42	[J]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-10 [2021] [SVOC] EDBKTR 5+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 45/51	2.05	[J]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	<0.46	[U]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	56.1		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.30	[U]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.58	[U]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	35.0		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	1.66	[J]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	38.4		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	2.44	[J]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	3.86	[J]	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	1.39	[J]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	9.55		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	2.45	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	4.00	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	0.40	J,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	1.93	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	3.01	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	103		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	57.6		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	5.37		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	7.70	R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	1.36	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	0.75	J,R	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	0.289	[J]	0.063	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	7.52		0.075	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	3.04	[J]	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	<0.73	[U]	0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	71.9		0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	1.50	J,R	0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	14.7		0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	6.13		0.71	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<0.89	[U]	0.89	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	50.0		0.81	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	269		0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	166		0.78	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.46	[U]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	86.5	M	0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	197	M	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	5.67		0.92	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	1.10	J,R	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	4.01	[J]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	8.57		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	24.4	M	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	4.90	M,R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-10 [2021] [SVOC] EDBKTR 5+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 118	313		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	2.00	J,R	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	4.20	J,R	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	90.3		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	0.67	J,R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	2.05		0.12	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.320	J,R	0.044	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	0.110	J,R	0.071	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.530	J,R	0.062	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	9.27		0.072	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.064	[U]	0.064	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	1.40	J,R	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	149		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.065	[U]	0.065	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	13.9		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	202		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	7.68		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	3.20	J,R	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	0.44	J,R	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.36	[U]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	32.0		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	13.5		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	1.00	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	100		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	549		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	47.3		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	19.4		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	28.1	M	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	438		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	28.4		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	39.6		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	2.00	J,R	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	1.70	J,R	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	19.4		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	32.6		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.612	[J]	0.084	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.77	[J]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	21.0		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.39	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	2.76	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	28.0		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	3.65	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	167		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	57.0		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	6.14	M	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	39.5		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-10 [2021] [SVOC] EDBKTR 5+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 181	0.68	J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	16.6		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	20.8		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	225		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	4.24	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	85.5		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	18.1		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	3.14	[J]	0.092	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	8.19		0.068	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	4.33	[J]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.067	[U]	0.067	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	1.19	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	1.53	[J]	0.070	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	38.9		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	17.9		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	24.8		0.093	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	10.0		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	39.6		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	1.78	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	3.21	[J]	0.091	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	1.40	[J]	0.096	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	9.41		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	4.58		0.032	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	73.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	69.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	73.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	75.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	63.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	72.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	77.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	10.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	11.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	84.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	90.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	92.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	21.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	84.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	88.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	26.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	85.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	114.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	83.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	85.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	92.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	110.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	110.0		5-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-10 [2021] [SVOC] EDBKTR 5+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 111	102.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.75	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	21.4	[J]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	43.5	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	347	[J]	0.060	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	1330	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	1740	[J]	0.044	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	700	[J]	0.092	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	148	[J]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	14.0	[J]	0.091	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	4.58	[J]	0.032	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	4350	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.238			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.238			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.238			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-11 [2021] [SVOC] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	0.260	J,R	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	0.398	[J]	0.090	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.381	[J]	0.081	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.38	[U]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.36	[U]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.44	[U]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	1.86	[J]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.49	[U]	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	8.20	[B]	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.46	[U]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.49	[U]	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	2.80	M,J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	1.39	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	0.17	J,R	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	1.10	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	0.86	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	0.80	J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	0.35	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	4.83	[B]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	6.82	[B]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	1.38	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	1.78	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-11 [2021] [SVOC] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 39	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	0.77	M,J	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	<0.042	[U]	0.042	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	0.823	[J]	0.091	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	1.28	[J]	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	0.230	J,R	0.099	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	13.3		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.065	[U]	0.065	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	4.82		0.075	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	1.07	[J]	0.090	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	9.66	[B]	0.086	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	0.722	M,J	0.070	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	1.31	[J]	0.091	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	1.90	J,R	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	2.62	[J]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	<0.15	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	0.61	[J]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	0.29	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	11.3		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	5.99		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	1.43	[J]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	1.30	J,R	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	<0.027	[U]	0.027	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	0.482	[J]	0.028	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	12.0		0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	<0.26	[U]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	1.50	J,R	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	1.61	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	4.04	[J]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	15.4		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	15.8		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	6.77	M	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	14.5	M	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	0.91	J,R	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-11 [2021] [SVOC] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 111	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	0.57	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	0.54	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	1.60	M,J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	0.51	M,J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	13.9		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	4.43		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	0.130	J,R	0.086	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.441	[J]	0.042	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.074	[U]	0.074	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.082	M,J	0.064	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	1.44	[J]	0.075	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.066	[U]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	0.250	J,R	0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	7.77	M	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	0.942	M,J	0.068	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	0.53	J,R	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	14.1		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	0.43	J,R	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	0.34	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	3.00	J,R	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	1.11	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	0.22	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	7.84		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	38.0		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	2.10	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	1.58	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	2.05	M,J	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	33.1		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	1.47	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	3.46	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	0.15	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	1.13	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	1.87	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	<0.052	[U]	0.052	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.17	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	1.40	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.26	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	0.28	J,R	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	2.48	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	0.27	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-11 [2021] [SVOC] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 187	12.4		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	3.59	M,J	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	0.30	M,J	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	1.95	[J]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	2.66	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	1.42	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	1.09	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	12.4		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	0.23	J,R	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	5.70	M,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	1.10	M,J,R	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	0.267	M,J	0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	1.00	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	0.545	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.035	[U]	0.035	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	0.110	J,R	0.036	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	0.100	J,R	0.036	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	2.64	[J]	0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	0.984	[J]	0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	1.40	J,R	0.048	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	0.550	J,R	0.097	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	2.07	[J]	0.093	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	0.085	J,R	0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	0.365	[J]	0.082	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	0.280	J,R	0.088	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	0.68	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	0.650	J,R	0.022	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	104.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	97.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	101.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	99.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	81.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	93.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	96.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	21.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	21.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	105.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	117.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	107.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	27.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	107.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	112.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	31.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	110.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	135.0		10-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-11 [2021] [SVOC] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 202	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	117.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	113.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	136.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	129.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	116.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	125.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	1.04	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	10.1	[J]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	23.1	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	59.1	[J]	0.027	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	94.2	[J]	0.086	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	123	[J]	0.042	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	48.0	[J]	0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	9.48	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	1.33	[J]	0.082	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	0.650	[J]	0.022	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	370	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.000696			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.0145			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.0153			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-12 [SVOC] EDF-5462							
Sampled By: CLIENT							
Matrix: CRM							
All PCB congeners by GC/HRMS							
PCB 1	83.5		0.98	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	63.1		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	82.8		8.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	73.7		4.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	90.2	M	5.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<5.0	[U]	5.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<4.9	[U]	4.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<6.2	[U]	6.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	77.7		4.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<5.9	[U]	5.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	94.0		6.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	63.3		5.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	71.1		5.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	46.0		1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	50.1		2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	5.1	J,R	3.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<2.4	[U]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<2.5	[U]	2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	6.3	J,R	3.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	4.6	[J]	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<2.7	[U]	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<2.4	[U]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	5.7	[J]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-12 [SVOC] EDF-5462							
Sampled By: CLIENT							
Matrix: CRM							
All PCB congeners by GC/HRMS							
PCB 25	<2.2	[U]	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	68.6		2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	434		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	53.0	R	2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	11.0	J,R	2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<2.4	[U]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<2.8	[U]	2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	35.8	[J]	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	33.0	J,R	2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	48.0		3.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	41.9	[J]	0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	4.4	J,R	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	6.7	M,J	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	568		1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	5.8	J,R	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	88.2		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	6.7	J,R	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	128		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	7.9	J,R	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	22.5	[J]	1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	23.0	J,R	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	33.7	[J]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	<2.0	[U]	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	<1.8	[U]	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	39.8	[J]	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<2.1	[U]	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	<1.6	[U]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	6.2	J,R	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	308		2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	193		1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<1.9	[U]	1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	25.3	[J]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	48.6		2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<1.6	[U]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	15.0	J,R	1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	38.1	[J]	2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	35.9		0.25	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	47.1		0.47	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	38.2	[J]	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<1.8	[U]	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	<3.7	[U]	3.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	<3.8	[U]	3.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	241		4.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	<3.6	[U]	3.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	35.5	[J]	3.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	29.1	[J]	3.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<4.6	[U]	4.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<2.6	[U]	2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	112		4.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-12 [SVOC] EDF-5462							
Sampled By: CLIENT							
Matrix: CRM							
All PCB congeners by GC/HRMS							
PCB 113/90/101	874		3.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	636		4.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<2.4	[U]	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	357	M	3.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	778	M	3.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	53.5		4.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	39.2	[J]	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	10.1	M,J	2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	29.4	[J]	3.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	121	M	2.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	60.4	M	3.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<3.3	[U]	3.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1750		3.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	9.1	J,R	4.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	78.4		3.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	766		3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	5.4	J,R	3.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	56.5		0.80	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	40.9	[J]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.69	[U]	0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	1.59	[J]	0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	33.1	[J]	0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	<0.91	[U]	0.91	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	385		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.63	[U]	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	43.2	[J]	0.97	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	706		2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	36.6	[J]	3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	22.6	[J]	2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	7.1	[J]	3.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<3.5	[U]	3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	227		3.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	53.0		3.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	3.0	J,R	2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	465		2.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<2.2	[U]	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	3610		2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	256		2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	114		3.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	226	M	2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	4410		3.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<2.5	[U]	2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	199		1.9	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	596		2.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	12.8	[J]	2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	59.1		2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	282		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	629		3.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	41.3		2.2	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	41.2	[J]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-12 [SVOC] EDF-5462							
Sampled By: CLIENT							
Matrix: CRM							
All PCB congeners by GC/HRMS							
PCB 179	57.5		1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	5.3	[J]	1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	16.0	[J]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<1.7	[U]	1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	186		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	19.7	[J]	2.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	801		2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<2.1	[U]	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	331	M	2.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	16.4	M,J	2.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	238	M	2.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	191		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	5.8	J,R	2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	151		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	119		2.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<2.0	[U]	2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	2100		2.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	30.2	[J]	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	967		2.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	146		1.7	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	90.9	M	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	92.7		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	26.4	[J]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	11.2	[J]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	39.1	[J]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	234		0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	112		0.79	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	201		0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	120		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	354		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	59.5		0.84	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	63.0		0.95	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	29.4	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	134		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	452		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	88.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	80.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	89.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	94.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	76.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	87.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	93.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	23.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	24.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	103.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	111.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	120.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	28.0		10-145	%	11-JAN-23	18-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-12 [SVOC] EDF-5462							
Sampled By: CLIENT							
Matrix: CRM							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 155	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	108.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	111.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	30.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	138.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	116.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	107.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	116.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	143.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	115.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	105.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	113.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	147	[J]	0.98	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	553	[J]	4.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	801	[J]	1.8	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	1690	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	6080	[J]	0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	12500	[J]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	5510	[J]	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	1250	[J]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	226	[J]	0.95	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	452	[J]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	29200	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	7.01			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	7.01			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	7.01			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-13 [2022] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<1.2	[U]	1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 2	<1.6	[U]	1.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 3	<1.6	[U]	1.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 4	<12	[U]	12	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 10	<4.7	[U]	4.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 9	<5.3	[U]	5.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 7	<4.9	[U]	4.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 6	<4.9	[U]	4.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 5	<5.6	[U]	5.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 8	<4.4	[U]	4.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 14	<9.7	[U]	9.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 11	<9.8	[U]	9.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 13/12	<9.1	[U]	9.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 15	<8.5	[U]	8.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 19	<5.8	[U]	5.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 30/18	<2.5	[U]	2.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 17	<2.8	[U]	2.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 27	<2.2	[U]	2.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-13 [2022] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 24	<2.3	[U]	2.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 16	<3.5	[U]	3.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 32	<2.0	[U]	2.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 34	<4.1	[U]	4.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 23	<3.7	[U]	3.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 29/26	<3.7	[U]	3.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 25	<3.3	[U]	3.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 31	12.0	R	3.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 28/20	22.0	R	3.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 21/33	<3.5	[U]	3.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 22	<3.9	[U]	3.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 36	<3.7	[U]	3.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 39	<4.3	[U]	4.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 38	<4.2	[U]	4.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 35	<4.3	[U]	4.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 37	<3.0	[U]	3.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 54	<1.3	[U]	1.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 50/53	<3.2	[U]	3.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 45/51	<3.3	[U]	3.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 46	<3.5	[U]	3.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 52	113		3.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 73	<2.1	[U]	2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 43	<4.9	[U]	4.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 69/49	60.9		2.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 48	<3.3	M,U	3.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 44/47/65	73.2		3.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 59/62/75	4.1	J,R	2.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 42	8.1	R	3.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 41/71/40	<3.4	[U]	3.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 64	17.5		2.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 72	<2.5	[U]	2.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 68	2.5	[J]	2.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 57	<2.6	[U]	2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 58	<2.6	[U]	2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 67	<2.1	[U]	2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 63	4.0	J,R	2.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 61/70/74/76	187		2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 66	111		2.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 55	<2.6	[U]	2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 56	20.9		3.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 60	20.6		2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 80	<2.1	[U]	2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 79	3.5	[J]	2.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 78	<2.9	[U]	2.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 81	0.584	[J]	0.014	pg/g wwt	23-JAN-23	30-JAN-23	R5927357
PCB 77	16.2		0.030	pg/g wwt	23-JAN-23	30-JAN-23	R5927357
PCB 104	<1.6	[U]	1.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 96	<1.1	[U]	1.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 103	6.2	R	3.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 94	<3.3	[U]	3.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 95	161		3.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-13 [2022] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 100/93/102/98	<3.1	[U]	3.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 88/91	31.2		3.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 84	19.7		3.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 89	<4.1	[U]	4.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 121	<2.4	[U]	2.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 92	122		3.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 113/90/101	503		2.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 83/99	371		3.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 112	<2.3	[U]	2.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 109/119/86/97/125/87	225	M	2.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 117/116/85/110/115	420	M	2.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 82	25.1		4.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 111	<2.5	[U]	2.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 120	4.0	J,R	2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 108/124	20.6		3.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 107	47.0	M,R	2.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 123	8.4	M,R	3.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 106	<3.2	[U]	3.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 118	675		2.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 122	9.6	R	4.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 114	14.7		2.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 105	249		2.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 127	<3.2	[U]	3.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 126	4.21		0.052	pg/g wwt	23-JAN-23	30-JAN-23	R5927357
PCB 155	<0.50	[U]	0.50	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 152	0.56	J,R	0.50	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 150	<0.49	[U]	0.49	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 136	32.8		0.52	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 145	<0.50	[U]	0.50	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 148	1.60	J,R	0.70	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 151/135	361		0.78	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 154	<0.49	[U]	0.49	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 144	32.8		0.74	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 147/149	460		1.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 134/143	23.0	R	2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 139/140	12.0	R	1.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 131	<2.2	[U]	2.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 142	<2.2	[U]	2.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 132	106		2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 133	22.6		2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 165	<1.5	[U]	1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 146	190		1.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 161	<1.5	[U]	1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 168/153	1110		1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 141	173		1.8	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 130	50.8		2.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 137/164	83.1	M	1.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 138/163/129	1090		2.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 160	<1.4	[U]	1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 158	87.4		1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 128/166	118		1.6	pg/g wwt	23-JAN-23	07-FEB-23	R5927357

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-13 [2022] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 159	6.5		1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 162	4.8		1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 167	45.7		1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 156/157	99.3		2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 169	0.218	[J]	0.060	pg/g wwt	23-JAN-23	30-JAN-23	R5927357
PCB 188	<0.99	[U]	0.99	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 179	57.3		0.94	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 184	<0.89	[U]	0.89	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 176	16.2		0.96	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 186	<0.97	[U]	0.97	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 178	72.7		1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 175	11.0		1.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 187	374		1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 182	<1.2	[U]	1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 183	148	M	1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 185	20.5	M	1.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 174	135	M	1.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 177	111		1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 181	<1.4	[U]	1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 171/173	53.7		1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 172	54.8		1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 192	<1.2	[U]	1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 180/193	529		1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 191	9.7	R	1.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 170	187		1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 190	40.6		0.99	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 189	6.10	R	0.83	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 202	18.7		1.5	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 201	7.8	R	1.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 204	<1.3	[U]	1.3	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 197	2.8	J,R	1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 200	4.7	R	1.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 198/199	96.0	R	2.1	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 196	36.0	R	2.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 203	58.9		1.9	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 195	31.4		0.70	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 194	86.7		0.66	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 205	5.08		0.61	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 208	2.20	J,R	0.93	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 207	1.10	M,J,R	0.95	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 206	9.3	R	1.7	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
PCB 209	1.22	[J]	0.22	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 1	60.0		5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 3	62.0	R	5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 4	44.0		5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 15	77.0		5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 19	26.0		5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 37	64.0	R	5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 54	38.0		5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 81	44.0		10-145	%	23-JAN-23	30-JAN-23	R5927357
Surrogate: 13C12 PCB 77	46.0		10-145	%	23-JAN-23	30-JAN-23	R5927357

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-13 [2022] [SVOC] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 104	39.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 123	98.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 118	100.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 114	111.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 105	101.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 126	53.0		10-145	%	23-JAN-23	30-JAN-23	R5927357
Surrogate: 13C12 PCB 155	51.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 167	83.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 156/157	83.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 169	56.0		10-145	%	23-JAN-23	30-JAN-23	R5927357
Surrogate: 13C12 PCB 188	64.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 189	123.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 202	38.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 205	82.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 208	65.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 206	66.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 209	116.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 28	99.0		5-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 111	76.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Surrogate: 13C12 PCB 178	66.0		10-145	%	23-JAN-23	07-FEB-23	R5927357
Total MonoCB	<1.2	[U]	1.2	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total DiCB	<4.4	[U]	4.4	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total TriCB	34.0	[J]	2.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total TetraCB	643	[J]	0.014	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total PentaCB	2920	[J]	0.052	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total HexaCB	4110	[J]	0.060	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total HeptaCB	1830	[J]	0.83	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total OctaCB	348	[J]	0.61	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total NonaCB	12.6	[J]	0.93	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
DecaCB	1.22	[J]	0.22	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Total PCB	9890	[J]	1.0	pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Lower Bound PCB TEQ (WHO 2005)	0.462			pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Mid Point PCB TEQ (WHO 2005)	0.462			pg/g wwt	23-JAN-23	07-FEB-23	R5927357
Upper Bound PCB TEQ (WHO 2005)	0.462			pg/g wwt	23-JAN-23	07-FEB-23	R5927357
L2740805-14 [2022] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.47	M,J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.86	[U]	0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.92	[U]	0.92	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.88	[U]	0.88	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.86	[U]	0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<0.74	[U]	0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	3.9	J,R	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-14 [2022] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 13/12	<0.98	[U]	0.98	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	0.82	M,J,R	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	14.8		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	4.02	[J]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	1.30	J,R	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	2.72	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.61	[U]	0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	18.5		0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	16.6		0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	51.7		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	105	M	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	2.20	M,J,R	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	14.9		0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.54	[U]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.63	[U]	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.60	[U]	0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.63	[U]	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	9.68		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.410	M,J	0.078	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	19.5		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	22.9		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	1.90	J,R	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	571		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	393		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	16.7		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	504		0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	32.5		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	63.8		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	14.2		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	84.6		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	22.9		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	23.7		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	5.2		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<1.4	[U]	1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	14.3		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	37.8		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	866		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	565		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<1.2	[U]	1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	92.6		1.6	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	86.5		1.4	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	18.2		1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	12.4		1.5	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	1.97		0.022	pg/g wwt	11-JAN-23	18-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-14 [2022] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 77	56.2		0.11	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	0.40	J,R	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	3.03	[J]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	47.6		0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	8.67		0.81	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	860		0.97	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	32.5		0.76	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	201		0.82	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	98.0		0.79	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	3.61	[J]	0.99	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	2.46	[J]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	620		0.90	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	2490		0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	1980		0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.51	[U]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	1090	M	0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	2090	M	0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	106		1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	9.97		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	35.5		0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	80.2		0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	282	M	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	39.2	M	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.51	[U]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	2840		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	34.1		0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	70.8		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	910		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	5.90	R	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	15.2		0.25	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	1.06	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	1.71	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	8.59		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	169		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	0.56	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	25.6		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	1750		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	163		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	2080		0.71	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	116		0.88	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	59.6		0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	13.5		0.89	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.88	[U]	0.88	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	489		0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	138		0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	8.44		0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	1010		0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	4920		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	639		0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-14 [2022] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 130	230		0.89	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	337	M	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	4730		0.77	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	331		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	502		0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	27.8		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	18.4		0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	177		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	393		0.86	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.989	[J]	0.054	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	4.64		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	255		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	2.12	[J]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	56.2		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	301		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	45.8		0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	1620		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	672		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	85.6		0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	584		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	543		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	7.31		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	244		0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	218		0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	2530		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	47.3		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	968		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	197		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	33.0		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	58.5		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	36.4		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	0.17	[J]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	11.7		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	18.8		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	382		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	176		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	230		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	128		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	381		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	16.9		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	7.47		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	4.39	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	36.2		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	4.17	[J]	0.040	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	60.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	56.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	63.0		5-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-14 [2022] [SVOC] CHBKTR 2+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 15	67.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	56.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	65.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	26.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	27.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	78.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	86.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	90.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	33.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	78.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	85.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	88.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	38.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	112.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	80.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	86.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	92.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	110.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	102.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	109.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.47	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	3.90	[J]	0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	242	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	3530	[J]	0.022	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	14000	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	18300	[J]	0.054	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	8410	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	1440	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	48.1	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	4.17	[J]	0.040	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	46000	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	1.69			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	1.69			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	1.69			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-15 [2022] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.67	[U]	0.67	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 2	<1.0	[U]	1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 3	<1.1	[U]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 4	<4.2	[U]	4.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 10	<3.0	[U]	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 9	<3.5	[U]	3.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-15 [2022] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 7	<3.2	[U]	3.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 6	<3.1	[U]	3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 5	<4.1	[U]	4.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 8	<2.6	[U]	2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 14	<4.8	[U]	4.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 11	<4.9	[U]	4.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 13/12	<4.6	[U]	4.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 15	<6.0	[U]	6.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 19	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 30/18	5.9		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 17	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 27	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 24	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 16	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 32	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 34	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 23	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 29/26	11.0		2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 25	<1.8	[U]	1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 31	22.3	M	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 28/20	49.3	M	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 21/33	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 22	6.7	R	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 36	9.9		2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 39	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 38	<2.1	[U]	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 35	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 37	<2.5	[U]	2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 54	<0.46	[U]	0.46	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 50/53	15.7		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 45/51	20.3		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 46	<1.3	[U]	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 52	347		1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 73	<0.75	[U]	0.75	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 43	<1.7	[U]	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 69/49	264		0.97	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 48	8.9		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 44/47/65	349		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 59/62/75	21.7		0.87	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 42	40.0	R	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 41/71/40	<1.2	[U]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 64	45.5		0.84	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 72	15.0	R	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 68	15.0	R	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 57	18.3		3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 58	<3.0	[U]	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 67	<2.5	[U]	2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 63	19.0	R	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 61/70/74/76	536		3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 66	380		3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 55	<2.8	[U]	2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-15 [2022] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 56	34.7		3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 60	26.6		3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 80	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 79	15.4		2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 78	12.0	R	3.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 81	1.09	[J]	0.015	pg/g wwt	25-JAN-23	30-JAN-23	R5922616
PCB 77	27.3		0.063	pg/g wwt	25-JAN-23	30-JAN-23	R5922616
PCB 104	<0.84	[U]	0.84	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 96	<1.3	[U]	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 103	35.7		3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 94	4.9	R	3.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 95	504		4.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 100/93/102/98	28.3		3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 88/91	182		3.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 84	64.9		3.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 89	<4.7	[U]	4.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 121	<2.7	[U]	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 92	516		4.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 113/90/101	2240		3.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 83/99	1730		4.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 112	<2.5	[U]	2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 109/119/86/97/125/87	936	M	3.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 117/116/85/110/115	1510	M	3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 82	73.0	R	5.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 111	7.8	R	2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 120	28.0	R	2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 108/124	55.3		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 107	209	M	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 123	37.1	M	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 106	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 118	2410		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 122	<2.9	[U]	2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 114	69.0		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 105	747		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 127	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 126	9.30		0.16	pg/g wwt	25-JAN-23	30-JAN-23	R5922616
PCB 155	0.40	J,R	0.35	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 152	1.00	J,R	0.61	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 150	7.53		0.55	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 136	108		0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 145	<0.59	[U]	0.59	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 148	22.0		0.84	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 151/135	1530		0.93	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 154	<0.58	[U]	0.58	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 144	153		0.88	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 147/149	2000		1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 134/143	105		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 139/140	63.0		1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 131	11.5		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 142	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 132	476		2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-15 [2022] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 133	120		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 165	7.8		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 146	924		1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 161	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 168/153	4660		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 141	719		1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 130	223		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 137/164	308	M	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 138/163/129	4430		2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 160	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 158	335		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 128/166	477		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 159	28.3		1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 162	15.0		1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 167	137		1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 156/157	306		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 169	0.485	[J]	0.089	pg/g wwt	25-JAN-23	30-JAN-23	R5922616
PCB 188	4.0	[J]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 179	252		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 184	1.3	J,R	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 176	54.4		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 186	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 178	289		1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 175	42.8		1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 187	1610		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 182	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 183	648		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 185	71.3	M	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 174	630	M	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 177	557		1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 181	5.2	R	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 171/173	248		2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 172	209		2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 192	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 180/193	2270		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 191	42.9		1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 170	829		2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 190	145		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 189	20.1		0.69	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 202	60.9		0.30	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 201	38.4		0.29	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 204	<0.30	[U]	0.30	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 197	12.2		0.31	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 200	19.1		0.33	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 198/199	365		0.45	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 196	164		0.44	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 203	199		0.43	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 195	99.6		0.60	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 194	273		0.56	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 205	12.0	R	0.48	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 208	7.07		0.44	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-15 [2022] [SVOC] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 207	4.10	J,R	0.46	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 206	28.4		0.72	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 209	4.04	[J]	0.19	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 1	72.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 3	62.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 4	68.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 15	62.0	R	5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 19	57.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 37	62.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 54	65.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 81	48.0		10-145	%	25-JAN-23	30-JAN-23	R5922616
Surrogate: 13C12 PCB 77	48.0		10-145	%	25-JAN-23	30-JAN-23	R5922616
Surrogate: 13C12 PCB 104	84.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 123	99.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 118	100.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 114	102.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 105	100.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 126	60.0		10-145	%	25-JAN-23	30-JAN-23	R5922616
Surrogate: 13C12 PCB 155	91.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 167	101.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 156/157	101.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 169	63.0		10-145	%	25-JAN-23	30-JAN-23	R5922616
Surrogate: 13C12 PCB 188	101.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 189	124.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 202	86.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 205	112.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 208	97.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 206	108.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 209	127.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 28	95.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 111	98.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 178	115.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Total MonoCB	<0.67	[U]	0.67	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total DiCB	<2.6	[U]	2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total TriCB	105	[J]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total TetraCB	2210	[J]	0.015	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total PentaCB	11400	[J]	0.16	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total HexaCB	17200	[J]	0.089	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total HeptaCB	7930	[J]	0.69	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total OctaCB	1240	[J]	0.29	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total NonaCB	39.6	[J]	0.44	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
DecaCB	4.04	[J]	0.19	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total PCB	40100	[J]	1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Lower Bound PCB TEQ (WHO 2005)	1.06			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Mid Point PCB TEQ (WHO 2005)	1.06			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Upper Bound PCB TEQ (WHO 2005)	1.06			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.89	[U]	0.89	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 2	<1.3	[U]	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 3	<1.3	[U]	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 4	<4.7	[U]	4.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 10	<3.1	[U]	3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 9	<3.6	[U]	3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 7	<3.2	[U]	3.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 6	<3.2	[U]	3.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 5	<4.2	[U]	4.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 8	<2.6	[U]	2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 14	<4.9	[U]	4.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 11	<5.0	[U]	5.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 13/12	<4.7	[U]	4.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 15	<5.5	[U]	5.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 19	<1.8	[U]	1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 30/18	6.8	R	1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 17	2.3	M,J,R	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 27	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 24	<1.7	[U]	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 16	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 32	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 34	<2.7	[U]	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 23	<2.2	[U]	2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 29/26	8.6	R	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 25	7.8	R	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 31	25.5		2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 28/20	57.7		2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 21/33	<2.1	[U]	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 22	7.2	R	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 36	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 39	<2.7	[U]	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 38	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 35	<2.7	[U]	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 37	3.3	M,J,R	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 54	<0.51	[U]	0.51	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 50/53	10.9		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 45/51	12.0	R	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 46	<1.8	[U]	1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 52	395		1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 73	<1.1	[U]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 43	5.4	R	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 69/49	263		1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 48	12.4		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 44/47/65	338		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 59/62/75	23.6		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 42	48.9		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 41/71/40	10.4	M	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 64	54.8		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 72	16.0	R	2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 68	16.1		2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 57	17.0	R	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 58	<3.0	[U]	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 67	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 63	20.0	R	2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 61/70/74/76	576		3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 66	394		2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 55	<2.7	[U]	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 56	51.0		3.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 60	32.0	M	3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 80	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 79	14.8		2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 78	10.1		3.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 81	1.34	[J]	0.012	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 77	33.3		0.050	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 104	<1.1	[U]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 96	<1.7	[U]	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 103	28.9		2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 94	<2.8	[U]	2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 95	570		3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 100/93/102/98	21.0	R	2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 88/91	154		3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 84	79.3		3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 89	<3.6	[U]	3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 121	<2.0	[U]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 92	408		3.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 113/90/101	1750		2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 83/99	1330		3.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 112	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 109/119/86/97/125/87	785	M	2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 117/116/85/110/115	1460	M	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 82	85.0	R	3.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 111	<2.1	[U]	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 120	18.0	R	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 108/124	56.3		2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 107	158	M	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 123	29.7	M	2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 106	<2.9	[U]	2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 118	1860		2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 122	23.0	R	3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 114	48.0	R	2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 105	621		3.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 127	3.1	J,R	2.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 126	8.77		0.10	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 155	0.57	J,R	0.54	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 152	<0.90	[U]	0.90	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 150	5.70	R	0.81	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 136	125		0.91	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 145	<0.87	[U]	0.87	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 148	12.0		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 151/135	1120		1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 154	<0.86	[U]	0.86	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 144	112		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 147/149	1420		2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 134/143	75.4		3.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 139/140	36.4		2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 131	11.5		3.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 142	<3.4	[U]	3.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 132	397		3.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 133	78.9		3.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 165	4.0	J,R	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 146	583		2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 161	<2.1	[U]	2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 168/153	3020		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 141	498		2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 130	147		3.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 137/164	223	M	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 138/163/129	3020		2.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 160	<2.2	[U]	2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 158	252		1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 128/166	336		2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 159	24.5		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 162	12.6		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 167	105		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 156/157	227		3.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 169	0.41	[J]	0.13	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 188	2.40	J,R	0.69	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 179	186		0.73	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 184	1.10	J,R	0.69	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 176	39.0	R	0.75	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 186	<0.77	[U]	0.77	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 178	197		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 175	30.1		1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 187	1030		0.93	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 182	<0.90	[U]	0.90	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 183	399		0.93	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 185	61.0	M	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 174	408	M	0.94	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 177	340		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 181	4.3	J,R	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 171/173	161		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 172	129		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 192	<0.91	[U]	0.91	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 180/193	1460		0.87	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 191	29.9		0.81	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 170	541		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 190	107		0.74	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 189	15.9		0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 202	39.3		0.33	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 201	24.4		0.32	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 204	<0.33	[U]	0.33	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 197	8.26		0.33	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 200	16.2		0.36	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 198/199	232		0.49	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 196	103		0.48	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 203	134		0.46	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 195	70.1		0.95	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 194	190		0.89	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 205	7.80	R	0.76	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 208	6.26		0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 207	3.30	J,R	0.66	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 206	22.4		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 209	5.07		0.15	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 1	41.0	R	5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 3	36.0	R	5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 4	41.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 15	43.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 19	38.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 37	44.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 54	47.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 81	51.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 77	52.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 104	51.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 123	61.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 118	62.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 114	67.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 105	63.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 126	61.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 155	58.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 167	59.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 156/157	59.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 169	65.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 188	59.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 189	78.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 202	51.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 205	63.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 208	55.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 206	59.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 209	73.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 28	61.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 111	60.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 178	66.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Total MonoCB	<0.89	[U]	0.89	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total DiCB	<2.6	[U]	2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total TriCB	119	[J]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total TetraCB	2360	[J]	0.012	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total PentaCB	9500	[J]	0.10	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total HexaCB	11800	[J]	0.13	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total HeptaCB	5140	[J]	0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total OctaCB	825	[J]	0.32	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total NonaCB	32.0	[J]	0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
DecaCB	5.07	[J]	0.15	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total PCB	29800	[J]	1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Lower Bound PCB TEQ (WHO 2005)	0.979			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Mid Point PCB TEQ (WHO 2005)	0.980			pg/g wwt	25-JAN-23	08-FEB-23	R5922616

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Upper Bound PCB TEQ (WHO 2005)	0.980			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Dioxins and Furans HR 1613B							
2,3,7,8-TCDD	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8-PeCDD	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8-HxCDD	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,6,7,8-HxCDD	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8,9-HxCDD	<0.15	[U]	0.15	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,6,7,8-HpCDD	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
OCDD	<0.70	[U]	0.70	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,7,8-TCDF	0.89	M	0.16	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8-PeCDF	0.112	M,J	0.092	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,4,7,8-PeCDF	<0.093	M,U	0.093	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8-HxCDF	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,6,7,8-HxCDF	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
2,3,4,6,7,8-HxCDF	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,7,8,9-HxCDF	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,6,7,8-HpCDF	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
1,2,3,4,7,8,9-HpCDF	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
OCDF	<0.44	[U]	0.44	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total-TCDD	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total TCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-PeCDD	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total PeCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HxCDD	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HxCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HpCDD	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HpCDD # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-TCDF	0.89		0.16	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total TCDF # Homologues	1				11-JAN-23	19-JAN-23	R5919160
Total-PeCDF	0.112		0.093	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total PeCDF # Homologues	1				11-JAN-23	19-JAN-23	R5919160
Total-HxCDF	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HxCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Total-HpCDF	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Total HpCDF # Homologues	0				11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,7,8-TCDD	22.0	G	25-164	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8-PeCDD	22.0	G	25-181	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	99.0		32-141	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	105.0		28-130	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	86.0		23-140	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-OCDD	63.0		17-157	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,7,8-TCDF	23.0	G	24-169	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8-PeCDF	26.0		21-192	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,4,7,8-PeCDF	24.0		21-178	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	107.0		26-152	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	119.0		26-123	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	108.0		29-147	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	93.0		28-136	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	91.0		28-143	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	85.0		26-138	%	11-JAN-23	19-JAN-23	R5919160
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	26.0	G	31-197	%	11-JAN-23	19-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-16 [2022] [SVOC] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Dioxins and Furans HR 1613B							
Lower Bound PCDD/F TEQ (WHO 2005)	0.0926			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Mid Point PCDD/F TEQ (WHO 2005)	0.338			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Upper Bound PCDD/F TEQ (WHO 2005)	0.584			pg/g wwt	11-JAN-23	19-JAN-23	R5919160
Note: The recoveries of some labelled standards were below the method control limit. No negative impact to data quality is expected as a result.							
L2740805-17 [2022] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.62	[U]	0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 2	<0.93	[U]	0.93	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 3	<0.92	[U]	0.92	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 4	<3.1	[U]	3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 10	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 9	<2.7	[U]	2.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 7	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 6	<2.4	[U]	2.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 5	<3.1	[U]	3.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 8	<2.0	[U]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 14	<3.7	[U]	3.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 11	18.0	R	3.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 13/12	<3.6	[U]	3.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 15	<4.7	[U]	4.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 19	<1.1	[U]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 30/18	3.6	M,J,R	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 17	<1.5	M,U	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 27	<1.2	[U]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 24	<1.2	[U]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 16	<1.7	[U]	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 32	<1.1	M,J,R	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 34	<1.7	[U]	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 23	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 29/26	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 25	<1.3	[U]	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 31	8.9	M	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 28/20	11.8		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 21/33	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 22	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 36	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 39	<1.8	[U]	1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 38	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 35	<1.8	[U]	1.8	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 37	<2.3	[U]	2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 54	<0.29	[U]	0.29	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 50/53	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 45/51	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 46	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 52	29.5		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 73	<0.90	[U]	0.90	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-17 [2022] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 43	<2.0	[U]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 69/49	12.3		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 48	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 44/47/65	22.7		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 59/62/75	1.1	J,R	1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 42	1.6	J,R	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 41/71/40	1.7	M,J,R	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 64	5.4		1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 72	<0.93	[U]	0.93	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 68	1.00	J,R	0.86	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 57	<0.98	[U]	0.98	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 58	<0.96	[U]	0.96	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 67	<0.77	[U]	0.77	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 63	<0.93	[U]	0.93	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 61/70/74/76	35.5		0.97	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 66	19.0		0.94	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 55	<0.89	[U]	0.89	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 56	2.0	J,R	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 60	3.40	J,R	0.96	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 80	<0.76	[U]	0.76	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 79	<0.91	[U]	0.91	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 78	<1.1	[U]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 81	0.099	[J]	0.014	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 77	2.51		0.020	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 104	<0.69	[U]	0.69	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 96	<1.1	[U]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 103	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 94	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 95	26.2		2.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 100/93/102/98	<1.9	[U]	1.9	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 88/91	<2.0	[U]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 84	3.9	[J]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 89	<2.5	[U]	2.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 121	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 92	14.9		2.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 113/90/101	77.5		1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 83/99	51.7		2.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 112	<1.3	[U]	1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 109/119/86/97/125/87	29.1	M	1.7	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 117/116/85/110/115	62.8	M	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 82	<2.6	[U]	2.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 111	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 120	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 108/124	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 107	8.3		1.3	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 123	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 106	<1.6	[U]	1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 118	77.1		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 122	<2.0	[U]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 114	<1.4	[U]	1.4	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 105	26.3		1.6	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-17 [2022] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 127	<1.5	[U]	1.5	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 126	0.659	[J]	0.024	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 155	0.38	J,R	0.21	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 152	<0.34	[U]	0.34	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 150	<0.31	[U]	0.31	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 136	3.30	J,R	0.35	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 145	<0.33	[U]	0.33	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 148	0.84	[J]	0.48	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 151/135	44.5	M	0.52	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 154	<0.33	[U]	0.33	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 144	4.50	R	0.50	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 147/149	59.9		0.95	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 134/143	1.9	[J]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 139/140	1.10	J,R	0.96	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 131	<1.2	[U]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 142	<1.2	[U]	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 132	12.9		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 133	5.1		1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 165	<0.86	[U]	0.86	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 146	35.9		0.96	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 161	<0.76	[U]	0.76	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 168/153	200		0.84	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 141	25.0		0.98	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 130	5.0	R	1.2	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 137/164	8.64	M	0.88	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 138/163/129	165		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 160	<0.80	[U]	0.80	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 158	9.90		0.68	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 128/166	14.1		0.91	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 159	<0.79	[U]	0.79	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 162	0.97	[J]	0.81	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 167	6.34		0.84	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 156/157	10.5		1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 169	0.168	[J]	0.031	pg/g wwt	25-JAN-23	31-JAN-23	R5922616
PCB 188	<0.37	[U]	0.37	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 179	7.16		0.39	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 184	0.40	J,R	0.37	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 176	0.97	J,R	0.40	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 186	<0.41	[U]	0.41	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 178	16.2		0.57	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 175	1.80	J,R	0.55	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 187	79.7		0.50	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 182	<0.48	[U]	0.48	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 183	29.3	M	0.50	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 185	<0.61	[U]	0.61	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 174	2.10	M,J,R	0.50	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 177	17.5		0.58	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 181	<0.57	[U]	0.57	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 171/173	8.11		0.59	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 172	11.3		0.59	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 192	<0.49	[U]	0.49	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-17 [2022] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 180/193	116		0.47	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 191	2.02	[J]	0.43	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 170	39.9		0.60	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 190	9.96		0.39	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 189	1.86	M,J	0.36	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 202	4.62		0.16	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 201	1.24	[J]	0.16	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 204	<0.16	[U]	0.16	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 197	0.66	[J]	0.17	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 200	0.90	J,R	0.18	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 198/199	31.3		0.24	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 196	10.4		0.24	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 203	14.3		0.23	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 195	6.03		0.20	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 194	22.6		0.19	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 205	0.99	J,R	0.16	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 208	1.20	J,R	0.27	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 207	0.46	M,J,R	0.29	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 206	3.50	J,R	0.46	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
PCB 209	1.08	[J]	0.12	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 1	70.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 3	64.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 4	69.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 15	59.0	R	5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 19	62.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 37	61.0	R	5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 54	76.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 81	51.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 77	51.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 104	85.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 123	97.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 118	101.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 114	107.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 105	100.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 126	61.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 155	93.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 167	100.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 156/157	107.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 169	63.0		10-145	%	25-JAN-23	31-JAN-23	R5922616
Surrogate: 13C12 PCB 188	98.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 189	130.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 202	90.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 205	106.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 208	93.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 206	102.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 209	122.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 28	87.0		5-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 111	96.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Surrogate: 13C12 PCB 178	107.0		10-145	%	25-JAN-23	08-FEB-23	R5922616
Total MonoCB	<0.62	[U]	0.62	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total DiCB	18.0	[J]	2.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-17 [2022] [SVOC] EDBKTR 1+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Total TriCB	24.3	[J]	1.1	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total TetraCB	138	[J]	0.014	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total PentaCB	379	[J]	0.024	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total HexaCB	616	[J]	0.031	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total HeptaCB	344	[J]	0.36	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total OctaCB	93.0	[J]	0.16	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total NonaCB	5.16	[J]	0.27	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
DecaCB	1.08	[J]	0.12	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Total PCB	1620	[J]	1.0	pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Lower Bound PCB TEQ (WHO 2005)	0.0749			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Mid Point PCB TEQ (WHO 2005)	0.0749			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
Upper Bound PCB TEQ (WHO 2005)	0.0750			pg/g wwt	25-JAN-23	08-FEB-23	R5922616
L2740805-18 [2022] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<0.79	[U]	0.79	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.51	[U]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.54	[U]	0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.51	[U]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.50	[U]	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.63	[U]	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<0.43	[U]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<0.66	[U]	0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	4.40	R	0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	1.10	J,R	0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	0.98	M,J	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	6.58		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	2.90	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	0.55	J,R	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	0.58	M,J,R	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	1.45	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.29	[U]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	7.87		0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	7.12		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	24.0		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	43.8		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	1.30	J,R	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	3.90	J,R	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.30	[U]	0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	0.65	J,R	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.34	[U]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	9.57		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-18 [2022] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 54	0.170	J,R	0.062	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	7.73		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	5.30		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	0.65	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	267		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.072	[U]	0.072	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	139		0.082	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	7.60		0.099	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	138		0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	7.56		0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	18.0		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	9.03		0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	32.0		0.073	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	8.18		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	8.10	R	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	6.65		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	11.8		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	449		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	256		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	45.9		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	38.0		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	8.79		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	3.58	[J]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	1.92		0.017	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	69.8		0.061	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	0.77	J,R	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	9.91		0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	1.72	[J]	0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	367		0.78	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	11.2		0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	44.3		0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	44.5		0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	1.20	J,R	0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.45	[U]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	166		0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	899		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	540		0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.41	[U]	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	378	M	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	884	M	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	44.1		0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	4.02	[J]	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	13.1		0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	31.6		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	97.6	M	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-18 [2022] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 123	16.0	M,R	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	1140		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	14.0	R	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	20.4		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	397		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	1.90	J,R	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	13.0		0.069	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.390	J,R	0.083	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	0.51	J,R	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.81	J,R	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	50.7		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	3.78	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	445		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	47.6		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	673		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	29.6		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	9.40	R	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	3.62	[J]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	167		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	36.4		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	2.15	[J]	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	273		0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.33	[U]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	1410		0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	169		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	64.1		0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	105	M	0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	1340		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.37	[U]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	99.1		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	128		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	8.38		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	6.54		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	58.6		0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	99.5		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.884	[J]	0.058	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.78	J,R	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	62.4		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.41	J,R	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	10.1		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	61.5		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	8.79		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	355		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	127		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	17.0	M	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-18 [2022] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 174	158	M	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	101		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	1.28	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	40.2		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	48.1		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	538		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	11.7		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	197		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	37.3		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	6.63		0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	10.4		0.049	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	5.67		0.049	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	0.054	J,R	0.051	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	1.60	[J]	0.052	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	3.47	[J]	0.053	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	59.3		0.078	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	26.3		0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	37.2		0.070	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	14.7		0.079	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	60.0		0.076	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	2.75	[J]	0.063	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	2.06	[J]	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	0.97	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	6.80		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	2.35	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	68.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	70.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	72.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	61.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	71.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	75.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	34.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	34.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	87.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	106.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	42.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	89.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	93.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	96.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	46.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	114.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	91.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	101.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	94.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	99.0		10-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-18 [2022] [SVOC] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 209	119.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	94.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	90.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	102.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	<0.10	[U]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	5.50	[J]	0.43	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	111	[J]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	1540	[J]	0.017	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	5140	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	5230	[J]	0.058	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	1780	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	221	[J]	0.049	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	9.83	[J]	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	2.35	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	14000	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	1.39			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	1.39			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	1.39			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-19 [2022] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	<0.24	[U]	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	<0.28	[U]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	0.32	J,R	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	<1.3	[U]	1.3	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	<0.67	[U]	0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	<0.72	[U]	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	<0.68	[U]	0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	<0.67	[U]	0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	<0.84	[U]	0.84	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	<0.57	[U]	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<1.0	[U]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	3.0	J,R	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	<0.98	[U]	0.98	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	<0.95	[U]	0.95	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	2.13	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	0.66	[J]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	0.65	M,J	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	0.59	M,J	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 23	<0.34	[U]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	2.67	[J]	0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	2.31	[J]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	7.56	[B]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	11.6	[B]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	1.26	[J]	0.33	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-19 [2022] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 22	1.40	J,R	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.39	[U]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	1.07	[J]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	<0.082	[U]	0.082	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	2.18	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	2.28	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	56.3		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	42.1		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	1.50	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	44.3		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	2.20	J,R	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	4.96		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	1.30	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	9.03		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	2.09	[J]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	2.84	[J]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	0.60	[J]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	1.40	J,R	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	3.18	[J]	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	89.2		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	52.8		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.36	[U]	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	4.99		0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	7.12		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.31	[U]	0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	1.47	[J]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	0.49	[J]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	0.234	[J]	0.024	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	7.00		0.033	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	<0.21	[U]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	3.70	J,R	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	0.79	[J]	0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	73.7		0.61	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	1.20	J,R	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	17.2		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	7.02		0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 121	<0.35	[U]	0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	48.9		0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	236		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	145		0.54	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.32	[U]	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	81.8	M	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-19 [2022] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 117/116/85/110/115	201	M	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	5.78		0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	1.00	J,R	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	3.55	[J]	0.37	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	6.56		0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	23.6	M	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	3.30	M,J,R	0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.47	[U]	0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	277		0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	<0.60	[U]	0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	2.70	J,R	0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	81.5		0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	<0.48	[U]	0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	1.72		0.066	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.250	J,R	0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.42	M,J,R	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	10.8		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	1.71	[J]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	145		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.12	[U]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	13.7		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	190		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	6.54		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	3.40	J,R	0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.40	[U]	0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	40.0		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	12.3		0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	0.76	[J]	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	87.4		0.32	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	438		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	41.1		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	16.6		0.40	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	26.5	M	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	383		0.35	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.28	[U]	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	26.0		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	32.2		0.31	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	2.37	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	1.38	[J]	0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	15.3		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	28.1		0.38	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 169	0.250	[J]	0.044	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	0.44	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	21.6		0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.23	J,R	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	3.23	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.11	[U]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-19 [2022] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 178	23.9		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	2.98	[J]	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	138		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.14	[U]	0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	47.3		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	5.97		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	50.2		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	33.1		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	0.29	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	14.6		0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	17.1		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	182		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	3.45	[J]	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	65.3	M	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	15.0	M	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	2.22	M,J	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	5.71		0.061	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	3.15	[J]	0.060	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.061	[U]	0.061	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	0.780	J,R	0.063	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	1.34	[J]	0.064	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	30.7		0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	13.6		0.093	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	19.9		0.084	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	7.66		0.080	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	28.1		0.077	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	1.30	J,R	0.062	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	2.02	[J]	0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	0.84	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	5.84		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	3.25	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	28.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	34.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	35.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	52.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	37.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	56.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	50.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	24.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	24.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	65.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	78.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	84.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 105	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	34.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	70.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	78.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	37.0		10-145	%	11-JAN-23	18-JAN-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-19 [2022] [SVOC] EDBKTR 3+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 188	74.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	97.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	72.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	84.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	82.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	98.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	67.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	72.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	79.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	0.32	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	3.00	[J]	0.57	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	31.9	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	340	[J]	0.024	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	1220	[J]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	1520	[J]	0.044	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	627	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	112	[J]	0.060	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	8.70	[J]	0.098	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	3.25	[J]	0.034	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	3870	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.192			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.193			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.193			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-20 [2022] [SVOC] HATCH							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 1	56.3		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 2	9.82		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 3	28.6		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 4	48.2		1.2	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 10	6.90	R	0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 9	21.2		0.79	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 7	22.9		0.75	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 6	27.0		0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 5	7.60	M,R	0.93	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 8	77.8	M	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 14	<1.1	[U]	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 11	12.0	R	1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 13/12	6.0	R	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 15	45.7		1.1	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 19	8.05	M	0.29	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 30/18	68.6		0.30	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 17	24.3		0.34	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 27	5.00	R	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 24	1.00	J,R	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 16	22.6		0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 32	17.6		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 34	<0.60	[U]	0.60	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-20 [2022] [SVOC] HATCH							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 23	<0.52	[U]	0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 29/26	35.3		0.52	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 25	9.19		0.48	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 31	96.3		0.51	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 28/20	77.4		0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 21/33	12.5		0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 22	25.3		0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 36	<0.53	[U]	0.53	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 39	1.55	[J]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 38	<0.59	[U]	0.59	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 35	<0.62	[U]	0.62	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 37	21.5		0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 54	0.400	M,J,R	0.094	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 50/53	71.1		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 45/51	30.8		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 46	9.85		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 52	2580		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 73	<0.13	[U]	0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 43	<0.25	[U]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 69/49	286		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 48	35.8		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 44/47/65	637		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 59/62/75	16.8		0.14	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 42	39.4		0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 41/71/40	60.6		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 64	167		0.13	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 72	2.30	J,R	0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 68	1.10	J,R	0.64	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 57	<0.73	[U]	0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 58	<0.72	[U]	0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 67	3.62	[J]	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 63	6.06		0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 61/70/74/76	682		0.72	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 66	133		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 55	<0.66	[U]	0.66	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 56	40.2		0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 60	24.8		0.73	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 80	<0.56	[U]	0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 79	4.42		0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 78	1.20	J,R	0.80	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 81	0.500	[J]	0.049	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 77	14.1		0.045	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 104	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 96	14.9		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 103	8.02		0.68	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 94	5.60		0.69	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 95	1500		0.83	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 100/93/102/98	42.4		0.65	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 88/91	151		0.70	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 84	271		0.67	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 89	6.50	R	0.84	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-20 [2022] [SVOC] HATCH							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 121	<0.47	[U]	0.47	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 92	174		0.77	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 113/90/101	704		0.56	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 83/99	309		0.74	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 112	<0.44	[U]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 109/119/86/97/125/87	346	M	0.58	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 117/116/85/110/115	556	M	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 82	42.9	M	0.87	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 111	1.20	M,J	0.49	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 120	0.88	M,J,R	0.50	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 108/124	8.29		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 107	12.0	M	0.39	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 123	2.59	M,J	0.46	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 106	<0.44	[U]	0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 118	148		0.42	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 122	2.00	J,R	0.55	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 114	3.70	J,R	0.41	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 105	33.7		0.44	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 127	<0.45	[U]	0.45	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 126	0.46	[J]	0.11	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 155	0.33	J,R	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 152	0.26	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 150	0.53	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 136	52.5		0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 145	0.22	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 148	0.53	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 151/135	77.6		0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 154	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 144	10.9		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 147/149	113		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 134/143	12.2		0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 139/140	3.78	[J]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 131	2.50	J,R	0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 142	<0.27	[U]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 132	38.2		0.26	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 133	2.95	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 165	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 146	20.9		0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 161	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 168/153	90.6		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 141	11.5		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 130	5.96		0.28	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 137/164	8.40	M	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 138/163/129	92.4		0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 160	<0.19	[U]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 158	5.88		0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 128/166	8.96		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 159	<0.18	[U]	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 162	0.31	J,R	0.18	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 167	2.10	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 156/157	3.91	[J]	0.27	pg/g wwt	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-20 [2022] [SVOC] HATCH							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
PCB 169	0.074	J,R	0.024	pg/g wwt	11-JAN-23	18-JAN-23	R5919160
PCB 188	<0.16	[U]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 179	3.89	[J]	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 184	0.26	J,R	0.15	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 176	0.99	J,R	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 186	<0.17	[U]	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 178	4.05	[J]	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 175	0.23	J,R	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 187	19.6		0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 182	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 183	4.85		0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 185	<0.22	[U]	0.22	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 174	3.70	M,J,R	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 177	6.21		0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 181	<0.23	[U]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 171/173	1.89	[J]	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 172	1.20	J,R	0.24	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 192	<0.20	[U]	0.20	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 180/193	14.3		0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 191	0.23	J,R	0.17	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 170	8.20	M,R	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 190	1.60	J,R	0.16	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 189	0.312	M,J	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 202	1.29	[J]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 201	0.360	J,R	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 204	<0.067	[U]	0.067	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 197	0.324	[J]	0.069	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 200	0.071	J,R	0.070	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 198/199	2.54	[J]	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 196	1.10	J,R	0.10	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 203	1.40	J,R	0.093	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 195	0.40	J,R	0.12	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 194	1.97	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 205	0.120	J,R	0.093	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 208	0.27	J,R	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 207	0.29	M,J,R	0.23	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 206	0.55	J,R	0.36	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
PCB 209	0.560	J,R	0.030	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 1	56.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 3	54.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 4	58.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 15	61.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 19	52.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 37	58.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 54	61.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 81	21.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 77	22.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 104	69.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 123	73.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 118	75.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 114	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-20 [2022] [SVOC] HATCH							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
All PCB congeners by GC/HRMS							
Surrogate: 13C12 PCB 105	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 126	31.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 155	69.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 167	76.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 156/157	77.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 169	37.0		10-145	%	11-JAN-23	18-JAN-23	R5919160
Surrogate: 13C12 PCB 188	71.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 189	95.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 202	73.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 205	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 208	74.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 206	79.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 209	96.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 28	75.0		5-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 111	74.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Surrogate: 13C12 PCB 178	81.0		10-145	%	11-JAN-23	03-FEB-23	R5919160
Total MonoCB	94.7	[J]	0.19	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total DiCB	275	[J]	0.63	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TriCB	426	[J]	0.25	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total TetraCB	4850	[J]	0.045	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PentaCB	4340	[J]	0.11	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HexaCB	566	[J]	0.024	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total HeptaCB	71.5	[J]	0.095	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total OctaCB	9.58	[J]	0.066	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total NonaCB	1.11	[J]	0.21	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
DecaCB	0.560	[J]	0.030	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Total PCB	10600	[J]	1.0	pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Lower Bound PCB TEQ (WHO 2005)	0.0535			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Mid Point PCB TEQ (WHO 2005)	0.0558			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
Upper Bound PCB TEQ (WHO 2005)	0.0558			pg/g wwt	11-JAN-23	03-FEB-23	R5919160
L2740805-21 [2021] [HG/MM] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.134		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.59		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0201		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.324		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	838		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.108		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0053		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.293		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.50		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0200		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	294		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.16		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-21 [2021] [HG/MM] CHBKTR 1+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2810		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4170		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.149		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	421		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00183		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	6.68		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-22 [2021] [HG/MM] CHBKTR 2+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.145		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.60		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0124		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.231		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	569		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.051		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0081		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.477		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	7.39		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0048		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	290		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.17		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	0.0041		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2730		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4210		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.171		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	488		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00229		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	15.0		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-23 [2021] [HG/MM] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.0854		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-23 [2021] [HG/MM] CHBKTR 3+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0210		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.257		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	863		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.064		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0177		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.289		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.92		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0042		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	334		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.32		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2990		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4630		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.177		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	453		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00235		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	8.08		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-24 [2021] [HG/MM] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.0898		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0244		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.322		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	1290		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.058		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0060		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.380		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.63		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0053		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	329		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.27		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	3240		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4580		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.178		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-24 [2021] [HG/MM] CHBKTR SPLIT							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	458		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00246		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	9.57		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-25 [2021] [HG/MM] CHBKTR 4+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.237		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.42		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0159		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.188		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	413		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.041		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0065		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.424		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	6.61		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	298		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.12		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2720		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4150		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.164		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	477		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00294		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	8.60		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-26 [2021] [HG/MM] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.222		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	1.75		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0091		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.124		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-26 [2021] [HG/MM] CHBKTR 5+							
Sampled By: GY/KG/DL on 29-SEP-21 @ 09:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	766		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.063		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0074		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.255		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.82		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0093		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	339		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.15		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2920		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4270		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.155		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	487		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00261		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	7.34		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-27 [2021] [HG/MM] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.247		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0132		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.937		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	3290		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.139		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0234		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.321		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.11		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0059		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	366		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.93		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	4340		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4520		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.144		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	453		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00201		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-27 [2021] [HG/MM] EDBKTR 1+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Zinc (Zn)	6.02		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-28 [2021] [HG/MM] EDBKTR 2+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.370		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0160		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.246		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	0.0014		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	906		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.025		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.253		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	6.52		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	284		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.29		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2800		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4210		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.123		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	426		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00101		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.61		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-29 [2021] [HG/MM] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.207		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0243		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.255		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	454		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.070		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0041		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.257		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-29 [2021] [HG/MM] EDBKTR 3+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Iron (Fe)	5.37		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	313		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.32		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2770		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4620		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.133		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	373		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00097		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.10		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-30 [2021] [HG/MM] EDBKTR 5+							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.0419		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.50		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.180		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.315		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	909		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.032		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0109		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.333		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	4.62		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0057		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	298		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.59		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2720		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4200		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.185		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	465		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00193		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.76		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-31 [2021] [HG/MM] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Miscellaneous Parameters							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-31 [2021] [HG/MM] HATCH							
Sampled By: GY/KG/DL on 30-SEP-21 @ 09:00							
Matrix: Fish tissue							
Mercury (Hg)	0.0177		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.410		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.073		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	0.0014		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	716		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.033		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0055		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.505		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	6.58		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	295		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.42		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	0.0092		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2760		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	3680		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.245		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	644		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00103		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	9.94		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-32 [2022] [HG/MM] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.0573		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.86		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0351		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.267		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	661		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.306		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0134		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.260		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.10		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0088		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	322		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.46		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2870		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-32 [2022] [HG/MM] CHBKTR 1+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Potassium (K)	4460		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.178		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	469		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00208		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	6.92		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-33 [2022] [HG/MM] CHBKTR 2+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.109		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0144		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.224		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	1090		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.140		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0061		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.317		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	4.94		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	326		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.17		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	0.0093		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2980		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4240		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.168		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	436		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00189		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.08		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-34 [2022] [HG/MM] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.153		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.68		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0104		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.181		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-34 [2022] [HG/MM] CHBKTR 3+							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	618		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.036		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0125		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.259		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	4.95		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0049		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	279		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.12		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2530		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4080		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.150		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	436		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00176		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.38		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-35 [2022] [HG/MM] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.145		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0097		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.062		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	220		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	<0.010		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0089		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.386		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	5.01		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0077		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	289		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.25		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2480		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4020		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.146		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	328		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00383		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-35 [2022] [HG/MM] CHBKTR UNK							
Sampled By: GY/KG/DL on 12-OCT-22 @ 12:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.80		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-36 [2022] [HG/MM] EDBKTR 1+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.0660		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	0.53		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.239		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.239		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	532		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.148		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0090		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.409		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	6.10		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0104		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	294		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.33		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2620		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4330		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.213		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	572		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00204		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	7.79		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-37 [2022] [HG/MM] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.140		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0172		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.711		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	1640		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.077		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-37 [2022] [HG/MM] EDBKTR 2+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
Metals by CCMS Analysis							
Cobalt (Co)	0.0153		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.251		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	4.81		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	336		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.67		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	3390		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4550		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.127		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	466		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00186		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	10.2		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-38 [2022] [HG/MM] EDBKTR 3+							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.260		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	<0.40		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.0069		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.179		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	348		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.048		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0066		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.356		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	6.17		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0044		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	286		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.25		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2590		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	4310		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.121		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	468		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00126		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	5.93		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-39 [2022] [HG/MM] HATCH							
Sampled By: GY/KG/DL on 13-OCT-22 @ 12:00							
Matrix: Fish tissue							
Miscellaneous Parameters							
Mercury (Hg)	0.0129		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	3.44		0.40	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Antimony (Sb)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Arsenic (As)	0.752		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Barium (Ba)	0.111		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Beryllium (Be)	<0.0020		0.0020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Boron (B)	<0.20		0.20	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cadmium (Cd)	0.0019		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Calcium (Ca)	459		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Chromium (Cr)	0.445		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Cobalt (Co)	0.0072		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Copper (Cu)	0.637		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Iron (Fe)	11.6		0.50	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Lead (Pb)	0.0054		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Magnesium (Mg)	289		1.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Manganese (Mn)	0.32		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Molybdenum (Mo)	0.0064		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Nickel (Ni)	<0.040		0.040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Phosphorus (P)	2640		2.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Potassium (K)	3910		4.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Selenium (Se)	0.271		0.010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Silver (Ag)	<0.0010		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Sodium (Na)	685		5.0	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Thallium (Tl)	0.00176		0.00040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Uranium (U)	<0.0040		0.0040	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Vanadium (V)	<0.020		0.020	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
Zinc (Zn)	9.71		0.10	mg/kg wwt	24-JAN-23	25-JAN-23	R5920716
L2740805-40 [HG/MM] DORM-5							
Sampled By: CLIENT							
Matrix: CRM							
Miscellaneous Parameters							
Mercury (Hg)	0.294		0.0010	mg/kg wwt	24-JAN-23	25-JAN-23	R5920360
Metals by CCMS Analysis							
Aluminum (Al)	229		0.40	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Antimony (Sb)	0.0084		0.0020	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Arsenic (As)	12.8		0.0040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Barium (Ba)	0.358		0.020	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Beryllium (Be)	0.0074		0.0020	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Boron (B)	2.85		0.20	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Cadmium (Cd)	0.138		0.0010	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Calcium (Ca)	1780		5.0	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Chromium (Cr)	0.516		0.010	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Cobalt (Co)	0.0599		0.0040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Copper (Cu)	2.99		0.020	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Iron (Fe)	106		0.50	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Lead (Pb)	0.0804		0.0040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Magnesium (Mg)	1030		1.0	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Manganese (Mn)	0.90		0.10	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Molybdenum (Mo)	0.125		0.0040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Nickel (Ni)	0.323		0.040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2740805-40 [HG/MM] DORM-5							
Sampled By: CLIENT							
Matrix: CRM							
Metals by CCMS Analysis							
Phosphorus (P)	5580		2.0	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Potassium (K)	10700		4.0	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Selenium (Se)	2.16		0.010	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Silver (Ag)	0.111		0.0010	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Sodium (Na)	9010		5.0	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Thallium (Tl)	<0.00040		0.00040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Uranium (U)	0.0232		0.0040	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Vanadium (V)	0.359		0.020	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Zinc (Zn)	25.2		0.10	mg/kg wwt	24-JAN-23	26-JAN-23	R5920716
Note: Recoveries for Pb and U are outside ALS DQOs for this CRM. In the case of Pb, this may be due to background contribution as observed in the MB. U was not observed in samples, so no impact to data, however Pb data may be slightly elevated. PE 27-Jan-23							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,B	The analyte was detected below the calibrated range but above the EDL, and was detected in the Method Blank at >10% of the sample concentration.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M	A peak has been manually integrated.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,R	A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
[B]	The analyte was detected in the Method Blank at >10% of the sample concentration.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
DX-1613B-HRMS-BU	Tissue	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS.			
HG-M3052-CVAA-BU	Tissue	Mercury in Tissue	Mod. Method 3052
Samples are digested using closed vessel microwave digestion technique with a mixture nitric and hydrochloric acids, and hydrogen peroxide as a digesting reagent according to EPA M3052. Instrumental analysis of the digestate for mercury is performed via CVAA according to EPA M7470A.			
MET-M3052-MS-BU	Tissue	Metals by CCMS Analysis	Mod. EPA 3052 (prep.)/ EPA 6020B (anal.)
Samples are digested using closed vessel microwave digestion technique, with nitric acid, hydrochloric acid, and hydrogen peroxide as digesting reagants. Instrumental analysis is performed via collision-reaction cell ICPMS.			
PCB-1668C-O2-HRMS-BU	Tissue	All PCB congeners by GC/HRMS	USEPA 1668C
Samples are extracted by liquid/liquid extraction and the targets are isolated via multiple cleanup steps then analyzed by gas chromatography/high-resolution mass spectrometry using an SPB-Octyl column by isotope dilution.			

** 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
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA

Chain of Custody Numbers:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
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
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
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: Worley Canada Services, LTD
Suite 150 205 Quarry Park Blvd SE
Calgary AB T2C 3E7
Contact: Graham Young

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-2 LCS								
2,3,7,8-TCDD			89.0		%		67-158	19-JAN-23
1,2,3,7,8-PeCDD			109.0		%		70-142	19-JAN-23
1,2,3,4,7,8-HxCDD			94.0		%		70-164	19-JAN-23
1,2,3,6,7,8-HxCDD			89.0		%		76-134	19-JAN-23
1,2,3,7,8,9-HxCDD			91.0		%		64-162	19-JAN-23
1,2,3,4,6,7,8-HpCDD			93.0		%		70-140	19-JAN-23
OCDD			91.0		%		78-144	19-JAN-23
2,3,7,8-TCDF			92.0		%		75-158	19-JAN-23
1,2,3,7,8-PeCDF			99.0		%		80-134	19-JAN-23
2,3,4,7,8-PeCDF			92.0		%		68-160	19-JAN-23
1,2,3,4,7,8-HxCDF			93.0		%		72-134	19-JAN-23
1,2,3,6,7,8-HxCDF			100.0		%		84-130	19-JAN-23
2,3,4,6,7,8-HxCDF			91.0		%		70-156	19-JAN-23
1,2,3,7,8,9-HxCDF			96.0		%		78-130	19-JAN-23
1,2,3,4,6,7,8-HpCDF			98.0		%		82-122	19-JAN-23
1,2,3,4,7,8,9-HpCDF			94.0		%		78-138	19-JAN-23
OCDF			106.0		%		63-170	19-JAN-23
WG3777732-1 MB								
2,3,7,8-TCDD			<0.12	[U]	pg/g wwt		0.12	19-JAN-23
1,2,3,7,8-PeCDD			<0.095	[U]	pg/g wwt		0.095	19-JAN-23
1,2,3,4,7,8-HxCDD			<0.093	[U]	pg/g wwt		0.093	19-JAN-23
1,2,3,6,7,8-HxCDD			<0.095	[U]	pg/g wwt		0.095	19-JAN-23
1,2,3,7,8,9-HxCDD			<0.094	[U]	pg/g wwt		0.094	19-JAN-23
1,2,3,4,6,7,8-HpCDD			<0.15	M,U	pg/g wwt		0.15	19-JAN-23
OCDD			<0.50	M,U	pg/g wwt		0.5	19-JAN-23
2,3,7,8-TCDF			<0.079	[U]	pg/g wwt		0.079	19-JAN-23
1,2,3,7,8-PeCDF			<0.059	M,U	pg/g wwt		0.059	19-JAN-23
2,3,4,7,8-PeCDF			<0.056	[U]	pg/g wwt		0.056	19-JAN-23
1,2,3,4,7,8-HxCDF			<0.074	[U]	pg/g wwt		0.074	19-JAN-23
1,2,3,6,7,8-HxCDF			<0.073	[U]	pg/g wwt		0.073	19-JAN-23
2,3,4,6,7,8-HxCDF			<0.080	[U]	pg/g wwt		0.08	19-JAN-23
1,2,3,7,8,9-HxCDF			<0.12	[U]	pg/g wwt		0.12	19-JAN-23
1,2,3,4,6,7,8-HpCDF			<0.10	[U]	pg/g wwt		0.1	19-JAN-23
1,2,3,4,7,8,9-HpCDF			<0.16	[U]	pg/g wwt		0.16	19-JAN-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
OCDF			<0.33	M,U	pg/g wwt		0.33	19-JAN-23
Total-TCDD			<0.12	[U]	pg/g wwt		0.12	19-JAN-23
Total-PeCDD			<0.095	[U]	pg/g wwt		0.095	19-JAN-23
Total-HxCDD			<0.095	[U]	pg/g wwt		0.095	19-JAN-23
Total-HpCDD			<0.15	[U]	pg/g wwt		0.15	19-JAN-23
Total-TCDF			<0.079	[U]	pg/g wwt		0.079	19-JAN-23
Total-PeCDF			<0.059	[U]	pg/g wwt		0.059	19-JAN-23
Total-HxCDF			<0.12	[U]	pg/g wwt		0.12	19-JAN-23
Total-HpCDF			<0.16	[U]	pg/g wwt		0.16	19-JAN-23
Surrogate: 13C12-2,3,7,8-TCDD			34.0		%		25-164	19-JAN-23
Surrogate: 13C12-1,2,3,7,8-PeCDD			35.0		%		25-181	19-JAN-23
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			102.0		%		32-141	19-JAN-23
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			108.0		%		28-130	19-JAN-23
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			91.0		%		23-140	19-JAN-23
Surrogate: 13C12-OCDD			58.0		%		17-157	19-JAN-23
Surrogate: 13C12-2,3,7,8-TCDF			34.0		%		24-169	19-JAN-23
Surrogate: 13C12-1,2,3,7,8-PeCDF			37.0		%		21-192	19-JAN-23
Surrogate: 13C12-2,3,4,7,8-PeCDF			36.0		%		21-178	19-JAN-23
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			106.0		%		26-152	19-JAN-23
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			120.0		%		26-123	19-JAN-23
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			101.0		%		29-147	19-JAN-23
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			94.0		%		28-136	19-JAN-23
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			96.0		%		28-143	19-JAN-23
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			89.0		%		26-138	19-JAN-23
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			35.0		%		31-197	19-JAN-23
WG3777732-4 MB								
2,3,7,8-TCDD			<0.11	[U]	pg/g wwt		0.11	19-JAN-23
1,2,3,7,8-PeCDD			<0.11	[U]	pg/g wwt		0.11	19-JAN-23
1,2,3,4,7,8-HxCDD			<0.090	[U]	pg/g wwt		0.09	19-JAN-23
1,2,3,6,7,8-HxCDD			<0.093	[U]	pg/g wwt		0.093	19-JAN-23
1,2,3,7,8,9-HxCDD			<0.092	[U]	pg/g wwt		0.092	19-JAN-23
1,2,3,4,6,7,8-HpCDD			<0.12	[U]	pg/g wwt		0.12	19-JAN-23
OCDD			<0.32	M,U	pg/g wwt		0.32	19-JAN-23
2,3,7,8-TCDF			<0.090	[U]	pg/g wwt		0.09	19-JAN-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-4 MB								
1,2,3,7,8-PeCDF			<0.039	[U]	pg/g wwt		0.039	19-JAN-23
2,3,4,7,8-PeCDF			<0.038	[U]	pg/g wwt		0.038	19-JAN-23
1,2,3,4,7,8-HxCDF			<0.053	[U]	pg/g wwt		0.053	19-JAN-23
1,2,3,6,7,8-HxCDF			<0.051	[U]	pg/g wwt		0.051	19-JAN-23
2,3,4,6,7,8-HxCDF			<0.057	[U]	pg/g wwt		0.057	19-JAN-23
1,2,3,7,8,9-HxCDF			<0.083	[U]	pg/g wwt		0.083	19-JAN-23
1,2,3,4,6,7,8-HpCDF			<0.072	[U]	pg/g wwt		0.072	19-JAN-23
1,2,3,4,7,8,9-HpCDF			<0.11	[U]	pg/g wwt		0.11	19-JAN-23
OCDF			<0.20	M,U	pg/g wwt		0.2	19-JAN-23
Total-TCDD			<0.11	[U]	pg/g wwt		0.11	19-JAN-23
Total-PeCDD			<0.11	[U]	pg/g wwt		0.11	19-JAN-23
Total-HxCDD			<0.093	[U]	pg/g wwt		0.093	19-JAN-23
Total-HpCDD			<0.12	[U]	pg/g wwt		0.12	19-JAN-23
Total-TCDF			<0.090	[U]	pg/g wwt		0.09	19-JAN-23
Total-PeCDF			<0.039	[U]	pg/g wwt		0.039	19-JAN-23
Total-HxCDF			<0.083	[U]	pg/g wwt		0.083	19-JAN-23
Total-HpCDF			<0.11	[U]	pg/g wwt		0.11	19-JAN-23
Surrogate: 13C12-2,3,7,8-TCDD			32.0		%		25-164	19-JAN-23
Surrogate: 13C12-1,2,3,7,8-PeCDD			34.0		%		25-181	19-JAN-23
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			98.0		%		32-141	19-JAN-23
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			102.0		%		28-130	19-JAN-23
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			86.0		%		23-140	19-JAN-23
Surrogate: 13C12-OCDD			67.0		%		17-157	19-JAN-23
Surrogate: 13C12-2,3,7,8-TCDF			33.0		%		24-169	19-JAN-23
Surrogate: 13C12-1,2,3,7,8-PeCDF			37.0		%		21-192	19-JAN-23
Surrogate: 13C12-2,3,4,7,8-PeCDF			37.0		%		21-178	19-JAN-23
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			104.0		%		26-152	19-JAN-23
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			115.0		%		26-123	19-JAN-23
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			100.0		%		29-147	19-JAN-23
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			93.0		%		28-136	19-JAN-23
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			91.0		%		28-143	19-JAN-23
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			90.0		%		26-138	19-JAN-23
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			31.0		%		31-197	19-JAN-23
HG-M3052-CVAA-BU	**Tissue**							

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-M3052-CVAA-BU	**Tissue**							
Batch R5920360								
WG3778978-3 DUP		**L2740805-21**						
Mercury (Hg)		0.134	0.147		mg/kg wwt	8.7	25	25-JAN-23
WG3778978-2 LCS								
Mercury (Hg)			86.4		%		70-130	25-JAN-23
WG3778978-1 MB								
Mercury (Hg)			<0.0010		mg/kg wwt		0.001	25-JAN-23
WG3778978-4 MS		**L2740805-21**						
Mercury (Hg)			N/A	MS-B	%		-	25-JAN-23
MET-M3052-MS-BU	**Tissue**							
Batch R5920716								
WG3778978-3 DUP		**L2740805-21**						
Aluminum (Al)		0.59	0.56		mg/kg wwt	5.1	25	26-JAN-23
Antimony (Sb)		<0.0020	<0.0020	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Arsenic (As)		0.0201	0.0167		mg/kg wwt	19	25	26-JAN-23
Barium (Ba)		0.324	0.355		mg/kg wwt	9.3	25	26-JAN-23
Beryllium (Be)		<0.0020	<0.0020	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Boron (B)		<0.20	<0.20	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Cadmium (Cd)		<0.0010	<0.0010	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Calcium (Ca)		838	913		mg/kg wwt	8.6	25	26-JAN-23
Chromium (Cr)		0.108	0.138		mg/kg wwt	24	25	26-JAN-23
Cobalt (Co)		0.0053	0.0117	J	mg/kg wwt	0.0064	0.008	26-JAN-23
Copper (Cu)		0.293	0.327		mg/kg wwt	11	25	26-JAN-23
Iron (Fe)		5.50	5.15		mg/kg wwt	6.7	25	26-JAN-23
Lead (Pb)		0.0200	<0.0040	DUP-H	mg/kg wwt	N/A	25	26-JAN-23
Magnesium (Mg)		294	320		mg/kg wwt	8.7	25	26-JAN-23
Manganese (Mn)		0.16	0.17		mg/kg wwt	4.4	25	26-JAN-23
Molybdenum (Mo)		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Nickel (Ni)		<0.040	<0.040	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Phosphorus (P)		2810	2900		mg/kg wwt	3.0	25	26-JAN-23
Potassium (K)		4170	4240		mg/kg wwt	1.8	25	26-JAN-23
Selenium (Se)		0.149	0.156		mg/kg wwt	4.2	25	26-JAN-23
Silver (Ag)		<0.0010	<0.0010	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Sodium (Na)		421	441		mg/kg wwt	4.8	25	26-JAN-23
Thallium (Tl)		0.00183	0.00116	J	mg/kg wwt	0.00066	0.0008	26-JAN-23
Uranium (U)		<0.0040	<0.0040	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23
Vanadium (V)		<0.020	<0.020	RPD-NA	mg/kg wwt	N/A	25	26-JAN-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-M3052-MS-BU	**Tissue**							
Batch R5920716								
WG3778978-3 DUP		**L2740805-21**						
Zinc (Zn)		6.68	7.74		mg/kg wwt	15	25	26-JAN-23
WG3778978-2 LCS								
Aluminum (Al)			106.4		%		70-130	25-JAN-23
Antimony (Sb)			95.4		%		70-130	25-JAN-23
Arsenic (As)			97.6		%		70-130	25-JAN-23
Barium (Ba)			107.6		%		70-130	25-JAN-23
Beryllium (Be)			96.8		%		70-130	25-JAN-23
Boron (B)			97.2		%		70-130	25-JAN-23
Cadmium (Cd)			97.6		%		70-130	25-JAN-23
Calcium (Ca)			102.7		%		70-130	25-JAN-23
Chromium (Cr)			102.4		%		70-130	25-JAN-23
Cobalt (Co)			101.2		%		70-130	25-JAN-23
Copper (Cu)			102.4		%		70-130	25-JAN-23
Iron (Fe)			104.0		%		70-130	25-JAN-23
Lead (Pb)			97.2		%		70-130	25-JAN-23
Magnesium (Mg)			102.4		%		70-130	25-JAN-23
Manganese (Mn)			103.2		%		70-130	25-JAN-23
Molybdenum (Mo)			100.0		%		70-130	25-JAN-23
Nickel (Ni)			102.0		%		70-130	25-JAN-23
Phosphorus (P)			98.2		%		70-130	25-JAN-23
Potassium (K)			101.6		%		70-130	25-JAN-23
Selenium (Se)			90.4		%		70-130	25-JAN-23
Silver (Ag)			119.0		%		70-130	25-JAN-23
Sodium (Na)			96.0		%		70-130	25-JAN-23
Thallium (Tl)			94.8		%		70-130	25-JAN-23
Uranium (U)			93.6		%		70-130	25-JAN-23
Vanadium (V)			102.4		%		70-130	25-JAN-23
Zinc (Zn)			95.2		%		70-130	25-JAN-23
WG3778978-1 MB								
Aluminum (Al)			<0.40		mg/kg wwt		0.4	25-JAN-23
Antimony (Sb)			<0.0020		mg/kg wwt		0.002	25-JAN-23
Arsenic (As)			<0.0040		mg/kg wwt		0.004	25-JAN-23
Barium (Ba)			<0.020		mg/kg wwt		0.02	25-JAN-23
Beryllium (Be)			<0.0020		mg/kg wwt		0.002	25-JAN-23
Boron (B)			<0.20		mg/kg wwt		0.2	25-JAN-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-M3052-MS-BU	**Tissue**							
Batch R5920716								
WG3778978-1 MB								
Cadmium (Cd)			<0.0010		mg/kg wwt		0.001	25-JAN-23
Calcium (Ca)			<5.0		mg/kg wwt		5	25-JAN-23
Chromium (Cr)			<0.010		mg/kg wwt		0.01	25-JAN-23
Cobalt (Co)			<0.0040		mg/kg wwt		0.004	25-JAN-23
Copper (Cu)			<0.020		mg/kg wwt		0.02	25-JAN-23
Iron (Fe)			<0.50		mg/kg wwt		0.5	25-JAN-23
Lead (Pb)			0.0073	A	mg/kg wwt		0.004	25-JAN-23
Magnesium (Mg)			<1.0		mg/kg wwt		1	25-JAN-23
Manganese (Mn)			<0.10		mg/kg wwt		0.1	25-JAN-23
Molybdenum (Mo)			<0.0040		mg/kg wwt		0.004	25-JAN-23
Nickel (Ni)			<0.040		mg/kg wwt		0.04	25-JAN-23
Phosphorus (P)			<2.0		mg/kg wwt		2	25-JAN-23
Potassium (K)			<4.0		mg/kg wwt		4	25-JAN-23
Selenium (Se)			<0.010		mg/kg wwt		0.01	25-JAN-23
Silver (Ag)			<0.0010		mg/kg wwt		0.001	25-JAN-23
Sodium (Na)			<5.0		mg/kg wwt		5	25-JAN-23
Thallium (Tl)			0.00070	A	mg/kg wwt		0.0004	25-JAN-23
Uranium (U)			<0.0040		mg/kg wwt		0.004	25-JAN-23
Vanadium (V)			<0.020		mg/kg wwt		0.02	25-JAN-23
Zinc (Zn)			0.15	A	mg/kg wwt		0.1	25-JAN-23
COMMENTS: Pb, Tl, and Zn observed in the method blank above their LORs. Sample data within a factor of 5x these levels may be biased high. PE 26-Jan-23								
WG3778978-4 MS		**L2740805-21**						
Aluminum (Al)			102.0		%		70-130	25-JAN-23
Antimony (Sb)			96.3		%		70-130	25-JAN-23
Arsenic (As)			98.0		%		70-130	25-JAN-23
Barium (Ba)			101.6		%		70-130	25-JAN-23
Beryllium (Be)			97.6		%		70-130	25-JAN-23
Boron (B)			96.7		%		70-130	25-JAN-23
Cadmium (Cd)			92.8		%		70-130	25-JAN-23
Calcium (Ca)			N/A	MS-B	%		-	25-JAN-23
Chromium (Cr)			101.6		%		70-130	25-JAN-23
Cobalt (Co)			97.8		%		70-130	25-JAN-23
Copper (Cu)			98.5		%		70-130	25-JAN-23
Iron (Fe)			99.1		%		70-130	25-JAN-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-M3052-MS-BU	**Tissue**							
Batch R5920716								
WG3778978-4 MS		**L2740805-21**						
Lead (Pb)			95.2		%		70-130	25-JAN-23
Magnesium (Mg)			N/A	MS-B	%		-	25-JAN-23
Manganese (Mn)			100.3		%		70-130	25-JAN-23
Molybdenum (Mo)			102.1		%		70-130	25-JAN-23
Nickel (Ni)			98.3		%		70-130	25-JAN-23
Phosphorus (P)			N/A	MS-B	%		-	25-JAN-23
Potassium (K)			N/A	MS-B	%		-	25-JAN-23
Selenium (Se)			96.3		%		70-130	25-JAN-23
Silver (Ag)			115.0		%		70-130	25-JAN-23
Sodium (Na)			N/A	MS-B	%		-	25-JAN-23
Thallium (Tl)			99.1		%		70-130	25-JAN-23
Uranium (U)			98.0		%		70-130	25-JAN-23
Vanadium (V)			102.3		%		70-130	25-JAN-23
Zinc (Zn)			N/A	MS-B	%		-	25-JAN-23
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-5 DUP		**L2740805-1**						
PCB 1		<0.11	0.53	G	pg/g wwt	N/A	50	03-FEB-23
PCB 2		<0.14	0.49	G	pg/g wwt	N/A	50	03-FEB-23
PCB 3		<0.12	0.37	G	pg/g wwt	N/A	50	03-FEB-23
PCB 4		<0.89	<0.91	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 10		<0.51	<0.54	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 9		<0.55	<0.59	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 7		<0.52	<0.55	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 6		<0.52	<0.55	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 5		<0.64	<0.68	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 8		<0.44	2.30	G	pg/g wwt	N/A	50	03-FEB-23
PCB 14		<0.77	<0.61	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 11		4.29	10.0	G	pg/g wwt	80	50	03-FEB-23
PCB 13/12		<0.74	<0.59	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 15		<0.72	<0.59	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 19		0.76	1.30	G	pg/g wwt	52	50	03-FEB-23
PCB 30/18		9.84	14.4		pg/g wwt	38	50	03-FEB-23
PCB 17		3.22	4.29		pg/g wwt	28	50	03-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-5 DUP		**L2740805-1**						
PCB 27		0.38	0.69	J	pg/g wwt	0.31	0.48	03-FEB-23
PCB 24		<0.18	<0.24	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 16		1.20	1.80		pg/g wwt	40	50	03-FEB-23
PCB 32		6.96	16.0	G	pg/g wwt	79	50	03-FEB-23
PCB 34		<0.37	<0.38	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 23		<0.32	<0.34	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 29/26		11.4	20.5	G	pg/g wwt	57	50	03-FEB-23
PCB 25		11.9	25.3	G	pg/g wwt	72	50	03-FEB-23
PCB 31		28.7	38.9		pg/g wwt	30	50	03-FEB-23
PCB 28/20		62.2	86.2		pg/g wwt	32	50	03-FEB-23
PCB 21/33		2.15	2.50		pg/g wwt	15	50	03-FEB-23
PCB 22		9.15	11.2		pg/g wwt	20	50	03-FEB-23
PCB 36		<0.34	<0.36	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 39		0.62	0.87		pg/g wwt	34	50	03-FEB-23
PCB 38		<0.40	<0.42	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 35		<0.41	<0.43	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 37		8.15	10.1		pg/g wwt	21	50	03-FEB-23
PCB 54		0.840	2.27	G	pg/g wwt	92	50	03-FEB-23
PCB 50/53		19.2	44.0	G	pg/g wwt	78	50	03-FEB-23
PCB 45/51		18.1	40.0	G	pg/g wwt	75	50	03-FEB-23
PCB 46		2.23	4.82	G	pg/g wwt	73	50	03-FEB-23
PCB 52		376	457		pg/g wwt	19	50	03-FEB-23
PCB 73		<0.066	<0.091	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 43		<0.13	<0.17	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 69/49		214	320		pg/g wwt	40	50	03-FEB-23
PCB 48		12.5	14.8		pg/g wwt	17	50	03-FEB-23
PCB 44/47/65		282	417		pg/g wwt	39	50	03-FEB-23
PCB 59/62/75		16.8	23.9		pg/g wwt	35	50	03-FEB-23
PCB 42		45.7	62.0		pg/g wwt	30	50	03-FEB-23
PCB 41/71/40		22.3	44.3	G	pg/g wwt	66	50	03-FEB-23
PCB 64		54.0	59.2		pg/g wwt	9.2	50	03-FEB-23
PCB 72		10.9	15.1		pg/g wwt	32	50	03-FEB-23
PCB 68		9.98	16.2		pg/g wwt	48	50	03-FEB-23
PCB 57		2.89	4.34		pg/g wwt	40	50	03-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-5 DUP		**L2740805-1**						
PCB 58		<0.40	<0.42	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 67		8.64	9.68		pg/g wwt	11	50	03-FEB-23
PCB 63		17.2	21.7		pg/g wwt	23	50	03-FEB-23
PCB 61/70/74/76		473	452		pg/g wwt	4.5	50	03-FEB-23
PCB 66		292	313		pg/g wwt	6.9	50	03-FEB-23
PCB 55		<0.37	<0.39	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 56		63.8	68.6		pg/g wwt	7.3	50	03-FEB-23
PCB 60		50.3	45.2		pg/g wwt	11	50	03-FEB-23
PCB 80		<0.32	<0.34	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 79		10.4	10.2		pg/g wwt	1.9	50	03-FEB-23
PCB 78		7.53	6.26		pg/g wwt	18	50	03-FEB-23
PCB 104		<0.12	0.64	G	pg/g wwt	N/A	50	03-FEB-23
PCB 96		3.07	5.39	G	pg/g wwt	55	50	03-FEB-23
PCB 103		22.6	35.7		pg/g wwt	45	50	03-FEB-23
PCB 94		6.22	12.5	G	pg/g wwt	67	50	03-FEB-23
PCB 95		595	634		pg/g wwt	6.3	50	03-FEB-23
PCB 100/93/102/98		21.2	26.4		pg/g wwt	22	50	03-FEB-23
PCB 88/91		126	158		pg/g wwt	23	50	03-FEB-23
PCB 84		85.4	93.7		pg/g wwt	9.3	50	03-FEB-23
PCB 89		2.50	2.90		pg/g wwt	15	50	03-FEB-23
PCB 121		0.90	1.70	J	pg/g wwt	0.80	0.86	03-FEB-23
PCB 92		319	379		pg/g wwt	17	50	03-FEB-23
PCB 113/90/101		1370	1400		pg/g wwt	2.2	50	03-FEB-23
PCB 83/99		1020	1080		pg/g wwt	5.7	50	03-FEB-23
PCB 112		<0.39	<0.27	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 109/119/86/97/125/87		650	617		pg/g wwt	5.2	50	03-FEB-23
PCB 117/116/85/110/115		1280	1260		pg/g wwt	1.6	50	03-FEB-23
PCB 82		90.3	88.2		pg/g wwt	2.4	50	03-FEB-23
PCB 111		4.66	6.21		pg/g wwt	29	50	03-FEB-23
PCB 120		16.6	19.5		pg/g wwt	16	50	03-FEB-23
PCB 108/124		47.3	39.9		pg/g wwt	17	50	03-FEB-23
PCB 107		140	139		pg/g wwt	0.7	50	03-FEB-23
PCB 123		19.7	16.6		pg/g wwt	17	50	03-FEB-23
PCB 106		<0.31	<0.33	RPD-NA	pg/g wwt	N/A	50	03-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-5 DUP		**L2740805-1**						
PCB 118		1440	1250		pg/g wwt	14	50	03-FEB-23
PCB 122		19.0	17.8		pg/g wwt	6.5	50	03-FEB-23
PCB 114		35.3	29.7		pg/g wwt	17	50	03-FEB-23
PCB 105		508	418		pg/g wwt	19	50	03-FEB-23
PCB 127		3.10	3.30		pg/g wwt	6.3	50	03-FEB-23
PCB 155		0.66	0.700		pg/g wwt	6.3	50	03-FEB-23
PCB 152		1.00	2.33	G	pg/g wwt	80	50	03-FEB-23
PCB 150		5.14	7.04		pg/g wwt	31	50	03-FEB-23
PCB 136		134	135		pg/g wwt	0.7	50	03-FEB-23
PCB 145		<0.17	0.360	G	pg/g wwt	N/A	50	03-FEB-23
PCB 148		10.8	17.6		pg/g wwt	48	50	03-FEB-23
PCB 151/135		993	1040		pg/g wwt	4.6	50	03-FEB-23
PCB 154		<0.17	<0.070	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 144		105	88.9		pg/g wwt	17	50	03-FEB-23
PCB 147/149		1170	1290		pg/g wwt	9.8	50	03-FEB-23
PCB 134/143		69.9	74.0		pg/g wwt	5.7	50	03-FEB-23
PCB 139/140		30.8	34.2		pg/g wwt	10	50	03-FEB-23
PCB 131		12.9	11.2		pg/g wwt	14	50	03-FEB-23
PCB 142		<0.54	<0.90	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 132		321	343		pg/g wwt	6.6	50	03-FEB-23
PCB 133		56.1	73.4		pg/g wwt	27	50	03-FEB-23
PCB 165		4.28	5.10		pg/g wwt	17	50	03-FEB-23
PCB 146		427	483		pg/g wwt	12	50	03-FEB-23
PCB 161		<0.33	<0.54	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 168/153		2140	2050		pg/g wwt	4.3	50	03-FEB-23
PCB 141		329	306		pg/g wwt	7.2	50	03-FEB-23
PCB 130		114	115		pg/g wwt	0.9	50	03-FEB-23
PCB 137/164		167	167		pg/g wwt	0.0	50	03-FEB-23
PCB 138/163/129		2210	2040		pg/g wwt	8.0	50	03-FEB-23
PCB 160		<0.37	<0.62	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 158		157	142		pg/g wwt	10	50	03-FEB-23
PCB 128/166		245	223		pg/g wwt	9.4	50	03-FEB-23
PCB 159		14.9	17.3		pg/g wwt	15	50	03-FEB-23
PCB 162		8.52	8.48		pg/g wwt	0.5	50	03-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-5 DUP		**L2740805-1**						
PCB 167		86.2	71.2		pg/g wwt	19	50	03-FEB-23
PCB 156/157		193	159		pg/g wwt	19	50	03-FEB-23
PCB 188		2.23	2.50		pg/g wwt	11	50	03-FEB-23
PCB 179		158	165		pg/g wwt	4.3	50	03-FEB-23
PCB 184		0.95	0.71		pg/g wwt	29	50	03-FEB-23
PCB 176		40.9	41.4		pg/g wwt	1.2	50	03-FEB-23
PCB 186		<0.19	<0.15	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 178		152	158		pg/g wwt	3.9	50	03-FEB-23
PCB 175		25.1	23.2		pg/g wwt	7.9	50	03-FEB-23
PCB 187		860	865		pg/g wwt	0.6	50	03-FEB-23
PCB 182		<0.23	<0.17	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 183		349	320		pg/g wwt	8.7	50	03-FEB-23
PCB 185		48.6	32.7		pg/g wwt	39	50	03-FEB-23
PCB 174		354	390		pg/g wwt	9.7	50	03-FEB-23
PCB 177		295	309		pg/g wwt	4.6	50	03-FEB-23
PCB 181		3.00	2.40		pg/g wwt	22	50	03-FEB-23
PCB 171/173		136	123		pg/g wwt	10	50	03-FEB-23
PCB 172		112	103		pg/g wwt	8.4	50	03-FEB-23
PCB 192		<0.25	<0.19	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 180/193		1280	1130		pg/g wwt	12	50	03-FEB-23
PCB 191		22.9	19.8		pg/g wwt	15	50	03-FEB-23
PCB 170		491	449		pg/g wwt	8.9	50	03-FEB-23
PCB 190		98.2	86.5		pg/g wwt	13	50	03-FEB-23
PCB 189		14.2	12.3		pg/g wwt	14	50	03-FEB-23
PCB 202		33.7	32.7		pg/g wwt	3.0	50	03-FEB-23
PCB 201		21.8	20.2		pg/g wwt	7.6	50	03-FEB-23
PCB 204		0.058	<0.053	RPD-NA	pg/g wwt	N/A	50	03-FEB-23
PCB 197		6.49	6.43		pg/g wwt	0.9	50	03-FEB-23
PCB 200		13.8	13.0		pg/g wwt	6.0	50	03-FEB-23
PCB 198/199		214	201		pg/g wwt	6.3	50	03-FEB-23
PCB 196		96.6	86.5		pg/g wwt	11	50	03-FEB-23
PCB 203		117	104		pg/g wwt	12	50	03-FEB-23
PCB 195		59.1	52.8		pg/g wwt	11	50	03-FEB-23
PCB 194		162	148		pg/g wwt	9.0	50	03-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-5 DUP		**L2740805-1**						
PCB 205		7.09	6.37		pg/g wwt	11	50	03-FEB-23
PCB 208		4.81	4.14		pg/g wwt	15	50	03-FEB-23
PCB 207		2.75	2.48		pg/g wwt	10	50	03-FEB-23
PCB 206		18.4	14.7		pg/g wwt	22	50	03-FEB-23
PCB 209		3.93	2.88		pg/g wwt	31	50	03-FEB-23
Total MonoCB		<0.11	1.39	G	pg/g wwt	N/A	50	03-FEB-23
Total DiCB		4.29	12.3	G	pg/g wwt	97	50	03-FEB-23
Total TriCB		157	234		pg/g wwt	39	50	03-FEB-23
Total TetraCB		2050	2490		pg/g wwt	19	50	03-FEB-23
Total PentaCB		7830	7740		pg/g wwt	1.2	50	03-FEB-23
Total HexaCB		9010	8910		pg/g wwt	1.1	50	03-FEB-23
Total HeptaCB		4440	4230		pg/g wwt	4.8	50	03-FEB-23
Total OctaCB		732	671		pg/g wwt	8.7	50	03-FEB-23
Total NonaCB		26.0	21.3		pg/g wwt	20	50	03-FEB-23
DecaCB		3.93	2.88		pg/g wwt	31	50	03-FEB-23
Total PCB		24300	24300		pg/g wwt	0.0	50	03-FEB-23
COMMENTS: Duplicate has targets that do not pass duplication criteria.								
WG3777732-5 DUP		**L2740805-1**						
PCB 81		1.36	1.12		pg/g wwt	19	50	18-JAN-23
PCB 77		35.5	35.4		pg/g wwt	0.3	50	18-JAN-23
PCB 126		7.75	7.18		pg/g wwt	7.6	50	18-JAN-23
PCB 169		0.45	0.384		pg/g wwt	16	50	18-JAN-23
WG3777732-2 LCS								
PCB 1			107.0		%		60-135	02-FEB-23
PCB 3			100.0		%		60-135	02-FEB-23
PCB 4			111.0		%		60-135	02-FEB-23
PCB 15			99.0		%		60-135	02-FEB-23
PCB 19			118.0		%		60-135	02-FEB-23
PCB 37			106.0		%		60-135	02-FEB-23
PCB 54			111.0		%		60-135	02-FEB-23
PCB 81			97.0		%		60-135	18-JAN-23
PCB 77			103.0		%		60-135	18-JAN-23
PCB 104			97.0		%		60-135	02-FEB-23
PCB 123			99.0		%		60-135	02-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-2 LCS								
PCB 118			104.0		%		60-135	02-FEB-23
PCB 114			98.0		%		60-135	02-FEB-23
PCB 105			97.0		%		60-135	02-FEB-23
PCB 126			107.0		%		60-135	18-JAN-23
PCB 155			102.0		%		60-135	02-FEB-23
PCB 167			103.0		%		60-135	02-FEB-23
PCB 156/157			103.0		%		60-135	02-FEB-23
PCB 169			105.0		%		60-135	18-JAN-23
PCB 188			105.0		%		60-135	02-FEB-23
PCB 189			99.0		%		60-135	02-FEB-23
PCB 202			105.0		%		60-135	02-FEB-23
PCB 205			98.0		%		60-135	02-FEB-23
PCB 208			102.0		%		60-135	02-FEB-23
PCB 206			102.0		%		60-135	02-FEB-23
PCB 209			109.0		%		60-135	02-FEB-23
WG3777732-1 MB								
PCB 1			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 2			<0.17	[U]	pg/g wwt		9	02-FEB-23
PCB 3			<0.15	[U]	pg/g wwt		9	02-FEB-23
PCB 4			<0.96	[U]	pg/g wwt		9	02-FEB-23
PCB 10			<0.53	[U]	pg/g wwt		9	02-FEB-23
PCB 9			<0.58	[U]	pg/g wwt		9	02-FEB-23
PCB 7			<0.54	[U]	pg/g wwt		9	02-FEB-23
PCB 6			<0.54	[U]	pg/g wwt		9	02-FEB-23
PCB 5			<0.67	[U]	pg/g wwt		9	02-FEB-23
PCB 8			<0.46	[U]	pg/g wwt		9	02-FEB-23
PCB 14			<0.65	[U]	pg/g wwt		9	02-FEB-23
PCB 11			3.00	[J]	pg/g wwt		9	02-FEB-23
PCB 13/12			<0.63	[U]	pg/g wwt		9	02-FEB-23
PCB 15			<0.60	[U]	pg/g wwt		9	02-FEB-23
PCB 19			<0.36	[U]	pg/g wwt		9	02-FEB-23
PCB 30/18			1.00	J,R	pg/g wwt		9	02-FEB-23
PCB 17			<0.37	[U]	pg/g wwt		9	02-FEB-23
PCB 27			<0.30	[U]	pg/g wwt		9	02-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
PCB 24			<0.30	[U]	pg/g wwt		9	02-FEB-23
PCB 16			<0.46	[U]	pg/g wwt		9	02-FEB-23
PCB 32			<0.28	[U]	pg/g wwt		9	02-FEB-23
PCB 34			<0.39	[U]	pg/g wwt		9	02-FEB-23
PCB 23			<0.34	[U]	pg/g wwt		9	02-FEB-23
PCB 29/26			<0.34	[U]	pg/g wwt		9	02-FEB-23
PCB 25			<0.31	[U]	pg/g wwt		9	02-FEB-23
PCB 31			1.13	[J]	pg/g wwt		9	02-FEB-23
PCB 28/20			1.36	[J]	pg/g wwt		9	02-FEB-23
PCB 21/33			<0.33	[U]	pg/g wwt		9	02-FEB-23
PCB 22			<0.37	[U]	pg/g wwt		9	02-FEB-23
PCB 36			<0.36	[U]	pg/g wwt		9	02-FEB-23
PCB 39			<0.41	[U]	pg/g wwt		9	02-FEB-23
PCB 38			<0.42	[U]	pg/g wwt		9	02-FEB-23
PCB 35			<0.43	[U]	pg/g wwt		9	02-FEB-23
PCB 37			<0.42	[U]	pg/g wwt		9	02-FEB-23
PCB 54			<0.084	[U]	pg/g wwt		9	02-FEB-23
PCB 50/53			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 45/51			0.42	J,R	pg/g wwt		9	02-FEB-23
PCB 46			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 52			1.10	J,R	pg/g wwt		9	02-FEB-23
PCB 73			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 43			<0.25	[U]	pg/g wwt		9	02-FEB-23
PCB 69/49			0.51	J,R	pg/g wwt		9	02-FEB-23
PCB 48			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 44/47/65			2.60	[J]	pg/g wwt		9	02-FEB-23
PCB 59/62/75			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 42			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 41/71/40			0.32	J,R	pg/g wwt		9	02-FEB-23
PCB 64			0.26	J,R	pg/g wwt		9	02-FEB-23
PCB 72			<0.098	[U]	pg/g wwt		9	02-FEB-23
PCB 68			0.170	J,R	pg/g wwt		9	02-FEB-23
PCB 57			<0.11	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Method blank has labeled PCB-189 recovery slightly above method limits. Data is calculated by isotope dilution. Minimal impact to data

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
PCB 58			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 67			<0.083	[U]	pg/g wwt		9	02-FEB-23
PCB 63			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 61/70/74/76			0.30	J,R	pg/g wwt		9	02-FEB-23
PCB 66			0.29	[J]	pg/g wwt		9	02-FEB-23
PCB 55			<0.095	[U]	pg/g wwt		9	02-FEB-23
PCB 56			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 60			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 80			<0.082	[U]	pg/g wwt		9	02-FEB-23
PCB 79			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 78			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 104			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 96			<0.15	[U]	pg/g wwt		9	02-FEB-23
PCB 103			<0.24	[U]	pg/g wwt		9	02-FEB-23
PCB 94			<0.24	[U]	pg/g wwt		9	02-FEB-23
PCB 95			<0.29	[U]	pg/g wwt		9	02-FEB-23
PCB 100/93/102/98			<0.23	[U]	pg/g wwt		9	02-FEB-23
PCB 88/91			<0.25	[U]	pg/g wwt		9	02-FEB-23
PCB 84			<0.24	[U]	pg/g wwt		9	02-FEB-23
PCB 89			<0.31	[U]	pg/g wwt		9	02-FEB-23
PCB 121			<0.17	[U]	pg/g wwt		9	02-FEB-23
PCB 92			<0.28	[U]	pg/g wwt		9	02-FEB-23
PCB 113/90/101			0.27	J,R	pg/g wwt		9	02-FEB-23
PCB 83/99			<0.27	[U]	pg/g wwt		9	02-FEB-23
PCB 112			<0.16	[U]	pg/g wwt		9	02-FEB-23
PCB 109/119/86/97/125/87			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 117/116/85/110/115			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 82			<0.32	[U]	pg/g wwt		9	02-FEB-23
PCB 111			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 120			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 108/124			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 107			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 123			<0.21	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Method blank has labeled PCB-189 recovery slightly above method limits. Data is calculated by isotope dilution. Minimal impact to data

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
PCB 106			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 118			0.52	[J]	pg/g wwt		9	02-FEB-23
PCB 122			<0.26	[U]	pg/g wwt		9	02-FEB-23
PCB 114			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 105			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 127			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 155			<0.054	[U]	pg/g wwt		9	02-FEB-23
PCB 152			<0.092	[U]	pg/g wwt		9	02-FEB-23
PCB 150			<0.075	[U]	pg/g wwt		9	02-FEB-23
PCB 136			<0.090	[U]	pg/g wwt		9	02-FEB-23
PCB 145			<0.081	[U]	pg/g wwt		9	02-FEB-23
PCB 148			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 151/135			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 154			<0.079	[U]	pg/g wwt		9	02-FEB-23
PCB 144			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 147/149			0.26	J,R	pg/g wwt		9	02-FEB-23
PCB 134/143			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 139/140			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 131			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 142			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 132			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 133			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 165			<0.093	[U]	pg/g wwt		9	02-FEB-23
PCB 146			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 161			<0.079	[U]	pg/g wwt		9	02-FEB-23
PCB 168/153			0.260	[J]	pg/g wwt		9	02-FEB-23
PCB 141			<0.097	[U]	pg/g wwt		9	02-FEB-23
PCB 130			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 137/164			<0.092	[U]	pg/g wwt		9	02-FEB-23
PCB 138/163/129			0.28	J,R	pg/g wwt		9	02-FEB-23
PCB 160			<0.091	[U]	pg/g wwt		9	02-FEB-23
PCB 158			<0.070	[U]	pg/g wwt		9	02-FEB-23
PCB 128/166			<0.10	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Method blank has labeled PCB-189 recovery slightly above method limits. Data is calculated by isotope dilution. Minimal impact to data

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
PCB 159			<0.087	[U]	pg/g wwt		9	02-FEB-23
PCB 162			<0.088	[U]	pg/g wwt		9	02-FEB-23
PCB 167			<0.093	[U]	pg/g wwt		9	02-FEB-23
PCB 156/157			<0.13	[U]	pg/g wwt		18	02-FEB-23
PCB 188			<0.066	[U]	pg/g wwt		9	02-FEB-23
PCB 179			<0.059	[U]	pg/g wwt		9	02-FEB-23
PCB 184			<0.057	[U]	pg/g wwt		9	02-FEB-23
PCB 176			<0.060	[U]	pg/g wwt		9	02-FEB-23
PCB 186			<0.061	[U]	pg/g wwt		9	02-FEB-23
PCB 178			<0.089	[U]	pg/g wwt		9	02-FEB-23
PCB 175			<0.085	[U]	pg/g wwt		9	02-FEB-23
PCB 187			<0.079	[U]	pg/g wwt		9	02-FEB-23
PCB 182			<0.073	[U]	pg/g wwt		9	02-FEB-23
PCB 183			<0.080	[U]	pg/g wwt		9	02-FEB-23
PCB 185			<0.086	[U]	pg/g wwt		9	02-FEB-23
PCB 174			<0.079	[U]	pg/g wwt		9	02-FEB-23
PCB 177			<0.090	[U]	pg/g wwt		9	02-FEB-23
PCB 181			<0.091	[U]	pg/g wwt		9	02-FEB-23
PCB 171/173			<0.092	[U]	pg/g wwt		9	02-FEB-23
PCB 172			<0.093	[U]	pg/g wwt		9	02-FEB-23
PCB 192			<0.078	[U]	pg/g wwt		9	02-FEB-23
PCB 180/193			<0.076	[U]	pg/g wwt		9	02-FEB-23
PCB 191			<0.068	[U]	pg/g wwt		9	02-FEB-23
PCB 170			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 190			<0.068	[U]	pg/g wwt		9	02-FEB-23
PCB 189			<0.067	[U]	pg/g wwt		9	02-FEB-23
PCB 202			<0.054	[U]	pg/g wwt		9	02-FEB-23
PCB 201			<0.047	[U]	pg/g wwt		9	02-FEB-23
PCB 204			<0.048	[U]	pg/g wwt		9	02-FEB-23
PCB 197			<0.050	[U]	pg/g wwt		9	02-FEB-23
PCB 200			<0.051	[U]	pg/g wwt		9	02-FEB-23
PCB 198/199			<0.077	[U]	pg/g wwt		9	02-FEB-23
PCB 196			<0.075	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Method blank has labeled PCB-189 recovery slightly above method limits. Data is calculated by isotope dilution. Minimal impact to data

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
PCB 203			<0.071	[U]	pg/g wwt		9	02-FEB-23
PCB 195			<0.078	[U]	pg/g wwt		9	02-FEB-23
PCB 194			0.086	J,R	pg/g wwt		9	02-FEB-23
PCB 205			<0.056	[U]	pg/g wwt		9	02-FEB-23
PCB 208			<0.088	[U]	pg/g wwt		9	02-FEB-23
PCB 207			<0.092	[U]	pg/g wwt		9	02-FEB-23
PCB 206			<0.15	[U]	pg/g wwt		9	02-FEB-23
PCB 209			<0.037	[U]	pg/g wwt		9	02-FEB-23
Surrogate: 13C12 PCB 1			92.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 3			82.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 4			93.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 15			105.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 19			73.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 37			99.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 54			87.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 104			94.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 123			109.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 118			112.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 114			119.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 105			112.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 155			100.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 167			109.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 156/157			111.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 188			100.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 189			147.0	G	%		10-145	02-FEB-23
Surrogate: 13C12 PCB 202			89.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 205			121.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 208			104.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 206			110.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 209			143.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 28			119.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 111			107.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 178			108.0		%		10-145	02-FEB-23
Total MonoCB			<0.13	[U]	pg/g wwt		18	02-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-1 MB								
Total DiCB			3.00	[J]	pg/g wwt		36	02-FEB-23
Total TriCB			3.49	[J]	pg/g wwt		36	02-FEB-23
Total TetraCB			5.97	[J]	pg/g wwt		72	02-FEB-23
Total PentaCB			0.793	[J]	pg/g wwt		72	02-FEB-23
Total HexaCB			0.800	[J]	pg/g wwt		72	02-FEB-23
Total HeptaCB			<0.057	[U]	pg/g wwt		36	02-FEB-23
Total OctaCB			0.086	[J]	pg/g wwt		36	02-FEB-23
Total NonaCB			<0.088	[U]	pg/g wwt		18	02-FEB-23
DecaCB			<0.037	[U]	pg/g wwt		18	02-FEB-23
Total PCB			14.1	[J]	pg/g wwt		144	02-FEB-23
COMMENTS: Method blank has labeled PCB-189 recovery slightly above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.								
WG3777732-1 MB								
PCB 81			<0.027	[U]	pg/g wwt		3	18-JAN-23
PCB 77			<0.032	[U]	pg/g wwt		3	18-JAN-23
PCB 126			<0.050	[U]	pg/g wwt		3	18-JAN-23
PCB 169			<0.041	[U]	pg/g wwt		3	18-JAN-23
Surrogate: 13C12 PCB 81			25.0		%		10-145	18-JAN-23
Surrogate: 13C12 PCB 77			26.0		%		10-145	18-JAN-23
Surrogate: 13C12 PCB 126			32.0		%		10-145	18-JAN-23
Surrogate: 13C12 PCB 169			37.0		%		10-145	18-JAN-23
WG3777732-4 MB								
PCB 1			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 2			<0.16	[U]	pg/g wwt		9	02-FEB-23
PCB 3			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 4			<1.2	[U]	pg/g wwt		9	02-FEB-23
PCB 10			<0.67	[U]	pg/g wwt		9	02-FEB-23
PCB 9			<0.74	[U]	pg/g wwt		9	02-FEB-23
PCB 7			<0.69	[U]	pg/g wwt		9	02-FEB-23
PCB 6			<0.69	[U]	pg/g wwt		9	02-FEB-23
PCB 5			<0.86	[U]	pg/g wwt		9	02-FEB-23
PCB 8			<0.59	[U]	pg/g wwt		9	02-FEB-23
PCB 14			<0.59	[U]	pg/g wwt		9	02-FEB-23
PCB 11			<0.62	[U]	pg/g wwt		9	02-FEB-23
COMMENTS: Reagent blank has labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.								

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-4 MB								
PCB 13/12			<0.57	[U]	pg/g wwt		9	02-FEB-23
PCB 15			<0.55	[U]	pg/g wwt		9	02-FEB-23
PCB 19			<0.45	[U]	pg/g wwt		9	02-FEB-23
PCB 30/18			0.95	[J]	pg/g wwt		9	02-FEB-23
PCB 17			<0.31	[U]	pg/g wwt		9	02-FEB-23
PCB 27			<0.25	[U]	pg/g wwt		9	02-FEB-23
PCB 24			<0.26	[U]	pg/g wwt		9	02-FEB-23
PCB 16			0.40	J,R	pg/g wwt		9	02-FEB-23
PCB 32			0.47	[J]	pg/g wwt		9	02-FEB-23
PCB 34			<0.36	[U]	pg/g wwt		9	02-FEB-23
PCB 23			<0.31	[U]	pg/g wwt		9	02-FEB-23
PCB 29/26			<0.32	[U]	pg/g wwt		9	02-FEB-23
PCB 25			<0.29	[U]	pg/g wwt		9	02-FEB-23
PCB 31			1.07	[J]	pg/g wwt		9	02-FEB-23
PCB 28/20			1.20	J,R	pg/g wwt		9	02-FEB-23
PCB 21/33			0.51	J,R	pg/g wwt		9	02-FEB-23
PCB 22			0.47	J,R	pg/g wwt		9	02-FEB-23
PCB 36			<0.33	[U]	pg/g wwt		9	02-FEB-23
PCB 39			<0.38	[U]	pg/g wwt		9	02-FEB-23
PCB 38			<0.39	[U]	pg/g wwt		9	02-FEB-23
PCB 35			<0.40	[U]	pg/g wwt		9	02-FEB-23
PCB 37			<0.38	[U]	pg/g wwt		9	02-FEB-23
PCB 54			<0.075	[U]	pg/g wwt		9	02-FEB-23
PCB 50/53			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 45/51			0.39	[J]	pg/g wwt		9	02-FEB-23
PCB 46			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 52			1.04	[J]	pg/g wwt		9	02-FEB-23
PCB 73			<0.087	[U]	pg/g wwt		9	02-FEB-23
PCB 43			<0.17	[U]	pg/g wwt		9	02-FEB-23
PCB 69/49			0.35	J,R	pg/g wwt		9	02-FEB-23
PCB 48			0.13	J,R	pg/g wwt		9	02-FEB-23
PCB 44/47/65			1.10	J,R	pg/g wwt		9	02-FEB-23
PCB 59/62/75			<0.095	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Reagent blank has labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-4 MB								
PCB 42			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 41/71/40			0.48	[J]	pg/g wwt		9	02-FEB-23
PCB 64			0.220	J,R	pg/g wwt		9	02-FEB-23
PCB 72			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 68			<0.10	[U]	pg/g wwt		9	02-FEB-23
PCB 57			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 58			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 67			<0.091	[U]	pg/g wwt		9	02-FEB-23
PCB 63			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 61/70/74/76			0.51	[J]	pg/g wwt		9	02-FEB-23
PCB 66			0.23	[J]	pg/g wwt		9	02-FEB-23
PCB 55			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 56			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 60			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 80			<0.090	[U]	pg/g wwt		9	02-FEB-23
PCB 79			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 78			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 104			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 96			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 103			<0.22	[U]	pg/g wwt		9	02-FEB-23
PCB 94			<0.22	[U]	pg/g wwt		9	02-FEB-23
PCB 95			<0.26	[U]	pg/g wwt		9	02-FEB-23
PCB 100/93/102/98			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 88/91			<0.23	[U]	pg/g wwt		9	02-FEB-23
PCB 84			<0.22	[U]	pg/g wwt		9	02-FEB-23
PCB 89			<0.28	[U]	pg/g wwt		9	02-FEB-23
PCB 121			<0.15	[U]	pg/g wwt		9	02-FEB-23
PCB 92			<0.25	[U]	pg/g wwt		9	02-FEB-23
PCB 113/90/101			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 83/99			<0.25	[U]	pg/g wwt		9	02-FEB-23
PCB 112			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 109/119/86/97/125/87			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 117/116/85/110/115			<0.18	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Reagent blank has labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-4 MB								
PCB 82			<0.29	[U]	pg/g wwt		9	02-FEB-23
PCB 111			<0.16	[U]	pg/g wwt		9	02-FEB-23
PCB 120			<0.17	[U]	pg/g wwt		9	02-FEB-23
PCB 108/124			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 107			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 123			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 106			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 118			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 122			<0.25	[U]	pg/g wwt		9	02-FEB-23
PCB 114			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 105			<0.19	[U]	pg/g wwt		9	02-FEB-23
PCB 127			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 155			<0.043	[U]	pg/g wwt		9	02-FEB-23
PCB 152			<0.072	[U]	pg/g wwt		9	02-FEB-23
PCB 150			<0.058	[U]	pg/g wwt		9	02-FEB-23
PCB 136			<0.071	[U]	pg/g wwt		9	02-FEB-23
PCB 145			<0.063	[U]	pg/g wwt		9	02-FEB-23
PCB 148			<0.095	[U]	pg/g wwt		9	02-FEB-23
PCB 151/135			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 154			<0.061	[U]	pg/g wwt		9	02-FEB-23
PCB 144			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 147/149			0.241	[J]	pg/g wwt		9	02-FEB-23
PCB 134/143			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 139/140			<0.096	[U]	pg/g wwt		9	02-FEB-23
PCB 131			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 142			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 132			<0.11	[U]	pg/g wwt		9	02-FEB-23
PCB 133			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 165			<0.087	[U]	pg/g wwt		9	02-FEB-23
PCB 146			<0.096	[U]	pg/g wwt		9	02-FEB-23
PCB 161			<0.074	[U]	pg/g wwt		9	02-FEB-23
PCB 168/153			0.236	[J]	pg/g wwt		9	02-FEB-23
PCB 141			<0.091	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Reagent blank has labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-4 MB								
PCB 130			<0.12	[U]	pg/g wwt		9	02-FEB-23
PCB 137/164			<0.086	[U]	pg/g wwt		9	02-FEB-23
PCB 138/163/129			0.31	J,R	pg/g wwt		9	02-FEB-23
PCB 160			<0.085	[U]	pg/g wwt		9	02-FEB-23
PCB 158			<0.065	[U]	pg/g wwt		9	02-FEB-23
PCB 128/166			<0.093	[U]	pg/g wwt		9	02-FEB-23
PCB 159			<0.081	[U]	pg/g wwt		9	02-FEB-23
PCB 162			<0.082	[U]	pg/g wwt		9	02-FEB-23
PCB 167			<0.087	[U]	pg/g wwt		9	02-FEB-23
PCB 156/157			<0.12	[U]	pg/g wwt		18	02-FEB-23
PCB 188			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 179			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 184			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 176			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 186			<0.14	[U]	pg/g wwt		9	02-FEB-23
PCB 178			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 175			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 187			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 182			<0.17	[U]	pg/g wwt		9	02-FEB-23
PCB 183			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 185			<0.20	[U]	pg/g wwt		9	02-FEB-23
PCB 174			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 177			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 181			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 171/173			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 172			<0.21	[U]	pg/g wwt		9	02-FEB-23
PCB 192			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 180/193			<0.18	[U]	pg/g wwt		9	02-FEB-23
PCB 191			<0.16	[U]	pg/g wwt		9	02-FEB-23
PCB 170			1.10	J,R	pg/g wwt		9	02-FEB-23
PCB 190			<0.16	[U]	pg/g wwt		9	02-FEB-23
PCB 189			<0.091	[U]	pg/g wwt		9	02-FEB-23
PCB 202			<0.042	[U]	pg/g wwt		9	02-FEB-23

COMMENTS: Reagent blank has labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5919160								
WG3777732-4 MB								
PCB 201			<0.039	[U]	pg/g wwt		9	02-FEB-23
PCB 204			<0.040	[U]	pg/g wwt		9	02-FEB-23
PCB 197			<0.041	[U]	pg/g wwt		9	02-FEB-23
PCB 200			<0.042	[U]	pg/g wwt		9	02-FEB-23
PCB 198/199			<0.063	[U]	pg/g wwt		9	02-FEB-23
PCB 196			<0.062	[U]	pg/g wwt		9	02-FEB-23
PCB 203			<0.058	[U]	pg/g wwt		9	02-FEB-23
PCB 195			<0.065	[U]	pg/g wwt		9	02-FEB-23
PCB 194			<0.065	[U]	pg/g wwt		9	02-FEB-23
PCB 205			<0.049	[U]	pg/g wwt		9	02-FEB-23
PCB 208			<0.076	[U]	pg/g wwt		9	02-FEB-23
PCB 207			<0.079	[U]	pg/g wwt		9	02-FEB-23
PCB 206			<0.13	[U]	pg/g wwt		9	02-FEB-23
PCB 209			0.035	J,R	pg/g wwt		9	02-FEB-23
Surrogate: 13C12 PCB 1			74.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 3			68.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 4			72.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 15			89.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 19			60.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 37			95.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 54			81.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 104			103.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 123			127.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 118			131.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 114			142.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 105			130.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 155			114.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 167			130.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 156/157			133.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 188			120.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 189			165.0	G	%		10-145	02-FEB-23
Surrogate: 13C12 PCB 202			113.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 205			151.0	G	%		10-145	02-FEB-23
Surrogate: 13C12 PCB 208			134.0		%		10-145	02-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5919160**							
WG3777732-4	**MB**							
Surrogate: 13C12 PCB 206			139.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 209			180.0	G	%		10-145	02-FEB-23
Surrogate: 13C12 PCB 28			125.0		%		5-145	02-FEB-23
Surrogate: 13C12 PCB 111			122.0		%		10-145	02-FEB-23
Surrogate: 13C12 PCB 178			127.0		%		10-145	02-FEB-23
Total MonoCB			<0.12	[U]	pg/g wwt		18	02-FEB-23
Total DiCB			<0.55	[U]	pg/g wwt		36	02-FEB-23
Total TriCB			5.07	[J]	pg/g wwt		36	02-FEB-23
Total TetraCB			4.44	[J]	pg/g wwt		72	02-FEB-23
Total PentaCB			<0.066	[U]	pg/g wwt		72	02-FEB-23
Total HexaCB			0.787	[J]	pg/g wwt		72	02-FEB-23
Total HeptaCB			1.10	[J]	pg/g wwt		36	02-FEB-23
Total OctaCB			<0.039	[U]	pg/g wwt		36	02-FEB-23
Total NonaCB			<0.076	[U]	pg/g wwt		18	02-FEB-23
DecaCB			0.035	[J]	pg/g wwt		18	02-FEB-23
Total PCB			11.4	[J]	pg/g wwt		144	02-FEB-23
COMMENTS: Reagent blank has labeled recoveries above method limits. Data is calculated by isotope dilution. Minimal impact to data quality.								
WG3777732-4	**MB**							
PCB 81			<0.031	[U]	pg/g wwt		3	18-JAN-23
PCB 77			<0.027	[U]	pg/g wwt		3	18-JAN-23
PCB 126			<0.066	[U]	pg/g wwt		3	18-JAN-23
PCB 169			<0.066	[U]	pg/g wwt		3	18-JAN-23
Surrogate: 13C12 PCB 81			23.0		%		10-145	18-JAN-23
Surrogate: 13C12 PCB 77			22.0		%		10-145	18-JAN-23
Surrogate: 13C12 PCB 126			30.0		%		10-145	18-JAN-23
Surrogate: 13C12 PCB 169			33.0		%		10-145	18-JAN-23
Batch	**R5922616**							
WG3778052-2	**LCS**							
PCB 1			109.0		%		60-135	08-FEB-23
PCB 3			97.0		%		60-135	08-FEB-23
PCB 4			124.0		%		60-135	08-FEB-23
PCB 15			95.0		%		60-135	08-FEB-23
PCB 19			121.0		%		60-135	08-FEB-23
PCB 37			121.0		%		60-135	08-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5922616								
WG3778052-2 LCS								
PCB 54			106.0		%		60-135	08-FEB-23
PCB 81			94.0		%		60-135	30-JAN-23
PCB 77			100.0		%		60-135	30-JAN-23
PCB 104			97.0		%		60-135	08-FEB-23
PCB 123			96.0		%		60-135	08-FEB-23
PCB 118			99.0		%		60-135	08-FEB-23
PCB 114			95.0		%		60-135	08-FEB-23
PCB 105			101.0		%		60-135	08-FEB-23
PCB 126			105.0		%		60-135	30-JAN-23
PCB 155			99.0		%		60-135	08-FEB-23
PCB 167			97.0		%		60-135	08-FEB-23
PCB 156/157			102.0		%		60-135	08-FEB-23
PCB 169			102.0		%		60-135	30-JAN-23
PCB 188			97.0		%		60-135	08-FEB-23
PCB 189			95.0		%		60-135	08-FEB-23
PCB 202			99.0		%		60-135	08-FEB-23
PCB 205			102.0		%		60-135	08-FEB-23
PCB 208			98.0		%		60-135	08-FEB-23
PCB 206			94.0		%		60-135	08-FEB-23
PCB 209			107.0		%		60-135	08-FEB-23
WG3778052-1 MB								
PCB 1			<0.42	[U]	pg/g wwt		9	08-FEB-23
PCB 2			<0.66	[U]	pg/g wwt		9	08-FEB-23
PCB 3			<0.69	[U]	pg/g wwt		9	08-FEB-23
PCB 4			<2.8	[U]	pg/g wwt		9	08-FEB-23
PCB 10			<1.9	[U]	pg/g wwt		9	08-FEB-23
PCB 9			<2.2	[U]	pg/g wwt		9	08-FEB-23
PCB 7			<2.0	[U]	pg/g wwt		9	08-FEB-23
PCB 6			<2.0	[U]	pg/g wwt		9	08-FEB-23
PCB 5			<2.6	[U]	pg/g wwt		9	08-FEB-23
PCB 8			<1.6	[U]	pg/g wwt		9	08-FEB-23
PCB 14			<2.5	[U]	pg/g wwt		9	08-FEB-23
PCB 11			<2.6	[U]	pg/g wwt		9	08-FEB-23
PCB 13/12			<2.4	[U]	pg/g wwt		9	08-FEB-23

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5922616								
WG3778052-1 MB								
PCB 15			<3.0	[U]	pg/g wwt		9	08-FEB-23
PCB 19			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 30/18			<1.0	[U]	pg/g wwt		9	08-FEB-23
PCB 17			<1.2	[U]	pg/g wwt		9	08-FEB-23
PCB 27			<0.94	[U]	pg/g wwt		9	08-FEB-23
PCB 24			<0.96	[U]	pg/g wwt		9	08-FEB-23
PCB 16			<1.4	[U]	pg/g wwt		9	08-FEB-23
PCB 32			<0.84	[U]	pg/g wwt		9	08-FEB-23
PCB 34			<1.2	[U]	pg/g wwt		9	08-FEB-23
PCB 23			<1.0	[U]	pg/g wwt		9	08-FEB-23
PCB 29/26			<1.0	[U]	pg/g wwt		9	08-FEB-23
PCB 25			<0.91	[U]	pg/g wwt		9	08-FEB-23
PCB 31			<0.99	[U]	pg/g wwt		9	08-FEB-23
PCB 28/20			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 21/33			<0.96	[U]	pg/g wwt		9	08-FEB-23
PCB 22			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 36			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 39			<1.3	[U]	pg/g wwt		9	08-FEB-23
PCB 38			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 35			<1.2	[U]	pg/g wwt		9	08-FEB-23
PCB 37			<1.2	[U]	pg/g wwt		9	08-FEB-23
PCB 54			<0.27	[U]	pg/g wwt		9	08-FEB-23
PCB 50/53			<0.59	[U]	pg/g wwt		9	08-FEB-23
PCB 45/51			<0.61	[U]	pg/g wwt		9	08-FEB-23
PCB 46			<0.64	[U]	pg/g wwt		9	08-FEB-23
PCB 52			<0.69	[U]	pg/g wwt		9	08-FEB-23
PCB 73			<0.38	[U]	pg/g wwt		9	08-FEB-23
PCB 43			<0.87	[U]	pg/g wwt		9	08-FEB-23
PCB 69/49			<0.49	[U]	pg/g wwt		9	08-FEB-23
PCB 48			<0.59	[U]	pg/g wwt		9	08-FEB-23
PCB 44/47/65			<0.55	M,U	pg/g wwt		9	08-FEB-23
PCB 59/62/75			<0.44	[U]	pg/g wwt		9	08-FEB-23
PCB 42			<0.60	[U]	pg/g wwt		9	08-FEB-23

COMMENTS: MB has labeled recoveries above method limits. Data is caclulated by isotope dilution. Minimal impact to data quality.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5922616								
WG3778052-1 MB								
PCB 41/71/40			<0.61	[U]	pg/g wwt		9	08-FEB-23
PCB 64			<0.43	M,U	pg/g wwt		9	08-FEB-23
PCB 72			<0.31	[U]	pg/g wwt		9	08-FEB-23
PCB 68			<0.29	[U]	pg/g wwt		9	08-FEB-23
PCB 57			<0.33	[U]	pg/g wwt		9	08-FEB-23
PCB 58			<0.32	[U]	pg/g wwt		9	08-FEB-23
PCB 67			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 63			<0.31	[U]	pg/g wwt		9	08-FEB-23
PCB 61/70/74/76			<0.33	[U]	pg/g wwt		9	08-FEB-23
PCB 66			<0.32	[U]	pg/g wwt		9	08-FEB-23
PCB 55			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 56			<0.38	[U]	pg/g wwt		9	08-FEB-23
PCB 60			<0.32	[U]	pg/g wwt		9	08-FEB-23
PCB 80			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 79			<0.31	[U]	pg/g wwt		9	08-FEB-23
PCB 78			<0.38	[U]	pg/g wwt		9	08-FEB-23
PCB 104			<0.57	[U]	pg/g wwt		9	08-FEB-23
PCB 96			<0.83	[U]	pg/g wwt		9	08-FEB-23
PCB 103			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 94			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 95			<1.2	[U]	pg/g wwt		9	08-FEB-23
PCB 100/93/102/98			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 88/91			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 84			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 89			<1.4	[U]	pg/g wwt		9	08-FEB-23
PCB 121			<0.78	[U]	pg/g wwt		9	08-FEB-23
PCB 92			<1.3	[U]	pg/g wwt		9	08-FEB-23
PCB 113/90/101			<0.95	[U]	pg/g wwt		9	08-FEB-23
PCB 83/99			<1.2	[U]	pg/g wwt		9	08-FEB-23
PCB 112			<0.74	[U]	pg/g wwt		9	08-FEB-23
PCB 109/119/86/97/125/87			<0.96	[U]	pg/g wwt		9	08-FEB-23
PCB 117/116/85/110/115			<0.91	[U]	pg/g wwt		9	08-FEB-23
PCB 82			<1.5	[U]	pg/g wwt		9	08-FEB-23

COMMENTS: MB has labeled recoveries above method limits. Data is caclulated by isotope dilution. Minimal impact to data quality.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5922616								
WG3778052-1 MB								
PCB 111			<0.82	[U]	pg/g wwt		9	08-FEB-23
PCB 120			<0.82	[U]	pg/g wwt		9	08-FEB-23
PCB 108/124			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 107			<0.96	[U]	pg/g wwt		9	08-FEB-23
PCB 123			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 106			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 118			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 122			<1.4	[U]	pg/g wwt		9	08-FEB-23
PCB 114			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 105			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 127			<1.1	[U]	pg/g wwt		9	08-FEB-23
PCB 155			<0.13	[U]	pg/g wwt		9	08-FEB-23
PCB 152			<0.21	[U]	pg/g wwt		9	08-FEB-23
PCB 150			<0.19	[U]	pg/g wwt		9	08-FEB-23
PCB 136			<0.21	[U]	pg/g wwt		9	08-FEB-23
PCB 145			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 148			<0.29	[U]	pg/g wwt		9	08-FEB-23
PCB 151/135			<0.31	[U]	pg/g wwt		9	08-FEB-23
PCB 154			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 144			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 147/149			<0.28	[U]	pg/g wwt		9	08-FEB-23
PCB 134/143			<0.36	[U]	pg/g wwt		9	08-FEB-23
PCB 139/140			<0.29	[U]	pg/g wwt		9	08-FEB-23
PCB 131			<0.36	[U]	pg/g wwt		9	08-FEB-23
PCB 142			<0.37	[U]	pg/g wwt		9	08-FEB-23
PCB 132			<0.34	[U]	pg/g wwt		9	08-FEB-23
PCB 133			<0.35	[U]	pg/g wwt		9	08-FEB-23
PCB 165			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 146			<0.29	[U]	pg/g wwt		9	08-FEB-23
PCB 161			<0.23	[U]	pg/g wwt		9	08-FEB-23
PCB 168/153			<0.25	M,U	pg/g wwt		9	08-FEB-23
PCB 141			<0.29	[U]	pg/g wwt		9	08-FEB-23
PCB 130			<0.36	[U]	pg/g wwt		9	08-FEB-23

COMMENTS: MB has labeled recoveries above method limits. Data is caclulated by isotope dilution. Minimal impact to data quality.

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5922616								
WG3778052-1 MB								
PCB 137/164			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 138/163/129			0.46	M,J,R	pg/g wwt		9	08-FEB-23
PCB 160			<0.24	[U]	pg/g wwt		9	08-FEB-23
PCB 158			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 128/166			<0.27	[U]	pg/g wwt		9	08-FEB-23
PCB 159			<0.24	[U]	pg/g wwt		9	08-FEB-23
PCB 162			<0.24	[U]	pg/g wwt		9	08-FEB-23
PCB 167			<0.25	[U]	pg/g wwt		9	08-FEB-23
PCB 156/157			<0.33	[U]	pg/g wwt		18	08-FEB-23
PCB 188			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 179			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 184			<0.19	[U]	pg/g wwt		9	08-FEB-23
PCB 176			<0.21	[U]	pg/g wwt		9	08-FEB-23
PCB 186			<0.21	[U]	pg/g wwt		9	08-FEB-23
PCB 178			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 175			<0.28	[U]	pg/g wwt		9	08-FEB-23
PCB 187			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 182			<0.25	[U]	pg/g wwt		9	08-FEB-23
PCB 183			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 185			<0.31	[U]	pg/g wwt		9	08-FEB-23
PCB 174			<0.26	[U]	pg/g wwt		9	08-FEB-23
PCB 177			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 181			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 171/173			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 172			<0.30	[U]	pg/g wwt		9	08-FEB-23
PCB 192			<0.25	[U]	pg/g wwt		9	08-FEB-23
PCB 180/193			<0.24	[U]	pg/g wwt		9	08-FEB-23
PCB 191			<0.22	[U]	pg/g wwt		9	08-FEB-23
PCB 170			<0.31	[U]	pg/g wwt		9	08-FEB-23
PCB 190			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 189			<0.13	[U]	pg/g wwt		9	08-FEB-23
PCB 202			<0.12	[U]	pg/g wwt		9	08-FEB-23
PCB 201			<0.12	[U]	pg/g wwt		9	08-FEB-23

COMMENTS: MB has labeled recoveries above method limits. Data is caclulated by isotope dilution. Minimal impact to data quality.

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5922616**							
WG3778052-1	**MB**							
PCB 204			<0.12	[U]	pg/g wwt		9	08-FEB-23
PCB 197			<0.12	[U]	pg/g wwt		9	08-FEB-23
PCB 200			<0.13	[U]	pg/g wwt		9	08-FEB-23
PCB 198/199			<0.18	[U]	pg/g wwt		9	08-FEB-23
PCB 196			<0.18	[U]	pg/g wwt		9	08-FEB-23
PCB 203			<0.17	[U]	pg/g wwt		9	08-FEB-23
PCB 195			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 194			<0.19	[U]	pg/g wwt		9	08-FEB-23
PCB 205			<0.16	[U]	pg/g wwt		9	08-FEB-23
PCB 208			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 207			<0.20	[U]	pg/g wwt		9	08-FEB-23
PCB 206			<0.32	[U]	pg/g wwt		9	08-FEB-23
PCB 209			<0.065	[U]	pg/g wwt		9	08-FEB-23
Surrogate: 13C12 PCB 1			102.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 3			87.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 4			88.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 15			88.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 19			67.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 37			91.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 54			83.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 104			109.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 123			143.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 118			141.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 114			148.0	G	%		10-145	08-FEB-23
Surrogate: 13C12 PCB 105			145.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 155			125.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 167			139.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 156/157			141.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 188			132.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 189			180.0	G	%		10-145	08-FEB-23
Surrogate: 13C12 PCB 202			122.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 205			155.0	G	%		10-145	08-FEB-23
Surrogate: 13C12 PCB 208			140.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 206			152.0	G	%		10-145	08-FEB-23

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5922616**							
WG3778052-1	**MB**							
Surrogate: 13C12 PCB 209			183.0	G	%		10-145	08-FEB-23
Surrogate: 13C12 PCB 28			118.0		%		5-145	08-FEB-23
Surrogate: 13C12 PCB 111			131.0		%		10-145	08-FEB-23
Surrogate: 13C12 PCB 178			149.0	G	%		10-145	08-FEB-23
Total MonoCB			<0.42	[U]	pg/g wwt		18	08-FEB-23
Total DiCB			<1.6	[U]	pg/g wwt		36	08-FEB-23
Total TriCB			<0.84	[U]	pg/g wwt		36	08-FEB-23
Total TetraCB			0.024	[J]	pg/g wwt		72	08-FEB-23
Total PentaCB			<0.037	[U]	pg/g wwt		72	08-FEB-23
Total HexaCB			0.460	[J]	pg/g wwt		72	08-FEB-23
Total HeptaCB			<0.13	[U]	pg/g wwt		36	08-FEB-23
Total OctaCB			<0.12	[U]	pg/g wwt		36	08-FEB-23
Total NonaCB			<0.20	[U]	pg/g wwt		18	08-FEB-23
DecaCB			<0.065	[U]	pg/g wwt		18	08-FEB-23
Total PCB			<1.0	[J]	pg/g wwt		144	08-FEB-23
COMMENTS: MB has labeled recoveries above method limits. Data is caclulated by isotope dilution. Minimal impact to data quality.								
WG3778052-1	**MB**							
PCB 81			<0.014	[U]	pg/g wwt		3	30-JAN-23
PCB 77			0.024	[J]	pg/g wwt		3	30-JAN-23
PCB 126			<0.037	[U]	pg/g wwt		3	30-JAN-23
PCB 169			<0.022	[U]	pg/g wwt		3	30-JAN-23
Surrogate: 13C12 PCB 81			46.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 77			46.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 126			59.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 169			60.0		%		10-145	30-JAN-23
Batch	**R5927357**							
WG3778662-2	**LCS**							
PCB 1			108.0		%		60-135	06-FEB-23
PCB 3			101.0		%		60-135	06-FEB-23
PCB 4			124.0		%		60-135	06-FEB-23
PCB 15			96.0		%		60-135	06-FEB-23
PCB 19			117.0		%		60-135	06-FEB-23
PCB 37			116.0		%		60-135	06-FEB-23
PCB 54			126.0		%		60-135	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-2 LCS								
PCB 81			95.0		%		60-135	30-JAN-23
PCB 77			101.0		%		60-135	30-JAN-23
PCB 104			115.0		%		60-135	06-FEB-23
PCB 123			112.0		%		60-135	06-FEB-23
PCB 118			102.0		%		60-135	06-FEB-23
PCB 114			100.0		%		60-135	06-FEB-23
PCB 105			100.0		%		60-135	06-FEB-23
PCB 126			106.0		%		60-135	30-JAN-23
PCB 155			106.0		%		60-135	06-FEB-23
PCB 167			109.0		%		60-135	06-FEB-23
PCB 156/157			110.0		%		60-135	06-FEB-23
PCB 169			102.0		%		60-135	30-JAN-23
PCB 188			117.0		%		60-135	06-FEB-23
PCB 189			98.0		%		60-135	06-FEB-23
PCB 202			125.0		%		60-135	06-FEB-23
PCB 205			100.0		%		60-135	06-FEB-23
PCB 208			103.0		%		60-135	06-FEB-23
PCB 206			103.0		%		60-135	06-FEB-23
PCB 209			110.0		%		60-135	06-FEB-23
WG3778662-1 MB								
PCB 1			<1.8	[U]	pg/g wwt		9	06-FEB-23
PCB 2			<2.7	[U]	pg/g wwt		9	06-FEB-23
PCB 3			<3.0	[U]	pg/g wwt		9	06-FEB-23
PCB 4			<16	[U]	pg/g wwt		9	06-FEB-23
PCB 10			<7.1	[U]	pg/g wwt		9	06-FEB-23
PCB 9			<7.9	[U]	pg/g wwt		9	06-FEB-23
PCB 7			<7.3	[U]	pg/g wwt		9	06-FEB-23
PCB 6			<7.4	[U]	pg/g wwt		9	06-FEB-23
PCB 5			<8.4	[U]	pg/g wwt		9	06-FEB-23
PCB 8			<6.6	[U]	pg/g wwt		9	06-FEB-23
PCB 14			<10	[U]	pg/g wwt		9	06-FEB-23
PCB 11			<10	[U]	pg/g wwt		9	06-FEB-23
PCB 13/12			<9.7	[U]	pg/g wwt		9	06-FEB-23
PCB 15			<9.3	[U]	pg/g wwt		9	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-1 MB								
PCB 19			<7.2	[U]	pg/g wwt		9	06-FEB-23
PCB 30/18			<4.0	[U]	pg/g wwt		9	06-FEB-23
PCB 17			<4.5	[U]	pg/g wwt		9	06-FEB-23
PCB 27			<3.5	[U]	pg/g wwt		9	06-FEB-23
PCB 24			<3.7	[U]	pg/g wwt		9	06-FEB-23
PCB 16			<5.6	[U]	pg/g wwt		9	06-FEB-23
PCB 32			<3.2	[U]	pg/g wwt		9	06-FEB-23
PCB 34			<6.2	[U]	pg/g wwt		9	06-FEB-23
PCB 23			<5.6	[U]	pg/g wwt		9	06-FEB-23
PCB 29/26			<5.5	[U]	pg/g wwt		9	06-FEB-23
PCB 25			<5.0	[U]	pg/g wwt		9	06-FEB-23
PCB 31			<5.3	[U]	pg/g wwt		9	06-FEB-23
PCB 28/20			<5.6	[U]	pg/g wwt		9	06-FEB-23
PCB 21/33			<5.3	[U]	pg/g wwt		9	06-FEB-23
PCB 22			<5.9	[U]	pg/g wwt		9	06-FEB-23
PCB 36			<5.6	[U]	pg/g wwt		9	06-FEB-23
PCB 39			<6.5	[U]	pg/g wwt		9	06-FEB-23
PCB 38			<6.3	[U]	pg/g wwt		9	06-FEB-23
PCB 35			<6.4	[U]	pg/g wwt		9	06-FEB-23
PCB 37			<5.3	[U]	pg/g wwt		9	06-FEB-23
PCB 54			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 50/53			<1.7	[U]	pg/g wwt		9	06-FEB-23
PCB 45/51			<1.8	[U]	pg/g wwt		9	06-FEB-23
PCB 46			<1.9	[U]	pg/g wwt		9	06-FEB-23
PCB 52			<2.0	[U]	pg/g wwt		9	06-FEB-23
PCB 73			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 43			<2.6	[U]	pg/g wwt		9	06-FEB-23
PCB 69/49			<1.5	[U]	pg/g wwt		9	06-FEB-23
PCB 48			<1.8	[U]	pg/g wwt		9	06-FEB-23
PCB 44/47/65			2.0	J,R	pg/g wwt		9	06-FEB-23
PCB 59/62/75			<1.3	[U]	pg/g wwt		9	06-FEB-23
PCB 42			<1.8	[U]	pg/g wwt		9	06-FEB-23
PCB 41/71/40			<1.8	[U]	pg/g wwt		9	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-1 MB								
PCB 64			<1.3	[U]	pg/g wwt		9	06-FEB-23
PCB 72			<1.5	[U]	pg/g wwt		9	06-FEB-23
PCB 68			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 57			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 58			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 67			<1.3	[U]	pg/g wwt		9	06-FEB-23
PCB 63			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 61/70/74/76			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 66			<1.5	[U]	pg/g wwt		9	06-FEB-23
PCB 55			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 56			<1.8	[U]	pg/g wwt		9	06-FEB-23
PCB 60			<1.6	[U]	pg/g wwt		9	06-FEB-23
PCB 80			<1.3	[U]	pg/g wwt		9	06-FEB-23
PCB 79			<1.5	[U]	pg/g wwt		9	06-FEB-23
PCB 78			<1.8	[U]	pg/g wwt		9	06-FEB-23
PCB 81			<0.014	[U]	pg/g wwt		3	30-JAN-23
PCB 77			0.0360	[J]	pg/g wwt		3	30-JAN-23
PCB 104			<2.6	[U]	pg/g wwt		9	06-FEB-23
PCB 96			<2.1	[U]	pg/g wwt		9	06-FEB-23
PCB 103			<2.8	[U]	pg/g wwt		9	06-FEB-23
PCB 94			<3.0	[U]	pg/g wwt		9	06-FEB-23
PCB 95			<3.4	[U]	pg/g wwt		9	06-FEB-23
PCB 100/93/102/98			<2.8	[U]	pg/g wwt		9	06-FEB-23
PCB 88/91			<3.1	[U]	pg/g wwt		9	06-FEB-23
PCB 84			<3.1	[U]	pg/g wwt		9	06-FEB-23
PCB 89			<3.7	[U]	pg/g wwt		9	06-FEB-23
PCB 121			<2.2	[U]	pg/g wwt		9	06-FEB-23
PCB 92			<3.5	[U]	pg/g wwt		9	06-FEB-23
PCB 113/90/101			<2.6	[U]	pg/g wwt		9	06-FEB-23
PCB 83/99			<3.3	[U]	pg/g wwt		9	06-FEB-23
PCB 112			<2.0	[U]	pg/g wwt		9	06-FEB-23
PCB 109/119/86/97/125/87			<2.6	[U]	pg/g wwt		9	06-FEB-23
PCB 117/116/85/110/115			<2.5	[U]	pg/g wwt		9	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-1 MB								
PCB 82			<4.1	[U]	pg/g wwt		9	06-FEB-23
PCB 111			<2.2	[U]	pg/g wwt		9	06-FEB-23
PCB 120			<2.3	[U]	pg/g wwt		9	06-FEB-23
PCB 108/124			<2.4	[U]	pg/g wwt		9	06-FEB-23
PCB 107			<2.2	[U]	pg/g wwt		9	06-FEB-23
PCB 123			<2.3	[U]	pg/g wwt		9	06-FEB-23
PCB 106			<2.6	[U]	pg/g wwt		9	06-FEB-23
PCB 118			<2.2	[U]	pg/g wwt		9	06-FEB-23
PCB 122			<3.2	[U]	pg/g wwt		9	06-FEB-23
PCB 114			<2.3	[U]	pg/g wwt		9	06-FEB-23
PCB 105			<2.5	[U]	pg/g wwt		9	06-FEB-23
PCB 127			<2.6	[U]	pg/g wwt		9	06-FEB-23
PCB 126			<0.036	[U]	pg/g wwt		3	30-JAN-23
PCB 155			<0.52	[U]	pg/g wwt		9	06-FEB-23
PCB 152			<0.61	[U]	pg/g wwt		9	06-FEB-23
PCB 150			<0.59	[U]	pg/g wwt		9	06-FEB-23
PCB 136			<0.63	[U]	pg/g wwt		9	06-FEB-23
PCB 145			<0.61	[U]	pg/g wwt		9	06-FEB-23
PCB 148			<0.85	[U]	pg/g wwt		9	06-FEB-23
PCB 151/135			<0.95	[U]	pg/g wwt		9	06-FEB-23
PCB 154			<0.60	[U]	pg/g wwt		9	06-FEB-23
PCB 144			<0.90	[U]	pg/g wwt		9	06-FEB-23
PCB 147/149			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 134/143			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 139/140			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 131			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 142			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 132			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 133			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 165			<1.0	[U]	pg/g wwt		9	06-FEB-23
PCB 146			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 161			<0.97	[U]	pg/g wwt		9	06-FEB-23
PCB 168/153			<0.99	M,U	pg/g wwt		9	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-1 MB								
PCB 141			<1.2	[U]	pg/g wwt		9	06-FEB-23
PCB 130			<1.5	[U]	pg/g wwt		9	06-FEB-23
PCB 137/164			<1.0	[U]	pg/g wwt		9	06-FEB-23
PCB 138/163/129			3.4	M,J,R	pg/g wwt		9	06-FEB-23
PCB 160			<0.93	[U]	pg/g wwt		9	06-FEB-23
PCB 158			<0.80	[U]	pg/g wwt		9	06-FEB-23
PCB 128/166			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 159			<0.93	[U]	pg/g wwt		9	06-FEB-23
PCB 162			<0.96	[U]	pg/g wwt		9	06-FEB-23
PCB 167			<0.92	[U]	pg/g wwt		9	06-FEB-23
PCB 156/157			<1.4	[U]	pg/g wwt		18	06-FEB-23
PCB 169			<0.026	[U]	pg/g wwt		3	30-JAN-23
PCB 188			<0.87	[U]	pg/g wwt		9	06-FEB-23
PCB 179			<0.76	[U]	pg/g wwt		9	06-FEB-23
PCB 184			<0.72	[U]	pg/g wwt		9	06-FEB-23
PCB 176			<0.77	[U]	pg/g wwt		9	06-FEB-23
PCB 186			<0.78	[U]	pg/g wwt		9	06-FEB-23
PCB 178			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 175			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 187			<1.0	[U]	pg/g wwt		9	06-FEB-23
PCB 182			<0.94	[U]	pg/g wwt		9	06-FEB-23
PCB 183			<0.99	[U]	pg/g wwt		9	06-FEB-23
PCB 185			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 174			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 177			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 181			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 171/173			<1.2	[U]	pg/g wwt		9	06-FEB-23
PCB 172			<1.2	[U]	pg/g wwt		9	06-FEB-23
PCB 192			<0.97	[U]	pg/g wwt		9	06-FEB-23
PCB 180/193			<0.93	[U]	pg/g wwt		9	06-FEB-23
PCB 191			<0.85	[U]	pg/g wwt		9	06-FEB-23
PCB 170			<1.2	[U]	pg/g wwt		9	06-FEB-23
PCB 190			<0.80	[U]	pg/g wwt		9	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5927357**							
WG3778662-1	**MB**							
PCB 189			<0.46	[U]	pg/g wwt		9	06-FEB-23
PCB 202			<1.0	[U]	pg/g wwt		9	06-FEB-23
PCB 201			<0.93	[U]	pg/g wwt		9	06-FEB-23
PCB 204			<0.94	[U]	pg/g wwt		9	06-FEB-23
PCB 197			<1.0	[U]	pg/g wwt		9	06-FEB-23
PCB 200			<1.0	[U]	pg/g wwt		9	06-FEB-23
PCB 198/199			5.7	M,R	pg/g wwt		9	06-FEB-23
PCB 196			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 203			<1.4	[U]	pg/g wwt		9	06-FEB-23
PCB 195			<0.95	[U]	pg/g wwt		9	06-FEB-23
PCB 194			<0.89	[U]	pg/g wwt		9	06-FEB-23
PCB 205			<0.87	[U]	pg/g wwt		9	06-FEB-23
PCB 208			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 207			<1.1	[U]	pg/g wwt		9	06-FEB-23
PCB 206			<1.9	[U]	pg/g wwt		9	06-FEB-23
PCB 209			<0.28	[U]	pg/g wwt		9	06-FEB-23
Surrogate: 13C12 PCB 1			52.0		%		5-145	06-FEB-23
Surrogate: 13C12 PCB 3			42.0	R	%		5-145	06-FEB-23
Surrogate: 13C12 PCB 4			36.0		%		5-145	06-FEB-23
Surrogate: 13C12 PCB 15			48.0		%		5-145	06-FEB-23
Surrogate: 13C12 PCB 19			21.0		%		5-145	06-FEB-23
Surrogate: 13C12 PCB 37			43.0	M	%		5-145	06-FEB-23
Surrogate: 13C12 PCB 54			27.0		%		5-145	06-FEB-23
Surrogate: 13C12 PCB 81			44.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 77			45.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 104			30.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 123			63.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 118			62.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 114			63.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 105			63.0	R	%		10-145	06-FEB-23
Surrogate: 13C12 PCB 126			65.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 155			37.0	R	%		10-145	06-FEB-23
Surrogate: 13C12 PCB 167			53.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 156/157			53.0		%		10-145	06-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5927357**							
WG3778662-1	**MB**							
Surrogate: 13C12 PCB 169			65.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 188			39.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 189			83.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 202			28.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 205			60.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 208			42.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 206			47.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 209			82.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 28			62.0	R	%		5-145	06-FEB-23
Surrogate: 13C12 PCB 111			49.0		%		10-145	06-FEB-23
Surrogate: 13C12 PCB 178			39.0	R	%		10-145	06-FEB-23
Total MonoCB			<1.8	[U]	pg/g wwt		18	06-FEB-23
Total DiCB			<6.6	[U]	pg/g wwt		36	06-FEB-23
Total TriCB			<3.2	[U]	pg/g wwt		36	06-FEB-23
Total TetraCB			2.04	[J]	pg/g wwt		72	06-FEB-23
Total PentaCB			<0.036	[U]	pg/g wwt		72	06-FEB-23
Total HexaCB			3.40	[J]	pg/g wwt		72	06-FEB-23
Total HeptaCB			<0.46	[U]	pg/g wwt		36	06-FEB-23
Total OctaCB			5.70	[J]	pg/g wwt		36	06-FEB-23
Total NonaCB			<1.1	[U]	pg/g wwt		18	06-FEB-23
DecaCB			<0.28	[U]	pg/g wwt		18	06-FEB-23
Total PCB			11.1	[J]	pg/g wwt		144	06-FEB-23
WG3778662-4	**MB**							
PCB 1			<2.2	[U]	pg/g wwt		9	07-FEB-23
PCB 2			<2.9	[U]	pg/g wwt		9	07-FEB-23
PCB 3			<2.8	[U]	pg/g wwt		9	07-FEB-23
PCB 4			<21	[U]	pg/g wwt		9	07-FEB-23
PCB 10			<9.7	[U]	pg/g wwt		9	07-FEB-23
PCB 9			<11	[U]	pg/g wwt		9	07-FEB-23
PCB 7			<10	[U]	pg/g wwt		9	07-FEB-23
PCB 6			<10	[U]	pg/g wwt		9	07-FEB-23
PCB 5			<11	[U]	pg/g wwt		9	07-FEB-23
PCB 8			<9.0	[U]	pg/g wwt		9	07-FEB-23
PCB 14			<17	[U]	pg/g wwt		9	07-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-4 MB								
PCB 11			<17	[U]	pg/g wwt		9	07-FEB-23
PCB 13/12			<16	[U]	pg/g wwt		9	07-FEB-23
PCB 15			<17	[U]	pg/g wwt		9	07-FEB-23
PCB 19			<9.9	[U]	pg/g wwt		9	07-FEB-23
PCB 30/18			<3.9	[U]	pg/g wwt		9	07-FEB-23
PCB 17			<4.4	[U]	pg/g wwt		9	07-FEB-23
PCB 27			<3.4	[U]	pg/g wwt		9	07-FEB-23
PCB 24			<3.6	[U]	pg/g wwt		9	07-FEB-23
PCB 16			<5.5	[U]	pg/g wwt		9	07-FEB-23
PCB 32			<3.1	[U]	pg/g wwt		9	07-FEB-23
PCB 34			<6.5	[U]	pg/g wwt		9	07-FEB-23
PCB 23			<5.9	[U]	pg/g wwt		9	07-FEB-23
PCB 29/26			<5.8	[U]	pg/g wwt		9	07-FEB-23
PCB 25			<5.2	[U]	pg/g wwt		9	07-FEB-23
PCB 31			<5.5	[U]	pg/g wwt		9	07-FEB-23
PCB 28/20			<5.9	[U]	pg/g wwt		9	07-FEB-23
PCB 21/33			<5.5	M,U	pg/g wwt		9	07-FEB-23
PCB 22			<6.2	[U]	pg/g wwt		9	07-FEB-23
PCB 36			<5.8	[U]	pg/g wwt		9	07-FEB-23
PCB 39			<6.7	[U]	pg/g wwt		9	07-FEB-23
PCB 38			<6.6	[U]	pg/g wwt		9	07-FEB-23
PCB 35			<6.7	[U]	pg/g wwt		9	07-FEB-23
PCB 37			<5.4	[U]	pg/g wwt		9	07-FEB-23
PCB 54			<1.4	[U]	pg/g wwt		9	07-FEB-23
PCB 50/53			<1.8	[U]	pg/g wwt		9	07-FEB-23
PCB 45/51			<1.9	[U]	pg/g wwt		9	07-FEB-23
PCB 46			<2.0	[U]	pg/g wwt		9	07-FEB-23
PCB 52			<2.2	[U]	pg/g wwt		9	07-FEB-23
PCB 73			<1.2	[U]	pg/g wwt		9	07-FEB-23
PCB 43			<2.8	[U]	pg/g wwt		9	07-FEB-23
PCB 69/49			<1.6	[U]	pg/g wwt		9	07-FEB-23
PCB 48			<1.9	[U]	pg/g wwt		9	07-FEB-23
PCB 44/47/65			2.7	M,J,R	pg/g wwt		9	07-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-4 MB								
PCB 59/62/75			<1.4	[U]	pg/g wwt		9	07-FEB-23
PCB 42			<2.0	[U]	pg/g wwt		9	07-FEB-23
PCB 41/71/40			<1.9	[U]	pg/g wwt		9	07-FEB-23
PCB 64			<1.4	[U]	pg/g wwt		9	07-FEB-23
PCB 72			<2.0	[U]	pg/g wwt		9	07-FEB-23
PCB 68			<1.8	[U]	pg/g wwt		9	07-FEB-23
PCB 57			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 58			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 67			<1.7	[U]	pg/g wwt		9	07-FEB-23
PCB 63			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 61/70/74/76			<2.1	M,U	pg/g wwt		9	07-FEB-23
PCB 66			<2.0	[U]	pg/g wwt		9	07-FEB-23
PCB 55			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 56			<2.4	[U]	pg/g wwt		9	07-FEB-23
PCB 60			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 80			<1.7	[U]	pg/g wwt		9	07-FEB-23
PCB 79			<2.0	[U]	pg/g wwt		9	07-FEB-23
PCB 78			<2.4	[U]	pg/g wwt		9	07-FEB-23
PCB 81			<0.029	[U]	pg/g wwt		3	30-JAN-23
PCB 77			0.142	[J]	pg/g wwt		3	30-JAN-23
PCB 104			<2.2	[U]	pg/g wwt		9	07-FEB-23
PCB 96			<1.3	[U]	pg/g wwt		9	07-FEB-23
PCB 103			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 94			<2.2	[U]	pg/g wwt		9	07-FEB-23
PCB 95			<2.5	[U]	pg/g wwt		9	07-FEB-23
PCB 100/93/102/98			<2.0	[U]	pg/g wwt		9	07-FEB-23
PCB 88/91			<2.2	[U]	pg/g wwt		9	07-FEB-23
PCB 84			<2.3	[U]	pg/g wwt		9	07-FEB-23
PCB 89			<2.7	[U]	pg/g wwt		9	07-FEB-23
PCB 121			<1.6	[U]	pg/g wwt		9	07-FEB-23
PCB 92			<2.5	[U]	pg/g wwt		9	07-FEB-23
PCB 113/90/101			<1.9	[U]	pg/g wwt		9	07-FEB-23
PCB 83/99			<2.4	[U]	pg/g wwt		9	07-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5927357**							
WG3778662-4	**MB**							
PCB 112			<1.5	[U]	pg/g wwt		9	07-FEB-23
PCB 109/119/86/97/125/87			<1.9	[U]	pg/g wwt		9	07-FEB-23
PCB 117/116/85/110/115			<1.8	[U]	pg/g wwt		9	07-FEB-23
PCB 82			<3.0	[U]	pg/g wwt		9	07-FEB-23
PCB 111			<1.6	[U]	pg/g wwt		9	07-FEB-23
PCB 120			<1.7	[U]	pg/g wwt		9	07-FEB-23
PCB 108/124			<2.5	[U]	pg/g wwt		9	07-FEB-23
PCB 107			<2.3	[U]	pg/g wwt		9	07-FEB-23
PCB 123			<2.3	[U]	pg/g wwt		9	07-FEB-23
PCB 106			<2.6	[U]	pg/g wwt		9	07-FEB-23
PCB 118			<2.2	[U]	pg/g wwt		9	07-FEB-23
PCB 122			<3.3	[U]	pg/g wwt		9	07-FEB-23
PCB 114			<2.1	[U]	pg/g wwt		9	07-FEB-23
PCB 105			<2.3	[U]	pg/g wwt		9	07-FEB-23
PCB 127			<2.6	[U]	pg/g wwt		9	07-FEB-23
PCB 126			<0.040	[U]	pg/g wwt		3	30-JAN-23
PCB 155			<0.43	[U]	pg/g wwt		9	07-FEB-23
PCB 152			<0.47	[U]	pg/g wwt		9	07-FEB-23
PCB 150			<0.45	[U]	pg/g wwt		9	07-FEB-23
PCB 136			<0.48	[U]	pg/g wwt		9	07-FEB-23
PCB 145			<0.47	[U]	pg/g wwt		9	07-FEB-23
PCB 148			<0.65	[U]	pg/g wwt		9	07-FEB-23
PCB 151/135			<0.72	[U]	pg/g wwt		9	07-FEB-23
PCB 154			<0.46	[U]	pg/g wwt		9	07-FEB-23
PCB 144			<0.69	[U]	pg/g wwt		9	07-FEB-23
PCB 147/149			<0.89	[U]	pg/g wwt		9	07-FEB-23
PCB 134/143			<1.1	[U]	pg/g wwt		9	07-FEB-23
PCB 139/140			<0.91	[U]	pg/g wwt		9	07-FEB-23
PCB 131			<1.1	[U]	pg/g wwt		9	07-FEB-23
PCB 142			<1.1	[U]	pg/g wwt		9	07-FEB-23
PCB 132			<1.1	[U]	pg/g wwt		9	07-FEB-23
PCB 133			<1.1	[U]	pg/g wwt		9	07-FEB-23
PCB 165			<0.80	[U]	pg/g wwt		9	07-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-4 MB								
PCB 146			<0.86	[U]	pg/g wwt		9	07-FEB-23
PCB 161			<0.77	[U]	pg/g wwt		9	07-FEB-23
PCB 168/153			1.30	[J]	pg/g wwt		9	07-FEB-23
PCB 141			<0.92	[U]	pg/g wwt		9	07-FEB-23
PCB 130			<1.2	[U]	pg/g wwt		9	07-FEB-23
PCB 137/164			<0.83	[U]	pg/g wwt		9	07-FEB-23
PCB 138/163/129			2.5	[J]	pg/g wwt		9	07-FEB-23
PCB 160			<0.74	[U]	pg/g wwt		9	07-FEB-23
PCB 158			<0.64	[U]	pg/g wwt		9	07-FEB-23
PCB 128/166			<0.86	[U]	pg/g wwt		9	07-FEB-23
PCB 159			<0.74	[U]	pg/g wwt		9	07-FEB-23
PCB 162			<0.77	[U]	pg/g wwt		9	07-FEB-23
PCB 167			<0.77	[U]	pg/g wwt		9	07-FEB-23
PCB 156/157			<1.0	[U]	pg/g wwt		18	07-FEB-23
PCB 169			<0.039	[U]	pg/g wwt		3	30-JAN-23
PCB 188			<0.52	[U]	pg/g wwt		9	07-FEB-23
PCB 179			<0.46	[U]	pg/g wwt		9	07-FEB-23
PCB 184			<0.44	[U]	pg/g wwt		9	07-FEB-23
PCB 176			<0.47	[U]	pg/g wwt		9	07-FEB-23
PCB 186			<0.48	[U]	pg/g wwt		9	07-FEB-23
PCB 178			<0.68	[U]	pg/g wwt		9	07-FEB-23
PCB 175			<0.65	[U]	pg/g wwt		9	07-FEB-23
PCB 187			<0.61	[U]	pg/g wwt		9	07-FEB-23
PCB 182			<0.58	[U]	pg/g wwt		9	07-FEB-23
PCB 183			<0.61	[U]	pg/g wwt		9	07-FEB-23
PCB 185			<0.67	[U]	pg/g wwt		9	07-FEB-23
PCB 174			<0.65	[U]	pg/g wwt		9	07-FEB-23
PCB 177			<0.69	[U]	pg/g wwt		9	07-FEB-23
PCB 181			<0.68	[U]	pg/g wwt		9	07-FEB-23
PCB 171/173			<0.71	[U]	pg/g wwt		9	07-FEB-23
PCB 172			<0.73	[U]	pg/g wwt		9	07-FEB-23
PCB 192			<0.59	[U]	pg/g wwt		9	07-FEB-23
PCB 180/193			<0.57	[U]	pg/g wwt		9	07-FEB-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch R5927357								
WG3778662-4 MB								
PCB 191			<0.52	[U]	pg/g wwt		9	07-FEB-23
PCB 170			<0.75	[U]	pg/g wwt		9	07-FEB-23
PCB 190			<0.49	[U]	pg/g wwt		9	07-FEB-23
PCB 189			<0.39	[U]	pg/g wwt		9	07-FEB-23
PCB 202			<0.77	[U]	pg/g wwt		9	07-FEB-23
PCB 201			<0.64	[U]	pg/g wwt		9	07-FEB-23
PCB 204			<0.64	[U]	pg/g wwt		9	07-FEB-23
PCB 197			<0.69	[U]	pg/g wwt		9	07-FEB-23
PCB 200			<0.69	[U]	pg/g wwt		9	07-FEB-23
PCB 198/199			<1.0	[U]	pg/g wwt		9	07-FEB-23
PCB 196			<0.96	[U]	pg/g wwt		9	07-FEB-23
PCB 203			<0.94	[U]	pg/g wwt		9	07-FEB-23
PCB 195			<0.53	[U]	pg/g wwt		9	07-FEB-23
PCB 194			<0.49	[U]	pg/g wwt		9	07-FEB-23
PCB 205			<0.43	[U]	pg/g wwt		9	07-FEB-23
PCB 208			<0.65	[U]	pg/g wwt		9	07-FEB-23
PCB 207			<0.67	[U]	pg/g wwt		9	07-FEB-23
PCB 206			<1.2	[U]	pg/g wwt		9	07-FEB-23
PCB 209			<0.17	[U]	pg/g wwt		9	07-FEB-23
Surrogate: 13C12 PCB 1			35.0		%		5-145	07-FEB-23
Surrogate: 13C12 PCB 3			36.0		%		5-145	07-FEB-23
Surrogate: 13C12 PCB 4			26.0		%		5-145	07-FEB-23
Surrogate: 13C12 PCB 15			40.0	R	%		5-145	07-FEB-23
Surrogate: 13C12 PCB 19			12.0	R	%		5-145	07-FEB-23
Surrogate: 13C12 PCB 37			42.0	M	%		5-145	07-FEB-23
Surrogate: 13C12 PCB 54			22.0		%		5-145	07-FEB-23
Surrogate: 13C12 PCB 81			31.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 77			30.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 104			31.0	R	%		10-145	07-FEB-23
Surrogate: 13C12 PCB 123			84.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 118			89.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 114			95.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 105			83.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 126			42.0		%		10-145	30-JAN-23

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-1668C-O2-HRMS-BU	**Tissue**							
Batch	**R5927357**							
WG3778662-4	**MB**							
Surrogate: 13C12 PCB 155			48.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 167			74.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 156/157			73.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 169			49.0		%		10-145	30-JAN-23
Surrogate: 13C12 PCB 188			58.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 189			116.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 202			36.0	R	%		10-145	07-FEB-23
Surrogate: 13C12 PCB 205			85.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 208			68.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 206			68.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 209			122.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 28			79.0		%		5-145	07-FEB-23
Surrogate: 13C12 PCB 111			67.0		%		10-145	07-FEB-23
Surrogate: 13C12 PCB 178			60.0		%		10-145	07-FEB-23
Total MonoCB			<2.2	[U]	pg/g wwt		18	07-FEB-23
Total DiCB			<9.0	[U]	pg/g wwt		36	07-FEB-23
Total TriCB			<3.1	[U]	pg/g wwt		36	07-FEB-23
Total TetraCB			2.84	[J]	pg/g wwt		72	07-FEB-23
Total PentaCB			<0.040	[U]	pg/g wwt		72	07-FEB-23
Total HexaCB			3.76	[J]	pg/g wwt		72	07-FEB-23
Total HeptaCB			<0.39	[U]	pg/g wwt		36	07-FEB-23
Total OctaCB			<0.43	[U]	pg/g wwt		36	07-FEB-23
Total NonaCB			<0.65	[U]	pg/g wwt		18	07-FEB-23
DecaCB			<0.17	[U]	pg/g wwt		18	07-FEB-23
Total PCB			6.6	[J]	pg/g wwt		144	07-FEB-23

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
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M	A peak has been manually integrated.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,R	A peak has been manually integrated, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Metals							
Mercury in Tissue							
	21	29-SEP-21 09:00	24-JAN-23 18:00	28	482	days	EHTR
	22	29-SEP-21 09:00	24-JAN-23 18:00	28	482	days	EHTR
	23	29-SEP-21 09:00	24-JAN-23 18:00	28	482	days	EHTR
	24	29-SEP-21 09:00	24-JAN-23 18:00	28	482	days	EHTR
	25	29-SEP-21 09:00	24-JAN-23 18:00	28	482	days	EHTR
	26	29-SEP-21 09:00	24-JAN-23 18:00	28	482	days	EHTR
	27	30-SEP-21 09:00	24-JAN-23 18:00	28	481	days	EHTR
	28	30-SEP-21 09:00	24-JAN-23 18:00	28	481	days	EHTR
	29	30-SEP-21 09:00	24-JAN-23 18:00	28	481	days	EHTR
	30	30-SEP-21 09:00	24-JAN-23 18:00	28	481	days	EHTR
	31	30-SEP-21 09:00	24-JAN-23 18:00	28	481	days	EHTR
	32	12-OCT-22 12:00	24-JAN-23 18:00	28	104	days	EHTR
	33	12-OCT-22 12:00	24-JAN-23 18:00	28	104	days	EHTR
	34	12-OCT-22 12:00	24-JAN-23 18:00	28	104	days	EHTR
	35	12-OCT-22 12:00	24-JAN-23 18:00	28	104	days	EHTR
	36	13-OCT-22 12:00	24-JAN-23 18:00	28	103	days	EHTR
	37	13-OCT-22 12:00	24-JAN-23 18:00	28	103	days	EHTR
	38	13-OCT-22 12:00	24-JAN-23 18:00	28	103	days	EHTR
	39	13-OCT-22 12:00	24-JAN-23 18:00	28	103	days	EHTR
	40	Not provided	24-JAN-23 18:00	28	69	days	EHT
Metals by CCMS Analysis							
	21	29-SEP-21 09:00	24-JAN-23 18:00	180	482	days	EHTR
	22	29-SEP-21 09:00	24-JAN-23 18:00	180	482	days	EHTR
	23	29-SEP-21 09:00	24-JAN-23 18:00	180	482	days	EHTR
	24	29-SEP-21 09:00	24-JAN-23 18:00	180	482	days	EHTR
	25	29-SEP-21 09:00	24-JAN-23 18:00	180	482	days	EHTR
	26	29-SEP-21 09:00	24-JAN-23 18:00	180	482	days	EHTR
	27	30-SEP-21 09:00	24-JAN-23 18:00	180	481	days	EHTR
	28	30-SEP-21 09:00	24-JAN-23 18:00	180	481	days	EHTR
	29	30-SEP-21 09:00	24-JAN-23 18:00	180	481	days	EHTR
	30	30-SEP-21 09:00	24-JAN-23 18:00	180	481	days	EHTR
	31	30-SEP-21 09:00	24-JAN-23 18:00	180	481	days	EHTR
Polychlorinated Biphenyls							
All PCB congeners by GC/HRMS							
	1	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	1	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	2	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	2	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	3	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	3	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	4	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	4	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	5	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	5	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	6	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	6	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	7	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	7	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	8	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	8	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	9	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	9	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	10	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	10	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	11	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR
	11	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Dioxins and Furans							
Dioxins and Furans HR 1613B							
	6	29-SEP-21 09:00	11-JAN-23	365	469	days	EHTR
	7	30-SEP-21 09:00	11-JAN-23	365	468	days	EHTR

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2740805 were received on 16-NOV-22 11:30.

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.

![ALS Environmental logo] ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2740805-COFC

COC Number: 17 - 832000

Page 1 of 2

Report To	Contact and company name below will appear on the final report
Company:	Advisian
Contact:	Graham Young
Phone:	403-968-1595
	Company address below will appear on the final report
Street:	Unit 150, 205 Quarry Park Blvd SE
City/Province:	Calgary, Alberta
Postal Code:	T2C 3E7

Report Format / Distribution	
Select Report Format:	[X] PDF [X] EXCEL [X] EDD (DIGITAL)
Quality Control (QC) Report with Report	[X] YES [ ] NO
[ ] Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	graham.young@advisian.com
Email 2	canada.chemistry@worley.com
Email 3	geetha.ramesh@advisian.com

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)	
Regular [R] [X] Standard TAT if received by 3 pm - business days - no surcharges apply	
PRIORITY (Business Days): 4 day [P4-20%] [ ]	EMERGENCY: 1 Business day [E - 100%] [ ]
3 day [P3-25%] [ ]	Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] [ ]
2 day [P2-50%] [ ]	
Date and Time Required for all E&P TATs:	dd-mmm-yy hh:mm

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

Invoice To	
Same as Report To	[X] YES [ ] NO
Copy of Invoice with Report	[ ] YES [X] NO
Company:	~~Invoice to SSCAPINV AMERICAS@worley.com~~
Contact:	~~[illegible]~~

Invoice Distribution	
Select Invoice Distribution:	[X] EMAIL [ ] MAIL [ ] FAX
Email 1 or Fax	sscapinv-americas@worley.com
Email 2	tammara.grendus@advisian.com

Project Information	
ALS Account # / Quote #:	ALSEQ21-257
Job #:	317081-00057
PO / AFE:	
LSD:	W 6-67-8 W5M
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: Lynne Wrona	Sampler: GY/KG/DL

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	NUMBER OF CONTAINERS	PCBs 1668C SPB-Octyl column	PCDD/Fs *Coplanar PCBs (GC/HRMS)	PCDD/Fs 1613 GC/HRMS	Metals (ICP/MS)	Mercury (CVAA)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	CHBKTR 1+	29-Sep-21	9:00	Tissue	1	X	X		X	X		
	CHBKTR 2+	29-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	CHBKTR 3+	29-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	CHBKTR 4+	29-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	CHBKTR 5+	29-Sep-21	9:00	Tissue	1	↓	↓	X	↓	↓		
	CHBKTR SPLIT	29-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	EDBKTR 1+	30-Sep-21	9:00	Tissue	1	↓	↓	X	↓	↓		
	EDBKTR 2+	30-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	EDBKTR 3+	30-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	EDBKTR 5+	30-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	HATCH	30-Sep-21	9:00	Tissue	1	↓	↓		↓	↓		
	EDF-5462	—	—	~~Tissue~~ [illegible]		↓	↓		~~X~~	~~X~~ do not analyse		

Drinking Water (DW) Samples[1] (client use)	
Are samples taken from a Regulated DW System?	[ ] YES [ ] NO
Are samples for human consumption/ use?	[ ] YES [ ] NO

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

Split homogenate of composite sample CHBKTR 3+ into two samples and analyse second sample as CHBKTR SPLIT.

SAMPLE CONDITION AS RECEIVED (lab use only)			
Frozen [X]	SIF Observations	Yes [ ]	No [X]
Ice Packs [X] Ice Cubes [X]	Custody seal intact	Yes [X]	No [ ]
Cooling Initiated [X]			
INITIAL COOLER TEMPERATURES °C	-15 °C	FINAL COOLER TEMPERATURES °C	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [signature]	Date: Nov. 15/22	Time: 18:00	Received by: Aaron Burton	Date: 16-Nov-2022	Time: 11:30	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

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

ALS Environmental

www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2740805-COFC

COC Number: 17 - 831997

Report To	Contact and company name below will appear on the final report
Company:	Advisian
Contact:	Graham Young
Phone:	403-968-1545
	Company address below will appear on the final report
Street:	Unit 150, 205 Quarry Park Blvd SE
City/Province:	Calgary, AB
Postal Code:	T2C 3E7
Invoice To	Same as Report To [X] YES [ ] NO
	Copy of Invoice with Report [ ] YES [X] NO
Company:	
Contact:	

Report Format / Distribution

Select Report Format: [X] PDF [X] EXCEL [X] EDD (DIGITAL)

Quality Control (QC) Report with Report [X] YES [ ] NO

[ ] Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: [X] EMAIL [ ] MAIL [ ] FAX

Email 1 or Fax graham.young@advisian.com

Email 2 canada.chemistry@worley.com

Email 3 geetha.ramesh@advisian.com

Invoice Distribution

Select Invoice Distribution: [X] EMAIL [ ] MAIL [ ] FAX

Email 1 or Fax SSCapinv-americas@worley.com

Email 2 tammara.arendus@advisian.com

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

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

PRIORITY (Business Days): 4 day [P4-20%] [ ]; 3 day [P3-25%] [ ]; 2 day [P2-50%] [ ]

EMERGENCY: 1 Business day [E - 100%] [ ]; Same Day, Weekend or Statutory holiday [E2 -200% (Laboratory opening fees may apply)] [ ]

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

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

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	ALS EQ21-257	AFE/Cost Center:	PO#
Job #:	317011-00057	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:	W 6-67-8 W5M	Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Lynne Wrona	Sampler: GY/KG/DL

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	NUMBER OF CONTAINERS	PCB's 1668C SPB-Octyl column	PCDD/Fs + Coplanar PCBs (GC/MS/MS)	PCDD/Fs 1613 (GC/HRMS)	Metals (ICP/MS)	Mercury (CVAA)	SAMPLES ON HOLD	SUSPECTED HAZARD (see Special Instructions)
	CHBKTR 1+	12-Oct-22	12:00	Tissue	2	X	X		X	X		
	CHBKTR 2+	12-Oct-22	12:00	Tissue	2	X	X		X	X		
	CHBKTR 3+	12-Oct-22	12:00	Tissue	2	X	X		X	X		
	CHBKTR UNK	12-Oct-22	12:00	Tissue	1	X	X	X	X	X		
	EDBKTR 1+	13-Oct-22	12:00	Tissue	2	X	X		X	X		
	EDBKTR 2+	13-Oct-22	12:00	Tissue	2	X	X		X	X		
	EDBKTR 3+	13-Oct-22	12:00	Tissue	2	X	X		X	X		
	HATCH	13-Oct-22	12:00	Tissue	1	X	X					
	DORM-5	—	—	CRM					X	X		

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

Are samples taken from a Regulated DW System? [ ] YES [ ] NO

Are samples for human consumption/ use? [ ] YES [ ] NO

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

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen [X] SIF Observations Yes [ ] No [X]

Ice Packs [X] Ice Cubes [X] Custody seal intact Yes [X] No [ ]

Cooling Initiated [X]

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
-15°C							

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	NOV. 15/22	18:00	AARAN BRATAN	16-NOV-2022	11:30			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JUNE 2018 FRONT

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

Appendix E. Swan Hills Treatment Centre: 2023 Human Health Risk Assessment

VEOLIA WASTE SERVICES ALBERTA INC.

Human Health Risk Assessment Through Consumption of Fish near Swan Hills Treatment Centre

Based on 2023 Fish Monitoring Data

Document no. Rev. 0: 317011-00057-23200-EN-REP-0002

27 March 2024

49 Quarry Park Blvd SE
Calgary AB T2C 5H9
Canada

T: +1 403 258 6411
Worley Canada Services Ltd

worley.com

Disclaimer

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PROJECT 317011-00057: Human Health Risk Assessment Through Consumption of Fish near Swan Hills Treatment Centre - Based on 2023 Fish Monitoring Data

Rev	Description	Originator	Reviewer	Worley Approver	Revision Date	Customer Approver	Approval Date
Rev 0	Issued for Information	C. Young	G. Ramesh	T. Grendus	'27-Mar-24		

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Table of contents

List of tables

List of figures

Tables

Acronyms and Abbreviations

Acronyms/abbreviation	Definition
µg/kg/day	Micrograms per kilogram per day
AEPA	Alberta Environment and Protected Areas
ALS	ALS Laboratories Ltd
COCs	contaminants of concern
dioxins	polychlorinated dibenzo-ρ-dioxins
EMP	Environmental Monitoring Program
EPEA	Environmental Protection and Enhancement Act
ER	Exposure Ratio
FTMP	fish tissue monitoring program
furans	polychlorinated dibenzofurans
GOA	Government of Alberta
HHRA	human health risk assessment
ML	maximum levels
PCBs	polychlorinated biphenyls
PCDD/F	polychlorinated dibenzo-ρ-dioxins/polychlorinated dibenzofurans
pg/kg/day	Picograms per kilogram per day
SHTC	Swan Hills Treatment Centre
TCDD	2,3,7,8- tetrachlorodibenzo-ρ-dioxin
TDI	Tolerable Daily Intake
TEF	toxic equivalency factor
TEQ	toxic equivalency quotients
TRV	Toxicological Reference Values
Veolia Waste Services Alberta Inc.	Veolia
WHO	World Health Organization

1. Introduction

The Swan Hills Treatment Centre (SHTC) is located approximately 13.5 km northeast from the Town of Swan Hills, Alberta in W½ 6-67-8 W5M, and is operated by Veolia Waste Services Alberta Inc. (Veolia). The facility is operated under Environmental Protection and Enhancement Act (EPEA) Approval No. 1744-03-00. Section 4.10 of the EPEA approval requires that an annual Environmental Monitoring Program (EMP) reviews the potential effects of the facility's operation onto the surrounding environment.

The EMP requirement of the EPEA approval is fulfilled by a detailed annual EMP initiated in 1985 for the facility and surrounding area. As of 2023, key components of the EMP include groundwater, surface water, sediment, fish, air, soil, vegetation, animal tissue, and wildlife. Each year fish tissue near the facility is collected and edible tissue is analyzed for contaminants of concern (COCs) including metals, polychlorinated biphenyls (PCBs), polychlorinated dibenzo-ρ-dioxins (dioxins), and polychlorinated dibenzofurans (furans). Although metals, dioxins, and furans tested for during the EMP, these COCs have been consistently low, and PCBs are the main COC. Data collected during the fish tissue monitoring program (FTMP) is used to determine heath risk of consuming fish near the facility through an annual human health risk assessment (HHRA). Given that PCBs are the main COC, metal COCs are not assessed during the HHRA, and discussion of dioxins and furans is limited to toxic equivalency quotients (TEQ) used to quantify risk of dioxin-like compounds (See Section 2.3.1).

1.1 Background

The FTMP annually measures COC concentrations in edible brook trout (*Salvelinus fontinalis*) tissue from Chrystina Lake, which is the study lake given its proximity to the facility (1.5 km downgradient and downwind), and the local reference, Edith Lake. Both lakes are stocked annually with triploid brook trout during the annual stocking program managed by Alberta Environment and Protected Areas (AEPA). Brook trout samples from both lakes are typically analyzed alongside fish taken directly from the hatchery to control for potential contamination during hatchery rearing. Control brook trout from the hatchery could not be analyzed in 2023 because of maintenance at the Cold Lake Fish Hatchery. An annual HHRA is conducted which uses data from the FTMP to quantify potential health risks of consuming trout from these lakes.

A detailed description of both lakes and further details regarding the FTMP program are available in the previous FTMP annual reports (Advisian 2021). Both lakes are open to recreational fishing year-round and are easily accessible by high-grade gravel roads.

There is currently an Alberta Health advisory recommending that consumption of brook trout captured within 20 km of Swan Hills be kept to two servings (75 g/serving) per week (Government of Alberta [GOA] 2023). This advisory encompasses both Chrystina Lake and Edith

Lake, has been in place since 1997 (GOA 2013), and equates to a daily recommended intake limit of 22 g/day.

1.2 Objectives

Consumption of wild caught fish is an important aspect of subsistence and recreational fisheries and is an important exposure pathway when food is collected from in and around contaminated sites (Health Canada 2010a). The objectives of the HHRA in 2023 include:

- Comparing measured tissue concentrations in brook trout from Chrystina Lake and Edith Lake in 2023 with historical concentrations.
- Determining potential risk to human health posed by consumption of brook trout captured from Chrystina Lake and Edith Lake based on Health Canada's current exposure limits.

2. Methods

The methods employed by the HHRA in 2023 are consistent with those used previously, however, comparisons between concentrations in brook trout from Swan Hills and those measured in other North American lakes and supermarkets is not included. Previous comparisons between fish caught in other North American lakes and supermarkets have shown that concentrations near Swan Hills are low (G&P Resource Services Inc. 2021).

As done in previous years, Worley Consulting has used risk assessment as a tool to evaluate the likelihood and degree of chemical exposure through fish and the possible adverse health effects associated with such exposure on human health. The basic steps of the HHRA process are the following:

- Data Collection and Analysis to determine the nature and extent of chemical contamination in fish.
- Exposure Assessment, which is an identification of possible exposed populations and an estimation of human chemical intake through a single exposure route – i.e. ingestion
- Toxicity Assessment, which is an evaluation of chemical toxicity from exposure to organic COCs.
- Risk Characterization, which describes the likelihood and degree of chemical exposure at a site and the possible adverse health effects associated with such exposure.

The following sections outline the assumptions and calculations used for the above steps in the HHRA in 2023.

2.1 Data Collection and Analysis

Brook trout tissue collected annually during the FTMP are grouped according to fish age and composite samples are submitted for lab analysis depending on the age distribution available from each lake. Fish are filleted in the field and frozen immediately on dry ice and samples from 2023 were submitted to ALS Laboratories Ltd (ALS) for analysis of metals, PCBs, dioxins, and furans. Edible tissue is submitted and analyzed with the skin still attached based on previous consultation with stakeholders. The main COCs are lipophilic and preferentially accumulate in fatty tissue. Assessing risk with the skin attached provides a conservative estimate of health risk given that fish skin contains a high proportion of fat.

Details on fish tissue residue analysis, sampling methodology, and laboratory analysis is provided in the FTMP conducted by Worley Consulting (Advisian 2023).

2.1.1 Fish Categories

A weighted average of samples submitted each year is calculated for Chrystina Lake and Edith Lake brook trout, and total PCB and total TEQ are used to determine potential risks. Notably, the total TEQ accounts for toxicity of dioxin-like PCBs, dioxins, and furans, whereas assessment of total PCBs accounts for the potential non-dioxin-like effects of PCBs. The maximum total PCB and TEQ provides an overly conservative estimate of risk but is included for concentrations measured in 2023 to provide a worst-case scenario for comparison with exposure limits. Since 2019, the weighted average of brook trout older than 2^{+} years old has been included in the HHRA given that these fish are generally targeted by recreational fishing people based on size. These brook trout are generally referred to as 'keeper' fish throughout the remainder of this report for conciseness.

2.2 Exposure Assessment

Adults, adolescents, children, and toddlers were identified as populations possibly exposed to PCBs through ingestion of fish tissue collected near the SHTC. The exposure pathways identified in this HHRA are limited to ingestion of fish. Quantification of exposure is provided in Section 2.4.

2.3 Toxicity Assessment

Health Canada assesses the risks posed to Canadians by environmental contaminants in food. In support of risk assessment activities, scientists monitor the concentrations of various environmental contaminants in foods through the ongoing Total Diet Study. Health Canada scientists also research and evaluate the toxicity of environmental contaminants to humans, participate in international evaluations of the toxicity of contaminants, and monitor the results of new studies as they become available. When necessary, Health Canada sets/develops maximum levels for contaminants in foods.

One such risk-management measure is the development of maximum levels (MLs) for chemical contaminants in retail foods. The List of Contaminants and Other Adulterating Substances in Foods establishes the ML in fish for 2,3,7,8- tetrachlorodibenzo-ρ-dioxin (TCDD; Health Canada 2022). The List of Maximum Levels for Various Chemical Contaminants in Foods establishes the ML for PCBs (Health Canada 2020). These limits are enforceable by the Canadian Food Inspection Agency and replace the Guidelines for Chemical Contaminants and Toxins in Fish and Fish Products. The ML for TCDD is based on the TEQ and is 20 pg/g, whereas the ML for PCBs is 2000 ng/g. It is important to note that both MLs for TCDD and PCBs are under review and considered outdated by Health Canada (G&P Resource Services Inc. 2021). In addition, tissue concentrations in brook trout from Chrystina Lake and Edith Lake are well below these ML. Tissue concentrations in 2023 are therefore not compared with the Health Canada ML in the 2023 HHRA.

2.3.1 Chemical Toxicity Quantification

Dioxins, furans, and dioxin-like (also referred to as coplanar) PCBs produce toxic effects through similar physiological pathways that are mediated by the aryl hydrocarbon receptor. Consequently, toxicity of these compounds can be quantified by combining their respective toxic effects into a TEQ. The TEQ approach uses the toxic equivalency factor (TEF), which is based on the concept of dose addition where the toxicity of individual dioxin and dioxin-like compounds in a mixture is combined into the single TEQ metric that can be used to facilitate risk assessment. The summed concentration of these "dioxin-like" PCBs multiplied by their respective TEF is commonly referred to as the "PCB-TEQ" concentration (i.e. the dioxin equivalent concentration that comes from PCBs). "Total TEQ" refers to the sum of 2,3,7,8-TCDD equivalency from both PCBs and PCDD/Fs.

TEQs calculated during the FTMP are based on the 2005 World Health Organization (WHO) TEFs which express the toxicity of each dioxin, furan, and coplanar PCB relative to the most toxic form of dioxin (Van den Berg et al. 2006; Table 2-1). TEFs were also developed for certain PCB congeners for quantifying their "dioxin-like" potency (Van den Berg et al. 2006).

Results below detection were replaced with half the detection limit (ND = 0.5 DL) and reported estimated maximum values are used to calculate TEQ. Substituting non-detections with half the detection limit is widely accepted in Canada for risk assessment programs (Health Canada 2010a) and using estimated maximum values provides a more conservative risk estimate.

Table 2-1: Toxic Equivalence Factor for Dioxin-Like PCBs, Dioxins, and Furans

Dioxin-Like PCBs		Dioxins		Furans	
Congener	**TEF**	**Congener**	**TEF**	**Congener**	**TEF**
77	0.0001	2,3,7,8-TCDD	1	2,3,7,8-TCDF	0.1
81	0.0003	1,2,3,7,8-PeCDD	1	1,2,3,7,8-PeCDF	0.03
126	0.1	1,2,3,4,7,8-HxCDD	0.1	2,3,4,7,8-PeCDF	0.3
169	0.03	1,2,3,6,7,8-HxCDD	0.1	1,2,3,4,7,8-HxCDF	0.1
105	0.00003	1,2,3,7,8,9-HxCDD	0.1	1,2,3,6,7,8-HxCDF	0.1
114	0.00003	1,2,3,4,6,7,8-HpCDD	0.01	1,2,3,7,8,9-HxCDF	0.1
118	0.00003	OCDD	0.0003	2,3,4,6,7,8-HxCDF	0.1
123	0.00003			1,2,3,4,6,7,8-HpCDF	0.01
156	0.00003			1,2,3,4,7,8,9-HpCDF	0.01
157	0.00003			OCDF	0.0003
167	0.00003				
189	0.00003				

Notes: The TEF used for the HHRA is based on the 2006 WHO mammalian TEFs listed in the Re-evaluation of Human and Mammalian TEFs for Dioxins and Dioxin-like Compounds (Van den Berg et al. 2006).

2.4 Quantification of Exposure

2.4.1 Body Weights and Consumption Rates

Assumed fish consumption rates and body weight align with those used by the HHRA previously and are based on the diet and activity survey in Swan Hills that was conducted by Alberta Health in 1997 (Alberta Health 1997). The assumed body weight of adults based on this survey is 73 kg and consumption rates are:

- 167 g/day for high consumers;
- 47 g/day for medium consumers;
- 13 g/day for low consumers; and
- 2 g/day for very low consumers.

The HHRA also characterizes risk for adolescents (12 to 19 year-olds), children (5 to 11 year-olds), and toddlers (7 month to 4 year-olds). The assumed consumption rates and average body weights for these age groups is summarized in Table 2-2. As with adults, the assumed consumption rates and body weights are consistent with those previously used for the HHRA and were adopted from the *Human Health Risk Assessment of Mercury in Fish and Health Benefits of Consumption* (Health Canada 2007) and the Canadian Exposure Factors Handbook (Richardson 2013), respectively.

Table 2-2: Average fish consumption rates and body weight for Adolescents/Juveniles

Life Stage	Age Group	Average Consumption Rate (grams/day)	Average Body Weight (kg)
Adolescent	12 – 19 years	40	65.2
Child	5 – 11 years	33	35.2
Toddler	7 month – 4 years	20	15.3

2.4.2 Background Exposure

Background exposure concentrations to PCBs, dioxins, and furans are provided in Table 2-3 and were consistent with those used previously for the HHRA (G&P Resource Services Inc. 2021). These background levels are based on basket studies done in 2002. While more recent studies have suggested that background levels of these contaminants are decreasing in Canada, results have been somewhat variable and Health Canada has maintained the 2002 background (G&P Resource Services Inc. 2021). It is notable that background exposures used for the HHRA represent a large proportion of the recommended Tolerable Daily Intake (TDI), particularly in younger age groups that are more susceptible. For example, the PCB background exposure is 68% of the Health Canada TDI (See Section 2.4.3) and the TEQ background is 82% of the TDI for toddlers.

Table 2-3: Background Exposure Assumptions for Adults and Adolescents/Juveniles

Life Stage	Age Group	PCB Exposure (µg/kg bw/day)	TEQ Exposure (pg/kg bw/day)
Adult	>19 years	0.002	0.5
Adolescent	12 – 19 years	0.002	0.63
Child	5 – 11 years	0.0035	0.99
Toddler	7 month – 4 years	0.0068	1.89

2.4.3 Tolerable Daily Intakes

TDIs are established by Health Canada and were recently updated in Version 3 of the Toxicological Reference Values (TRV) that was released in 2021 (Health Canada 2021). The TDI for total TEQ (dioxin-like PCB, dioxin, and furan toxicity) did not change from the 2009 TRVs (Health Canada 2010b), however the TDI for total PCBs was reduced from 0.13 µg/kg/day.

The updated TDIs for organic COCs, including total PCBs and dioxins/dioxin-like compounds, near the facility are:

- Total (non-dioxin-like) PCBs = 0.01 µg/kg/day; and
- Total TEQ (dioxin-like PCBs, dioxins and furans) = 2.3 pg/kg/day.

It is important to note that the TDI for dioxin-like PCBs, dioxins, and furans is based on the combined TEQ of these COCs and that the TDIs for total PCBs and total TEQ are provisional in the 2021 TRV list (Health Canada 2021). The FTMP compares total PCB concentrations with advisory levels established for the Great Lakes area which establishes advisories for high to low consumers based on a TDI of 0.05 µg/kg/day (Great Lakes Sportfish Consumption Advisory Task Force [GLSFATF] 1993). The advisory limits used for the Great Lakes assumes a body weight of 70 kg to calculate criteria based on this TDI and assumes that removing skin/fat and cooking reduces residues by 50%. The HHRA in 2023 incorporated the exposure limit from the Great Lakes area to provide risk estimates based on other regional criteria used in Canada where historical PCB contamination is present.

2.5 Exposure Estimation

In the context of HHRA, the exposure assessment stage involves estimating the amount of a chemical coming into contact with or absorbed by human receptors per unit time (e.g. daily intake or dose). Exposure assessment is conducted for chemicals, human receptors/receptor age groups, and exposure pathways that were identified as being of concern, i.e. fish consumption pathway in this instance.

For this HHRA - Direct measurements, the most accurate estimate of current chemical concentrations in fish tissue from the lakes was used. Exposure through ingestion of fish (tissue residue concentration) was the only pathway analyzed. Although this approach is not holistic and does not account for other exposure pathways, this meets the objective of this study as defined in Section 1.2.

Total PCB and TEQ exposure estimates were calculated for each life-stage using the exposure assessment parameters previously described in Section 2.4. The estimated exposure calculations are based on Equation 1 to be consistent with exposure estimates previously calculated for the HHRA (G&P Resource Services Inc. 2021). Where C is the tissue residue concentration of the respective test group (e.g., weighted average of high consumer adults). The units provided in Equation 1 are based on total PCB concentrations, exposure estimates for total TEQ are based on pg/kg/day.

Equation 1

$$Exposure\ (\mu g/kg\ /day) = \frac{C\ *\ Consumption\ Rate\ (g/day)}{body\ weight\ (kg)} + Background\ (\mu g/kg\ /day)$$

The corresponding exposure estimates calculated from Equation 1 are therefore based on µg/kg/day, and pg/kg/day for total PCBs and total TEQ, respectively. Exposure estimates calculated for the 2023 HHRA are based on the maximum concentration measured in brook trout from each lake in 2023, the annual weighted average of all brook trout sampled from each lake since 2002, and the weighted average of 'keeper' brook trout from each lake since 2019.

2.6 Risk Characterization

Risk characterization is the final step of the risk assessment process, which combines the information from the Exposure Assessment and Toxicity Assessment steps to yield estimated risks from exposure to COCs. In addition, risk characterization involves an evaluation of the uncertainties underlying the risk assessment process. The risk characterization was prepared in accordance with Health Canada guidance on risk characterization (Health Canada 2021). The results are presented in Section 3 and a discussion of uncertainties inherent to the exposure and toxicity assessments is presented along with a quantitative evaluation of the uncertainty in risk characterization for the fish ingestion pathway in Section 4. Exposure estimates are divided by exposure limits described in Section 2.4.3 to determine the Exposure Ratio (ER) for the respective consumer groups.

Equation 2

$$Exposure\ Ratio\ (ER) = \frac{Estimated\ exposure\ (\mu g/kg\ /day)}{Exposure\ Limit\ (TDI)}$$

Health Canada refers to ERs as a hazard quotient but the terminology in this report continues to use ER to describe risk for consistency between monitoring years. Risks associated with ERs below 1 are considered negligible to be acceptable by Health Canada where background exposure is considered (Health Canada 2021). In this Project, Exposure Ratios and relevance to levels of risk used during the HHRA include:

ER ≤ 1.0 – estimated exposure from fish consumption are below the respective exposure limit and no risk of adverse health effects are expected.

10.0 < ER ≤ 10 – estimated exposure from fish consumption presents a low risk of potential adverse human health effects given the conservatism built into the HHRA.

10 < ER – higher likelihood of potential adverse health effects, indicating that risk management measures should be considered.

Lower exposure limits for total PCBs were introduced in 2021 by Health Canada and incorporated into the HHRA in 2022. This reduced exposure limit resulted in higher ER values in 2022 compared with previous years. Risk was quantified during the 2023 HHRA using only the 2021 exposure limits and provides exposure ratios that include background to provide a conservative risk estimate. It is important to note that in some cases the background exposure can add substantially to the potential risk (See Section 2.4).

3. Results

Details of risk characterization discussed in the following sections is based on the most recent TDI released by Health Canada in 2021 (0.01 µg/kg/day) and includes background exposure concentrations unless stated otherwise.

3.1 Tissue Concentrations

Weighted averages of total PCB concentrations measured since 2002 are summarized in Table 1, attached. Tissue residue concentrations of PCBs, dioxins, and furans measured in brook trout sampled in 2023 are summarized as calculated TEQ in Table 3-1.

Table 3-1: Total PCB concentrations and TEQs measured in brook trout sampled for the 2023 HHRA

Station	Sample ID	Fish Number	Total PCB (µg/g)	PCB TEQ (pg/g)	Dioxin/Furan TEQ (pg/g)	Total TEQ (pg/g)
Chrystina Lake	CHBKTR 1+	5	0.0060	0.25	0.13	0.38
	CHBKTR 2+	5	0.0134	0.57	0.12	0.69
	CHBKTR 3+	5	0.0260	1.03	0.15	1.18
	CHBKTR UNK (Rep A)	1	0.0174	0.63	0.14	0.78
	CHBKTR UNK (Rep B)	1	0.0159	0.64	0.10	0.74
Edith Lake	EDBKTR 1+	2	0.0024	0.06	0.11	0.17
	EDBKTR 2+	3	0.0039	0.20	0.06	0.26
	EDBKTR 3+	5	0.0054	0.37	0.12	0.49
	EDBKTR 4+	5	0.0039	0.24	0.08	0.32
	EDBKTR 6+	3	0.0052	0.33	0.14	0.47

The 2023 weighted averages for total PCBs and TEQs for dioxin-like PCBs, dioxins, and furans are summarized for Chrystina Lake and Edith Lake brook trout in Table 3-2. Weighted averages for 'keeper' brook trout are also provided in Table 3-2. The total PCB and TEQ in Chrystina Lake is higher than that observed in Edith Lake brook trout and concentrations were slightly higher in 'keeper' brook trout in both lakes.

Table 3-2: Total PCB concentrations and TEQs measured in brook trout sampled for the 2023 HHRA

Age Group	Station	Total PCB (µg/g)	PCB TEQ (pg/g)	Dioxin/Furan TEQ (pg/g)	Total TEQ (pg/g)
All ages (weighted average)	Chrystina Lake	0.0153	0.62	0.13	0.75
	Edith Lake	0.0042	0.25	0.09	0.34
>2+ years old ("Keeper")	Chrystina Lake	0.0192	0.77	0.13	0.91
	Edith Lake	0.0046	0.29	0.10	0.39

Weighted average total PCBs and total TEQ measured in brook trout from the FTMP are compared with historical concentrations in Figure 3-1 and Figure 3-2, respectively. The average total PCB concentration in Chrystina Lake brook trout decreased from the previous years and is similar to the weighted average observed in 2020. The patterns in total PCB and total TEQ are similar in both lakes as well as hatchery brook trout given that TEQ is primarily driven by PCB concentrations in Chrystina Lake and Edith Lake. Consequently, the weighted average TEQ for Chrystina Lake brook trout also decreased in 2023. The weighted averages in Edith Lake are slightly lower than Chrystina Lake and apart from 2022, have been similar to hatchery fish since 2017.

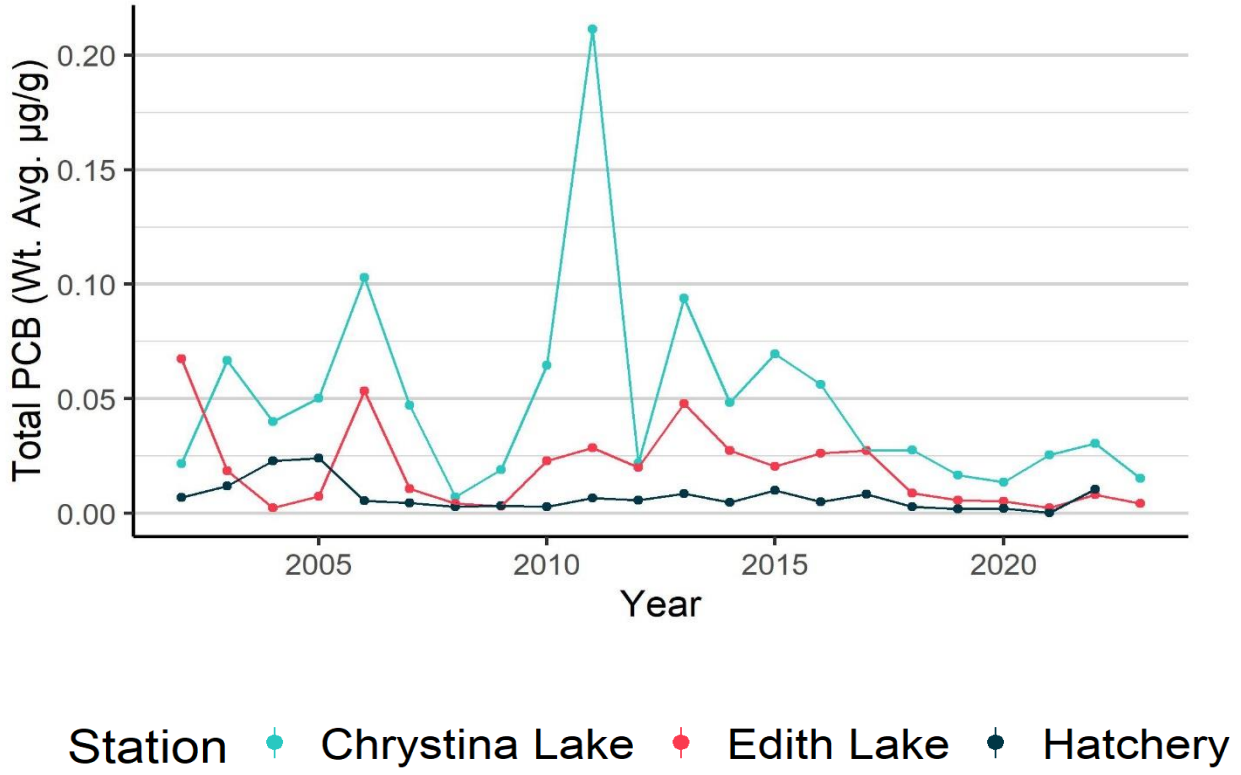

Figure 3-1: Weighted Average of Total PCBs in Brook Trout Sampled from Chrystina Lake, Edith Lake and the Hatchery (2002 to 2023)

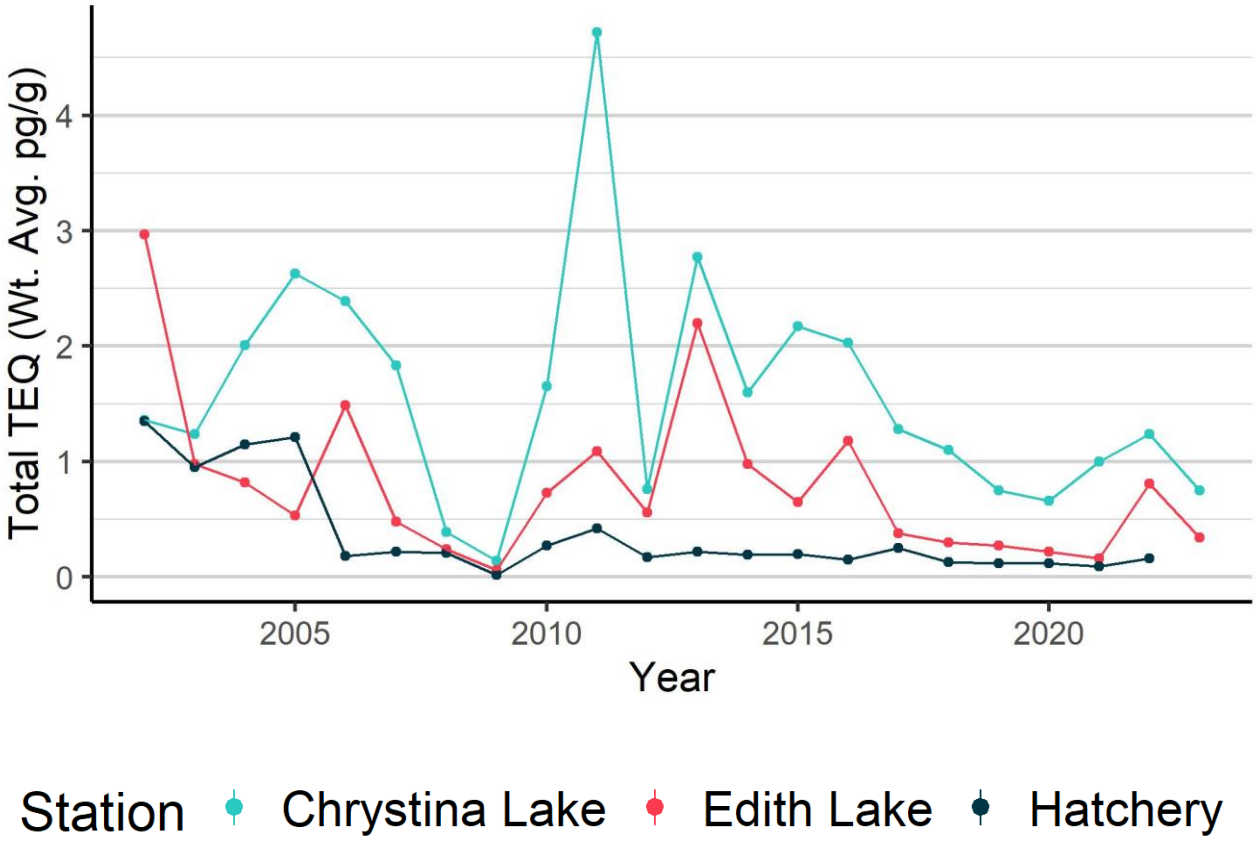

Figure 3-2: Weighted Average Total TEQ for Brook Trout Sampled from Chrystina Lake, Edith Lake and the Hatchery (2002 to 2023)

Maximum total PCB concentrations measured in Chrystina Lake and Edith Lake brook trout in 2023 are provided alongside TEQs based on dioxin-like PCBs, dioxins, and furans in Table 3-3.

Table 3-3: Maximum total PCBs and TEQ for Chrystina Lake and Edith Lake brook trout in 2023

Station	Total PCB (µg/g)	PCB TEQ (pg/g)	Dioxin/Furan TEQ (pg/g)	Total TEQ (pg/g)
Chrystina Lake	0.0260	1.03	0.15	1.18
Edith Lake	0.0054	0.37	0.14	0.49

3.2 Risk Characterization (Adults)

3.2.1 Total PCBs

The 2023 ERs for total PCBs for each adult consumer group are summarized for Chrystina Lake and Edith Lake in Table 3-4. Lower PCB concentrations in 2023 resulted in reduced ERs in Chrystina Lake and Edith Lake when compared with 2022. There are no ERs that exceed 10 in Chrystina Lake or Edith Lake. The ER is between 1 and 10 for high consumers collecting fish from both lakes, as well as for medium consumers eating brook trout from Chrystina Lake. These results are consistent with those documented in 2021 and 2022 for high and medium consumers. The ERs based on the consumption rate advised by Alberta Health (22 g/day) for lakes within 20 km of Swan Hills were below 1 for Chrystina Lake and Edith Lake brook trout in 2023. These results were consistent for the weighted average, "Keeper", and maximum contaminant concentrations documented in brook trout analyzed in 2023.

Table 3-4: Exposure Ratios based on total PCBs for consumption of brook trout near Swan Hills in 2023

Station	Consumer Class	Maximum	Weighted Average	>2+ years old ("Keeper")
Chrystina Lake	High (167 g/day)	6.14	3.70	4.59
	Medium (47 g/day)	1.87	1.18	1.43
	Low (13 g/day)	0.66	0.47	0.54
	Very Low (2 g/day)	0.27	0.24	0.25
	Advisory (22 g/day)	0.98	0.66	0.78
Edith Lake	High (167 g/day)	1.44	1.16	1.25
	Medium (47 g/day)	0.55	0.47	0.50
	Low (13 g/day)	0.30	0.27	0.28
	Very Low (2 g/day)	0.21	0.21	0.21
	Advisory (22 g/day)	0.36	0.33	0.34

Notes:

Yellow highlighting indicates ER is between 1 and 10 and has a low risk of potential adverse effects on human fish consumers.

Orange highlighting indicates ER is above 10, meaning there is a higher likelihood of adverse effects from fish consumption by humans and risk management should be considered.

The ERs for PCBs from consumption of brook trout from Chrystina Lake suggest that there is a potential low risk of adverse effects for high and medium consumers. There is no risk of adverse effects for people within the low or very low consumer groups, or those following the current consumption advisory. There is a potential low risk of adverse effects for high consumers of brook

trout from Edith Lake, but negligible risk to the other adult consumer groups given the conservatism built into the HHRA.

3.2.2 Total TEQ

Total TEQ ERs determined for consumers of Chrystina Lake and Edith Lake brook trout in 2023 are summarized in Table 3-5. The ERs for total TEQ in Chrystina Lake and Edith Lake brook trout were below 1 for all consumer groups based on the weighted average tissue concentrations measured in 2023. The only ERs that exceeded 1 in 2023 were based on the maximum and 'Keeper' tissue concentrations, and the highest consumption rate for Chrystina Lake brook trout. These ERs for the high consumer group of brook trout from Chrystina Lake slightly exceeded 1 in 2023.

The ERs for total TEQ in 2023 indicate that exposure to dioxin-like PCBs, dioxins, and furans is below the exposure limit for consumers of Chrystina Lake and Edith Lake brook trout. Consequently, no adverse effects are expected for most consumer groups. There is a low potential risk to high consumers of Chrystina Lake brook trout, however, this risk is low given the conservatism incorporated into the HHRA.

Table 3-5: Exposure Ratios based on total TEQ for consumption of brook trout near Swan Hills in 2023

Station	Consumer Class	Maximum	Weighted Average	>2+ years old ("Keeper")
Chrystina Lake	High (167 g/day)	1.39	0.96	1.12
	Medium (47 g/day)	0.55	0.43	0.47
	Low (13 g/day)	0.31	0.28	0.29
	Very Low (2 g/day)	0.23	0.23	0.23
	Advisory (22 g/day)	0.37	0.32	0.34
Edith Lake	High (167 g/day)	0.70	0.56	0.61
	Medium (47 g/day)	0.35	0.31	0.33
	Low (13 g/day)	0.26	0.24	0.25
	Very Low (2 g/day)	0.22	0.22	0.22
	Advisory (22 g/day)	0.28	0.26	0.27

Notes:

Yellow highlighting indicates ER is between 1 and 10 and has a low risk of potential adverse effects on human fish consumers.

Orange highlighting indicates ER is above 10, meaning there is a higher likelihood of adverse effects from fish consumption by humans and risk management should be considered.

3.3 Risk Characterization (Adolescents/Juveniles)

3.3.1 Total PCBs

The 2023 total PCB ERs for adolescent, child, and toddler (adolescent/juvenile) consumers of Chrystina Lake and Edith Lake brook trout are summarized in Table 3-6. All ERs are between 1 and 10 for adolescent/juvenile consumers of Chrystina Lake brook trout in 2023. In addition, the toddler consumer group had ERs between 1 and 10 for consumers of Edith Lake brook trout. These results are consistent with those documented in 2021 and 2022 for adolescent/juvenile consumers. The adolescent and child age groups consuming Edith Lake brook trout in 2023 were the only risk categories with ERs below 1 for all PCB concentration levels.

Overall, consumption of Chrystina Lake and Edith Lake brook trout by adolescents/juveniles poses a low potential risk of adverse effects from exposure to PCBs given the conservatism of the HHRA. Consumption of Edith Lake brook trout poses a lower risk of PCB exposure than consumption of Chrystina Lake brook trout, with negligible risk posed to adolescent and child consumers.

Table 3-6: Exposure Ratios based on total PCBs for consumption of brook trout near Swan Hills in 2023

Station	Consumer Class	Maximum	Weighted Average	>2+ years old ("Keeper")
Chrystina Lake	Adolescent	1.79	1.14	1.38
	Child	2.78	1.78	2.15
	Toddler	4.07	2.68	3.19
Edith Lake	Adolescent	0.53	0.46	0.48
	Child	0.86	0.74	0.78
	Toddler	1.39	1.23	1.28

Notes:

Yellow highlighting indicates ER is between 1 and 10 and has a low risk of potential adverse effects on human fish consumers.

Orange highlighting indicates ER is above 10, meaning there is a higher likelihood of adverse effects from fish consumption by humans and risk management should be considered.

3.3.2 Total TEQ

Exposure risk to dioxin-like PCBs, dioxins, and furans from consumption of Chrystina Lake and Edith Lake brook trout by adolescents/juveniles in 2023 is summarized in Table 3-7. The ERs for total TEQ are below 1 for adolescent and child consumers of Chrystina Lake and Edith Lake brook trout in 2023. The total TEQ ER for each concentration level slightly exceeded 1 for toddlers consuming brook trout from both Chrystina Lake and Edith Lake.

Risk from dioxin-like PCBs, dioxins, and furans to adolescent and child consumers is negligible to acceptable in 2023 based on ER values. There is a low potential risk to the toddler age group, however given the conservatism of the HHRA the risks posed by dioxins and dioxin-like compounds is low.

Table 3-7: Adolescent/Juvenile Exposure Ratios based on total TEQ for consumption of brook trout near Swan Hills in 2023

Station	Consumer Class	Maximum	Weighted Average	>2+ years old ("Keeper")
Chrystina Lake	Adolescent	0.59	0.47	0.52
	Child	0.91	0.74	0.80
	Toddler	1.49	1.25	1.34
Edith Lake	Adolescent	0.40	0.36	0.38
	Child	0.63	0.57	0.59
	Toddler	1.10	1.01	1.04

Notes:

Yellow highlighting indicates ER is between 1 and 10 and has a low risk of potential adverse effects on human fish consumers.

Orange highlighting indicates ER is above 10, meaning there is a higher likelihood of adverse effects from fish consumption by humans and risk management should be considered.

3.4 Historical Risk Comparison for High Consumers (2002 to 2023)

The HHRA has included a historical comparison of ERs for high consumers based on weighted averages since 2002 to identify temporal risk trends in Chrystina Lake and Edith Lake. The Health Canada TDI for total PCBs was updated in 2021 and is more conservative and was provisional at the time this HHRA reporting. The exposure limit for the Great Lakes has also been included in the historical comparison to provide ER values based on other regional areas with a history of PCB contamination and to highlight the effect of differing TDIs on risk characterization. Total PCB and TEQ ERs for high consumers of Chrystina Lake, Edith Lake, and hatchery brook trout since 2002 are summarized in Table 1.

3.4.1 Total PCBs

The ERs for high consumers of Chrystina Lake, Edith Lake, and hatchery brook trout since 2002 based on the 2021 Health Canada TDI and Great Lakes regional TDI are provided in Figure 3-3 and Figure 3-4, respectively.

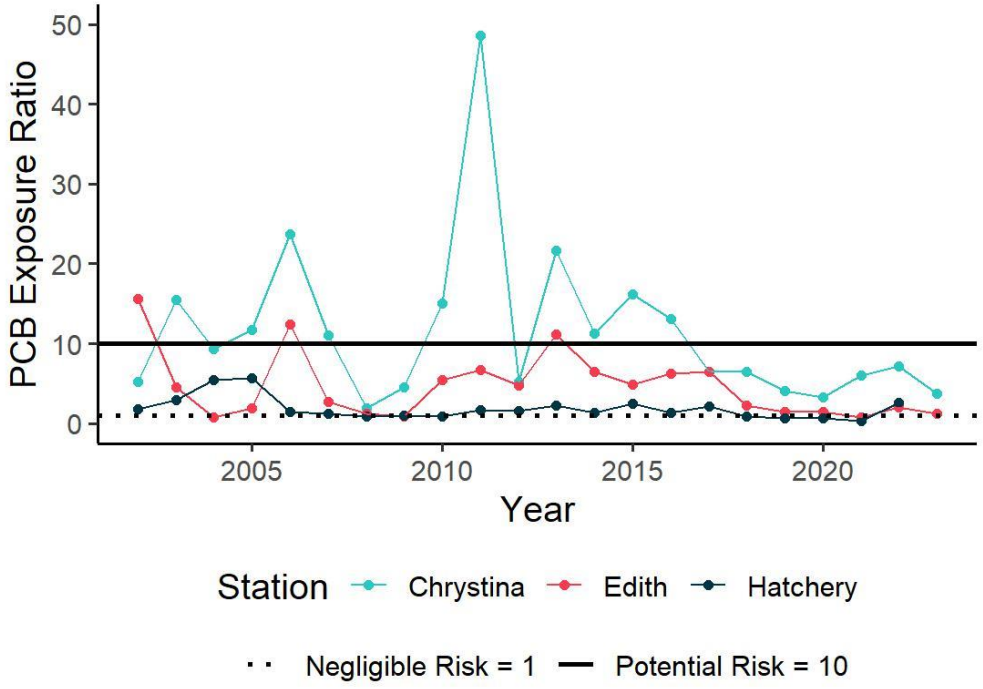

Figure 3-3: Predicted ERs for Total PCBs from 2002 to 2023 for adults with high fish consumption near Swan Hills based on the 2021 exposure limit of 0.01 µg/kg/day (Health Canada 2021)

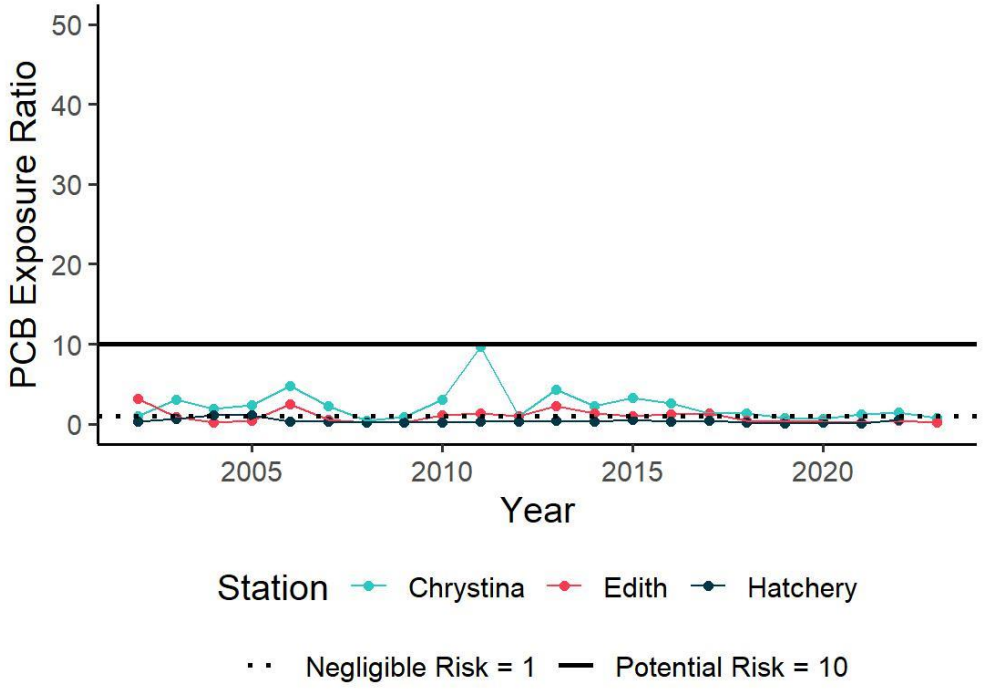

Figure 3-4: Predicted ERs for Total PCBs from 2002 to 2023 for adults with high fish consumption near Swan Hills based on the Great Lakes exposure limit of 0.05 µg/kg/day (GLSFATF 1993)

The ERs for high consumers of Chrystina Lake brook trout have been between 1 and 10 since 2017 and the ER in 2023 decreased from that documented in 2021 and 2022. Alternatively, the ERs for high consumers of Edith Lake brook trout have exceeded 1 since 2018 but have typically been near 1 and similar to hatchery fish (Figure 3-3). In comparison, the ERs calculated using the less conservative Great Lakes TDI are lower and have been below or near 1 for high consumers of brook trout from both lakes since 2017 (Figure 3-4). Given these results, the total PCBs in Chrystina Lake brook trout have posed a low potential risk to consumers since 2017, while consumption of brook trout from Edith Lake has posed a negligible risk to consumers since 2017. It is important to consider that these risks are based on the high consumer group that represented only 2% of the respondents to the diet and activity survey used to estimate ingestion rates (GOA 2013). Therefore, it is assumed that these ERs provide a conservative risk estimate for most fish consumers in the Swan Hills area.

Contaminant concentrations based on the weighted average of 'keeper' brook trout from Chrystina Lake and Edith Lake have been used to assess risk since 2019 and total PCB ERs for high consumers since then are provided in Figure 3-5. The tissue residues measured in 'Keeper' brook trout are higher than the weighted average given that only older fish are included in the assessment. The ER for consumers of Chrystina Lake 'Keeper' brook trout exceeded 10 in 2022 but were lower, between 1 and 10 in 2023. The calculated ER for consumers of 'Keeper' brook trout from Edith Lake slightly exceeded 1 in 2023 and has remained near 1 since 2019.

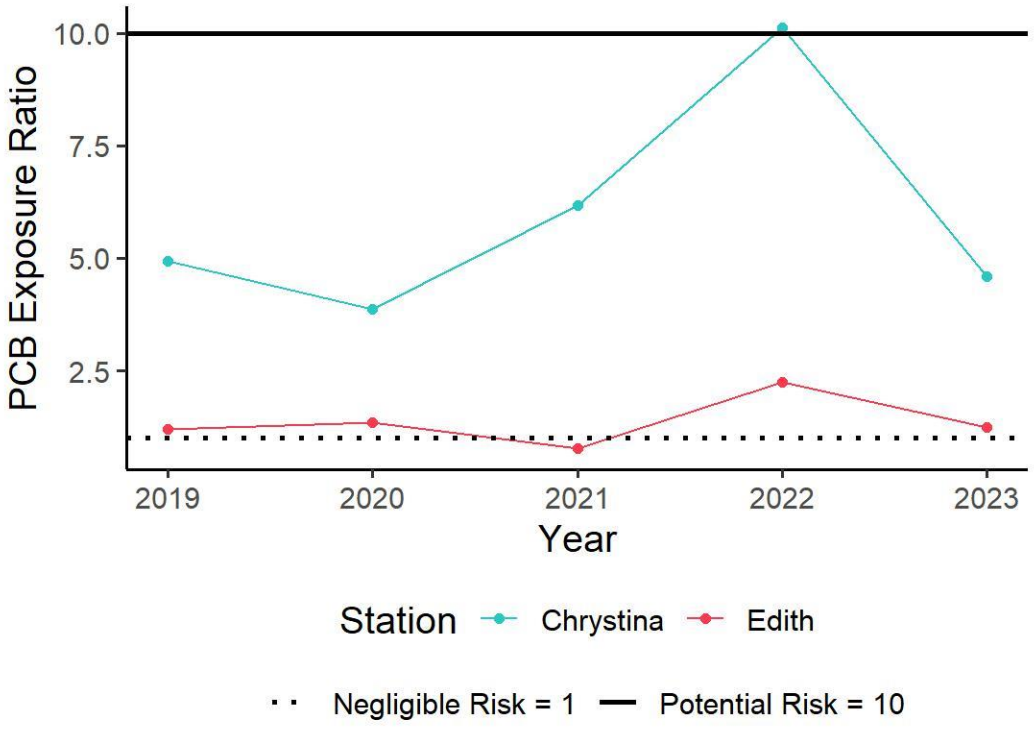

Figure 3-5: Predicted ERs for Total PCBs from 2019 to 2023 for adults with high fish consumption near Swan Hills based on the tissue concentrations of 'Keeper' brook trout

3.4.2 Total TEQ

Weighted average total TEQ ERs for high consumers of Chrystina Lake and Edith Lake brook trout since 2002 are provided in Figure 3-6. The ERs for consumption of Chrystina Lake brook trout was decreasing from 2015 to 2020 before increasing slightly in 2021 and 2022. In 2023, the ER for Chrystina Lake brook trout consumers was below 1 and similar to that observed before 2021. The total TEQ ER for consumption of brook trout from Edith Lake has been consistently lower than Chrystina Lake and this trend continued in 2023. After a slight increase in 2022, the ER for Edith Lake brook trout decreased in 2023 and was below 1.

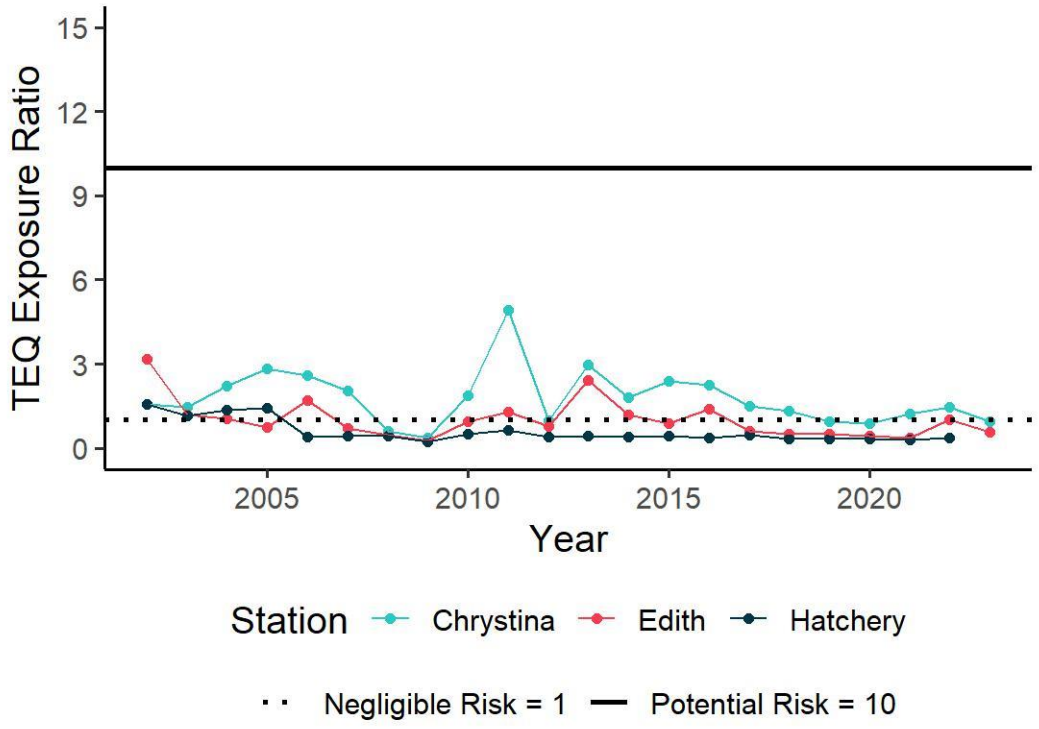

Figure 3-6: Predicted ERs for Adult High Consumers near Swan Hills based on Total TEQ from 2002 to 2023

Predicted total TEQ ERs for high consumers of Chrystina Lake and Edith Lake brook trout based on weighted average of 'Keeper' brook since 2019 are provided in Figure 3-7. The total TEQ ER is slightly higher for consumption of Chrystina Lake 'Keeper' brook trout compared with Edith Lake, however, the ERs for both lakes have been near 1 since 2019. The ER for 'Keeper' brook trout from Chrystina Lake in 2023 decreased to 1.12, while the ER for 'Keepers' from Edith Lake also decreased to 0.61 (Figure 3-7).

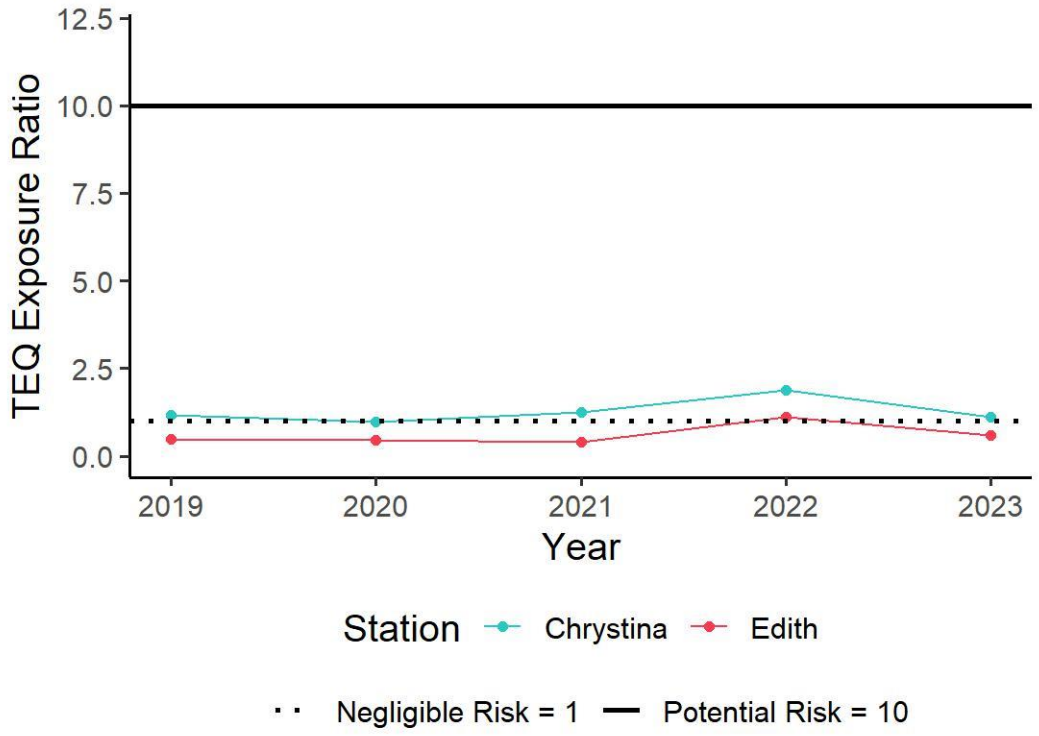

Figure 3-7: Predicted ERs for Adult High Consumers near Swan Hills based on the Total TEQ of 'Keeper' brook trout from 2019 to 2023

4. Assessment Uncertainties

The assumptions used for characterizing risk for the HHRA in 2023 are consistent with those previously used in the HHRA to ensure comparability between historical data and data collected in 2023. Uncertainties associated with risk assessment are discussed below.

4.1 Background exposure

Background exposure for adults and adolescents/juveniles are based on the most recent published rates from Health Canada (Health Canada 2004). More recent estimates of background exposure to PCBs, as well as dioxins and dioxin-like compounds, suggest that background exposure is decreasing world-wide compared with those published in 2004 (G&P Resource Services Inc. 2021). A meta-analysis of PCB concentrations in retail foods concluded that background exposure from ingestion has been decreasing but background concentrations remain similar to those reported in the food survey done by the Bureau of Chemical Safety (BCS) between 2000 and 2002 (Saktrakulkla et al 2020). As such, Health Canada has not established new background exposure levels for PCBs or dioxins and dioxin-like compounds.

4.2 Default values for body weight and consumption rates

This study used standard default values for body weight and consumption rates from a market analysis in the Swan Hills area that was done in 1997 (GOA 2013). Ingestion rate is highly correlated to body weight for adults. Using a single point estimate for these variables instead of a joint probability distribution ignores a variability that may influence the results by a factor of up to two or three. Consumption rates for adolescents/juveniles used by the HHRA are based on rates determined for subsistence populations with high consumption rates compared with other populations in Canada. A market facts survey in 1991 determined consumption rates of 10 g/day and 14 g/day of fish tissue is appropriate for children from 1 year to 4 years old and adolescents 5 to 11 years old, respectively (Health Canada 2007). The fish consumption rate for adults based on the same market facts survey was 40 g/day, which is approximately 25% of the consumption rate used for the high consumer group in this HHRA and is based on the 1997 Swan Hills consumption survey. A review of consumption estimates for adults and adolescents/juveniles may improve the accuracy of risk estimates given the age of the surveys currently used for the HHRA.

4.3 Total Daily Intake (TDI)

The TDI values for total PCBs and total TEQ used in the 2023 HHRA are based on the provisional TRV values established by Health Canada in 2021. Notably, the TDI for total (non-dioxin-like) PCBs is approximately 10 times more conservative than the previous TDI. Worley Consulting and Alberta Health were able to discuss the effect of changing TDIs on ERs for brook trout from near the SHTC at the 2023 annual technical meeting for the HHRA. Given that the new Health Canada

TDI is provisional and substantially influences risk characterization for the HHRA, a review of available TDIs for non-dioxin-like PCBs and the associated derivation information is warranted. Details regarding the derivation of the previous and current Health Canada TDI for non-dioxin-like PCBs is available in the 2022 HHRA (Advisian 2023).

Humans may be exposed to Project-related COCs by a number of pathways, but not all of these pathways were evaluated quantitatively in this HHRA. This was because the contributions of the pathways other than ingestion were believed to be minor and not directly related to the objectives of this HHRA. Pathways not included in this HHRA may result in a small underestimation of exposure and risk, but the magnitude of this underestimation is not expected to be significant.

5. Summary and Conclusions

The 2023 HHRA included risk characterization of brook trout samples collected from two lakes near Swan Hills (Chrystina Lake and Edith Lake). Total PCBs decreased in edible brook trout tissue from both Chrystina Lake and Edith Lake in 2023 and this translated into a decrease in total TEQ in both lakes. Predicted total PCB ERs were similar to those reported before the elevated concentrations observed in 2021 and 2022. Risk outcomes of the HHRA based on ERs for total PCBs and TEQ are briefly summarized in the following sections.

5.1 Total PCBs in Chrystina Lake

- Low potential risk of adverse effects for adults consuming brook trout at a high and medium rate (ERs from 1.18 to 6.14).
- No risk (ER ≤ 1) of adverse effects for adults that are low consumers, very low consumers, and adults following the Alberta Health consumption rate.
- Low potential risk of adverse effects for all adolescent/juvenile age categories consuming brook trout (ERs from 1.14 to 4.07).

5.2 Total PCBs in Edith Lake

- Low potential of adverse effects for adult high brook trout consumers (ERs from 1.16 to 1.44).
- No risk (ER ≤ 1) of adverse effects for adults other than those with a high consumption rate.
- No risk (ER ≤ 1) of adverse effects for adolescent or child consumers, but low potential risk to toddler consumers (ERs from 1.23 to 1.39).

5.3 Total TEQ in Chrystina Lake

- Low potential risk of adverse effects for adults consuming brook trout at a high rate, based on risk estimates using maximum reported and 'Keeper' tissue concentrations measured in 2023 (ERs from 1.12 to 1.39).
- No risk (ER ≤ 1) of adverse effects for adults other than those with a high consumption rate.
- No risk (ER ≤ 1) of adverse effects for adolescent and child consumers but low potential risk to toddlers (ERs from 1.25 to 1.49).

5.4 Total TEQ in Edith Lake

- No risk (ER ≤ 1) of adverse effects for adults in any consumer group.
- No risk (ER ≤ 1) of adverse effects for adolescent and child consumers but low potential risk to toddlers (ERs from 1.01 to 1.10).

Predicted total TEQ ERs are similar to those historically observed and remain near 1, suggesting that there is no risk from exposure to dioxin-like PCBs, dioxins, and furans to consumers of Chrystina Lake or Edith Lake brook trout. Alternatively, the risk estimates from non-dioxin-like PCBs suggest that there is a low potential risk to high and medium consumers of Chrystina Lake

and Edith Lake brook trout from exposure. It is notable that only the high consumer group has a low potential risk based on tissue concentrations measured in 2023.

6. Recommendations

The risk assessment results suggest that there is little to no risk to consumers of Edith Lake brook trout, whereas non-dioxin-like PCBs pose a low potential risk to people consuming brook trout from Chrystina Lake at a high and medium consumption rate. Therefore, it is recommended that:

- Sampling and conducting the risk assessment to humans through the ingestion pathway via consumption of fish be continued.
- Consumers remain aware of the current Alberta fish consumption advisory of 150 g/week (22 g/day) of fish from lakes within 20 km of Swan Hills (including Chrystina Lake and Edith Lake).
- Consumers should remove fish skin from edible tissue and cook tissue before eating, as this will remove fatty tissue that contains higher proportions of COCs and will help in degradation of COCs before consumption.

Recommendations for the expanded program in 2024 include:

- A review of current background exposure estimates and their reliability/accuracy to assure the accuracy of risk estimates calculated during the HHRA.
- A review of current TDIs for total TEQ and non-dioxin-like PCBs and their supporting derivation information, as well as consult with Alberta Health to investigate the most appropriate TDIs for the HHRA.
- Review historical trends associated with maximum tissue concentrations to investigate worst-case scenario risk estimates over time.
- Changes to the Health Canada TDI in 2021 increased ERs calculated from the HHRA resulting in ERs that exceeded a monitoring program trigger. However, the exceedance of this trigger was caused by a change in exposure limits rather than changes in tissue concentrations in Chrystina Lake or Edith Lake brook trout. A new program trigger will need to be developed based on background exposures and TDIs chosen for the HHRA in 2024.
- Continue discussion with Alberta Health to identify a suitable non-dioxin-like TDI for the current program.

7. Closure

We trust that this report satisfies your current requirements and provides suitable documentation for your records. If you have any questions or require further details, please contact the undersigned at any time.

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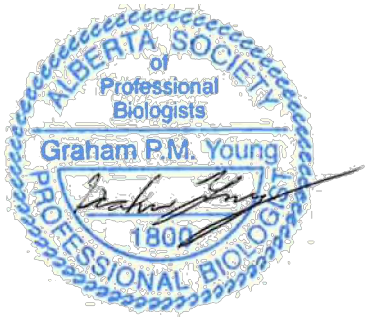

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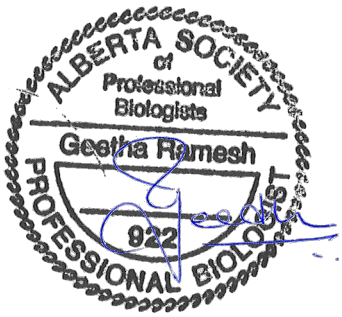

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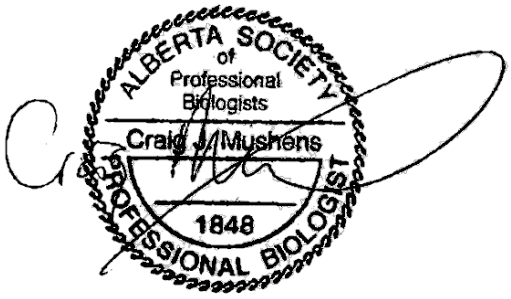

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Tables

Table 1

Total PCB and TEQ Concentrations and Exposure Ratios for Brook Trout from Chrystina Lake, Edith Lake, and the Hatchery (2002 -2023)

PROJECT No.: 317011-00057

Year	Total PCB (wt. avg. µg/g)	Total PCB Exposure Ratio	Total TEQ (wt. avg. pg/g)	Total TEQ Exposure Ratio
Hatchery				
2002	0.0069	**1.8**	1.3500	**1.6**
2003	0.0120	**2.9**	0.9500	**1.2**
2004	0.0228	**5.4**	1.1500	**1.4**
2005	0.0240	**5.7**	1.2100	**1.4**
2006	0.0055	**1.5**	0.1800	0.4
2007	0.0045	**1.2**	0.2200	0.4
2008	0.0028	0.8	0.2100	0.4
2009	0.0033	1.0	0.0200	0.2
2010	0.0029	0.9	0.2700	0.5
2011	0.0066	**1.7**	0.4200	0.6
2012	0.0057	**1.5**	0.1700	0.4
2013	0.0087	**2.2**	0.2200	0.4
2014	0.0047	**1.3**	0.1900	0.4
2015	0.0100	**2.5**	0.2000	0.4
2016	0.0050	**1.3**	0.1500	0.4
2017	0.0084	**2.1**	0.2500	0.5
2018	0.0028	0.8	0.1300	0.3
2019	0.0019	0.6	0.1210	0.3
2020	0.0021	0.7	0.1178	0.3
2021	0.0004	0.3	0.0888	0.3
2022	0.0106	**2.6**	0.1580	0.4
Chrystina Lake				
2002	0.0218	**5.2**	1.3600	**1.6**
2003	0.0668	**15.5**	1.2400	**1.5**
2004	0.0400	**9.4**	2.0100	**2.2**
2005	0.0504	**11.7**	2.6300	**2.8**
2006	0.1030	**23.8**	2.3900	**2.6**
2007	0.0473	**11.0**	1.8300	**2.0**
2008	0.0072	**1.8**	0.3900	0.6
2009	0.0191	**4.6**	0.1400	0.4
2010	0.0646	**15.0**	1.6500	**1.9**
2011	0.2114	**48.6**	4.7200	**4.9**
2012	0.0219	**5.2**	0.7600	1.0
2013	0.0939	**21.7**	2.7700	**3.0**
2014	0.0484	**11.3**	1.6000	**1.8**
2015	0.0697	**16.1**	2.1700	**2.4**
2016	0.0563	**13.1**	2.0300	**2.2**
2017	0.0274	**6.5**	1.2800	**1.5**
2018	0.0276	**6.5**	1.1000	**1.3**
2019	0.0168	**4.0**	0.7490	1.0
2020	0.0135	**3.3**	0.6621	0.9
2021	0.0255	**6.0**	1.0033	**1.2**
2022	0.0306	**7.2**	1.2442	**1.5**
2023	0.0153	**3.7**	0.7508	**1.2**

Table 1

Total PCB and TEQ Concentrations and Exposure Ratios for Brook Trout from Chrystina Lake, Edith Lake, and the Hatchery (2002 -2023)

PROJECT No.: 317011-00057

Year	Total PCB (wt. avg. µg/g)	Total PCB Exposure Ratio	Total TEQ (wt. avg. pg/g)	Total TEQ Exposure Ratio
Edith Lake				
2002	0.0675	**15.6**	2.9700	**3.2**
2003	0.0187	**4.5**	0.9800	**1.2**
2004	0.0023	0.7	0.8200	**1.0**
2005	0.0073	**1.9**	0.5300	0.7
2006	0.0535	**12.4**	1.4900	**1.7**
2007	0.0108	**2.7**	0.4800	0.7
2008	0.0043	**1.2**	0.2400	0.5
2009	0.0030	0.9	0.0600	0.3
2010	0.0230	**5.5**	0.7300	0.9
2011	0.0286	**6.7**	1.0900	**1.3**
2012	0.0200	**4.8**	0.5600	0.8
2013	0.0479	**11.2**	2.2000	**2.4**
2014	0.0275	**6.5**	0.9800	**1.2**
2015	0.0205	**4.9**	0.6500	0.9
2016	0.0263	**6.2**	1.1800	**1.4**
2017	0.0274	**6.5**	0.3800	0.6
2018	0.0089	**2.2**	0.3000	0.5
2019	0.0056	**1.5**	0.2720	0.5
2020	0.0054	**1.4**	0.2218	0.4
2021	0.0023	0.7	0.1599	0.4
2022	0.0081	**2.1**	0.8057	**1.0**
2023	0.0042	**1.2**	0.3400	0.6

NOTES: 1. --- in detail data row(s) denotes parameter not analyzed.

X 2. Highlighting indicates exposure ratios between 1 and 10 which indicate potential adverse effects are possible but risk is low given conservatism of the risk assessment.

X 3. Highlighting indicates exposure ratio exceeds 10 which indicates a potential risk of adverse effects from human consumption and risk management strategies should be considered.