



#### **APPENDIX O**

## **AQUATICS BASELINE**

O-1 2022/2023 Aquatics BaselineO-2 2021 Aquatics Baseline

O-3 2020 Aquatics Baseline



# 2019-2020 Aquatic Resources Assessment

Springpole Gold Project Red Lake District, Northern Ontario Project #TC190403

Prepared for:

First Mining Gold Corp.

1800-925 West Georgia Street, Vancouver, BC V6C 3L2

March 2021



March 25, 2021

Wood Reference No. TC190403

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Dear Mr. Lines,

Please find enclosed the 2019-2020 Aquatic Resources Assessment prepared by Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited on behalf for the First Mining Gold Corp. for the Springpole Gold Project.

The 2019 scope of work was developed following a gap assessment of previously conducted aquatic biological surveys, and the 2020 scope of work was developed to address further data gaps per changes to the proposed development plans. This report is submitted to support additional biological baseline data anticipated to be needed for the preparation of an Environmental Assessment Report and for Project permitting, pursuant to the Impact Assessment Act and the Ontario Environmental Assessment Act.

Sincerely,

# Wood Environment & Infrastructure Solutions a Division of Wood Canada Limited

## a Division of Wood Canada Limited

Original signed

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## 2019-2020 Aquatic Resources Assessment

Springpole Gold Project Project Location Project #TC190403

## **Prepared for:**

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March 2021

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Project # TC190403 | March 2021

Page



## **Table of Contents**

			Page		
Intro	duction		1		
Meth	Methodology				
2.1	٠,	sment Overview			
2.2	Fish H	labitat Assessments	3		
	2.2.1	Habitat Type A	4		
	2.2.2	Habitat Type B			
	2.2.3	Habitat Type C	4		
	2.2.4	Habitat Type D			
	2.2.5	Habitat Type E			
	2.2.6	Habitat Type F	5		
	2.2.7	Habitat Type G	5		
	2.2.8	Habitat Type H			
	2.2.9	Habitat Type I	6		
2.3	Fish C	ommunity	6		
2.4	Sedim	nent and Benthic Invertebrate Surveys	7		
	2.4.1	Field Sampling	7		
	2.4.2	Laboratory Sample Processing	7		
	2.4.3	Sediment Quality Data Analysis	8		
	2.4.4	Data Analysis	8		
2.5	Conta	minants in Fish Tissue	9		
Resul	lts		14		
3.1	Inland	l Waterbodies	14		
	3.1.1	S-9	14		
	3.1.2	S-9-US01	16		
	3.1.3	S-9-US02	17		
	3.1.4	L-2-OUT	18		
	3.1.5	L-5-OUT	19		
	3.1.6	L-6-OUT	20		
	3.1.7	L-16-IN	21		
3.2	Poten <sup>s</sup>	tial Access Road Crossings	22		
	3.2.1	UNX01	22		
	3.2.2	UNX03	22		
	3.2.3	UNX07	23		
	3.2.4	BR-KM22 (Birch River)	23		
	3.2.5	L-2-OUT	24		
3.3	Spring	ppole Lake	24		
	3.3.1	Fish Community	24		
	3.3.2	Yellow Perch	24		
	3.3.3	Northern Pike	24		
3.4	Spring	gpole Lake Candidate Outfall Location	25		
	3.4.1	Fish Habitat	25		
	3.4.2	Fish Community			
	3.4.3	Sediment Quality	26		
	3.4.4	Benthic Invertebrate Community			



	3.5	Springpole Lake Southeast Basin	27
		3.5.1 Sediment Quality	
		3.5.2 Benthic Invertebrate Community	
4.0	Discuss	ion	
	4.1	Inland Waterbodies	38
	4.2	Potential Access Road Crossings	
	4.3	Springpole Lake	
	4.4	Springpole Lake Candidate Outfall Location	
	4.5	Springpole Lake Southeast Basin	39
5.0	_		
6.0	Referen	ces	41
		List of Figures	
Figure 1	1-1:	Project Location	2
Figure 2	2-1:	2019-2020 Sample Locations	
Figure 3	3-1:	2019 Sediment Quality, Benthic Invertebrate and Water Quality Sample Locations	28
Figure 3	3-2:	2019 Fisheries Sample Locations Springpole Lake and Project Site	29
Figure 3	3-3:	2019 Fisheries Sample Locations Springpole Lake and S-9	30
Figure 3	3-4:	2019 Fisheries Sample Locations Birch River and UNX07	31
Figure 3	3-5:	2020 Fisheries Sample Locations	32
Figure 3	3-6:	2020 Sediment and Benthic Sample Locations	33
Figure 3	3-7a:	Habitat Types (L-1, L-2, L-5, and L-15)	34
Figure 3	3-7b:	Habitat Types (L-17, L-18, S-18 to S-22)	35
Figure 3	3-7c:	Habitat Types (L-3, L-4, L-6, S-16, S-17, L-6-OUT)	36
Figure 3	3-7d:	Habitat Types (L-10 to L-15, S-9, S-20, S-27 to S-29)	37
		List of Tables	
Table 2	-1·	Aquatic Resources Field Study Location 2019-2020	12
Table 2		Fish Community Sampling by Sample Area and Season 2019-2020	
Table 2		Key Habitat Type Criteria	
		List of Appendices	
		Elst of Appendices	
Append		Field Data Summary Tables and Assessment Forms	
Append		Fish Tissue Summary Tables, Figures and Laboratory Certificates of Analysis	
Append Append Append	dix D:	Fish Age Data Sediment Quality and Benthic Invertebrate Community Data Summary Photo Record	

Project # TC190403 | March 2021

Page ii



#### 1.0 ☐ Introduction

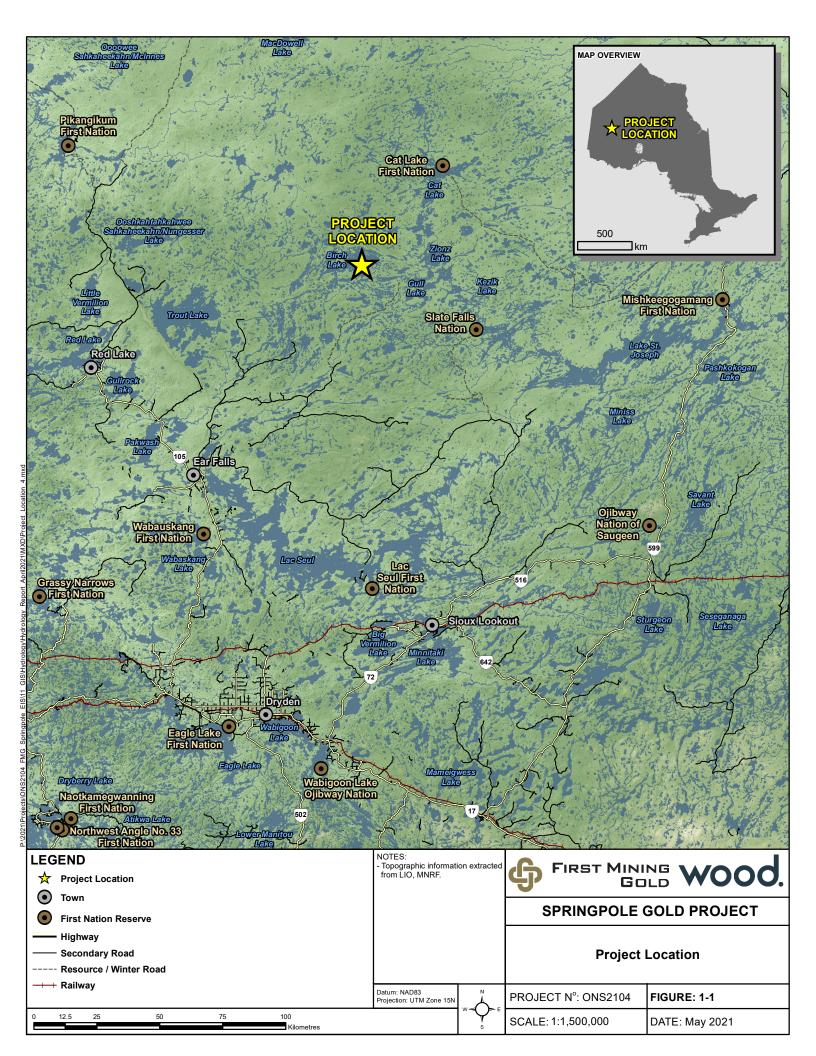
Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood) was retained by First Mining Gold Corp. (FMG) to conduct baseline aquatic studies addressing data needs identified during the 2019 gap analysis and changes to the development plan for the Springpole Project (Wood 2019). The Springpole Project is in the Kenora District, approximately 125 kilometres (km) northeast of Red Lake, Ontario (Figure 1-1).

The gap analysis showed in general, the aquatic environment was well investigated, and detailed information was collected to characterize most of the waterbodies affected by the main site footprint, as defined pre-2019. These data include representation of small bodied forage fish (e.g., minnows and shiners) as well as large bodied recreational and sustenance species such as Lake Trout (*Salvelinus namaycush*), Northern Pike (*Esox lucius*) and Walleye (*Sander vitreus*).

Exceptions to this completeness include some discreet locations as summarized in Section 2, and waterbodies associated within the preferred road alignment. It is recognized that gaps associated with the aggregate sources were not known during the 2019 or 2020 aquatic study design, and as such were not included in the 2019-2020 aquatic studies scope of work.

The 2019 baseline assessments included; fish community and fish habitat surveys, contaminants in fish tissue and quantitative fisheries resource data collection needs to support future permitting, compensation and offsetting requirements for the Project. These studies included inland waterbodies southheast of the project site, as well as previsouly unsampled water courses within the mine site footprint.

Additional field studies were completed in 2020 to assess the aquatic habitat, fish community, as well as sediment quality and benthic invertebrate community surveys within a candidate treated mine effluent outfall location within Springpole Lake. Bathymetry and substrate surveys were conducted by others to select the general outfall location, with Woods' 2020 surveys collecting nearshore and midbasin data to support potential effects assessments should this be selected as the final discharge location.





#### 

#### 2.1 Assessment Overview

The 2019-2020 aquatic resources assessment field programs addressed data gaps identified in the aquatics gap analysis and more recent changes to the Project development plan by completing the following study components:

- 1.□ Multi-season inland waterbody condition assessments during 2019 including catch per unit effort (CPUE) and fish tissue contaminants sampling for unnamed watercourses including the connection between L-6 and L-16, L-5 outlet, L-2 outlet, and the upper reaches of stream S-9;
- 2.□ Autumn 2019 fish tissue contaminants assessment within Springpole Lake (L-15) targeting a forage fish species (juvenile Yellow Perch *Perca flavescens*) and Northern Pike representing another large-bodied species other than Walleye;
- 3.□ Preferred road alignment water crossing assessment (as accessible) during the 2019 summer program;
- 4.□ Fall 2019 sediment quality and benthic invertebrate community surveys within Springpole Lake southeast basin, as completed by Story Environmental Inc. (Story), and data assessment by Wood; and
- 5. Summer and Fall 2020 fish habitat, community, sediment quality and benthic invertebrate community surveys within Springpole Lake at a candidate treated mine effluent outfall location.

The study area location for each of the above components are presented on Figure 2-1. A summary of the 2019-2020 aquatic resources assessment sampling effort is provided in Table 2-1, with a summary of the fish community sampling gear-specific efforts by area and season in Table 2-2.

#### 2.2 Fish Habitat Assessments

Fish habitat assessments were conducted during all field programs and included qualitative descriptions of the riparian zone, as well as in-stream observations such as:

- •□ Presence of coarse woody debris/logs, boulders, bedrock;
- •□ General stream morphology (run, riffle, pool, flat) and stream flow (stagnant, low, turbulent);
- •□ Wetted width, bankfull width and total depth; and
- •□ Presence of beaver dams limiting/impeding? flow.

A modified Ontario Stream Assessment Protocol (OSAP) road crossing assessment was completed at four preferred road crossing locations (BR-KM22, UNX03, UNX07 and L-2-OUT) to provide initial fish habitat assessments. The road crossing location assessments were conducted during the 2019 summer sampling campaign within the area of investigation (50 metres [m] upstream and 200 m downstream of the proposed crossing) as specified in the Ministry of Transportation (MTO) Environmental Guide for Fish and Fish Habitat (2009).

In-field surface water quality measurements were recorded at each sample location using handheld portable water quality meters. These instruments were calibrated daily as needed and measured the following physio-chemical parameters:



<ul><li>■ Temperat</li></ul>	ure;
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- •□ pH;
- □ Conductivity;
- □ Dissolved oxygen (DO); and
- •□ Depth of parameter measurement.

The 2019 modified OSAP field data, aerial image interpretation and baseline documentation (FMG & C. Portt 2018) were used to delineated habitat types to the extent possible. These habitat types are described below and summarized in Table 2-3, which also contains reference to the baseline aquatic studies completed by others.

## 2.2.1 ☐ Habitat Type A

Habitat type A represents lentic (lake / pond) habitat characterizing the smaller, shallow inland waterbodies within the project area. Substrate composition in habitat type A includes predominantly soft, fine grained sediments with some localized boulder/bedrock and cobble/sand occurrences, as well as coarse woody debris with detritus. Vegetation in the upland zones are mainly mixed forest dominated by Black Spruce and Tamarack; while vegetation near to the riparian zone included wood shrub specie such as Alder, and herbaceous species such as Sweetgale and grasses. In general, two types of riparian zones vegetation were observed in habitat type A: a grassy floating mat with mosses, Sweetgale and herbaceous species; or a narrow riparian zone with overhanging shrubs and rushes (such as Hardstem Bulrush) that extended into the open water littoral zone covering a portion of the open water surface. Nearshore, shallow areas are also commonly populated by other emergent and submergent or floating aquatic macrophytes.

## 2.2.2 ☐ Habitat Type B

Habitat type B represents lentic habitat characterizing the deep (>4 m total depth) inland waterbodies within the project area. The total depth is the primary difference between habitat types A and B, which can also influence fish species community and thermal regime. Substrate composition in habitat type B is similar to habitat type A with predominantly soft, fine grained sediments with greater abundance of localized boulder/bedrock and cobble/sand occurrences, as well as coarse woody debris with detritus. Vegetation in the upland zones are mainly mixed forest dominated by Black Spruce and Tamarack; while vegetation near to the riparian zone included wood shrub specie such as Alder, and herbaceous species such as Sweetgale and grasses. In general, two types of riparian zones vegetation were observed in habitat type B; a grassy floating mat with mosses, Sweetgale and herbaceous species; or a narrow riparian zone with overhanging shrubs and rushes (such as Hardstem Bulrush) that extended into the open water littoral zone covering a portion of the open water surface. Nearshore, shallow areas are also commonly populated by other emergent and submergent or floating aquatic macrophytes.

## 2.2.3 ☐ Habitat Type C

Habitat type C represents lentic habitat characterizing the large lake environs such as Springpole and Birch lakes. Substrate composition nearshore is mostly comprised of exposed bedrock and boulder, with localized areas of soft fine grained sediments commonly associated with tributary inflows and sheltered embayments. Coarse wood debris (e.g., driftwood) and some localized areas of aquatic macrophytes within the soft sediment substrate areas is present. Vegetation in the upland zones include mainly mixed



forest dominated by Black Spruce and Tamarack; while vegetation near to the riparian zone included woody shrub species such as Alder and herbaceous species.

## 2.2.4 ☐ Habitat Type D

Habitat type D represents intermittent stream environments characterized as low-lying areas with diffused pockets of standing water that convey overland flow during periods of precipitation or during spring freshet. Habitat type D was also commonly associated with a complete loss of defined channel, transitioning into areas of muskeg drainage / underground flow. Overall, this habitat characterized the subsurface channels and flow paths connecting waterbodies such as L-6 and L-16. This habitat was dominated by willow, grasses, alder and Sweetgale, with some Black Spruce, Mosses and Tamarack. Where open channels were observed, the substrate composition within this habitat type was almost exclusively fines, with some boulder and bedrock observed.

## 2.2.5 ☐ Habitat Type E

Habitat type E represents riverine habitat with little to no floodplain, steep banks and shrub riparian vegetation providing nearly complete canopy cover. The substrate is mostly exposed bedrock and boulder with some isolated pockets of fine-grained substrate. Riparian vegetation is dense alder and willow species, with upland by Black Spruce, Poplar and Tamarack. This habitat type commonly occurs within gradient changes between inland streams and habitat type C waterbodies.

## 2.2.6 ☐ Habitat Type F

Habitat type F represents riverine habitat with moderate beaver activity creating alternating series of pools and impoundments (via beaver dams). These areas are also characterized by side overflow channels created during high flow events. The pool habitat has abundant coarse and fine wood debris, with soft fine-grained sediments that support dense aquatic macrophytes. Riparian vegetation is mostly comprised of grasses and sedges with alder and willow species further upland adjacent to Black Spruce, Poplar and Tamarack forest. Habitat type F typically occurs between inland waterbodies and at the downstream extent of the habitat types G and H reaches, where beavers have utilized the narrowing, natural topography to construct dams.

## 2.2.7 ☐ Habitat Type G

Habitat type G represents riverine habitat with a broad floodplain and extensive floating mats of herbaceous species typical of muskeg and beaver ponds. This habitat is primarily represented by flat channel morphology with occasional pools in the thalweg of meander bends and back bays of the channel. The substrate is characterized by soft fine-grained sediment with occasional boulders and localized areas of exposed bedrock. Dense aquatic macrophyte growth and coarse wood debris contribute most of the instream cover. Vegetation in the upland zones are mainly mixed forest dominated by Black Spruce, Poplar and Tamarack; while vegetation near to the riparian zone includes alder, willow and herbaceous species.

#### 2.2.8 ☐ Habitat Type H

Habitat type H represents riverine habitat with a moderate to broad floodplain similar to habitat type G; however, wetted width is much wider than habitat type G and was observed at fewer locations within the assessed areas. As with habitat type G, the type H habitat is characterized by flat channel morphology



with occasional pools, and was observed at stream S-27 (the connecting channel between L-10 an L-11), and at the extreme south-eastern extent of Springpole Lake east of the Birch River outflow at UNX07

Habitat type H represents riverine habitat with a moderate to broad floodplain similar to habitat type G; however, wetted width is much wider than habitat type G and was observed at fewer locations within the assessed areas. As with habitat type G, the type H habitat is characterized by flat channel morphology with occasional pools, and was observed at stream S-27 (the connecting channel between L-10 an L-11), and at the extreme south-eastern extent of Springpole Lake east of the Birch River outflow at the proposed road alignment station UNX07. The substrate is characterized by soft fine grained sediment with few boulders. Abundant aquatic macrophytes and coarse wood debris are present. The riparian zone consists mostly of grasses and sedges. Upland areas are mainly mixed forest dominated by Black Spruce, Poplar and Tamarack; while vegetation near to the riparian zone includes alder, willow and herbaceous species.

## 2.2.9 ☐ Habitat Type I

Habitat type I represents the Birch River (BR-KM22 road alignment) habitat characterizing fast flowing river sections with cobble, boulder and bedrock riffle and rapids habitat. This area was characteristic of steeper gradients and generally shallow channel cross-sections. Fish community surveys encountered Walleye that would likely utilize the fast flowing reaches with smaller substrate (e.g., cobble) as suitable spawning habitat. The upland and riparian vegetation communities were mainly mixed forest dominated by Black Spruce and sparse Tamarack and Poplar species; however, recent forest fire damage shows an early succession stage of growth for these species. Macrophyte growth was observed in low abundance within the area, however, algae covering rocks and Pondweed growing in the fast current between rocks were noted in some less turbulent areas.

## 2.3 ☐ Fish Community

Fish community assessments were conducted during summer and fall assessments as per conditions of the Licence to Collect Fish for Scientific Purposes (LCFSP) No. 1093704 (2019), No. 1096131 (Summer 2020) and No. 1096588 (Fall 2020) issued by the Red Lake District Ministry of Natural Resources and Forestry (MNRF). The following gear types were utilized as able per site-specific habitat conditions:

- Baited gee-style minnow traps;
- •□ Gillnets (various stretched mesh sizes, including Riverine Index Nets);
- Backpack electrofishing;
- •□ Seine nets;
- •□ Small mesh (minnow) fyke and large bodied (standard) fyke nets; and
- •□ Angling.

A summary of the fish sampling gear utilized at each sampling area by field program is presented in Table 2-2. All fish specimens captured were identified to species by qualified fisheries staff; measured for length (total and fork) and fresh weight; scrutinized for visible malformation, parasites, or evidence of disease; sex was determined when possible; and non-lethal age structures were collected. Additionally, lethal age structures and baseline fish tissue of target fish species were collected during the fall inland waterbody assessments.



## 2.4 Sediment and Benthic Invertebrate Surveys

#### 2.4.1 ☐ Field Sampling

Surficial sediment samples were collected concurrently with benthic invertebrate community (BIC) samples using a Petite Ponar grab sampler during the fall sampling programs. Each ponar grab sampled a surface area of 0.023 square metres (m²). Three grab sub-samples were taken at each transect or lake sample location and pooled (homogenized) into one composite sample to provide account for localized habitat heterogeneity and represent the localize substrates within the sampling location. Homogenizing the benthic samples also increase the likelihood of sampling all available taxa from the BIC by reducing the effects of intra-sample variation inherent to benthic communities.

The substrate physicochemical properties at each benthic sampling location (i.e., metal and nutrient concentrations) were characterized to further support interpretation of the benthic community between and among areas. All surficial sediment sampling followed the protocols as set out by Canadian Association for Laboratory Accreditation (CALA) Guide to Current Sampling Practices (2014).

The following quality assurance and control (QA/QC) measures were implemented during benthic sample collection:

- •□ Sampling gear utilized was appropriate for substrate present.
- Laboratory gloves (e.g., nitrile) were worn throughout the sampling process and replaced at each sampling location.
- Equipment was thoroughly rinsed and cleaned using appropriate cleansers and decontaminant agents prior to use between sampling locations.
- BIC samples were stored in appropriate containers using appropriate preservatives as directed by the laboratory.
- Sediment samples were placed in clean, pre-labeled, laboratory prepared glass jars.
- •□ Blind field duplicate sediment quality samples were collected for 10% of total samples.
- Sample identification, location, date and other pertinent information was recorded in a field logbook / log sheet, on the sample container and on laboratory Chain of Custody (COC) forms.
- An experienced taxonomist was used for identification of freshwater macroinvertebrates.
- Electronic data received from the taxonomist were checked to ensure correctness by qualified staff.

All benthic samples were labeled with unique identification numeration. BIC samples were field sieved and initially preserved with isopropyl alcohol within six hours of sample collection to maintain sample integrity and minimize the likelihood of within sample predation or decomposition which was replaced by 10% buffered formalin solution, before transport to the taxonomist.

## 2.4.2 Laboratory Sample Processing

Substrate composition was characterized through qualitative visual field assessments and quantitative laboratory grain size analysis. Laboratory chemical analysis was conducted by Bureau Veritas in Mississauga, which is accredited by the CALA in accordance with ISO/IEC 17025:2005 – General Requirements for the Competence of Testing and Calibration Laboratories for the tested parameters. The



occurrence of large particle sizes (cobble and boulder) within representative reaches and sections of the rivers and creeks was recorded by field staff during habitat assessment.

Taxonomist laboratory BIC sample processing procedures included subsampling as required for samples containing large amounts of organic material and/or large sample volumes, to identify a minimum of 100 individuals. Sorting included washing samples through 250 and 500 µm sieves, and organism sorting / identification using a stereomicroscope (10x multiplication). All invertebrates were identified to the lowest practical level and generally to the genus level, with the exception of leeches, oligochaetes, stoneflies, mayflies, dragonflies, amphipods, and adult beetles and bugs, which were identified to the species level.

## 2.4.3 Sediment Quality Data Analysis

The analytical sediment results were compared to the Ontario Provincial Sediment Quality Guidelines (PSQG; MOE 2008) and Canadian Sediment Quality Guidelines (CSQG) for the Protection of Aquatic Life (CCME 2001). The CSQG criteria are established based on the formal federal protocol to evaluate potential adverse biological effects in aquatic environments. They prescribe a level of contamination at which there are probable effects (Probable Effect Level, PEL). The PSQG are guidelines which promote the protection of aquatic life and are based on sound scientific information. The PSQG establish three levels of effects that reflect potential chronic and long-term effects of contaminants on benthic invertebrates as follows:

- •□ No Effect Level: fish and sediment-dwelling organisms are not affected by chemicals in the sediment; the sediment is considered clean.
- Lowest Effect Level (LEL): level of sediment contamination that can be tolerated by the majority of sediment-dwelling benthic invertebrates; the sediment is considered to be clean to marginally contaminated.
- Severe Effect Level (SEL): level of sediment contamination at which pronounced disturbance of the sediment-dwelling community can be expected; the sediment is considered heavily contaminated.

Sediment grain size and chemical analyses were conducted at a lab accredited by the CALA in accordance with ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories.

#### 2.4.4 □ Data Analysis

The BIC taxonomic data from each sample location were characterized using a series of community descriptor indices and metrics listed below:

- •□ Total invertebrate density (TID);
- □ Taxon richness;
- •□ Simpson's Diversity Index (1-D);
- •□ Simpson's Evenness Index (E);
- The percentage of community represented by EPT taxa;
- •□ The percentage of community represented by Chironomids (Chironomidae); and
- •□ The percentage of community represented by each taxon (relative abundance).

These indices were calculated and summarized using the guidelines for Environmental Effects Monitoring as stipulated by Environment Canada (EC 2012).





#### 2.5 Contaminants in Fish Tissue

Fish tissue samples for contaminant analysis were comprised of 1) large-bodied sentinel species dorsal epaxial muscle tissue, and 2) whole body composite samples for small bodied sentinel species. Sentinel species retained for analysis were determined based on presence and abundance of the species within each sample area. Age determination of the sampled individuals was conducted on species-appropriate ageing structures.

Small-bodied sentinel fish species that were retained for tissue analysis during the fall 2019 field studies were: Finescale Dace, Northern Redbelly Dace and Northern Pearl Dace. Whole body composite samples each consisted of enough fish for each species to provide greater than 50 grams (g) wet weight (number of fish per sample depended on fish length and species). The smallest fish in each sample was generally greater than or equal to 85% of the total length of the largest fish chosen for the sample. If the smallest fish was not within 85% of the largest fish, the size difference (largest to smallest) was not greater than 75%. Individuals from the sampled populations representing the full range of total lengths (TL) were submitted for age verification using species appropriate ageing structures (e.g., otoliths).

The large-bodied fish species retained for analysis within Springpole Lake consisted of Northern Pike and Yellow Perch. Boneless skinless dorsal epaxial muscle tissues were sampled from the retained individuals, as well as removal of species appropriate ageing structures (e.g., scales and dorsal spines for perch, and cleithra for pike). The left epaxial (dorsal) muscle tissue of the Northern Pike retained for analysis were submitted for laboratory analysis; however, the Yellow Perch were submitted as composite samples due to minimum analytical sample weight requirements. In addition, Yellow Perch individuals were submitted as whole-body samples to be aged.

Fish tissue samples collected by Wood during the 2019 field studies were submitted to a laboratory accredited by the CALA for total metals, percent moisture and lipids, with a subset of these samples analyzed for methylmercury. The 2020 studies did not include assessment of contaminants in fish tissue.

Metals of interest analyzed for this study included deleterious substances measured in mining effluent under the MDMER, and metals known to have a negative effect on the health of aquatic life and consumers of aquatic biota: arsenic, copper, lead, mercury, selenium and zinc. Fish tissue metal concentrations were compared among sample areas. Species-specific linear regressions of fish weight at total length and total mercury concentration within dorsal epaxial muscle tissue at total length were conducted. Mercury and selenium are often of particular interest when assessing baseline conditions as these metals are known to have negative effects on the health of aquatic life and consumers of aquatic biota, discussed in more detail as follows.

The total mercury concentrations measured in fish tissue were compared to the Provincial consumption guidelines (MOECC 2015) and Federal food and nutrition standards (Health Canada 2011). Concentrations were also compared against the Canadian Council of Ministers of the Environment (CCME) Canadian Tissue Residue Guideline for the Protection of Wildlife Consumers of Aquatic Biota – methylmercury (CCME 2000). The total mercury concentrations in fish tissue were also used to assess methylmercury criteria. The proportion of methylmercury to total mercury in fish muscle tissue has been reported as ranging from 80 to 100% for freshwater adult fish, with the majority of these indicating a percent greater than 90% (Bishop and Neary 1975; Huckabee et al. 1979, Jackson 1990; Bloom 1992; Lasorsa and Allen-Gil 1995; Kannan et al. 1998; Jewett et al. 2003). This report assumes that 95% of the total mercury concentration in fish is in the form of methylmercury, providing a conservative approach when comparing



to other mercury in fish tissue concentrations collected by others (SEI 2019; FMG and C. Portt 2018) to monitor and assess potential risks to the environment, piscivorous biota and human user groups.

Selenium is often considered a metal of concern because it can have negative effects on aquatic life. It can be released into aquatic environments naturally through weathering or anthropogenic sources (US EPA 2016). Concentrations of selenium were measured in fish tissue during the 2019 studies to determine baseline concentrations and for future reference if needed. Neither Ontario nor Canada currently have regulatory concentration criteria established for selenium in fish tissue. Baseline concentrations of selenium in fish tissue were compared to the US EPA criteria limit for selenium in freshwater fish whole-body samples (US EPA 2016).

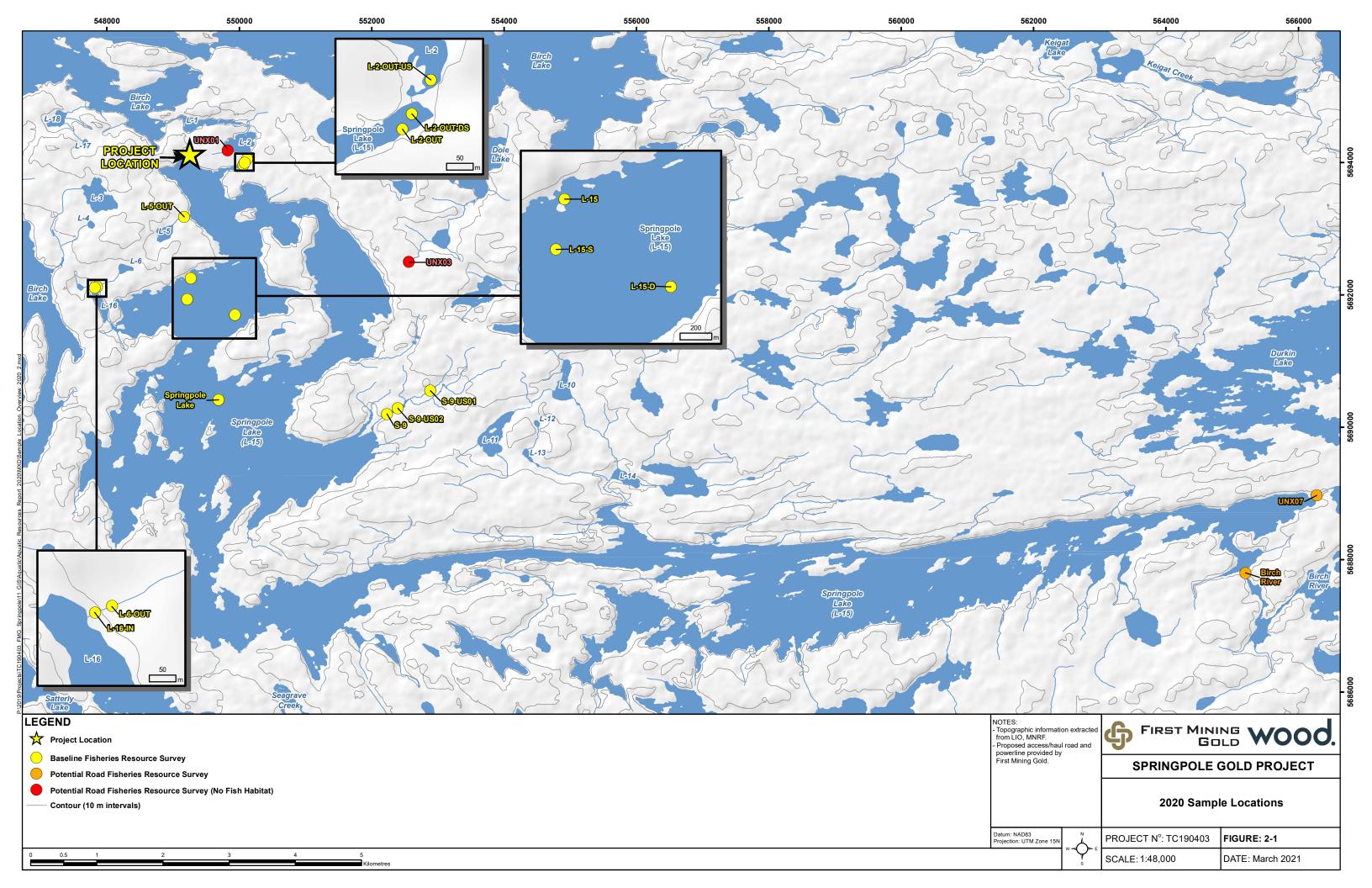




Table 2-1: Aquatic Resources Field Study Location 2019-2020

Sample Year	Sample Location	UTM Easting (m)	UTM Northing (m)	Habitat Observations	Sediment & Benthos Sampling	Fish Community	Fish Body Burdens
	Birch River (BR-KM22)	565,203	5,687,801	Su <sup>a</sup>	-	Su <sup>a</sup>	-
	Springpole Lake (L-15)	549,764	5,690,462	Fa <sup>a</sup>	-	Su <sup>a</sup> , Fa <sup>a</sup>	Fa
	S-9	552,200	5,690,148	Fa <sup>a</sup>	Fa <sup>a</sup>	Su <sup>a</sup> , Fa <sup>a</sup>	Fa
	S-9-US01	553,052	5,690,601	Fa <sup>a</sup>	Fa <sup>a</sup>	Su <sup>a</sup>	-
	S-9-US02	552,507	5,690,348	-	Fa <sup>a</sup>	Su <sup>a</sup> , Fa <sup>a</sup>	Fa
2019	UNX01	549,827	5,694,183	Su <sup>a</sup>	-	-	-
2019	UNX03	552,562	5,692,501	Su <sup>a</sup>	-	-	-
	UNX07	566,356	5,689,020	Su <sup>a</sup>	-	Su <sup>a</sup>	-
	L-2-OUT	550,080	5,694,030	Su <sup>a</sup> , Fa <sup>a</sup>	Fa	Su <sup>a</sup> , Fa <sup>a</sup>	Fa
	L-5-OUT	549,114	5,693,156	Faª	Fa <sup>a</sup>	Su <sup>a</sup> , Fa <sup>a</sup>	Fa
	L-6-OUT	548,108	5,692,301	Faª	Fa <sup>a</sup>	-	-
	L-16-IN	547,900	5,692,134	Fa <sup>a</sup>	Faª	Sua	-
2020	L-15 (nearshore)	549,011	5,692,057	Su <sup>b</sup> , Fa <sup>b</sup>	Fa <sup>b</sup>	Su <sup>b</sup> , Fa <sup>b</sup>	-
2020	L-15 (mid-basin)	549,224	5,691,741	Su <sup>b</sup> , Fa <sup>b</sup>	Fa <sup>b</sup>	Su <sup>b</sup> , Fa <sup>b</sup>	-

#### Notes:

- 1. Coordinates provided represent the approximate midpoint of the study area in Universal Transverse Mercator (UTM) Zone 15U, North American Datum (NAD) 83
- 2. Use "Sua" data collected during the 2019 summer field study (July 15 to 25)
- 4.□ "Su<sup>b</sup>" data collected during the 2020 summer field study (July 24 to 28)
- $5.\square$  "Fab" data collected during the 2020 fall field study (September 10 to 14)

Table 2-2: Fish Community Sampling by Sample Area and Season 2019-2020

Sample Location	Angling	Electrofishing	Fyke Net	Gillnet	Minnow Trap	Seine Net
Birch River	Su <sup>a</sup>	-	-	Sua	Su <sup>a</sup>	-
Springpole Lake	Fa <sup>a</sup>	-	-	-	Faª	Faª
S-9	-	Su <sup>a</sup>	-	-	Faª	-
S-9-US02	-	-	-	-	Su <sup>a</sup> , Fa <sup>a</sup>	-
UNX07	-	-	-	Su <sup>a</sup>	Su <sup>a</sup>	_
L-2-OUT	-	-	Su <sup>a</sup>	Su <sup>a</sup>	Su <sup>a</sup> , Fa <sup>a</sup>	-
L-5-OUT	-	Su <sup>a</sup>	-	-	Su <sup>a</sup> , Fa <sup>a</sup>	-
Springpole Lake (L-15)	Fa <sup>b</sup>	Su <sup>b</sup>	-	Su <sup>b</sup> , Fa <sup>b</sup>	Su <sup>b</sup> , Fa <sup>b</sup>	-

#### Notes:

- 1. Sua data collected during the 2019 summer field study (July 15 to 25)
- 2. Fa<sup>a</sup> data collected during the 2019 fall field study (September 8 to 20)
- 3. Sub data collected during the 2020 summer field study (July 24 to 28)
- 4.□ Fa<sup>b</sup> data collected during the 2020 fall field study (September 10 to 14)



**Table 2-3:** Key Habitat Type Criteria

Habitat Type Classification		Lake / Pond			Riverine					
		Type A	Туре В	Type ℂ	Type D	Type E	Type F	Type G	Туре Н	Type I
General Habitat Attributes		■ Shallow inland lake / pond habitat     ■ Shoreline varies between extensive floating mats of herbaceous species and localized sections with boulder, cobble and/or sand		■□ Large lake habitat     ■□ Shoreline mostly bedrock / boulder substrate, with some and shallow nearshore soft sediments commonly at tributary inflows	■ Low lying area with diffuse pockets of standing water     ■ Sections of complete loss of channel, can transition into muskeg drainage, overland drainage flow path or underground flow     ■ Not fish habitat	■□ No floodplain with dense shrub riparian vegetation     ■□ Bedrock, boulder and cobble substrate with coarse wood debris	■□ Moderate beaver activity creating alternating series of pools / impoundments     ■□ Side overflow channels created during high flow and stream stage events     ■□ Abundant coarse wood debris	■□ Broad floodplain with extensive floating mats of herbaceous species typical of muskeg and beaver ponds / impoundments     ■□ Primarily flat morphology with occasional pools in the thalweg of meander bends and back bays of the channel		■□ Birch River habitat     ■□ No floodplain     ■□ Steep banks with fast flowing riffle and rapids habitat     ■□ Coarse grained substrate across channel including boulder and cobble, as well as exposed bedrock
Permanence		Permanent	Permanent	Permanent	Intermittent	Permanent	Permanent	Permanent	Permanent	Permanent
	Bankfull Width (m)	N/A	N/A	N/A	N/A	0.50 to 4.0 m	1.0 to 10 m	>5 m	>5 m	>10 m
Characteristic Morphology	Bankfull Depth (m)	Total depth <4 m	Total depth ≥4 m	Total depth ≥4 m	N/A	0.60 to 1.5 m	0.40 to 2 m	>1 m	>1 m	>0.50 m
Features	Channel Morphology	Pool: 100%	N/A	N/A	N/A	Slow Riffle: 5% Glide: 95%	Flat: 96% Pool: 4%	Flat: 98% Pool: 2%	Flat: 98% Pool: 2%	Fast Riffle: 80% Slow Riffle: 15% Glide: 5%
Substrate Com (approximate 9		Boulder: 2% Cobble: 2% Fines: 96%	Boulder: 5% Cobble: 5% Fines: 90%	Bedrock: 60% Boulder: 20% Fines: 20%	Bedrock: 20% Boulder: 20% Fines: 60%	Bedrock: 20% Boulder: 60% Fines: 10%	Bedrock: 5% Boulder: 15% Fines: 80%	Bedrock: 5% Boulder: 15% Fines: 80%	Bedrock: 5% Boulder: 5% Fines: 90%	Cobble: 15% Bedrock: 45% Boulder: 40%
Instream Cover (approximate 9		Macrophytes: 80% Rock: 5% Wood: 15%	Macrophytes: 80% Rock: 10% Wood: 10%	Macrophytes: 15% Rock: 75% Wood: 10%	Rock: 60% Wood: 40%	Bank: 15% Macrophytes: 5% Rock: 40% Wood: 40%	Bank: 5% Macrophytes: 50% Rock: 10% Wood: 25%	Bank: 5% Macrophytes: 40% Rock: 10% Wood: 45%	Bank: 15% Macrophytes: 40% Rock: 10% Wood: 35%	Rock: 80% Wood: 20%
Dominant Riparian Types (approximate %)		Macrophytes: 10% Grasses and Sedges: 45% Shrubs: 35% Trees: 10%	Macrophytes: 10% Grasses and Sedges: 45% Shrubs: 35% Trees: 10%	Grasses and Sedges: 10% Shrubs: 65% Trees: 25%	Grasses and Sedges: 10% Shrubs: 60% Trees: 30%	Macrophytes: 5% Grasses and Sedges: 10% Shrubs: 40% Trees: 45%	Macrophytes: 15% Grasses and Sedges: 70% Shrubs: 10% Trees: 5%	Macrophytes: 10% Grasses and Sedges: 80% Shrubs: 5% Trees: 5%	Macrophytes: 10% Grasses and Sedges: 80% Shrubs: 5% Trees: 5%	Grasses and Sedges: 30% Shrubs: 60% Trees: 10%
Representative Habitat Samplii (pre-2019)		L-4, L-5, L-6, L-11, L-14, S-9 pond habitat	L-1, L-2, L-3, L-10, L-12, L-13, L-16	Birch Lake, Seagrave Lake, Springpole Lake (L-15)	S-14, S-16 (upstream reach), S-17, S-25	S-9 (upper reaches), stream between L-12 and L-13, S-16 (midstream and downstream reach), S-26 (upstream reach), S-29	S-16 (midstream reach)	S-16 (midstream reach), S-26 (downstream reach), S-28, (downstream reach)	S-27	None
Representative 2019-2020 Habitat Sampling Locations		S-9 pond habitat	None	Springpole Lake (L-15)	UNX01, UNX03, L-4-OUT, L-6-OUT, S-9 (upstream reaches), S-19, S-20 (upstream reaches), S-21, S-22 (upstream reaches)	L-5-OUT (downstream reach), S-9 (upstream reach), S-18, S-21 (downstream reach), S-22 (downstream reach)	Connecting stream between L-1 and L-2, L-5-OUT (upstream reach)	S-20 (downstream reach), S-19 (upstream reach), S-21 (downstream reach)	UNX07	Birch River (BR-KM22)

#### Notes

• • •

Project # TC190403 | March 2021

<sup>1.</sup> Habitat type classification based on baseline existing conditions surveyed by others (FMG and C. Portt 2018), results of the 2019 and 2020 field surveys conducted by Wood, as well as inferred habitat delineations using aerial photo interpretation that are subject to confirmation or change with additional field survey data if collected.

<sup>2.</sup> N/A – not applicable; calculation or measurement unable to be assessed.



#### Results 3.0□

Results from the 2019-2020 field programs are presented as per the five field program components listed below:

- Multi-season inland waterbody existing conditions assessment (2019);
- Preferred road alignment water crossing assessment (2019);
- Springpole Lake fish tissue contaminants assessment during the fall 2019 field campaign;
- Springpole Lake southeast basin sediment quality and benthic invertebrate community assessment (2019); and
- Springpole Lake candidate treated mine effluent outfall location assessment (2020).

Field data summary tables and figures, as well as the field assessment forms including gear-specific catch records and MTO road crossing assessment field forms are provided in Appendix A. The contaminants in fish tissue summary tables, figures and laboratory Certificates of Analysis (COAs) are provided in Appendix B, with fish age determination results in Appendix C. The sediment quality laboratory COAs and BIC taxonomic data with summary table and figures are provided in Appendix D. A photographic record of the sampled locations with representative fish species and typical habitat images are provided in Appendix E.

Where applicable, baseline data from earlier project studies have been included in the results analysis and data presentation, thereby summarizing the larger project-specific data set. Further aquatic studies are planned for 2021, which will contribute the wholistic understanding of existing conditions on and around the project site.

#### 3.1 □ **Inland Waterbodies**

The following sections (and associated tables and figures) provide sample area specific assessment results, including as appropriate:

- □ In-field physicochemical surface water quality parameters (Table A1.1);
- Fish community survey results including gear-specific capture results listing fish species occurrence in each waterbody, length-frequency histograms for select abundant species (Tables A1.2 to A1.7; Figures A1.1 to A1.2);
- Concentrations of select contaminants of concern in fish tissue, including total mercury and methylmercury (Tables B1.1 to B1.8 and Figures B1.2 to B1.4);
- •□ Sediment quality (Table D1.1); and
- The BIC results including descriptive community-based metrics for each sample area, as well as the raw data and associate community metrics plots (Tables D2.1 and D2.2, Figures D2.1 to D2.3).

#### 3.1.1 □ S-9

#### 3.1.1.1 Fish Habitat

The S-9 sample reach is approximately 350 m upstream of Springpole Lake (Figure 3-1). The riparian vegetation consisted of dense grasses and sedges in flooded conditions, surrounded by alders, with





mixed poplar, pine and spruce further upland. The study reach is a flooded remnant channel with numerous impounded cells or ponds divided by beaver dams with a high abundance of large and small woody debris.

Water temperature measured during the summer and fall field programs were 20.7 and 10.4 °C, respectively (Table A1.1). The recorded July temperature, as well as fish species presence suggest the thermal guild classification for S-9 represents cool water fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

The in-field DO measurements were 5.99 and 5.61 milligrams per litre (mg/L), and the in-field pH measurements were 6.19 and 7.12 during the summer and fall field programs, respectively (Table A1.1). The DO measurements met the PWQO (5 to 8 mg/L) concentration for the general protection of cold water biota, however, the concentrations were less than both the CWQG for the protection of cold water biota (6.5 mg/L) and for supporting early cold water life stages (9.5 mg/L). The summer pH measurement did not satisfy the PWQO (6.5 to 8.5) or CWQG (6.5 to 9.0), but the fall measurements did. In-field conductivity measurements at S-9 were generally less than the other surveyed stream sites and greater values were observed in the fall 123 microsiemens per centimeter ( $\mu$ S/cm) compared to the summer 61.5  $\mu$ S/cm.

#### 3.1.1.2 ☐ Fish Community

Six fish species were captured at site S-9 during the July and September field programs, including: Brook Stickleback (*Culaea inconstans*), Northern Pearl Dace (*Margariscus nachriebi*), Finescale Dace (*Chrosomus neogaeus*), Northern Redbelly Dace (*Chrosomus eos*), Fathead Minnow (*Pimephales promelas*), and juvenile White Sucker (*Catostomus commersonii*). Backpack electrofishing equipment and baited minnow traps were used to sample the watercourse, and pools that compose the S-9 fish habitat site. Baited minnow traps were the most effective capture gear, collecting the majority of specimens in September. A total of 7 and 155 individuals were captured during the July and September 2019 field programs, respectively. Finescale Dace were the most abundant fish species captured, followed by Northern Redbelly Dace.

#### 3.1.1.3 ☐ Fish Tissue

Two Finescale Dace composite samples and one Northern Redbelly Dace composite sample were submitted for contaminants in fish tissue analysis from S-9. The number of individuals per composite of Northern Redbelly Dace was 31, with the Finescale Dace composites including from 16 to 24 individuals (Table B1.1). The composite methylmercury (MeHg) concentrations ranged from 0.112 to 0.221  $\mu$ g/g, which is greater than the Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota (0.033  $\mu$ g/g; CCME 2000).

#### 3.1.1.4 Sediment Quality

Sediment samples collected at S-9 during the fall field investigation mostly consisted of fine grained substrate including fine sand and silt (35.25% and 37.49%, respectively), with some coarse sand (23.45%) and trace clay (Table D1.1). Nutrient and total metal parameters met some PSQG and CSQG concentrations with several values greater than the PSQG LEL, as well as concentrations greater than the PSQG SEL and/or CSQG PEL as noted below:

- Copper, manganese, nickel and phosphorus exceeded the PSQG LEL; and
- Total Kjeldahl nitrogen (TKN) and total organic carbon (TOC) exceeded the PSQG SEL guideline.



The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

#### 3.1.1.5 ☐ Benthic Invertebrate Community

The benthic community was sampled during the fall investigation, with samples collected in approximately 0.35 m total water depth. A total of 11 taxa groups were identified in the S-9 sample, with *Pisidium* (Bivalvia) being the most abundant, followed by *Helobdella stagnalis* (Leech). The S-9 sample reach is the closest Stream 9 sample area to Springpole Lake and represented a well-defined channelized section compared to the upstream sample locations. Total invertebrate density, number of individuals collected and taxa richness were higher at S-9 than the other two upstream sample locations (Figure 3; Table D2.1 and Figure D2.1 to D2.3).

#### 3.1.2 S-9-US01

#### 3.1.2.1 ☐ Fish Habitat

Site S-9-US01 is approximately 650 m upstream of S-9-US02 and one kilometre (km) upstream of S-9 (Figure 3-3). The riparian vegetation consisted of dense water-saturated grasses and sedges, surrounded by alders, with mixed poplar, pine and spruce. The general area is a densely vegetated beaver pond with numerous impounded cells.

Recorded water temperature during the July and September field programs were 20.1 and 12.4°C (Table A1.1). The summer temperature suggests the thermal guild classification for S-9-US01 represent cool water fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

In-field DO measurements were 0.68 and 2.03 mg/L, and the in-field pH measurements were 6.13 and 6.82 during the July and Summer field programs (Table A1.1). Site S-9-US01 DO measurements did not meet the PWQO or CWQG for the general protection of cold water biota or the CWQG for supporting early cold water life stages. The summer pH measurement were less than the PWQO or CWQG ranges. Infield conductivity at S-9-US01 was greater in July (154  $\mu$ S/cm) compared to September (85.7  $\mu$ S/cm).

#### 3.1.2.2 Fish Community

Fish community surveys during July and September 2019 field program at S-9-US01 did not catch any fish. Seine net hauls and backpack electrofishing were used to sample the waterbody. The low DO concentrations at this location does not likely support long-term fish presence and may not represent fish habitat.

### 3.1.2.3 ☐ Sediment Quality

Sediment samples collected at S-9-US01 during the fall field investigation mostly consisted of fine grained substrate including silt and fine sand (51.57% and 28.14%, respectively), with some coarse sand (13.03%) and clay (Table D1.1). Nutrient and total metal parameters met some PSQG and CSQG concentrations with several values greater than the PSQG LEL, as well as concentrations greater than the PSQG SEL as noted below:

- •□ Copper and phosphorus exceeded the PSQG LEL; and
- TKN and TOC exceeded the PSQG SEL guidelines.

The sediment chemistry and particle size laboratory COAs are provided in Appendix D.



#### 3.1.2.4 ☐ Benthic Invertebrate Community

The benthic community was sampled during the fall investigation, with samples collected in approximately 0.70 m total water depth. One taxa group was identified in the S-9-US01 sample (*Pisidium*; Bivalvia). The S-9-US01 sample reach is the furthest upstream Stream 9 sample area from Springpole Lake, with taxonomic results showing the lowest total invertebrate density, number of individuals collected and taxa richness than the other two Stream 9 sample locations (Figure 3-3; Table D2.1 and Figure D2.1 to D2.3).

#### 3.1.3 □ S-9-US02

#### 3.1.3.1 Fish Habitat

Site S-9-US02 is approximately 380 m upstream of S-9 (Figure 3-3). The riparian vegetation consisted of a dominant coniferous forest and the watercourse was characterized by a series of wide and deep (non-wadeable) beaver ponds. The watercourse becomes a well-defined channel upstream of S-9-US02, as the floodplain is smaller.

Water temperatures measured during the summer and fall field programs were 19.6 and 12.1°C (Table A1.1). The recorded July temperature, as well as fish species presence, suggest the thermal guild classification for S-9-US02 represents cool water fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

The in-field DO measurements were 3.45 and 8.78 mg/L, and the in-field pH measurements were 5.83 and 7.4 during the summer and fall field programs, respectively (Table A1.1). The DO measurement taken during the summer did not meet the PWQO and CWQG for the general protection of cold water biota or the CWQG for supporting early cold water life stages. However, the DO measurement taken during the fall program in S-9-US02 was within the acceptable range for both the CWQG for the general protection of cold water biota and supporting early cold water life stages. The July pH measurement did not satisfy the PWQO or CWQG. In-field conductivity measurements in S-9-US02 were generally less than all other stream sites and were greater in September (125  $\mu$ S/cm) than July (16.3  $\mu$ S/cm).

#### 3.1.3.2 Fish Community

Five fish species were captured within S-9-US02 during the July and September 2019 field program, including: Brook Stickleback, Northern Pearl Dace, Northern Redbelly Dace, Finescale Dace, and Fathead Minnow (Table A1.4). Baited minnow traps were used to sample the waterbody, with a total of 181 individuals captured during the July and September 2019 field programs, respectively. Northern Pearl Dace were the most abundant fish species captured, followed by Northern Redbelly Dace.

#### 3.1.3.3 ☐ Fish Tissue

Northern Pearl Dace comprised of four composite samples and Northern Redbelly Dace consisted of one composite at site S-9-US02. The number of individuals per composite of Finescale Dace ranged from 5 to 11 individuals.

Four Northern Pearl Dace composite samples and one Northern Redbelly Dace composite sample were submitted for contaminants in fish tissue analysis from S-9-US02. The number of individuals per composite of Northern Redbelly Dace was 37, with the Finescale Dace composites including from 5 to 11 individuals (Table B1.2). The composite MeHg concentrations ranged from 0.099 to 0.267  $\mu$ g/g, which is greater than the Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota (0.033  $\mu$ g/g; CCME 2000).



#### 1.1.1.1 ☐ Sediment Quality

Sediment samples collected at S-9-US02 during the fall field investigation mostly consisted of fine-grained substrate including coarse and fine sand (30.73% and 37.98%, respectively), with some silt (28.76%) and trace of clay (Table D1.1). Nutrient and total metal parameters met some PSQG and CSQG concentrations with TKN and TOC values greater than the PSQG SEL. The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

#### 3.1.3.4 ☐ Benthic Invertebrate Community

The benthic community was sampled during the fall investigation, with samples collected in approximately 0.60 m total water depth. Six taxa group were identified in the S-9-US02 sample with *Micropsectra* (Chironominae) as the most abundant, followed by *Chironomus* (Chironominae). The S-9-US02 sample reach is the only non-wadeable sample area within Stream with taxonomic results showing moderate total invertebrate density, number of individuals collected and taxa richness compared to the other two Stream 9 sample locations (Figure 3-3; Table D2.1 and Figure D2.1 to D2.3).

#### 3.1.4 □ L-2-OUT

#### 3.1.4.1 ☐ Fish Habitat

Site L-2-OUT is approximately 1 km east of the Project exploration camp where a culvert has been installed to support the access trail (Figure 3-2). The riparian wetland habitat downstream of the culvert consists of saturated grasses and sedges, with densely submerged and semi-submerged herbaceous plants. The channel is densely vegetated downstream of the culvert until its confluence with Springpole Lake. The watercourse is poorly defined approximately 5 m upstream of the culvert, as it travels through saturated alders and shrubs. Approximately 40 m further upstream from the culvert, Waterbody 2 drains into L-2-OUT where cattails, sedges, and grasses are abundant with riparian vegetation consisting mostly of alders, black spruce, and poplar trees.

Water temperatures measured during the summer and fall field programs were 21.4 and 9.57°C, respectively (Table A1.1). The recorded July temperature, as well as fish species presence, suggest the thermal guild classification for L-2-OUT represents cool water fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

In-field DO measurements were 8.58 and 7.59 mg/L, and in-field pH measurements were 6.53 and 7.16 during the July and September 2019 field programs, respectively (Table A1.1). The DO measurements taken during the July and September field programs at L-2-OUT met the PWQO and CWQG concentrations for the general protection of cold water biota and the CWQG for supporting early cold water life. July and September pH measurements met the PWQO and CWQG. In-field conductivity measurements in L-2-OUT were lower in the summer (64.5  $\mu$ S/cm) than in the fall (45 to 172  $\mu$ S/cm; Table A1.1).

## **3.1.4.2** □ Fish Community

Eleven fish species were captured at L-2-OUT during the July and September 2019 field programs, including: Yellow Perch (*Perca flavescens*), Pearl Dace, White Sucker, Northern Pike (*Esox lucius*), Walleye (*Sander vitreus*), Shorthead Redhorse (*Moxostoma macrolepidotum*), Spottail Shiner (*Notropis hudsonius*), Blacknose Shiner (*Notropis heterolepis*), Golden Shiner (*Notemigonus crysoleucas*), Emerald Shiner (*Notropis atherinoides*), as well as early life stage sucker species (*Catostomus spp.*) that were likely young-



of-the-year (YOY) White Sucker. Baited minnow traps, fyke nets, gill and RIN nets were used to sample L-2-OUT, with most of the fish caught by baited minnow traps and fyke nets. A total of 124 individuals were captured during the July and September 2019 field programs. Yellow Perch were the most abundant fish species captured, followed by Golden Shiner.

#### 3.1.4.3 ☐ Fish Tissue

Fish tissue samples were collected within other areas of Springpole Lake, as such, a non-lethal fish community sampling prgram was conducted at L-2-OUT. No fish tissue samples were collected.

#### 3.1.4.4 Sediment Quality

Sediment samples were collected at L-2-OUT during the fall field investigation mostly consisted of fine grained substrate including silt and fine sand (45.49% and 31.30%, respectively), with some coarse sand and clay (12.85% and 10.36%, respectively; Table D1.1). Nutrient and total metal parameters met some PSQG and CSQG values with values greater than the PSQG LEL, as well as concentrations greater than the PSQG SEL and/or CSQG PEL as noted below:

- •□ TOC, copper, and phosphorus exceeded the PSQG LEL; and
- •□ TKN exceeded the PSQG SEL guidelines.

The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

#### 3.1.4.5 ☐ Benthic Invertebrate Community

The benthic community was sampled during the fall investigation, with samples collected in approximately 0.30 m total water depth. The L-2-OUT sample contained 19 taxa groups, the greatest richness of all sampled locations during the fall 2019 study with *Amnicola limosa* (Gastropoda) being the most abundant invertebrate, followed by *Pisidium* (Bivalvia). The taxonomic results showed the second highest total invertebrate density, number of individuals collected and greatest taxa richness (Table D2.1 and Figure D2.1 to D2.3).

#### 3.1.5 □ L-5-OUT

#### 3.1.5.1 Fish Habitat

Site L-5-OUT is approximately 280 m upstream of Springpole Lake, with the first 200 m of habitat consisting of a channelized watercourse and the upstream 80 m of assessed reach consisting of a series of beaver ponds (Figure 3-2). The L-5 outlet stream is less than 0.5 m wide with a dense canopy cover consisting of a mature deciduous/coniferous forest. The watercourse supports a series of riffles and pools with submerged and partially submerged coarse woody debris crossing the stream. The upstream reaches include an active beaver pond, characterized by open water with a shoreline composed of standing dead conifers, and living shrubs including alders and red-osier dogwood.

Water temperatures measured during the summer and fall field programs were 16.9 and 11.1°C (Table A1.1). The recorded July temperature, as well as fish species presence, suggest the thermal guild classification of L-5-OUT represents cold/cool water fish habitat (Coker et al. 2001 and Hasnain et al. 2010).





In-field DO measurements were 8.6 and 7.6 mg/L, and the in-field pH measurements were 6.53 and 7.16 during the summer and fall field programs (Table A1.1). The DO measurements taken during the July and September field programs in L-5-OUT met the PWQO and CWQG concentrations for the general protection of cold water biota. The pH measurements were within the acceptable ranges for the PWQO and CWQG. In-field conductivity measurements in L-5-OUT were reported at concentrations of  $53.7 \mu S/cm$ .

#### 3.1.5.2 Fish Community

Six fish species were captured within L-5-OUT during the July and September 2019 field program, including: Brook Stickleback, Fathead Minnow, Pearl Dace, Finescale Dace, Redbelly Dace, and Iowa Darter (Etheostoma exile). Baited minnow traps and backpack electrofishing were used to sample the L-05-OUT watercourse, with most of the fish caught by baited minnow traps. A total of 125 individuals were captured during the 2019 field programs. Finescale Dace was the most abundant fish species captured, followed by Brook Stickleback.

#### 3.1.5.3 ☐ Fish Tissue

Three Finescale Dace composite samples were submitted for contaminants in fish tissue analysis from L-5-OUT. The number of individuals per composite ranged from 13 to 20 individuals (Table B1.3). The composite MeHg concentrations ranged from 0.176 to 0.264 µg/g, which is greater than the Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota (0.033 µg/g; CCME 2000).

## 3.1.5.4 ☐ Sediment Quality

Sediment samples collected at L-5-OUT during the fall field investigation mostly consisted of fine grained substrate including silt and fine sand (37.65% and 31.00%, respectively), with some coarse sand (22.55%) and presence of clay (8.80%; Table D1.1). Nutrient and total metal parameters met some PSQG and CSQG concentrations with several values greater than the PSQG LEL, as well as concentrations greater than the PSQG SEL and/or CSQG PEL as noted below:

- Chromium, copper, manganese, and phosphorus, exceeded the PSQG LEL; and
- •□ TKN and TOC exceeded the PSQG SEL guidelines.

The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

#### 3.1.5.5 ■ Benthic Invertebrate Community

The benthic community was sampled during the fall investigation, with samples collected in approximately 1 m total water depth. A total of five taxa groups were identified in the L-5-OUT sample, with Procladius (Chironomids) and Chironomus (Chironomids) Pisidium (Bivalvia) being the most abundant. Total invertebrate density, number of individuals collected and taxa richness were generally lower than most other 2019 sample locations (Table D2.1 and Figure D2.1 to D2.3).

#### 3.1.6 L-6-OUT

#### 3.1.6.1 Fish Habitat

The L-6-OUT sample reach is approximately 180 m upstream from L-16-IN, and was only visited during the fall 2019 field study (Figure 3-2). The riparian vegetation consisted primarily of grasses, Black Spruce,

Project # TC190403 | March 2021





and early successional growth of deciduous species. The upstream riparian habitat is a low-lying saturated area, with an undefined flow path that ultimately channelizes where the L-16-IN sampling occurred. These fragmented conditions suggest the flow path between L-6 and L-16 does not provide fish habitat.

Water temperature measured during the September field program was 8.68°C (Table A1.1). The in-field DO measurement was 7.04 mg/L, and the in-field pH measurement was 7.35 (Table A1.1). The DO measurement met the PWQO and CWQG concentrations for the general protection of cold water biota but did not satisfy the CWQG requirements for supporting early cold water life stages 9.5 mg/L. The pH measurement at L-6-OUT met the PWQO and CWQG. In-field conductivity was 143 µS/cm.

## 3.1.6.2 ☐ Fish Community

The L-6-OUT drainage area included dense riparian vegetation that precluded the use of active sampling gear such as seine netting or electrofishing, while the shallow water depth did not allow use of baited minnow traps. Consequently, fishing effort at L-6-OUT was not possible.

#### 3.1.6.3 ☐ Sediment Quality

Sediment samples collected at L-06-OUT during the fall 2019 field investigation mostly consisted of fine grained substrate including fine and coarse sand (39.48% and 30.77%, respectively), with some silt (22.93%) and clay (6.82%; Table D1.1). Nutrient and total metal parameters met most PSQG and CSQG concentrations with several values greater than the PSQG LEL as noted below:

•□ TKN, TOC, iron, manganese, and phosphorus exceeded the PSQG LEL.

The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

#### 3.1.6.4 Benthic Invertebrate Community

The benthic community was sampled during the fall 2019 field investigation, with samples collected in approximately 0.20 m total water depth. A total of 5 taxa groups were identified in the S-9 sample, with *Enchytraeidae* (Oligochaete) being the most abundant followed by *Psisidium* (Bivalvia). Moderate total invertebrate density, number of individuals collected and taxa richness were detected compared to other 2019 sample locations (Table D2.1 and Figure D2.1 to D2.3).

#### 3.1.7 L-16-IN

#### 3.1.7.1 ☐ Fish Habitat

The L-16-IN sample reach is narrow, less than 0.5 m wide, consisting of a series of shallow riffles and pools with overlaying woody debris (Figure 3-2). The outflow of L-16-IN disperses into a series of shallow pools, characterized by abundant woody debris and semi-submerged grasses.

Water temperatures measured during the July and September field programs were 10.9 and 8.16°C, respectively (Table A1.1). The July temperature suggest the thermal guild classification for L-16-IN represents cold water fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

In-field DO measurements were 3.86 and 6.76 mg/L, and the in-field pH measurement was 5.97 and 7.24 during the July and September 2019 field program, respectively (Table A1.1). DO measurement during the fall 2019 field program met the PWQO and the CWQG concentrations for the general protection of cold water biota. However, both July and September 2019 DO measurements did not satisfy the CWQG





requirements for early cold water life stages. Only the pH measurement from the fall 2019 field program met the PWQO and CWQG. In-field conductivity was 57.7 and 143.0  $\mu$ S/cm in July and September, respectively.

#### 3.1.7.2 ☐ Fish Community

Baited minnow traps, seine netting and backpack electrofishing equipment were used to sample the watercourse of L-16-IN; however, no fish species were captured.

#### 3.1.7.3 ☐ Sediment Quality

Sediment samples collected at L-16-IN during the fall field investigation mostly consisted of fine grained substrate including silt and fine sand (41.65% and 30.97%, respectively), with some coarse sand (17.91%) and clay (9.47%; Table D1.1). Nutrient and total metal parameters met some PSQG and CSQG concentrations with several values greater than the PSQG LEL, as well as concentrations greater than the PSQG SEL as noted below:

- •□ Arsenic, chromium, iron, nickel, and phosphorus exceeded the PSQG LEL; and.
- •□ Manganese, TKN, and TOC exceeded the PSQG SEL guidelines.

The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

#### 3.1.7.4 ☐ Benthic Invertebrate Community

The benthic community was sampled during the fall investigation, with samples collected in approximately 0.25, 0.30, and 0.40 m total water depths. A total of four taxa groups were identified in the L-16-OUT sample, *Pisidium* (Bivalvia) being the most abundant, followed by *Micropsectra* (Chironomids). Total invertebrate density, number of individuals collected and taxa richness were moderate compared to the other 2019 sample locations (Table D2.1 and Figure D2.1 to D2.3).

#### 3.2 Potential Access Road Crossings

#### 3.2.1 UNX01

#### 3.2.1.1 Fish Habitat

Site UNX01 is approximately 270 m upstream of Springpole Lake (Figure 2-1). Suitable fish habitat and a permanent watercourse/waterbody were not present. This location consists of a new growth forest dominated by deciduous trees with small, isolated pools of standing (stagnant) water, likely subject to dewatering during periods of low precipitation.

#### 3.2.2 UNX03

#### 3.2.2.1 ☐ Fish Habitat

Site UNX03 is approximately 837 m upgradient from Springpole Lake (Figure 2-1). This sample location consisted primarily of a wetland with mosses, lichens, woody shrubs and Black Spruce. Isolated pools of standing water were present with dense overstory vegetation. These pools are likely susceptible to dewatering during periods of low precipitation and are not considered fish habitat; however, it is possible this area provides breeding and rearing habitat for amphibians during the spring and early summer.



The unstable ground conditions characterized by mounding grasses and shrubs surrounding the pools precluded the use of backpack electrofishing and shallow total depths did not allow use of baited minnow traps. Consequently, fish collections were not conducted; however, it is unlikely these isolated pools provide fish habitat.

#### 3.2.3 UNX07

#### 3.2.3.1 Fish Habitat

Sample location UNX07 is located approximately 19 km southeast of the Project exploration camp, with the watercourse flowing into an embayment of Springpole Lake approximately 70 m downstream of the proposed crossing. The embayment is relatively shallow with semi-submerged boulders and emergent vegetation (reeds). UNX07 consists of an abandoned beaver pond that has transitioned into a wetland with a channelized stream surrounded by saturated grasses. The watercourse widens into segmented pools due to the construction of several beaver dams approximately 112 m upstream of the proposed crossing. The riparian vegetation surrounding the pools consists primarily of young poplar and other deciduous trees. Measured bankfull width ranged from 0.47 to 0.75 m, and a wetted depth ranging from 0.05 to 0.25 m.

Water temperatures measured during the July field program were measured at the confluence of UNX07 and Springpole Lake, as well as 70 and 112 m upstream of the lake, which were 20.7°C, 11.7°C, and 12.2°C, respectively (Table A1.1). The July temperature suggests the thermal guild classification represents cold/cool fish habitat, and the UNX07 stream-lake confluence represents cool fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

In-field DO measurements were reported from the confluence of UNX07 and Springpole Lake, as well as approximately 70 and 112 meters upstream were 8.44, 8.75, and 8.1 mg/L, respectively (Table A1.1). Infield pH measurement were measured at 6.81, 4.56, and 4.81 at the above locations (Table A1.1). The DO July measurements met the PWQO and the CWQG for the general protection of cold water biota. Measured pH from July 2019 did not satisfy the PWQO and CWQG (Table A1.1). Conductivity measurements were 52.4, 23.4, and 23.4  $\mu$ S/cm at the above noted locations. (Table A1.1).

#### 3.2.3.2 Fish Community

Six fish species were captured within UNX07 during the July and September 2019 field programs, including: Brook Stickleback, Mottled Sculpin *(Cottus bairdii)*, Yellow Perch, Shorthead Redhorse, and Northern Pike. Baited minnow traps, gill nets, and RIN nets were used, with most of the fish caught by RIN nets. A total of 29 individuals were captured during 2019 field program. Yellow Perch were the most abundant fish species captured, followed by Northern Pike.

#### **3.2.4** □ **BR-KM22** (**Birch River**)

#### 3.2.4.1 Fish Habitat

Sample reach BR-KM22 is located approximately 17 km southeast of the project exploration camp where Springpole Lake outflows into Birch River (Figure 2-1). The BR-KM22 area experienced recent forest fires, where riparian vegetation primary consists of early succession growth including poplar, pine, and grasses. The landscape is characterized by burned/fallen trees, exposed bedrock, and a lack of canopy surrounding the shoreline. Fast-flowing water with large boulders characterize the rapids where Springpole Lake outflows into the Birch River. The riverine habitat transitions to a series of bays downstream from these rapids, with less evidence of recent forest fires impacting the shoreline. The steep shoreline, high water





velocity and field staff safety concerns at BR-KM22 prevented measurement bankfull width and wetted depth.

Water temperature measured during the July field program was 21°C (Table A1.1). This temperature suggests the thermal guild classification for BR-KM22 represents cool fish habitat (Coker et al. 2001 and Hasnain et al. 2010).

The in-field DO measurement was 8.44 mg/L, and the in-field pH measurement was 6.71 during the July 2019 field program (Table A1.1). The DO measurement met the CWQG for the general protection of cold water biota. However, the measured DO did not meet the CWQG requirements for early cold water life stages. The recorded pH met the PWQO and CWQG. In-field conductivity was 53.7 µS/cm.

#### 3.2.4.2 Fish Community

Six fish species were captured within BR-KM22 during the 2019 June field program, including: Walleye, Northern Pike, Rock Bass (*Ambloplites rupestris*), Yellow Perch, Iowa Darter, and Longnose Dace (*Rhinichthys cataracte*). Baited minnow traps, gill nets, RIN nets and angling were used to sample BR-KM22, with most of the fish caught within baited minnow traps. A total of 47 individuals were captured. Walleye were the most abundant fish species captured, followed by Longnose Dace.

#### 3.2.5 L-2-OUT

The L-2-OUT potential access road crossing was assessed as part of the inland aquatic habitat studies, with results provided in Section 3.2.4.

## 3.3 Springpole Lake

#### 3.3.1 ☐ Fish Community

Springpole Lake was sampled from 10 to 16 September 2019 using baited minnow traps, angling and seine netting. A total of 562 individuals of fish were collected, represented by nine species with Yellow Perch as the most abundant (Appendix B). Other fish species included Northern Pike, White Sucker (Catostomus commersonii), Emerald Shiner (Notropis atherinoides), Iowa Darter (Etheostoma exile), Johnny Darter (Etheostoma nigrum), Rock Bass, Spottail Shiner (Notropis hudsonius), and YOY cyprinid species that were too small for species identification in the field.

### 3.3.2 ☐ Yellow Perch

Nine composite samples of Yellow Perch YOY were submitted for contaminants in fish tissue analysis from the 2019 Springpole Lake surveys. The number of individuals per composite sample ranged from 42 to 60 (Table B1.4). The composite MeHg concentrations ranged from 0.061 to 0.109  $\mu$ g/g, which is greater than the Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota (0.033  $\mu$ g/g; CCME 2000).

#### 3.3.3 ☐ Northern Pike

A total of 20 Northern Pike skinless, boneless, epaxial dorsal muscle tissue samples were submitted for contaminants analysis from the 2019 Springpole Lake surveys. The Northern Pike total lengths ranged from 501 to 682 mm, with total fresh weights ranging from 320 to 1,800 g. Stomach contents from Northern Pike sacrificed during the 2019 field studies contained an array of prey including an Eastern Garter Snake (*Thamnophis sitalis*), crayfish species, Burbot (*Lota lota*), Yellow Perch and Brook Stickleback.





The south west region of Springpole Lake is directly connected to Birch Lake (via the Birch River), meaning surface water flows from Birch Lake to the lower basin of Springpole Lake and the fish populations between theses lakes likely travel between basins. Radio telemetry tracking of Walleye documented most of the tagged fish left Springpole Lake, moving upstream toward Birch Lake in spring (FMG and C. Portt 2018). The seasonal timing of these movements align with Walleye spawning periods and aerial imagery suggests suitable spawning habitat (fast flowing riffles and narrows) are present within the Birch River between Birch and Springpole lakes.

The MECP have defined consumption advisories for Northern Pike, Walleye and Lake Trout (MECP 2020) for Birch Lake that can apply to Springpole Lake. The general population consumption advisories for Northern Pike specify a maximum of 12 meals per month for fish 450-500 mm total length and 8 meals per month for fish greater than 500 mm. This advisory generally aligns with the 2019 Northern Pike total mercury in tissue results that ranged from 0.39 to 3.83  $\mu$ g/g for fish sizes 501 to 682 mm.

Northern Pike total mercury in fish tissue data collected in 2019 by Story Environmental Inc. (SEI 2019) has been incorporated into the comparison of tissue results to consumption guidelines (Figure B1.2). Additionally, total mercury in Walleye data (FMG and C. Portt 2018) were compared to Northern Pike (Figures B1.3 and B1.4). The total mercury in tissue results show greater concentrations in Northern Pike, with variable concentrations in small and large fish, whereas Walleye total mercury concentrations are generally less than the Northern Pike. Figures B1.3 and B1.4 shows this comparison and steeper regression line associated with mercury concentration in Northern Pike compared to Walleye, as well as the variance in Northern Pike mercury concentrations compared to Walleye. In fact, the total mercury at age plot shows a well defined increase in concentration at age for Walleye; however, the limited age range of sampled Northern Pike shows a range of concentrations for the same age fish (Figure B1.4).

The total methylmercury concentrations ranged from 0.33 to 4.47  $\mu$ g/g, which is greater than the CMME guideline (0.033  $\mu$ g/g) for the Protection of Wildlife Consumer of Aquatic Biota. Most of these samples were also greater than Ontario's Ministry of Environment, Conservation and Parks total mercury concentration consumption advisory for the general human population (0.5  $\mu$ g/g; Figure B1.2).

## 3.4 Springpole Lake Candidate Outfall Location

## 3.4.1 ☐ Fish Habitat

The Springpole Lake candidate outfall location habitat assessments were completed primarily within the nearshore littoral areas and within total water depths that allowed visual inspection to bottom in greater than 2 m total water depth. The nearshore habitat consisted of windswept shoreline with bedrock outcrops and inlets dominated by boulders, cobble, and coarse-grained substrate. The field staff documented alevin stage and YOY fish species within the nearshore bedrock outcrops and inlets, suggesting these habitats support rearing and forage habitat for various species.

#### 3.4.2 ☐ Fish Community

Summer Springpole Lake sampling occurred from 24 to 27 July 2020 using baited minnow traps, gill nets, and backpack electrofishing. Nine fish species were captured during the summer field program, including: Yellow Perch, Spottail Shiner, Mimic Shiner (*Notropis volucellus*), Mottled Sculpin, Bluntnose Minnow (*Pimephales notatus*), White Sucker, Walleye, Northern Pike, and Common Shiner (*Luxilus cornutus*). Small mesh gill net equipment caught the highest diversity of fish species during the July 2020 field program. Dip netting equipment yielded the highest catch per unit effort; however, the catch was primarily alevin



and YOY individuals from nearshore habitat among the boulder substrate. Overall, Yellow Perch were the most abundant fish species captured, followed by Spottail Shiner and Bluntnose Minnow.

Fall Springpole Lake sampling occurred from 10 to 14 September using baited minnow traps, angling and gill nets. Nine fish species were captured within the fall Springpole Lake outfall field program, including: Yellow Perch, Northern Pike, Bluntnose Minnow, and Rock Bass. Baited minnow trap equipment was the most effective capture gear, collecting the highest fish diversity in the Fall field program. Small mesh gill net equipment was the most effective capture gear, collecting the highest catch. Yellow Perch were the most abundant fish species captured, followed by Northern Pike.

A total of 413 individuals were collected within the candidate outfall location sample areas during the 2020 sampling periods, represented by ten fish species. Yellow Perch were the most abundant species caught (Appendix B).

## 3.4.3 ☐ Sediment Quality

Sediment samples collected at the nearshore sample sites (L-15-S series) and offshore sample sites (L-15-D series) consisted mostly of fine-grained substrate. Grain size analysis was not performed on the 2019 sediment samples, but the 2020 sediment sample grain size results are included in Appendix D. Nutrient and total metal concentrations met some PSQG and CSQG concentrations. There were several values greater than the PSQG LEL, as well as concentrations greater than the PSQG SEL and/or CSQG PEL as noted below:

- •□ Arsenic, cadmium, chromium, copper, iron, lead, manganese, nickel, and phosphorus exceeded the PSQG LEL; with some sites exceeding the PSQG SEL guidelines. Arsenic concentrations in sediments within the SPL-series exceeded the CSQG PEL guideline
- •□ TKN and TOC exceeded the PSQG SEL guidelines.

Noticeable differences between arsenic, iron, manganese, and phosphorus were observed with greater sediment concentrations at the L-15-S series (nearshore) compared to that of L-15-D series (mid-basin). The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

The 2020 L-15-S series (nearshore) laboratory particle size distribution shows these substrates are mostly composed of coarse sand (24% to 49%), as well as fine sand (18% to 38%) and silt (20% to 36%), with a lesser proportion of and clay (3% to 11%). The 2020 L-15-D series (midbasin) laboratory particle size distribution shows these substrates are mostly composed of coarse sand (44% to 51%), as well as silt (19% to 29%), with lesser proportions of fine sand (11% to 19%) and clay (11% to 15%). Gravel and pebble / cobble were not present within any sediment samples from either the nearshore or mid-basin sample areas.

## 3.4.4 ☐ Benthic Invertebrate Community

The benthic community was sampled during the 2020 fall investigation, with nearshore samples (L-15-S series) collected in approximately 16 m total water depth and offshore samples (L-15-D series) collected in approximately 26 m total water depth. A total of seven taxa groups were identified in the Springpole Lake nearshore and offshore samples, including one phylum (*Nemata*), one class (*Ostracoda*) and five families (*Naididae*, *Pontoporeiidae*, *Chaoboridae*, *Chironomidae* and *Sphaeriidae*).

A total of seven groups were identified in the Springpole Lake nearshore samples with *Pontoporeiidae* (water scud) being the most abundant, followed by *Ostracoda* (seed shrimp) and *Sphaeriidae* (bivalve



clams). Mean TID was 133 (93 to 161) and mean taxa richness was six (five to seven). Mean Simpson's Diversity was 0.57 (0.46 to 0.61) and mean evenness was 0.39 (0.37 to 0.43). EPT were not present within the Springpole Lake nearshore samples, and chironomids composed an average of 1.45% (0.00 to 2.70%).

A total of seven taxa groups were identified in the Springpole Lake offshore samples with *Chironomidae* (non-biting midges) being the most abundant, followed by *Naididae* (earthworms) and *Pontoporeiidae* (water scud). Mean TID was 27 (six to 67) and mean richness was four (one to seven). Mean Simpson's Diversity was 0.54 (zero to 0.81) and mean evenness was 0.82 (0.70 to 1.00). EPT were not present within the Springpole Lake offshore samples, and chironomids composed an average of 48.65% (22 to 100%).

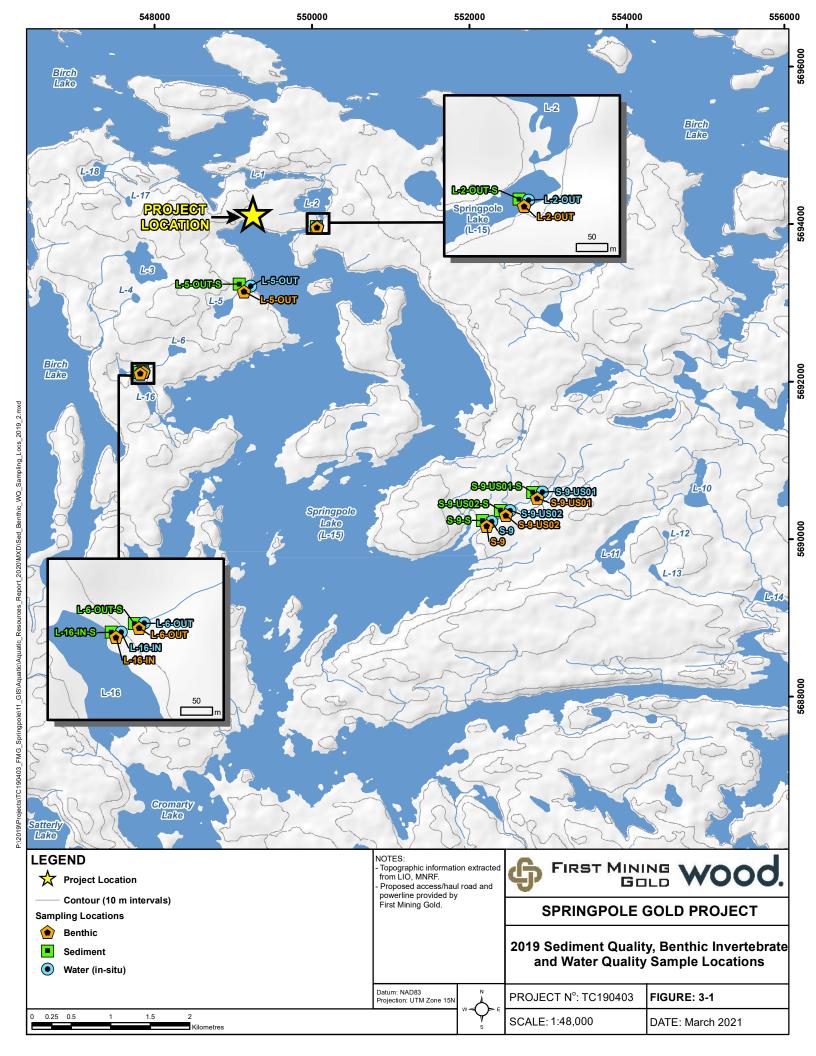
## 3.5 | Springpole Lake Southeast Basin

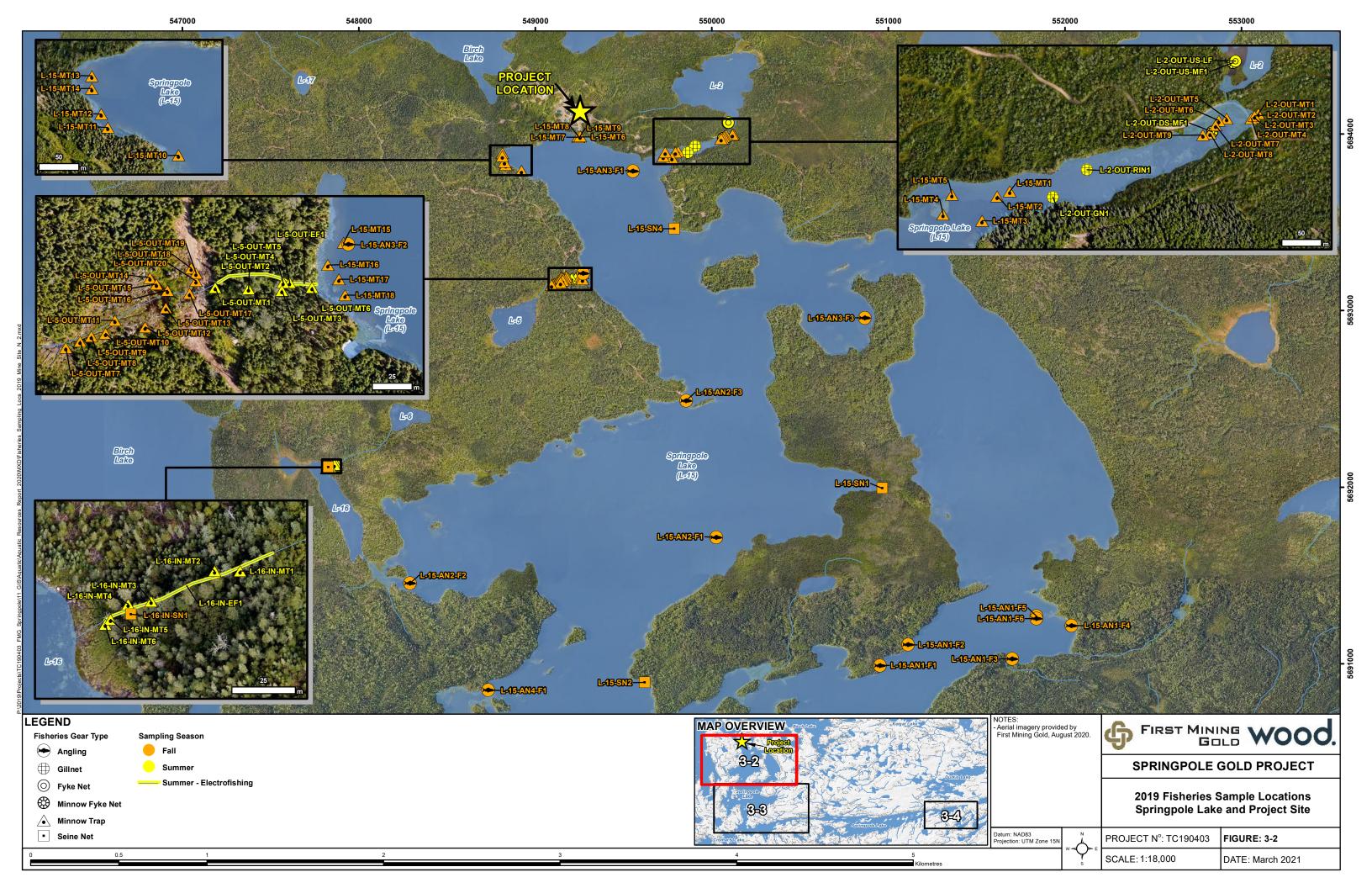
## 3.5.1 ☐ Sediment Quality

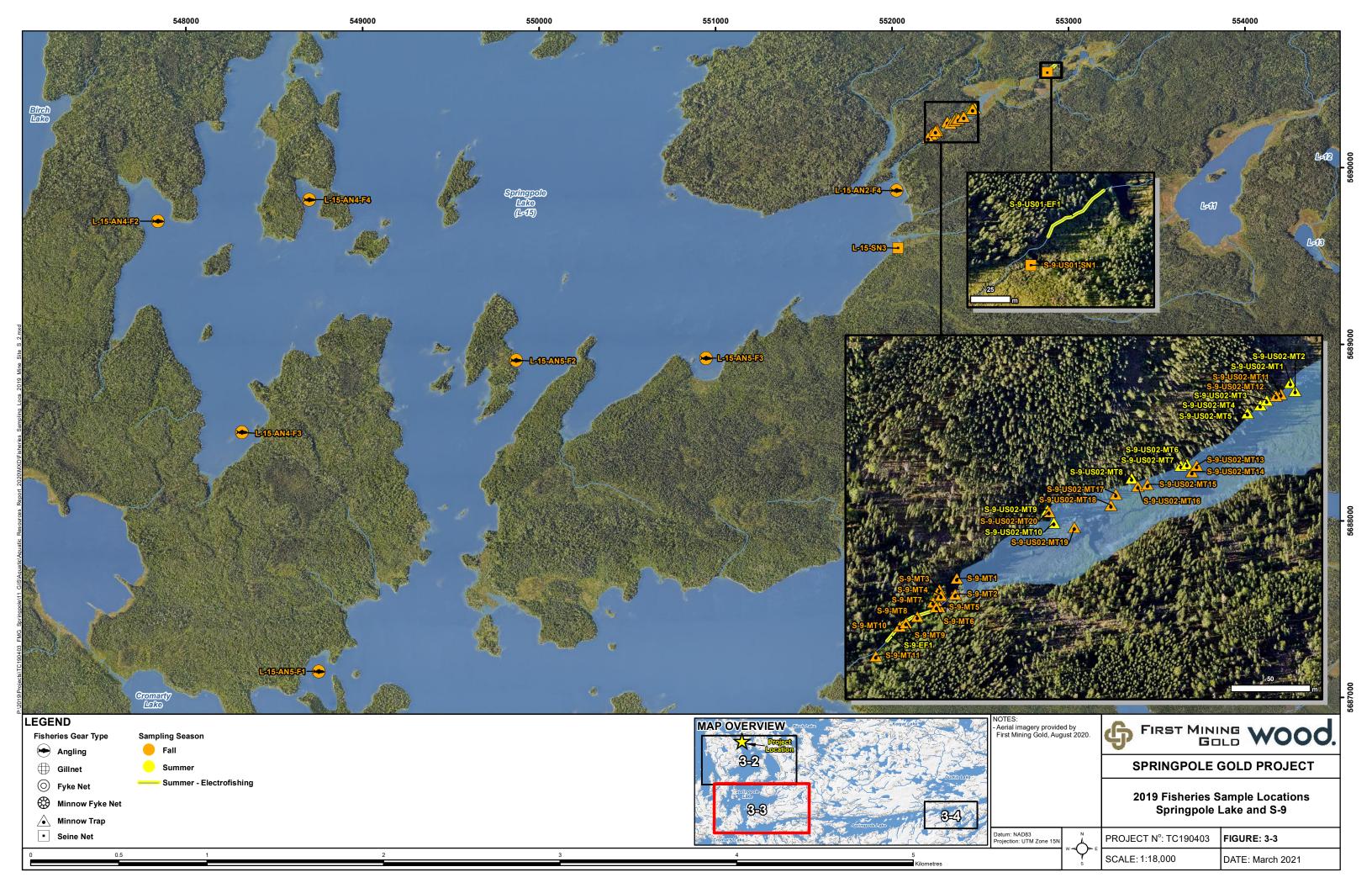
Five sediment samples were collected in the Springpole Lake southeast basin in late August 2019 (SEI). Total organic carbon and total metal concentrations met all PSQG and CSQG concentrations. All total organic carbon and metal concentrations were greatest at SPR-EXP-5, with the exception of phosphorus, which was highest at SPR-EXP-1. The laboratory particle size distribution shows these substrates are mostly composed of fine sand (74% to 80%), as well as fines (6% to 23%), with lesser proportions of medium sand (3% to 14%). Gravel and cobble were not present within any sediment samples from the Springpole Lake Southeast basin. The sediment chemistry and particle size laboratory COAs are provided in Appendix D.

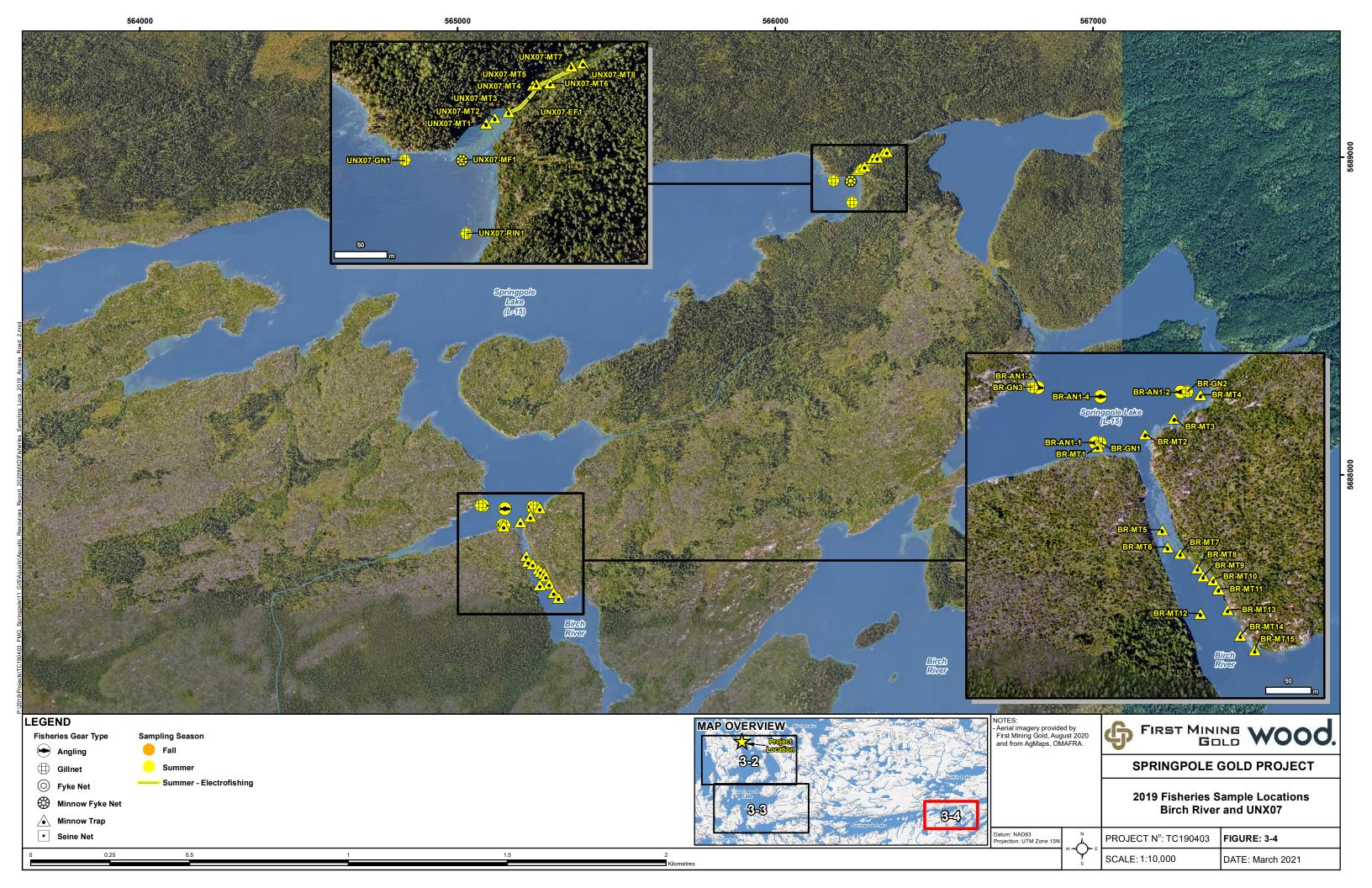
## 3.5.2 ☐ Benthic Invertebrate Community

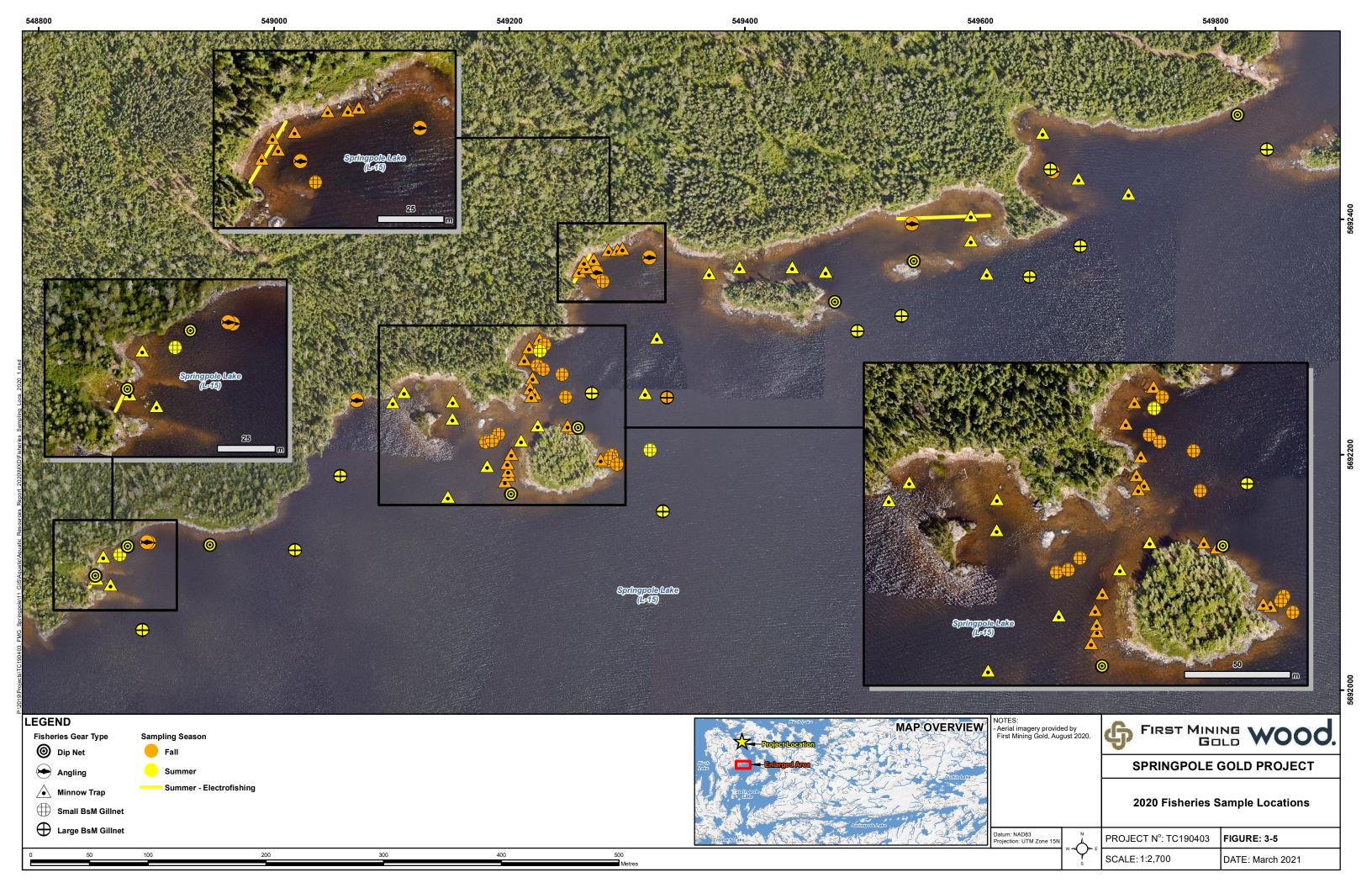
The benthic community was sampled concurrently with the sediment during the 2019 late August investigation. A total of 32 taxa groups were identified in the Springpole Lake Southeast basin samples with *Chironomidae* (non-biting midges) being the most abundant, followed by *Ephemeridae* (Mayfly) and *Planorbidae* (snails). Mean TID was 7,583 (5,638 to 9,609) and mean taxa richness was 21 (18 to 26). The mean Simpson's Diversity was 0.79 (0.75 to 0.84) and mean evenness was 0.20.15 to 0.30), indicating a relatively diverse benthic invertebrate community. The average community proportion of EPT was 22% (13% to 31%) and chironomids composed an average of 38% (28% to 48%).

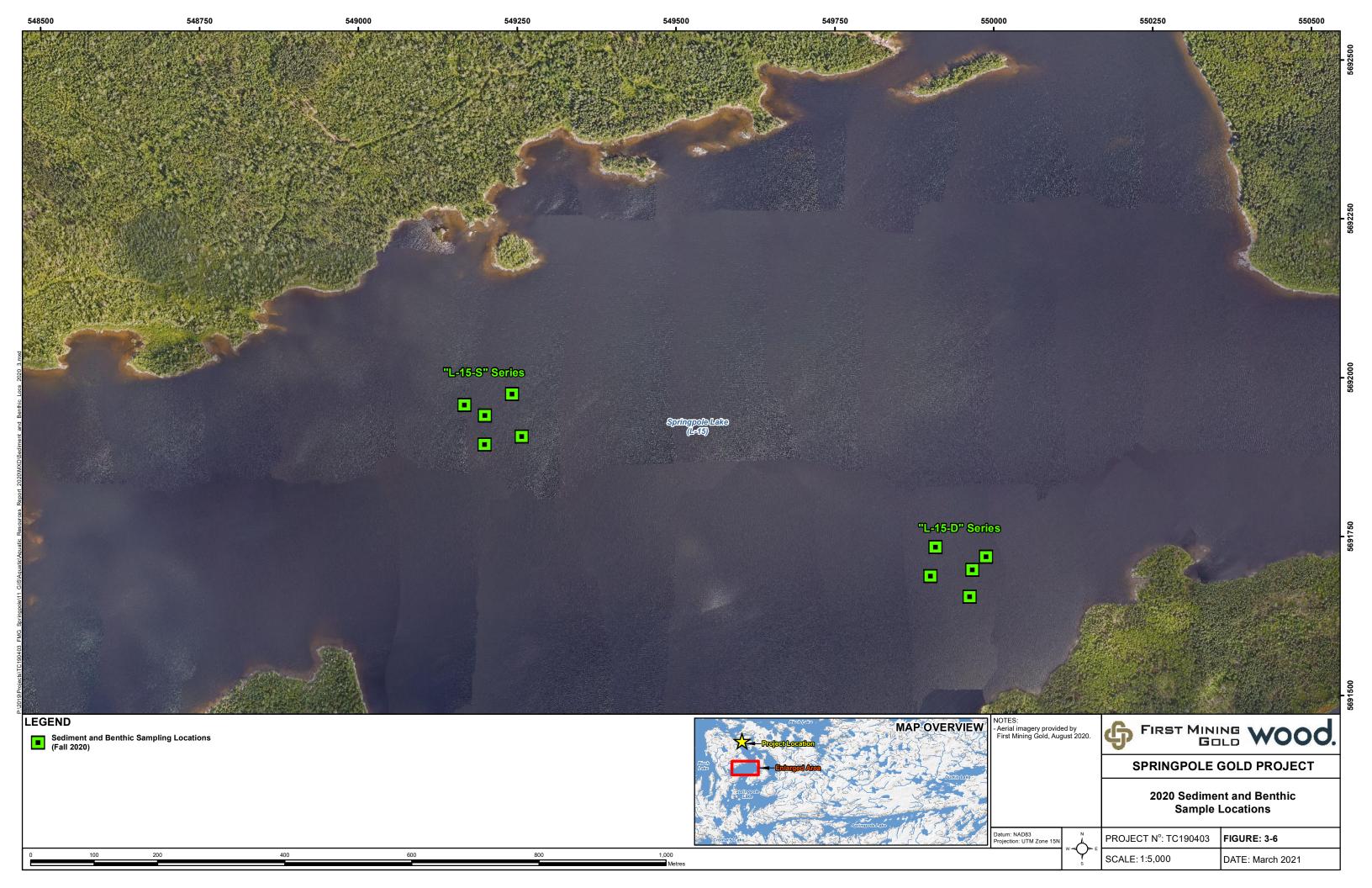


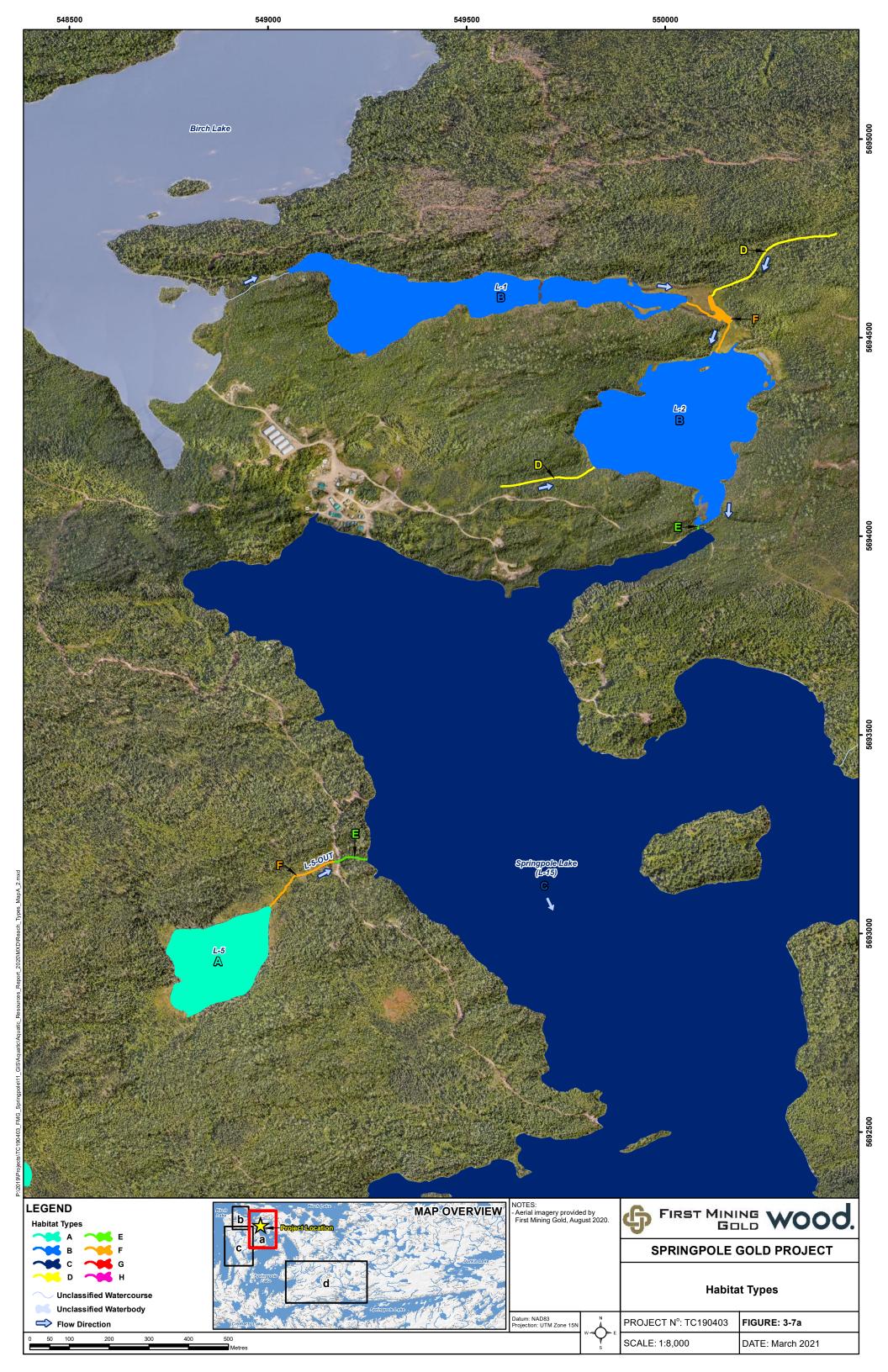


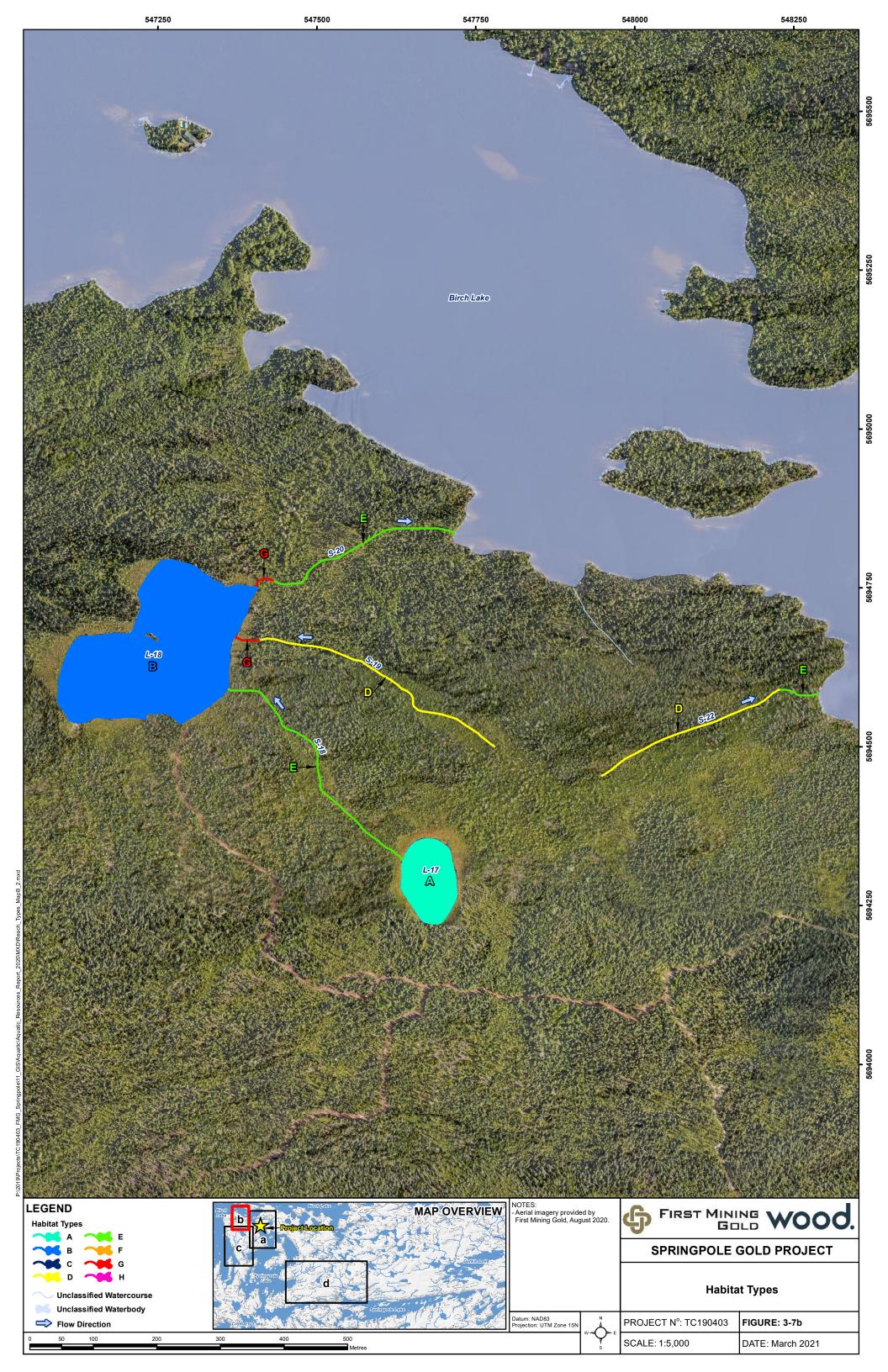


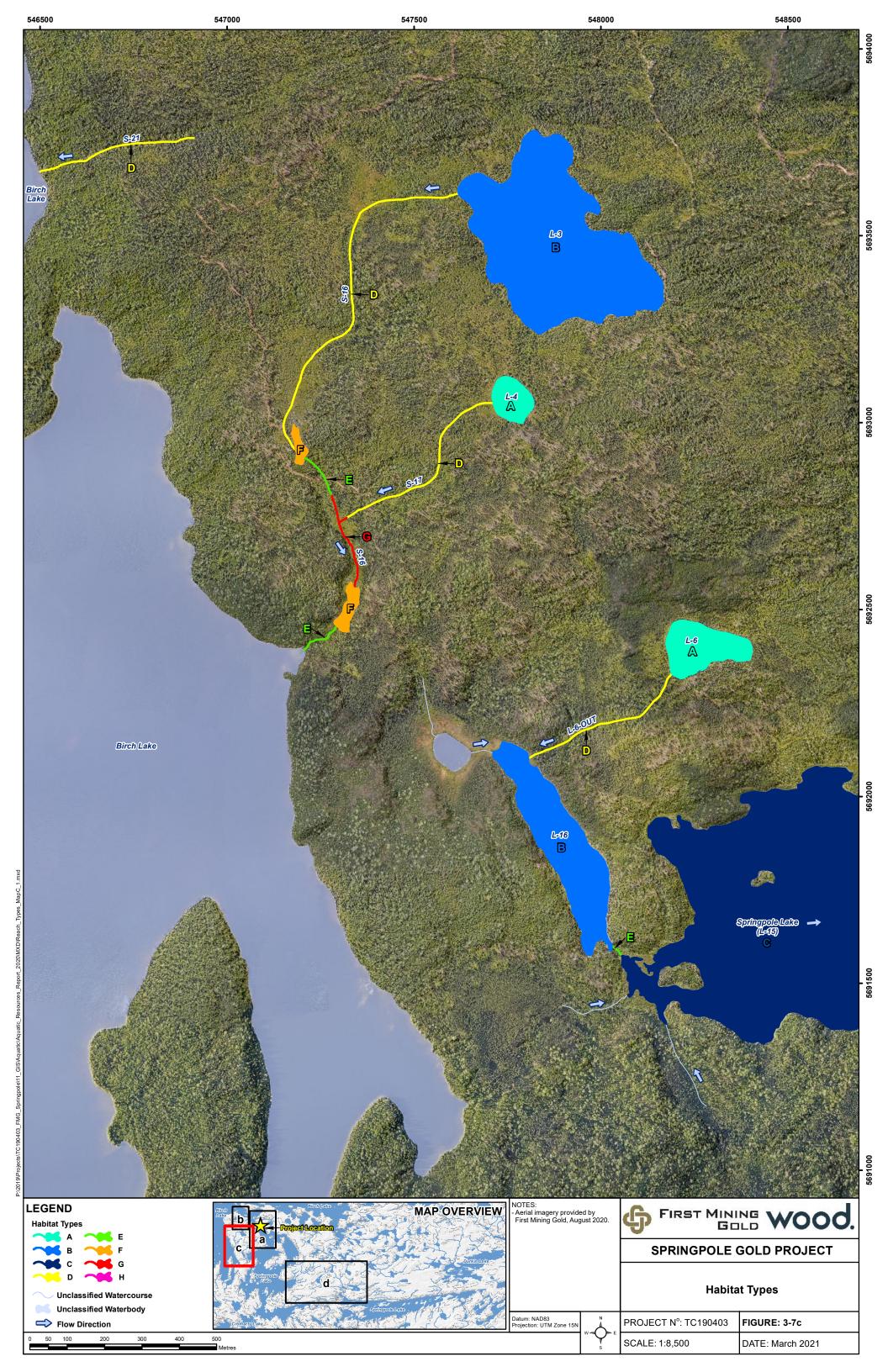


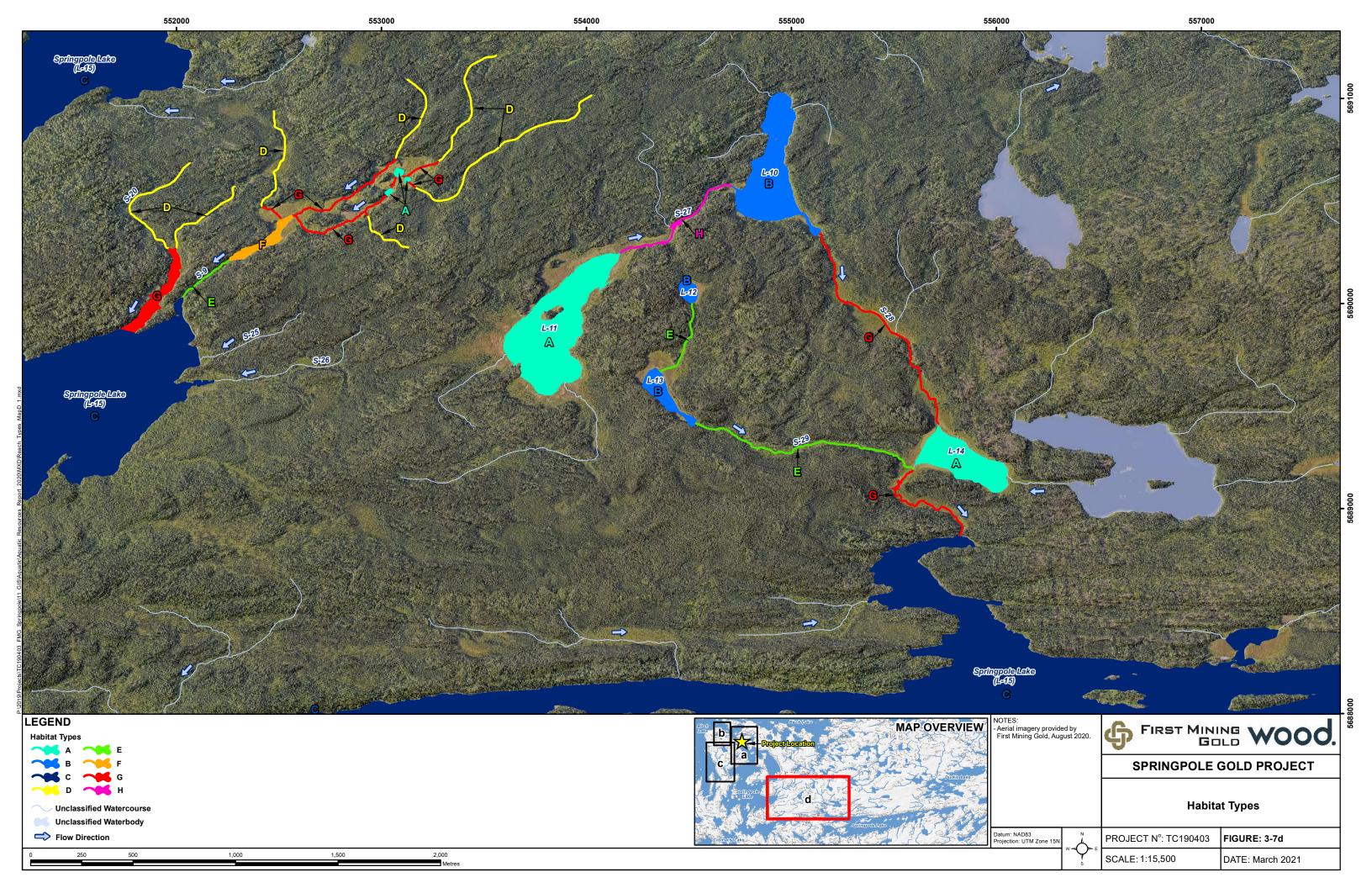














#### 4.0 □ Discussion

This report documents the existing conditions measured during the 2019 and 2020 summer and fall field investigations within the sampled inland waterbodies, potential access road crossings and Springpole Lake. The following subsections provide the key findings by study area.

#### 4.1 ☐ Inland Waterbodies

- In-field water quality measurements show the physiochemical parameters were generally within PWQO and CWQG protection of aquatic life criteria.
- •□ The sampled habitat was characterized by low lying muskeg, generally flat and pool stream morphology connecting pond habitats with moderate to broad floodplains. Some isolated reaches were characterized by steeper gradients with riffles and bedrock outcrops.
- Sampled substrates were primarily soft, fine grained sediments with some localized areas of cobble, boulder and exposed bedrock for most habitat types. This substrate supported growth of abundant aquatic macrophytes at many locations, particularly nearshore shallow habitat and within shallow inland lakes/ponds.
- •□ Sediment quality was representative of the baseline condition and parameter concentrations were generally less than PSQG, with the exception of TKN, TOC, copper, phosphorous and occasionally iron, manganese and nickel. The lentic habitats generally contained the highest nutrient and metal concentrations.
- $\square$  Small bodied fish tissue composite samples from stream S-9 and L-5-OUT (outlet of L-5) contained total mercury and methylmercury concentrations greater than the Federal methylmercury guideline for the protection of wildlife consumers of aquatic biota (0.033  $\mu$ g/g), which is typical for these species in northern Ontario.

## 4.2 Potential Access Road Crossings

- Two of the locations (UNX01 and UNX03) were low-lying areas without a defined stream channel or pond and did not represent fish habitat.
- •□ The remaining three locations (UNX07, BR-KM22 and L-2-OUT) were fish habitat and sampled for fish community. These locations represented three habitat types, including a connecting channel between an inland waterbody and Springpole Lake, a wide connecting channel within a wetland and a turbulent reach of the Birch River.
- •□ Fish communities varied as per the habitat conditions, with the highest species richness at L-2-OUT (n=11), which is not unexpected as this location provided nearshore protection for small bodied species and possible rearing habitat for juvenile large bodied species. A total of six species were caught at each of the wider, faster flowing sample locations, including fast water species such as Longnose Dace and shorthead redhorse and mottled sculpin.

#### **4.3** □ Springpole Lake

• A variety of collection gear were utilized to sample the fish community, with a total on nine fish species being caught and the most successful gear type being gillnets and angling.



- •□ Northern Pike and YOY Yellow Perch were retained for contaminants in tissue analysis and age assessment, representing an upper trophic level predatory species other than Walleye and a lower trophic prey species, respectively.
- Nearly all analyzed fish tissues showed metal and mercury concentrations that exceeded the human consumption guidelines. Total mercury concentrations in fish tissues were nearly all above the Federal methylmercury guideline for the protection of wildlife consumers of aquatic biota, which is typical for these species in northern Ontario.

## 4.4 Springpole Lake Candidate Outfall Location

- •□ Several sediment quality parameter concentrations were greater than the PSQG including arsenic, cadmium, chromium, copper, iron, lead, manganese, nickel, and phosphorus, as well as TKN and TOC. The nearshore L-15-S series of samples contained greater concentrations of these analytes relative to the mid-basin L-15-D series of samples.
- The nearshore benthic invertebrate community contained few taxa relative to inland waterbody and Springpole Lake Southeast basin samples, likely due to homogeneous habitat and generally less allochthonous inputs that support greater diversity of functional feeding guilds. These communities were dominated by *Pontoporeiidae*, *Ostracoda* and *Sphaeriidae*.
- •□ The mid-basin (offshore) benthic invertebrate community also contained few taxa relative to inland waterbody and Springpole Lake Southeast basin samples, likely due to habitat limitations. The samples were collected in an area with approximately 26 m total water depth, low dissolved oxygen and communities dominated by Chironomidae, Naididae and Pontoporeiidae. These taxa are all commonly found in deep basins of northern Ontario lakes.
- •□ The fish community showed high species richness and the nearshore boulder and exposed fractured bedrock habitat provided rearing and forage habitat for various alevin stage and YOY fish species.

## 4.5 ☐ Springpole Lake Southeast Basin

- ◆□ All sediment quality parameter concentrations were less than the PSQG and CWQG concentrations, and were typically greatest at SPR-EXP-5. Total organic carbon concentrations were much less than those observed within the Springpole Lake Candidate Outfall samples or inland waterbody samples, likely due to the higher water velocities within the southeast basin attributable to the Birch River flow thereby reducing accumulation of organic inputs.
- •□ The benthic community samples contained the greatest richness and invertebrate density of all sampled locations. Diversity was high, also showing the greatest percent contribution of EPT taxa observed in all southeast basin samples. Chironomids typically dominated the samples; however, samples SPR-EXP-3 and SPR-EXP-4 contained nearly equitable proportions of Chironomids and EPT taxa (approx.. 30% each). The high percentage of EPT taxa is likely attributable to the Birch River flow, with increased water velocities and potentially improved dissolved oxygen concentrations and food availability.



#### 5.0 Closing

This Aquatic Resources Assessment Report was prepared by Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited for the sole benefit of First Mining Gold for specific application to the Springpole Gold Project site. The quality of information, conclusions and estimates contained herein are consistent with the level of effort involved in Wood's services and based on: i) information available at the time of preparation, and ii) the assumptions, conditions and qualifications set forth in this document. This report is intended to be used by First Mining Gold only, and its nominated representatives, subject to the terms and conditions of its contract with Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited. Any other use of, or reliance on, this report by any third party is at that party's sole risk. This report has been prepared in accordance with generally accepted industry-standard. No other warranty, expressed or implied, is made.

Sincerely,

**Wood Environment & Infrastructure Solutions** a Division of Wood Canada Limited

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Project # TC190403 | March 2021



#### **6.0** References

- Bishop, J.N. and B.P. Neary. 1975. The Distribution of Mercury within the Tissues of Freshwater Fish. Inorganic Trace Contaminants Section, Ontario Ministry of the Environment. August, 1975.
- Bloom, N.S. 1992. On the Chemical Form of Mercury in Edible Fish and Marine Invertebrate Tissue. Can. J. Fish. Aguat. Sci. 49: 1010 1017.
- Canadian Association for Laboratory Accreditation Inc. (CALA). 2014. CALA Guide to Current Sampling Practices. April 2014.
- Canadian Council of Ministers of the Environment (CCME). 1999. Canadian water quality guidelines for the protection of aquatic life: Dissolved oxygen (Freshwater). In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.
- Canadian Council of Ministers of the Environment (CCME). 1999. Canadian water quality guidelines for the protection of aquatic life: pH (Freshwater). In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.
- Canadian Council of Ministers of the Environment (CCME). 2000. Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota: Methylmercury. In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg.
- Canadian Council of Ministers of the Environment (CCME). 2001. Canadian sediment quality guidelines for the protection of aquatic life. Updated In: Canadian Environmental Quality Guidelines, 1999, Canadian Council of Ministers of the Environment, Winnipeg. Summary table accessed at: http://ceqq-rcqe.ccme.ca/
- Coker, G.A., C.B. Portt, and Minns C.K. 2001. Morphological and Ecological Characteristics of Canadian Freshwater Fish. Canadian Manuscript Report Fisheries Aquatic Sciences 2554: iv+89p.
- Environment Canada (EC). 2012. Metal Mining Technical Guidance for Environmental Effects Monitoring.
- First Mining Gold Corp., and C. Portt and Associates (FMG and C. Portt). 2018. Existing Conditions report. Fish Community and Habitat. March 2018.
- Health Canada. 2011. Food and Nutrition, Canadian Standards (Maximum Levels for Various Chemical Contaminants in Foods. Summary table accessed at:
- https://www.ontario.ca/page/eating-ontario-fish-2017-18 (Last Updated: September 20, 2019)
- Huckabee, J.W., J.W. Elwood, and S.G. Hildebrand. 1979. Accumulation of mercury in freshwater biota. In The biogeochemistry of mercury in the environment. Edited by J.O. Nriagu. Elsevier/North-Holland Biomedical Press, New York. pp. 277–302.
- Jackson, T.A. 1990. Biological and Environmental Control of Mercury Accumulation by Fish in Lakes and Reservoirs of Northern Manitoba, Canada. Can. J. Fish. Aguat. Sci. 48: 2449 2470.



- Jewett, S. C., Zhang, X., Naidu, S. A., and L. Duffy. 2003. Comparison of Mercury and Methylmercury in Northern Pike and Arctic Grayling from Western Alaska Rivers. Chemosphere 50(3): 383-92. DOI: 10.1016/S0045-6535(02)00421-6
- Kannan, K., Smith, R. G., Lee, R. F., and J. K. Summers. 1998. Distribution of total and methyl Mercury in Water, Sediment, and Fish from South Florida Estuaries. Archives of Environmental Contamination and Toxicology. 34(2): 109-18. DOI: 10.1007/s002449900294
- Lasorsa, B. and S. Allen-Gil. 1995 The Methylmercury to Total Mercury Ratio in Selected Marine, Freshwater, and Terrestrial Organisms. Water, Air and Soil Pollution 80: 905 913.
- Ministry of Environment and Energy (MOEE). 1999. Water Management Policies Guidelines Provincial Water Quality Objectives of the Ministry of Environment and Energy. July 1994, reprinted February 1999. PIBS 3303E.
- Ministry of the Environment (MOE). 2008. Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach. May 2008. PIBS 6658e.
- Ministry of the Environment and Climate Change (MOECC) Guide of Eating Ontario Sport Fish 2015-2016. 2015. Available: https://dr6j45jk9xcmk.cloudfront.net/documents/4460/fishguide2015-final-aoda-en-final.pdf [accessed 17 Jan 2017].
- Story Environmental Inc. (SEI). 2019. Data transfer.
- United States Environmental Protection Agency (EPA). 2016. Aquatic Life Ambient Water Quality Criterion for Selenium in Freshwater 2016 Fact Sheet. June 2016.

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## **Appendix A**

# Field Data Summary Tables and Assessment Forms



**Table A1.1:** In-field Surface Water Quality Measurement Summary

Season	Waterbody	ID	Date	Time	Water Temperature (°C)	pН	Conductivity (µS/cm)	DO (%)	DO (mg/L)	ORP
	Lake 2	L-2-OUT-DS-MF1	18-Jul-19	11:20	21.40	6.53	64.5	103.2	8.6	358.1
		S-9	16-Jul-19	11:40	20.70	6.19	61.5	70.7	6.0	342.5
	Stream 9	S-9-US01-EF	17-Jul-19	12:20	20.10	6.13	85.7	8.7	0.7	359.0
		S-9-US02	17-Jul-19	09:30	19.60	5.83	16.3	41.2	3.5	389.2
	Laba F	L-5-OUT	18-Jul-19	15:00	16.90	6.09	87.0	66.3	6.0	274.5
	Lake 5	L-5-OUT	09-Jul-19	09:00	15.30	6.13	83.6	36.3	6.4	298.9
Summer	Birch River	BR-KM22-GN1	22-Jul-19	13:20	21.00	6.71	53.7	98.7	8.4	315.9
		UNX07-MF1	22-Jul-19	11:20	11.70	4.56	23.4	84.2	8.8	269.0
	Caringapolo Lako	UNX07-GN1	22-Jul-19	11:35	20.70	6.81	52.4	100.8	8.4	270.0
	Springpole Lake	UNX07-KM20.1	22-Jul-19	11:00	11.10	4.50	22.7	77.1	8.0	296.8
		UNX07	23-Jul-19	10:00	12.20	4.81	23.4	78.9	8.1	267.3
	Lake 16	L-16-IN	19-Jul-19	13:40	10.90	5.97	57.7	36.1	3.9	148.0
	Lake 10	L-16	19-Jul-19	14:00	22.80	6.86	96.5	96.6	7.9	252.0
		S-9-US01	11-Sep-19	15:30	12.35	6.82	154.0	18.9	2.0	205.5
	Stream 9	S-9-US02	12-Sep-19	11:00	12.09	7.40	125.0	82.0	8.8	157.8
		S-9	10-Sep-19	12:25	10.38	7.12	123.0	50.4	5.6	145.3
Fall	Lake 2	L-2-OUT	17-Jul-19	09:00	12.74	7.38	172.0	48.5	5.1	151.1
FdII	Lake 2	L-2-OUT	17-Jul-19	09:30	9.57	7.16	145.0	65.6	7.6	140.2
	Lake 5	L-5-OUT	13-Sep-19	10:00	11.10	7.48	157.0	50.7	5.6	171.7
	Lake 6	L-6-OUT	14-Sep-19	13:30	8.68	7.35	145.0	60.4	7.0	194.7
	Lake 16	L-16-IN	14-Sep-19	12:00	8.16	7.24	143.0	57.8	6.8	213.2

Note: In-field measurements taken approximately 0.10 m subsurface, as permitted by total depth.



**Table A1.2:** Backpack Electrofishing Catch and CPUE Summary

Waterbody	Effort ID	Date (mm/dd/yyyy)	Duration (seconds)	Alevin / YOY species	Brook Stickleback	Finescale Dace	lowa Darter	Mimic Shiner	Northern Redbelly Dace	Spottail Shiner	Yellow Perch	Total Catch
L-5-OUT	L-5-OUT-EF1	7/18/2019	469	0	1	1	2	0	0	0	0	4
L-16-IN	L-16-IN-EF1	7/19/2019	658	0	0	0	0	0	0	0	0	0
S-9	S-9-EF1	7/16/2019	669	0	2	4	0	0	1	0	0	7
S-9-US01	S-9-US01-EF1	7/17/2019	650	0	0	0	0	0	0	0	0	0
UNX07	UNX07-EF1	7/22/2019	987	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-EF-01	9/27/2020	335	7	0	0	0	0	0	1	1	9
Springpole Lake	SPL-EF-02	9/27/2020	265	0	0	0	0	0	0	1	1	2
Springpole Lake	SPL-EF-03	9/27/2020	192	3	0	0	0	3	0	4	8	18
Waterbody	Effort ID	Date (mm/dd/yyyy)	Duration (seconds)			See :	species li	sted abo	ve			CPUE
L-5-OUT	L-5-OUT-EF1	7/18/2019	469	0	0.13	0.13	0.26	0	0	0	0	0.51
L-16-IN	L-16-IN-EF1	7/19/2019	658	0	0	0	0	0	0	0	0	0.00
S-9	S-9-EF1	7/16/2019	669	0	0.18	0.36	0	0	0.09	0	0	0.63
S-9-US01	S-9-US01-EF1	7/17/2019	650	0	0	0	0	0	0	0	0	0
UNX07	UNX07-EF1	7/22/2019	987	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-EF-01	9/27/2020	335	1.25	0	0	0	0	0	0.18	0.18	1.61
Springpole Lake	SPL-EF-02	9/27/2020	265	0	0	0	0	0	0	0.23	0.23	0.45
Springpole Lake	SPL-EF-03	9/27/2020	192	0.94	0	0	0	0.94	0	1.25	2.50	5.63

Project # TC190403 | March 2021

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## Table A1.3a: Gillnet Catch and CPUE Summary (2019)

											Fish Spec	ies					
								Catc	h				CPUE				
Waterbody	Effort ID	Lift Date (dd/mm/yy)	Mesh Size (in)	Net Length (m)	Effort (hrs)	Northern Pike	Rock Bass	Shorthead Redhorse	Walleye	Yellow Perch	Northern Pike	Rock Bass	Shorthead Redhorse	Walleye	Yellow Perch	Total Catch	CPUE
	L-2-OUT-RIN1	7/17/2019	SML RIN	12.5	24	1	0	0	0	3	0.04	0	0	0	0.13	4	0.17
L-2-OUT	L-2-OUT-GN1	7/17/2019	3.5	15.2	24	0	0	1	5	0	0	0	0.04	0.21	0.00	6	0.25
					Subtotal						0.04	0	0.04	0.21	0.13	10	0.42
	BR-GN1	7/23/2019	3.5	15.2	23	0	0	0	0	0	0	0	0	0	0	0	0.00
	BR-GN2	7/23/2019	2.5	15.2	24.08	2	1	0	5	0	0.08	0.04	0	0.21	0	8	0.33
Birch River	BR-GN3	7/23/2019	3.5	15.2	24.25	0	0	0	5	0	0	0	0	0.21	0	5	0.21
				!	Subtotal						0.08	0.04	0	0.41	0	13	0.54
	UNX07-GN1	7/23/2019	3.5	15.2	24	0	0	2	0	0	0	0	0.08	0	0	2	0.08
Springpole Lake	UNX07-RIN1	7/23/2019	SML RIN	12.5	24	3	0	0	0	15	0.13	0	0	0	0.63	18	0.75
. 31					Subtotal						0.13	0	0.08	0	0.63	20	0.83



## Table A1.3b: Gillnet Catch Summary (2020)

										Fish S	Species				
Waterbody	Effort ID	Lift Date (dd/mm/yy)	Mesh Size (in)	Net Length (m)	Effort (hrs)	Bluntnose Shiner	Spottail Shiner	Common Shiner	Northern Pike	White Sucker	Rock Bass	Shorthead Redhorse	Walleye	Yellow Perch	Total Catch
Springpole Lake	SPL-LG-01	24/07/20	BSM-LRG	24.7	2.13	0	0	0	2	0	0	0	4	0	6
Springpole Lake	SPL-LG-02	24/07/20	BSM-LRG	24.7	3.22	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-03	24/07/20	BSM-LRG	24.7	1.67	0	0	0	0	2	0	0	3	0	5
Springpole Lake	SPL-LG-04	25/07/20	BSM-LRG	24.7	2.25	0	0	0	1	0	0	0	5	0	6
Springpole Lake	SPL-LG-05	25/07/20	BSM-LRG	24.7	2.75	0	0	0	0	0	0	0	4	0	4
Springpole Lake	SPL-LG-08	25/07/20	BSM-LRG	24.7	0.55	0	0	0	0	0	0	0	1	0	1
Springpole Lake	SPL-LG-09	26/07/20	BSM-LRG	24.7	0.58	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-10	26/07/20	BSM-LRG	24.7	0.5	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-11	26/07/20	BSM-LRG	24.7	0.83	0	0	0	0	0	0	0	2	0	2
Springpole Lake	SPL-LG-12	26/07/20	BSM-LRG	24.7	0.52	0	0	0	0	0	0	0	1	0	1
Springpole Lake	SPL-LG-13	26/07/20	BSM-LRG	24.7	0.5	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-14	26/07/20	BSM-LRG	24.7	0.5	0	0	0	1	0	0	0	0	0	1
Springpole Lake	SPL-SM-01	24/07/20	BSM-SML	24.7	2.22	0	1	3	0	0	0	0	1	7	12
Springpole Lake	SPL-SM-02	24/07/20	BSM-SML	24.7	3.62	1	1	10	0	0	0	0	0	13	25
Springpole Lake	SPL-SM-03	24/07/20	BSM-SML	24.7	1.83	0	5	0	0	0	0	0	5	19	29
Springpole Lake	SPL-SM-04	12/09/20	BSM-SML	24.7	0.47	0	0	0	0	0	0	0	0	1	1
Springpole Lake	SPL-SM-05	12/09/20	BSM-SML	24.7	0.77	0	0	0	0	0	0	0	0	8	8
Springpole Lake	SPL-SM-06	12/09/20	BSM-SML	24.7	0.5	0	0	0	1	0	0	0	0	0	1
Springpole Lake	SPL-SM-07	12/09/20	BSM-SML	24.7	0.61	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-08	12/09/20	BSM-SML	24.7	1.25	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-09	12/09/20	BSM-SML	24.7	0.983	0	0	0	0	0	0	0	0	1	1
Springpole Lake	SPL-SM-10	13/09/20	BSM-SML	24.7	1.76	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-11	13/09/20	BSM-SML	24.7	1.683	0	0	0	0	0	0	0	0	4	4
Springpole Lake	SPL-SM-12	13/09/20	BSM-SML	24.7	1.43	0	0	0	0	0	0	0	0	7	7
Springpole Lake	SPL-SM-13	13/09/20	BSM-SML	24.7	1.38	0	0	0	1	0	0	0	0	18	19
Springpole Lake	SPL-SM-14	13/09/20	BSM-SML	49.4	2	0	0	0	1	0	0	0	0	4	5
Springpole Lake	SPL-SM-15	13/09/20	BSM-SML	24.7	1.1	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-09	13/09/20	BSM-LRG	24.7	1.85	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-01	24/07/20	BSM-SML	24.7	2.22	0	1	3	0	0	0	0	1	7	12
Springpole Lake	SPL-SM-02	24/07/20	BSM-SML	24.7	3.62	1	1	10	0	0	0	0	0	13	25
Springpole Lake	SPL-SM-03	24/07/20	BSM-SML	24.7	1.83	0	5	0	0	0	0	0	5	19	29



## Table A1.3c: Gillnet CPUE Summary (2020)

									F	ish Spec	cies				
Waterbody	Effort ID	Lift Date (dd/mm/yy)	Mesh Size (in)	Net Length (m)	Effort (hrs)	Bluntnose Shiner	Spottail Shiner	Common Shiner	Northern Pike	White Sucker	Rock Bass	Shorthead Redhorse	Walleye	Yellow Perch	CPUE
Springpole Lake	SPL-LG-01	24/07/20	BSM	24.7	2.13	0	0	0	0	0.94	0	0	1.88	0	2.82
Springpole Lake	SPL-LG-02	24/07/20	BSM	24.7	3.22	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-03	24/07/20	BSM	24.7	1.67	0	0	0	1.20	0	0	0	1.80	0	2.99
Springpole Lake	SPL-LG-04	25/07/20	BSM	24.7	2.25	0	0	0	0	0.44	0	0	2.22	0	2.67
Springpole Lake	SPL-LG-05	25/07/20	BSM	24.7	2.75	0	0	0	0	0	0	0	1.45	0	1.45
Springpole Lake	SPL-LG-08	25/07/20	BSM	24.7	0.55	0	0	0	0	0	0	0	1.82	0	1.82
Springpole Lake	SPL-LG-09	26/07/20	BSM	24.7	0.58	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-10	26/07/20	BSM	24.7	0.5	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-11	26/07/20	BSM	24.7	0.83	0	0	0	0	0	0	0	2.41	0	2.41
Springpole Lake	SPL-LG-12	26/07/20	BSM	24.7	0.52	0	0	0	0	0	0	0	1.92	0	1.92
Springpole Lake	SPL-LG-13	26/07/20	BSM	24.7	0.5	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-14	26/07/20	BSM	24.7	0.5	0	0	0	0	2.00	0	0	0	0	2.00
Springpole Lake	SPL-SM-01	24/07/20	BSM	24.7	2.22	0	0.45	1.35	0	0	0	0	0.45	3.15	5.41
Springpole Lake	SPL-SM-02	24/07/20	BSM	24.7	3.62	0.27	0.27	2.72	0	0	0	0	0	3.54	6.91
Springpole Lake	SPL-SM-03	24/07/20	BSM	24.7	1.83	0	2.73	0	0	0	0	0	2.73	10.38	15.85
Springpole Lake	SPL-SM-04	12/09/20	BSM	24.7	0.47	0	0	0	0	0	0	0	0	2.13	2.13
Springpole Lake	SPL-SM-05	12/09/20	BSM	24.7	0.77	0	0	0	0	0	0	0	0	10.39	10.39
Springpole Lake	SPL-SM-06	12/09/20	BSM	24.7	0.5	0	0	0	0	2.00	0	0	0	0	2.00
Springpole Lake	SPL-SM-07	12/09/20	BSM	24.7	0.61	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-08	12/09/20	BSM	24.7	1.25	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-09	12/09/20	BSM	24.7	0.983	0	0	0	0	0	0	0	0	1.02	1.02
Springpole Lake	SPL-SM-10	13/09/20	BSM	24.7	1.76	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-11	13/09/20	BSM	24.7	1.683	0	0	0	0	0	0	0	0	2.38	2.38
Springpole Lake	SPL-SM-12	13/09/20	BSM	24.7	1.43	0	0	0	0	0	0	0	0	4.90	4.90
Springpole Lake	SPL-SM-13	13/09/20	BSM	24.7	1.38	0	0	0	0	0.72	0	0	0	13.04	13.77
Springpole Lake	SPL-SM-14	13/09/20	BSM	49.4	2	0	0	0	0	0.50	0	0	0	2.00	2.50
Springpole Lake	SPL-SM-15	13/09/20	BSM	24.7	1.1	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-LG-09	13/09/20	BSM	24.7	1.85	0	0	0	0	0	0	0	0	0	0
Springpole Lake	SPL-SM-01	24/07/20	BSM	24.7	2.22	0	0.45	1.35	0	0	0	0	0.45	3.15	5.41
Springpole Lake	SPL-SM-02	24/07/20	BSM	24.7	3.62	0.27	0.27	2.72	0	0	0	0	0	3.54	6.91
Springpole Lake	SPL-SM-03	24/07/20	BSM	24.7	1.83	0	2.73	0	0	0	0	0	2.73	10.38	15.85

Project # TC190403 | March 2021 wood.



## Table A1.4a: Minnow Trap Total Catch Summary (2019)

												Fis	sh Spec	ies					
Waterbody	Season	Effort ID	Set Date (mm/dd/yy)	Lift Date (mm/dd/yy)	No. Traps Set	Effort (hr)	Total Trap Hours	Brook Stickleback	Fathead Minnow	Finescale Dace	lowa Darter	Longnose Dace	Mottled Sculpin	Northern Redbelly Dace	Pearl Dace	Rock Bass	White Sucker	Yellow Perch	Total Catch
	Cupanaar	L-2-OUT-DS-MT1	07/16/2019	07/18/2019	8	44.0	352.0	0	0	0	0	0	0	0	0	0	0	29	29
Lake 2	Summer	L-2-OUT-US-MT1	07/16/2019	07/17/2019	8	24.5	196.0	0	0	0	0	0	0	0	0	0	0	0	0
	Fall	L-2-OUT-MT1	09/17/2019	09/18/2019	9	22.0	198.0	0	0	0	0	0	0	0	2	0	3	5	10
	Summer	L-5-OUT-MT1	07/18/2019	07/19/2019	6	18.2	109.0	7	0	2	1	0	0	0	0	0	0	0	10
Lake 5	Fall	L-5-OUT-MT1	09/12/2019	09/13/2019	15	21.7	324.9	99	49	153	0	0	0	0	1	0	0	0	302
	Summer	L-5-OUT-MT2	07/18/2019	07/19/2019	6	19.3	116.0	1	0	8	0	0	0	1	0	0	0	0	10
Lake 16	Summer	L-16-IN-MT1	07/19/2019	07/20/2019	6	20.4	122.4	0	0	0	0	0	0	0	0	0	0	0	0
	Summer	S-9-US02-MT1	07/16/2019	07/17/2019	10	23.5	235.0	1	1	18	0	0	0	47	58	0	0	0	125
Stream 9	Fall	S-9-MT1	09/10/2019	09/12/2019	10	22.4	224.0	3	39	75	0	0	0	132	18	0	4	0	271
	ı all	S-9-US02-MT1	09/10/2019	09/12/2019	10	46.0	460.0	0	11	15	0	0	0	101	155	0	0	0	282
Birch River	Summer	BR-MT1	07/22/2019	07/23/2019	15	27.0	405.0	0	0	0	2	18	0	0	0	1	0	1	22
Unnamed Stream	Summer	UNX07-MT1	07/22/2019	07/23/2019	15	25.0	375.0	1	0	0	0	0	1	0	0	0	0	7	9
Springpole Lake	Fall	SPL-MT1	09/11/2019	09/12/2019	20	28.0	560.0	0	0	0	0	0	0	0	0	1	0	7	8



## Table A1.4b: Minnow Trap CPUE Summary (2019)

												Fis	sh Speci	es					
Waterbody	Season	Effort ID	Set Date	Lift Date	No. Traps Set	Effort (hr)	Total Trap Hours	Brook Stickleback	Fathead Minnow	Finescale Dace	lowa Darter	Longnose Dace	Mottled Sculpin	Northern Redbelly Dace	Pearl Dace	Rock Bass	White Sucker	Yellow Perch	CPUE
	C	L-2-OUT-DS-MT1	7/16/2019	7/18/2019	8	44.0	352.0	-	-	-	-	-	-	-	-	-	-	0.08	0.08
Lake 2	Summer	L-2-OUT-US-MT1	7/16/2019	7/17/2019	8	24.5	196.0	-	-	-	-	-	-	-	-	-	-	-	0.00
	Fall	L-2-OUT-MT1	9/17/2019	9/18/2019	9	22.0	198.0	-	-	-	-	-	-	-	0.01	-	0.02	0.03	0.05
	Summer	L-5-OUT-MT1	7/18/2019	7/19/2019	6	18.2	109.0	0.06	-	0.02	0.01	-	-	-	-	-	-	-	0.09
Lake 5	Fall	L-5-OUT-MT1	9/12/2019	9/13/2019	15	21.7	324.9	0.30	0.15	0.47	-	-	-	-	-	-	-	-	0.93
	Summer	L-5-OUT-MT2	7/18/2019	7/19/2019	6	19.3	116.0	0.01	-	0.07	-	-	-	0.01	-	-	-	-	0.09
Lake 16	Summer	L-16-IN-MT1	7/19/2019	7/20/2019	6	20.4	122.4	-	-	-	-	-	-	-	-	-	-	-	0.00
	Summer	S-9-US02-MT1	7/16/2019	7/17/2019	10	23.5	235.0	-	-	0.08	-	-	-	0.20	0.25	-	-	-	0.53
Stream 9	Fall	S-9-MT1	9/10/2019	9/12/2019	10	22.4	224.0	0.01	0.17	0.33	-	-	-	0.59	0.08	-	0.02	-	1.21
	Fall	S-9-US02-MT1	9/10/2019	9/12/2019	10	46.0	460.0	-	0.02	0.03	-	-	-	0.22	0.34	-	-	-	0.61
Birch River	Summer	BR-MT1	7/22/2019	7/23/2019	15	27.0	405.0	-	-	-	-	0.04	-	-	-	-	-	-	0.05
Unnamed Stream X07	Summer	UNX07-MT1	7/22/2019	7/23/2019	15	25.0	375.0	-	-	-	-	-	-	-	-	-	-	0.02	0.02
Springpole Lake	Fall	SPL-MT1	9/11/2019	9/12/2019	20	28.0	560.0	-	-	-	-	-	-	-	-	-	-	0.01	0.01



## Table A1.4c: Minnow Trap Total Cathc and CPUE Summary (2020)

												Fish Speci	ies					
									Catcl	n				CPUE				
Waterbody	Effort ID	Set Date (dd/mm/yy)	Lift Date (dd/mm/yy)	No. Traps Set	Effort (hr)	Total Trap Hours	Bluntnose Minnow	Mottled Sculpin	Rock Bass	Spottail Shiner	Yellow Perch	Bluntnose Minnow	Mottled Sculpin	Rock Bass	Spottail Shiner	Yellow Perch	Total Catch	CPUE
	SPL-MT-01	7/24/2020	7/25/2020	4	24.9	99.7	0	0	0	0	4	0	0	0	0	0	4	0.04
	SPL-MT-02	7/24/2020	7/25/2020	4	99.73	24.93	0	0	0	3	5	0.13	0	0	0.13	0	8	0.32
	SPL-MT-03	7/24/2020	7/26/2020	4	86.87	21.72	0	0	0	0	9	0	0	0	0	0	9	0.41
	SPL-MT-04	7/25/2020	7/26/2020	4	108.33	21.67	0	0	0	0	2	0	0	0	0	0	2	0.09
	SPL-MT-05	7/25/2020	7/26/2020	5	42.83	21.42	16	1	0	0	23	0	0.04	0	0	0.67	40	1.87
Springpole	SPL-MT-06	7/25/2020	7/26/2020	2	94.67	23.67	6	0	0	0	1	0	0	0	0	0.25	7	0.30
Lake	SPL-MT-07	7/25/2020	7/26/2020	4	47.43	23.72	0	0	0	0	0	0	0	0	0	0	0	0
	SPL-MT-08	7/25/2020	7/26/2020	2	94.67	23.67	1	0	0	0	0	0	0	0	0	0.04	1	0.04
	SPL-MT-09	10/9/2020	12/9/2020	4	217.75	43.55	10	0	2	0	4	0	0	0.08	0	0.42	16	0.37
	SPL-MT-10	10/9/2020	12/9/2020	5	219.58	43.92	2	0	0	0	0	0	0	0	0	0.08	2	0.05
	SPL-MT-11	12/9/2020	13/09/2020	5	163.33	23.33	3	0	0	0	0	0	0	0	0	0.13	3	0.13
	SPL-MT-12	12/9/2020	13/09/2020	7	153.07	21.87	5	0	1	0	0	0	0	0.04	0	0.21	6	0.27



## **Table A1.5:** Angling Total Catch and CPUE Summary

							Catch		CPUE			
Waterbody	Effort ID	Season	Species	Date	No. Rods	Effort (rod hr)	Northern Pike	Walleye	Northern Pike	Walleye	Total Catch	Total CPUE
Birch River	BR-KM22-AN1	Summer	Walleye	7/22/2019	3	4.50	1	13	0.22	2.80	14	3.1
	SPL-AN1	Fall	Northern Pike	9/10/2019	2	2.00	6	0	3.00	0	6	3.0
	SPL-AN2	Fall	Northern Pike	9/11/2019	2	2.33	4	0	1.71	0	4	1.7
	SPL-AN3	Fall	Northern Pike	9/12/2019	2	1.00	3	0	3.00	0	3	3.0
	SPL-AN4	Fall	Northern Pike	9/13/2019	2	1.67	4	0	2.40	0	4	2.4
	SPL-AN5	Fall	Northern Pike	9/14/2019	2	2.00	3	0	1.50	0	3	1.5
Corio em ala I alca	SPL-AN-05	Fall	Northern Pike	9/13/2020	2	1.00	30	60	3.00	0	3	3.0
Springpole Lake	SPL-AN-06	Fall	Northern Pike	9/13/2020	2	0.33	10	20	9.00	0	3	9.0
	SPL-AN-08	Fall	Northern Pike	9/13/2020	2	0.70	21	42	1.43	0	1	1.4
	SPL-AN-09	Fall	Northern Pike	9/14/2020	2	0.33	10	20	6.00	0	2	6.0
	SPL-AN-10	Fall	Northern Pike	9/14/2020	2	0.60	18	36	5.00	0	3	5.0
	SPL-AN-11	Fall	Northern Pike	9/14/2020	2	0.43	13	26	2.31	0	1	2.3
	SPL-AN-12	Fall	Northern Pike	9/14/2020	2	0.93	28	56	4.29	0	4	4.3



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## **Table A1.6:** Fyke Net Total Catch and CPUE Summary (Summer 2019)

										Fis	h Speci	es						
							Ca	tch					СР	UE				
Waterbody	Effort ID	Set Date	Lift Date	Effort (hrs)	Blacknose Shiner	Catostomus sp.	Golden Shiner	Northern Pike	Spottail Shiner	Yellow Perch	Blacknose Shiner	Catostomus sp.	Golden Shiner	Northern Pike	Spottail Shiner	Yellow Perch	Total Catch	Total CPUE
	L-2-OUT-DS-MFN1	7/16/2019	7/18/2019	44.00	0	9	0	0	0	72	0	0.20	0	0	0	1.64	81	1.84
Lake 2	L-2-OUT-US-MFN1	7/16/2019	7/17/2019	24.75	17	0	93	3	2	4	0.69		3.76	0.12	0.08	0.16	119	4.81
	L-2-OUT-US-LF1	7/16/2019	7/17/2019	24.68	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unnamed Stream	UNX07-MFN1	7/22/2019	7/23/2019	25.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0



## Table A1.7: Seine Net Total Catch and CPUE Summary (Fall 2019)

														Fish Spe	cies									
									Catch									CPUE						
Waterbody	Effort ID	Date	Time	No. Hauls	Cyprinid sp. (YOY)	Emerald Shiner	lowa Darter	Johhny Darter	Northern Pike	Rock Bass	Spottail Shinber	White Sucker	Yellow Perch	Cyprinid sp. (YOY)	Emerald Shiner	lowa Darter	Johhny Darter	Northern Pike	Rock Bass	Spottail Shinber	White Sucker	Yellow Perch	Total Catch	Total CPUE
Stream 9	S-9-US01-SN1	09/11/2019	15:50	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake 16	L-16-IN-SN1	09/14/2019	12:55	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
	SPL-SN1	09/15/2019	10:50	3	0	0	0	1	1	1	4	3	112	0	0	0	0.33	0.33	0.33	1.33	1.00	37.33	122	40.7
Caringpole Lake	SPL-SN2	09/15/2019	12:45	6	0	1	1	6	0	0	7	7	46	0	0.17	0.17	1.00	0	0	1.17	1.17	7.67	68	11.3
Springpole Lake	SPL-SN3	09/15/2019	13:50	3	1	0	0	0	0	0	10	0	214	0.33	0	0	0	0	0	3.33	0	71.33	225	75.0
	SPL-SN4	09/16/2019	11:00	2	0	0	0	4	0	0	8	0	269	0	0	0	2.00	0	0	4.00	0	134.50	281	140.5



**Table A1.8:** Dip Net Total Catch and CPUE Summary (Summer 2020)

								Fish	Specie	s				
						Ca	tch			СР	UE			
Waterbody	Effort ID	Date	Time	Effort (No. of Dips)	Aelevin / YOY species	Mimic Shiner	Spottail Shiner	Yellow Perch	Aelevin species	Mimic Shiner	Spottail Shiner	Yellow Perch	Total Catch	Total CPUE
	SPL-DP-01	26-Jul-20	11:17	2	0	0	9	2	11	0	0	4.5	1.0	11
	SPL-DP-02	26-Jul-20	12:38	2	0	0	16	2	18	0	0	8.0	1.0	18
Coninguals Labo	SPL-DP-03	27-Jul-20	15:21	2	19	0	5	0	24	9.5	0	2.5	0	5
Springpole Lake	SPL-DP-04	27-Jul-20	15:35	2	0	0	12	12	24	0	0	6.0	6.0	24
	SPL-DP-05	27-Jul-20	15:40	2	0	4	0	30	34	0	2.0	0	15.0	34
	SPL-DP-06	27-Jul-20	16:01	2	0	6	5	1	12	0	3.0	2.5	0.5	12

Project # TC190403 | March 2021 Page A12

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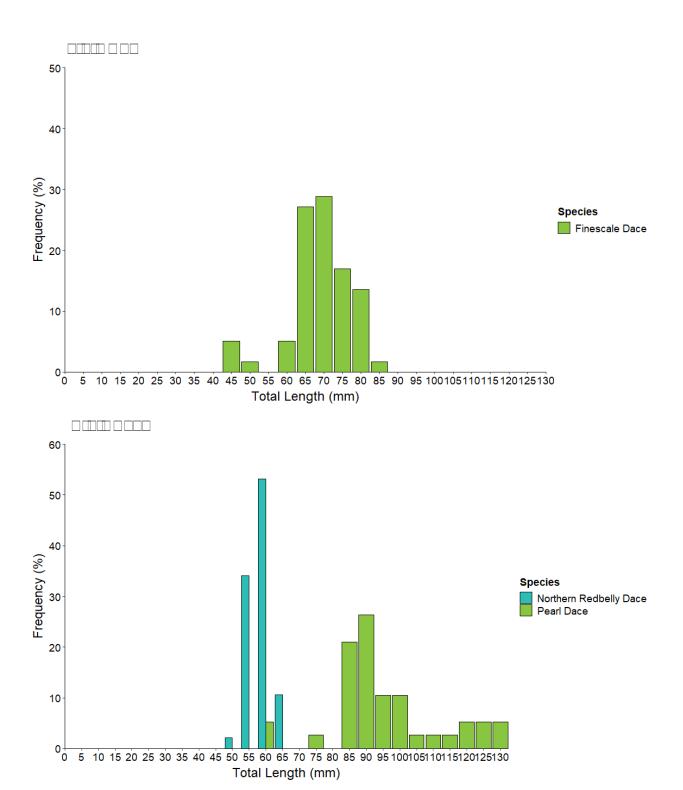
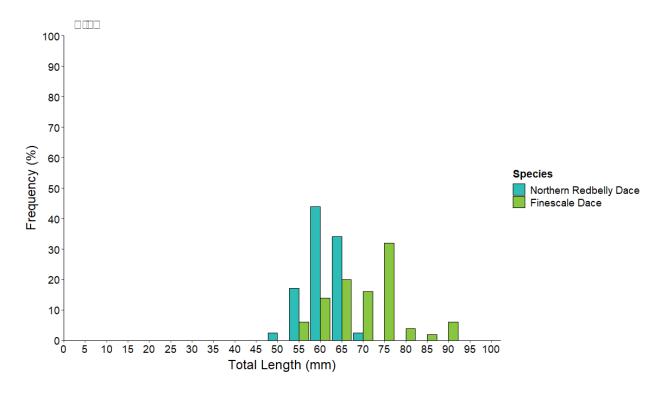


Figure A1.1 Length Frequency of Abundant Fish Species from L-5-OUT and S-9-US02





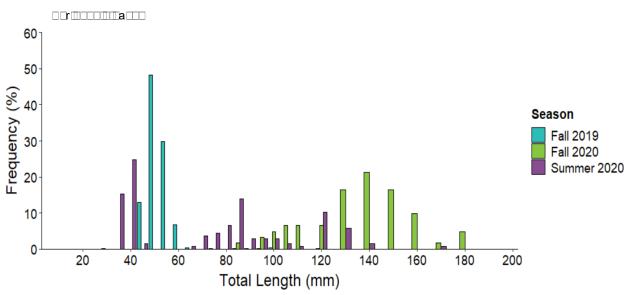


Figure A1.2 Length Frequency of Fish from S-9 and Yellow Perch from Springpole Lake

#### SITE DESCRIPTION

Sample ID [SAMID]		Waterbody Name [WBY_NM]	e	Project Code [PROJCD]			
WB02-0VT -	RIN1	SPr	ingPole	TC 19043			
Gear Type	Mesh Size(s)	Coor	dinates (UTM N	AD 83)	Site	Гуре	
(Gillnet, Trapnet, Fyke Trap,	(mm)	[UTM Zone]	[SITP]				
Seine net, Fish Fence)			(substr)	(cover)			
Gillnet	RIN	150	4	1			
Trap/Hoop Size (m)		der length m)	h Substrate Composition and Cover Types [BOTTOM] (list all substrate types in area of net)				
æ _	15.2	SA, SI, MU, DE, CL					

Site Type - Substrate Codes:

1 = gravel/pebble/sand mix (GP + SA > 75%) BR = bedrock 2 = boulder/rubble/cobble mix (BO + RC >

75%) 3 = sand (SA > 75%)

4 = soft mix (SI + MU + DE + soft CL > 75%) SA = sand SI = silt

5 = bedrock (BR > 75%)

6 = other (any other combination)

BO = boulder

RC = rubble/cobble GP = gravel/pebble

CL = clay MU = muck

DF = detritus MA = marl

#### Site Type - Cover Codes:

1 = no cover

2 = low (1 - 25%)

3 = moderate (25 - 75%) 4 = high ( > 75%)

Cover Acronyms: BO = boulders

OT = other NC = no cover

MA = macrophyles LT = log/tree

SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards)

17 - 17

Field Crew	Set Date [EFFDTO] (dd/mm/yy)	Set Time [EFFTMO] (24hh:mm)	Net Length [XLEADUSE] (1 - 60 m)	Dist. Off Shore [XDISTOFF] (0 - 40 m)	Angle to Shore [XANGLE] (0° - 90°)	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Depth [GRDEPMAX]
Stopm Lopanson	16/101/19	16:27	12504		90	0.4	0.7	1

LIFT DATA (recorded	IFT DATA (recorded at time of lift) Note: a knot equals one "nautical mile" per hour or 1.9 km/hr (1.2 mph)												
Field Crew	Lift Date [EFFDT1] (dd/mm/yy)	Lift Time [EFFTM1] (24hh:mm)	Effort Status [EFFST] (codes 1 - 3)	Air Temp. [AIRTEM1] (°C)	Water Temp. [SITEM1] (°C)	Wave Height [XWAVEHT] (codes 1 - 5)							
214	13/00/19	的这个		~28	1	1							
Cloud Cover [CLOUD]	Precipitation [PRECIP]		peed of Wind ND]		r for Set Duration ATHER]	Duration [EFFDUR]							
(%)	(codes 00 - 95)	(N,S,E,W)	( knots : km/hr)	(duration precip)	(duration wave)	(fishing hours)							
(00)	00	S	~25			24							

#### **FISH CATCH SUMMARY**

Species	Species Code	Total Catch [CATCNT]	Length-tallied [SUBCNT]	Bio-sampled [BIOCNT]	Struct. Taken [STRUCT]	Comments
Northern Pike	131			20	$\otimes$	
Yellow Peach	331	3	3	3	Ø	
Species	Fish #	Fork Length	Total Length	Weight((g) kg)	Aging Struct.	Comments
N. Pike		428	457	MA	-	
Yellow Perch	2	75	79	5.15		
11	3	79	83	3.95		Decaying
11	4	80	83	5.07	-	, and the second

WATER QUALITY REAL	DING Date:		Time:
Temperature: (°C)		DO: (%)	
Cond.: (µS/cm) or (Ms/cm)		DO: (mg/L-)	
Turbidity: (NTU)		pH:	6
TDS: (g/1)	-	ORP:	
Salinity: (ppm)		Depth: (m)	

Comments:

See Bio Sheet Data ( N ) QA/QC By: A. Law

Effort Status	Codes:
---------------	--------

1 = no problem

2 = minor problem, likely OK

3 = major problem, affected catch

#### Wave Height Codes:

 $1 = < 0.3 \, \text{m}$  (< 1 ft.)

2 = 0.3 - 0.6 m (1 - 2 ft.)

 $3 = 0.6 - 0.9 \,\text{m}$  (2 - 3 ft.)

 $4 = 0.9 - 1.2 \,\text{m} \, (3 - 4 \,\text{ft.})$ 

 $5 = > 1.2 \,\text{m} \ (> 4 \,\text{ft}_{\bullet})$ 

#### Precipitation Codes (at lift):

00 = no precipitation at lift time

10 = mist

40 = fog

51 = light drizzle

55 = heavy drizzle

61 = light rain

65 = heavy rain

71 = light snow

75 = heavy snow

80 = light rain shower

85 = heavy rain shower

95 = thunder storm

#### **Duration Precipitation Codes:**

1 = no precipitation during set

2 = < 4 hours of precipitation

3 = > 4 hours of precipitation

4 = constant precipitation

#### Duration Wave Codes (calm <0.3m):

1 = calm for entire set duration

2 = mostly calm & some rough 3 = mostly rough & some calm

4 = rough for entire set duration

#### Age Structures Legend:

Sc - Scales

Pr - Pectoral Ray

Oto - Otoliths

Dr - Dorsal Ray YOY - Young Of the Year

Page:

SITE DESCRIPTION							W	'00 <b>0</b> .
Sample ID (SAMID)			Waterbody Nam (WBY NM)	e u	Project Code IPROJCDI	Site Type - Substrate 1 = gravel/pebble/se	Codes: nd mlx (GP + SA > 75%)	Substrate Acronyms: BR = bedrock
WB 02-0UT-0	CN 1	.5	Pringpol	ρ	TC190403	2 = boulder/rubble/co	obble mix (BO + RC >	BO = boulder RC = rubble/cobble
Gear Type	Mesh Size(s)		dinates (UTM N		Site Type	3 = sand (SA > 75%)	) J + DE + soft CL > 75%)	GP = gravel/pebble
(Gillne), Trapnet, Fyke Trap, Seine net, Fish Fence)		[UTM Zone]	[LAT]	[LONG]	[SITP] (substr) (cover)	5 = bedrock (BR > 7: 6 = other (any other	5%)	SA = sand SI = slit CL = clay MU = muc DE = detritus
Gillnet	88.9	15 U	0549864	5693896	4 1			MA = marl
Trap/Hoop Size (m)	Net/Lead	der length m)	Substrate C	omposition and [BOTTOM] bstrate types in a	>= ·	Site Type - Cover Co 1 = no cover 2 = low (1 - 25%)	Cover Acronyms	E OT = other
	15%	TH.	SA, 5	I, MU, DE,	CL	3 = moderate (25 - 7 4 = high ( > 75%)	5%) MA = macrophyl LT = log/tree	tes NC = no cover
SET DESCRIPTION (r	ecorded at 1	time of set to	ensure com	pliance with	NSCIN standa	rds)		
Field Crew Field Crew	Set Date [EFFDTO]	Set Time [EFFTMO]	Net Length [XLEADUSE]	Dist. Off Shore [XDISTOFF]	Angle to Shore [XANGLE]	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Depth [GRDEPMAX]
Stocker Meliovern	(dd/mm/yy)	(24hh:mm)	(1 - 60 m)	(0 - 40 m)	(0° - 90°)	0 11	(A) C(	
	16/July/19	16:24	15.94	0.8	90°	0.4	0.8	1.2
LIFT DATA (recorded	at time of li	ff) No	ote: a knot equals	s one "nautical mi	le" per hour or 1.9 l	km/hr (1.2 mph)	Effort Status Cod	los
Field Crew	Lift Date	Lift Time	Effort Status	Air Temp.	Water Temp.	Wave Height	1 = no problem	185
A.L.	[EFFDT1]	[EFFTM1]	[EFFST]	[AIRTEM1]	[SITEM1]	[XWAVEHT]	2 = minor proble	m, likely OK
SM.	(dd/mm/yy)	(24hh:mm)	(codes 1 - 3)	(°C)	(°C)	(codes 1 - 5)		m, affected catch
· · · ·	17/07/19	16:24	1	~28		1	1 = < 0.3 m (<	
Cloud Cover	Precipitation		speed of Wind		or for Set Duration	Duration	2 = 0.3 - 0.6 m	
[CLOUD]	[PRECIP] (codes 00 - 95)	(N,S,E,W)	/IND]		EATHER] (duration wave)	[EFFDUR] (fishing hours)	3 = 0.6 - 0.9 m	
(%)				(duration precip)	(duration wave)		4 = 0.9 - 1.2 m 5 = > 1.2 m (> 4	
100	00	_5_	~25	L		5=>1.2 m (>4 ft.) Precipitation Codes (a		O DEVENTAGE OF
FISH CATCH SUMMA	RY						00 = no precipita	tion at lift time
	Species	Total Catch	Length-tallied	Bio-sampled	Struct. Taken	Comments	10 = mist 40 = fog	
Species	Code	[CATCNT]	[SUBCNT]	[BIOCNT]	[STRUCT]	Comments	51 = light drizzle	
Walleye	334	5	5	5	5		55 = heavy drizz	e
Shorthead Red-	171	1	1	1	1		61 = light rain 65 = heavy rain	
-horse	,						71 = light snow	
1000							75 = heavy snow	
							80 = light rain sh 85 = heavy rain s	
							95 = thunder sto	
Species	Fish#	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments	Duration Precipit	
		D -				-	1 = no precipitati 2 = < 4 hours of	
00		1010	TOM	h			3 = > 4 hours of	
		010	1017	`			4 = constant pred	The state of the s
							Duration Wave Co	odes (calm <0.3m):
							2 = mostly calm	
WATER QUALITY RE	ADING	Date:		Time:			3 = mostly rough	
Temperature: (°C)			DO: (%)				4 = rough for ent	re set duration
Cond.: (µS/cm) or (Ms/cm)			DO: (mg/L)					
Turbidity: (NTU)	7		pH:				-	res Legend:
<b>TDS</b> : (g / L)			ORP:				Sc - Scales Pr - Pectoral Oto - Otoliths	
Salinity: (ppm)			Depth: (m)				Dr - Dorsal F YOY - Young	Ray
Comments:				s	ee Bio Sheet Da	ita (YVN)	1+ - Older t	

QA/QC By: ALaw

Page: \_\_\_\_\_ of \_\_\_\_\_

DIGGAN		o FORM	Method Used: (Minnow Trap / Angling / Dip Net / Gillne) / Seine)						9043 <b>wood</b> .	
BIOSAM		G FORM			3.	.5 Inch	MeSh		101	7 0 M) WOOO.
Waterbody Name:		Start Date (DD MMM YY	YY) / Time (24	HR):	1/	End Date (DD MM	M YYYY) / Time (24	HR):		Area Description:
Spring Pole Lle	· *	16 Jul Method #: (Traps / Rods	2019/	3.5 Inch MeSh TC 190  Ime (24HR): End Date (DD MMM YYYY)/Time (24HR): Are:  19				Thier		
ample ID:	1	Method #: (Traps / Rods					Samplers In.	Pa	ige: of	<u>a</u>
WB 02-00	1-(JN1	3.5"		150 05	349864	5693896	AL, SM			see Net Form
Sample ID	Fish #	Species	Species Code		h (mm)	Round Weight	Aging Structures (Sc, Pr, Dr, Oto)	Pres. for Analysis (Y/N)	Presumed age class (YOY / 1+)	Comments (Hg / Released / etc.)
	+,	A) latte o	334	463	490	(g / kg)	(Sc, PF, DF, OR)	N	(101714)	
	1 à	Balley c	334	490	522		Sc	N		4
	3	11	334	465	1103		So	N		
	1/1	11	334	463	493		3c	2		
	5		334	463	493		Sc .	N		
	12	//	001	703	11			5.98		
	+	Shorthead								*
	. 6	RedHorse	171	410	450		Sc .98	2		46 TOF Smies
	. 6	RedHorse	1+1	110	150		00 111	10		TO GI SKIN-3
	+						-	-		
			-							
	_									
	+		-							
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·						6	Tatal Catal	C	Total Catch	The second of the second
pecies Box Tally	Area / Site	Comments:				Species	Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales Pr - Pectoral Ray
										Oto - Otoliths Dr - Dorsal Ray
1				QA/QC By	ALOL			T-4-1-2	P	yoy - Young Of the Year 1+ - Older than "yoy"
€	- 21-			Date: 55	1019			Total #	1.6)	

QA/QC By: A Law

SITE DESCRIPTION							- VV	CCC.
Sample ID [SAMID]			Waterbody Nam [WBY_NM]	e	Project Code [PROJCD]		nd mix (GP + SA > 75%)	Substrate Acronyms: BR = bedrock
WBOZ-OUT-U	S-ME1	()nv	amed		TC190403	2 = boulder/rubble/co 75%)	obble mix (BO + RC >	BO = boulder RC = rubble/cobble
Gear Type	Mesh Size(s)		dinates (UTM N	AD 83)	Site Type	3 = sand (SA > 75%		GP = gravel/pebble
(Gillnet, Trapnet, Fyke Trap, Seine net, Fish Fence)		[UTM Zone]	[LAT] [Fasting, 6 No.]	[LONG] [Northing, 7 No	[SITP] (substr) (cover)	4 = son mix (Si + Mix 5 = bedrock (BR > 7 6 = other (any other		SA = send SI = silt CL = clay MU = muci
Minnow Fyke	Small	150	550091	5694065		d = other (any other	Compination	DE = detritus MA = marl
Trap/Hoop Size		der length	0	omposition and	Cover Types	Site Type - Cover Co	odes:	
(m)		m)		[BOTTOM]		1 = no cover 2 = low (1 - 25%)	Cover Acronym	
				bstrate types in		3 = moderate (25 - 7	BO = boulders  MA = macrophy	OT = other tes NC = no cover
0.75			DI	, Mu , [	)E	4 = high ( > 75%)	LT = log/tree	
SET DESCRIPTION (r	ecorded at	time of set t	o ensure con	npliance witl	n NSCIN standa	rds)		
Field Crew	Set Date	Set Time	Net Length	Dist. Off Shore	Angle to Shore	Min Depth	Mid Depth	Max Depth [GRDEPMAX]
A.Law	[EFFDTO]	[EFFTMO]	[XLEADUSE] (1 - 60 m)	[XDISTOFF] (0 - 40 m)	[XANGLÉ] (0° - 90°)	[GRDEPMIN]	[XGRDEPMID]	[GRDEPWAX]
S. McGovorin	(dd/mm/yy)	(24hh:mm)	(1 - 60 11)		(0 - 50 )	0.2	0.6	0.8
	16/07/19	12, 12		0		0.0	V- Vo	0.8
LIFT DATA (recorded	at time of I	ift)	lote: a knot equa		nile" per hour or 1.9		Effort Status Coo	les:
Field Crew	Lift Date	Lift Time	Effort Status	Air Temp.	Water Temp. [SITEM1]	Wave Height [XWAVEHT]	1 = no problem	
A.L	[EFFDT1] (dd/mm/yy)	[EFFTM1] (24hh:mm)	[EFFST] (codes 1 - 3)	(°C)	(°C)	(codes 1 - 5)	2 = minor proble	m, likely OK m, affected catch
S.M.	17/07/19	16:30	1	28		١	Wave Height Co	
Cloud Cover	Precipitation		Speed of Wind		er for Set Duration	Duration	1 = < 0.3 m (<	
[CLOUD]	[PRECIP]		/IND]		EATHER]	[EFFDUR]	2 = 0.3 - 0.6 m 3 = 0.6 - 0.9 m	
(%)	(codes 00 - 95)	(N,S,E,W)	( knots : km/hr)	(duration precip	(duration wave)	(fishing hours)	4 = 0.9 - 1.2 m	
100	10	SW	10	2			5 = > 1.2 m (>	, ,
FISH CATCH SUMMA	RV						Precipitation Co 00 = no precipita	
	Species	Total Catch	Length-tallied	Bio-sampled	Struct. Taken	Comments	10 = mist	
Species	Code	[CATCNT]	[SUBCNT]	[BIOCNT]	[STRUCT]	Comments	40 = fog	8 .
Northern Pike	131	3	3	3	N	Released	51 = light drizzle	
Golden Shiner	194	93	20	20	N N		61 = light rain	
Blacknose Shiner	200	17	17	17	N		65 = heavy rain	
Yellow Perch	331	4	4	4	N	12 10	71 = light snow 75 = heavy snow	W
Spotail Shiner	201		2	2	N	W	80 = light rain sh	
Species	Fish #	Fork Length	Total Length	Weight (g / kg	) Aging Struct.	Comments	85 = heavy rain 95 = thunder sto	
							Duration Precipi	
l		0	1				1 = no precipitat	•
		Vi Co	1	TOLOGO	\		2 = < 4 hours of $3 = > 4$ hours of	
JEE.		010		OIL	)		4 = constant pre	
							Duration Wave C 1 = calm for ent	odes (calm <0.3m)
WATER QUALITY RE	ADING	Date	:	Time	:	•	2 = mostly calm	
Temperature: (°C	)		DO: (%	)			3 = mostly roug 4 = rough for er	
Cond.: (μS/cm) or (Ms/cm)	)		<b>DO:</b> -(mg/L	)				
Turbidity: (NTU	)		pH:				Age Structi Sc - Scales	ures Legend:
TDS: (g / L	)		ORP:			- "	Pr - Pectora	l Ray
Salinity: (ppm	)		Depth: (m	)			Oto - Otolith	Ray
Comments:					See Bio Sheet D	ata (Y) N)	YUY - Your	g Of the Year

BIOSAMP  BIO			10.10	1 15:	45 I	17/1	:30 I				
17(+1			/ Dips)	UTM Coordin	ates (mN, mE,	Zone, Acc.):	Samplers In.		ge: _ <b>3_</b> of _	<b>A</b> 3	
		I MF No	ct 1015 0650		50091,	5694065				see Net Form	
Sample ID	Fish #	Species	Species Code	Lengti Fork	h (mm) Total	Round Weight (g/ kg)	Aging Structures (8c, Pr, Dr, Oto)	Pres. for Analysis (Y/N)	age class (YOY / 1+)	Comments (Hg / Released / etc.	
	1	Northern Pike	131	310	3.3 /	N/A	NONE	N			
	2	//	131	348	374	MA		- 1			
	3	11	131	87	90	3.67				MORT	
olden Shiner	4	GLSH	194	53	58	1.57		- 13			
	5	11 -	1	38	42	0.59		_/_			
	6	11 0		52	58	1.47	*				
	7	11		53	59	1,57				E	
	9	11 -		50	57	1-39					
	5	11.		47	52	1.11	- 1		- 10	E.	
	10	1/-		44	49	1.00				DI I.	
	11	11		84	94	5.48				Photo	
A	12	//	1	56	63	1-74		-1-			
	13	11		44	49	0.90		1			
	17	1:1		51	57	1.36		-			
	15	[:]	1	50	56	1-21					
	14	//		83	86	5.08			b .		
	17	/:/		52	57	1.56		-			
*	19	//		48	53	1.15					
	19			46	51	0.93		-			
	20	//		55	61	1.65		_			
	21	//,		49	54	2-19		_		Gravid	
	22	- //	1	60	68				-*	Oldyra	
(*)	23	7/	200	92	52	0.94		-		(6)	
acknose Shiner	24	BAN BLSH	200	46		0.0					
	25	- 141		117	50 52	1.08		-			
	35			11.0	50	0.0					
	27	V-2		45	50	1.03			-		
-	79	164		115	50	3.790.9			1		
				411	120	0-81					
	30	1		1111	49	0.80					
	71			45	50	1.06		- 10			
	33	-		45	50	0.85		1			
NA.	34	1 12(1		45	56	0-99					
	35			45	50	0.88				1 10	
- 27	36	(6)		46	51	0.94					
	17	D =	1	47	53	1010				1 0	
	38			46	51	0-95	1				
	37	17.1	11/	49	55	1.13	\].	11			
	40		1	45	50	0.76		V			
ecies Box Tally A	rea / Site	Comments:				Species	Total Catch	Species SPS H	Total Catch	Sc - Scales	
ILSH Tota	12 7	3 Ind. ht= 103.138	- / .		•	NRPK	93	JISH	-	Pr - Pectoral Ray Oto - Otoliths Dr - Dorsel Ray yoy - Young Of the Yes 1+ - Older than "yoy"	

BIOSAMP	LIN	G FORM	Method Used: (Minnow Trap / Angling / Dip Net / Gillnet / Seine)  Minnow FX Re  End Date (DD MMM YYYY) / Time (24HR):  Area						wood	
Vaterbody Name: WB02-0U	1-US	16/00/	1/2019/15:45 17/01/2/2019/16:50					Area Description:		
ample ID: MF 2		Method #: (Traps / Rods	n fyke	U15 05	50091,	5694065		Pa	ge: <u>3</u> of _	see Net Form
Sample ID	Fish #	Species	Species Code	Lengt	h (mm)	Round Weight (g / kg)	Aging Structures (Sc, Pr, Dr, Oto)		Presumed age class (YOY / 1+)	Comments (Hg / Released / etc.)
Vellow Perch	41	YLPR	331	79	83	6.05	NONE	2		Released
4 C. 100	42	//	331	57	59	1.74	1	1		
90.95	43	//	331	63	6.5	2.07				1
	44	//	331	70	74	4.25				*
Sottail Shine	45	SPSH	201	46	SZ	1.15	. /	W		>
ALL COLOR	42	//	201	45	51	1.03	V	3		
					19				72	
				lg G						
			,	100						
			i v						77	St
			3		Х.					- 4
									90	
						1 8				
					W 69	3.				
						12	M			
					1/4					
						4	0			11
						7			×	
	9)	(40)				*				
							Y-			
				8						
										93 %
										÷
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		1112						1		
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4										
8										
	<u>ex</u>									./
						*				
1									<b>-</b>	
Species Box Tally A	rea / Site	Released	Aliv	e ×		Species	Total Catch	Species	Total Catch	Sc - Scales Pr - Pectoral Ray Oto - Otoliths
7100	0.4	, = (( = = = = = = = = = = = = = = = = =		QA/QC B	y:ALar				14	Dr - Dorsel Ray yoy - Young Of the Year 1+ - Older than "yoy"
				Date: 5	Sept-2019			Total #		17 - Older dianr yoy

#### SITE DESCRIPTION

wood.

SITE DESCRIPTION							V.V.	999.
Sample ID [SAMID]			Waterbody Nam [WBY NM]	e	Project Code [PROJCD]	Site Type - Substrate 1 = gravel/pebble/sar	Codes: nd mlx (GP + SA > 75%)	Substrate Acronyma; BR = bedrock
WB02-OUT-L	15-LFA	On no	1	÷	TC190403	75%)	bble mix (BO + RC >	BO = boulder RC = rubble/cobble
Gear Type	Mesh Size(s)		dinates (UTM N	AD 83)	Site Type	3 ≃ sand (SA > 75%)	+ DE + soft CL > 75%)	GP = gravel/pebble
(Gillnet, Trapnet, Fyke Trap,	(mm)	[UTM Zone]	[LAT]	[LONG]	[SITP]	5 = bedrock (BR > 75		SA = sand SI = slit CL = clay MU = muck
Seine net, Fish Fence)	(11111)	[OTHI ZOHO]	[Easting, 6 No.]	[Northing, 7 No	o.] (substr) (cover)	6 = other (any other		DE = detritus MA = mari
Large Minnow Frke	LRG	15 U	0550094		MU 1	Site Time Course Co	uton-	
Trap/Hoop Size (m)		ier length m)		[BOTTOM]	d Cover Types	1 = no cover	Cover Acronyms	
``'				bstrate types in		2 = low (1 - 25%) 3 = moderate (25 - 7)	BO = boulders  MA = macrophyl	OT = other es NC = no cover
			AM P	lu, Di		4 = hlgh ( > 75%)	LT = log/tree	
SET DESCRIPTION (re	ecorded at t	ime of set to	ensure com	pliance wit	n NSCIN standa	rds)		
Field Crew	Set Date	Set Time	Net Length	Dist. Off Shor	e Angle to Shore	Min Depth	Mid Depth	Max Depth
0 (0)	[EFFDTO]	[EFFTMO]	[XLEADUSE]	[XDISTOFF]	[XANGLE]	[GRDEPMIN]	[XGRDEPMID]	[GRDEPMAX]
ALaw	(dd/mm/yy)	(24hh:mm)	(1 - 60 m)	(0 - 40 m)	(0° - 90°)			
S, Mckovarin	16/11/19	15:54			90	0.5	0.5	0.5
	16/UUIY/19							
LIFT DATA (recorded	at time of li	ft) No	ote: a knot equals	s one "nautical r	mile" per hour or 1.9	km/hr (1.2 mph)	Effort Status Cod	es:
Field Crew	Lift Date	Lift Time	Effort Status	Air Temp.	Water Temp.	Wave Height	1 = no problem	
Al	[EFFDT1]	[EFFTM1]	[EFFST]	[AIRTEM1]	[SITEM1]	[XWAVEHT]	2 = minor proble	n, likely OK
	(dd/mm/yy)	(24hh:mm)	(codes 1 - 3)	(°C)	(°C)	(codes 1 - 5)	3 = major proble	n, affected catch
SM	17/07/19	16:35		~28	<b>"</b>	1	Wave Height Co	
Olavel Causes	Precipitation		Speed of Wind		her for Set Duration	Duration	1 = < 0.3 m (<	
Cloud Cover [CLOUD]	[PRECIP]		/INDI		VEATHER]	[EFFDUR]	2 = 0.3 - 0.6 m	· · ·
				CONTRACTOR OF THE PROPERTY OF	p) (duration wave)	(fishing hours)	3 = 0.6 - 0.9 m	` '
(%)	(codes 00 - 95)	(N,S,E,W)	( Knots : Kiti/iir)	(duradon preda	(dulation wave)	(IISHING HOURS)	4-0.0-1.2111	
100	10	SW	(0)	7			5 = > 1.2 m (> 4	-C \$10-5-02-00
EMPLEMENT NO.		700	W. Company	The second	Market and the second		Precipitation Co.	
FISH CATCH SUMMA	RY						00 = no precipita	tion at lift time
FIGHT CATCH SQUIMA			T1	L Discounting	Ctouck Token		10 = mist	
Species	Species	Total Catch	Length-tallied		ii ii	Comments	40 = fog	
	Code	[CATCNT]	[SUBCNT]	[BIOCNT]	[STRUCT]		51 = light drizzle	
1						140	55 = heavy drizz	le
	7		/ \	1		1	61 = light rain	
	1 1						65 = heavy rain	
		1	9-1-			4	71 = light snow	
	\ /	_					75 = heavy snow	
				1			80 = light rain sh	
							85 = heavy rain s 95 = thunder sto	
Species	Fish#	Fork Length	Total Langth	Weight (g / k	a) Aging Struct.	Commente	Duration Precipit	
COLUMN TO SERVICE SERV	COMMON TO SPRING A SPRING TO SPRING		-	A WHICH ART WAR	The state of the s	THE PARTY OF A	1 ≖ no procipitati	on during set
				1			2 = < 4 hours of	precipitation
				3	1	ì	3 = > 4 hours of	precipitation
					+		4 = constant pre	cipitation
								odes (calm <0.3m):
							1 = calm for entle 2 = mostly calm	
WATER QUALITY REA	ADING	Date:		Time	:		3 = mostly rough	& some calm
Temperature: (°C)			DO: (%)				4 = rough for ent	re set duration
Cond.: (µS/cm) or (Ms/cm)			DO: (mg/L)			1		
Turbidity: (NTU)			pH:			1	Age Structu	res Legend:
TDS: (g / L)		0	ORP:			İ	Sc - Scales Pr - Pectoral	Ray
Salinity: (ppm)			Depth: (m)			1	Oto - Otolith Dr - Dorsal F	s
Comments:					0 0 0 0			Of the Year
				·   <u> </u>	See Bio Sheet Da			707
					QA/QC By: A. Le	w	Page:	of

#### SITE DESCRIPTION

Sample ID [SAMID]			Waterbody Name [WBY_NM]		Project Code [PROJCD]		Site Type - Substrate Codes:  1 = gravel/pebble/sand mix (GP + SA > 75%)  2 = boulder/rubble/cobble mix (BO + RC >		Substrate Acronyms: BR = bedrock BO = boulder
WBOZ-OUT-DS-MF1							75%) 3 = sand (SA > 75%)		RC = rubble/cobble  GP = gravel/pebble
Gear Type	Mesh Size(s)	Coor	dinates (UTM N	AD 83)		Туре	4 = soft mix (SI + MU + DE	+ soft CL > 75%)	SA = sand SI = silt
(Gillnet, Trapnet, Fyke Trap,	(mm)	[UTM Zone]	[LAT]	[LONG]		TP]	5 = bedrock (BR > 75%)		CL = clay MU = muci
Seine net, Fish Fence)			[Easting, 6 No.]	[Northing, 7 No.]	(substr)	(cover)	6 = other (any other combin	ation)	DE = detritus
Fyke (Minnon)	Small	150	550065	5693978	4	3:	TA ACCOUNTS		MA = marl
Trap/Hoop Size	Net/Lea	der length	Substrate C	omposition and	Cover Ty	pes	Site Type - Cover Codes:		
(m)	(	m)	(list all su	[BOTTOM] bstrate types in a	rea of net		1 = no cover 2 = low (1 - 25%) 3 = moderate (25 - 75%)	BO = boulders	OT = other
0.75			Mu	,51			4 = high ( > 75%)	MA = macrophyt LT = log/tree	tes NC = no cover

SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards)

Field Crew A. Law	Set Date [EFFDTO] (dd/mm/yy)	Set Time [EFFTMO] (24hh:mm)	Net Length [XLEADUSE] (1 - 60 m)	Dist. Off Shore [XDISTOFF] (0 - 40 m)	Angle to Shore [XANGLE] (0° - 90°)	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Depth [GRDEPMAX]
S. McGovarin	16/07/19	14:30		~1	- 6	0.4	0.6	0.8

LIFT DATA (recorded	at time of li	ft) N	ote: a knot equal	s one "nautical mi	le" per hour or 1.9	
Field Crew	Lift Date [EFFDT1]	Lift Time [EFFTM1]	Effort Status [EFFST]	Air Temp. [AIRTEM1]	Water Temp. [SITEM1]	Wave Height [XWAVEHT]
SM	(dd/mm/yy)	(24hh:mm)	(codes 1 - 3)	(°C)	(°C)	(codes 1 - 5)
2101	18/07/19	10:30	1	20	21.4	
		1	-			
Cloud Cover	Precipitation [PRECIP]		Speed of Wind		r for Set Duration ATHER]	Duration [EFFDUR]
Cloud Cover [CLOUD] (%)	Precipitation	[W	IND]	[XWE		Duration [EFFDUR] (fishing hours)

#### **FISH CATCH SUMMARY**

Species	Species Code	Total Catch [CATCNT]	Length-tallied [SUBCNT]	Bio-sampled [BIOCNT]	Struct. Taken [STRUCT]	Commerits
Yellow Perch	731	42	42	42	NoNE	Released
Yellow Perch Castonidae	176	9	9	9	11	Suckers
Emercald Shiner	196	1		1	71	Rel.
Species	Fish #	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments
	12					F
- Del		200		torm		

WATER QUALITY READING		Date: UUX 18	36/9 Time: 11:20		
Temperature: (°C)	21.4	DO: (%)	103.2		
Cond.: (µS/cm) or (Ms/cm)	64.5	<b>DO:</b> (mg/L)	8.58		
Turbidity: (NTU)	_	pH:	6.53		
TDS: (g / L)	~	ORP:			
Salinity: (ppm)		Depth: (m)	V 7.6		

Comments:

See Bio Sheet Data (Y/N) QA/QC By: 1/4, SYL

21101			

1 = no problem

2 = minor problem, likely OK

3 = major problem, affected catch

#### Wave Height Codes:

1 = < 0.3 m (< 1 ft.)

2 = 0.3 - 0.6 m (1 - 2 ft.)

3 = 0.6 - 0.9 m (2 - 3 ft.)

4 = 0.9 - 1.2 m (3 - 4 ft.)

5 = > 1.2 m (> 4 ft.)

#### Precipitation Codes (at lift):

00 = no precipitation at lift time

10 = mist

40 = fog

51 = light drizzle

55 = heavy drizzle

61 = light rain

65 = heavy rain

71 = light snow

75 = heavy snow

80 = light rain shower

85 = heavy rain shower

95 = thunder storm

#### **Duration Precipitation Codes:**

1 = no precipitation during set

2 = < 4 hours of precipitation

3 = > 4 hours of precipitation

4 = constant precipitation

#### Duration Wave Codes (calm <0.3m):

1 = calm for entire set duration

2 = mostly calm & some rough

3 = mostly rough & some calm

4 = rough for entire set duration

#### Age Structures Legend:

Sc - Scales

Pr - Pectoral Ray

Oto - Otoliths Dr - Dorsal Ray

YOY - Young Of the Year

1+ - Older than "yoy"

Page: \_\_\_\_\_ of <u>-</u> < \_ <

BIOSAM  Waterbody Name:		Start Date (DD MMM YYY	Y) / Time (24	1 innon		End Date (DD MMI	M YYYY) / Time (24	HR):		Area Descriptions Outlet (Lake)
Spring Pole		16 JUL 29	9/14:	30		18/JUL	2019/10:	30		Onflet (Lake)
wBOZ-OUT-		Method #: (Traps / Rods M. Fy Ke		IS U 55	ates (mN, mE 10065, 16	, Zone, Acc.): 7693978	Samplers In. AL, SM	Pa	nge: <u>ZZ</u> of _	see Net Form
Sample ID	Fish #	Species	Species Code	Lengt	n (mm)	Round Weight (g / kg)	Aging Structures (Bc, Pr, Dr, Oto)	Pres. for Analysis (Y/N)	Presumed age class (YOY / 1+)	Comments (Hg / Released / etc.)
	1	YLPR.	33 /	60	64	2.23	NONE.	No		
	2	11	11	68	72	4.47				MORT
	3	1/	11	32	34	0.31				110
	4		//	64	67	2.86		1		1)
	5	11	//	73	76	4.17				
	6	//	//	69	73	3.98				
	7	//	11	79	83	5.91				
	8	// =	11	77	-81	6.61				MOOT
	9	//	11	80	83	8.06				MORT
	10	11	11	72	76	5.71				MORT
	//	//	11	108	113	16.24				
	12	11	11	81	85	5-56				
	13	11	//	79	84	5-74				
	14	//	//	30	32	0.26				
	15	//	11	34	36	0.34				
(8)	16	//	11	33	36	0.40				
	17	//	//	37	34	0.23				
	18	-//	//	79	83	5.42		1		
	19	//	//	82	86	6.05				
	20	XF	//	83	88	6-73				
1	21	//	//	76	81	4.96				
	22	//	11	74	77	4.39				
	23	//	11	78	82	5.44			<u> </u>	
	24	//	1/	76	81	5.60				
7	25	//	//	33	35	0.40				
	26	11	11	73	77	4.50				
	27	//	//	78	83	5-44	-			
	28	//	//	81	86	6.21		$\vdash\vdash$	-	
	29	//	11	84	88	6.52	-			
	30		1/	6.3	67	2.41		-	YOY	Salcono
	31	Castonidae SP		40	42	0.59	-		104	Sucres
	32	-//	//	34	37	0.38	-	1		
	33	11	//	32	34	0.27		+	1-1-	
	34	20//	1//	3/	33	0.24		+-	+-/	
	35	1//	1/,	29	30	0.18			-	
	36	- //	1//	33	35	0.38			+	
	37		1//	34	39					
	38	//	11	-		0.54	111	-	1	Photo More
	39	Emerald Shime	11	46	49	0.73		17		THUID TIDIE
pociae Bay Tally	Area / Site	Comments	11			Species	Total Catch	Species	Total Catch	Aging Structures Legend:
Y/PR=	Bulk	Comments: Weight = $51$ . Which = $30 + 12$	769			YLPR	42			Sc - Scales Pr - Pectoral Ray Oto - Otoliths
4180=	TOTAL	2010 - 2 1 2	_ 42	QA/QC By	r A .1					Dr - Dorsal Ray yoy - Young Of the Year
1- 1/2	· OTOLI (	cven = 50 + 10	# 1d	Date: C	Scot 2010			Total #		1+ - Older than "yoy"

Project No:

body Name:	S	G FORM	YY) / Time (24	HR):	Trap	End Date (DD MM)				Area Description: Outlet
opring police ID: 302-OUT-[	M	ethod #: (Traps / Rods 8 × M	/ Dips)	UTM Coordin	vari	Zone, Acc.):	Samplers In.  AL SM	$\overline{}$	age: of _	
Sample ID	Fish#	Species	Species Code		h (mm)	Round Weight	Aging Structures	Pres. for Analysis (Y/N)	Presumed age class (YOY / 1+)	Comments (Hg / Released / etc
	41	YLPR	331	Fork 78	82	(g/kg) 5.27	NONE	N	(101714)	Released
	122	1611	321	72	76	4.41	1	1		1
	457	11		69	73	3.58				
	4	11		72	76	4.60				
	3	11	<u> </u>	71	75	3.91				
				79	83	5.39				
	6	11		74	78	4-33				<b>-</b>
	8	-11,		76	82	5.56				
	9	//		105	112	14.52				
	10			89	94	8.98				
	1//			72	75	3.72				
	12			72	76	4.07		-		
	13			78	82	5.33				
	14			76	81	5.10		2.4		
	15			72	86	3.69				
	16	//		74	77	4.36				
	1/2	//		65	69	2.91				
	18	//		71	76	4.25				
	19	//		70	75	3,81				
	20	//		78	82	5.30				
	21	11		70	74	3-59				1
	22	//		63	66	2.65				1
	23	11		66	70	3-22				1
	24	//		69	71	3.23				
	25	//		75	79	4.49				
	26	-///		92	77	415				
	27	//		73	77	4.61				
	10	//		67	71	3.59				
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-	بليبا					C!	Total Catal	Cnaria-	Total Catch	Anima Structures Language
cies Box Tally	Area / Site C	comments:				PLPR:	Total Catch	Species	TOTAL CATCH	Aging Structures Legand: Sc - Scales Pr - Pectoral Ray
						, , , ,				Oto - Otoliths Dr - Dorsal Ray
				QA/QC By	r.A.L. sept 19	9			29	yoy - Young Of the Year 1+ - Older than "yoy"

	ELEC	CTROFISHIN	NG F	DRM		Project Name /	Number: 040 3		wood.
Waterbody:	200	· OIT	Date: (DD	/MMM/YYYY)	1/10	Water Temp:	Shocking Method:	7-	Pg: of Run: of
UTM Start: 15	200	- 00)	Start Time	e / Stop Tim	19 ne (24 hrs):		Back p		Site Area (Length X Width):
John Thank	9193,	-00T 19250,5693183 15693177	10 - /	48/	114:	08	SM, AL	•	60 × 0.5
Sample ID:	B05	-00T	Elapsed Ti	ime: (hours) mins	))	Effort (seconds	i):	Voltage:	Frequency: Pulse: Standard
Sample ID	Fish #	Species	Species Code	Lengi	jth (mm)	Round Weight	Aging Structures	Retained (Y/N)	Comments (Hg / Released / etc.)
	1	BIST	281		56	1.17	None	N	Released
	a	FNDC	183	60	64	2.14		N	II.
	3	TWOR	338		63	1,18		N	Spawning male "
	4	TLIDE	338	2005	50	0.83	V	N	11
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Species Box Tally	Area / Site	Comments:							Aging Structures Legend: Sc - Scales Pr - Pectoral Ray

Sc - Scales Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy"

A .

QA/QC By: A. Law Date: 5 Sept 2019

		G FORM	TIMOW ITUT							TC 140403 WOOD	
Waterbody Name: WB05-0	UT	Start Date (DD MMM YY	/2019,	14:	50	End Date (DD MM	July/2019	HR):	:10	Channel	
mple ID: 1907 WBOS		Method #: (Traps / Rods	/Dips)	15 U V	nates (mN, mE, &C()	Zone, Acc.):	Samplers In. AL, SM	Pa	sge:1 of _	ses Net Form	
Sample ID	Fish #	Species	Species Code	Lengt	h (mm)	Round Weight (g)kg)	Aging Structures (Sc, Pr, Dr, Oto)	Pres. for Analysis (Y/N)	Presumed age class (YOY/1+)	Comments (Hg / Released / etc	
Finescale Dace	1 -	Finescalo Dace	183	55	59	1.88	NONE	N		Released	
THE SOIL BUILD	2	FNPC	183	69	76	3.68	1	1			
	? -	B. Shizkleback	281	_	5%	1.49					
	4	BRST	281		54	1.03					
	5	BRST	281	_	60	1.65					
	6 .	BRST	231	_	63	2.05					
	7	BRST	281	_	60	1,53					
	8 =	BRST	281	_	62	1-98					
	9	BRST	281	-	64	1.99	1/	1			
	10	Iowa Darter	338		53	1.11	Y	V		Photos spawning coloni	
¥											
4 ************************************		Minno	W	tre	PS	Set	in	0	nann	e	
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species Box Tally A	rea / Site	Comments:				Species FNDC	Total Catch	Species	Total Catch	1 Sc - Scales	
930						BRST	7		,	Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray	
1				QA/QC B	r.A.Law		i			vov - Young Of the Yea	
				QA/QC By Date: 19	TUL 2019	INDR	1	Total #	10	yoy - Young Of the Yes 1+ - Older than "yoy"	

DETA	ILE	D BIG	DSAN	ИРLI	NG FO	RM		Used: (Minno	-		ip Net / Gill	net / Seine)	,	WC	ood.
Waterbody Name: WB05-					Start Date (DD MA	IM YYYY) / Tim	e (24HR):				019 0	IHR):		Mark Mark	int Typo): beaver foind
Sample ID:	00	-	l#: (Traps/Ro	ds/Dins)	18 JUL	2017	UTM Coordi	nates (mN, mE,	Zone, Acc.):	J L Z	011/0	Samplers In.			
WB05-0UT.	MTZ		5 × M-		Project Number: TCIGO 40	3		Varidu				AL, SM	Р	age: 1	of/ see Net Form [
Species	Fish #	Species	Length	n (mm)		Ro	und Weigl	nt		Sex	Maturity	Aging Structures	Retained for Analysis	Age Class	Comments
		Code	Fork	Total	Body (g/kg)	L. Tissue (g)	R. Tissue (g)	Liver (g)	Gonad (g)	(M/F)	(M/IM/9)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(Hg / Condition / etc.)
Finascale Pace	1	183	53	55	1.74								7		Released
<u>D</u> ):	2	183	61	85	2.61										
*	3	183	48	50	1.33										
1)	4	183	75	78	4.32						4				
ir:	5	185	71	73	3.37						O.				
11	6	183	48	49	1.22										
11	7	183	47	48	1-28										
11	8	183	50	52	1.38						1				
N. Redbelly D	9	182	55	59	2.15										1
BRST	10	281		52	1.33								W	-74	V
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Carales Dr. Tail	A / 6"-	0.00									Species	Catch	Species	Catch	Anion Structures 1
Species Box Tally	Area / Sit	e commen	w.								FNDC	S S	Opposids	- Sq.GII	Aging Structures Legend: Sc - Scales Ci - Cleithrum
											NRDC				Pr - Pectoral Ray Oto - Otoliths
								QA/QC By	: A.Lo	(i)	DEJI				Da - Dorsal Spine YOY - Young Of the Year
								Date: 19	JULY 1	1019			Total #	10	

	9	TROFISHIN	IG F	ORM		TC 19	0403		wood.
Waterbody:	316-	IN	Date: (DD	/MMM/YYYY)	q	Water Temp:	Shocking Method:	2.6V	Pg:
UTM Start: 547	819 .	5692109		/July / I e / Stop Tim		10.10	BaxA Netters:	act_	Site Area (Length X Width):
Zone / Acc.: 15		5692177	1	3/13:0			A.Law Backpack = S.	.Mogorain	~80n K-1m
Sample ID: WB16-1	N-E	Fį		ime: (hours) 20 m		Effort (seconds	3):	Voltage: 220	Frequency: Pulse: Standard
Sample ID	Fish #	Species	Species Code	Lengt Fork	h (mm) Total	Round Weight	Aging Structures (Sc, Pr, Dr, Oto)	Retained (Y/N)	Comments (Hg / Released / etc.)
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Species Box Tally /	Area / Site	Comments:		3					Aging Structures Legend: Sc - Scales Pr - Pectoral Ray Oto - Ocillits Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy"
									OAVOC By: A. Law Date: 20 July 2019

BIOSAM		G FORM	/	Mihnow	Ta	ρ	Net / Gillnet / S		Project No:	wood.
Waterbody Name: WB16 - 1 ∨		Start Date (DD MMM YY	(Y) / Time (24	HR):		End Date (DD MM	M YYYY)/Time (24 SUL 2019	HR): / 09	:20	Area Description: Braided channel
MB16-1N-N		Method #: (Traps / Rods		UTM Coordinat	es (mN, mE, 17-837,	Zone, Acc.): 5692117	Samplers In. AL, SM	P	age:/ of _	see Net Form
Sample ID	Fish #	Species	Species Code	Length		Round Weight	Aging Structures	Pres. for Analysis	Presumed age class	Comments (Hg / Released / etc.)
				Fork	Total	(g / kg)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	
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Species Box Tally	Area / Site	Comments:				Species	Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales Pr - Pectoral Ray
				QA/QC By:	A.Law					Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy"
				Date: 20	JUL 19			Total #		1+ - Older than yoy"

#### wood. **ELECTROFISHING FORM** TC190403 Waterbody: Date: (DD/MMM/YYYY) Water Temp: Shocking Method: 5-9 Pg: \_\_\_\_ of \_\_\_\_ Run: \_\_\_\_ of \_\_\_\_ 16 JUL 2019 Backpack UTM Start: 5'52218, 5690178 Netters: Start Time / Stop Time (24 hrs): Site Area (Length X Width): ~60 x ~ 1m UTM End: 552245, 5690201 A. Law, Kelly 10:45/11:10 Zone / Acc.: 150 Kcesspkqualash Sample ID: S-9-EF1 Pulse: Handard Elapsed Time: (hours) Effort (seconds): Voltage: Frequency: 669 25 mins 240 Round Weight | Aging Structures Length (mm) Retained Species Comments Sample ID Fish # Species Code (Hg / Released / etc.) ((g/)kg) (Sc. Pr, Dr, Oto) Total (Y/N) Brok Stickle back 281 0.16 32 NIA N " BRST Z 271 0.18 N 34 3 N. Redhelly Dace 182 55 57 1.56 1) 4 NEDC 185 57 61 1.57 N 0.97 50 5 NRDC 182 56 N NRDC 1.92 182 57 6 61 N 183 Finescrate Dace 44 MA47 0.96 7 N Species Box Tally Area / Site Comments:

Project Name / Number:

Aging Structures Legend:

Sc - Scales Pr - Pectoral Ray Oto - Ololiths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy"

QNOC By: ALAN Date: 5 Sept 2019

		CTROFISHIN				TC 1	90403		W	ood.
Waterbody:	9-	US 01	Date: (DI	MMM/YYYY)	2019	Water Temp:	Shocking Method:	cX	Pg: of	Run: of
UTM Start: 55 UTM End: 500	280	US 0 1 0, 5690556 925, 56 80585	Start Tim	20 /	e (24 hrs):	35	Netters:	AL)	Site Area (Length X V	Vidth):
Sample ID: 5 -	9-	US01		Time: (hours) 5 mik s		Effort (seconds	50	Voltage: 240	Frequency:	Standard
Sample ID	Fish #	Species	Species Code	Lengt Fork	h (mm) Total	Round Weight	Aging Structures (Sc, Pr, Dr, Oto)	Retained (Y/N)		omments Released / etc.)
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YST Temp	Area / Site	Nonex 10 Cond=	- B	extrenel us/cm	pH=0	00 (	3.7) (c ep=359	).68m	g/L)	Aging Structures Legend: Sc - Scales Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than 'yoy'
No fish	Cap	dured or ob	serv	ed*					QA/QC B Date: 2 '	v: 41an + July 2019

Method Used: (Minnow Trap / Angling / Dip Net / Gillnet / Seine) Project No: **BIOSAMPLING FORM** wood TC190403 Start Date (DD MMM YYYY) / Time (24HR): End Date (DD MMM YYYY) / Time (24HR): Area Description: S-9-USO2-MAN Beaver Pond 16 JUL 2019/ 10:00 JUL 2019/09:30 Method #: (Traps / Rods / Dips) Samplers In. UTM Coordinates (mN, mE, Zone, Acc.): Page: \_\_\_\_ of \_\_\_\_ S-9-USO1-MT1 150 552447, 5690348 AL, SM 10 xMTS see Net Form Round Presumed Aging Pres. for **Species** Length (mm) Comments Fish# Sample ID **Species** Weight Structures Analysis age class Code (Hg / Released / etc.) (YOY / 1+) Fork (g/ kg) Total (Sc. Pr. Dr. Oto) (Y/N) 909 97 marl Dace 214 8.88 N t 1045 m 2 11 . 115 123 16.04 11 00 126 19.84 2 4 66 7/ 3-87 11 69 74 95 10.31 6 103 7 1/3 17.13 122 115 7 108 11 13.58 99 ٩ // 106 10-66 79 84 4.92 10 // 69 3-35 11 74 80 4.91 11 12 4.24 11-1 13 . 15 14 70 15 90 8.66 83 4.37 (\_ 17 78 4.90 18 80 4.58 75 11. 3.84 19 F2 82 20 49 21 182 NRDC -46 1-36 22 55 50 1,79 1.53 23 51 1,53 52 74 11 48 1.51 15 11 62 2.38 76 27 50 1.81 11. 5 72 31 // 97 29 110 56 1-91 52 56 30 1.36 31 47 50 11 32 11 58 63 2.50 1.61 33 55 11 51 34 50 46 3,5 11 1.41 50 36 11 53 1-4-7 37 // 46 1.38 45 49 38 11 1.10 39 . 11 55 1,63 51 12 2-47 40 65 61 Asia Beaches Leospiti Sc. Scales Pr - escoral Ray Oto Obliths Dr - Dosas Ray you can Of the Year 14 - Older than 'yoy' species Box Tally Area / Site Comments: Species Total Catch | Species | Total Catch PRDC MAC 38 FTMN MRDC 47 QA/QC By: ALOW FNDC Date: 100/5/7/19 BRST Total # Total Weight 246.66 g + 19.31: NRDC STORW Weight = 52.16 PROC Ford fish = 38 Total Fish = 27

Project No: Method Used: (Minnow Trap / Angling / Dlp Net / Gillnet / Seine) TC190403 WOOD. **BIOSAMPLING FORM** Area Description: Beautr Pond End Date (DD MMM YYYY) / Time (24HR): Start Date (DD MMM YYYY) / Time (24HR): 5-9-4502-16 JUL 2019/10:00 17 JUL 2019/09:30 Samplers In. Method #: (Traps / Rods / Dips) UTM Coordinates (mN, mE, Zone, Acc.): Page: 2 of 2 AL, SM 150 552447, 5690348 5-9-US02-MT1 10 x MTS see Net Form Round Aging Presumed Comments **Species** Length (mm) Weight Structures Analysis age class Fish# **Species** Sample ID (Hg / Released / etc.) Code (YOY / 1+) Total (Sc, Pr, Dr, Oto) (Y/N) Fork (g / kg) 48 1205-20 183 FNDC . 1.22 NONE 41 81 6.08 42 11. 76 49 53 1.77 43 2.99 44 61 65 11 45 66 71 86 297 59 46 11 64 2.7) 47 60 // 64 67 3.65 48 69 3.78 49 2.59 69 73 50 2-85 63 1 59 63 3.05 53 65 2.91 53 2-65 63 54 55 1-63 54 66 56 51 57 1.40 53 1 209 56 53 FHMN MG 161 281 60 QN BRABIR BRST 4 Temp 19.60 DO 7. 41.2 Do (mall) 3.45 Cond ustem 16.3 5 83 DH ORP 389. Agine Structures Legend; Sc - Scales Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy" Total Catch | Species | Total Catch Species species Box Tally Area / Site Comments: FNDC\_ Total weight= QA/QC By: /- Law Date: 5 5cot 2019

BIOSAM	PLIN	IG FORM	1	fngling	7		Net / Gillnet / S		TC1904	$\circ$ 3 wood.
aterbody Name:	11/	Start Date (DD MMM YY		3.5			MM-YYYY) / Time (2		•	Area Description:
Springpole	CK	22 July 2	2019/1	3:30			,2019/15	00		Lake / River Ordle
mple ID:		Method #: (Traps / Rods 3 / Rods	s / Dips)		nates (mN, mE	, Zone, Acc.):	Samplers In. AL.SM	Р	age: of	see Net Form
Sample ID	Fish #	Species	Species Code		th (mm)	Round Weight	Aging Structures	Pres. for Analysis	Presumed age class	Comments (Hg / Released / etc.)
	1	Walleye	334	478	Total 500	(g / kg)	(So, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	
	2	10	334	450	48 /	_	Sc	12		
	3	10	334	429	454	_	50	N		
	4	11	334	391	414		50	N		
	5	11	334	-	117			N		Released before m
	1	(1	334	-	No.		1	12		The contract of the contract o
	17	( )	334	march.				12		All fish
	18	10	334	Bayes	-	_		N		Similar SIZE
	9	l (	334		-			N	1	
	10	11	334	_			222	N	1	to measured fix L
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	1	()	334		2		-	2	1	In an II
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	14	1 8:160			3,00	<u> </u>	-	N	/	by Kelly
		N. Pike	13 !				_	N		(N Guide)
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								-		
pecies Box Tally A	rea / Site	Comments:				Species	Total Catch	Species	Total Catch	Aging Structures Legend:
, /							100.000	0,0000	. Jul. Jaioli	Sc - Scales Pr - Pectoral Ray
				01/05 =	1					Oto - Otoliths Dr - Dorsel Ray
				QA/QC By	Sept 209			*Total #		yoy - Young Of the Year 1+ - Older than "yoy"
				Date. 9	JENI CALL			`Total #		

# TITE DESCRIPTION



								-1 1 10
		Waterbody Name [WBY_NM]	e	[PRO	JCD]	1 = gravel/pebble/sand mix	(GP + SA > 75%)	Substrate Acronyms: BR = bedrock BO = boulder
] ]			-			75%)	IX (BO + HC >	RC = rubble/cobble  GP = gravel/pebble
lesh Size(s)	Coor	dinates (UTM NA	AD 83)	Site	Туре		. co# Cl > 759/\	
(mm)	[UTM Zone]	[LAT]	[LONG]			5 = bedrock (BR > 75%)		SA = sand SI = silt CL = clay MU = muck DE = detritus
3.5	150			3	3			MA = marl
Net/Lead	der length	Substrate Co	omposition and	Cover Ty	pes	Site Type - Cover Codes:		
(1	m)		[BOTTOM]			1 = no cover 2 = low (1 - 25%)	Cover Acronymis BO = boulders	QT = other
12.54			BR. Bo. Lc. GP				MA = macrophyte LT = log/tree	es NC = no cover
	3 - 5 Net/Lead	lesh Size(s) Coor [UTM Zone]  3 - 5   50 Net/Leader length (m)	IWBY NM    Spring Pale Lake   Lake   Iwas   Coordinates (UTM No.)     (Imm)	Spr. Ng Polc Lake   Interpretation   Spr. Ng Polc Lake	Image	IWBY NM    IPROJCD	I = gravel/pebble/send mix   2 = boulder/rubble/cobble m   75%   3 = sand (SA > 75%   3 = sold (SA > 75%   3 = s	Image   Imag

SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards)

Field Crew A. Law	Set Date [EFFDTO] (dd/mm/vv)	Set Time [EFFTMO] (24hh:mm)	Net Length [XLEADUSE] (1 - 60 m)	Dist. Off Shore [XDISTOFF] (0 - 40 m)	Angle to Shore [XANGLE] (0° - 90°)	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Depth [GRDEPMAX]
S. MCGOVAIN	22/07/19	12:30	12.54	0	90	1-0	~1.4	~2.0

S. MCGOVAIN	22/07/19	12:30	12.54	0	90	1.0	~1.4	~ 2.0		
LIFT DATA (recorded	at time of li	ft) N	ote: a knot equals	s one "nautical mi	le" per hour or 1.9	km/hr (1.2 mph)	Effort Status Cod	es:		
Field Crew	Lift Date [EFFDT1] (dd/mm/yy)	Lift Time [EFFTM1] (24hh:mm)	Effort Status [EFFST] (codes 1 - 3)	Air Temp. [AIRTEM1] (°C)	Water Temp. [SITEM1] (°C)	Wave Height [XWAVEHT] (codes 1 - 5)	1 = no problem 2 = minor proble 3 = major proble			
5.100	23/07/19	11:30	7	~26	~20	1	<u>Wave Height Codes:</u> 1 = < 0.3 m (< 1 ft.)			
Cloud Cover [CLOUD] (%)	Precipitation [PRECIP] (codes 00 - 95)		peed of Wind IND] ( knots : km/hr)	General Weathe	r for Set Duration ATHER] (duration wave)	Duration [EFFDUR] (fishing hours)	2 = 0.3 - 0.6 m 3 = 0.6 - 0.9 m	(1 - 2 ft.) (2 - 3 ft.)		
Ø	00	NW	~10	2	)		4 = 0.9 - 1.2 m 5 = > 1.2 m (> 4			
FISH CATCH SUMMA		, v V V			1		Precipitation Coo	des (at lift):		
Species	Species Code	Total Catch [CATCNT]	Length-tallied [SUBCNT]	Bio-sampled [BIOCNT]	Struct. Taken [STRUCT]	Comments	10 = mist 40 = fog 51 = light drizzle			
			A				55 = heavy drizz 61 = light rain 65 = heavy rain 71 = light snow 75 = heavy snov 80 = light rain sh	v		
Species	Fish #	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments	85 = heavy rain 95 = thunder sto Duration Precipi	orm		
								precipitation precipitation cipitation odes (calm <0.3m)		
WATER QUALITY RE	ADING	Date:	22 JUL 19	Time:	13:20		1 = calm for ent 2 = mostly calm			
Temperature: (°C)	Temperature: (°C) 21.0		DO: (%)	98.		]	3 = mostly roug			
Cond. (µS/cm) or (Ms/cm)	1	.7	DO: (mg/L)	· ·		-	Age Structi	ures Legend:		
Turbidity: (NTU	<u> </u>		pH:	6.7		1	Sc - Scales			

WATER QUALITY REA	DING	Date: <u>22 Jvl 19</u>	Time: 13,20
Temperature: (°C)	21.0	DO: (%)	98.7
Cond. (µS/cm) or (Ms/cm)	53.7	DO: (mg/L)	8.44
Turbidity: (NTU)		pH:	6.71
TDS: (g / L)		ORP:	315.9
Salinity: (ppm)		Depth: (m)	0.10

comments:	See Bio Sheet Data (Y/N
	QA/QC By: A. Law

Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray YOY - Young Of the Year

	١		1	
Page:		of		_

#### **'TE DESCRIPTION**

wood.

Sample ID [SAMID]			Waterbody Name [WBY_NM]			t Code	Site Type - Substrate Codes  1 = gravel/pebble/sand mix		Substrate Acronyms: BR = bedrock
	R-KM22-GN2 Spring		pole Lake			2 = boulder/rubble/cobble m 75%)		ix (BO + RC >	BO = boulder  RC = rubble/cobble
<b>Gear Type</b> (Gillnet, Trapnet, Fyke Trap, Seine net, Fish Fence)	Mesh Size(s) ( <del>mm)</del>	[UTM Zone]	dinates (UTM N. [LAT] [Easting, 6 No.]	AD 83) [LONG] [Northing, 7 No.]	[S]	Type TP] (cover)	3 = sand (SA > 75%) 4 = soft mix (SI + MU + DE - 5 = bedrock (BR > 75%) 6 = other (any other combin-		GP = gravel/pebble SA = sand SI = sill CL = clay MU = mucl DE = detrilus
Gillnet	2.5"	150	565241	5687899	2	3	14		MA = marl
Trap/Hoop Size (m)		der length m)	length Substrate Composition and ( [BOTTOM] (list all substrate types in a				1 = no cover 2 = low (1 - 25%)	Cover Acronyms BO = boulders	OT = other
	13.5	रेंभ	Br. Be	J. MU			3 = moderate (25 - 75%) 4 = high ( > 75%)	MA = macrophyte LT = log/tree	es NC = no cover

SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards)

Field Crew	Set Date [EFFDTO] (dd/mm/yy)	Set Time [EFFTMO] (24hh:mm)	Net Length [XLEADUSE] (1 - 60 m)	Dist. Off Shore [XDISTOFF] (0 - 40 m)	Angle to Shore [XANGLE] (0° - 90°)	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Depth [GRDEPMAX]
S. McGovann	27/07/19	12:35	15.24	0	90	0.8	1.2	1.6

LIFT DATA (recorded	T DATA (recorded at time of lift)  Note: a knot equals one "nautical mile" per hour or 1.9 km/hr (1.2 mph)									
Field Crew	Lift Date [EFFDT1]	Lift Time [EFFTM1] (24hh:mm)	Effort Status [EFFST] (codes 1 - 3)	Air Temp. [AIRTEM1] (°C)	Water Temp. [SITEM1] (°C)	Wave Height [XWAVEHT] (codes 1 - 5)				
5 M	(dd/mm/yy) 23/67/19	12:40	1	32	21					
Cloud Cover [CLOUD]	Precipitation [PRECIP]		Speed of Wind IND]		r for Set Duration ATHER]	Duration [EFFDUR]				
(%)	(codes 00 - 95)	(N,S,E,W)	( knots :(km/h))	(duration precip)	(duration wave)	(fishing hours)				
2	00	W	~ ()							

#### **FISH CATCH SUMMARY**

Species	Species Code	Total Catch [CATCNT]	Length-tallied [SUBCNT]	Bio-sampled [BIOCNT]	Struct. Taken [STRUCT]	Comments
Walleye	334	5	5	5	5	
Northern Pike	131	2	2	2	2	
Rock Bass	311		(	1	Ø	
Species	Fish #	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments
		h).	$\cap$	, , , , , , , , , , , , , , , , , , ,		
Det		100	torn	1	****	
			22 7.1.11		13:20	

WATER QUALITY REA	ADING	Date: 22 Jul 1º	Time: 13.20
Temperature: (°C)	21.0	DO: (%)	98.7
Cond.: (µS/cm) or (Ms/cm)	53.7	<b>DO:</b> (mg/L)	8.44
Turbidity: (NTU)		pH:	6.71
TDS: (g / L)	and the same of th	ORP:	315.9
Salinity: (ppm)	Constitute and the comment	Depth: (m)	0.10

See Bio Sheet Data ( N )

QA/QC By: A. Law

#### Effort Status Codes:

1 = no problem

2 = minor problem, likely OK

3 = major problem, affected catch

#### Wave Height Codes:

1 = < 0.3 m (< 1 ft.)

2 = 0.3 - 0.6 m (1 - 2 ft.)

3 = 0.6 - 0.9 m (2 - 3 ft.)

4 = 0.9 - 1.2 m (3 - 4 ft.)

5 = > 1.2 m (> 4 ft.)

#### Precipitation Codes (at lift):

00 = no precipitation at lift time

10 = mist

40 = fog

51 = light drizzle

55 = heavy drizzle

d limbtusis

61 = light rain

65 = heavy rain

71 = light snow

75 = heavy snow

80 = light rain shower

85 = heavy rain shower

95 = thunder storm

#### **Duration Precipitation Codes:**

1 = no precipitation during set

2 = 4 hours of precipitation

3 = > 4 hours of precipitation

4 = constant precipitation

# Duration Wave Codes (calm <0.3m):

1 = calm for entire set duration

2 = mostly calm & some rough

3 = mostly rough & some calm

4 = rough for entire set duration

#### Age Structures Legend:

Sc - Scales

Pr - Pectoral Ray

Oto - Otoliths

Dr - Dorsal Ray

YOY - Young Of the Year

Page: \_\_\_\_\_ of 2\_\_\_

BIOSAMI	PLIN	G FORM	Method	Used: (Mi	nnow Trap /	Angling / Dip	Net / Gillnet / S	HO3 WOOD.  Area Description: Coultet  Laxe / River		
Waterbody Name:		Start Date (DD MMM YY	YY) / Time (24	HR):		End Date (DD MM	M YYYY) / Time (24	HR):	1 ( 4 1)	Area Description: Oul-1-
Springer	0 /200	22/0	1/19/	12:5	5	13000	107/1	9/	13:30	Laxe/River
mple ID:	C - C - C - C - C - C - C - C - C - C -	Method #: (Traps / Rods	/ Dips)	UTM Coordin	nates (mN, mE,	Zone, Acc.):	Samplers In.	p.	age: <u>2</u> of	2
SPCingpo)  mple ID:  BR - KM 22-	GN2	Gillnet	(150	5650	941, 5	687899	A1,50		-ye, <u>~</u> ∪ _	see Net Form
Sample ID	Fish #	Species	Species		h (mm)	Round Weight	Aging Structures	Pres. for Analysis	Presumed age class	Comments (15)
Sample 1D	1 1311 #	Орестев	Code	Fork	Total	(g / kg)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(Hg / Released / etc.)
\	/	Walleye	334	374	398	NA	SC, D-SP	N		Morte
	2	1	4	415	443	NA	11			li .
	3	11	1	397	429	ŊA	11			1r
	4	1	11	442	473	NA	1/	45-		
* \	5	L	11	459	488	NA	1/	10		Ser.
	6	Norther Pit	131	543	579	NA	SCIPR	12		Released
	7	11	131	429	461	NA	SC,CI	V		monte
1	8	ROCK Bass	311	129	134	NA	NA	V		19
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	10"	Commt-:	J			Canala-	Total Catch	Spacia	Total Catch	Aging Structures Legend:
species Box Tally A	rea / Site	comments:				Species Wallene	10tal Catch	Obecies	TOTAL VALUE	Sc - Scales Pr - Pectoral Ray
						Northern Pixa	2			Oto - Otoliths Dr - Dorsal Ray
				QA/QC By	1: A.Law	Rax Bass	1	Total #	8	yoy - Young Of the Year 1+ - Older than "yoy"
				Date: 03	10 11 14			1 Otal #	8	1

### **'ITE DESCRIPTION**

wood.

								0.000	$\sim$
Sample ID [SAMID]			Waterbody Name	е	Project [PRO.		Site Type - Substrate Code 1 = gravel/pebble/sand mix		Substrate Acronyms; BR = bedrock
BR-GN3		Springpo	Ir Lake/	Birch R	TC1904	103	2 = boulder/rubble/cobble m 75%)	nix (BO + RC >	BO = boulder RC = rubble/cobble
Gear Type	Mesh Size(s)	Coor	dinates (UTM NA	AD 83)	Site T	ype	3 = sand (SA > 75%)		GP = gravel/pebble
(Gillnet, Trapnet, Fyke Trap,	TITING)	[UTM Zone]	[LAT]	[LONG]	ISIT		4 = soft mix (SI + MU + DE	+ soft CL > 75%)	SA = sand SI = sill
Seine net, Fish Fence)				[Northing, 7 No.]	(substr)	(cover)	5 = bedrock (BR > 75%) 6 = other (any other combin	ation)	CL = clay MU = muc DE = detritus
Gillnet	3.5"	150	565077	5687904	#4	3			MA = marl
Trap/Hoop Size	Net/Lead	der length	Substrate Co	omposition and (	over Typ	es	Site Type - Cover Codes:		
(m)	(	m)		[BOTTOM]			1 = no cover	Cover Acronyms	đ
<b>(</b>	·		(list all su	bstrate types in ar	ea of net)		2 = low (1 - 25%)	BO = boulders	OT = other
	13.2	†	Br, Bo	, SI, Mu	,		3 = moderate (25 - 75%) 4 = high ( > 75%)	MA = macrophyle LT = log/tree	es NC = no cover
	(a) (a)								

SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards)

Field Crew	Set Date	Set Time	Net Length	Dist. Off Shore	Angle to Shore	Min Depth	Mid Depth	Max Depth
A.Law	[EFFDTO]	[EFFTMO]	[XLEADUSE]	[XDISTOFF]	[XANGLE]	[GRDEPMIN]	[XGRDEPMID]	[GRDEPMAX]
0.14.0	(dd/mm/yy)	(24hh:mm)	(1 - 60 m)	(0 - 40 m)	(0° - 90°)			
>. Mr(gaJa(IA	22/07/19	13:45	15.34	~	90°	0.8	1.2	1.6

7 (12,200)	22/07/19	13:45	15.34	~	90°	0.8	1. 2	1, 6
LIFT DATA (recorded	at time of I	ift) N	lote: a knot equal	s one "nautical m	ile" per hour or 1.9	km/hr (1.2 mph)	Effort Status Cod	es:
Field Crew	Lift Date	Lift Time	Effort Status	Air Temp.	Water Temp.	Wave Height	1 = no problem	
A.Law	[EFFDT1]	[EFFTM1]	[EFFST]	[AIRTEM1]	[SITEM1]	[XWAVEHT]	2 = minor problem	n, likely OK
S. McGovarin	(dd/mm/yy)	(24hh:mm)	(codes 1 - 3)	(°C)	(°C)	(codes 1 - 5)	3 = major problem	n, affected catch
O. Presposorine	23/07/19	13:00	1	31	21	1	Wave Height Cod	-
Cloud Cover	Precipitation		Speed of Wind		r for Set Duration	Duration	1 = < 0.3 m (< 1	ft.)
[CLOUD]	[PRECIP]		IND]	[XWE	ATHER]	[EFFDUR]	2 = 0.3 - 0.6 m (	•
(%)	(codes 00 - 95)	(N,S,E,W)	(knots:km/hr)	(duration precip)	(duration wave)	(fishing hours)	3 = 0.6 - 0.9 m (	
7/	016			1	1		4 = 0.9 - 1.2 m (	L
$\wp$	00		Ø		1		5 = > 1.2 m (> 4	
TOU CATOU CUMMA	NDV						Precipitation Cod	
FISH CATCH SUMMA							00 = no precipitat	ion at lift time
Species	Species	Total Catch	Length-tallied		Struct. Taken	Comments	10 = mist	
	Code	[CATCNT]	[SUBCNT]	[BIOCNT]	[STRUCT]		40 = fog	
Walleye	334	.5	5	5	.5	Mortes	51 = light drizzle	
	100						55 = heavy drizzle	9
							61 = light rain	
							65 = heavy rain	
							71 = light snow	
							75 = heavy snow	
							80 = light rain sho	
*	F1.1. II	Park Lawrence	Tatali anak	Maiaha (a (lan)	A minus Camusa		85 = heavy rain s	
Species	Fish #	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments	95 = thunder stor	
							Duration Precipite	
							1 = no precipitation	-
			12	1 acino			2 = < 4 hours of p	•
		CC	010	1011	-		3 = > 4 hours of p	
	H						4 = constant prec	
							Duration Wave Co	
NATER QUALITY RE	ADING	Date:	22 July 19	Time:	13:20		1 = calm for entire	
	T					ľ	2 = mostly calm 8	-
Temperature: (°C)	21.	O	DO: (%)	98.	<i>t</i>		3 = mostly rough	
Conde: (µS/cm) or (Ms/cm)	<i>5</i> 3.	.7	DO: (mg/L)	8.4	4		4 = rough for enti	re set duration
Turbidity: (NTU)			pH:	6.7	1		Age Structur	es Legend:

C	omments:				Con Die Ch	and Date
	Salinity: (ppm)		Depth: (m)	0.	.10	
L	TDS: (g / L)		ORP:	3	15. 1	
8	Turbidity: (NTU)		pH:	6	,.71	
C	cond. (μS/cm) or (Ms/cm)	53.7	DO: (mg/L)	8	1.44	
	Temperature: (°C)	21.0	DO: (%)	9	8.7	

١	See Bio Sheet Data (Y)N)
	QA/QC By: A. Law

Page: \_\_\_\_\_ of \_\_\_\_\_\_

YOY - Young Of the Year

Sc - Scales Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray

DIOCAN	DI IN	CEODM	Method Used: (Minnow Trap / Angling / Dip Net / Gillnet Seine)						wood.	
	PLIN	IG FORM							TC14	0403wood.
aterbody Name:	11 10g, ggg	Start Date (DD MMM YY				22 /07	M YYYY) / Time (24 / 19 / 13	HR):		Area Description: Lake / Riww
mole ID:	e coke	22/07/1 Method #: (Traps / Rods	7/ lo/ -	T 5 UTM Coordin	ates (mN, mE	, Zone, Acc.):	Samplers In.	.00		
BR-GN:	3	Gillnet		150,56		5687904	THE STATE OF THE S	Pa	age: 2_of_	see Net Form
						Round	Aging	Pres. for	Presumed	0
Sample ID	Fish #	Species	Species Code		h (mm)	Weight	Structures	Analysis	age class (YOY / 1+)	Comments (Hg / Released / etc.)
	+	1.70(1) 01.0	334	Fork 437	413	(g / kg) NA	(Sc, Pr, Dr, Oto) SC, 1D-SPL	(Y/N) \(\rangle\)	1+	Montes
	2	Modleye	334	433	462	NA	11	1	1	1
	3	11	11	445	475	NA	11			
	4	11	1/	434		ΝÀ	11		l i	
	5	1/	1/	419	456	ŇĀ	11	17	V	\X
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pecies Box Tally	Area / Site	e Comments:			¥:	Species We	Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales Pr - Pectoral Ray
					- 11	-virin - A.				Oto - Otoliths Dr - Dorsal Ray
				QA/QC By	1: Alar			Total#	5	yoy - Young Of the Year 1+ - Older than "yoy"
				III ato - 4	1 ( ( ( )			I Intal #	600	

BIOSAMI		*1	N	Innan	nnow Trap	Angling / Dip				o3 wood
Springpole L	ake	Start Date (DD MMM YY 22 Jul 2019	M)/Time (24	HR): O		End Date (DD MM 23 JUL	M YYYY)/Time (24 2019 / 15	HR): ( 0 0		Area Description: Lake / River
ample ID: BR-MT1		Method#: (Traps / Rods 15ッ MT3			nates (mN, mE	, Zone, Acc.):	Samplers In. AL,SM	Р	age:/_ of _	
Sample ID	Fish #	Species	Species Code	Lengt	th (mm)	Round Weight (g) kg)	Aging Structures	Pres. for Analysis (Y/N)	Presumed age class (YOY / 1+)	Comments (Hg / Released / etc.)
	+	Longnose Dace	711	59	61	1.71	(act the art are)	N	11017117	
	2	UNIQUOSE TARE	1	48	51	1.17	-	,,		
	3	1		53	5.5	1.42	_			
	4	11		49	53	1.36	I			
	5	1.1		64	69	2.86	_=			
	6	10		52	54	1.33	_			
	7	1.1		55	57	1.56				
	3	11		50	53	1.39				
	9	11		52	54	1.57	-			
	10	11 3		52	55	1.40	-			
	11	n		51	54	1.49				
	12	10		49	54	1.33	_	$\vdash$		
	13	11		52	54	1.47	-			
	14	11		49	52	1.42				
	15	11		52	55	1,53	grand .			
	16	1.		53	55	1.48	+			
	17	10		52	56	1.50				
	18	11	1	49	53	1.40			<u> </u>	
1		Darter	338	79	49	1.12	Page			
1000	_	Dui Fei	338	_	53	1.28	-			
	20	Yellow Perch	331	41	43	0.88	-		Уоу	
	27				55		-	1	707	
	122	Rock Bass	311	54	25	3.36		- VI		
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	+			-	-					
				<b>—</b>	-					
	+				_					
pecies Box Tally A	rea / Site	Comments:				Species	Total Catch	Species	Total Catch	Aging Structures Legend:
					LI	1 BALDC	18			Sc - Scales Pr - Pectoral Ray
					and the	IOWA DATE	a			Oto - Otoliths Dr - Dorsal Ray
				QA/QC B	/\\	Yellow Perch	1			yoy - Young Of the Year

1	EL EC'	TROFISHIN	HING FORM		Spring po	Number: fle / TC 1904	103	wood.		
			la con	******		Weles Tomp:	Shasking Method:		Pg:	
UNXO	7 NEUR	1 Springpole 1 688936	22/5	01/20	19	11.100	Back pack			
UTM End: 566	741. 5 <sub>4</sub>	688936 699014	Start Time	Stop Tim	(24 hrs):		11.00		Site Area (Length X Width):  ~   M X	
Zone/Acc.: 15: Sample ID: UNXO	7 - El	F 1		ime: (hours)	:	Effort (seconds	787	Voltage:	Frequency: Pulse: Standard	
Sample ID	Fish #	Species	Species Code	Leng	th (mm)	Round Weight	Aging Structures	Retained	Comments (Hg / Released / etc.)	
				Fork	Total	(g / kg)	(Sc, Pr, Dr, Oto)	(Y/N)		
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	$\Psi$							/		
	-	7					/			
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	4									
									,	
Species Box Tal	ly Area / Site	Comments:							Aging Structures Legend:	
		***************************************							Sc - Scales Pr - Pectoral Ray Oto - Oloillhs Dr - Dorsel Ray yoy - Young Ol the Year 1+ - Older than "yoy"	
									QA/QC By: AL QUI	

BIOSAMPLIN	G FORM	777	ow Trap LAngling / Dip Net / Gillnet / S NOW Trap S	eine)	Project No: TC190403 <b>Wood.</b>
Waterbody Name: KM20.1	Start Date (DD MMM)	/	End Date (DD MMM YYYY)/Time (24HR): 23/Jul 2019/11/00		Area Description (Habitat Type):  Lake/Strean
Sample ID: UNX 07 - MT1	Method #: (Traps / Rods)	UTM Coordinates (mN, mE (ろり Vへい	19/59/02/2010/1-7/10/202	Samplers AL,5M	Page: of see Net Form

Motted

NX07-M.	т ]	15×M+	150	Vario	0/4 2			AL,SM	Page: of see Net Form	
Species	Fish #	Species Code	Lengt Fork	h (mm)	Round Weight (g) kg)	Sex (F, M, U)	Aging Structures (Se, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc.)
Stickleback	1	281		42	0.69	-		~		Released
iny Sculpin	2	381	1	72	4-01	~	-	2		
Perch	3	331	92	97	8.97	-	_	N		
TEICH	4	11	93	101	10.66	-		12		
	5	1/	70	72	3.00		_	N		
11	6		83	86		-	- Line	2		
Tr.	7	11			6.29		-			
	-		85	88	6.65	1	-	2		
11	8	- 11	63	66	7.02	-		N		
14	<u> </u>	34	86	89	7.02	~		N		V
	NOW					T V				
*	X		-0	Λ	1	-	X			
	,	J.F	4	/	1016	2	`			
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			4			TOTAL				
						-				
					25-10					
oice Boy Tally A-	na / Sito	Comments			Species		Total Catch	Species	Total Catch	Aging Structures Legend:
O CO-CO	M	Comments:	fran	ch.	331		7			Sc - Scales Pr - Pectoral Ray
L C L	· L	m 5 MTs	HUM	OIMOW	781					Oto - Otoliths Dr - Dorsal Ray
		1 T 1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		A .	382		1			yoy - Young Of the Year

Sample ID [SAMID]			Vaterbody Name [WBY NM]		Project Code [PROJCD]	Substrate Acronyn BR = bedrock BO = boulder		
UX07-MF1		Spring	pale Lake		TC190403	75%)	obble mix (BO + RC >	RC = rubble/cobbl
Gear Type net, Trapnet, Fyke Trap, eine net, Fish Fence)	Mesh Size(s) (mm)	Coor [UTM Zone]	dinates (UTM NA [LAT]	ID 83) [LONG] [Northing, 7 No.]	Site Type [SITP] (substr) (cover)	3 = sand (SA > 75%) 4 = soft mix (SI + MU 5 = bedrock (BR > 75 6 = other (any other)	J + DE + soft CL > 75%) 5%)	GP = gravel/pebb SA = sand SI = CL = clay MU = DE = detritus
innow Fyke	Small"	150	566238	5688926	5 2			MA = marl
Trap/Hoop Size (m)		<b>ler length</b> m)		omposition and C [BOTTOM] ostrate types in ar		Site Type - Cover Co 1 = no cover 2 = low (1 - 25%) 3 = moderate (25 - 7	Cover Acronyms BO = boulders	OT = other
	_	_	Br. M	<b>1</b> 0	8	4 = high ( > 75%)	MA = macrophy LT = log/tree	es NC = no co
T DESCRIPTION (	recorded at 1	time of set to	o ensure com	pliance with	NSCIN stand	ards)		
Field Crew	Set Date	Set Time	Net Length	Dist. Off Shore	Angle to Shore	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Dep [GRDEPN
A. Law	[EFFDTO]	[EFFTMO]	[XLEADUSE] (1 - 60 m)	[XDISTOFF] (0 - 40 m)	[XANGLE] (0° - 90°)	[GRDEFININ]	[XGHDLI WID]	[GIIDEI II
Mc Govain	(dd/mm/yy)	(24hh:mm)	(1-60111)	~ 2	Ø	6.5	0.6	G.7
T DATA (recorded	Lift Date [EFFDT1] (dd/mm/yy)	Lift Time [EFFTM1] (24hh:mm)	Effort Status [EFFST] (codes 1 - 3)	Air Temp. [AIRTEM1] (°C)	le" per hour or 1.9  Water Temp.  [SITEM1]  (°C)	Wave Height [XWAVEHT] (codes 1 - 5)	1 = no problem 2 = minor proble 3 = major proble	m, affected ca
5.7	23/07/19	11:30		~26	125°C	)	Wave Height Co	
Cloud Cover [CLOUD]	Precipitation [PRECIP]	[V	Speed of Wind /IND]	[XWE	r for Set Duratio	[EFFDUR]	2 = 0.3 - 0.6 m 3 = 0.6 - 0.9 m	(1 - 2 ft.)
[05005]		ALC E MA	(knots (km/hr)	(duration precip)	(duration wave)	(fishing hours)	4 = 0.9 - 1.2 m	-
(%)	(codes 00 - 95)	(N,S,E,W)	( Idioso I		1			
0287773	(codes 00 - 95)	NW	~10	2			5 = > 1.2 m (>	4 ft.)
(%) Ø	00				)		5 = > 1.2 m (> Precipitation Co 00 = no precipit	4 ft.) des (at lift):
(%)  SH CATCH SUMM	00	NW Total Catch	∼ ( )	Bio-sampled	Struct. Taken	Comments	Precipitation Co 00 = no precipit 10 = mist	4 ft.) des (at lift):
(%) Ø	OO ARY	NW	~16	2	Struct. Taken [STRUCT]	Comments	Precipitation Co	4 ft.) des (at lift): ation at lift time
(%)  SH CATCH SUMM	ARY Species	NW Total Catch	∼ ( )	Bio-sampled	-	Comments	Precipitation Co 00 = no precipit 10 = mist 40 = fog	4 ft.) des (at lift): ation at lift time
(%)  SH CATCH SUMM	ARY Species	NW Total Catch	∼ ( )	Bio-sampled	-	Comments	Precipitation Co 00 = no precipit 10 = mist 40 = fog 51 = light drizzli 55 = heavy driz 61 = light rain	4 ft.) des (at lift): ation at lift time
(%)  SH CATCH SUMM	ARY Species	NW Total Catch	∼ ( )	Bio-sampled	-	Comments	Precipitation Co  00 = no precipit  10 = mist  40 = fog  51 = light drizzle  55 = heavy driz  61 = light rain  65 = heavy rain	4 ft.) des (at lift): ation at lift time
(%)  SH CATCH SUMM	ARY Species	NW Total Catch	∼ ( )	Bio-sampled	-	Comments	Precipitation Co  00 = no precipit  10 = mist  40 = fog  51 = light drizzle  55 = heavy driz  61 = light rain  65 = heavy rain  71 = light snow	4 ft.)  des (at lift): ation at lift time  e
(%)  SH CATCH SUMM	ARY Species	NW Total Catch	∼ ( )	Bio-sampled	-	Comments	Precipitation Co  00 = no precipit  10 = mist  40 = fog  51 = light drizzle  55 = heavy driz  61 = light rain  65 = heavy rain	4 ft.)  des (at lift): ation at lift time  e
SH CATCH SUMM	ARY Species	NW Total Catch	Length-tallied [SUBCNT]	Bio-sampled	[STRUCT]	Comments	Precipitation Co  00 = no precipit  10 = mist  40 = fog  51 = light drizzle  55 = heavy driz  61 = light rain  65 = heavy rain  71 = light snow  75 = heavy sno	4 ft.)  des (at lift): ation at lift time  ation at lift time  ation at lift time  ation at lift time

$\wedge$	M		$\triangle$		11	
	/	/		-		
						1
Species	Fish #	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments

ING [	Date: 22 JUL 19	Time: _11.20
11.7°C	DO: (%)	84.2
23.4	DO: (mg/L)	8.75
_	pH:	4.56
	ORP:	269
	Depth: (m)	0.10
֡֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜	11.7℃	11.7°C DO: (%) 23.4 DO: (mg/L) — pH: — ORP:

Comments: Dragon fly 1 lovae and gostropods 2

See Bio Sheet Data (Y (N)) QA/QC By: A-Law 23/07/19

# <u>Duration Precipitation Codes:</u>

- 1 = no precipitation during set
- 2 = < 4 hours of precipitation
- 3 = > 4 hours of precipitation

### 4 = constant precipitation Duration Wave Codes (calm <0.3m);

- 1 = calm for entire set duration
- 2 = mostly calm & some rough
- 3 = mostly rough & some calm
- 4 = rough for entire set duration

### Age Structures Legend:

Sc - Scales

Pr - Pectoral Ray

Oto - Otoliths

Dr - Dorsal Ray

YOY - Young Of the Year

Page: \_\_\_\_\_ of \_\_\_

'TE DESCRIPTION								<b>*</b> *	~~~
Sample ID [SAMID]			Waterbody Name [WBY NM]		Projec [PRO		Site Type - Substrate Codes  1 = gravel/pebble/sand mix (G 2 = boulder/rubble/cobble mix	P + SA > 75%)	Substrate Acronyms: BR = bedrock BO = boulder
Gear Type (Gillnet, Trapnet, Fyke Trap, Seine net, Fish Fence)	Mesh Size(s) (mm)	Spring Coor [UTM Zone]	dinates (UTM NA		Site [SI	Type TP]	75%) 3 = sand (SA > 75%) 4 = soft mix (SI + MU + DE + : 5 = bedrock (BR > 75%) 6 = other (any other combination		RC = rubble/cobble  GP = gravel/pebble  SA = sand SI = silt  CL = clay MU = mu  DE = detritus
Gillnet	3.51	150	556184	568896	2	2			MA = marl
Trap/Hoop Size (m)		der length (m)		Cover Types trea of net)		2 = low (1 - 25%)	Cover Acronyms BO = boulders MA = macrophyl	OT = other	
	15-8	<b>24</b>	Mu	, Bo, S,	, SA			LT = log/tree	

SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards)

Field Crew A. Law	Set Date [EFFDTO]	Set Time [EFFTMO] (24hh:mm)	Net Length [XLEADUSE] (1 - 60 m)	Dist. Off Shore [XDISTOFF] (0 - 40 m)	Angle to Shore [XANGLE] (0° - 90°)	Min Depth [GRDEPMIN]	Mid Depth [XGRDEPMID]	Max Depth [GRDEPMAX]
S. McGovarin	(dd/mm/yy) 22/07/19	11:35	13ª Q4	4	90	0.5	0.8	1.0

DATA (record	Lift Date [EFFDT1] (dd/mm/yy)	Lift Time [EFFTM1] (24hh:mm)	Effort Status [EFFST] (codes 1 - 3)	Air Temp. [AIRTEM1] (°C)	Water Temp. [SITEM1] (°C)	Wave Height [XWAVEHT] (codes 1 - 5)
SM	23/07/19	11:35		~26	~ 20	
Cloud Cover	Precipitation [PRECIP]		Speed of Wind		r for Set Duration ATHER]	Duration [EFFDUR]
(%)	(codes 00 - 95)	(N,S,E,W)	( knots : km/hr)	(duration precip)	(duration wave)	(fishing hours
~	00	NW	~10	2		

## **FISH CATCH SUMMARY**

Species	Species Code	Total Catch [CATCNT]	Length-tallied [SUBCNT]	Bio-sampled [BIOCNT]	[STRUCT]	Comments
Shorthcod Reothorse	171	2	2	2	2	
Species	Fish #	Fork Length	Total Length	Weight (g / kg)	Aging Struct.	Comments
Shorthead Rodhorse	1	414	463	NA	Scares / Pec	
11	2	400	450	NA	Scares / Per	

ING Da	ate: 22 34217	Time:
0 - 1	DO: (%)	100.8
52.4	DO: (mg/L)	8.44
	pH:	6.81
	ORP:	270
	Depth: (m)	0.10
	20.7 52.4	20.7 DO: (%) 52.4 DO: (mg/L) — pH: — ORP:

Comments:

See Bio Sheet Data (Y/(N)) QA/QC By:

#### Effort Status Codes:

1 = no problem

2 = minor problem, likely OK

3 = major problem, affected catch

#### Wave Height Codes:

 $1 = < 0.3 \, \text{m} \quad (< 1 \, \text{ft.})$ 

2 = 0.3 - 0.6 m (1 - 2 ft.)

3 = 0.6 - 0.9 m (2 - 3 ft.)

4 = 0.9 - 1.2 m (3 - 4 ft.)

5 = > 1.2 m (> 4 ft<sub>\*</sub>)

# Precipitation Codes (at lift):

00 = no precipitation at lift time

10 = mist

 $40 = \log$ 

51 = light drizzle

55 = heavy drizzle

61 = light rain

65 = heavy rain

71 = light snow

75 = heavy snow

80 = light rain shower

85 = heavy rain shower

95 = thunder storm

# **Duration Precipitation Codes:**

1 = no precipitation during set

2 = < 4 hours of precipitation

3 = > 4 hours of precipitation

4 = constant precipitation

# Duration Wave Codes (calm <0.3m):

1 = calm for entire set duration

2 = mostly calm & some rough

3 = mostly rough & some calm

4 = rough for entire set duration

### Age Structures Legend:

Sc - Scales

Pr - Pectoral Ray

Oto - Otoliths

Dr - Dorsal Ray

YOY - Young Of the Year

Page:

#### FISHERIES NET CATCH / EFFORT FORM **TE DESCRIPTION** Site Type - Substrate Codes: Waterbody Name **Project Code** Sample ID 1 = gravel/pebble/sand mix (GP + SA > 75%) BR = bedrock [PROJCD] **IMBY NM** FOWN [SAMID] 2 = boulder/rubble/cobble mix (BO + RC > TC190403 Springpole Lake RC = rubble/cobble RINI 1KARATINA 3 = sand (SA > 75%) GP = gravel/pebble Site Type Coordinates (UTM NAD 83) Mesh Size(s) Gear Type 4 = soft mix (SI + MU + DE + soft CL > 75%) SA = sand SI = sill [SITP] [LAT] [LONG] [UTM Zone] (Gillnet, Trapnet, Fyke Trap. (mm) CL - clay MU = muck 5 - bedrock (BB > 75%) [Northing, 7 No.] (substr) (cover) [Easting, 6 No.] 6 = other (any other combination) Seine net, Fish Fence) DE = detritus MA = marl 5688857 150 566242 Various KIN Site Type - Cover Codes Substrate Composition and Cover Types Net/Leader length Trap/Hoop Size 1 = no cover [BOTTOM] (m) Cover Acronyms: (m) 2 = low (1 - 25%) (list all substrate types in area of net) BO = boulders OT = other 3 = moderate (25 - 75%) MA = macrophyles NC = no cover Mu, S1, SA 15.24 4 = high ( > 75%) LT = log/tree SET DESCRIPTION (recorded at time of set to ensure compliance with NSCIN standards) Min Depth Mid Depth Max Depth Dist. Off Shore | Angle to Shore Set Time Net Length Set Date Field Crew [GRDEPMAX] [XGRDEPMID] **IGRDEPMIN**] [XLEADUSE] [XDISTOFF] [XANGLE] [EFFTMO] [EFFDTO] Lan $(0^{\circ} - 90^{\circ})$ (1 - 60 m) (0 - 40 m)(dd/mm/yy) (24hh:mm) 5 Mc Govar in 0.8 90 04 6 0 11:45 15.24 ~ 15 22/07/19 Note: a knot equals one "nautical mile" per hour or 1.9 km/hr (1.2 mph) LIFT DATA (recorded at time of lift) Effort Status Codes: Water Temp. Wave Height Air Temp. 1 = no problem **Effort Status** Field Crew Lift Time Lift Date [XWAVEHT] [SITEM1] [EFFTM1] [EFFST] [AIRTEM1] 2 = minor problem, likely OK [EFFDT1] AL (codes 1 - 5) (°C) (°C) (24hh:mm) (codes 1 - 3) 3 = major problem, affected catch (dd/mm/yy) SM Wave Height Codes: 20 23/07/19 11:45 26 $1 = < 0.3 \, \text{m} \, (< 1 \, \text{ft}_*)$ General Weather for Set Duration Duration Direction & Speed of Wind Cloud Cover Precipitation $2 = 0.3 - 0.6 \, \text{m} \, (1 - 2 \, \text{ft.})$ [XWEATHER] [EFFDUR] [WIND] [PRECIP] [CLOUD] $3 = 0.6 - 0.9 \,\text{m} \, (2 - 3 \,\text{ft.})$ (fishing hours) (knots km/hr) (duration precip) (duration wave) (N,S,E,W) (codes 00 - 95) (%) 4 = 0.9 - 1.2 m (3 - 4 ft.) 00 $5 = > 1.2 \,\text{m} \ (> 4 \,\text{ft.})$ NW ~10 Precipitation Codes (at lift): **FISH CATCH SUMMARY** 00 = no precipitation at lift time Length-tallied **Bio-sampled** Struct. Taken 10 = mistTotal Catch Species Comments **Species ISTRUCT ICATONTI** [SUBCNT] [BIOCNT] 40 = foaCode 51 = light drizzle Morts 331 15 15 ellow Perch 55 = heavy drizzle 3 Mort3 3 3 3 Pike 13 61 = light rain 65 = heavy rain 71 = light snow 75 = heavy snow 80 = light rain shower 85 = heavy rain shower Aging Struct. **Total Length** Weight (g / kg) Fork Length Comments 95 = thunder storm Fish # **Species Duration Precipitation Codes:** 1 = no precipitation during set 2 = < 4 hours of precipitation 3 = > 4 hours of precipitation TOTTV 4 = constant precipitation Duration Wave Codes (calm <0.3m): 1 = calm for entire set duration 11:35 Date: 22 JUL 2019 Time: WATER QUALITY READING 2 = mostly calm & some rough 100.8 3 = mostly rough & some calm DO: (%) 20.7 Temperature: (°C) 4 = rough for entire set duration 44 **DO**: (mg/L) Cond.: (µS/cm) or (Ms/cm) 2. Age Structures Legend: pH: 6.81 Turbidity: (NTU) Sc - Scales 270 ORP: Pr - Pectoral Ray TDS: (g / L) Oto - Otoliths Depth: (m) Salinity: (ppm) Dr - Dorsal Ray

Comments:

YOY - Young Of the Year

Page:

of\_2

See Bio Sheet Data/(Y/N)

QA/QC By: A Low

BIOSAM	PLIN	G FORM	Method	Used: (Mir	RIN	Angling / Dip l		Seine)	TC 190	403 wood.
Waterbody Name:	Pole	Start Date (DD MMM YY A P 22/ Method #: (Traps / Rods	(24) / Time (24)	HR): 19 (1,	1:45)	End Date (DD MMI		4HR): (//:4	45)	Area Description: Lake outlet
UNXO7	.11	Method #: (Traps / Rods	/ Dips)	UTM Coordin	ates (mN, mE,		Samplers In.		age: <u>R</u> of _	
Sample ID	Fish #	Species	Species Code	Lengt	h (mm)	Round Weight	Aging Structures (Sc, Pr, Dr, Oto)	Pres. for Analysis (Y/N)	Presumed age class (YOY / 1+)	Comments (Hg / Released / etc.)
	4	Yellow Perch	331	79	Total 83	(g/kg) 6-13	N	N	(101711)	Mortes
	2		1	84	89	6.75		1		
	3	115		88	9.3	7.32				
	4	(1		85	90	7.14				
	5	//		79	83	5.48				
	6	/1		8/	8.5	5.91				
	7	1		85		7.48		1		
	8	//		85	90	6-66				
	9	//		92	97	10.46				
	10	/(		87	93	8.62				
	11	//	1	81	86	6.00		$\vdash$		
	12	[1		84	89	7.00				1
	13	11		121	129	23.07		-		\ <del>                                     </del>
	14	//		82	87	6.1	1	-		
	15	// II Sug		82	87	6.21	SCICI		1	Morte
3,479	16	Norther Pic		266	304 283	175.47		+		11
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<u> </u>			1							
Species Box Tally	Area / Site	Comments:	4		-	Species	Total Catch	Species	Total Catch	
			m			YLPR	15			Sc - Scales Pr - Pectoral Ray Oto - Otoliths
				QA/QC B	1: A. Leway	NRPK	3			Dr - Dorsal Ray yoy - Young Of the Year
				Date: 5 5				Total #	(18)	1+ - Older than "yoy"

GENERAL IN	FORMATION								
PROJECT#:			ECT DESCRIPTION	DN: DA	Y: 23	:HTNOM	YEA 2	r: 019	
Is STREAM RE	EALIGNMENT 1	equired for	this section:		I COLUMN				
O Yes		Ø							
COLLECTORS	.Law, S.M	(Galoria WE	EATHER CONDIT Hunid, h	TONS:	TIME 13			「IME FINISI 1年:の(	
AIR TEMP: ~	30°C		WATER TEMP	· ~21	. 🔿	CON	DUCTIVITY	(μS/cm): }	
PHOTO NUME	BERS AND DES	CRIPTIONS	\$:						
LOCATION									
Springpole			NAGE SYSTEM:	CR	OSSING	#: S1	TATION #:	R-KN	122
LOCATION OF	CROSSING:		A						
GPS COORDII	NATES: 561	<u> </u>	. 568779	S MTO CH	HAINAGE	E;			
TOWNSHIP:				MNR DI	STRICT:	Red L	ake		
	ID POLLUTION	Į.							
SURROUNDIN	GLAND USE:	forest,	Natual on	SOURCE N	es of P	MINIM	al		
EVICTING ST	RUCTURE TYPI								
Bridge (		Box Culver	rt <b>O</b> Oper	n Foot Culver	t O	CSP	o	N/	/A <b>0</b> /
Dilago .									
Other O Desc		ral Ra	Pids			Siz	e (w x h) m <sup>2</sup>	٤	
Other O Desc	cribe: Nato					Siz	e (w x h) m <sup>2</sup>	ç	
Other O Desc	cribe: Nato	loLogy	SECTION LOCA	TION:		Siz		· · · · · ·	
Other O Desc SECTION TYP SECTION IDEI	eribe: Nato	loLogy	SECTION LOCA	TION:	int E	Siz Ephemeral		TED WETL	AND:
Other O Desc SECTION TYP SECTION IDEI	eribe: Nato	nannelized	SECTION LOCA (include on habitat m	TION: hap) Intermitte		Ephemeral	ASSOCIA	· · · · · ·	AND:
Other O Desc SECTION TYP SECTION IDEI	E AND MORPH NTIFIER:	nannelized	SECTION LOCA (include on habitat m  Permanent  O	TION: hap) Intermitte		Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	.AND: Other
Other O Desc SECTION TYP SECTION IDEI TYPE: Streat	eribe: Natoribe:	nannelized O	SECTION LOCA (include on habitat m  Permanent  O  Rif	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	associa	TED WETL	
Other O Description TYP SECTION IDEI  TYPE: Stream  TOTAL SECTION SUB-	E AND MORPH NTIFIER: Cr ON LENGTH (n	nannelized O n):~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	SECTION LOCA (include on habitat m  Permanent  O  Rift  (c)	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	
Other O Desc SECTION TYP SECTION IDER  TYPE: Streat  TOTAL SECTION SUB- SECTION(S)  Percentage	E AND MORPH NTIFIER: Cr ON LENGTH (n	nannelized O Poo	SECTION LOCA (include on habitat m  Permanent  O  Rift  (c)	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	
Other O Desc SECTION TYP SECTION IDEI TYPE: Streat TOTAL SECTION SUB- SECTION(S) Percentage of area	E AND MORPH NTIFIER: Cr ON LENGTH (n	nannelized O Poo O	SECTION LOCA (include on habitat m  Permanent O  Di Rif	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	
Other O Desc SECTION TYP SECTION IDER TYPE: Streat TOTAL SECTION SUB- SECTION(S) Percentage of area Mean depth wetted (m) Mean width wetted (m)	E AND MORPH NTIFIER: Cr ON LENGTH (n	nannelized O Poo O	SECTION LOCA (include on habitat m  Permanent O  Di Rif	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	
Other O Desc SECTION TYP SECTION IDEI  TYPE: Streat  TOTAL SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull	E AND MORPH NTIFIER: Cr ON LENGTH (n	nannelized O Poo O	SECTION LOCA (include on habitat m  Permanent O  Di Rif	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	
Other O Desc SECTION TYP SECTION IDEI  TYPE: Streat  TOTAL SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean	E AND MORPH NTIFIER: Cr ON LENGTH (n	nannelized O Poo O	SECTION LOCA (include on habitat m  Permanent O  D  Rif (	Intermitte O CURI	RENT VE	Ephemeral O ELOCITY (m/s	ASSOCIA	TED WETL	

Appendix 4.A: Watercourse Field Record Form

BANK STABILIT	ГҮ							
		Stable	S	lightly Unstable	Moderat	tely Unstable	Unstabl	е
	stream Bank	o/		0		0	0	
Right Up	stream Bank	0		0		0	0	
HABITAT		*	,			7,4		
IN-STREAM COVER (% surface area):	Undercut banks	Boulders 90	Cobble 5	Woody Debris 5 Instream Overhanging		ebris Instre	ular Macrophytes eam hanging	None
SHORE CO		100 – 90 %	90 –	60% 60-	30%	30 – 19		ne
(% stream sha	aded):	0	C		0	0		
VEGETATION (%):	TYPE	Submerge	nt	Floating		Emerge	ent (	Vone
	ominant Species	-			i i			
MIGRATORY OBSTRUCTION	None			Seasonal		Perm	anent	0 1 = ¥ -11 1.=
POTENTIAL CRITICAL HABI LIMITING:		vning		Evidence of Grou	ındwater	Othe		
COMMENTS:		Bed ROCK Shore	Stee	ep bank	G :		wood olebris	X Deaver
		FLOW	2)	Rap Rap	ids		Poo	
Additional Note	s Appended?		yeg.	on both sic		shore (	torest fire e	st. 2013,

\* Flow to fast/deep to record depths/widths

GENERAL IN	IFORMATIO	N							
PROJECT #:	10190403	PRO	POLC	TION:	DAY: 23	HTNOM	7.50	R: 2019	
Is STREAM R	EALIGNMEN	IT required fo	r this section:						
O Yes	O No	19	Unknown						
COLLECTOR A.L.	s: aw ,5-Mi	c Gooria S	EATHER COND	oitions:	TIM	IE STARTED	):	TIME FINIS	HED:
AID TERRO.	25		WÅTER TEN		2°C	С	ONDUCTIVITY 23.4	/ ( <u>µS/c</u> m): ├	
		ESCRIPTION	s: Stream	00000	· 11.	i40 004 00	led by be	raver de	S 195
	ing Chan	hel /	STREAM	oc (a)	ronally	IN I POOLING	sea of		
LOCATION NAME OF WA	TERRORY	DRAI	NAGE SYSTEM		CROSSIN	IC #:	STATION #:		_,
()NX		DKAI	NAGE 3131EW			×07	SIATION #.		
LOCATION O		3:							
GPS COORD	INIATES:			BATA	O CHAINA	GE:			
GPS COORDI	INATES:			IVI I	O CHAINA	IGE.			
TOWNSHIP:				MN	R DISTRIC	T: Red	Lake	-	
LAND USE A									
SURROUNDII	*	SE:		1	-	POLLUTIO			
Crown land	d			\ \	Ainima	1/non	e		
EXISTING ST	RUCTURE T	YPE							
Bridge		Box Culve	ert <b>O</b> Op	en Foot Cı	ulvert O	CS	SP O	N	IAX
									1AX
Other O Des	oneo.	JONE					Size (w x h) m	$\sim \sim $	M
SECTION TY		RPHOLOGY	SECTION LOC	CATION					
SECTION IDE	INTIFIER:		(include on habitat						
TYPE: Stre	eam / river	Channelized	Permanent	Interi	mittent	Ephemera	ASSOCIA	ATED WETI	AND:
	Ø	0	0		0	0	3		
TOTAL SECT	ION LENGTH	H (m):		C	CURRENT	VELOCITY (	(m/s):		
SUB-	Run	Po	ool	Riffle	FI	ats I	nside culvert		Other
SECTION(S)	0			0		0	0		
Percentage of area			100						
Mean depth wetted (m)									
Mean width wetted (m)						141			
Mean									· ·
bankfull					1	2 113			
width (m)									
Mean								1.0	
bankfull depth(m)								and the	
Substrate		S <sub>1</sub> 50/	571 D						
					1				
Bedrock Br	Boulder Bo	Cobble Co	Gravel Gr	Sand Sa		Silt Si	Clay Cl	Muck Mu	Detritus D

Appendix 4.A. Watercourse Field Record Form

BANK STABILI	TY		, , , , , , , , , , , , , , , , , , ,								HE.	
			Stable	S	lightly Un	stable	Mod	derately Un	stable	l	Jnstable	
	stream B		18		0			0			0_	
Right Up	stream B	ank	6		0			0			0	
HABITAT										_ 2		
IN-STREAM COVER (% surface area):	Underd banks		oulders	Cobble	Instream	1		Organic debris	Instrea Overha		ohytes	None
SHORE CO		100 –	90 %	90 – 0	60%	60	- 30%		30 – 1%		Nor	ie
(% stream sha	aded):	C		0			0		0		0	
VEGETATION (%):	TYPE	S	Submerge	nt	_	Floating			Emergen	t	N	one
	ominant											
MIGRATORY	Species	lone	CHY,		Seaso	ınal	1		Perma	nent		- 20
OBSTRUCTION			Pir.		Ocuse				Torma		1.0	
POTENTIAL CRITICAL HABI LIMITING:		pawning			Evide	nce of Gro	undwat	er	Other			
COMMENTS:												
Additional Notes	s Append	ed? O	No O	Yes	number	of pages	2					

GENERAL IN	FORMATIO	N			700			
PROJECT#:	103		ood cro	SCRIPTION:	DAY:		NTH: Y	Z019
Is STREAM RE						A-1 1983.5	Section VIII	
O Yes	O No		M Unknow					
COLLECTORS	S:		WEATHER	CONDITIO	NS: T	IME STAR		TIME FINISHED:
A-Law, AIR TEMP:	23.5	°C	WATE	ER TEMP:	8-2°C		CONDUCTIV	/ITY (μS/cm): - 6 - 4
PHOTO NUMB	ERS AND	DESCRIPTI	ONS:					
LOCATION			_					
NAME OF WA	TERBODY:	DI	RAINAGE S'	YSTEM:	CROSS	ING #:	STATION	#:
WB02-C								
LOCATION OF	CROSSIN	G:			-			
GPS COORDII	NATES:				MTO CHAIN	NAGE:	×	
TOWNSHIP:					MNR DISTE	RICT: Re	ed Lake	
LAND USE AN				G	SOURCES	OE BOLL!	ITION:	
SURROUNDIN	IG LAND U	5E:		7.	None			
EXISTING STR	RUCTURE	ТҮРЕ						
Bridge (	0	Box C	ulvertO	Open Fo	ot Culvert O		CSP X	N/A O
Other O Desc	cribe:						Size (w x h	m <sup>2</sup> 78 cm
SECTION TYP		RPHOLOG	Y					
SECTION IDE			SECTIO	ON LOCATIO on habitat map)	ON:			
TYPE: Street	am / river	Channeliz	ed Perr	nanent	Intermittent	Epher	neral ASSO	CIATED WETLAND:
30 10 10 20	0	0	WHI 24.7	0	<b>X</b>	0		
TOTAL SECTI						T VELOC		
SUB-	Run		Pool	Riffle		Flats	Inside culve	ert Other
SECTION(S)	0		0	0		0	0	
Percentage	M.						V	
of area								THE RESERVE THE PROPERTY OF THE PARTY OF THE
Mean depth wetted (m)							1.15	
Mean depth							**	
Mean depth wetted (m) Mean width wetted (m) Mean bankfull								
Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull								
Mean depth wetted (m) Mean width wetted (m) Mean bankfull width (m)	Gr. M	In Gi	·, Mu	Gr. M	lu Mi	w 100%		Glasses

YSI on back (+map)

Appendix 4.A: Watercourse Field Record Form

BANK STABILIT	Υ								
		Stable	S	lightly Unst	able	Moderately Un	stable	Unstable	9
Left Ups	tream Bank	<b>Ø</b>		0		0		0	
Right Ups	tream Bank	<b>x6</b>		0		0		0	
HABITAT						, ,			
IN-STREAM COVER (% surface area):	Undercut banks	Boulders	Cobble	Woody De	ing	Organic, debris	Vascular Ma Instream Overhangin	90%	None
SHORE COV		100 – 90 %	90 -		60- 30	1%	30 – 1%	No	
(% stream shad		O Submerge	<b>y</b> 8		O		0	0	
VEGETATION 1 (%):	TYPE	Submerge	nt		loating		Emergent	N	lone
Predor									
MIGRATORY OBSTRUCTIONS	None			Season	al		Permanent Beave	er dem	uls
POTENTIAL CRITICAL HABIT LIMITING:	Spaw	vning		Evidend	e of Ground	lwater	Other		
COMMENTS:									
OGIMINENTO.							5		
Additional Notes	Appended?	O No O	Yes	number of	pages				



GENERAL IN	FORMATION	iji				ويساطين		
PROJECT #:	03	PROJE	CT DESCRIPTION:	DAY:	16 MC	Y July	Z019	
is STREAM R	EALIGNMENT rec	quired for t	his section:		100年			
O Yes	O No	<b>ட</b> வி	Inknown		21134			
COLLECTORS	S. Mcgovari		ATHER CONDITION		TIME STA		TIME FINISHEI	D:
AIR TEMP:	~24		WATER TEMP:	20.8		CONDUCTIV	/ITY (µS/cm): 5	
PHOTO NUME	BERS AND DESCI	RIPTIONS:						
LOCATION								
NAME OF WA		DRAINA	AGE SYSTEM:	CROS	SSING #:	STATION WBOJ	#: -0 <i>0</i> T	
LOCATION OF	crossing:	lorth	end of S	Springp	ole L	ake (U	15 of beg	wet.
GPS COORDII	NATES:			MTO CHA	INAGE:		-	
TOWNSHIP:				MNR DIST	TRICT: P	ed Lake	2	
	D POLLUTION							
, 1	G LAND USE:	(minil exploi	^9,		SOFPOLL		. \	
	rown land	(explo	ration /	Mining	al/hon	e (dirt	road /	
EXISTING STR	UCTURE TYPE				7		Τ	
Bridge (	) B	ox Culvert	Open Fo	ot Culvert	0	CSP Ø	N/A	0
Other O Desc		LOCY				Size (w x h)	m <sup>2</sup>	The same
	E AND MORPHO	S	SECTION LOCATIO	N:		Size (w x h)	m <sup>2</sup>	ju.
SECTION TYP SECTION IDER	E AND MORPHOI NTIFIER: am / river Chan	nnelized	Permanent I	ntermittent	S MILE	meral ASSO	m <sup>2</sup>	D:
SECTION TYPE SECTION IDER  TYPE: Stream	E AND MORPHOI NTIFIER: am / river Chan	S	nclude on habitat map)	ntermittent O	S MILE	meral ASSO		D:
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION	E AND MORPHOINTIFIER:  am / river	nnelized O	Permanent I	ntermittent O	ENT VELOC	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB-	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ntermittent O	INT VELOC	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage	E AND MORPHOINTIFIER:  am / river	nnelized O	Permanent I	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	INT VELOC	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats	meral ASSO	CIATED WETLAN	
SECTION TYP SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull depth(m)	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ntermittent O CURRE	Flats O	meral ASSO	CIATED WETLAN	
SECTION TYPE SECTION IDER  TYPE: Streat  TOTAL SECTION  SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull	E AND MORPHOI NTIFIER: am / river Chan O ON LENGTH (m):	onnelized O	Permanent O	ontermittent O CURRE	Flats O	meral ASSO	CIATED WETLAN	

DO 34.4%. Z.84 mg/L 6.06 pH 397.0 OPP

BANK STABILIT	ΤΥ								/ -
		Stable	S	lightly Unstable	Mode	rately Uns	stable	Unstable	1
Left Up	stream Bank	Ø		0		O		o o	
Right Up	stream Bank	VO		0		0		/ 0	
HABITAT								7	
IN-STREAM COVER (% surface area):	Undercut banks	Boulders 5	Cobble	Woody Debris Instream Overhanging	stream debris Ins		Instream	Vascular Macrophytes N Instream Overhanging	
SHORE COV	VER	100 – 90 %	90 –	60% 60	- 30%	1	30 – 1%	Nor	10
(% stream sha	aded):	0	0		0	1	0	0	
VEGETATION		Submerger	nt	Floating 5		/ 1	Emergent	N	one
	30%	15			1. /		10		
	ominant Species			water Li	'Y /	Ca	Hails		
MIGRATORY OBSTRUCTION	None			Seasonal Poss	bly	- 4 (	Permanent		
POTENTIAL CRITICAL HABI LIMITING: POTENTIAL EN		Nome	v; 0 v, s es:	Evidence of Gro			Other		
	<i>\( \)</i>	To se					Pæl	to comp	
Additional Note	s Appended?	O No O	Yes	number of pages _					

# SITE INFORMATION

Site ID	\	Waterbody	Date (DD/MMM/YYYY)			n Coordinates , mN, Zone, Acc.)
5-9-0502	5-9	(Unnamed)	10 SEP 2019	150	552452	, 5690331
Project Number	Ph	oto Number's	Weather I	Descrip	tion (wind, precipi	tation/duration, cloud cover):
TC190403.C02		ă T		indy	. over cast	(100% CC)

# **WATER QUALITY**

Sampler Initials AL. SM

Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/YYYY)		ion Coordinates nE, mN, Zone, Acc.)	
5-9-USQ2 MG	11:00	3L AL - <del>20</del> 0	12/500/211			( 🗹 Same As Above
Comments (bottles field	d filtered, sample od	our):	7			
Air Temperature		°C	DO	82	%	OTHER:
H2O Temperature	12.0	9 <b>°C</b>	DO	8.78	mg/L	
рН	7.40	) pH	TDS		g/L	
Conductivity	125	uS/cm or mS/cm	ORP	157.8	mV	
		NTU	Depth		m	

# SEDIMENT

Sampler Initials AL. SM

Sample ID	Jamble Geart		Location Coordinates (UTM mE, mN, Zone, Acc.)					
S-9-USC	12-5	14:00	1 74	R. 2BAGS	Petite Ponor	( 🗹 Same As Above		
Pull (#)		cation ream/river)	Depth (m)	Sampler Qty. (%)	Sediment Composition (Describe % cobble / coarse-fine sand / silt / clay)			
1	In S	tream	0.5	Discarded				
2	7.9		0.6	75	30%MU,	50%. De, 20 macrophytes		
3	,		0.6	Discorded	1	of That ophy re;		
4	,		0.6	60	n	↑ ↑ n		
5	١	`	0.6	Discorded	-	•		
6	1	\	0.6					

omments (colour, steaking/mottling, odour, macrophytes):
Discarded samples contained predominantly macrophytes/roots/wood debris

# **BENTHIC**

Sampler Initials AL SM

Sample ID		Time (24hrs)	*	Jars (# / vol.)	Sample Gear Location Coordinate (UTM mE, mN, Zone, Ac-				
S-9-USO2 14:30 3x Petite Ponar -				Sec.			( Same As Above		
Pull (#)		ation tre / Right)	Depth (m)	Ponar Quantity (%)	(Des	Benth cribe % cobble	ic Compo / coarse-fi		ilt / clay)
1	In St	ream	0.6	Discorded					
2	1)		0.6	50	30% MU.	50% DE	20.	10(	
3	2 03		0.6	50	li .			11	
4	1,		0.6	70	10		,	1 (==	
5	- 11		0.6	Discarded			59		
6	gn								

Comments (colour, coarse organics/detritus, visible animals):

# **WATER / SEDIMENT / BENTHIC SAMPLING FORM**

# SITE INFORMATION

wood

Site ID	Waterbody	Date (DD/MMM/YYYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)
5-9-USOI	Unnamed	11/500/2010	150 552881, 5690537
Project Number	Photo Number's	Weather Des	scription (wind, precipitation/duration, cloud cover):
TC 190403		50 %. C.	loud, 10% tound

# **WATER QUALITY**

Sampler Initials SM/AL

Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/YYYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)				
5-9-0501	15:30		11/500/20	19			( Same As Above	
Comments (bottles field t	litered, sample odo	ur): YS \		.cus		,		
Air Temperature		M/2°C	DO	18.9	%	OTHER:		
H2O Temperature	12	7.35 ℃	DO	2-031	mg/L	21		
рH	6.	82 pH	TDS	~	g/L			
Conductivity	15	4 µS/cm or mS/cm	ORP	205.5	m۷			
Turbidity		NTU	Depth	0.10	m			
Comments (water colour								
Dark tea	Stained	water						

# SEDIMENT

Sampler Initials 5M/AC

Sample ID		Time (24hrs)	Bags/Jars (# / vol.)		Sallible Gear I		
5-9-05	01-5	15:30	131	AR / 2 Bags	570nW	( □ Same As Above	
Pull (#)		cation ream/river)	Depth (m)	Sampler Qty. (%)		Sediment Composition cribe % cobble / coarse-fine sand / silt / clay)	
1	In	stream	0.7	86	50%	delsitus	
2		lı .	0.7	Discarded	1011		
3		11	0.7	60	30 %.	MUCK	
4		11	0.7	Discourd ed	10%	wood debris	
5		11	0.7	Discovered			
6	/k	L/	0.7	75	72		

Comments (colour, steaking/mottling, odour, macrophytes):

# **BENTHIC**

Sampler Initials SolA

Sample ID		Time (24hrs)		Jars (# / vol.)	Sample Gear	Location Coordinates (UTM mE, mN, Zone, Acc.)
5-9-6	1501	15:30		3×	PONA	( 🖾 Same As Above
Pull (#)	_	cation entre / Right)	Depth (m)	(%)	(Describe	Benthic Composition  - % cobble / coarse-fine sand / silt / clay)
1	i,	1 Stream	0.6	Discarded	Hay d	letritus Muck Lucod debris
2		14	0.7	80	707,0	1 V
3		11	0.7	Discarded	40%	MUCK
4		11	0.7	Discarled	201/2	lucod debris
5		4	07	90	20 /	
6		6	0.7	50.		

Comments (colour, coarse organics/detritus, visible animals):

# SITE INFORMATION

Site ID	Waterbody	Date (DD/MMM/YYYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)
5-9	S-P	10/BEP kol9	150 552233, 5690200
Project Number	Photo Number's	Weather D	escription (wind, precipitation/duration, cloud cover):
TC190403.CO2		100% 0	C. Cool, windy Now ~ 20 Kind

# **WATER QUALITY**

Sampler Initials AL, SM

Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/YYYY)		ion Coordinates nE, mN, Zone, Acc.)
5-9	12:25		10/500/2019		( Game As Above
Comments (bottles field	filtered, sample odou	7):			
Air Temperature	15	°C	DO	50.4 %	OTHER:
H2O Temperature	10.38	°C	DO	5.61 mg/L	
рН	7.12	рН	TDS	g/L	
Conductivity	123	uS/cm or mS/cm	ORP	145-3 mV	
Turbidity		NTU	Depth	m	

# SEDIMENT

Sampler Initials <u>AL.SM</u>

Sample ID	nple ID Time (24hrs)		9		Sample Gear		Sample Gear	Location Coordinates (UTM mE, mN, Zone, Acc.)
S.9 - Sed		12:30	1 Jar/	zsami) 2 Bags	Petite Ponar	( 🖾 Same As Al		
Pull (#)	_	ocation ream/river)	Depth (m)	Sampler Qty. (%)	Sediment Composition (Describe % cobble / coarse-fine sand / silt / clay)			
1	In S	tream	0.25	100	55% MU, 30% DE	, 15% Wood Chips		
2		11	0.30	100	55 % MU, 30% [	De. 15 MC		
3		11	0.40	60	50'2MU, 30%	De, lowe, 10 water (Drained)		
4						se, to we, to content (Drawer)		
5						24.		
6								

Comments (colour, steaking/mottling, odour, macrophytes):

Park brown sedim ont

# **BENTHIC**

Sampler Initials AL, SM

Sample ID		Time (24hrs)		Jars (# / vol.)	Sample Gear	Location Coordinates (UTM mE, mN, Zone, Acc.)		
				y Joes	Petile Ponar	( ☑ Same As Above)		
Pull (#)		cation entre / Right)	Depth (m)	Ponar Quantity (%)	(Describe	Benthic Composition e % cobble / coarse-fine sand / silt / clay)		
11	In-Strea	im Left	0.30	70	57) 7. Mu. 300	Y.De. 20%. Wood chip 5		
2		Centre	0.35	50	1	- (c		
3		Right	0.35	90	140% Mu. 30	7.De, 30% wood chips		
4			1.75					
5								
6						3 3		

Comments (colour, coarse organics/detritus, visible animals):

Observed: Hemiptera, Dragonfly Larvae xz

#### WATER / SEDIMENT / BENTHIC SAMPLING FORM

SITE INFORMAT	TION ,			W000.		
Site ID		Waterbody	Date (DD/MMM/YYYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)		
MBOJ.OUT	Unna	med Springpole L.	17/SEP/2019	15v 550065, 5693966		
Project Number	PI	noto Number's	Weather Description (wind, precipitation/duration, cloud cover):			
TC190403.CO2 367-415 (A.Laws)			Overcast warm breezy			
WATER QUALIT	Υ			Sampler Initials AL , SM		
Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/YYYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)		
Name of the last o	09:30	MA	17 SEP Z 019	( ☑ Same As Above		
Comments (bottles field	d filtered, sample o	dour):				

Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/	110		tion Coordinates mE, mN, Zone, Acc.		
Management of	09:30	MA	17 SEP :	2019			( Same As Above)	
Comments (bottles fie	eld filtered, sample oc	dour): NONE		G				
Air Temperature	20	°C	DO	65.6	%	OTHER:		
H2O Temperature	9.57	<sup>2</sup>	DO	7.59	mg/L			
рН	7.16	рН	TDS		g/L			
Conductivity	145	µS/cm or mS/cm	ORP	140.2	mV			
Turbidity		NTU	Depth	0.10	m			
Comments (water colour, sheen, plankton/elgal bloom):  Water clear / no stain								

## **SEDIMENT**

Sampler Initials AL, SM

Sample ID		Time (24hrs)	Bags/Jars (# / vol.)		Sample Gear	Location Coordinates (UTM mE, mN, Zone, Acc.)		
WB02-0UT S		09:45	1 JAR/2 BAGS		Petite Ponar	( ☑ Same As Above		
Pull Location (#) (in stream/river)			Depth (m)	Sampler Qty. (%)	Sediment Composition (Describe % cobble / coarse-fine sand / silt / clay)			
1	In-	Stream	0.30	Discarded	SANTA	5115% MUCK 60%		
2		1 t	14	=	1			
3		11	11	40%	& Vegetat	non/roots 25%		
4		19	- 11	80 /-				
5		11	- 11	Discorded	)			
6		11	1/	40%	/			

Comments (colour, steaking/mottling, odour, macrophytes): Medium brown, regetation on surface, detritus

### **BENTHIC**

Sampler Initials AL, SM

Sample ID		Time (24hrs)	Jars (#/vol.)		Sample Gea	r	Location Coordinates (UTM mE, mN, Zone, Acc.)
WB02-OUT 10:00		10:00	2 X		Petite Pono	1	( 🗹 Same As Above)
Pull Location (#) (Left / Centre / Right)			Depth (m)	Ponar Quantity	Benthic Composition (Describe % cobble / coarse-fine sand / silt / clay)		
1	In-	Stream	0.30	50	6		
2		1.	150	85	Sane	<b>as</b>	Sed.
3		1	Ti.	50			
4			-11-				Z.
5	eq.		-11				
6				(1			

Comments (colour, coarse organics/detritus, visible animals): - Dragonfly L. (1)
Pearl Clams observed in grab 1 - Diving Beatle (2)

#### WATER / SEDIMENT / BENTHIC SAMPLING FORM

#### SITE INFORMATION

wood.

Site ID	Waterbody	Date (DD/MMM/YYYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)
WB05-0UT	Unnamed	13 SEP2019	150 549155, 5693173
Project Number	Photo Number's	Weather	Description (wind, precipitation/duration, cloud cover):
TC190403		Cloudy	100,000

#### **WATER QUALITY**

Sampler Initials AL, SM

Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/YYYY)		ion Coordinates nE, mN, Zone, Acc.)
	10:00	NONE	13 SEP 2019		( 🖾 Same As Abov
Comments (bottles field	filtered, sample od	our):			
Air Temperature	12	°C	DO 50.7	%	OTHER:
H2O Temperature	11.10	°C	DO 5.55	mg/L	
H2O Temperature	7.48	°C -	DO 5.55	mg/L g/L	

#### SEDIMENT

Sampler Initials AL, 5 M

Sample ID		Time (24hrs)		Bags/Jars (# / vol.)	Sample Gear	Location Coordinates (UTM mE, mN, Zone, Acc.)
WB05.	0UT-	0:30	IJA	R/2 Bags	Petite Ponor	( 🗹 Same As Above
Pull			Depth (m)	Sampler Qty.	(De	Sediment Composition scribe % cobble / coarse-fine sand / silt / clay)
1	ln:	Stream	1.0	80	60% N	0.14
2			1.0	80		
3	1	1	1.0	9.0	30% DE	ORG.
4	2.5				10%wc	and Chips
5						8
6						

Comments (colour, steaking/mottling, odour, macrophytes):

Sed. Dark brown

#### BENTHIC

Sampler Initials AL. 5M

Sample ID		Time (24hrs)		Jars (# / vol.)	Sample C	iear		Location Coordinates (UTM mE, mN, Zone, Acc.)						
WB05.0	TUC	10:30		2 JARS	Petite Pa	hor		( 🗹 Same As Above)						
Pull (#)	Pull Location						hic Composition le / coarse-fine sand / silt / clay)							
1	lv	-Stream	1.0	80	9000	<b>a</b> S	Sed.							
2		11		90	]	0-5	Jan.	a a						
3		11	11	11	11	11	11	11	1.0	85	¥1			20
4														
5														
6														

Comments (colour, coarse organics/detritus, visible animals):

## WATER / SEDIMENT / BENTHIC SAMPLING FORM

#### SITE INFORMATION

wood.

Site ID	Waterboo	Date (DD/MMM/YYY)	Location Coordinates (UTM mE, mN, Zone, Acc.)							
TUO-009W	Unnamed	14 SEP 201	1 150 547853, 5692119							
Project Number	Photo Num	ber's Weath	Weather Description (wind, precipitation/duration, cloud cover):							
TC190403.00		C	alm, Sunny							
WATER QUALITY			Sampler Initials # 5 M							
	Time	Bottles Date	Location Coordinates							

Sample ID	Time (24hrs)	Bottles (# / approx. total vol.)	Date (DD/MMM/			tion Coordinates mE, mN, Zone, Acc.)
WEDG-CUT	13:30		13:30			( Same As Above
Comments (bottles field	filtered, sample odd	our):				_
Air Temperature	15	°C	DO	60.4	%	OTHER:
H2O Temperature	8.68	°C	DO	7.04	mg/L	
pH	7.35	рН	TDS		g/L	
Conductivity	45 / 0.21	O μS/cm or mS/cm	ORP	194.7	mV	
Turbidity		NTU	Depth	0.10	m	
Comments (water coloui Worter Cle					-	

## SEDIMENT

Sampler Initials AL, 5M

Sample ID		Time (24hrs)		Bags/Jars (# / vol.)	Sample Gear	Location Coordinates (UTM mE, mN, Zone, Acc.)						
WB06-0	DUT-S	13:35	134	1R/2 BAGS	Petite Ponor	or ( ☑ Same As A						
Pull (#)	Lo	cation eam/river)	Depth (m)	Sampler Qty. (%)	(D	Sediment Composition Describe % cobble / coarse-fine sand / silt / clay)						
1	In-	Stream	0.20	Discarded	1400	De/wood						
2		l (	0.30	40								
3	1	1	0.20	50	( 25%	SAND						
4		1	0.20	Discarded	1,00	MUCK						
5		1	0.20	Discarded	145 /0	MOCK						
6	1	1	0.20	40	/ .							

Comments (colour, steaking/mottling, odour, macrophytes):
Medium brown Colour (Sond)

## **BENTHIC**

Sampler Initials AL, SM

	Time (24hrs)		Jars (# / vol.) ⊩	Sample Gear	(UIM ME, MN, Zone, ACC.)					
UT	13:50	<	9x	Petite Ponar				( Same As Above		
		Depth (m)	Ponar Quantity (%)	(Des	Benthic Composition (Describe % cobble / coarse-fine sand / silt / clay)					
l h	-Stream	0.30	60	Dec ciption	Same	05	3-1.1			
	11	0.20	70	DESCRIPTION	Same	0,0	2000			
	( <	0.20	60							
,	25									
		N .								
	Loc (Left / C	(24hrs)  13:50  Location (Left / Centre / Right)  11-Stroam	(24hrs)  13:50  Location (Left / Centre / Right)  11	(24hrs) (#/vol.)  13:50  Location (Left / Centre / Right) (m)  10-5tram 0.20 60  11 0.20 60	(24hrs) (#/vol.)  13:50  Location (Left / Centre / Right) (m)  11	(24hrs) (#/vol.) Sample Gear  13:50 Petite Panar  Location (Left / Centre / Right) (m) (%) (Describe % cobline)  11 0.20 60  11 0.20 60	(24hrs) (#/vol.) Sample Gear (UTM)  13:50  Location (Left / Centre / Right) (m) (%)  1n-Stream G.20 GO  11 O.20 GO  11 O.20 GO  11 O.20 GO  12 O.20 GO	(24hrs) (#/vol.) Sample Gear (UTM mE, mN, Zone, A)  Location (Left / Centre / Right) (m) (%) Benthic Composition (Describe % cobble / coarse-fine sand / si  11 0.20 60  11 0.20 60		

Comments (colour, coarse organics/detritus, visible animals):

# WATER / SEDIMENT / BENTHIC SAMPLING FORM

#### SITE INFORMATION



					Date	Locat	tion Coordinates
Site ID			Waterbo	1 A	(DD/MMM/YYYY)	(UTM r	mE, mN, Zone, Acc.)
WB06-1			5-1N	(consumed)		150 547823,5	
Project Num		P	hoto Nur	mber's			eipitation/duration, cloud cover):
T(19040	3.004				COIN	. JUNNY	1900
WATER C	UALIT	Υ				/	Sampler Initials <u>AL, SM</u>
Sample ID		Time (24hrs)	(#/8	Bottles approx. total vol.)	Date (DD/MMM/YYYY)		ion Coordinates nE, mN, Zone, Acc.)
		12:00		d	14 SEP 2019		( \(\sigma\) Same As Above
Comments (	bottles field	I filtered, sample o	dour):	,^_	In.	2	×
Air Temper	rature	15		°C	DO 5	7.8 %	OTHER:
H2O Temp		8.16		°C		76 mg/L	
рН		7.24		рН	TDS	g/L	
Conductivi	2.5	143		µS/cm or mS/cm		3. 2 mV	
Turbidity				NTU	Depth O	.10 m	
		ur, sheen, plankton		m):	last 24	Hours.	A
SEDIMEN	T						Sampler Initials AL, SM
Sample ID		Time (24hrs)		Bags/Jars (# / vol.)	Sample Gear		ion Coordinates nE, mN, Zone, Acc.)
1316-11	1-5		1 JAF	2/2 BAGS	Petite Forar		( ☑ Same As Above
Pull (#)	Lo	cation ream/river)	Depth (m)	Sampler Qty.		Sediment Con scribe % cobble / coars	nposition
1		-Stream	0.3	50			25% wood chips
2		11	0.3	30		٠, ١,٠	
3		tı.	0.3	40	1 /		
0		- 11			all to the contract of the con		
4		10	0.3	60	1 🗸		
			0.3			alaurah Sed	inext
4 5 6		11	0.3	60 80	Dock o	coloured Sed	inext.
4 5 6 Comments (	colour, stea	((	O. 3	GO 80	Dogk o		
4 5 6	colour, stea	kking/mottling, odo	O. 3	60 80 phytes):	Dock (		Sampler Initials <u>AL</u> , <u>SM</u>
4 5 6 Comments (	colour, stea	tl sking/mottling, odo	O. 3	GO 80	Sample Gear	Locat	Sampler Initials <u>AL, SM</u> ion Coordinates nE, mN, Zone, Acc.)
4 5 6 Comments (	colour, stea	Time (24hrs)	our, macrop	Jars (#/vol.)		Locat (UTM n	Sampler Initials AL, SM ion Coordinates nE, mN, Zone, Acc.)
4 5 6 Comments ( LDC BENTHIC	(colour, stea	Time (24hrs)	our, macrop	Jars (#/vol.)  Ponar Quantity (%)	Sample Gear Petite Ponsev	Locat (UTM n Benthic Com scribe % cobble / coars	Sampler Initials AL, SM ion Coordinates nE, mN, Zone, Acc.) ( Same As Above
4 5 6 Comments (  DENTHIC Sample ID  Pull	Colour, stea	Time (24hrs)	O. 3	Jars (# / vol.)	Sample Gear Petite Ponsev	Locat (UTM n Benthic Com scribe % cobble / coars	Sampler Initials <u>AL</u> , <u>SM</u> ion Coordinates nE, mN, Zone, Acc.) ( Same As Above
4 5 6 Comments (  BENTHIC Sample ID  VOI6-IN Pull (#)	Colour, stea	Time (24hrs) 12:20 Deation sentre / Right)	our, macrop	Jars (#/vol.)  Ponar Quantity (%)	Sample Gear Petite Vonav (De	Locat (UTM n Benthic Com scribe % cobble / coars	Sampler Initials <u>AL</u> , <u>SM</u> ion Coordinates nE, mN, Zone, Acc.) (Same As Abou
4 5 6 Comments (comments) BENTHIC Sample ID Pull (#) 1	Lo (Left / C	Time (24hrs) 12:20 Centre / Right)	Depth (m)	Jars (#/vol.)  Ponar Quantity (%)	Sample Gear Petite Vonav (De	Locat (UTM n Benthic Com scribe % cobble / coars	Sampler Initials <u>AL</u> , <u>SM</u> ion Coordinates nE, mN, Zone, Acc.) (Same As Abou
4 5 6 Comments (comments (comments)) BENTHIC Sample ID Pull (#) 1 2	Lo (Left / C	Time (24hrs) 12:20 Deation lentre / Right)	0.3  O.3  Depth (m)  O.3  O.3	Jars (#/vol.)  Ponar Quantity (%)	Sample Gear Petite Vonav (De	Locat (UTM n Benthic Com scribe % cobble / coars	Sampler Initials AL, SM ion Coordinates nE, mN, Zone, Acc.)  (Same As Above aposition e-fine sand / silt / clay)
4 5 6 Comments (comments) BENTHIC Sample ID Pull (#) 1 2 3	Colour, stea	Time (24hrs) 12:20 Deation lentre / Right)	0.3  O.3  Depth (m)  O.3  O.3	Jars (#/vol.)  Ponar Quantity (%)	Sample Gear Petite Vonav (De	Locat (UTM n Benthic Com scribe % cobble / coars	Sampler Initials <u>AL</u> , <u>SM</u> ion Coordinates nE, mN, Zone, Acc.) (Same As Abou

BIOSAMP				(24HR):	End Date (DD MI	IM YYYY)	Time (24HR):			HO3 WO In (Habitat Type): T/STREAM
Sprinapole/Wi	302	17SEP2	019/1	1:00	18 SE	2019	1/09:00	0	OUTLE	T/STREAM
Waterbody Name: Springpole/W( Sample ID: WBO2-OUT	-MTI	Method #: (Traps / Rods)  9 x MT5	150	nates (mN, m	E, Zone, Acc.): NS (Se	e Gl	?x )	Samplers AL.SM	Page:	of see Net For
Species	Fish #	Species Code	Lengt	th (mm)	Round Weight (g / kg)	Sex (F, M, U)	Aging Structures (60, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, maiformatio
Yellow Perch		331	53	57	1.19	U	N/A	N	401	All Release
U	2	331	55	59	1-33	1	1	1		Alive
11	3	331	55	58	139					
11	4	331	55	58	1.35					
10	5	331	55	58	1.25				V	
Peorl Dace	6	214	94	100	6.97				1+	
li	7	214	73	76	2.84				1+	
White Sucker		163	72	76	3.32	$\sqcap$	× 1		YOY	
MNITE SUCKELL	9	163	50	53	0.95				Ĭ	
(1	10	163	49	51	0.82	1	1//	V	1/	V
CI.	,0	100	- (-1	J !	0.00	V	V		¥	
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Species Box Tally A	ea / Site	Comments:								Acing Structures Legend: Sc - Scales
										Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray
								OA/OC F	By: A. Law	yoy - Young Of the Year

IOSAMP	LIN				now Trap / Angli	Project No: TC1904	03.0	<sup>2</sup> WOOC				
rbody Name:		Start Date (DD MMM	YYYY) / Time	(24HR):	End Date (DD MM	IM YYYY)/	Time (24HR):		Area Description	on (Habitat T)	ype):	
5-9		10 SEP 2	1019/1.	3.10	12 SEP	2019	/11:30	>	BENG	IONO	1 /stream	
ple ID:		Method #: (Traps / Rods)	UTM Coordi	nates (mN, m	E, Zone, Acc.):	٨		Samplers	Project No: TC190403. COZWOOD.  Area Description (Habitat Type): BRAM Fand / Stream  Page: 1 of 4  see Net Form			
3-9-MT	1	MTSXIO	att Date (DD Minim 1717) Into (2217),  10 SEP 2019/13:10 12 SEP 2019/11:30  athod #: (Timps/Rode) UTM Coordinates (mN, mE, Zone, Acc.):  MT\$x10 150 Various (See Aaron's GPX) AL. SM			Page: or see Net Form						
Species	Fish #	Species Code		h (mm)	Round Weight	Sex (F, M, U)	Aging Structures	Retained	Presumed age class	(dise	Comments	
		12.5	Fork	Total	(g / kg)	2.00	(6c, Pr. Dr, Oto)	(Y/N)	(YOY / 1+)	Hab		
inescale Dan	'	183	84	90	7.09	V		Y		17670	7	
1	2	1	83	87	6.09			-		-7-		
	3		77	82	5.29							
	Ч		70	74	3.77					- V		
	5		68	72	2.55			1	announted t			
	1		67	77	3.28							
	7		90	75	3.45					1		
		1-1	53			$\vdash$						
	8	1-1		57	2.01	-			X			
	9		50	55	1.37					1		
	10		50	53	1.46					V		
	11		68	72	2.97					LOM	D #4 )	
	12		56	59	2.08						1	
	13		58	61	2.23			5				
	14		60	64	2.52					1		
	15	+	61	55	1.87	1	T/A					
	10		01		1.99	+						
	114		56	60		+		++-		-		
	17		55	58	1.66	++-		-		-		
	13		56	61	2.15					-		
	19		61	65	2.75					-		
AND E	20		56	60	2.23							
1	21		60	63	2-26						V	
	22		54	57	1.95							
	23		61	64	2.35			1				
-	24	++		61	2.46							
	_		59	63	2 22							
	25		77	64	2.63	-						
	26	-	60		1/2	-						
	27		54	57	1.63	1		+		-		
	28		67	71	3.03			-	-	-		
	29	. 1	65	71	3.22			1				
	30		66	71	3.13	100						
	31		55	59 61	1.80							
	32		56	61	2-29							
7	33	11	65	69	2.91							
V	34		65	70	2.91	0				5	7-14 (9)	
	35	182	60	66	2.48			11	7		14	
Reabelly			62	271	0078			11 -		01	3	
	36	1	60	64	1.98	+		+		+ +		
	37		57	6)	11.70			-		1		
	38		58	61	2.28	1		-		+		
	39		57	60	1.97	1		}		I = I		

2.28

1.20

1.32

0.93

1.59

60

55 53

53 61

49

57 52 49

50

46 56

Species Box Tally Area / Site Comments:

39

40

41

42 43

44

Agina Structures Legend: Sc - Scales Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy" QA/QC By: Date:

V

CAMD

井る

BIOSAMP	LIN	G FORM	Method U	sed: (Minn	ndw Trap / Angli	ng / Dip	Net / Gillnet /	Seine)	Project No:	. (/2 =	wood.
		Start Date (DD MMM	I	OALUD):	End Date (DD MM	H VVVVI /	Time /2/14D\-		Area Description	01403 on (Habitat Type	).
Waterbody Name: S-9		Start Date (DD MMM	1111)/ lime ( つ. 10 /	24nn):	10 50	(C) = The	n / // 3	0	Miea paecilpiii	ii (Habitat Type	·,·
Sample ID:		Method #: (Traps) Rods)	UTM Coordin	lates (mN, mE	, Zone, Acc.):	- 00	19771110	Samplers		11	
5-9-MT	1		1500					A1,50	Page: 2	of4	see Net Form
Species	Fish #	Species Code	Lengt	h (mm)	Round Weight (g/kg)	Sex (F, M, U)	Aging Structures (Se, Pr, Dr, Ote)	Retained (Y/N)	Presumed age class (YOY / 1+)	(diseas	Comments se, malformation, etc.)
N. Radbolla	46	182	54	59	1.62	U	A-SI (1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Y	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
IU KO GO	47		56	60	1.91	1		1		×	
	48		56	60	1. 49						
	49		58	62	2.03						
	50	1 1	54	58	1.72						
	51		58	62	1.90						
	52	1	57	61	1.96						
	53		54	58	1-81						
	54		52	55	1.42						
	55		54	57	1.75					UEX.	
	56		56	59	1.06						
	57		53	57	1.52						
	58		55	59	2.14						
	59		54	58	1-60						El .
	60	pa n	53	57	1.58					15-52	
	61	1	58	63	2.25						
	62	1	55	59	1.75						
	63		55	59	1.61	1					
	64	(	59	63	2.35						
	65		57	61	2.09						
	66		59	62	1.97	1		1			
	69		54	58	1.68	- Section 1					
	68		59	63	2.15			1.			
	69		58	62	2.12			1			
	70	1	55	58	1-76	1					
	71		57	62	2.21						
	72		52	55	1.48						
	73		48	52	1.15	1		Ì			
	74		54	58	1.62						
	75	V	58	62	1.92				1 X	(amp	55.06 (2)
Finescule Dace	76	183	82	86	6.84					COMP	#3 J
	77		65	70	2.79						
	78		73	57	4.35					1	
	79		69	73	347						
	80		65	71	3.08						
	81		70	75	3.75			-			
	83		65	70	3.12						
	83		67	71	3.04						
	84		65	70	3.36						
	85		67	71	B 2.18						
	86		69	74	3-41			-			
	87		70	76	3.71						
	88		65	70	3.07	1		1			
	80	_,/,	65	70	3.00	1		1,		-	V c - 6 - 2
	00	V	63	68	2.76	V		V	T-1 15 11	1000	Dec Phie 7
Species Box Tally Ar	ea / Site	Comments:			Species		Total Catch	Species	Total Catch	Sc - Scales Pr - Pectoral I	
			-							Oto - Otoliths Dr - Dorsel Ra	ay
			QA/QC By	10				Total #	-	yoy - Young 0 1+ - Older th	Of the Year

BIOSAN	IPLIN	G FORM	Method U	sed: (Minno	ow Trap / Angli	ng / Dip	Net / Gillnet / :	Seine)	Project No:	20403	WOO
Waterbody Name:		Start Date (DD MMM	YYYY) / Time (	24HR):	End Date (DD MM				Area Descriptio	n (Habitat Type):	
S-9		USCP ( Method #: (Traps/Rods)	2019 <u>/</u>	13:10	1259	201	9/11:3				
Sample ID: 5-9-91	TI	Method #: (Traps/Rods)  MTx / D	UTM Coordin	ates (mN, mE,	Zone, Acc.):			Samplers Al, 5n	Page: 3	_ of <u> </u>	e Net Form
Species	Figh #	Species Code	Lengt	n (mm)	Round Weight	Sex	Aging Structures	Retained	Presumed age class		nments
Species	Fish #		Fork	Total	(g / kg)	(F, M, U)	(So, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)		alformation, etc
Fine Scalu	91	183	62	66	2.68			y		\$5.62	(5)
White Soc		163	75	80	4.49						.,
,,	93		64	69	2.71						
	94		60	64	0-10						
	V 95	V	57	61	1.61						
Brook sti	Kk 96	281	-	52	0.95						
Fathead	97	209	62	67	3.32			<del> </del>			
	98	1	55	57	1.65						
			63	69	3.78						
	100		62	67	3.78			Y			
-	102		So	53	1.55						
	103		62	67	3-25			i i			
	104		63	67	3.28						
	105		65	70	3.86						
	106		57	60	2.25						
	100		65	70	3.68						
	108		60	64	2.7						
	101		60	64	2.38						
	110	141	57	61	2.24						
	. M		50	53	1.35						
	119		52	56	1.68						
	113		59	62	8.42						
	114		60	64	2.64				5 To 1		
	117		66	67	3.12						
÷	119		59	10	2.38						
	118		63	69	2-86						
	1119		61	65	2.71						
	120		66	71	4-21						
	lai		62	69	3.00						
	122		62	66	3.19						
1	123		66	71	2.06						
	124	A	60	64	2.82						
	105		68	72	2.43				18 19		
	126		62	66	3.08						
	127		62	66	3.12						
	121		57	62	2,26						
	129		57	60	2.38					NI D	V
	130		54	58	1 71						
138	131		65	69	3.60	-					
	132		60	65	2.46						
-	134		52	56	1118						
	135	V	54	58	1.88		N = I =				
Species Box Tall		Comments:					N/			Aging Structures Legs Sc - Scales	end:
1										Pr - Pectoral Ray Oto - Otolilhs Dr - Dorsal Ray	
11								QA/QC B	y:	yoy - Young Of the ' 1+ - Older than 'yo	Year

BIOSAMP	LIN	G FORM	Method Us	sed: (Minn	ow Trap / Angli	ng / Dip	Net / Gillnet / S	Seine)	Project No:	9403 wood.
Waterbody Name:		Start Date (DD MMM	YYYY) / Time (2		End Date (DD MM	M YYYY)/	Time (24HR):			on (Habitat Type):
5-9		10 Sp S Method #: (Traps/Rods)	2019/	13:10	1250	201	9/11	30		
Sample ID: 5-9-41		Method #: (Trads / Rods)	UTM Coordin	ates (mN, mE,	Zone, Acc.):			Samplers AL, S-	Page: 4	of see Net Form
		,	Length	n (mm)	Round	Sex	Aging	Retained	Presumed	Comments
Species	Fish #	Species Code	Fork	Total	Weight (g/kg)	(F, M, U)	Structures (Sc, Pr, Dr, Oto)	(Y/N)	age class (YOY / 1+)	(disease, malformation, etc.)
Yeur) Darc	136	214	95 98	93	6.90					
1	137		88	95	5.40					
	139		89	95	7.61					
- 2	140		88	93	7.18					
	141		28	83	545					
	142		80	86	529					
	143		86	93	7.60					
	144	- 1 -	95	101	8.54					
	145		80	87	5-66	EH			BS III	
	146		85	92	6-58					
İ	147		80	87	5.24					
	148		70	76	3.78					
1	149	1	75	82	5.03					
	150		85	91	6.08					
	151		55	60	1.72					
)	152		50	54	1,31					
V.	153	4	48	53	1.15					
Brook Stidl	154	281	8/-	54	1.54			<u> </u>		
<u> </u>	155	281	^	54	1,20					
								-		- 6
								<b>_</b>		
	-					_		-		
		1				-				
			-							
			II		ř per					
								14-14	LAS I	
Species Box Tally An Q5 Fine Sca 91 North	ea / Site	Comments:								Aging Structures Legend: Sc - Scales
83 FINE 364	1,00	1.130)								Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray
91 11001	0	16.11. 14	10-1	6201	(4)			QA/QC B	y:	yoy - Young Of the Year 1+ - Older than "yoy"
NOTA	IN FC	abelly bu	5-1	00.00	(-)/			Date:		
		1		15	3					

BIOSAMPLIN	G FORM	Method Used: (	(Minnow Trap	Angling / Dip	Net / Gillnet /	Seine)	Project No: TC1904	o3.cawood.
Waterbody Name: S-9-USOJ	Start Date (DD MMM	019/13:1		EP 2019	/Time (24HR):	)	Area Description	(Habitat Type):  The Pond (Beaver)
Sample ID: 5-9-USO2 - MT1	Method #: (Traps / Roda) MTS x 1 0	Contract of the Contract of th	mN, mE, Zone, Acc.	):		Samplers AL.SM	Page:	of 3
			. Roun	d _	Aging	D-taland	Presumed	Comments

Species	Fish #	Species Code		n (mm)	Round Weight	Sex (F, M, U)	Aging Structures	Retained	Presumed age class	Comments (disease, malformation, etc.)
		arr.	Fork	Total	(g / kg)		(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	
earl Dace		214	20	86	5.49	Ú		У		Conp #,1
	2	1	76	83	4.98	1		-		
	3		89	95	7.57	1				
	ч		85	92	6.56	1				
	5		85	91	6.28					
	6		85	92	6.66					A
	7		85	92	6.39					
	8	1	81	87	6.04					Α
	9	1	86	92	5. 93	1				V
	10		80	87	5.46					61.46 (5) Total
	_		86	93	6.11					
	11		00			+				Conp # 2
	12		89	96	6.98	+				
	13		90	96	7.26	$\vdash$			-7	
	14		309	86	4.91	H				
AY HE	15		82	88	5.89	1				
	16		80	86	5.65			$\vdash$		
	17		81	88	5.87	11				
*	18		80	87	5.52					
	19		88	94	7.07					V
1	20		82	89	5.59					60.65 (g) Tot
	21		109	116	13,49					Conp #3
- 1	22	1.00	112	121	15.21					\\\
	23	214	102	110	11.63		A.			
	24		108	115	13.13	1	17.			V
1/	25	V	107	117	10.83					64.26 (a) To
Red bell Du		182	49	53	1.26	Y			,	COMP # 34
Ken gesty Istu	27	100	51	55	1.37	1	H.			3
	28		51	S:5	1.41			11		
			52	55	1.29	11		11	1/1	
	29	fine fine			1.55				- AU	
	30	18 18	54	57		-				
	31		52	21	1.42	+		-	_	- X
	32	4	51	55	1.43	+-		+		<del>                                     </del>
	33		54	58	1.80	+		-		
	34		53	57	1.54			1		
	35		51	55	1.34			1	LEW IL	
	36		53	57	1.56			1		
	37		54	58	1.59			- 1		
	3%		53	57	1.60					
	39		52	57	1.36			7		-
10 110	40		50	53	1.41				lla L'E VII	
	41		53	57	1.48					
	42		52	55	1.33			F 15		
	43		56	60	1.74				T .	
	_	1	56		1.83	1.		1 g ls		
	45		53	61	1.64	V		V		
cles Box Tally A		Commenter				1		V		Aging Structures Legend:
cies DUX Tally A	146	Tommonto.	53	56	1.69					Sc - Scales Pr - Pectoral Ray
	1			•	2	*		04/00	Dur.	Oto - Otoliths Dr - Dorsel Ray
								QA/QC E	y.	yoy - Young Of the Year 1+ - Older than "yoy"

BIOSAMP	LIN	G FORM	Method U		Trap / Angli  Traf  End Date (DD MMI			·	Project No:	0403 wood.
Waterbody Name:		Start Date (DD MMM)						nn	Area Descriptio	n (Habitat Type): (Beaver)
S-9- US0 S Sample ID:	1	O SCP 6	UTM Coordin	5./ 0 ates (mN, mE,	Zone, Acc.):	1) 20	19/11	Samplers	<u> </u>	
5-9-US02		MTXID						AL/Sn	Page:	of 3 see Net Form
Species	Fish #	Species Code	Lengt Fork	h (mm)	Round Weight (g / kg)	Sex (F, M, U)	Aging Structures (Sc, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc.)
N. Red belly Dale	47	182	54	57	1.59	U		Y		COMD#4 Cont
7	48	)	51	55	1.26					
	49		55	58	1.68					
	So		52	56	1.56			1		
	SI		49	54	1-30					
	52		53	56	1.55	+		1		
	53		20	56	1.56	+-		$\vdash$		
	<i>54 55</i>		53 53	58 56	1 63	1		$\vdash$		
T - 0 - 3 - 1	56		51	54	1.34				T Francisco	The state of the little of the
	00		55	59	1 54					
	58		45	50	0.86					
	59		52	56	1.41					
	60		49	52	1-10					
	61		52	56	1.42					V
	62	V	55	59	1,79					54.53 (4)
Pearl Dare	63	214	84	91	6.24					COMD #5
Perl Dace	64		78	84	4.45			$\sqcup$		
	65		79	85	5.13			1		
	66		82	88	5.72			H		
	67		79	85	4.81			-		
	68		78	84	5.06	-		$\vdash$		
	69		81	86	4.95	-		-		
	79		85	91	6.81					
	71		83	89	5.91					V
	73		78	88	5.65 4.43	H		+		59.03 (6)
	74		121	129	20.11					Aging
	95		212	129	19.20	1				77.3
	76		114	123	15.90			À		
	77		94	101	10.05					
9	78		92	98	7.62					
	79		89	96	7.06					
	80		76	82	4.45					
الانسائيا	81		79	85	4.68					
	82		76	83	4.36					
	83		68	72	2-86					V.
	84		43	46	0.84	$\perp$		1		10
	85	V	45	48	0.73			W.		* Aging
Fine Scale Dain	86	183	67	72	3.56			1		
	87		62	66	2.56	1		-		
	88		63 59	69	2.72	+		1		
	89	\//	56	60	2.15	1		-		
PART OF THE REAL PROPERTY.	90	ce Page	3	00	8.13	V		V		
Species Box Tally Are	ea / Site	Comments:	2		Species		Total Catch	Species	Total Catch	Aging Structures Legend:
Species Box Tally Arr PRDC # 40 PRDC # 40 NRDC # 54	(25	1.96 5)								Sc - Scales Pr - Pectoral Ray Oto - Ololiths
PICDC # 40	(9	6.8691	QA/QC By	r:						Dr - Dorsal Ray yoy - Young Of the Year
NKD( # 54	(91	1.849)	Date:					Total #		1+ - Older than "yoy"

BIOSAMP	LIN	G FORM	Method Us	sed: (Minn	ow Trap / Angli	ng / Dip	Net / Gillnet / S		Project No:	wood.
Waterbody Name:		Start Date (DD MMM			End Date (DD MM				Area Description	403 WOO.
5-9-050 :	2	10 Sep 8 Method #: (Traps / Rods)	2019 /1	3:10	12 50	201	9/11:0	0	Pard	(Bours)
Sample ID:			UTM Coordin	ates (mN, mE	, Zone, Acc.):				~ ~	
5-9-US02	- MT/	M X 10						AL, SM	3-:	see Net Form
		0	Lengti	h (mm)	Round	Sex	Aging	Retained	Presumed age class	Comments
Species	Fish #	Species Code	Fork	Total	Weight (g/kg)	(F, M, U)	Structures (Se, Pr, Dr, Ote)	(Y/N)	(YOY / 1+)	(disease, malformation, etc.)
FineScale Dale	91	183	61	66	2.66					
	92	- 1	66	71	3.14					
	93		72	77	4.00					
	94		69	74	3.42					
	95		55	59	1.77					
	96		67	74	3.42			14		
	97		65	70	2.83					
\ <u></u>	98		65	70	2.72					
	99		61	66	2.54					
V	100	V	58	63	2.18					
Fat Head	101	209	65	69	3.21					\
	102	1	66	71	3.82					
	103		62	68	2.90					
	104		63 59	6.3	2.29					
	105		65	70	3-31					
	106		63	67	3-08					
	107		62	66	3-29					
	10%		63	69	3.39					
	109		56	60	2-02					
	110		58	63	2.33	111.25				
- 3	lil	V	53	57	1.61					
N. Kedbelln	112	182	60	65	2.39					
	113	1	59	62	1.89					
	114		58	62	201					
	112		55	61	1.90					
*	116		55	58	1,72					
	IM		55	SR	1.45					
	118	1	53	55	1.49					
	110		50	53	1.34					
	130		50	53	1.35					
*	121	V	48	51	1.22					
						- 7				
		n=30 = 3								
								1		
			2- m		I FL V					
						-		-	-	
						-		-		
								-		
Species Box Tally Ar	rea / Site	Comments:			Species		Total Catch	Species	Total Catch	Aging Structures Legend; Sc - Scales
										Pr - Pectoral Ray Oto - Otoliths Dr - Dorsel Ray
			QA/QC By Date:	/:				Total #		yoy - Young Of the Year 1+ - Older Ihan "yoy"

		0.5055	Method Used: (Min	now Trap / Angli	ng / Dip	Net / Gillnet (	Seine)	Project No:	03.002 wood.
BIOSAMP	LIN	Start Date (DD MMM	(YYY) / Time (24HR):	End Date (DD MM	M YYYY)/	Time (24HR):			
S-9-US01		11 SEP 20	19/15:50	IISEP	2010	1/16:0	) ()  Samplers	Beauer	Pond/channel
Waterbody Name: S - 9 - USO 1 Sample ID: S - 9 - USO 1	-SNI	3 x hauls	150 553	1881 . 56	5909	537	AL.SM	Page:	of see Net Form
Species	Fish #		Length (mm)	Round Weight (g / kg)	<b>Sex</b> (F, M, U)	Aging Structures (Sc, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc.)
			Fork Total	(97 kg)					
^	-			×					
							D. Varia		
			- Val						
									(A) (4)
		1 5						14 Y 5 70 F 10 U 10	
fill service	1						/		Mary Mary Constitution
	+								8 X
	1							*	
						<b>A</b>	The same of	NING EAST	
			\						
	-			/					
	E 108					1610	Teta al		E W. Com Dr. Com Ball
		-	<del>                                     </del>	-			L7	=:	
the state of		Non this	4/	Zalid silv		BLCSAS			
									Per I
7.2				- 1	P. Stewart	33			
				1 No. 1 No. 1	19270E	SEVERAL PROPERTY.			
		1	Control Control						
			7.						
		/							
A A TOTAL STREET	1						1 22	milities.	
	/						-7	-	
	4_	5		-					
	10								
	100								
-					+		++	$\vdash \vdash$	
-			( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )						
					o government				
Species Box Tally A	rea / Sit	e Comments:	1 1 1 2 2 2 2 Eq. (2)	Species	1	Total Catch	Species	Total Catch	Sc - Scales
Special way r	er er er er er er er er er er er er er e								Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray
S = 30		~	QA/QC By: Date:				Total #		yoy - Young Ol the Year 1+ - Older then "yoy"

ij

	BIOSAMP	LIN	G FORM			ow Trap// Angli					+03.C02woo
ı	Waterbody Name: Springpole L Sample ID:	ake	Start Date (DD MMM)	799)/Time (	24HR): 9:40	12 SEP	T 20	Time (24HR): 19/13: 1	10	Area Description	n (Habitet Type): >
	SPL-MTI		Method #: (Treps / Rods) MT3 20	UTM Coordin	ates (mN, mE	us Sec	GP.	x)	Samplers AL,SM	Page:	of see Net Form [
	Species	Fish #	Species Code	Lengt Fork	n (mm)	Round Weight (g) kg)	Sex (F, M, U)	Aging Structures (Sc, Pr, Dr, Olo)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc
ı	Yellow Perch	1	331	67	72	2.94	υ	WB	У	U	
- 1	11	2	331	8.5	87	5.71	U	WB	-1		
- 1	11	3	331	95	99	8.65	V	WB			
	1,	4	331	44	116	12.95	U	NB			
ı	11	5	331	86	91	5-61	U	NB			
ı	U.	6	331	91	96	7.35	U	WB		1 2	
- 1	1/	7	331	80	84	4.67	U	WB	V	V	10
- 1	Rock Bass	8	311	26	27	0.31	U	_	N	YOY	
	THE 2 YES THE		110 7-1								
							-				
											7.
											161
				- 6							
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	3										
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						15					1
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									10 110		
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	J.										
	E /6 E	No. 1					WI				
	Species Box Tally Ar	ea / Site	Comments:			Species		Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales
						R. Boss	-	7	-		Pr - Pectoral Ray Oto - Otoliths
	l			QA/QC By	:A.Law	K. 0035		-			Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older then "yoy"
	1			Date: 12		1			Total #	(8)	1+ - Older Ihan "yoy"

DETA	ILE	D BIG	OSAI	MPLI	NG FO	RM	Method Used: (Minnow Trap/Angling LDip Net / Gilln  YY) / Time (24HR):  End Date (DD MMM YYYY) / Time (24HR):  10 Sep 2019 / 1  UTM Coordinates (mN, me, Zone, Acc.):  15 U Var. Cut S					2	W	ood.	
Waterbody Name:	nole	10	10		Start Date (DD MI	2019 /	e (24HR):	^	End Date (D	DMMMY	977) / Time (2	4HR): 16:50	Area Desc	ription (Hab	Itat Type):
Sample ID:	Past	Method	d #: (Trape/ Ro	cia/ Dips)	Project Number:	20117	UTM Coordina	tes (mN, mE,	Zone, Acc.):	7	- /	Samplers In.		age:	of_/_
SPL-ANI		2×	Rod	S (1418)	FTC 19040	3.002	150	Vari	3US			AL, SM		age	see Net Form
Species	Fish #	Species Code	Lengti	n (mm)			ınd Weight			Sex	Maturity	Aging Structures	Retained for Analysis	Age Class	Comments
			Fork	Total	Body (g/kg)	L Tissue (g)	R. Tissue (g)	Liver (g)	Gonad (g)	(M/F)	(M/IM/9)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(Hg/Condition/etc.)
N. Pike	1	13.1	480	530	490	58.08	51.54	3-	-	F	M	Scici	y		Stem. Fish
11	3	131	560	370	980 /// 520 510	65.54 00 01	14.96 400		-	M	M	Sc.C1 SG.(1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1)+	Fudu
11	14	131	557	601	1000	60 9	56 40		_	F	M	SGCI	y	17	Empty Gardo Snac Empty Empty
11	5	131	452	501	510	7017	69.01		_	M	M	56,61	y	17	FAIT
"	6	131	525	556	750	1 88	77.11	~	_	M	M	SCO	y	17	Empts
	-	131	300	276	150	4	7,7								7. 7
								18.							
												100			
						375	10								
										_	-				
													-14		
			<i>*</i>					_		-		3	-		
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			-							-				W. I	
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	-	-		-			-		-	-	-			-	
	-	-		-			100								
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	-		V-1												
	-	+	<del>                                     </del>												
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					1			1		T					
								1							
								1							
						- 11-4		1							
								1							
				100							Canalac	Catch	Species	Catch	
Species Box Tall	y Area / Si	tte Comme	nts:		2 2	( -					Species	Catch	obecies	GatCII	Asing Structures Legend: Sc - Scales CI - Cleithrum
1 Ho	Mr.	o+ 1	Ingliv	00	× 2 R	6017			og i						Pr - Pectoral Ray Oto - Otoliths
*									A.La					6	Ds - Dorsal Spine YOY - Young Of the Year
						F.3		Date: 10	sept	17			Total #	16/	

DETA	ILE	D BI	DSAN		NG FO			sed: (Minno	ow Trap / An	/				W	ood.
Waterbody Name:	1001	e Lo	ke.		Start Date (DD MA	P 2019	(24HR): 12:3:	5	End Date (DI	EP .	7YY)/Time (24 2019 /	13:25	Area Desc	ription (Hab	itat Type):
Sample ID:	2.	Method 2	1#: (Traps/Ro × 2 g	ds/Dips)	TCIGOTO	3.coz	150	vetes (mN, mE,	Zone, Acc.):			Samplers In. ALSM	Р	age:	of see Net Form
Species	Fish #	Species	Length	n (mm)		Rou	ınd Weight			Sex	Maturity	Aging Structures	Retained for Analysis	Age Class	Comments
		Code	Fork	Total	Body ( <b>G</b> /kg)	L. Tissue (g)	R. Tissue (g)	Liver (g)	Gonad (g)		(M/IM/9)		(Y/N)	(YOY / 1+)	(Hg / Condition / etc.)
N. Pike		131	503 482	534	530 480 850	52.81 46.13	41.15	-	-	FM	M	SC,CI	Y	1+	Empty St.
, <u>l</u> t	3	151	482	503	480	76.58	64 11		_	M	M	$\vdash$	$\vdash$		Craveish Emptyst
11	4	131	645	682	1800	73.19	67.30	=	_	F	m	1	1		Burbet
		13	073	602	7800	77.(1	61.7					V	V		1000 1001
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Cassias Day T. II.	Aren / S'	o Comma									Species	Catch	Species	Catch	Anina Structure Labor S
Species Box Tally	mida / Sit	e commen									N P	4		Soluli	Sc - Scales CI - Cleithrum Pr - Pactoral Ray Oto - Otoliths
, v								QA/QC By:	A.Lau	ia	-3-		7-1-1		Ds - Dorsal Spine YOY - Young Of the Year
								Date: 2	Stot	17		1	Total #	(4)	

DETA	LE	D BIG	DSAI						low Trap / A					ALL PORTS	ood.
Waterbody Name:	900	rie I	ake		12 Bep	/2019 /	(24HR): 14:20	· =	End Date (D	Sept	2019	Bamplers In. AL, SM	Area Desc	ription (Hab	Itat Type):
Semple ID: SPL - AA	3	Retho	d#: (Trepe/Ro	Dips)	Project Number	463	UTM Coordina 15 u	rtes (mN, mE	i, Zone, Acc.):	3		AL, SM	P	age: 1	of see Net Form
Species	Fish#	Species Code	Lengt	h (mm)			ınd Weight			1	Maturity	Structures	Retained for Analysis	Age Class	Comments
		Code	Fork	Total	Body (g)kg)	L Tissue	R. Tissue (g)	Liver (g)	Gonad (g)	_	(M/IM/9)		(Y/N)	(YOY / 1+)	(Hg / Condition / etc.)
N. Pike	T	131	590	625	1000	85.32	42.54	_	_	F	M	Sc.CI		1+	Stom. Decomp.
11	2	131	490	525	600	46.36	40.15		_	M	M	Sc.C1		1+	Stom. Empty
11	3	131	515	542	700	52.39	51.04			M	M	Sc.CI	Y	1+	Stom. Empty Stom. Empty
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57 - 1-						-11, 3		.0.							
Species Box Tally	Area / S	ite Comme	nts:				D#		N. Control		Species	Catch	Species	Catch	Aning Structures Legend:
3											IVP	3			Sc - Scales Cl - Cleithrum Pr - Pectoral Ray
¥.								ONICCO	r. A.Lau						Oto - Otoliths Ds - Dorsel Spine YOY - Young Of the Year
1								Date: 12					Total #	1(3)	TOT - roung Or trie Tear

DETA	ILEI	D BI	OSAR	<b>APLI</b>	NG FO	RM	Method U	Bed: (Minn	ow Trap	ngling	Dip Net / Gil	Inet / Seine)	,	W	ood.
erbody Name:	= 10	16	10		Start Date (DD M	MM YYYY) / Tim	0 (24HR):		End Date (C	D MMM Y	YYY) / Time (2	AHR):	Area Desc	cription (Hab	Itat Type):
Spring	Pole	L Matha	d #: Cons/Ro	de/ Dine)	13 SEF	TZGIS	UTM Coordin	ctes (mN. mE	Zone, Acc.):	EPT	2019	Samplers In.	Lo	ake	-
Spring sple ID: PL-AN	4	2,	1 Rock	S	13 SEF Project Number: TC1904	03.002	150	Vou	ious	(Se	e GPX)	AL.SM	Р	'age:)	of see Net Form
Species	Fish#	Species	Longth			Roi	und Weight			Sex	Maturity	Aging Structures	Retained for Analysis	Age Class	Comments
Оресіов	1 .5 "	Code	Fork	Total	Body (g /kg)	L Tissue (g)	R. Tissue (g)	Liver (g)	Gonad (g)	(M/F)		(Sc) Pr, Dr, O(o)	(Y/N)	(YOY / 1+)	(Hg / Condition / etc.)
N. Pike	1	131	415	440	320	51.99	50.82	_	_	M	[4]	SCICL	Y		YP In Stom
11	2	131	459	491	500	50.20	55.32	_	_	F	n		4		SINKBAR
11	3	131	560	596	740	71.87	68.78		_	M	M	$\perp$	4		
<b>§</b> 1	4	131	570	610	750	58.71	68.78 66.04			F	1	1	4		
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ecies Box Tally	Area / S	ite Comme	nts:								Species	Catch	Species	Catch	Aning Structures Legend: Sc - Scales
															CI - Cleithrum Pr - Pectoral Ray
								04:00							Oto - Otoliths De - Dorsal Spine
								QA/QC By Date:			-		Total #		YOY - Young Of the Year
													W		

		Method Used: (Minnow Trap? Angling) Dip Net / Gillner  Method Used: (Minnow Trap? Angling) Dip Net / Gillner  Method Biosampling Form  Start Data (DD MMM YYYY) / Time (24HR):  14 SEP 2019 /  14 SEP 2019 /  Wethod #: (Trapa/Roda/Dipa)  Project Number:  TC190403   Scc GPX   From Coordinates (mN, mE, Zone, Acc.):  TC190403   Scc GPX   From Coordinates (mN, mE, Zone, Acc.):  Scc GPX   From Coordinates (mN, mE, Zone, Acc.):  TC190403   Scc GPX   From Coordinates (mN, mE, Zone, Acc.):  TC190404   Scc GPX   From Coordinates (mN, mE, Zone, Acc.):  TC190404   Scc GPX   From Coordinate											WC	000		
Waterbody Nam Spriv	را اه:	oole	e lo	le		14 SEP	2019/			14 8	EP .	2019/	,	Area Desc	cription (Hab	itat Type):
SAMPLE ID:	W	5	Roc	#: (Traps/Ro	ds/ Dipe)	Project Number:	103	UTM Coordina	Vari	Zone, Acc.):	See	GPX)	Samplers In. AL, SM	Р	age:	of/ see Net F
Species		Fish #	Species	Length			Rou	ınd Weight			Sex	Maturity	Aging Structures	Retained for Analysis	Age Class	Comme
Species		1 1011 #	Code	Fork	Total	Body ((g)/kg)	L. Tissue (g)	R. Tissue (g)	Liver (g)	Gonad (g)	_	(M/IM/9)	(Bc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(Hg / Conditi
N. P.K	e	L	131	455	491	520	78.50	58.72		+	1	M	Sc. CI	У	1+	Decor
N. Pik		2	131	485	525	500	61.106	60-11			E	М	11	Y	1+	7
N. Pil	10	3	131	622	670	12.00	78.08	62.97		-	F	M	ŧį	Y	1+	4 Cray!
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Species Box	Tally A	Area / Si	te Commer	its:								Species	Catch	Species	Catch	Aging Structure
												NRPK	3			Sc - Scales CI - Cletthrum Pr - Pectoral R
								3	QA/QC By		_					Oto - Otoliths Ds - Dorsel Sp YOY - Young
									Date:			1		Total #	12	1 ST - Toung C

BIOSAMP	LIN	G FO	RM			ow Trap / Angli				Project No:	403.002 wood.
Waterbody Name:	UT	Start Date (D	DMMM DMMM D	YYYY) / Time (:	24HR): 3:10	End Date (DD MM)	VYYYY)/	Time (24HR):	130	Area Descriptio	n (Habitat Type): ed ponds (Cells)
Sample ID: WB05-0VT	-MT1	Method #: (Tra	aps / Rods)	UTM Coordin	ates (mN, mE	, Zone, Acc.): u.s. (See A	arons	GPX)	Samplers AL, SM	Page: 1	n (Habitat Type): ed ponds (Ccll 5)  of 3  see Net Form
Species	Fish #	Species			h (mm)	Round Weight (g / kg)	Sex (F, M, U)	Aging Structures	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc.)
Finescale	1	183		65	69	3.23	U	(set i i) bit site	У	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Comp # 1
1 mescare	2	(3-	1	69	7.3	4.05	1		7		
	3	-	1	62	67	3.28	$\neg$				
	4		1	65	69	3-52					1
	-			65	70	3-40	+				
	5		-		70	3.50	1		$\vdash$		
	1 7		-	65					$\vdash$		
			-	68	73	3.80	+-		$\vdash$		
	8				65	2.78	+		$\vdash$		=
	9	1		63	67	2-92	-				
	10			58	62	2.72			1		
		1		67	71	3-75					
	12			67	72	3.38 4.56 2.80			10		
	13			70	75	4.56			-1-		
	14			60	64	2-80					
	15			63	68	3-12	12				50 50 (6)
	16	V		61	65	8-85					52.29 (5) Comp # 2
Fine Scale	17	1		69	73	4.16					COMP # 2
	18	1		73	77	4.42					1
	19			74	79	4.96					
	20			72	77	4.60					
	21			76	80	45.24					
	22			68	73	3.98			1		
	23			67	92	4.23					
	24			65	70	4.74					
	25			70	75	4.15					
	26			73	78	4.68					
	27			70	74	4.19	8				
	28			63	68	3.30					
	29		ii -	72	76	4.38					V 56.97 (9)
FineScale	30		ĺ	59	62	2.58					COMD # 3
1.11000	31			GI	65	2.81					
	32	-		65	69	223					/
	33	1 1		61	65	2.73					
(/4/)	34			56	60	2.29					
	35			60	63	2.89		100			
	36			60	64	2.66					
	37	1		(0)	64	2.95					
	38	1		62	66	2.99					
	39	+ +		59	62	2,64					
	110		70.11	59	63	2.38	1				
	41			59	63	2.64					
	42	++		58	62	2.52					
	43			62	66	2.81					H:
	47			60	64	2.94					
11/	45	1		62	66	2-90	10		N/		1//
Species Box Tally A		e Comment	s:	00	100	Species		Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales
**************************************	and the second second										Pr - Pectoral Ray Oto - Otoliths
				QA/QC By	v:		_		1		Dr - Dorsel Ray yoy - Young Of the Year
				Date:					Total #		1+ - Older than "yoy"

BIOSAMP	IIM	G FORM	Method U	sed: (Minn	ow Trap / Angli	ing / Dip	Net / Gillnet / S	Seine)	Project No:	wood
									70140	1403 wood.
Waterbody Name:		Start Date (DD MMM )	YYY)/Time (	24HR):	End Date (DD MM	M YYYY)	Time (24HR):	19120	Area Description	n (Habitat Type):  Ad ed Ponds (6115)
WB05-0	U I	Method #: (Treps / Rods)	UTM Coordin	ates (mN, mE.	Zone, Acc.):	110	014/0	Samplers	IMIDOO	
WB05-0	JT-19T	ISXMT	341	and the second	- coucuta®3			AL. SM	Page: 2	of <del></del> see Net Form
				. (	Round	0	Aging	,	Presumed	Comments
Species	Fish #	Species Code	Lengt	h (mm)	Weight (g/kg)	Sex (F, M, U)	Structures (Sc, Pr, Dr, Ote)	Retained (Y/N)	age class (YOY / 1+)	(disease, malformation, etc.)
Finescale	46	183	62	Total 66	2.90	U	MA	\ <u>\</u>	NIA	
TINESCATE	47	100	63	67	2.87	1	A.	g g		
	48	i	63	66	2-77					
	49	V	56	60	2.19		11	1		V 54.39 (g)
	50		79	84	6.38		M	1		V 54.39 (g) Age Structure
	51		75	80	5.83		×.			
	52		72	76	4.48		<i>y</i>			
	53		64	69	3-23	1	W			
	54	11	₹62	65	2-79					
	55		55	60	2.27	-				
	56		44	47	1.06	-		-	$\vdash$	
	57		43	45	0.86	$\vdash$	1	$\vdash$		
	58		40	43	0.78	H	-			V
0 10.4	59		40	95	- VE N					V
Peerl Dace	60	209	7/	77	8.33		1	1		
Fathean	61	207	75	80	5.54	+	1			
	63		51	76	4.49	H		- i		
	64		69	73	3.92		1			
	65		71	75	4.39		il-		F 1 3 3	
	66		66	71	3.42					
	69		63	68	2-90					
	68	1	52	56	1.65			Ř č		
	69		61	66	2-62					
	70		70	75	4.16			1		
	71		51	55	1-46			1		
	72		42	46	0.88					
	73		43	47	0.95					
	74		43	46	0.91			-		
	75		13	47	0.96					
	76		46	49	6-1-02	-	-	-		
	72		43	46	0.79	-	1	+		
<b>-</b>	78		43	45	0.83	1	1	H		
- 1	80	1	62	46	2-88	1	V	V	V	
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	83	50	26	1/1	exy	TY	ace	\$		10
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	85									
	86									
	8/2									
	88				1					
	89				11					
	90				V					
Species Box Tally Are	ea / Site	Comments:			Species		Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales Pr - Pectoral Ray
										Oto - Ololiths Dr - Dorsal Ray
FNDC = N=	94.	124.516	QA/QC By Date:	:				Total #		yoy - Young Of the Year 1+ - Older than "yoy"
1112	- ^	0/1/1/2				-				

BIOSAMP		Start Date /DD MMM	YYYY) / Time	(24HR):	ow Trap / Angl	AM YYYY) /	Time (24HR):	Collino	Project No:  TC / 90  Area Description	1403 WOOD
NBOS-OC	- 4-1	12/Sep Method #: (Traps / Rods)	UTM Coordi	9/13/0 nates (mN, mi	13/50 E, Zone, Acc.):	p/2	219/0	9:30 Samplers A(,50	Page: 3	of 3  see Net Form
1805-007 Species	Fish #		Lengt	h (mm)	Round Weight	Sex	Aging Structures	Retained	Presumed age class	Comments
•			Fork	Total	(g / kg)	(F, M, U)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(disease, malformation, etc.)
Brook stille	81	281		67	2.48			-		
	87			<b>56</b> 64	1.15	-				
	83		_	57	1.44					
	85			56	1.39		L TR			
	86			67	2.41					
	87		1	63	2.05					
	8.8			67	2.26					
	89	1		59	2-16			14		
	90			Ga	1.91					
	91			51	1.09					
	92			50	0.96					
	93			58	1.42					
	94			58	1.53					
	95		-	51	1.21					
-	96			56	1.48	-		1		(*
	98			52	1 0=	1				
	99			53	1-16					
_/	160			51	1-14					
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pecies Box Tally A	rea / Site	Comments:								Aging Structures Legend: Sc - Scales Pr - Pectoral Ray Oto - Otoliths
								QA/QC E	By:	Dr - Dorsal Ray yoy - Young Of the Year
								Date:		1+ - Older than "yoy"

DETA	ILE	D BIG	DSAN	<b>IPL</b> I	NG FO	RM		Cai	10.0			Ine(/Seine)	Ì	WC	ood.
aterbody Name: Un	nan	ed	-		Start Date (DD MF	2010	0 (24HR):	):53	End Date (D	SEA	201	4/12:55	Stu	eription (Hab	paol
umpie ID: VB16 - 1.1	N-511	Method 3 x	Hau Hau	da/ Dips)	Start Date (DD MI 	403	UTM Coordin	18188 (mN, mE	, Zone, Acc.): -829 .	56°	2112	AL, SM	P	'age:/	of see Nat Form [
Species		Species					ınd Weight			Sex	Maturity	Aging Structures	Retained for Analysis	Age Class	Comments
Species	11311#	Code	Fork	Total	Body (g /kg)	L Tiesue (g)	R. Tissue (g)	Liver (g)	Gonad (g)	(M/F)	(M/IM/9)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(Hg / Condition / etc.)
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ecles Box Tally	Area / Si	te Commen	its:				J.		1	L	Species	Catch	Species	Catch	Aging Structures Legensi;
								n							Sc - Scales CI - Cletthrum Pr - Pectoral Ray Oto - Otoliths
								QA/QC By					Total		Ds - Dorsal Spine YOY - Young Of the Year
								Date:			1	1	Total #		

DIOCAMD	LINE	G EODM	Method U	sed: (Minn	ow Trap / Angl	ing / Dip	Net / Gillne	(/Seine)	Project	No:	0-11 - W	ood
BIOSAMP			1	NE	NET				1/	<u> </u>	90403 <b>W</b> (Habitat Type):	<del></del>
Waterbody Name: Springpole	ake	Start Date (DD MMM			End Date (DD MM			10 50		cription	beach	
Sample ID:		15/5e/ Method #: (Treps / Rods)	UTM Coordin	nates (mN, mE	, Zone, Acc.):	4/6	2017	Samplers			of 3	75
SPL. SNI		3x haus			66, 156	9/9	93	AL,51	Page	=	of see Net Fo	
Species	Fish #	Species Code	Lengt	h (mm)	Round Weight	Sex (F. M. U)	Aging Structure	A475,700 (C)	age ci	lass	Comments (disease, malformatic	
47.05		. 2 .	Fork	Total	(g ( kg)		(Sc, Pr, Dr, O	o) (Y/N)	Yor	_	By ratch 1	- la rec
N. Pike	1	131	186	198	70.62	14	14/1	<del>†   'Y</del>	1 1/0/	-	Dyrachi	P10-13
W. Sucker	2	163	72	77	3.66			-		-		
11	3	163	60	65	1.90	$\vdash$		$\rightarrow$	++	$\dashv$		
11	L	163	56	61	0.14	150			i oni i	0.000	THE WALLS TO S	
Johnny Darter	5	341	20	31				\$100 PM	1000			
ROCK BASS	6	311	29	30	0.42	H	-		+++	-+		
SPALUL Shird	7	201	31	32	0.02	$\vdash$		-	+-+	-		_
- (1)	8	201	31	35	0.45	$\vdash$	-	+++	+ +	-		
11	9	201	25	27		V	11/	V	1000	1301	V	
	10	201	31	35	0.40		NIA	1	УО	V	Comp. #1	
Yellow Perdn	11	331	47	52		U_	- 1.0174	<del>-   '-</del>	10	/	One, I	
	12	331			0.81		-		+			
		331	41	44	0.75	7 -		+	+	-		
	19	331	43		1.14	(57)-5/6	ELIAN CO	SECTION SECTION	1000	0.150	THE RESERVE	
	15	331	48	52	0.65	750 100						
	16	331		47	0.96				++		-	
	17	331	44		0.94			+	++		l u	7
	13	331	43	46	0.44		-		+			
Michigan September 1		331	39	43	0.67	FEE 10	(Est 8)	in the same	10230	30-10	TO A PROPERTY OF	CHARLET !
	20	331	44	47	0.88	1000	69517010		T			74.2
	22	331	42	46	0.74			+				
	23	331	45	48	0.94			+				
-	24		43	46	0.87							
15050 70 1760 50 1750	25	331	40	44	0.75	E S	Catholic Co.	EN PROPERTY	BVE			1000
	21	331	43	47	0.94							
	27	331	42	45	0.91							
	28	331	40	42	0.65							
	29	331	424	46	0.86							
HAVEOUR DIVERSIONS	30	331	41	43	C-71			191011	A COL			
	31	331	44	48	0.72						14	
	32	331	39	41	0.65							. 8
	33	331	49	52	1.15							
	34	331	46	48	0.99				aver 1			
	35	331	44	47	0.94	200			0			
	36	331	47	50	6.97							
	37	331	44	47	0.84							
	38	331	39	43	G.58						**	
	39	331	42	46	0.83							
Reference Land	40	331	43	46	0.76			Section 1				
	41	331	46	49	0.99							
	42	331	43	45	0.77						1	
	43	331	47	49	0.96			- 1				
1/	44	331	45	48	0-86	1	. 11		4	1		
	45	331	47	49	1.0+	IV	V	V	1 X			
Species Box Tally Ar	ea / Site	Comments:			Species	-	Total Cat	ch Species	Total C	Catch	Aging Structures Legend; Sc - Scales Pr - Pectoral Ray	
		vi									Oto - Otoliths Dr - Dorsal Ray	
first 8			QA/QC By	:				Tatal #	-		yoy - Young Of the Year 1+ - Older than "yoy"	
			Date:				167	Total #				

BIOSAMP			8		ow Trap / Angl		10			Proje	ct No:	403	3,006	wood
aterbody Name:	Lake	Start Date (DD MMM) 15 SEPS	7777)/Time (	24HR): 0:30	End Date (DD MM	M YYYY)/	Time (24HF	R): ): 5	50	В	each	1/2	at Type): a V e	
mple ID: SPL - SN 1		Method #: (Traps/Rods)  3 x Hauls	UTM Coordin	stes (mN, mE 5509	, Zone, Acc.): 66 , <i>5</i> 6 9	11993	3		AL, SN	Pa	ge: <u> </u>	of_	3_	see Net Form
Species	Fish #	Species Code	Lengt	n (mm)	Round Weight	Sex (F, M, U)	Agir Structo (Sc, Pr, Do	ures	Retained (Y/N)	age	class Y / 1+)			emments nalformation, etc.)
ellow Perch	46	331	Ч6	48	0.78	υ	N	A	Y	Y	οУ	Con	1p. 1	Continued
1	47	331	43	46	0.66	1	1		1			1	1	
	48	331	44	46	0.67					-				
	49	331	44	46	0.86		- 1						VICE SERVICE	TENERAL SECTION
	50	331	42	45	0.79			210			LINE I		WALLEY.	
	51	331	47	57	1.13							$\vdash$		
	52	331	44	47	0.96				-			$\vdash$	-	
	53	331	43	46	0.87				1		_	$\vdash$		
	54	331	41	44	0.69					1000	100000	STATE OF	N PET TON	
	55	331	43	46	6.86	19715					-		LIPINE	SARSHIR
	56	331	43	46	0.82		41.		$\vdash$	-	-	-		
	57	331	44	47	0.81				-		-	-		
	58	331	43	46	0.81				-	-	1	$\vdash$		
	59	331	47	50	1-06			1,000	Anne di la cons	02		-	- -	
	60	331	51	54	1.35		153	13/8		N-10	1752	3	0.410	

				Fork	Total	(g ( kg)	(1, 10, 0,	100,11	Dr, Oto)	(Y/N)		Y/1+)	11.	1 0 1
Yellow	Perch	46	331	Ч6	48	0.78	U	h	/A	Υ_	1	07	( 00	np. 1 Continued
- 3	\	47	331	43	46	0.66		-	1	1	_	1	1	
0		48	331	44	46	0.67						<u> </u>	$\vdash$	
		49	331	44	46	0.86								
		50	331	42	45	0.79		144		W 1 /20		DE		
		51	331	47	57	1.13							$\perp$	
		52	331	44	47	0.96								
		53	331	43	46	0.87							$\perp$	<u> </u>
-		54	331	41	44	0.69								
	41436	55	331	43	46	6.86					1	230		
		56	331	43	46	0.82		4						
		57	331	44	47	0.81							2	
		58	331	43	46	0.81	1.1					1 .		
		59	331	47	50	1-06								
	1000	60	331	51	54	1.35						PU		
		GI	331	46	49	1.10								
		62	331	47	50	1.05								
		63	331	49	52	1.12	-							
		64	331	49	52	1.31								
	to Division in	65	331	46	49	1.09	9 (30)			18 18-92				
(LOSHIJI - De)	-	66	331	48	51	1.20								7/
- 04		67	331	47	50	1,13								
		68	331	44	47	5.89					100			3
		69	331	39	42	0.68							V	
all section		70	331	50	54	1.36	1918	100	d Dyall			150.00	53	.559 TOTAL
100 100 000	1	71	331	41	45	0.72		X				1	Con	np # 7
		72	331	49	53	<b>1.32</b>							1	
		73	331	51	55	1.35								
	-	74	331	43	46	0.81								
The same of the sa		75	331	49	53	1.20	MANGE			10		16.50	25	
	-	76	331	46	49	1.20							-2	
			331	50	55	1.31								
		77	331	43	46	0.88	$\vdash$	1						
		7.8	331	39	42	0.67								
SALISA LIS	3 945-1	79	331	45	46	0.89	A BY			100		300	5/0	
	ALMENS	81		46	49	1.03								
	-	_	331	47	50	1.09	1							
		32	331	47	50	1.09	H						П	
	-	84	331	48	52	1.13								
	TING I		331	43	46	0.91		1 12 20			100	10000		
Production of	EIGIAE	35	331		45	0.79								, , , , , , , , , , , , , , , , , , ,
	-	86	331	42		0.93		+-	1					V.
	1 -	87		+	48	0.81		+	1					
	1	88	331	43	46	0.73	1	40	1/	1.		11	\	17
-	4	89	331	43		0.97	V		1	V	N S	V	1	1
Species I	Poy Telly As	90	Comments:	45	48	Species	4	3 PHSS A	Catch	Species	Tota	l Catch	Agins	Structures Legend:
Opecies t	ZOX TAILY AL	ca / One											Pr-F	Scales Pectoral Ray - Otoliths
		X		01/655							-		■ Dr-I	- Otolins Dorsal Ray - Young Of the Year
	17			QA/QC By	•			_			_		I 11.	Older than "yoy"

BIOSAMP	LİN	G FORM			iow Trap / Ang		-			3.002 wood.
Waterbody Name: Springpole L. Sample ID:	aKe	Start Date (DD MMM 15 S EP 20	YYYY)/Time	(24HR): 30	End Date (DD MA	2019	Time (24HR):	)		n (Habitat Type): /Beach
Sample ID: SPL-SN1		Method #: (Traps/Rods)	UTM Coordin	nates (mN, mE	, Zone, Acc.):	11993	3	Samplers ALISM	Page: 2	of S
Species	Fish #	Species Code	Lengt	h (mm)	Round Weight	Sex (F, M, U)	Aging Structures (Se, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY/1+)	Comments (disease, malformation, etc.)
>/all = 1 D = ala	91	33 1	Fork 50	53	(g) kg)	()	N/A	y y	YOY	Come # 2
Yellow Perch	92	331	47	50	1-08	Ιĭ	1	ĺ	1	
V).	93		44	46	0.85					
	94		44	47	0.91					
AND DEVELOP	95		42	45	0.85			100		
	96		44	46	0.88					× ×
	97		42	44	0.76					
(1)	98		43	46	0.79			$\perp \perp$		(1) N
	99		47	50	0.89					COLOR OF THE SECOND CO.
	100		42	45	0.77	120				
	101		43	46	0.74	Н-	-		-	
	102		42	45	0.68	-				
	103		48	51	1.08	+		$\vdash$		
	104		50	54	1.27	NO AND D	CO. PROMINE	NAME OF		
	105	Description of the last	47	49	1.07	100	Mark Comment	A COLOR		
	106		46	55 55	1.38	1	-			
	103		52 53	55	1.39	1				ii ii
	109		52	55	1.41	-	1			
Manager of Property lives (1)	-	HEATER SOURCE	50	53	1.31	<b>100</b>	W Same	Ser Lea		
	110		50	52	1.22					F
	111		47	51	1.13					
	113		47	50	1.25				020	
	114		53	56	1.44					
	115	23.00	44	47	0.86	1				
	116		44	47	0.95					
	117		49	57	1.16			$\vdash$		3 ,
* 2	118		52	56	1,45	<b>\</b>	1 2	11-	-	
	119		46	49	1.06		}	100	CONTRACT COLOR	MATERIAL STREET, STREE
	120	- Me 18	46	49	1.20	1997		100		
*	121	1	42	45	6.84		1	+-	1	52.970 Total
	122	V	44	47	0.88	V.	$V_{-}$	14	V	52.97g Total
	123					-				
a respective to the second	12+	HILL AND RESIDENCE			THE NAME OF STREET	W 1977				
	125			1		B. Dellowalling				
	12/5		1							
	138		1							
-	1149	7.								
Constitution of the State of th	130	15. 图 使到的		TOTAL STREET				/	Endlere	
Marie Williams	131				1				\	· ·
	132						Či.			
	133		2	13				1		
	131									THE RESERVE THE PARTY OF THE PA
	135			S PUR		100		0	Total Catal	Actor Control Control
Species Box Tally A	rea / Site	Comments:			Species		Total Catch	Species	Total Catch	Sc - Scales Pr - Pectoral Ray
		10								Oto - Otoliths Dr - Dorsal Ray
1			QA/QC B	y:		+		Total #		yoy - Young Of the Year 1+ - Older than "yoy"

BIOSAMP	LIN		>		ow Trap / Angl					Seine)		Project 7	190			wood.
Waterbody Name:	- 17	Start Date (DD MMM	YYYY) / Time (	24HR):	End Date (DD MM	M YYY	/Y)/T	īme (24H	R):	11.00	-	Area De	scription	n (Hal	bitat Type):	7
Sample ID:	lace	15/Sep	12019/	11:45	15/5cm	7/0	26	19/	12.	45		La	0/		and bea	ch-
Sample ID:		Method #: (Traps / Flods)	UTM Coordin	ates (mN, mE	Zone, Acc.):	290	38	95		Acs	CAA	Pag	je: <u>/</u>	0	12	
59L-5N2		6 x hay	150	57 T P	<i>40,5</i>		- 0	10		re,	)( 1	_			see No	et Form
Z.			Lengt	h (mm) ®	Round	Se		Agi Struc		Retai	ned		umed class		Comm	
Species	Fish #	Species Code	Fork	Total	Weight (g/kg)	(F, M	f, U)	(Sc, Pr, I		(Y/N	V)	(YOY			(disease, malfor	mation, etc.)
(. Thite Succe	7	163	55	59	1.48	l	)	N	/A	N	)					
L. J. File Co.	2	163	56	59 .	1.58	,		L. V		1						
N The second	3	163	50	SH	1.37					•		17,5				
	4	163	52	56	1.48			32								J. A. S. S. S. S. S. S. S. S. S. S. S. S. S.
	5	163	56	60	1.80				100	D				500		
	6	163	52	55	1.68											
1	7	163	59	62	2.02											
Spotal Shiner	- 8	201	58	66	1-80 0.39										79 8	
SPONGO CITILE	. 9	701	35	39	0.39						_					The state of the s
	16	201	35	38	0.38			151 241			150	din a	(0.1)			
	11	201	31	34	0.24		- "									
	12	201	24	26	0.08											
	13	201	22	23	0.06			-								
V	14	201	27	30	Occled										· ·	
Emerwood	15	196	49	54	1-87			71	1050			30	TO NO	100		THE PERSON NAMED IN
Johnny Darter	16	341	65	65	2.03										j.	
J. J. J. J. J. J. J. J. J. J. J. J. J. J	17	341		33	0.25									_		
	18	341	_	47.	0.85	-								_		
	19	341		31	0.25									en s		* 01 P 14 T 15 T 16 T
HALES TO LEGAL	20	341	wem	26	0.20		1	147	3.3	14.5		100	19 8			
	21	341	_	58	1.30				_		,			_		18
Torala Darter	22	338	_	47	0.65					1	/				. 544	
Yellow Perd		331	46	49	1.03	П				Y		70	) \\_	0	OMP#1	
	24	l l	50	52	1.24						-5.19%	Power	1			TO STANSON
	25		44	47	0.83		200	23/2			-VA		15.6	WE	A Comment	ACAS V
	26		716	49	0.97	1				$\vdash$			-	-	-	
	127		50	53	1.24	$\bot$				-	-				3 6	
***	28		43	45	0.80	$\vdash$		- 1			_		-	-	-	
	29		47	50	0.99					n rac	12.70	1003	77.9LD	200		
	30		49	51	1.21		20				100		TO A			
	31	7	50	53	1.49					-	H		-		-	
	32		56	53	1.17	$\vdash$	-			<del> </del>	_		-			
	3.3		56	59	1.16	$\perp$	_						-		-	
	34		CH	45	0.88		-		-	William.	ATTS	10.000	OF SHIP	180	T-10/1/1/1999	SEMPHONES 19
	35	505 B	48	52	1.18	U.S.		-		No.	549	0.5.0	(2000)	100	Parally Sea	COLOR DE LA COLOR
	36		55	59	1.62	H	-			$\vdash$	-	-	-	Н	-	
	37	* *	51	55	1.31	-	-			-	_	-	-			
	38		47	57	1.20	$\perp$	-		-	-	_			Н		
	39		50	54	1.30			Commence of	100725		3,00	P3551			SECTION AND ADDRESS OF THE PARTY OF THE PART	EN A SECUL
	40	A Section	45	48	0.98		194	100000	1		10.00	2229	District of		20 d 20 10 10 10 10 10 10 10 10 10 10 10 10 10	METAL WALLS
	41		49	53	1.20	+	-	-	1	-	-		1	-		
	42		47	50	1.07	-	1	-	+	-	+		1		1	
	43	1-1	58	60	1.98	+	1		+		-	-	+ -	1	17	
	144	11/	55	59	1.61	1	1/	HO P	18	1	/		1/	1	100000	Marie Street
V	45		49	53	1.26 Species	1200	V	Total	Catch	1000	cies	Total	Catch	A	ging Structures Legend:	
Species Box Tally A	rea / Site	a Comments:			WHSC			7		IW	DR.			P	c - Scales r - Pectoral Ray no - Otoliths	
140		ä	01/025		ST5H EMSH	+		7		YL	PR	-		l P	oy - Young Of the Year	
			QA/QC By	y:	JHDR	+		6		Tot	al#			1	+ - Older than "yoy"	

BIOSAMP	LIN	G FORM			ow Trap / Ang		_		Project No: TC1904	03.602 WOOD
BIOSAMP  Vaterbody Name:  Springpale 1  sample ID:		Start Date (DD MMM Y	YYY)/Time	(24HR): 1:45	End Date (DD MA	MM YYYY)/	Time (24HR):	5	Area Descriptio	n (Habitat Type):
imple ID:	-	Method #: (Traps / Rods)	UTM Coordi	nates (mN, mE	, Zone, Acc.):	0.000	-	Samplers		of 2
SPL-SN2		6x hauls	150	5490	620, 56	7087	5	AL.SM	Tage.	see Net Form
Species	Fish #	Species Code	Lengt	th (mm)	Round Weight (@( kg)	Sex (F, M, U)	Aging Structures (So, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc.)
Yellow Perch	46	331	<i>5</i> 2	55	1.39	U	N/A	Y	YOY	Comp. #1 cont
1	47		47	49	0.98	1		1	-	
W.	48	- 1	52	55	1.48	$\vdash$		11-		
	49		43	46	0.84	2				
	50		46	49	1.00		(0)000	(B) (S)		
	51		49	52	1.19	$\vdash$				
	52		45	48	0.91	+		+-		
41.1	53		45	48	6.94			+-		
	54		44	48	0.94				STEEL CONTRACTOR	
	55		51	55	1,32	4-1-5	STATE AND ST		KIN DOM	
	56		57	60	1.82	-		++-		
	57		51	54	1.40	++-		++-		
	58		53	56	1.49	+		+-		
	59		50	53						
	60		45	48	0.90					
	61		52 54	55	1.20	++				
	62			56		+		+-		
_	63	<del>                                     </del>	47	51	1.00	Ĥ		++-		
	64	UNIVERSE STREET	49	52	1.14	2 00 00				
	65		50	54	1.35					
	66		50	54	1.33	11.		11,		1, "
<del>\</del>	68	1	55	57	1.58	VI	1	V		V58.100 TO
	100	/4	00	101	1.00	-	-		*	J
	AUX EIN				1865 15	A 1-0100			978	
	1000000						::			
	$\leftarrow$									2:
							W 7.5			
Taking the market	NO HOL		1					n humbro		
				NEWED I		1	Wall To		700	
						1	_	-		
								1		
								Sell No.		weney.
		, š						+-	<del>                                     </del>	
					-	-			<b> </b>	
					-	-		-	1	
		A CONTRACTOR OF THE PARTY OF TH				THE CASE OF	Anna Volley			The same of the sa
	100	Comments	OR THE .		Species	(HER)	Total Catch	Species	Total Catch	Aging Structures Legend:
Species Box Tally A	uea / Site	Comments:			Opolica					Sc - Scales Pr - Pectoral Ray
			0.00							Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year
			QA/QC B	y:	-	-		Total #	1	1+ - Older than "yoy"

BIOSAMP	LIN	G FC	RM	Method U	sed: (Minn	ow Trap / Angl	ing / Dip	Net / Gillnet (		Project No:	
Waterbody Name:	2	Start Date	(DD MMM	YYYY) / Time (	24HR):	End Date (DD MM	M YYYY)/	Time (24HR):	-	Area Descriptio	n (Habitat Type):
Spring pole la	ХG	151	Sepl	2019/	13:10	15/Sep	12019	/ 13.	50	Laker	sand beach
Sample ID:		Method #:	(Traps / Rods)	UTM Coordin	ates (mN, mE	, Zone, Acc.):	Z 9 9 1	717	Samplers AL/SM		1 of 1
SPL-SN3		13 X	(hau)	100	55 d	15 Sep , Zone, Acc.):	ا ه ت	) T	HL/SM		see Net Form
2 2 3		T			h (mm)	Round Weight	Sex	Aging Structures	Retained	Presumed age class	Comments (discess malformation etc.)
Species	Fish #	Specie	s code	Fork	Total	(g / kg)	(F, M, U)	(So, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(disease, malformation, etc.)
Spottai)	1	20	)	42	46	0.71	1)	MIA	MN	M. 1892	By catch released
	2			49	41	0.42	Ľ	-800	NA		1
	3	ν.		<b>2</b> 34	37	0.38					
	4			26	28	0.12			1	-	
SANGLES REPORT	5			36	39	0.34	1918		1/2		
	6			34	36	0.33					
	<u>,</u>			37	40	0.43			$\sqcup$		
	8			41	44	0.60	11_		$\vdash$		
	9		1 1	34	3.6	0.40			100000	201 - P. 15 Sept	
	110	1	/	30	33	0.24			N/	1/	
BUCKPT and Sps	11			29	3/	0.17			V	V	C C C C 1
Yellow Perch	12	33	31	50	52	1.23			Y	Yoy	Comp 1
	13		1	50	53	1.29					
	14			47	50	0.99	Control (control)	The State of the S	000000000	(A) 1 1 3	
	15		1000	42	46	0.75			LIGHT AND	INFO VIEW DAY	Suntain the Committee of the same
	16		ļ	45	48	6.98	++-		$\vdash$		
	17			50	55	1.29	++-		+-		
	13			55	57	1.74			+		
	19			55	58	1.68	THE REAL PROPERTY.	(500) FIGURE	ZB CB		
	20	Direction of		56	54	1.02		100000000000000000000000000000000000000			V
	21	-		45	53	1.19	++-				
	22	-		45	49	0.97	++		11	4	
	23			45	47	6.91	++				
Name of the last o	24		-	44	46	0.87			HAD B	O SOM	
ASSESSMENT OF THE PARTY OF THE	25			49	52	1.14				9 -	
	26	-		53	56	1.37	+			7	a
	23	-	-	55	58	1.82	+	1.5			
	29	-		50	53	1.23	+				
EINIO GARAGA	and the same of	( Call   100)	27 64	63	55	1,39			189		
	30		Barrielle.	53	56	1.42	11				Δ
	32			50	54	1.31					- X- Y
	33			48	53	1-14					/
	134			53	55	1.66					
	135	1000	9 3 7	56	60	1.79					
	36			50	55	1.36					
	37	(		52	55	1.37					
	38			53	56	1.42					
	39	0.		51	55	1.28					
	140			51	55	1.48		1981 3 24	100	die hek	
	41		4	47	50	1.07			1-1-		
	42			46	50	1.03	11		11		
	43			46	50	1.06	++-	1	-	-	
	4 H		1/	49	53	1.27	M	1	1	11/	The state of the s
V	145	of the latest spinster, which the	y	145	49	( O )	1	Total Catch		Total Catch	Aging Structures Legend:
Species Box Tally A	rea / Site	e Comme	nts:			Species SPS H		\ O	3,50,00		Sc - Scales Pr - Pectoral Ray Oto - Otoliths
4		v.			120	YLPR			-		Dr - Dorsel Ray yoy - Young Ot the Year
1	he	ten		QA/QC B	y:				Total #		1+ - Older than "yoy"
		THA .									

1=17,56)

DIOCAMD	I İMI	G EODM	Method Us	sed: (Minn	ow Trap / Angl	ing / Dip	Net / Gillnet /	Seine)	Project No:	wood.	
BIOSAMP	LIM	G LOKIN	× ×		<b>-</b>		T (24UB).		Area Description (Habitat Type):		
BIOSAMP Waterbody Name: Spring Pole   Sample ID: SPL-SN3	ake	Start Date (DD MMM)	2019/1	3:10	15 SEF	2010	13.5	0	Lake Beach		
Sample ID:		Method #: (Treps / Rode)	UTM Coordin	ates (mN, mE	, Zone, Acc.):	x954	13	Samplers QL SM	Page:	of see Net Form	
245 2142		13 xhayls	1,00						Presumed		
Species	Fish #	Species Code		(mm)	Round Weight (g/kg)	Sex (F, M, U)	Aging Structures (Sc, Pr, Dr, Oto)	Retained (Y/N)	age class (YOY / 1+)	Comments (disease, malformation, etc.)	
Yellow Perch	46	331	Fork 145	Total 48	C.88	U	N/A	Y	404	Comp 1 cont	
TENOW TEN	47		49	<b>547</b>	0.99			1	1		
	43		53	57	1.50						
	47	=	52	55	1.47		, 80				
	50		47	57	1.06			18819			
	57		49	52	1.24						
	52		49	52	1.11					\\.	
d ,	53		50	54	1.24					53 (1) Total	
= 37	534		54	58	1.65			1		53.64g Total	
	55		49	57	1-93				(80) 4000	cump a	
	56		40	43	0.65	$\perp$	- 1	+	-		
	57		45	47	0-82	1-		$\vdash$			
	58		47	49	1.02	- 1		-			
	59		48	5]	1.06	A Chical Coll		Marie III			
Creating 1	60		44	47	0.80		All and a deal		COLUMN TO THE	BANK AND AND AND AND AND AND AND AND AND AND	
2	61		46	49	1.00	-		7	-		
	62		45	48	0.90			1	-		
	63		45	48	0.95	-		+			
	64		46	58	0.81	78001944	STREET STREET	No mar	and the same		
	65	120000	146	49							
	66		47	50	0.88	++		++-			
. **C	67		46	57	1.09	++		1			
*	68		42	45	84.0	++		+			
-	69	TO INCIDENT AND INCIDENT	47	50	1.05	1000	131840	120		SANCE AND STATE	
Cectifylia and	70		45	48	0.90						
	71		43	47	0.68					Viet 2	
	72		47	50	1.02		127				
	74	-	50	53	1.08						
	75	THE YEAR AND SE	46	50	0.93						
	76		47	50	1.08		1	1		r .	
	77		45	48	0.97						
	22		41	44	0.71						
	79		45	48	0.82						
CHEST COUNTY OF THE	80	65015153	45	48	0.87			6 6 6	0 10		
	81		43	46	0.72						
	82		50	52	1.20						
	83		45	48	0.92			-			
	84		48	57	1.07				-		
	35		45	48	0.91				75 855	DED MENSON SEMENAR	
	86		48	50	1.14				1		
	87		46	48	0.92	-		-	-		
	88		44	47	0.87	1	1	11	++,-		
	89	\1/	पप	47	0.79	1		1			
V	190	THE RESERVE OF THE PARTY OF THE	151	155	1.25 Species	7	Total Catch	THE PARTY OF THE P	Marie Marie	Aging Structures Legend:	
Species Box Tally A	rea / Sit	e Comments:			Species		. 5.0. 04.01			Sc - Scales Pr - Pectoral Ray Oto - Otoliths	
		8	[a.v.a. =					+	-	Dr - Dorsal Ray yoy - Young Of the Year	
Fin 5			QA/QC By	y:	4	4		Total #	100	1+ - Older Ihan "yoy"	

BIOSAMP	LIN	G FORM	Method U	sed: (Minr	now Trap / Angl	ing / Dip	Net / Gillnet /	Seine	TC190403 Wood.			
Waterbody Name:	-/	Start Date (DD MMM	YYYY) / Time	(24HR):	End Date (DD MN	M YYYY)/	Time (24HR):	7.	Area Description	on (Habitat Type):		
Springpole L	- Š	15 SEP 6	2019/	13:10	15 SE	P20	19/13:5	50	Lake	Beach		
BIOSAMP Waterbody Name: Spring pole Sample ID: SPL-SN3		Method #: (Treps/Rods) 3x hauls	UTM Coordin	nates (mN, ml 5520	35, 56	3954	3	Samplers AL,511	1 2	of 4		
010				h (mm)	Round	Sex	Aging <sub>:</sub>	Retained	Presumed	Comments		
Species	Fish #	Species Code	Fork	Total	Weight (g/kg)	(F, M, U)	Structures (Sc, Pr, Dr, Oto)	(Y/N)	age class (YOY / 1+)	(disease, malformation, etc.)		
Yellow Perch	91	331	40	44	0.69	U	N/A	Y	YOY	COMP # 2 CONT.		
1	92		43	46	0.83	1		- 1				
	93	-	48	51,	1.10							
	94		44	47	0.89							
	95		44	46	0.81							
1366	96		43	47	0.79			$\perp$				
	97		47	49	1.07							
	98		46	47	1.0.1	$\sqcup$		$\vdash$				
	99		118	51	1:00							
	100	SERVICE OF THE SERVICE	47	51	0.88					00.00 00.00 00.00 00.00		
	101		42	46	G.83		9					
	102		45	48	0.96	1		$\perp$				
	103		54	57	1.35			$\vdash$				
	104		48	50	0.99		-					
	105		47	48	0.98			400		ENGLA STRANGE OF STATE		
4)	106		40	43	0.74	$\vdash$						
	107		45	48	0.92	-		$\vdash$				
	108		45	48	0.92	-		$\vdash$				
	107		42	44	0.56	-		-	200 0000000			
	110	46,36	47	49	1.05			DELLINE.				
	111		43	46	0.79				-	D: 2 +111:		
	112		50	54	1.28	1-		-	-	54 130 Total WI.		
	113		48	51	1.10	1		$\vdash$		COMP #3		
	114	1	50	54	1.36		30 60 100		The State of			
	115		53	56	1.41	27.9	25/22/2018	201129		A TO SHE WAS THE WAS TO SHE WAS THE WA		
	116		49	52	1.11			-				
	117		55	58	1.65	+-	+-	$\vdash$				
2 4	118		50	53	1.31	1	-	++	-			
	117	- Language	49	52	1.16			P000 000	MAN DOS	MELITORIO ROSSOCIA		
	120		50	53	1.19							
	121		48	51	1-01				-			
	127		50	53	1.24	-	-	- 1				
	123		52	55	1.38	++		+				
	124		47	50	1.03	CARSON CAR		1000000	A STATE OF LINE	0.00 255 N. 12 P. 15 P.		
	125	E151 NEVS	50	52	1.14	1000	5 ((50)(5)(5)	STATE STATE				
	126		51	54	1.28	$\vdash$	-					
	127		48	51	1.19	+		+		).		
	128		54	57	1.53	++	-					
	129		49	52	1.06		CONTRACTOR AND	100 200	COST (LIST)	<b>建设是设建设备等的设计</b>		
	130		48	51	1.13		DESCRIPTION OF THE PARTY OF THE	Name of Street	C-02 (42)			
	131		49	52	10.1			1				
	132	-	50	53	1.36	$\vdash$		11				
	133	<b>-</b>	48	51		++,	-	++-	1			
1	134	- W	49	51	1.01	V			V			
Species Box Tally Ar	135	A STATE OF THE PARTY OF THE PAR	47	51	Species	E CENTER	Total Catch	Species	Total Catch	Aging Structures Legend:		
Species Box Tally Af	ea / Olle	. John Homes								Sc - Scales Pr - Pectoral Ray Oto - Otoliths		
2 2		27	04/02 5			-		-		Dr - Dorsal Ray yoy - Young Of the Year		
			QA/QC By	/:		+		Total #		1+ - Older than "yoy"		

BIOSAMP	LÍN	G FORM	Method U	sed: (Minn	ow Trap / Angl	ing / Dip	Net / Gillnet			03. CO2 WOO	
Spring pole	Start Date (DD MMM)	019 ,	24HR): 3:10	ISSEF	2019	rime (24HR): / 13: 50		Area Description (Habitat Type):			
Manhaul Harry 18 11								Samplers AL.SM	Page: 4 of see Net Form		
Species	Fish #	Species Code	Lengt	h (mm)	Round Weight	Sex (F, M, U)	Aging Structures		Presumed age class	Comments (disease, malformation, etc.)	
980			Fork	Total	(g)/kg)	(1, 14, 0)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)		
9.50	136	331	Fork 48	Total 57	((g)/kg)	(1, m, s)	(Sc, Pr, Dr, Oto)	(Y/N)	Yo Y	COMP #3 CONT	
Yellow Perch	136	331				-		(V/N)		COMP #3 CONT	
920	137	331	48	57	1.16	-		(Y/N) - \		COMP #3 CONT	
9.50	_	331	48 53	51 55	1.16	-		. Y		COMP #3 CONT	

Species	Fish #	Spec	ies Code	Lengti Fork	h (mm) Total	Round Weight (@/kg)	Sex (F, M, U)	Aging Structures (Sc, Pr, Dr, Oto)	Retained (Y/N)	Presumed age class (YOY / 1+)	Comments (disease, malformation, etc.)
ellow Pero	h 136	3	31	48	57	1.16	U	N/A.	Y	YOY	COMP #3 CONT
CHOW TELL	137		1	53	<i>5</i> 5	1.43	1		1	1	
	138		1	54	57	1.48					
	139			55	57	1.63					
OTHER DESIGNATION	140		PRO (200)	55	58	1.56			2 4 65		
E WEST PAGE	141	1		51	54	1.24					
	142	<u> </u>		53	56	1.38					
	143			60	62	2.05					Ŵ 1)
:	144		8	50	52	1.11					
	145	100	186388	57	60	2.09					
	146			49	51	1.10					
	147			47	50	1.03					
	148		Fo. 2	49	51	1.13				3	
	149			46	49	0.99			343		
1880 B)	150	W. Pri	Disposit	45	49	1.01			ASS I		
	151			47	50	0.99					2
	152			47	52	1.11					- > /
	153			46	50	1.09	-				V
	154			47	50	1.03		V		V	52.73a Total W.
	155		1 22	82	85	5.70		WB		7	AGING
	156			78	83	5.46		WB		1	
4	157			68	72	3.43		WB		YOY	
	158			61	65	2.50		MB		1	
	159	19%		60	64	2.26		WB			
	160	1775		52	56	1.56	1 88	WB	A -80		
	161	(4)		48	57	1.23		WB			
	162	2	1	47	50	1.14		MB			
- A - B	163		1.	47	50	1.06		MB			
	164			46	50	1.07		WB			
THE PARTY OF	165	1000		45	49	0.97		WB			
10	166			46	50	1.17		WB			
	167	- 51		45	49	0.95		MB			
	168			44	47	0.76		WB			
	169			41	44	0-67		HB_			
WAS PER	170			42	45	0.78	100	WB	10 6		
	171	1		44	46	0.91		WB			
	172	(A)		45	49	1.07		WB	- 1		
	173	, u	1	42	45	0.78		WB			
	174	1.1	1	42	45	0.77		MB	1	CALLED ON A	
Wall Man	17/12		1500					CALL STATES		Sale William	8 37 at 08 3 5 5 5 6
1			1				1	- 1	1		
		1							$\mathbb{N}H$		1
		1	1/		10.0		1		1/1	1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
. //		1	1:			and the second	1		A	V	V
V		MA					V	Total City	Carrie	CALEN	Asias Granduras Larenda
ecies Box Tall	y Area / Sit	e Comm	ents: Rca	pairing	hish , I	Species	+	Total Catch	Species	Total Catch	Aging Structures Legend: Sc - Scales Pr - Pectoral Ray
P#=5	I TW	-86.0	7291.	bulk	weighted						Oto - Otoliths Dr - Doreal Ray
			J	QA/QC By	<i>i</i> :						yoy - Young Of the Year 1+ - Older than "yoy"

BIOSAMPLIN	G FORM	Method Used: (Minn	now Trap / Angli	Project No: TC190403, CO2 <b>WOO</b>				
Waterbody Name: Spring pole Lake	Start Date (DD MMM	7777)/Time (24HR): 019/10:30	End Date (DD MM	-	Time (24HR):			Beach
Sample ID: SPL-SN4	Method #: (Traps / Rods)	UTM Coordinates (mN, mE 150 5497		934		Samplers AL, SM	Page:	of see Net Form
		Length (mm)	Round	Sex	Aging	Retained	Presumed	Comments

Species	Fish #	Species Code		h (mm)	Round Weight	Sex (F, M, U)	Aging Structures	Retained	Presumed age class	Comments (disease, malformation, etc.)
-1 0 1		341	Fork	3.6	(g)/kg) O. 2	U	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	Released Alive
Johnny Dorto	2	291		32	0.11		10/h	17	- 1	LEICASCO IIII
	3		and a	37	0.25			$\vdash$		
	4	1	-	31	0.12	+				
Pottoil & h.	5	201	38	41	0.30		24/15/1			
TOT ON	6	401	38	41	0.36				1.	
	7		40	44	0.48			$\vdash$	7/	
	8		24	27	0.09				YOY	
	9		27	29	0.11			H	YOY	
	10		27	30	0.12				YOY	
	11		27	31	0.10				YOY	,
V	12	<b>V</b>	29	31	0.11			V	Yoy	W.
vellow	13	331	48	50	1.06			Y	1	COMP #1
Perch	14	,,,,	44	46	0.99			1		
10.01	15		40	42	0.72					
	16		44	47	0.90					
	17		42	46	0.95					7
	13		45	48	1.10					
	1 7		46	49	1.02					
	20		46	49	1.09					
	21		46	48	0.95					
	22		47	50	1.08			11_		
	23		50	53	1.13					
	24		48	52	1.06					
	25		43	52	1.14					
	26		47	50	1,13					
	27		43	46	0.99					
	23		48	56	1.41					
	29		45	48	0.95					
	30		45	49	1.13					
	73.1		51	54	1.27					
	32		49	52	1.21					
	33	1	50	53	1.21					
	34		54	57	1.52					
	35		52	55	1.33					
	36		63	55	1.44	1				
	37		47	49	0.97				1	
	38		52	55	1.27					
	39		47	49	1.02			1	1	
	40		45	48	0.91					
	41		44	47	0.86					
	42		49	57	1.07				-	
	43		46	48	0.87			1	1	
	44	1	45	47	0.88	14	\U	11/	1//	11/
	45		49	51	1.10		1	1	V	V

QA/QC By: Date:

Asino Structures Legend: Sc - Scales Pr - Pectoral Ray Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year 1+ - Older than "yoy"

BIOSAMP	LIN	G FORM	Method Used: (Minr	now Trap / Angli	TC190403.COA WOOD				
Waterbody Name: Spring pale 1	ake	Start Date (DD MMM	YYYY)/Time (24HR):	End Date (DD MM				Area Description	on (Habitat Type): Bach
SPL-SN4		Method #: (Traps / Roda)  2 × haul 5	UTM Coordinates (mN, ml 150 5497	7 7	931	164	Samplers ALSM	Page: 2	of L1 ses Net Form
Species	Fish#	Species Code	Length (mm)	Round Weight	Sex	Aging Structures	Retained	Presumed age class	Comments

Species	Fish#	Species Code	Lengt	h (mm)	Round Weight	Sex	Aging Structures	Retained	Presumed age class	Comments
Species	FISH#	Species Code	Fork	Total	(g) kg)	(F, M, U)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY / 1+)	(disease, malformation, etc.)
m Perch	46	331	46	48	0.94	U	N/A	Y	401	COMP #1 cont
Ad Teres	47	1	43	46	0.82	1	1	1		1
	48		45	47	101					
	49		48	50	1.02					
	50		45	49	0.92					
	51		43	46	0.81					
	52		43	45	0.86					
	53		45	47	0.84					
	54		46	49	1.03					
	55		45	48	0.84					
	56		43	45	0.73					- i
	57		4(	43	0.69					S 1
	58		40	44	0.59					
	59		42	44	0.75					
	60	15.11.24	40	42	0.65		1 4 7 10			
	61		45	48	0.88					
	61		47	50	1.03			18		1 2
	63		51	54	1.24					
	64		47	49	1.08		32	1	Jn.	Idal W=52.000
77	65		58	61	1.08	1				COMP# 2 J
	66		46	49	1.01					
	61		46	49	1.10			1		
	68		44	47	0.96					
	69	-	45	48	1.93					
	70		45	47	0.82					
	71		46	49	0.99					
	22		43	51	1.17					
	73		45	47	0.82					
	74		53	56	1.37					
	75		50	54	1.39					
	76		48	52	1-24	1				
	77		48	50	1.01					
	78		47	50	1.03					
	79		47	50	1.17					
W	80		47	50	1.05					
	731		45	47	0.97					
	82		44	46	6.96					
	83		50	54	1.44					
	84		45	48	1.05					
	85		46	49	1.12					
	86		46	49	1.08					
\	87	1	44	47	0.98					
11	83		50	53	1.17					
	39	11	45	47	0.99	11/	11	11/	77	
	90	//	46	48	0.99	V	V	V	V	V

QA/QC By: Date:

Sc - Scales
Pr - Pectoral Ray
Oto - Otoliths
Dr - Donal Ray
yoy - Young Of the Year
1+ - Older than "yoy"

Waterbody Name:  Start Date (DD MMM YYYY) / Time (24HR):  Spring pole Lake    6 Sep 2019 / 10:30   16 Sep 2019 / 11:00	BIOSAMPLIN	Method Used: (Minnow Trap / Angling / Dip Net	t / Gillnet / Seine	TC190403.002 WOOD.
	Vaterbody Name:	MMM YYYY) / Time (24HR): End Date (DD MMM YYYY) / Time		
Sample ID: Method #: (Timps / Rods) UTM Coordinates (mN, mE, Zone, Acc.): Samplers 2	Springpole Lake	2019/10:30 16 Sep 2019/	1:00	Lake / Blown
	ample ID:	/ Rode) UTM Coordinates (mN, mE, Zone, Acc.):		- 3 . 4
3PL-SN4 2 xhauls 150 549789 5693464 ALSM Page: 2 of 17 see Net Form	SPL-SN4	15 150 549789 5693464	t ALISM	Page: of see Net Form

Species	Fish #	Species Code		th (mm)	Round Weight	Sex (F, M, U)	Aging Structures	Retained	Presumed age class	Comments (disease, maiformation, etc.)
0 1	0.	22.	Fork	Total	(g) kg)	-	(Sc, Pr, Dr, Oto)	(Y/N)	YOY/1+)	COMP #2 cont
How Perch	91	331	49	52	1.15	V	N/A	7	701	CONT +O COT.
	92		46	48	1.04		-	1	1	
	93		43	46	0.77	$\vdash$		$\vdash$		
	94		47	50	107					
	95		48	57	1.15					
	96		45	47	1.00				i	
V	97		48	57	1.17					
	98		53	55	0.83					
	99		39	42	0.67					
	100		119	52	1.19					
	(a 1		43	45	0.82					
	102		42	45	0.77					
	103		43	45	0.80					
	104		43	46	0.87					
	105		49	51	1-14					
	104		44	47	0.97					
	107		44	46	0.91					
	108		41	43	0-79					T
	109		43	46	0.75					
	110		44	46	0.84					
	117		44	47	0.86					
	112		40	43	G.71					
	13		42	45	0.80					
	114		46	48	0.90	+				
	115		50	53	1.26					
	116		47	49	1.07					V
	117	i	48	50	1.07					Tot.W=52.70_
	113		97	51	1.18					COMP#3
	119		45	49	1.17	+				
	120		44	47	0.95	+i=				
	121		43	46	0.76	++-				
	122		40	43	0.73	+-				
- 1	123		42	44	0.77	+				
-	124		45	48	1.10	+	-			,
			48	50	1.08					
	125		144	46	0.88					
	127		49	173	0.75	+				
			43	45	0.81	++-				
	128			48	0.98					
	129		45	45	0.83				- 10	The second second
	130		47							
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	132	$\vdash$	48	53	1.08	+		-		
1	133		46	48		++-	_	$\vdash$		1,1,
	134	1	43	45	0.82	V	111	V	<b>W</b>	

Agina Structures Leasnd:
Sc - Scales
Pr - Pectoral Ray
Oto - Otoliths
Dr - Dorsel Ray
yoy - Young Of the Year
1+ - Older than "yoy" QA/QC By: Date:

BIOS	SAMP	LIN	G FORM	Method U	Method Used: (Minnow Trap / Angling / Dip Net / Gillnet (Seine))  Project No:  TC  90463. CO2 WOOd.								
			Ta	WWW ITime (	24HR):	End Date (DD MM	M YYYY)/	Time (24HR):		Area Description (Habitat Type): Lake / Beach			
Spriv	14 pole	rake	16 Sep 20 Method #: (Traps / Rods)	19/10:	30	16 Sep	2019	/11:00					
Sample ID:	3N4		Method #: (Traps/Rods) 2 x hauls	UTM Coordin	ates (mN, mE 549	, Zone, Acc.):	693	4 64	AL.SM	Page:	of H see Net Form		
					h (mm)	Round	Sex	Aging Structures	Retained	Presumed age class	Comments		
	ecies	Fish #		Fork	Total	Weight (g) kg)	(F, M, U)	(Sc, Pr, Dr, Oto)	(Y/N)	(YOY/1+)	COMP #3 cont		
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-		138		48	57 48	1.25	$\vdash$						
	2.00	139		45		1.84	BILL SE	0000 E00	100	S238 S306			
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WE I	MESIM CONTRACTOR	145		41	44	0.84							
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7 500 5 700	A STATE OF THE STA	149		46	48	1.02	100			NET EAST			
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-		157	+-+-	41	44	0.83							
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	-	159		45	48	1.02							
5000 (0)	THE RESERVE	160		42	44	0.88	10 HW	RIGHT STATE	Av. Syl	NE ALE			
		161		45	47	1.02		- 1					
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-	1	164		41	44	6.59							
31, 1947	1 Table 1 Table 1	165		47	50	1.14		HE HOLES					
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977			9								Oto - Otoliths Dr - Dorsal Ray yoy - Young Of the Year		
	2645			QA/QC By Date:	y:				Total #		1+ - Older than "yoy"		
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# **Appendix B**

Fish Tissue Summary Table, Figures and Laboratory Certificates of Analysis



**Table B1.1:** Station S-9 Fish Composite Fish Sample Summary

Composite ID	Species	No. Individuals per Sample	Total Length Range (mm)	Mean Total Length (mm)	Individual Weight Range (g)	Mean Individual Weight (g)	Hg (ug/g wwt)	MeHg (ug/g wwt)	Moisture (%)
S-9-MT1-COMP1	Finescale Dace	24	55-72	63.71	1.63-3.22	2.39	0.155	0.152	74.3
S-9-MT1-COMP2	Northern Redbelly Dace	31	52-63	59.32	1.06-2.35	1.79	0.087	0.112	75.2
S-9-MT1-COMP3	Finescale Dace	16	66-86	72.43	2.68-6.84	3.47	0.166	0.221	76.6

- 1. Total mercury (Hg) and methymercury (MeHg) values expressed as μg/g wet weight (wwt).
- 2. Composite samples were composed of fish with a size difference (largest to smallest) not greater than 75%.

**Table B1.2:** S-9-US02 Composite Fish Sample Summary

Composite ID	Species	No. Individuals per Sample	Total Length Range (mm)	Mean Total Length (mm)	Individual Weight Range (g)	Mean Individual Weight (g)	Hg (ug/g wwt)	MeHg (ug/g wwt)	Moisture (%)
S-9-US02-MT1- COMP1	Northern Pearl Dace	10	83-95	89.70	4.98-7.57	6.14	0.127	0.189	75.3
S-9-US02-MT1- COMP2	Northern Pearl Dace	10	86-96	90.30	4.71-7.26	6.07	0.116	0.109	73.9
S-9-US02-MT1- COMP3	Northern Pearl Dace	5	110-121	115.80	10.83-15.21	12.86	0.197	0.267	73.7
S-9-US02-MT1- COMP4	Northern Redbelly Dace	37	50-61	56.14	0.86-1.83	1.48	0.081	0.099	76.7
S-9-US02-MT1- COMP5	Northern Pearl Dace	11	84-91	86.82	4.43-6.81	5.38	0.112	0.157	79.2

#### Notes:

- 1.  $\square$  Total mercury (Hg) and methymercury (MeHg) values expressed as  $\mu$ g/g wet weight (wwt).
- 2. Composite samples were composed of fish with a size difference (largest to smallest) not greater than 75%.

**Table B1.3:** L-5-OUT Composite Fish Sample Summary

Composite ID	Species	No. Individuals per Sample	Total Length Range (mm)	Mean Total Length (mm)	Individual Weight Range (g)	Mean Individual Weight (g)	Hg (ug/g wwt)	MeHg (ug/g wwt)	Moisture (%)
L-5-OUT-MT1- COMP1	Finescale Dace	16	62-75	68.75	2.72-4.56	3.35	0.203	0.264	79
L-5-OUT-MT1- COMP2	Finescale Dace	13	68-80	74.77	3.30-5.24	4.37	0.184	0.229	77.2
L-5-OUT-MT1- COMP3	Finescale Dace	20	60-69	64.15	2.19-2.99	2.68	0.143	0.176	76.6

#### Notes:

- 1. Total mercury (Hg) and methymercury (MeHg) values expressed as μg/g wet weight (wwt).
- 2. Composite samples were composed of fish with a size difference (largest to smallest) not greater than 75%
- 3. Laboratory certificates of analysis indicate sample ID of WB05-OUT-MT1-COMP1 to -COMP3 for the above samples.

Project # TC190403 | March 2021 Page B1

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Table B1.4: Springpole Lake (L-15) YOY Yellow Perch Composite Sample Summary

Composite ID	No. Individuals per Sample	Total Length Range (mm)	Mean Total Length (mm)	Individual Weight Range (g)	Mean Individual Weight (g)	Hg (µg/g wwt)	MeHg (µg/g wwt)	Moisture (%)
SPL-SN1-COMP1	60	41-54	47.20	0.58-1.36	0.90	0.085	0.102	81.8
SPL-SN1-COMP2	52	42-56	49.12	0.67-1.45	0.02	0.086	0.072	83.4
SPL-SN2-COMP1	46	45-60	52.28	0.80-1.98	1.21	0.092	0.090	78.7
SPL-SN3-COMP1	43	46-60	52.81	0.75-1.82	1.27	0.095	0.085	79.6
SPL-SN3-COMP2	58	43-57	48.88	0.56-1.35	0.94	0.095	0.109	80.4
SPL-SN3-COMP3	42	49-62	53.02	0.99-2.09	1.26	0.087	0.061	79.2
SPL-SN4-COMP1	52	42-57	48.96	0.59-1.56	1.00	0.086	0.103	83.3
SPL-SN4-COMP2	53	42-61	48.81	0.67-1.93	1.02	0.084	0.109	83.2
SPL-SN4-COMP3	53	42-53	47.58	0.59-1.84	1.03	0.091	0.085	83.9

- 1. YOY young-of-the-year fish were sampled that represent a small bodied forage (prey) species for upper trophic level predators.
- $2.\Box$  Total mercury (Hg) and methymercury (MeHg) values expressed as  $\mu g/g$  wet weight (wwt).
- 3. Composite samples were composed of fish with a size difference (largest to smallest) not greater than 75%.

**Table B1.5:** Springpole Lake Northern Pike Epaxial Muscle Tissue Sample Summary

	<u> </u>	31			<u> </u>	
Sample ID	Total Length (mm)	Total Weight (g)	Age (Years)	Hg (µg/g wwt)	MeHg (μg/g wwt)	Moisture (%)
SPL-AN1-F1	530	490	4	2.02	2.19	79.2
SPL-AN1-F2	590	980	4	1.67	1.10	78.5
SPL-AN1-F3	601	1,000	3	1.02	0.610	78.3
SPL-AN1-F4	501	520	2	0.530	0.504	77.9
SPL-AN1-F5	501	510	2	0.865	0.391	77.0
SPL-AN1-F6	556	750	4	1.49	1.41	78.5
SPL-AN2-F1	534	530	3	0.981	0.970	77.9
SPL-AN2-F2	514	480	2	3.49	3.88	81.6
SPL-AN2-F3	599	850	6	2.04	2.11	79.8
SPL-AN2-F4	682	1,800	6	1.88	1.13	78.4
SPL-AN3-F1	625	1,000	4	2.15	2.10	79.4
SPL-AN3-F2	525	600	3	1.65	1.34	79.5
SPL-AN3-F3	542	700	3	0.645	0.344	79.4
SPL-AN4-F1	445	320	2	0.389	0.333	78.6
SPL-AN4-F2	491	500	4	0.625	0.653	79.3
SPL-AN4-F3	596	740	5	1.97	1.64	79.4
SPL-AN4-F4	610	750	3	3.83	4.47	80.9
SPL-AN5-F1	491	520	2	0.646	0.611	77.5
SPL-AN5-F2	525	500	2	1.52	1.29	80.1
SPL-AN5-F3	670	1,200	5	3.60	3.91	80.4

#### Notes:

- 1.  $\square$  Total mercury (Hg) and methymercury (MeHg) values expressed as  $\mu g/g$  wet weight (wwt).
- $2.\square$  All results represent the Wood 2019 data and do not include other sources.

Project # TC190403 | March 2021 Page B2

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Table B1.7a: Contaminants of Concern in Inland Waterbody Fish Tissue (2019)

Fish Species	Sample Area	Descriptive Statistics	Total Length (mm)	Fresh Weight (g)	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium (mg/kg dwt)	Zinc
		Sample Size (n)	40	40	2	2	1	2	2	2	2	1	2	2
		No. MDL (n)	-	-	0	0	1	0	0	0	0	1	0	0
		Minimum	55	1.63	0.018	0.0028	-	0.874	6.733	6.733	0.0388	-	0.60	43.29
Finescale	S-9	Maximum	86	6.84	0.020	0.0044	-	1.088	7.067	7.067	0.0398	-	0.69	49.09
Dace	3 3	Mean	67.20	2.82	0.019	0.0036	-	0.981	6.900	6.900	0.0393	-	0.64	46.19
		Median	69.5	2.78	0.019	0.0036	-	0.981	6.900	6.900	0.0393	-	0.64	46.19
		Standard deviation	6.60	0.89	0.001	0.0011	_	0.152	0.236	0.236	0.0007	-	0.07	4.10
		Standard error	1.04	0.14	0.001	0.0008	_	0.107	0.167	0.167	0.0005	-	0.05	2.90
		Sample Size (n)	49	49	3	3	3	3	3	3	3	3	3	3
		No. MDL (n)	-	-	0	0	2	0	0	0	0	3	0	0
		Minimum	60	2.19	0.036	0.0030	0.0158	1.409	0.006	5.381	0.0335	-	0.12	36.25
Finescale	L-5-	Maximum	80	5.24	0.045	0.0053	1.4868	1.487	0.010	6.552	0.0426	-	0.17	44.52
Dace	OUT	Mean	68.47	3.35	0.039	0.0040	-	1.441	0.008	6.107	0.0393	-	0.14	41.51
		Median	67	2.99	0.036	0.0036	-	1.427	0.009	6.388	0.0420	-	0.14	43.76
		Standard deviation	5.28	0.79	0.005	0.0012	-	0.041	0.002	0.634	0.0051	-	0.03	4.57
		Standard error	0.75	0.11	0.003	0.0007	-	0.023	0.001	0.366	0.0029	-	0.02	2.64
		Sample Size (n)	31	31	1	1	1	1	1	1	1	1	1	1
		No. MDL (n)	-	-	0	0	1	0	0	0	0	1	0	0
Northern		Minimum	52	1.06	0.024	0.0027	-	0.702	0.0154	5.3	0.0217	-	5.848	41.2
Redbelly	S-9	Maximum	63	2.35			-					-		
Dace	5 5	Mean	59.32	1.79	-	-	-	-	-	-	-	-	-	-
Ducc		Median	59	1.76	-	-	-	-	-	-	-	-	-	-
		Standard deviation	2.64	0.31	-	-	-	-	-	-	-	-	-	-
		Standard error	0.47	0.05	-	-	-	-	-	-	-	-	-	-

- 1. Concentrations less than the reportable detection limit were given the lowest reportable value for calculation of summary statistics (e.g., a concentration of <0.0010 was considered 0.0010)
- 2. No. MDL indicates the number of sample results reported less than the detection limit.
- 3. All results represent wet weight results, unless otherwise noted; "dwt" represents concentration for dry weight
- $4.\Box$  All results represent the Wood 2019 data and do not include other sources.

Project # TC190403 | March 2021 Page B3



#### Table B1.7b: Contaminants of Concern in Inland Waterbody Fish Tissue (2019)

Fish Species	Sample Area	Descriptive Statistics	Total Length (mm)	Fresh Weight (g)	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium (mg/kg dwt)	Zinc
		Sample Size (n)	37	37	1	1	1	1	1	1	1	1	1	1
		No. MDL (n)	-	-	0	0	0	0	0	0	0	1	0	0
Northern		Minimum	50	0.86	0.031	0.0034	0.0158	0.790	0.0224	12.9	0.0187	-	0.515	52.4
Redbelly	S-9-	Maximum	61	1.83	0.031	0.0034	0.0158	0.790	0.0224	12.9	0.0187	-	0.515	52.4
Dace	US02	Mean	56.14	1.48	-	-	-	-	-	-	-	-	-	-
Dace		Median	56	1.53	-	-	-	-	-	_	-	-	-	-
		Standard deviation	2.16	0.20	-	-	-	-	-	-	-	-	-	-
		Standard error	0.36	0.03	-	-	-	-	-	_	-	-	-	-
		Sample Size (n)	36	36	4	4	4	4	4	4	4	4	4	4
		No. MDL (n)	-	-	0	0	4	0	0	0	0	4	0	0
		Minimum	83	4.43	0.017	0.0018	0.0500	1.670	0.009	3.367	0.0273	0.2	0.15	31.30
Pearl	S-9-	Maximum	121	15.21	0.032	0.0042	0.0500	2.401	0.056	5.148	0.0518	0.2	0.18	42.94
Dace	US02	Mean	92.61	6.82	0.025	0.0027	-	1.954	0.024	4.005	0.0352	-	0.16	36.88
		Median	89	5.92	0.025	0.0024	-	1.872	0.015	3.753	0.0308	-	0.15	36.64
		Standard deviation	10.15	2.64	0.006	0.0011	-	0.328	0.022	0.809	0.0112	-	0.02	4.90
		Standard error	1.69	0.44	0.003	0.0006	-	0.164	0.011	0.404	0.0056	-	0.01	2.45

#### Notes:

- 1. Concentrations less than the reportable detection limit were given the lowest reportable value for calculation of summary statistics (e.g., a concentration of <0.0010 was considered 0.0010)
- 2. No. MDL indicates the number of sample results reported less than the detection limit.
- 3. All results represent wet weight results, unless otherwise noted; "dwt" represents concentration for dry weight
- $4.\Box$  All results represent the Wood 2019 data and do not include other sources.

Project # TC190403 | March 2021 Page B4

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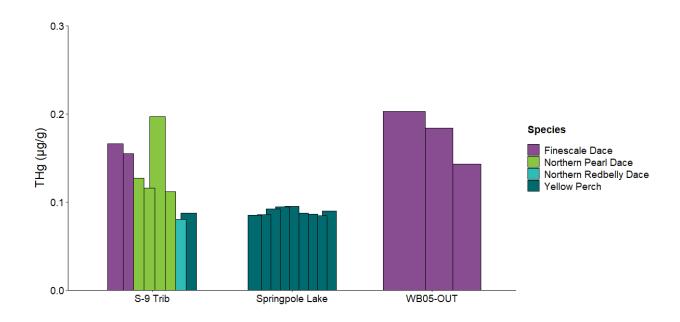
**Table B1.8:** Contaminants of Concern in Springpole Lake Fish Tissue (2019)

Species	Descriptive Statistics	Total Length (mm)	Fresh Weight (g)	Arsenic	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium (mg/kg dwt)	Zinc
	Sample Size (n)	20	20	20	20	20	20	20	20	20	20	20	20
	No. MDL (n)	-	-	0	14	10	0	18	0	0	20	11	0
	Minimum	445	320.00	0.013	0.0012	0.012	0.099	0.004	0.158	0.0832	0.2	0.02	4.71
Northern	Maximum	682	1800.00	0.152	0.0050	0.050	0.211	0.020	0.580	0.7315	0.2	0.08	8.69
Pike	Mean	556.4	737.00	0.054	0.0041	0.033	0.152	0.018	0.331	0.3366	-	0.04	6.38
	Median	538	650.00	0.041	0.0050	0.037	0.151	0.020	0.299	0.3293	-	0.02	6.13
	Standard deviation	62.8	338.48	0.038	0.0015	0.018	0.025	0.005	0.132	0.1921	-	0.03	1.35
	Standard error	14.1	75.69	0.008	0.0003	0.004	0.006	0.001	0.030	0.0430	-	0.01	0.30
	Sample Size (n)	459	459	9	9	6	9	9	9	9	9	9	9
	No. MDL (n)	-	-	0	0	3	0	1	0	0	9	9	0
	Minimum	41	0.56	0.038	0.0149	0.014	0.374	0.004	2.789	0.0142	0.2	0.200	23.38
Yellow	Maximum	62	2.09	0.075	0.0327	0.044	0.697	0.020	6.204	0.0241	0.2	0.200	46.53
Perch	Mean	49.63	1.06	0.052	0.0201	0.023	0.449	0.007	3.712	0.0175	-	-	27.06
	Median	49	1.03	0.050	0.0181	0.020	0.430	0.007	3.569	0.0182	-	-	24.89
	Standard deviation	3.88	0.25	0.012	0.0054	0.011	0.100	0.005	1.031	0.0034	-	-	7.34
	Standard error	0.18	0.01	0.004	0.0018	0.005	0.033	0.002	0.344	0.0011	-	-	2.45

- 1. Concentrations less than the reportable detection limit were given the lowest reportable value for calculation of summary statistics (e.g., a concentration of <0.0010 was considered 0.0010)
- 2. No. MDL indicates the number of sample results reported less than the detection limit.
- 3. All results represent wet weight results, unless otherwise noted; "dwt" represents concentration for dry weight
- $4.\square$   $\,$  All results represent the Wood 2019 data and do not include other sources.

Project # TC190403 | March 2021 Page B5





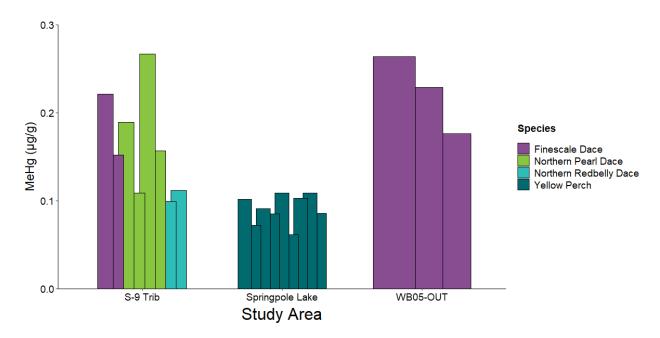
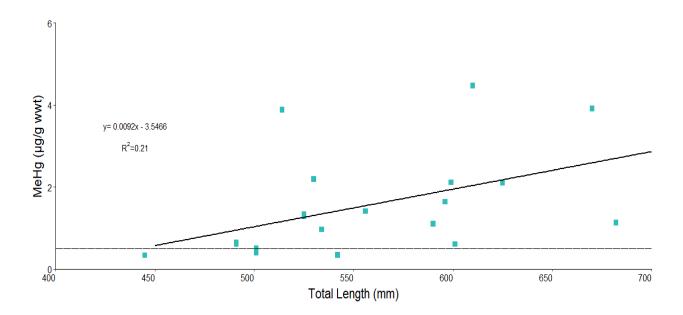


Figure B1.1 Total Mercury and Methymercury in Forage Fish Species Composites

Project # TC190403 | March 2021 Page Bo





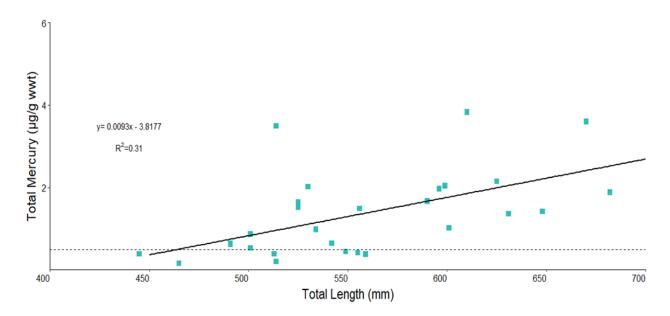


Figure B1.2 Methymercury and Total Mercury in Northern Pike at Length from Springpole Lake

Note: Dashed line represents the consumption guideline for general population (0.5μg/g wwt). Methylmercury plot shows Wood 2019 values only, whereas the total mercury plot shows Wood and Story Environmental Inc. concentrations measured in 2019.

Project # TC190403 | March 2021 Page B7



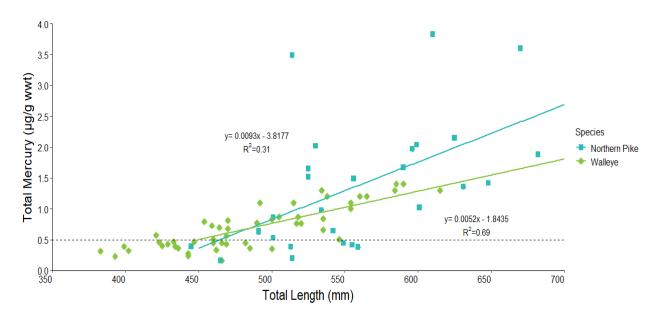


Figure B1.3 Total Mercury in Northern Pike and Walleye at Length from Springpole Lake

<u>Note:</u> Dashed line represents the consumption guideline for general population  $(0.5\mu g/g \text{ wwt})$ . This plot shows all total mercury concentrations from the 2019 Wood and Story Environmental Inc. investigations, as well as historic sampling (FMG and C. Portt 2018).

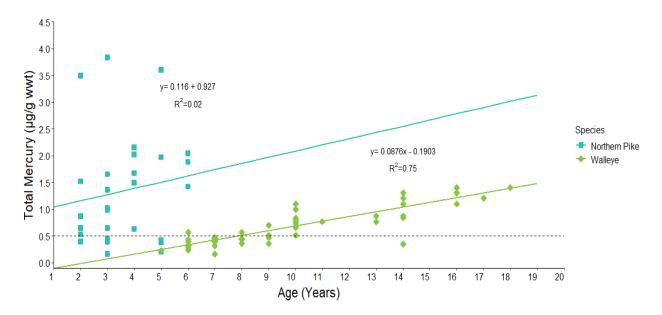


Figure B1.4 Total Mercury in Northern Pike and Walleye at Age from Springpole Lake

<u>Note:</u> Dashed line represents the consumption guideline for general population (0.5µg/g wwt). This plot shows data from the 2019 Wood and Story Environmental Inc. investigations, as well as historic sampling (FMG and C. Portt 2018).

Project # TC190403 | March 2021 Page B8



Wood Environment & Infrastructure

Solutions - Mississauga

ATTN: Dale Klodnicki/Mark Ruthven 160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Date Received: 31-OCT-19

Report Date: 19-DEC-19 07:08 (MT)

Version: FINAL

Client Phone: 905-568-2929

# Certificate of Analysis

Lab Work Order #: L2375518

Project P.O. #:

**NOT SUBMITTED** 

Job Reference:

TC190403.CO2 FMG

C of C Numbers: Legal Site Desc:

Aaron Payne Account Manager

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ADDRESS: 5730 Coopers Avenue, Unit #26 , Mississauga, ON L4Z 2E9 Canada | Phone: +1 905 507 6910 | Fax: +1 905 507 6927 ALS CANADA LTD Part of the ALS Group An ALS Limited Company



L2375518 CONTD.... PAGE 2 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-1 S-9-MT1-COMP1							
Sampled By: A.LAW on 12-SEP-19 @ 11:30 Matrix: TISSUE							
Physical Tests							
% Moisture	74.3		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	4.1		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.070		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	14.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0109		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	34300		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.0463		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.094		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	3.40		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	155		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.057		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1540		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	26.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.155		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.145		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	28000		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	12000		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	22.3		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	0.596		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	3520		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	26.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0106		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	<0.0020		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	191		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)	0.152		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	4.5		0.5	% wwt		06-DEC-19	R4938907
.2375518-2 S-9-MT1-COMP2 Sampled By: A.LAW on 12-SEP-19 @ 11:30							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 3 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-2 S-9-MT1-COMP2 Sampled By: A.LAW on 12-SEP-19 @ 11:30 Matrix: TISSUE							
Physical Tests							
% Moisture	75.2		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	8.9		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.098		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	30.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0108		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	30600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.0390		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.187		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.83		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	142		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.062		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1480		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	21.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0873		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.134		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	25400		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	12600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	24.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	0.432		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	3660		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	41.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0080		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.14		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	<0.0020		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	166		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)  Aggregate Organics	0.112		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	5.1		0.5	% wwt		06-DEC-19	R4938907
L2375518-3 S-9-MT1-COMP3 Sampled By: A.LAW on 12-SEP-19 @ 11:30							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 4 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-3 S-9-MT1-COMP3 Sampled By: A.LAW on 12-SEP-19 @ 11:30 Matrix: TISSUE							
Physical Tests							
% Moisture	76.6		0.50	%		05-DEC-19	R493655
Metals							
Aluminum (Al)-Total	3.8		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Arsenic (As)-Total	0.085		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Barium (Ba)-Total	19.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Cadmium (Cd)-Total	0.0186		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Calcium (Ca)-Total	38600		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Cesium (Cs)-Total	0.0433		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.118		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	4.65		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	195		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.061		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	1700		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	30.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.166		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.173		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	30900		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	14200		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	23.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	0.688		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	4060		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	30.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0138		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.19		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	0.0021		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	185		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Speciated Metals			-				
Methylmercury (as MeHg)	0.221		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	3.5		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 5 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-4 S-9-US02-MT1-COMP 1 Sampled By: A.LAW on 12-SEP-19 @ 11:00 Matrix: TISSUE							
Physical Tests							
% Moisture	75.3		0.50	%		05-DEC-19	R493655
Metals							
Aluminum (AI)-Total	2.5		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Arsenic (As)-Total	0.128		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Barium (Ba)-Total	4.70		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Cadmium (Cd)-Total	0.0121		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Calcium (Ca)-Total	38700		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Cesium (Cs)-Total	0.0391		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.052		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	8.07		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	94.1		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.227		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	1630		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	14.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.127		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.141		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	30500		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	12900		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	22.7		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	0.676		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	3710		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	18.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0196		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.19		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	<0.0020		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	154		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Speciated Metals							
Methylmercury (as MeHg)	0.189		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	4.7		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 6 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-5 S-9-US02-MT1-COMP 2 Sampled By: A.LAW on 12-SEP-19 @ 11:00 Matrix: TISSUE							
Physical Tests							
% Moisture	73.9		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	<2.0		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.087		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	3.68		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0070		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	29600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.0419		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.048		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	6.40		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	84.4		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.036		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	1440		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	12.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.116		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.115		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	25900		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	12800		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	23.0		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	0.655		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	3370		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	14.3		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0201		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.23		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	<0.0020		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	135		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total  Speciated Metals	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Methylmercury (as MeHg)  Aggregate Organics	0.109		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	4.6		0.5	% wwt		06-DEC-19	R4938907
L2375518-6 S-9-US02-MT1-COMP 3 Sampled By: A.LAW on 12-SEP-19 @ 11:00							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 7 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-6 S-9-US02-MT1-COMP 3 Sampled By: A.LAW on 12-SEP-19 @ 11:00 Matrix: TISSUE							
Physical Tests							
% Moisture	73.7		0.50	%		05-DEC-19	R493655
Metals							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Arsenic (As)-Total	0.063		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Barium (Ba)-Total	6.55		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Cadmium (Cd)-Total	0.0160		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Calcium (Ca)-Total	47400		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Cesium (Cs)-Total	0.0351		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.049		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	6.66		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	79.0		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.042		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	1720		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	15.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.197		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.109		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	34800		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	12700		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	21.8		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	0.690		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	3720		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	22.8		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0131		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	<0.0020		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	119		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Speciated Metals							
Methylmercury (as MeHg)	0.267		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	5.1		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 8 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-7 S-9-US02-MT1-COMP 4 Sampled By: A.LAW on 12-SEP-19 @ 11:00 Matrix: TISSUE							
Physical Tests							
% Moisture	76.7		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (Al)-Total	21.5		2.0	mg/kg	12-DEC-19	13-DEC-19	R494332
Antimony (Sb)-Total	<0.010		0.010	mg/kg	12-DEC-19	13-DEC-19	R494332
Arsenic (As)-Total	0.135		0.020	mg/kg	12-DEC-19	13-DEC-19	R494332
Barium (Ba)-Total	51.9		0.050	mg/kg	12-DEC-19	13-DEC-19	R494332
Beryllium (Be)-Total	<0.010		0.010	mg/kg	12-DEC-19	13-DEC-19	R494332
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	12-DEC-19	13-DEC-19	R494332
Boron (B)-Total	<1.0		1.0	mg/kg	12-DEC-19	13-DEC-19	R494332
Cadmium (Cd)-Total	0.0148		0.0050	mg/kg	12-DEC-19	13-DEC-19	R494332
Calcium (Ca)-Total	41800		20	mg/kg	12-DEC-19	13-DEC-19	R494332
Cesium (Cs)-Total	0.0554		0.0050	mg/kg	12-DEC-19	13-DEC-19	R494332
Chromium (Cr)-Total	0.068		0.050	mg/kg	12-DEC-19	13-DEC-19	R494332
Cobalt (Co)-Total	0.276		0.020	mg/kg	12-DEC-19	13-DEC-19	R494332
Copper (Cu)-Total	3.39		0.10	mg/kg	12-DEC-19	13-DEC-19	R494332
Iron (Fe)-Total	231		3.0	mg/kg	12-DEC-19	13-DEC-19	R494332
Lead (Pb)-Total	0.096		0.020	mg/kg	12-DEC-19	13-DEC-19	R494332
Lithium (Li)-Total	<0.50		0.50	mg/kg	12-DEC-19	13-DEC-19	R494332
Magnesium (Mg)-Total	1760		2.0	mg/kg	12-DEC-19	13-DEC-19	R494332
Manganese (Mn)-Total	55.5		0.050	mg/kg	12-DEC-19	13-DEC-19	R494332
Mercury (Hg)-Total	0.0802		0.0050	mg/kg	09-DEC-19	11-DEC-19	R494041
Molybdenum (Mo)-Total	0.213		0.020	mg/kg	12-DEC-19	13-DEC-19	R494332
Nickel (Ni)-Total	<0.20		0.20	mg/kg	12-DEC-19	13-DEC-19	R494332
Phosphorus (P)-Total	30100		10	mg/kg	12-DEC-19	13-DEC-19	R494332
Potassium (K)-Total	13800		20	mg/kg	12-DEC-19	13-DEC-19	R494332
Rubidium (Rb)-Total	25.1		0.050	mg/kg	12-DEC-19	13-DEC-19	R494332
Selenium (Se)-Total	0.515		0.050	mg/kg	12-DEC-19	13-DEC-19	R494332
Sodium (Na)-Total	4040		20	mg/kg	12-DEC-19	13-DEC-19	R494332
Strontium (Sr)-Total	62.9		0.050	mg/kg	12-DEC-19	13-DEC-19	R494332
Tellurium (Te)-Total	<0.020		0.020	mg/kg	12-DEC-19	13-DEC-19	R494332
Thallium (TI)-Total	0.0114		0.0020	mg/kg	12-DEC-19	13-DEC-19	R494332
Tin (Sn)-Total	0.39		0.10	mg/kg	12-DEC-19	13-DEC-19	R494332
Uranium (U)-Total	0.0036		0.0020	mg/kg	12-DEC-19	13-DEC-19	R494332
Vanadium (V)-Total	<0.10		0.10	mg/kg	12-DEC-19	13-DEC-19	R494332
Zinc (Zn)-Total	225		0.50	mg/kg	12-DEC-19	13-DEC-19	R494332
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	12-DEC-19	13-DEC-19	R494332
Speciated Metals							
Methylmercury (as MeHg)	0.0992		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	5.1		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 9 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-8 S-9-US02-MT1-COMP 5							
Sampled By: A.LAW on 12-SEP-19 @ 11:00 Matrix: TISSUE							
Physical Tests							
% Moisture	75.6		0.50	%		05-DEC-19	R4936557
Metals	75.0		0.50	70		00 000 10	114550557
Aluminum (Al)-Total	<2.0		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.112		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	5.90		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0074		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	47700		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.0510		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.053		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	9.84		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	92.3		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.077		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1840		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	21.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.112		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.162		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	37500		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	13800		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	28.0		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	0.721		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	3790		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	24.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0229		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.14		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0022		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	176		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)	0.157		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	5.0		0.5	% wwt		06-DEC-19	R4938907
2375518-9 WB05-OUT-MT1-COMP 1 Sampled By: A.LAW on 13-SEP-19 @ 09:30							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 10 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-9 WB05-OUT-MT1-COMP 1							
Sampled By: A.LAW on 13-SEP-19 @ 09:30  Matrix: TISSUE							
Physical Tests							
% Moisture	79.0		0.50	%		05-DEC-19	R4936557
Metals	70.0		0.00	,,,		00 020 10	114555557
Aluminum (Al)-Total	9.7		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.214		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	6.78		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0252		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	42200		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.123		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	0.075		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.058		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	7.08		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	174		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.046		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1760		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	31.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.203		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.179		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	32200		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	13600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	30.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	0.704		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	4070		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	21.8		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0172		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.23		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0038		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	212		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)	0.264		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	3.5		0.5	% wwt		06-DEC-19	R4938907
L2375518-10 WB05-OUT-MT1-COMP 2 Sampled By: A.LAW on 13-SEP-19 @ 09:30							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 11 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-10 WB05-OUT-MT1-COMP 2 Sampled By: A.LAW on 13-SEP-19 @ 09:30 Matrix: TISSUE							
Physical Tests							
% Moisture	77.2		0.50	%		05-DEC-19	R493655
Metals							
Aluminum (Al)-Total	4.2		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Arsenic (As)-Total	0.160		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Barium (Ba)-Total	4.70		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Cadmium (Cd)-Total	0.0157		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Calcium (Ca)-Total	28100		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Cesium (Cs)-Total	0.137		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.057		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	6.18		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	159		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.025		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	1440		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	23.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.184		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.145		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	23400		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	13000		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	27.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	0.785		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	3590		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	14.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0155		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.20		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	<0.0020		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	159		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Speciated Metals							
Methylmercury (as MeHg)	0.229		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	4.0		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 12 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-11 WB05-OUT-MT1-COMP 3							
Sampled By: A.LAW on 13-SEP-19 @ 09:30 Matrix: TISSUE							
Physical Tests							
% Moisture	76.6		0.50	%		05-DEC-19	R4936557
Metals	70.0		0.00	70		00 020 10	114500007
Aluminum (Al)-Total	5.9		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.152		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	4.98		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0128		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	34300		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.112		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.046		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	6.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	140		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.039		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1490		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	27.3		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.143		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.147		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	26100		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	12100		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	27.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	0.658		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	3390		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	16.8		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0144		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.19		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0026		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	187		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)	0.176		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	3.2		0.5	% wwt		06-DEC-19	R4938907
L2375518-12 SPL-SN1-COMP 1 Sampled By: A.LAW on 15-SEP-19 @ 10:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 13 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-12 SPL-SN1-COMP 1 Sampled By: A.LAW on 15-SEP-19 @ 10:50 Matrix: TISSUE							
Physical Tests							
% Moisture	81.8		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	12.0		2.0	mg/kg	12-DEC-19	13-DEC-19	R4943324
Antimony (Sb)-Total	<0.010		0.010	mg/kg	12-DEC-19	13-DEC-19	R4943324
Arsenic (As)-Total	0.265		0.020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Barium (Ba)-Total	5.67		0.050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Beryllium (Be)-Total	<0.010		0.010	mg/kg	12-DEC-19	13-DEC-19	R4943324
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	12-DEC-19	13-DEC-19	R4943324
Boron (B)-Total	<1.0		1.0	mg/kg	12-DEC-19	13-DEC-19	R4943324
Cadmium (Cd)-Total	0.116		0.0050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Calcium (Ca)-Total	58200		20	mg/kg	12-DEC-19	13-DEC-19	R4943324
Cesium (Cs)-Total	0.119		0.0050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Chromium (Cr)-Total	0.063		0.050	mg/kg	12-DEC-19		R4943324
Cobalt (Co)-Total	0.052		0.020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Copper (Cu)-Total	2.47		0.10	mg/kg	12-DEC-19	13-DEC-19	R4943324
Iron (Fe)-Total	72.1		3.0	mg/kg	12-DEC-19	13-DEC-19	R4943324
Lead (Pb)-Total	0.030		0.020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Lithium (Li)-Total	<0.50		0.50	mg/kg	12-DEC-19	13-DEC-19	R4943324
Magnesium (Mg)-Total	2350		2.0	mg/kg	12-DEC-19	13-DEC-19	R4943324
Manganese (Mn)-Total	22.0		0.050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Mercury (Hg)-Total	0.0854		0.0050	mg/kg	09-DEC-19	11-DEC-19	R4940411
Molybdenum (Mo)-Total	0.072		0.020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Nickel (Ni)-Total	<0.20		0.20	mg/kg	12-DEC-19	13-DEC-19	R4943324
Phosphorus (P)-Total	40600		10	mg/kg	12-DEC-19	13-DEC-19	R4943324
Potassium (K)-Total	15500		20	mg/kg	12-DEC-19	13-DEC-19	R4943324
Rubidium (Rb)-Total	48.9		0.050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Selenium (Se)-Total	2.02		0.050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Sodium (Na)-Total	4070		20	mg/kg	12-DEC-19	13-DEC-19	R4943324
Strontium (Sr)-Total	27.8		0.050	mg/kg	12-DEC-19	13-DEC-19	R4943324
Tellurium (Te)-Total	<0.020		0.020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Thallium (TI)-Total	0.0225		0.0020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Tin (Sn)-Total	0.60		0.10	mg/kg	12-DEC-19	13-DEC-19	R4943324
Uranium (U)-Total	0.0081		0.0020	mg/kg	12-DEC-19	13-DEC-19	R4943324
Vanadium (V)-Total	<0.10		0.10	mg/kg	12-DEC-19	13-DEC-19	R4943324
Zinc (Zn)-Total	165		0.50	mg/kg	12-DEC-19	13-DEC-19	R4943324
Zirconium (Zr)-Total  Speciated Metals	<0.20		0.20	mg/kg	12-DEC-19	13-DEC-19	R4943324
Methylmercury (as MeHg)	0.102		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics				- <b>-</b>			
Lipid Content	1.3		0.5	% wwt		06-DEC-19	R4938907
L2375518-13 SPL-SN1-COMP 2 Sampled By: A.LAW on 15-SEP-19 @ 10:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 14 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
_2375518-13							
Physical Tests							
% Moisture	83.4		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	25.3		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Arsenic (As)-Total	0.227		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Barium (Ba)-Total	5.63		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Cadmium (Cd)-Total	0.109		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Calcium (Ca)-Total	55300		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Cesium (Cs)-Total	0.124		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	0.083		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.065		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	2.42		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	97.3		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.027		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	2130		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	21.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.0856		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.075		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	39400		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	15600		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	53.3		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	1.91		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	4050		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	26.3		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0225		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.24		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	0.0073		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	0.11		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	151		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Speciated Metals				5 5			
Methylmercury (as MeHg)	0.0722		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics				-			
Lipid Content	1.1		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 15 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-14 SPL-SN2-COMP 1 Sampled By: A.LAW on 15-SEP-19 @ 12:45 Matrix: TISSUE							
Physical Tests							
% Moisture	78.7		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	87.8		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.234		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	2.98		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0787		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	40000		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.127		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	0.120		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.088		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.02		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	227		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.032		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1860		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	16.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0924		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.060		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	32000		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	16300		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	52.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	1.80		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	4610		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	21.0		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0203		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.24		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	0.0056		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	0.28		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	111		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals				-			
Methylmercury (as MeHg)  Aggregate Organics	0.0908		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	1.6		0.5	% wwt		06-DEC-19	R4938907
L2375518-15 SPL-SN3-COMP 1 Sampled By: A.LAW on 15-SEP-19 @ 13:50			3.0				

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 16 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-15 SPL-SN3-COMP 1 Sampled By: A.LAW on 15-SEP-19 @ 13:50							
Matrix: TISSUE							
Physical Tests	70.0		0.50	0,		05 DEO 40	D 1000557
% Moisture <b>Metals</b>	79.6		0.50	%		05-DEC-19	R4936557
Aluminum (Al)-Total	27.7		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.265		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	3.70		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.100		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	44200		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.110		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	0.215		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.074		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.27		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	103		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.032		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1820		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	18.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0947		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.077		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	34900		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	16400		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	48.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	1.76		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	4880		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	22.1		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0194		0.0020	mg/kg	05-DEC-19		R4937105
Tin (Sn)-Total	0.22		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0045		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	0.12		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	125		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals				<i>3</i> · <del>3</del>			
Methylmercury (as MeHg)	0.0852		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	1.6		0.5	% wwt		06-DEC-19	R4938907
L2375518-16 SPL-SN3-COMP 2 Sampled By: A.LAW on 15-SEP-19 @ 13:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 17 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-16 SPL-SN3-COMP 2 Sampled By: A.LAW on 15-SEP-19 @ 13:50 Matrix: TISSUE							
Physical Tests							
% Moisture	80.4		0.50	%		05-DEC-19	R493655
Metals							
Aluminum (Al)-Total	19.9		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Arsenic (As)-Total	0.299		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Barium (Ba)-Total	4.02		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R493710
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Cadmium (Cd)-Total	0.121		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Calcium (Ca)-Total	43400		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Cesium (Cs)-Total	0.121		0.0050	mg/kg	05-DEC-19	06-DEC-19	R493710
Chromium (Cr)-Total	0.071		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Cobalt (Co)-Total	0.059		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Copper (Cu)-Total	2.24		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Iron (Fe)-Total	83.5		3.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Lead (Pb)-Total	0.035		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Magnesium (Mg)-Total	1840		2.0	mg/kg	05-DEC-19	06-DEC-19	R493710
Manganese (Mn)-Total	20.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Mercury (Hg)-Total	0.0952		0.0050	mg/kg	05-DEC-19	07-DEC-19	R493712
Molybdenum (Mo)-Total	0.079		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Phosphorus (P)-Total	33100		10	mg/kg	05-DEC-19	06-DEC-19	R493710
Potassium (K)-Total	16200		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Rubidium (Rb)-Total	50.4		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Selenium (Se)-Total	1.72		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Sodium (Na)-Total	5180		20	mg/kg	05-DEC-19	06-DEC-19	R493710
Strontium (Sr)-Total	20.6		0.050	mg/kg	05-DEC-19	06-DEC-19	R493710
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R493710
Thallium (TI)-Total	0.0175		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Tin (Sn)-Total	0.25		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Uranium (U)-Total	0.0052		0.0020	mg/kg	05-DEC-19	06-DEC-19	R493710
Vanadium (V)-Total	0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R493710
Zinc (Zn)-Total	127		0.50	mg/kg	05-DEC-19	06-DEC-19	R493710
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R493710
Speciated Metals				2 0			
Methylmercury (as MeHg)	0.109		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	1.2		0.5	% wwt		06-DEC-19	R493890

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 18 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-17 SPL-SN3-COMP 3 Sampled By: A.LAW on 15-SEP-19 @ 13:50 Matrix: TISSUE							
Physical Tests							
% Moisture	79.2		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	22.8		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.307		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	3.27		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.100		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	37600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.115		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	0.106		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.060		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.28		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	90.1		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.032		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1760		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	17.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0874		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.073		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	31000		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	16800		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	50.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	1.81		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	4840		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	17.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0198		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.21		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0041		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	118		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)  Aggregate Organics	0.0615		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	1.4		0.5	% wwt		06-DEC-19	R4938907
L2375518-18 SPL-SN4-COMP 1 Sampled By: A.LAW on 16-SEP-19 @ 13:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 19 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-18 SPL-SN4-COMP 1							
Sampled By: A.LAW on 16-SEP-19 @ 13:50 Matrix: TISSUE							
Physical Tests							
% Moisture	83.3		0.50	%		05-DEC-19	R4936557
Metals	00.0		0.00	,,,		00 020 10	14400007
Aluminum (Al)-Total	3.4		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.252		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	3.67		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0980		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	47600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.138		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.052		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.24		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	54.6		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1950		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	16.7		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0864		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.063		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	35900		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	16600		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	57.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	2.01		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	4060		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	22.4		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0231		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.44		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0049		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	140		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Speciated Metals							
Methylmercury (as MeHg)	0.103		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics			_				
Lipid Content	1.2		0.5	% wwt		06-DEC-19	R4938907
L2375518-19 SPL-SN4-COMP 2 Sampled By: A.LAW on 16-SEP-19 @ 13:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 20 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-19							
Physical Tests							
% Moisture	83.2		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (AI)-Total	3.1		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.273		0.020	mg/kg	05-DEC-19		R4937105
Barium (Ba)-Total	3.86		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19		R4937105
Cadmium (Cd)-Total	0.103		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	50200		20	mg/kg	05-DEC-19		R4937105
Cesium (Cs)-Total	0.127		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.049		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.25		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	56.7		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.021		0.020	mg/kg	05-DEC-19		R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1870		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	17.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0843		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.069		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	35800		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	15400		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	52.8		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	1.90		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	3900		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	23.9		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0221		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.21		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0050		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	151		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total  Speciated Metals	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Methylmercury (as MeHg)	0.109		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics				5 5			
Lipid Content	1.2		0.5	% wwt		06-DEC-19	R4938907
L2375518-20 SPL-SN4-COMP 3 Sampled By: A.LAW on 16-SEP-19 @ 13:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 21 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-20 SPL-SN4-COMP 3 Sampled By: A.LAW on 16-SEP-19 @ 13:50 Matrix: TISSUE							
Physical Tests							
% Moisture	83.9		0.50	%		05-DEC-19	R4936557
Metals							
Aluminum (Al)-Total	3.8		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Antimony (Sb)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Arsenic (As)-Total	0.257		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Barium (Ba)-Total	3.94		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Beryllium (Be)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	05-DEC-19	06-DEC-19	R4937105
Boron (B)-Total	<1.0		1.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cadmium (Cd)-Total	0.0925		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Calcium (Ca)-Total	52900		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cesium (Cs)-Total	0.128		0.0050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Chromium (Cr)-Total	<0.050		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Cobalt (Co)-Total	0.048		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Copper (Cu)-Total	2.36		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Iron (Fe)-Total	54.7		3.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lead (Pb)-Total	0.024		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Lithium (Li)-Total	<0.50		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Magnesium (Mg)-Total	1980		2.0	mg/kg	05-DEC-19	06-DEC-19	R4937105
Manganese (Mn)-Total	17.7		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Mercury (Hg)-Total	0.0896		0.0050	mg/kg	05-DEC-19	07-DEC-19	R4937125
Molybdenum (Mo)-Total	0.074		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Nickel (Ni)-Total	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Phosphorus (P)-Total	36500		10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Potassium (K)-Total	15300		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Rubidium (Rb)-Total	52.2		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Selenium (Se)-Total	1.94		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Sodium (Na)-Total	3940		20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Strontium (Sr)-Total	25.5		0.050	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tellurium (Te)-Total	<0.020		0.020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Thallium (TI)-Total	0.0211		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Tin (Sn)-Total	0.37		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Uranium (U)-Total	0.0050		0.0020	mg/kg	05-DEC-19	06-DEC-19	R4937105
Vanadium (V)-Total	<0.10		0.10	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zinc (Zn)-Total	153		0.50	mg/kg	05-DEC-19	06-DEC-19	R4937105
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	05-DEC-19	06-DEC-19	R4937105
Methylmercury (as MeHg)  Aggregate Organics	0.0857		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	1.1		0.5	% wwt		06-DEC-19	R4938907
L2375518-21 SPL-AN1-F1 Sampled By: A.LAW on 10-SEP-19 @ 16:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 22 of 43 Version: FINAL

ier* D.L.	Units	Extracted	Analyzed	Batch
0.50	%		04-DEC-19	R493580
2.0	mg/kg	04-DEC-19	18-DEC-19	R494587
0.010	mg/kg	04-DEC-19	18-DEC-19	R494587
0.020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.050	mg/kg	04-DEC-19	18-DEC-19	R494587
0.010	mg/kg	04-DEC-19	18-DEC-19	R494587
0.010	mg/kg	04-DEC-19	18-DEC-19	R494587
1.0	mg/kg	04-DEC-19	18-DEC-19	R494587
0.0050	mg/kg	04-DEC-19	18-DEC-19	R494587
20	mg/kg	04-DEC-19	18-DEC-19	R494587
0.0050	mg/kg	04-DEC-19	18-DEC-19	R494587
0.050	mg/kg	04-DEC-19	18-DEC-19	R494587
0.020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.10	mg/kg	04-DEC-19	18-DEC-19	R494587
3.0	mg/kg	04-DEC-19	18-DEC-19	R494587
0.020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.50	mg/kg	04-DEC-19	18-DEC-19	R494587
2.0	mg/kg	04-DEC-19	18-DEC-19	R494587
0.050	mg/kg	04-DEC-19	18-DEC-19	R494587
0.030	mg/kg	04-DEC-19	06-DEC-19	R493621
0.020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.20	mg/kg	04-DEC-19	18-DEC-19	R494587
10	mg/kg	04-DEC-19	18-DEC-19	R494587
20	mg/kg	04-DEC-19	18-DEC-19	R494587
0.050	mg/kg	04-DEC-19	18-DEC-19	R494587
0.050	mg/kg	04-DEC-19	18-DEC-19	R494587
20	mg/kg	04-DEC-19	18-DEC-19	R494587
0.050	mg/kg	04-DEC-19	18-DEC-19	R494587
0.020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.0020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.10	mg/kg	04-DEC-19	18-DEC-19	R494587
0.0020	mg/kg	04-DEC-19	18-DEC-19	R494587
0.10	mg/kg	04-DEC-19	18-DEC-19	R494587
0.50	mg/kg	04-DEC-19	18-DEC-19	R494587
			18-DEC-19	R494587
	5 5			
0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
0.5	% wwt		05-DEC-19	R493845
_	0.20	0.20 mg/kg 0.0050 mg/kg	0.20 mg/kg 04-DEC-19 0.0050 mg/kg 09-DEC-19	0.20 mg/kg 04-DEC-19 18-DEC-19 0.0050 mg/kg 09-DEC-19 09-DEC-19

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 23 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-22 SPL-AN1-F2 Sampled By: A.LAW on 10-SEP-19 @ 16:50 Matrix: TISSUE							
Physical Tests							
% Moisture	78.5		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	3.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.317		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.162		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	1680		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.363		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.98		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	21.9		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1410		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	0.735		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	1.67		0.030	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	11900		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	19900		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	61.5		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.32		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1470		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.635		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0176		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	29.8		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	1.10		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-23 SPL-AN1-F3 Sampled By: A.LAW on 10-SEP-19 @ 16:50	<b>~0.0</b>		0.0	,0 WWL		33 220 13	

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 24 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-23 SPL-AN1-F3 Sampled By: A.LAW on 10-SEP-19 @ 16:50 Matrix: TISSUE							
Physical Tests							
% Moisture	78.3		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.211		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.092		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	1670		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.333		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.75		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	9.5		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1660		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	0.832		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	1.02		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	13500		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	23100		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	69.7		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.51		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1420		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.465		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0240		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	25.0		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)	0.610		0.0050	ma/ka	09-DEC-19	09-DEC-19	P4040064
Aggregate Organics	0.610		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-24 SPL-AN1-F4 Sampled By: A.LAW on 10-SEP-19 @ 16:50	10.0		0.0				1.1550101

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 25 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-24 SPL-AN1-F4 Sampled By: A.LAW on 10-SEP-19 @ 16:50 Matrix: TISSUE							
Physical Tests							
% Moisture	77.9		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.123		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.272		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	0.0055		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	6290		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.296		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.76		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	8.8		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1740		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.85		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	0.530		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	16300		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	23300		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	78.5		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.48		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1780		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	2.24		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0194		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	29.5		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	0.504		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	0.6		0.5	% wwt		05-DEC-19	R4938451
L2375518-25 SPL-AN1-F5 Sampled By: A.LAW on 10-SEP-19 @ 16:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 26 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-25							
Physical Tests							
% Moisture	77.0		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (AI)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.305		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.163		0.050	mg/kg	04-DEC-19		R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19		R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	2790		20	mg/kg	04-DEC-19		R4936665
Cesium (Cs)-Total	0.305		0.0050	mg/kg	04-DEC-19		R4936665
Chromium (Cr)-Total	0.053		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19		R4936665
Copper (Cu)-Total	0.72		0.10	mg/kg	04-DEC-19		R4936665
Iron (Fe)-Total	8.3		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19		R4936665
Magnesium (Mg)-Total	1630		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	0.974		0.050	mg/kg	04-DEC-19		R4936665
Mercury (Hg)-Total	0.865		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19		R4936665
Phosphorus (P)-Total	13200		10	mg/kg	04-DEC-19		R4936665
Potassium (K)-Total	21300		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	71.1		0.050	mg/kg	04-DEC-19		R4936665
Selenium (Se)-Total	1.31		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1270		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.778		0.050	mg/kg	04-DEC-19		R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19		R4936665
Thallium (Tl)-Total	0.0210		0.0020	mg/kg	04-DEC-19		R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19		R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19		R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	36.5		0.50	mg/kg	04-DEC-19		R4936665
Zirconium (Zr)-Total  Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	0.391		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-26 SPL-AN1-F6 Sampled By: A.LAW on 10-SEP-19 @ 16:50	15.5						

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 27 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-26 SPL-AN1-F6 Sampled By: A.LAW on 10-SEP-19 @ 16:50 Matrix: TISSUE							
Physical Tests							
% Moisture	78.5		0.50	%		04-DEC-19	R4935808
Metals	7 0.0		0.00	,,		0.220.0	111000000
Aluminum (Al)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.192		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.212		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	3550		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.337		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.75		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	11.5		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1720		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.26		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	1.49		0.030	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	14100		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	22400		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	75.8		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.23		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1480		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.13		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0203		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19		R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19		R4936665
Zinc (Zn)-Total	34.0		0.50	mg/kg	04-DEC-19		R4936665
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Speciated Metals					00.555	00.556	
Methylmercury (as MeHg)	1.41		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics Lipid Content	-0 E		0.5	O/ sanad		05-DEC 10	D4020454
-	<0.5		0.5	% wwt		05-DEC-19	K493045T
L2375518-27 SPL-AN2-F1 Sampled By: A.LAW on 11-SEP-19 @ 13:25  * Refer to Referenced Information for Qualifiers (if any) and							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 28 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-27 SPL-AN2-F1 Sampled By: A.LAW on 11-SEP-19 @ 13:25							
Matrix: TISSUE							
Physical Tests							
% Moisture	77.9		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	4.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.133		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.194		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	2990		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.360		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	0.091		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.60		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	15.0		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1630		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	2.55		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	0.981		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	13300		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	21400		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	74.1		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.10		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1470		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.856		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0195		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	22.9		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Speciated Metals							
Methylmercury (as MeHg)	0.970		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-28 SPL-AN2-F2 Sampled By: A.LAW on 11-SEP-19 @ 13:25							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 29 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-28 SPL-AN2-F2 Sampled By: A.LAW on 11-SEP-19 @ 13:25 Matrix: TISSUE							
Physical Tests							
% Moisture	81.6		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	8.8		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.609		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.557		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19		R4936665
Cadmium (Cd)-Total	0.0189		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	4450		20	mg/kg	04-DEC-19		R4936665
Cesium (Cs)-Total	0.462		0.0050	mg/kg	04-DEC-19		R4936665
Chromium (Cr)-Total	0.081		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.78		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	29.8		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1530		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	2.25		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	3.49		0.035	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	13600		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	20200		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	68.6		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.39		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1820		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.81		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0154		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	31.8		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total  Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	3.88		0.10	mg/kg	09-DEC-19	10-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-29 SPL-AN2-F3 Sampled By: A.LAW on 11-SEP-19 @ 13:25							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 30 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-29 SPL-AN2-F3 Sampled By: A.LAW on 11-SEP-19 @ 13:25 Matrix: TISSUE							
Physical Tests							
% Moisture	79.8		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	2.7		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.399		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.311		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	0.0069		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	4380		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.361		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	0.057		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.76		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	14.8		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1670		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.85		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	2.04		0.030	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	14400		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	21500		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	65.8		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.19		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1700		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.82		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0286		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	37.1		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	2.11		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	0.7		0.5	% wwt		05-DEC-19	R4938451
L2375518-30 SPL-AN2-F4 Sampled By: A.LAW on 11-SEP-19 @ 13:25							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 31 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-30 SPL-AN2-F4 Sampled By: A.LAW on 11-SEP-19 @ 13:25 Matrix: TISSUE							
Physical Tests							
% Moisture	78.4		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (AI)-Total	2.3		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.356		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.179		0.050	mg/kg	04-DEC-19		R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19		R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19		R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	1990		20	mg/kg	04-DEC-19		R4936665
Cesium (Cs)-Total	0.342		0.0050	mg/kg	04-DEC-19		R4936665
Chromium (Cr)-Total	0.056		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.66		0.10	mg/kg	04-DEC-19		R4936665
Iron (Fe)-Total	13.3		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1500		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.35		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	1.88		0.030	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	12200		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	19700		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	70.8		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.16		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1660		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.748		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0268		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	21.8		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total  Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	1.13		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-31 SPL-AN3-F1 Sampled By: A.LAW on 12-SEP-19 @ 14:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 32 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-31 SPL-AN3-F1 Sampled By: A.LAW on 12-SEP-19 @ 14:50 Matrix: TISSUE							
Physical Tests							
% Moisture	79.4		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	2.6		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.542		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.366		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	0.0077		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	3110		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.432		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.86		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	15.3		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1690		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.49		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	2.15		0.030	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	14500		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	23200		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	78.8		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.24		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1760		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.13		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0255		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	37.0		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	2.10		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-32 SPL-AN3-F2 Sampled By: A.LAW on 12-SEP-19 @ 14:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 33 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-32 SPL-AN3-F2 Sampled By: A.LAW on 12-SEP-19 @ 14:50 Matrix: TISSUE							
Physical Tests							
% Moisture	79.5		0.50	%		04-DEC-19	R493580
Metals							
Aluminum (Al)-Total	5.6		2.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Arsenic (As)-Total	0.336		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Barium (Ba)-Total	0.175		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R493666
Calcium (Ca)-Total	1800		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Cesium (Cs)-Total	0.386		0.0050	mg/kg	04-DEC-19	05-DEC-19	R493666
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Copper (Cu)-Total	0.85		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Iron (Fe)-Total	17.4		3.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R493666
Magnesium (Mg)-Total	1560		2.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Manganese (Mn)-Total	1.24		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Mercury (Hg)-Total	1.65		0.030	mg/kg	04-DEC-19	06-DEC-19	R493621
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R493666
Phosphorus (P)-Total	12500		10	mg/kg	04-DEC-19	05-DEC-19	R493666
Potassium (K)-Total	21500		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Rubidium (Rb)-Total	74.0		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Selenium (Se)-Total	1.07		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Sodium (Na)-Total	1500		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Strontium (Sr)-Total	0.561		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Thallium (TI)-Total	0.0172		0.0020	mg/kg	04-DEC-19	05-DEC-19	R493666
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R493666
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Zinc (Zn)-Total	34.2		0.50	mg/kg	04-DEC-19	05-DEC-19	R493666
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R493666
Speciated Metals							
Methylmercury (as MeHg)	1.34		0.0050	mg/kg	09-DEC-19	09-DEC-19	R494026
Aggregate Organics							
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R493845

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 34 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-33 SPL-AN3-F3 Sampled By: A.LAW on 12-SEP-19 @ 14:50 Matrix: TISSUE							
Physical Tests							
% Moisture	79.4		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	7.5		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.123		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.470		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	2580		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.315		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	0.073		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.88		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	24.1		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	0.023		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1650		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.24		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	0.645		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	13600		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	23200		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	72.4		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.22		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1550		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.766		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0170		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	27.7		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	0.344		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-34 SPL-AN4-F1 Sampled By: A.LAW on 13-SEP-19 @ 11:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 35 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-34 SPL-AN4-F1 Sampled By: A.LAW on 13-SEP-19 @ 11:50							
Matrix: TISSUE  Physical Tests							
% Moisture	78.6		0.50	%		04-DEC-19	R4935808
Metals	76.0		0.50	/0		04-020-19	K4933606
Aluminum (Al)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.059		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.177		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	5910		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.269		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	0.106		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.69		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	6.0		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1650		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.79		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	0.389		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	14900		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	22100		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	74.3		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.09		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1420		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.52		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0141		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	24.1		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Speciated Metals							
Methylmercury (as MeHg)	0.333		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics				04		05.550 ::	D 4633 :=
Lipid Content	0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-35 SPL-AN4-F2 Sampled By: A.LAW on 13-SEP-19 @ 11:50	I Mothodology						

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 36 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-35 SPL-AN4-F2 Sampled By: A.LAW on 13-SEP-19 @ 11:50 Matrix: TISSUE							
Physical Tests							
% Moisture	79.3		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (AI)-Total	24.2		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.089		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.407		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	5450		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.378		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	0.116		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.62		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	45.5		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1660		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	2.10		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	0.625		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	14400		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	21200		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	67.7		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.30		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1680		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.88		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0195		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	24.8		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Speciated Metals				-			
Methylmercury (as MeHg)  Aggregate Organics	0.653		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	<0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-36 SPL-AN4-F3 Sampled By: A.LAW on 13-SEP-19 @ 11:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 37 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-36							
Physical Tests							
% Moisture	79.4		0.50	%		04-DEC-19	R4935808
Metals	70.1		0.00	,,		0.220.0	111000000
Aluminum (AI)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.740		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.111		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	0.0076		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	1470		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.414		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.61		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	13.7		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1500		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	0.794		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	1.97		0.030	mg/kg	04-DEC-19	06-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	12100		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	20400		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	69.3		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	1.37		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1510		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	0.420		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0174		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	24.4		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Speciated Metals							
Methylmercury (as MeHg)	1.64		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	0.6		0.5	% wwt		05-DEC-19	R4938451
_2375518-37							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 38 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2375518-37							
Physical Tests							
% Moisture	80.9		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Arsenic (As)-Total	0.157		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Barium (Ba)-Total	0.403		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R493666
Calcium (Ca)-Total	6930		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Cesium (Cs)-Total	0.483		0.0050	mg/kg	04-DEC-19	05-DEC-19	R493666
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Copper (Cu)-Total	0.52		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Iron (Fe)-Total	6.5		3.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R493666
Magnesium (Mg)-Total	1500		2.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Manganese (Mn)-Total	1.91		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Mercury (Hg)-Total	3.83		0.015	mg/kg	04-DEC-19	06-DEC-19	R493621
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R493666
Phosphorus (P)-Total	14700		10	mg/kg	04-DEC-19	05-DEC-19	R493666
Potassium (K)-Total	18700		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Rubidium (Rb)-Total	59.7		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Selenium (Se)-Total	1.13		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Sodium (Na)-Total	1100		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Strontium (Sr)-Total	2.47		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Thallium (TI)-Total	0.0143		0.0020	mg/kg	04-DEC-19	05-DEC-19	R493666
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R493666
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Zinc (Zn)-Total	25.7		0.50	mg/kg	04-DEC-19	05-DEC-19	R493666
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R493666
Speciated Metals							
Methylmercury (as MeHg)	4.47		0.10	mg/kg	09-DEC-19	10-DEC-19	R494026
Aggregate Organics							
Lipid Content	0.5		0.5	% wwt		05-DEC-19	R493845

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 39 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-38 SPL-AN5-F1 Sampled By: A.LAW on 14-SEP-19 @ 17:00 Matrix: TISSUE							
Physical Tests							
% Moisture	77.5		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (Al)-Total	4.7		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.069		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.282		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	7110		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cesium (Cs)-Total	0.239		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Copper (Cu)-Total	0.61		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Iron (Fe)-Total	11.3		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Magnesium (Mg)-Total	1650		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	2.45		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Mercury (Hg)-Total	0.646		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936210
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Phosphorus (P)-Total	15300		10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Potassium (K)-Total	20600		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	57.7		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Selenium (Se)-Total	0.932		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Sodium (Na)-Total	1580		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	2.74		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Thallium (TI)-Total	0.0147		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	38.6		0.50	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zirconium (Zr)-Total Speciated Metals	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Methylmercury (as MeHg)  Aggregate Organics	0.611		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Lipid Content	0.7		0.5	% wwt		05-DEC-19	R4938451
L2375518-39 SPL-AN5-F2 Sampled By: A.LAW on 13-SEP-19 @ 11:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 40 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2375518-39							
Physical Tests							
% Moisture	80.1		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (AI)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Arsenic (As)-Total	0.151		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Barium (Ba)-Total	0.189		0.050	mg/kg	04-DEC-19		R4936665
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R4936665
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19		R4936665
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19		R4936665
Cadmium (Cd)-Total	<0.0050		0.0050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Calcium (Ca)-Total	3680		20	mg/kg	04-DEC-19		R4936665
Cesium (Cs)-Total	0.398		0.0050	mg/kg	04-DEC-19		R4936665
Chromium (Cr)-Total	<0.050		0.050	mg/kg	04-DEC-19	05-DEC-19	R4936665
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19		R4936665
Copper (Cu)-Total	0.61		0.10	mg/kg	04-DEC-19		R4936665
Iron (Fe)-Total	11.3		3.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R4936665
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19		R4936665
Magnesium (Mg)-Total	1580		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Manganese (Mn)-Total	1.21		0.050	mg/kg	04-DEC-19		R4936665
Mercury (Hg)-Total  Molybdenum (Mo)-Total	1.52		0.030	mg/kg	04-DEC-19		R4936210
Nickel (Ni)-Total	<0.020		0.020	mg/kg	04-DEC-19 04-DEC-19	05-DEC-19 05-DEC-19	R4936665
Phosphorus (P)-Total	<0.20 14200		0.20 10	mg/kg mg/kg	04-DEC-19 04-DEC-19		R4936665 R4936665
Potassium (K)-Total	23100		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Rubidium (Rb)-Total	79.3		0.050	mg/kg	04-DEC-19		R4936665
Selenium (Se)-Total	1.19		0.050	mg/kg	04-DEC-19	05-DEC-19	
Sodium (Na)-Total	1550		20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Strontium (Sr)-Total	1.17		0.050	mg/kg	04-DEC-19		R4936665
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19		R4936665
Thallium (TI)-Total	0.0203		0.0020	mg/kg	04-DEC-19		R4936665
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19		R4936665
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19		R4936665
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R4936665
Zinc (Zn)-Total	25.2		0.50	mg/kg	04-DEC-19		R4936665
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R4936665
Speciated Metals				5 5			
Methylmercury (as MeHg)	1.29		0.0050	mg/kg	09-DEC-19	09-DEC-19	R4940264
Aggregate Organics							
Lipid Content	0.5		0.5	% wwt		05-DEC-19	R4938451
L2375518-40 SPL-AN5-F3 Sampled By: A.LAW on 13-SEP-19 @ 11:50							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2375518 CONTD.... PAGE 41 of 43 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
_2375518-40							
Physical Tests							
% Moisture	80.4		0.50	%		04-DEC-19	R4935808
Metals							
Aluminum (AI)-Total	<2.0		2.0	mg/kg	04-DEC-19	05-DEC-19	R4936665
Antimony (Sb)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Arsenic (As)-Total	0.150		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Barium (Ba)-Total	0.604		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Beryllium (Be)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Bismuth (Bi)-Total	<0.010		0.010	mg/kg	04-DEC-19	05-DEC-19	R493666
Boron (B)-Total	<1.0		1.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Cadmium (Cd)-Total	0.0109		0.0050	mg/kg	04-DEC-19	05-DEC-19	R493666
Calcium (Ca)-Total	5810		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Cesium (Cs)-Total	0.410		0.0050	mg/kg	04-DEC-19	05-DEC-19	R493666
Chromium (Cr)-Total	0.069		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Cobalt (Co)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Copper (Cu)-Total	0.70		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Iron (Fe)-Total	13.9		3.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Lead (Pb)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Lithium (Li)-Total	<0.50		0.50	mg/kg	04-DEC-19	05-DEC-19	R493666
Magnesium (Mg)-Total	1770		2.0	mg/kg	04-DEC-19	05-DEC-19	R493666
Manganese (Mn)-Total	2.96		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Mercury (Hg)-Total	3.60		0.035	mg/kg	04-DEC-19	06-DEC-19	R493621
Molybdenum (Mo)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Nickel (Ni)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R493666
Phosphorus (P)-Total	15400		10	mg/kg	04-DEC-19	05-DEC-19	R493666
Potassium (K)-Total	21900		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Rubidium (Rb)-Total	66.8		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Selenium (Se)-Total	1.21		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Sodium (Na)-Total	1940		20	mg/kg	04-DEC-19	05-DEC-19	R493666
Strontium (Sr)-Total	2.54		0.050	mg/kg	04-DEC-19	05-DEC-19	R493666
Tellurium (Te)-Total	<0.020		0.020	mg/kg	04-DEC-19	05-DEC-19	R493666
Thallium (TI)-Total	0.0168		0.0020	mg/kg	04-DEC-19	05-DEC-19	R493666
Tin (Sn)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Uranium (U)-Total	<0.0020		0.0020	mg/kg	04-DEC-19	05-DEC-19	R493666
Vanadium (V)-Total	<0.10		0.10	mg/kg	04-DEC-19	05-DEC-19	R493666
Zinc (Zn)-Total	42.9		0.50	mg/kg	04-DEC-19	05-DEC-19	R493666
Zirconium (Zr)-Total	<0.20		0.20	mg/kg	04-DEC-19	05-DEC-19	R493666
Speciated Metals							
Methylmercury (as MeHg)  Aggregate Organics	3.91		0.10	mg/kg	09-DEC-19	10-DEC-19	R4940264
Lipid Content	0.6		0.5	% wwt		05-DEC-19	R4938451

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

TC190403.CO2 FMG

L2375518 CONTD....

PAGE 42 of 43 Version: FINAL

#### Reference Information

#### QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Manganese (Mn)-Total	В	L2375518-12, -7
Duplicate	Calcium (Ca)-Total	DUP-H	L2375518-21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40
Duplicate	Manganese (Mn)-Total	DUP-H	L2375518-21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40
Duplicate	Strontium (Sr)-Total	DUP-H	L2375518-21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40
Certified Reference Material	Lead (Pb)-Total	MES	L2375518-21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40
Certified Reference Material	Lead (Pb)-Total	MES	L2375518-12, -7
Certified Reference Material	Bismuth (Bi)-Total	RM-H	L2375518-21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40

#### Sample Parameter Qualifier key listed:

Qualifier	Description
В	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
RM-H	Reference Material recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.

#### **Test Method References:**

ALS Test Code	Matrix Test Description		Method Reference**
HG-DRY-CVAFS-N-VA	Tissue	Mercury in Tissue by CVAAS (DRY)	EPA 200.3, EPA 245.7

This method is conducted following British Columbia Lab Manual method "Metals in Animal Tissue and Vegetation (Biota) - Prescriptive". Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with addition of hydrogen peroxide. Analysis is by atomic fluorescence spectrophotometry or atomic absorption spectrophotometry, adapted from US EPA Method 245.7.

EPA 3570, 8290A LIPIDS-GRAV-VA Tissue Lipids in Tissue by Gravimetric

A portion of homogenized sample is extracted with dichloromethane. The extract is evaporated to dryness and the lipid content determined gravimetrically.

MEHG-DRY-GCAF-VA Tissue Methylmercury in Tissue by GCAFS Liang et al. (1994) (Dry)

This method follows the procedures published by Liang, Bloom and Horvat in Clinical Chemistry (Vol 40, No 4, 1994). Samples are homogenized and then digested in a methanolic potassium hydroxide solution. An aliquot of the digestate is analyzed by aqueous phase ethylation, purge and trap, desorption and GC separation. The separated species are then pyrolized to elemental Hg and quantified by cold vapour atomic fluorescence spectroscopy. Results are reported "as MeHg".

MET-DRY-CCMS-N-VA Tissue Metals in Tissue by CRC ICPMS EPA 200.3/6020A (DRY)

This method is conducted following British Columbia Lab Manual method "Metals in Animal Tissue and Vegetation (Biota) - Prescriptive". Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with addition of hydrogen peroxide. Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Method Limitation: This method employs a strong acid/peroxide digestion, and is intended to provide a conservative estimate of bio-available metals. Near complete recoveries are achieved for most toxicologically important metals, but elements associated with recalcitrant minerals may be only partially recovered.

MOISTURE-TISS-VA Tissue % Moisture in Tissues Puget Sound WQ Authority, Apr 1997

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

\*\* 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:

<b>Laboratory Definition Code</b>	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
Chain of Custody Numbers:	

TC190403.CO2 FMG L2375518 CONTD....

**Reference Information** 

PAGE 43 of 43 Version: FINAL

#### **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 weight of sample

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.



Workorder: L2375518 Report Date: 19-DEC-19 Page 1 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-DRY-CVAFS-N-VA	Tissue							
Batch R4936210								
WG3234743-3 CRM Mercury (Hg)-Total		VA-NRC-DOR	<b>M4</b> 99.3		%		70-130	05-DEC-19
WG3234743-2 DUP Mercury (Hg)-Total		<b>L2375518-25</b> 0.865	0.896		mg/kg	3.5	40	05-DEC-19
WG3234743-4 LCS Mercury (Hg)-Total			103.2		%		80-120	05-DEC-19
WG3234743-1 MB Mercury (Hg)-Total			<0.0050		mg/kg		0.005	05-DEC-19
Batch R4937125								
WG3235852-3 CRM		VA-NRC-DOR	M4					
Mercury (Hg)-Total			91.9		%		70-130	07-DEC-19
WG3235852-2 DUP		L2375518-10	0.464					
Mercury (Hg)-Total		0.184	0.161		mg/kg	13	40	07-DEC-19
WG3235852-4 LCS Mercury (Hg)-Total			99.4		%		80-120	07-DEC-19
WG3235852-1 MB Mercury (Hg)-Total			<0.0050		mg/kg		0.005	07-DEC-19
Batch R4940411								
WG3237168-3 CRM		VA-NRC-DOR						
Mercury (Hg)-Total			101.4		%		70-130	11-DEC-19
WG3237168-4 LCS Mercury (Hg)-Total			98.3		%		80-120	11-DEC-19
WG3237168-1 MB								
Mercury (Hg)-Total			<0.0050		mg/kg		0.005	11-DEC-19
LIPIDS-GRAV-VA	Tissue							
Batch R4938451								
WG3234749-1 DUP		L2375518-26	-0 F		O/ NAMAP	<b>h</b> 1/A	40	05 DEO 10
Lipid Content		<0.5	<0.5	RPD-NA	% wwt	N/A	40	05-DEC-19
WG3236353-2 LCS Lipid Content			95.6		%		70-130	05-DEC-19
WG3236353-1 MB Lipid Content			<0.5		% wwt		0.5	05-DEC-19
Batch R4938907								
WG3235860-1 DUP Lipid Content		<b>L2375518-12</b> 1.3	1.2		% wwt	7.4	40	06-DEC-19
WG3237235-2 LCS Lipid Content			93.4		%		70-130	06-DEC-19
WG3237235-1 MB								-



Workorder: L2375518 Report Date: 19-DEC-19 Page 2 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
LIPIDS-GRAV-VA	Tissue							
Batch R4938907 WG3237235-1 MB Lipid Content			<0.5		% wwt		0.5	06-DEC-19
MEHG-DRY-GCAF-VA	Tissue							
Batch R4940264								
WG3238406-2 CRM Methylmercury (as MeHo	g)	VA-NRC-DORN	<b>14</b> 99.7		%		70-130	09-DEC-19
WG3238563-2 CRM Methylmercury (as MeHo	g)	VA-NRC-DORN	<b>14</b> 98.6		%		70-130	09-DEC-19
WG3238406-4 DUP Methylmercury (as MeHç	g)	<b>L2375518-19</b> 0.109	0.0964		mg/kg	12	30	09-DEC-19
WG3238563-4 DUP Methylmercury (as MeHo	g)	<b>L2375518-29</b> 2.11	2.06		mg/kg	2.3	30	09-DEC-19
WG3238406-3 LCS Methylmercury (as MeHo	g)		90.2		%		70-130	09-DEC-19
WG3238563-3 LCS Methylmercury (as MeHo	g)		96.9		%		70-130	09-DEC-19
WG3238406-1 MB Methylmercury (as MeHo	g)		<0.0050		mg/kg wwt		0.005	09-DEC-19
WG3238563-1 MB Methylmercury (as MeHo	g)		<0.0050		mg/kg wwt		0.005	09-DEC-19
MET-DRY-CCMS-N-VA	Tissue							
Batch R4936665 WG3234743-3 CRM Aluminum (Al)-Total		VA-NRC-DORN	<b>14</b> 110.3		%		70-130	05-DEC-19
Arsenic (As)-Total			95.9		%		70-130	05-DEC-19
Barium (Ba)-Total			107.7		%		70-130	05-DEC-19
Beryllium (Be)-Total			0.016		mg/kg		0.005-0.025	
Bismuth (Bi)-Total			0.052	RM-H	mg/kg		0.002-0.022	
Boron (B)-Total			95.8		%		70-130	05-DEC-19
Cadmium (Cd)-Total			93.7		%		70-130	05-DEC-19
Calcium (Ca)-Total			106.2		%		70-130	05-DEC-19
Cesium (Cs)-Total			98.5		%		70-130	05-DEC-19
Chromium (Cr)-Total			109.1		%		70-130	05-DEC-19
Cobalt (Co)-Total			95.9		%		70-130	05-DEC-19
Copper (Cu)-Total			96.7		%		70-130	05-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 3 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4936665								
WG3234743-3 CRM		VA-NRC-DO						
Iron (Fe)-Total			105.5		%		70-130	05-DEC-19
Lead (Pb)-Total			132.9	MES	%		70-130	05-DEC-19
Lithium (Li)-Total			1.07		mg/kg		0.71-1.71	05-DEC-19
Magnesium (Mg)-Total			97.8		%		70-130	05-DEC-19
Manganese (Mn)-Total			120.2		%		70-130	05-DEC-19
Molybdenum (Mo)-Tota	l		97.6		%		70-130	05-DEC-19
Nickel (Ni)-Total			95.9		%		70-130	05-DEC-19
Phosphorus (P)-Total			97.9		%		70-130	05-DEC-19
Potassium (K)-Total			98.7		%		70-130	05-DEC-19
Rubidium (Rb)-Total			101.6		%		70-130	05-DEC-19
Selenium (Se)-Total			103.8		%		70-130	05-DEC-19
Sodium (Na)-Total			98.8		%		70-130	05-DEC-19
Strontium (Sr)-Total			96.0		%		70-130	05-DEC-19
Thallium (TI)-Total			97.9		%		70-130	05-DEC-19
Uranium (U)-Total			111.1		%		70-130	05-DEC-19
Vanadium (V)-Total			107.0		%		70-130	05-DEC-19
Zinc (Zn)-Total			107.3		%		70-130	05-DEC-19
Zirconium (Zr)-Total			0.29		mg/kg		0.05-0.45	05-DEC-19
WG3234743-2 DUP Aluminum (Al)-Total		<b>L2375518-25</b> <2.0	<2.0	RPD-NA	mg/kg	N/A	40	05-DEC-19
Antimony (Sb)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	05-DEC-19
Arsenic (As)-Total		0.305	0.304		mg/kg	0.1	40	05-DEC-19
Barium (Ba)-Total		0.163	0.089	J	mg/kg	0.074	0.1	05-DEC-19
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	05-DEC-19
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	05-DEC-19
Boron (B)-Total		<1.0	<1.0	RPD-NA	mg/kg	N/A	40	05-DEC-19
Cadmium (Cd)-Total		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	40	05-DEC-19
Calcium (Ca)-Total		2790	1170	DUP-H	mg/kg	82	60	05-DEC-19
Cesium (Cs)-Total		0.305	0.293		mg/kg	4.1	40	05-DEC-19
Chromium (Cr)-Total		0.053	<0.050	RPD-NA	mg/kg	N/A	40	05-DEC-19
Cobalt (Co)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	05-DEC-19
Copper (Cu)-Total		0.72	0.65		mg/kg	12	40	05-DEC-19
Iron (Fe)-Total		8.3	6.9		mg/kg	18	40	05-DEC-19
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Workorder: L2375518 Report Date: 19-DEC-19 Page 4 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4936665								
WG3234743-2 DUP Lead (Pb)-Total		<b>L2375518-25</b> <0.020	<0.020	RPD-NA	mg/kg	N/A	40	05-DEC-19
Lithium (Li)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	05-DEC-19
Magnesium (Mg)-Total		1630	1500		mg/kg	8.7	40	05-DEC-19
Manganese (Mn)-Total		0.974	0.635	DUP-H	mg/kg	42	40	05-DEC-19
Molybdenum (Mo)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	05-DEC-19
Nickel (Ni)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	05-DEC-19
Phosphorus (P)-Total		13200	11700		mg/kg	12	40	05-DEC-19
Potassium (K)-Total		21300	20600		mg/kg	3.8	40	05-DEC-19
Rubidium (Rb)-Total		71.1	68.1		mg/kg	4.3	40	05-DEC-19
Selenium (Se)-Total		1.31	1.25		mg/kg	4.0	40	05-DEC-19
Sodium (Na)-Total		1270	1180		mg/kg	7.1	40	05-DEC-19
Strontium (Sr)-Total		0.778	0.292	DUP-H	mg/kg	91	60	05-DEC-19
Tellurium (Te)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	05-DEC-19
Thallium (TI)-Total		0.0210	0.0190		mg/kg	10	40	05-DEC-19
Tin (Sn)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	05-DEC-19
Uranium (U)-Total		<0.0020	<0.0020	RPD-NA	mg/kg	N/A	40	05-DEC-19
Vanadium (V)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	05-DEC-19
Zinc (Zn)-Total		36.5	31.9		mg/kg	13	40	05-DEC-19
Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	05-DEC-19
WG3234743-4 LCS								
Aluminum (Al)-Total			114.0		%		80-120	05-DEC-19
Antimony (Sb)-Total			112.5		%		80-120	05-DEC-19
Arsenic (As)-Total			110.3		%		80-120	05-DEC-19
Barium (Ba)-Total			110.9		%		80-120	05-DEC-19
Beryllium (Be)-Total			107.2		%		80-120	05-DEC-19
Bismuth (Bi)-Total			108.5		%		80-120	05-DEC-19
Boron (B)-Total			104.1		%		80-120	05-DEC-19
Cadmium (Cd)-Total			107.4		%		80-120	05-DEC-19
Calcium (Ca)-Total Cesium (Cs)-Total			108.4		%		80-120	05-DEC-19
Chromium (Cr)-Total			114.4		%		80-120	05-DEC-19
Cobalt (Co)-Total			110.9 109.9		%		80-120	05-DEC-19
Copper (Cu)-Total			109.9		%		80-120	05-DEC-19
Copper (Cu)-Total			103.7		/0		80-120	05-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 5 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4936665								
WG3234743-4 LCS					0.4			
Iron (Fe)-Total			119.8		%		80-120	05-DEC-19
Lead (Pb)-Total			110.8		%		80-120	05-DEC-19
Lithium (Li)-Total			101.2		%		80-120	05-DEC-19
Magnesium (Mg)-Total			108.7		%		80-120	05-DEC-19
Manganese (Mn)-Total			110.6		%		80-120	05-DEC-19
Molybdenum (Mo)-Total			109.2		%		80-120	05-DEC-19
Nickel (Ni)-Total			109.6		%		80-120	05-DEC-19
Phosphorus (P)-Total			116.4		%		80-120	05-DEC-19
Potassium (K)-Total			109.5		%		80-120	05-DEC-19
Rubidium (Rb)-Total			110.9		%		80-120	05-DEC-19
Selenium (Se)-Total			109.1		%		80-120	05-DEC-19
Sodium (Na)-Total			111.1		%		80-120	05-DEC-19
Strontium (Sr)-Total			109.9		%		80-120	05-DEC-19
Tellurium (Te)-Total			109.6		%		80-120	05-DEC-19
Thallium (TI)-Total			106.1		%		80-120	05-DEC-19
Tin (Sn)-Total			105.6		%		80-120	05-DEC-19
Uranium (U)-Total			119.9		%		80-120	05-DEC-19
Vanadium (V)-Total			112.2		%		80-120	05-DEC-19
Zinc (Zn)-Total			105.8		%		80-120	05-DEC-19
Zirconium (Zr)-Total			109.2		%		80-120	05-DEC-19
WG3234743-1 MB			<2.0		ma/ka		2	05 DEO 40
Aluminum (Al)-Total			<0.010		mg/kg		2 0.01	05-DEC-19
Antimony (Sb)-Total					mg/kg		0.01	05-DEC-19
Arsenic (As)-Total Barium (Ba)-Total			<0.020 <0.050		mg/kg		0.02	05-DEC-19
Beryllium (Be)-Total			<0.030		mg/kg mg/kg		0.03	05-DEC-19
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	05-DEC-19
Boron (B)-Total			<1.0		mg/kg		1	05-DEC-19
Cadmium (Cd)-Total			<0.0050				0.005	05-DEC-19
Calcium (Ca)-Total			<20		mg/kg mg/kg		20	05-DEC-19
Calcium (Ca)-Total			<0.0050		mg/kg		0.005	05-DEC-19
Chromium (Cr)-Total			<0.050				0.005	05-DEC-19
Cobalt (Co)-Total			<0.050		mg/kg		0.05	05-DEC-19
Copper (Cu)-Total					mg/kg			05-DEC-19
Copper (Cu)-Total			<0.10		mg/kg		0.1	05-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 6 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

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Workorder: L2375518 Report Date: 19-DEC-19 Page 7 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4937105								
WG3235852-3 CRM		VA-NRC-DO						
Iron (Fe)-Total			114.3		%		70-130	06-DEC-19
Lead (Pb)-Total			106.7		%		70-130	06-DEC-19
Lithium (Li)-Total			1.16		mg/kg		0.71-1.71	06-DEC-19
Magnesium (Mg)-Total			99.5		%		70-130	06-DEC-19
Manganese (Mn)-Total			98.9		%		70-130	06-DEC-19
Molybdenum (Mo)-Total			97.5		%		70-130	06-DEC-19
Nickel (Ni)-Total			107.7		%		70-130	06-DEC-19
Phosphorus (P)-Total			104.9		%		70-130	06-DEC-19
Potassium (K)-Total			105.5		%		70-130	06-DEC-19
Rubidium (Rb)-Total			108.6		%		70-130	06-DEC-19
Selenium (Se)-Total			105.5		%		70-130	06-DEC-19
Sodium (Na)-Total			107.1		%		70-130	06-DEC-19
Strontium (Sr)-Total			97.3		%		70-130	06-DEC-19
Thallium (TI)-Total			88.5		%		70-130	06-DEC-19
Uranium (U)-Total			100.1		%		70-130	06-DEC-19
Vanadium (V)-Total			106.4		%		70-130	06-DEC-19
Zinc (Zn)-Total			112.4		%		70-130	06-DEC-19
Zirconium (Zr)-Total			0.24		mg/kg		0.05-0.45	06-DEC-19
WG3235852-2 DUP Aluminum (Al)-Total		<b>L2375518-1</b> 0 4.2	<b>)</b> 4.6		mg/kg	8.8	40	06-DEC-19
Antimony (Sb)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	06-DEC-19
Arsenic (As)-Total		0.160	0.196		mg/kg	20	40	06-DEC-19
Barium (Ba)-Total		4.70	6.50		mg/kg	32	40	06-DEC-19
Beryllium (Be)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	06-DEC-19
Bismuth (Bi)-Total		<0.010	<0.010	RPD-NA	mg/kg	N/A	40	06-DEC-19
Boron (B)-Total		<1.0	<1.0	RPD-NA	mg/kg	N/A	40	06-DEC-19
Cadmium (Cd)-Total		0.0157	0.0153		mg/kg	2.8	40	06-DEC-19
Calcium (Ca)-Total		28100	42500		mg/kg	41	60	06-DEC-19
Cesium (Cs)-Total		0.137	0.133		mg/kg	3.2	40	06-DEC-19
Chromium (Cr)-Total		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	06-DEC-19
Cobalt (Co)-Total		0.057	0.056	=	mg/kg	0.5	40	06-DEC-19
Copper (Cu)-Total		6.18	6.22		mg/kg	0.5	40	06-DEC-19
Iron (Fe)-Total		159	163		mg/kg	2.4	40	06-DEC-19
non (i o) Total		100	100		1119/119	۷.4	40	00-DEC-18



Workorder: L2375518 Report Date: 19-DEC-19 Page 8 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Metrophy-cols   Metrophy-col	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Mead (Pb)-Total	MET-DRY-CCMS-N-VA	Tissue							
Liead (Pb)-Total	Batch R4937105								
Magnesium (Mg)-Total         1440         1670         mg/kg         15         40         06-DEC-19           Manganese (Mn)-Total         23.6         29.3         mg/kg         21         40         06-DEC-19           Molybdenum (Mo)-Total         0.145         0.155         mg/kg         6.9         40         06-DEC-19           Nickel (Ni)-Total         <0.20				0.027		mg/kg	9.0	40	06-DEC-19
Manganese (Mn)-Total         23.6         29.3         mg/kg         21         40         06-DEC-19           Molybdenum (Mo)-Total         0.145         0.155         mg/kg         6.9         40         06-DEC-19           Nickel (Ni)-Total         <0.20	Lithium (Li)-Total		<0.50	<0.50	RPD-NA	mg/kg	N/A	40	06-DEC-19
Molybdenum (Mo)-Total         0.145         0.155         mg/kg         6.9         40         06-DEC-19           Nickel (Ni)-Total         <0.20	Magnesium (Mg)-Total		1440	1670		mg/kg	15	40	06-DEC-19
Nickel (Ni)-Total	Manganese (Mn)-Total		23.6	29.3		mg/kg	21	40	06-DEC-19
Phosphorus (P)-Total	Molybdenum (Mo)-Total		0.145	0.155		mg/kg	6.9	40	06-DEC-19
Potassium (K)-Total   13000   13200   mg/kg   1.9   40   06-DEC-19   Rubidium (Rb)-Total   27.9   28.0   mg/kg   0.6   40   06-DEC-19   Selenium (Se)-Total   0.785   0.794   mg/kg   1.1   40   06-DEC-19   Sodium (Na)-Total   3590   3680   mg/kg   2.5   40   06-DEC-19   Strontium (Sr)-Total   14.5   21.7   mg/kg   39   60   06-DEC-19   Strontium (Sr)-Total   14.5   21.7   mg/kg   39   60   06-DEC-19   Tellurium (Te)-Total   0.0020   0.020   RPD-NA   mg/kg   N/A   40   06-DEC-19   Thallium (Tl)-Total   0.0155   0.0171   mg/kg   8.9   40   06-DEC-19   Tin (Sn)-Total   0.20   0.19   mg/kg   8.9   40   06-DEC-19   Uranium (U)-Total   0.0020   0.0022   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.10   <0.10   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.10   <0.10   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.20   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   <0.20   RPD-NA   mg/kg   N/A   40   06-DEC-19   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-Total   0.020   Vanadium (V)-	Nickel (Ni)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	06-DEC-19
Rubidium (Rb)-Total         27.9         28.0         mg/kg         0.6         40         06-DEC-19           Selenium (Se)-Total         0.785         0.794         mg/kg         1.1         40         06-DEC-19           Sodium (Na)-Total         3590         3680         mg/kg         2.5         40         06-DEC-19           Strontium (Sr)-Total         14.5         21.7         mg/kg         39         60         06-DEC-19           Tellurium (Te)-Total         <0.020	Phosphorus (P)-Total		23400	31500		mg/kg	29	40	06-DEC-19
Selenium (Se)-Total         0.785         0.794         mg/kg         1.1         40         06-DEC-19           Sodium (Na)-Total         3590         3680         mg/kg         2.5         40         06-DEC-19           Strontium (Sr)-Total         14.5         21.7         mg/kg         39         60         06-DEC-19           Tellurium (Te)-Total         <0.020	Potassium (K)-Total		13000	13200		mg/kg	1.9	40	06-DEC-19
Sodium (Na)-Total         3590         3680         mg/kg         2.5         40         06-DEC-19           Strontium (Sr)-Total         14.5         21.7         mg/kg         39         60         06-DEC-19           Tellurium (Te)-Total         <0.020	Rubidium (Rb)-Total		27.9	28.0		mg/kg	0.6	40	06-DEC-19
Strontium (Sr)-Total         14.5         21.7         mg/kg         39         60         06-DEC-19           Tellurium (Te)-Total         <0.020	Selenium (Se)-Total		0.785	0.794		mg/kg	1.1	40	06-DEC-19
Tellurium (Te)-Total         <0.020         <0.020         RPD-NA         mg/kg         N/A         40         06-DEC-19           Thallium (Tl)-Total         0.0155         0.0171         mg/kg         10         40         06-DEC-19           Tin (Sn)-Total         0.20         0.19         mg/kg         8.9         40         06-DEC-19           Uranium (U)-Total         <0.0020	Sodium (Na)-Total		3590	3680		mg/kg	2.5	40	06-DEC-19
Thallium (TI)-Total         0.0155         0.0171         mg/kg         10         40         06-DEC-19           Tin (Sn)-Total         0.20         0.19         mg/kg         8.9         40         06-DEC-19           Uranium (U)-Total         <0.0020	Strontium (Sr)-Total		14.5	21.7		mg/kg	39	60	06-DEC-19
Tin (Sn)-Total 0.20 0.19 mg/kg 8.9 40 06-DEC-19 Uranium (U)-Total <0.0020 0.0022 RPD-NA mg/kg N/A 40 06-DEC-19 Vanadium (V)-Total <0.10 <0.10 RPD-NA mg/kg N/A 40 06-DEC-19 Zinc (Zn)-Total 159 200 mg/kg 23 40 06-DEC-19 Zirconium (Zr)-Total <0.20 <0.20 RPD-NA mg/kg N/A 40 06-DEC-19 WG3235852-4 LCS Aluminum (Al)-Total 107.2 % 80-120 06-DEC-19 Antimony (Sb)-Total 105.8 % 80-120 06-DEC-19 Barium (Ba)-Total 104.3 % 80-120 06-DEC-19 Barium (Be)-Total 107.5 % 80-120 06-DEC-19 Bismuth (Bi)-Total 101.5 % 80-120 06-DEC-19 Bismuth (Bi)-Total 101.5 % 80-120 06-DEC-19 Bismuth (Bi)-Total 101.5 % 80-120 06-DEC-19 Boron (B)-Total 101.5 % 80-120 06-DEC-19 Cadmium (Cd)-Total 104.8 % 80-120 06-DEC-19 Cadmium (Cd)-Total 104.8 % 80-120 06-DEC-19 Cesium (Cs)-Total 104.8 % 80-120 06-DEC-19 Cesium (Cs)-Total 104.8 % 80-120 06-DEC-19 Chromium (Cf)-Total 104.8 % 80-120 06-DEC-19 Chomium (Cf)-Total 104.8 % 80-120 06-DEC-19 Cobalt (Co)-Total 107.0 % 80-120 06-DEC-19 Cobalt (Co)-Total 107.0 % 80-120 06-DEC-19	Tellurium (Te)-Total		<0.020	<0.020	RPD-NA	mg/kg	N/A	40	06-DEC-19
Uranium (U)-Total         <0.0020         0.0022         RPD-NA         mg/kg         N/A         40         06-DEC-19           Vanadium (V)-Total         <0.10	Thallium (TI)-Total		0.0155	0.0171		mg/kg	10	40	06-DEC-19
Vanadium (V)-Total         <0.10         <0.10         RPD-NA         mg/kg         N/A         40         06-DEC-19           Zinc (Zn)-Total         159         200         mg/kg         23         40         06-DEC-19           Zirconium (Zr)-Total         <0.20	Tin (Sn)-Total		0.20	0.19		mg/kg	8.9	40	06-DEC-19
Zinc (Zn)-Total         159         200         mg/kg         23         40         06-DEC-19           Zirconium (Zr)-Total         <0.20         <0.20         RPD-NA         mg/kg         N/A         40         06-DEC-19           WG3235852-4         LCS           Aluminum (Al)-Total         107.2         %         80-120         06-DEC-19           Antimony (Sb)-Total         105.8         %         80-120         06-DEC-19           Arsenic (As)-Total         104.3         %         80-120         06-DEC-19           Barium (Ba)-Total         107.5         %         80-120         06-DEC-19           Beryllium (Be)-Total         101.5         %         80-120         06-DEC-19           Bismuth (Bi)-Total         102.7         %         80-120         06-DEC-19           Boron (B)-Total         111.0         %         80-120         06-DEC-19           Cadmium (Cd)-Total         104.8         %         80-120         06-DEC-19           Cesium (Cs)-Total         104.8         %         80-120         06-DEC-19           Chromium (Cr)-Total         107.0         %         80-120         06-DEC-19           Cobalt (Co)-Total         104.8         %	Uranium (U)-Total		<0.0020	0.0022	RPD-NA	mg/kg	N/A	40	06-DEC-19
Zirconium (Zr)-Total         <0.20         <0.20         RPD-NA         mg/kg         N/A         40         06-DEC-19           WG3235852-4         LCS           Aluminum (Al)-Total         107.2         %         80-120         06-DEC-19           Antimony (Sb)-Total         105.8         %         80-120         06-DEC-19           Arsenic (As)-Total         104.3         %         80-120         06-DEC-19           Barium (Ba)-Total         107.5         %         80-120         06-DEC-19           Beryllium (Be)-Total         101.5         %         80-120         06-DEC-19           Bismuth (Bi)-Total         102.7         %         80-120         06-DEC-19           Boron (B)-Total         111.0         %         80-120         06-DEC-19           Cadmium (Cd)-Total         104.8         %         80-120         06-DEC-19           Cesium (Cs)-Total         104.8         %         80-120         06-DEC-19           Chromium (Cr)-Total         107.0         %         80-120         06-DEC-19           Cobalt (Co)-Total         104.8         %         80-120         06-DEC-19	Vanadium (V)-Total		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	06-DEC-19
WG3235852-4 LCS       LCS         Aluminum (Al)-Total       107.2       %       80-120       06-DEC-19         Antimony (Sb)-Total       105.8       %       80-120       06-DEC-19         Arsenic (As)-Total       104.3       %       80-120       06-DEC-19         Barium (Ba)-Total       107.5       %       80-120       06-DEC-19         Beryllium (Be)-Total       101.5       %       80-120       06-DEC-19         Bismuth (Bi)-Total       102.7       %       80-120       06-DEC-19         Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Calcium (Ca)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19	Zinc (Zn)-Total		159	200		mg/kg	23	40	06-DEC-19
Aluminum (Al)-Total       107.2       %       80-120       06-DEC-19         Antimony (Sb)-Total       105.8       %       80-120       06-DEC-19         Arsenic (As)-Total       104.3       %       80-120       06-DEC-19         Barium (Ba)-Total       107.5       %       80-120       06-DEC-19         Beryllium (Be)-Total       101.5       %       80-120       06-DEC-19         Bismuth (Bi)-Total       102.7       %       80-120       06-DEC-19         Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19	Zirconium (Zr)-Total		<0.20	<0.20	RPD-NA	mg/kg	N/A	40	06-DEC-19
Antimony (Sb)-Total 105.8 % 80-120 06-DEC-19 Arsenic (As)-Total 104.3 % 80-120 06-DEC-19 Barium (Ba)-Total 107.5 % 80-120 06-DEC-19 Beryllium (Be)-Total 101.5 % 80-120 06-DEC-19 Bismuth (Bi)-Total 102.7 % 80-120 06-DEC-19 Boron (B)-Total 111.0 % 80-120 06-DEC-19 Cadmium (Cd)-Total 104.8 % 80-120 06-DEC-19 Calcium (Ca)-Total 108.0 % 80-120 06-DEC-19 Cesium (Cs)-Total 104.8 % 80-120 06-DEC-19 Chromium (Cr)-Total 104.8 % 80-120 06-DEC-19 Chromium (Cr)-Total 104.8 % 80-120 06-DEC-19 Chromium (Cr)-Total 104.8 % 80-120 06-DEC-19 Cobalt (Co)-Total 104.8 % 80-120 06-DEC-19	WG3235852-4 LCS								
Arsenic (As)-Total       104.3       %       80-120       06-DEC-19         Barium (Ba)-Total       107.5       %       80-120       06-DEC-19         Beryllium (Be)-Total       101.5       %       80-120       06-DEC-19         Bismuth (Bi)-Total       102.7       %       80-120       06-DEC-19         Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Cesium (Ca)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19				107.2				80-120	06-DEC-19
Barium (Ba)-Total       107.5       %       80-120       06-DEC-19         Beryllium (Be)-Total       101.5       %       80-120       06-DEC-19         Bismuth (Bi)-Total       102.7       %       80-120       06-DEC-19         Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Calcium (Ca)-Total       108.0       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19								80-120	06-DEC-19
Beryllium (Be)-Total       101.5       %       80-120       06-DEC-19         Bismuth (Bi)-Total       102.7       %       80-120       06-DEC-19         Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Calcium (Ca)-Total       108.0       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19	,							80-120	06-DEC-19
Bismuth (Bi)-Total       102.7       %       80-120       06-DEC-19         Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Calcium (Ca)-Total       108.0       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19								80-120	06-DEC-19
Boron (B)-Total       111.0       %       80-120       06-DEC-19         Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Calcium (Ca)-Total       108.0       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19								80-120	06-DEC-19
Cadmium (Cd)-Total       104.8       %       80-120       06-DEC-19         Calcium (Ca)-Total       108.0       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19									
Calcium (Ca)-Total       108.0       %       80-120       06-DEC-19         Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19	` '								
Cesium (Cs)-Total       104.8       %       80-120       06-DEC-19         Chromium (Cr)-Total       107.0       %       80-120       06-DEC-19         Cobalt (Co)-Total       104.8       %       80-120       06-DEC-19	` ′								
Chromium (Cr)-Total         107.0         %         80-120         06-DEC-19           Cobalt (Co)-Total         104.8         %         80-120         06-DEC-19									
Cobalt (Co)-Total 104.8 % 80-120 06-DEC-19									
	` ,								
Compan (C.) Total									
Copper (Cu)-Total 104.4 % 80-120 06-DEC-19	Copper (Cu)-I otal			104.4		%		80-120	06-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 9 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4937105								
WG3235852-4 LCS			400.5		0/		00.400	
Iron (Fe)-Total			108.5		%		80-120	06-DEC-19
Lead (Pb)-Total			104.9				80-120	06-DEC-19
Lithium (Li)-Total			116.7 108.2		%		80-120	06-DEC-19
Magnesium (Mg)-Total					%		80-120	06-DEC-19
Manganese (Mn)-Total			105.9 106.8		% %		80-120	06-DEC-19
Molybdenum (Mo)-Total					%		80-120	06-DEC-19
Nickel (Ni)-Total			105.4				80-120	06-DEC-19
Phosphorus (P)-Total			117.6		%		80-120	06-DEC-19
Potassium (K)-Total			107.3		%		80-120	06-DEC-19
Rubidium (Rb)-Total			109.0		%		80-120	06-DEC-19
Selenium (Se)-Total			107.3		%		80-120	06-DEC-19
Sodium (Na)-Total			107.3		%		80-120	06-DEC-19
Strontium (Sr)-Total Tellurium (Te)-Total			111.2				80-120	06-DEC-19
Thallium (TI)-Total			106.3 102.4		% %		80-120	06-DEC-19
Tin (Sn)-Total					%		80-120	06-DEC-19
			104.5 101.2		%		80-120	06-DEC-19
Uranium (U)-Total					%		80-120	06-DEC-19
Vanadium (V)-Total			108.0 105.2				80-120	06-DEC-19
Zinc (Zn)-Total					%		80-120	06-DEC-19
Zirconium (Zr)-Total			102.1		%		80-120	06-DEC-19
WG3235852-1 MB Aluminum (Al)-Total			<2.0		mg/kg		2	06-DEC-19
Antimony (Sb)-Total			<0.010		mg/kg		0.01	06-DEC-19
Arsenic (As)-Total			<0.020		mg/kg		0.02	06-DEC-19
Barium (Ba)-Total			<0.050		mg/kg		0.05	06-DEC-19
Beryllium (Be)-Total			<0.010		mg/kg		0.01	06-DEC-19
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	06-DEC-19
Boron (B)-Total			<1.0		mg/kg		1	06-DEC-19
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	06-DEC-19
Calcium (Ca)-Total			<20		mg/kg		20	06-DEC-19
Cesium (Cs)-Total			<0.0050		mg/kg		0.005	06-DEC-19
Chromium (Cr)-Total			<0.050		mg/kg		0.05	06-DEC-19
Cobalt (Co)-Total			<0.020		mg/kg		0.02	06-DEC-19
Copper (Cu)-Total			<0.10		mg/kg		0.1	06-DEC-19
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Workorder: L2375518 Report Date: 19-DEC-19 Page 10 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4937105								
WG3235852-1 MB Iron (Fe)-Total			<3.0		mg/kg		3	06-DEC-19
Lead (Pb)-Total			<0.020		mg/kg		0.02	06-DEC-19
Lithium (Li)-Total			<0.50		mg/kg		0.5	06-DEC-19
Magnesium (Mg)-Total			<2.0		mg/kg		2	06-DEC-19
Manganese (Mn)-Total			<0.050		mg/kg		0.05	06-DEC-19
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	06-DEC-19
Nickel (Ni)-Total			<0.20		mg/kg		0.2	06-DEC-19
Phosphorus (P)-Total			<10		mg/kg		10	06-DEC-19
Potassium (K)-Total			<20		mg/kg		20	06-DEC-19
Rubidium (Rb)-Total			<0.050		mg/kg		0.05	06-DEC-19
Selenium (Se)-Total			<0.050		mg/kg		0.05	06-DEC-19
Sodium (Na)-Total			<20		mg/kg		20	06-DEC-19
Strontium (Sr)-Total			<0.050		mg/kg		0.05	06-DEC-19
Tellurium (Te)-Total			<0.020		mg/kg		0.02	06-DEC-19
Thallium (TI)-Total			<0.0020		mg/kg		0.002	06-DEC-19
Tin (Sn)-Total			<0.10		mg/kg		0.1	06-DEC-19
Uranium (U)-Total			<0.0020		mg/kg		0.002	06-DEC-19
Vanadium (V)-Total			<0.10		mg/kg		0.1	06-DEC-19
Zinc (Zn)-Total			<0.50		mg/kg		0.5	06-DEC-19
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	06-DEC-19
Batch R4943324								
WG3240760-3 CRM		VA-NRC-DORI						
Aluminum (Al)-Total			114.3		%		70-130	13-DEC-19
Arsenic (As)-Total			97.0		%		70-130	13-DEC-19
Barium (Ba)-Total			107.9		%		70-130	13-DEC-19
Beryllium (Be)-Total			0.017		mg/kg		0.005-0.025	
Bismuth (Bi)-Total			0.015		mg/kg		0.002-0.022	
Boron (B)-Total			97.3		%		70-130	13-DEC-19
Cadmium (Cd)-Total			104.9		%		70-130	13-DEC-19
Calcium (Ca)-Total			103.3		%		70-130	13-DEC-19
Cesium (Cs)-Total			99.7		%		70-130	13-DEC-19
Chromium (Cr)-Total			122.4		%		70-130	13-DEC-19
Cobalt (Co)-Total			104.8		%		70-130	13-DEC-19
Copper (Cu)-Total			99.1		%		70-130	13-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 11 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4943324								
WG3240760-3 CRM		VA-NRC-DOI			0/		70.100	10 050 15
Iron (Fe)-Total			105.7	MEC	%		70-130	13-DEC-19
Lead (Pb)-Total			135.6 1.16	MES			70-130	13-DEC-19
Lithium (Li)-Total			97.7		mg/kg		0.71-1.71	13-DEC-19
Magnesium (Mg)-Total					%		70-130	13-DEC-19
Manganese (Mn)-Total			101.0 101.7		%		70-130	13-DEC-19
Molybdenum (Mo)-Total					% %		70-130	13-DEC-19
Nickel (Ni)-Total			102.2 96.8				70-130	13-DEC-19
Phosphorus (P)-Total			96.8 101.3		%		70-130	13-DEC-19
Potassium (K)-Total Rubidium (Rb)-Total			101.3		%		70-130	13-DEC-19
` ,					% %		70-130	13-DEC-19
Selenium (Se)-Total			105.1		%		70-130	13-DEC-19
Sodium (Na)-Total			104.7		% %		70-130	13-DEC-19
Strontium (Sr)-Total			99.8 95.8				70-130	13-DEC-19
Thallium (TI)-Total			95.6 119.1		%		70-130	13-DEC-19
Uranium (U)-Total			108.4		% %		70-130	13-DEC-19
Vanadium (V)-Total			112.3		% %		70-130	13-DEC-19
Zinc (Zn)-Total							70-130	13-DEC-19
Zirconium (Zr)-Total			0.31		mg/kg		0.05-0.45	13-DEC-19
WG3240760-4 LCS Aluminum (Al)-Total			113.1		%		80-120	13-DEC-19
Antimony (Sb)-Total			107.3		%		80-120	13-DEC-19
Arsenic (As)-Total			105.5		%		80-120	13-DEC-19
Barium (Ba)-Total			106.8		%		80-120	13-DEC-19
Beryllium (Be)-Total			111.3		%		80-120	13-DEC-19
Bismuth (Bi)-Total			104.8		%		80-120	13-DEC-19
Boron (B)-Total			108.9		%		80-120	13-DEC-19
Cadmium (Cd)-Total			105.2		%		80-120	13-DEC-19
Calcium (Ca)-Total			108.1		%		80-120	13-DEC-19
Cesium (Cs)-Total			107.9		%		80-120	13-DEC-19
Chromium (Cr)-Total			108.1		%		80-120	13-DEC-19
Cobalt (Co)-Total			107.1		%		80-120	13-DEC-19
Copper (Cu)-Total			107.0		%		80-120	13-DEC-19
Iron (Fe)-Total			105.3		%		80-120	13-DEC-19
Lead (Pb)-Total			107.6		%		80-120	13-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 12 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA	Tissue							
Batch R4943324								
WG3240760-4 LCS								
Lithium (Li)-Total			113.5		%		80-120	13-DEC-19
Magnesium (Mg)-Total			112.4		%		80-120	13-DEC-19
Manganese (Mn)-Total			108.4		%		80-120	13-DEC-19
Molybdenum (Mo)-Total			107.7		%		80-120	13-DEC-19
Nickel (Ni)-Total			104.2		%		80-120	13-DEC-19
Phosphorus (P)-Total			110.2		%		80-120	13-DEC-19
Potassium (K)-Total			110.8		%		80-120	13-DEC-19
Rubidium (Rb)-Total			106.7		%		80-120	13-DEC-19
Selenium (Se)-Total			109.5		%		80-120	13-DEC-19
Sodium (Na)-Total			109.6		%		80-120	13-DEC-19
Strontium (Sr)-Total			113.3		%		80-120	13-DEC-19
Tellurium (Te)-Total			110.3		%		80-120	13-DEC-19
Thallium (TI)-Total			104.3		%		80-120	13-DEC-19
Tin (Sn)-Total			102.2		%		80-120	13-DEC-19
Uranium (U)-Total			109.4		%		80-120	13-DEC-19
Vanadium (V)-Total			108.1		%		80-120	13-DEC-19
Zinc (Zn)-Total			106.3		%		80-120	13-DEC-19
Zirconium (Zr)-Total			103.5		%		80-120	13-DEC-19
WG3240760-1 MB								
Aluminum (Al)-Total			<2.0		mg/kg		2	13-DEC-19
Antimony (Sb)-Total			<0.010		mg/kg		0.01	13-DEC-19
Arsenic (As)-Total			<0.020		mg/kg		0.02	13-DEC-19
Barium (Ba)-Total			<0.050		mg/kg		0.05	13-DEC-19
Beryllium (Be)-Total			<0.010		mg/kg		0.01	13-DEC-19
Bismuth (Bi)-Total			<0.010		mg/kg		0.01	13-DEC-19
Boron (B)-Total			<1.0		mg/kg		1	13-DEC-19
Cadmium (Cd)-Total			<0.0050		mg/kg		0.005	13-DEC-19
Calcium (Ca)-Total			<20		mg/kg		20	13-DEC-19
Cesium (Cs)-Total			<0.0050		mg/kg		0.005	13-DEC-19
Chromium (Cr)-Total			<0.050		mg/kg		0.05	13-DEC-19
Cobalt (Co)-Total			<0.020		mg/kg		0.02	13-DEC-19
Copper (Cu)-Total			<0.10		mg/kg		0.1	13-DEC-19
Iron (Fe)-Total			<3.0		mg/kg		3	13-DEC-19
Lead (Pb)-Total			<0.020		mg/kg		0.02	13-DEC-19



Workorder: L2375518 Report Date: 19-DEC-19 Page 13 of 14

Client: Wood Environment & Infrastructure Solutions - Mississauga

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DRY-CCMS-N-VA Batch R4943324	Tissue							
WG3240760-1 MB								
Lithium (Li)-Total			<0.50		mg/kg		0.5	13-DEC-19
Magnesium (Mg)-Total			<2.0		mg/kg		2	13-DEC-19
Manganese (Mn)-Total			0.062	В	mg/kg		0.05	13-DEC-19
Molybdenum (Mo)-Total			<0.020		mg/kg		0.02	13-DEC-19
Nickel (Ni)-Total			<0.20		mg/kg		0.2	13-DEC-19
Phosphorus (P)-Total			<10		mg/kg		10	13-DEC-19
Potassium (K)-Total			<20		mg/kg		20	13-DEC-19
Rubidium (Rb)-Total			<0.050		mg/kg		0.05	13-DEC-19
Selenium (Se)-Total			<0.050		mg/kg		0.05	13-DEC-19
Sodium (Na)-Total			<20		mg/kg		20	13-DEC-19
Strontium (Sr)-Total			<0.050		mg/kg		0.05	13-DEC-19
Tellurium (Te)-Total			<0.020		mg/kg		0.02	13-DEC-19
Thallium (TI)-Total			<0.0020		mg/kg		0.002	13-DEC-19
Tin (Sn)-Total			<0.10		mg/kg		0.1	13-DEC-19
Uranium (U)-Total			<0.0020		mg/kg		0.002	13-DEC-19
Vanadium (V)-Total			<0.10		mg/kg		0.1	13-DEC-19
Zinc (Zn)-Total			<0.50		mg/kg		0.5	13-DEC-19
Zirconium (Zr)-Total			<0.20		mg/kg		0.2	13-DEC-19
MOISTURE-TISS-VA	Tissue							
Batch R4935808								
<b>WG3234747-3 DUP</b> % Moisture		<b>L2375518-25</b> 77.0	76.9		%	0.2	20	04-DEC-19
WG3234747-2 LCS								
% Moisture			100.5		%		90-110	04-DEC-19
WG3234747-1 MB % Moisture			<0.50		%		0.5	04-DEC-19
Batch R4936557								
<b>WG3235859-3 DUP</b> % Moisture		<b>L2375518-2</b> 75.2	74.5		%	0.9	20	05-DEC-19
<b>WG3235859-2 LCS</b> % Moisture			100.0		%		90-110	05-DEC-19
<b>WG3235859-1 MB</b> % Moisture			<0.50		%		0.5	05-DEC-19

Report Date: 19-DEC-19 Workorder: L2375518

Wood Environment & Infrastructure Solutions - Mississauga Client:

160 Traders Blvd. East, Suite 110

Mississauga ON L4Z 3K7

Contact: Dale Klodnicki/Mark Ruthven

#### 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

Average Desorption Efficiency ADE

Method Blank MB

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
В	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
J	Duplicate results and limits are expressed in terms of absolute difference.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
RM-H	Reference Material recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

#### **Hold Time Exceedances:**

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

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

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined 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.

Page 14 of 14



#### Chain of Custody (COC) / Analytical **Request Form**

L2375518-COFC

COC Number: LON -

1 of

Canada Toll Free: 1 800 668 9878

Report To		oany name below will a		port	T	Report Forma	t / Distribution		T	Selec	t Sen	ice Le	vei Be	low -	Contac	t vour	AM to	confi	irm all i	E&P T#	Ts (sı	ırcharor	s may apply	v)
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Phone:	Dale (M) 647-993-424				☐ Compare Resi	ults to Criteria on Report	- provide details belo	w if box checked	DE S		y [P3				E E			-	-	•	itory t	vehilor	[E2 -200%	
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# Chain of Custody (COC) / Analytical Request Form

L2375518-COFC

OC Number: LON -

Canada Toll Free: 1 800 668 9878

Page

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# Chain of Custody (COC) / Analytical Request Form

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Phone:	Dale (M) 647-993-4243   (O) 905-568-2	929	_	lts to Criteria on Report			Ĕ		ıy [P3 ıy [P3				g l		ness d			-				П
	Company address below will appear on the	final report	Select Distribut		☐ MAIL ☐		E 5		ıy [P2		_				Day, Wo atory o						2 -200%	
Street:	110-160 Traders Blvd. E.		Email 1 or Fax	dale.klodnicki@w	oodpic.com		╁					ell E&P		T		ponnie			yy hh:			
City/Province:	Mississauga, ON	·	Email 2	amanda.wittmann			-							rvice lev	el selecte	d vou w			yy mi.			
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ALS Lab Wor	k Order # (lab use only):	755 K	ALS Contact:	M-L Pires	Sampler:	A.Law	NUMBER	cury	Methyl Mercury		als	Percent moisture		i							MP	SUSPECTED HAZARD (see Special Instructions)
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Appendix C
Fish Age Data



Sample ID	Sample Date	Species	Plus Growth?	Ageing Structure	Ageing Method	Primary Ager	Age Estimate	CI	QAQC Ager 1	QAQC Age Estimate	CI	Final Age Estimate
SPL-AN1-F1	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	4	FG	ТВ	4	F	4
SPL-AN1-F2	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	4	F	TB	4	F	4
SPL-AN1-F3	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	3	FG	TB	3	F	3
SPL-AN1-F4	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	2	FG	TB	2	FG	2
SPL-AN1-F5	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	2	F	TB	2	F	2
SPL-AN1-F6	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	3	F	TB	4	F	3
SPL-AN2-F1	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC		FG F	TB	3	FG	
SPL-AN2-F2 SPL-AN2-F3	Sept 10-16, 2019 Sept 10-16, 2019	Northern Pike Northern Pike	+	Cleithrum Cleithrum	Aged Whole Aged Whole	CC	6	FG	TB TB	6	FG FG	6
SPL-AN2-F4	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	6	F	TB	6	F	6
SPL-AN3-F1	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	4	FP	TB	4	F	4
SPL-AN3-F2	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	3	FG	ТВ	3	F	3
SPL-AN3-F3	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	3	FG	TB	3	F	3
SPL-AN4-F1	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	2	F	TB	2	FG	2
SPL-AN4-F2	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	4	FG	TB	4	F	4
SPL-AN4-F3	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	5	F	TB	5	F	5
SPL-AN4-F4	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	3	F	TB	3	F	3
SPL-AN5-F1	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	2	F	TB	2	F	2
SPL-AN5-F2	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	2	F	ТВ	2	F	2
SPL-AN5-F3	Sept 10-16, 2019	Northern Pike	+	Cleithrum	Aged Whole	CC	5	FP	TB	5	F	5
SPL-MT1-F1	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	ТВ	1	F	1
SPL-MT1-F2	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	TB	1	FG	1
SPL-MT1-F3	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	2	F	TB	2	F	2
SPL-MT1-F4	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	TB	1	F	1
SPL-MT1-F5	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	FG	TB	1	F	1
SPL-MT1-F6	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	TB	1	FP	1
SPL-MT1-F7	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	TB	1	F	1
SPL-SN3-F155	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	TB	1	FP	1
SPL-SN3-F156	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	1	F	TB	1	F	1
SPL-SN3-F157	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F158	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F159	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F160	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F161	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F162	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F163	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F164	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F165	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F166	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F167	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F168	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F169	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F170	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F171	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F172	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F173	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
SPL-SN3-F174	Sept 10-16, 2019	Yellow Perch	+	Otolith	Section	CC	0	F	TB	0	F	0
S-9-MT1-F35	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-MT1-F36	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-MT1-F37	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	ТВ	2	F	2
S-9-MT1-F38	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	FP	2
S-9-MT1-F39	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-MT1-F40	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	FP	2
S-9-MT1-F41	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-MT1-F42	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-MT1-F43	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	FG	1
S-9-MT1-F44	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F FP	TB	2	F	2
S-9-US02-MT1-F112 S-9-US02-MT1-F113	Sept 10-16, 2019 Sept 10-16, 2019	Northern Redbelly Dace Northern Redbelly Dace	+	Otolith Otolith	Aged Whole Aged Whole	CC	1 1	F	TB TB	1	FP F	1 1
					_			F			F	
S-9-US02-MT1-F114 S-9-US02-MT1-F115	Sept 10-16, 2019 Sept 10-16, 2019	Northern Redbelly Dace Northern Redbelly Dace	+	Otolith Otolith	Aged Whole Aged Whole	CC	2	F	TB TB	2	F	2
S-9-US02-MT1-F116	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-US02-MT1-F116	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-US02-MT1-F117	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-US02-MT1-F119	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-US02-MT1-F120	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-US02-MT1-F121	Sept 10-16, 2019	Northern Redbelly Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	FP	1
S-9-MT1-F1	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	4	F	TB	4	F	4
S-9-MT1-F2	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	3	FG	TB	3	FG	3
S-9-MT1-F3	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	FG	TB	2	F	2
S-9-MT1-F4	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	3	F	TB	3	F	3
S-9-MT1-F5	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-MT1-F6	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	FP	TB	2	F	2
S-9-MT1-F7	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	FP	TB	2	F	2
S-9-MT1-F8	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	3	F	ТВ	3	F	3
S-9-MT1-F9	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	FG	TB	3	F	2
S-9-MT1-F10	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	FG	2
WB05-OUT-MT1-F50	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	4	F	TB	4	F	4
WB05-OUT-MT1-F51	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	3	FG	TB	2	F	3

Project #TC190403







Sample ID	Sample Date	Species	Plus Growth?	Ageing Structure	Ageing Method	Primary	Age	cı	QAQC	QAQC Age	CI F	Final Age
Sample 10	Sample Date	Species	rius Growtii:	Agening Structure	Ageing Method	Ager	Estimate	C.	Ager 1	Estimate	١,	Estimate
WB05-OUT-MT1-F53	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
WB05-OUT-MT1-F54	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
WB05-OUT-MT1-F55	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
WB05-OUT-MT1-F56	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
WB05-OUT-MT1-F57	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	0	F	TB	0	F	0
WB05-OUT-MT1-F58	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	1	FG	TB	1	F	1
WB05-OUT-MT1-F59	Sept 10-16, 2019	Finescale Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-US02-MT1-F74	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	3	FP	TB	3	F	3
S-9-US02-MT1-F75	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	3	F	TB	3	F	3
S-9-US02-MT1-F76	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	3	F	TB	3	FP	3
S-9-US02-MT1-F77	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	3	FP	TB	3	F	3
S-9-US02-MT1-F78	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	3	F	TB	3	F	3
S-9-US02-MT1-F79	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-US02-MT1-F80	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	2	FG	TB	2	F	2
S-9-US02-MT1-F81	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	2	FG	TB	2	F	2
S-9-US02-MT1-F82	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	2	F	TB	2	F	2
S-9-US02-MT1-F83	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-US02-MT1-F84	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1
S-9-US02-MT1-F85	Sept 10-16, 2019	Pearl Dace	+	Otolith	Aged Whole	CC	1	F	TB	1	F	1

Project #TC190403





wood.

# **Appendix D**

Sediment Quality and Benthic Invertebrate Community Data Summary



Table D1.1a: Inland Waterbodies Sediment Quality Results Summary (Wood 2019)

				Samp	ole Area	L-2-OUT-S	L-5-OUT-S	L-6-OUT-S	S-9-S	S-9-US01-S	S-9-US02-S	L-16-IN-S
		:	Sample D	ate (yyyy-ı	nm-dd)	2019-09-17	2019-09-13	2019-09-14	2019-09-10	2019-09-11	2019-09-10	2019-09-14
Parameter	Units	RDL	PS	QG	CSQG							
Parameter	UTILS	RDL	LEL	SEL	PEL							
Physical Properties												
рН	pH units	N/A				5.25	5.48	6.23	5.45	5.23	5.6	5.99
Moisture	%	N/A				75	83	72	81	79	88	80
Leachable Anions & Nutrients												
Nitrite (N)	ug/g					<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Kjeldahl Nitrogen	ug/g	0	550	4800		6,210	8,950	3,640	12,200	13,700	12,700	12,000
Organic / Inorganic Carbon												
Total Organic Carbon	%	500	10000	100000		75,000	160,000	75,000	200,000	230,000	460,000	130,000
Metals												
Aluminum (Al)	ug/g	5				8,300	9,700	7,400	9,600	8,200	4,400	9,500
Antimony (Sb)	ug/g	0.2				0.25	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Arsenic (As)	ug/g	1.0	6.0	33.0	17.0	4.5	3.0	5.0	1.5	1.1	1.3	7.5
Barium (Ba)	ug/g	0.5				59	81	37	120	120	120	87
Bismuth (Bi)	ug/g	1.0				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Beryllium (Be)	ug/g	0.2				0.25	0.26	<0.20	<0.20	<0.20	<0.20	0.23
Boron (B)	ug/g	5.0				<5.0	<5.0	<5.0	<5.0	<5.0	10	<5.0
Calcium (Ca)	ug/g	50				6,300	17,000	9,300	17,000	19,000	31,000	15,000
Cadmium (Cd)	ug/g	0.10	0.60	10.00	3.50	0.19	0.22	<0.10	0.25	0.22	0.27	0.19
Chromium (Cr)	ug/g	1	26	110	90	20	28	23	26	22	8.1	27
Cobalt (Co)	ug/g	0.1				6.7	7.8	7.9	12	6.5	3.9	12
Iron (Fe)	ug/g	50	20000	40000		15,000	16,000	21,000	17,000	10,000	7,000	26,000
Copper (Cu)	ug/g	0.5	16.0	110.0	197.0	17	35	11	22	17	16	16
Lead (Pb)	ug/g	0.5	31.0	250.0	91.3	7.3	7.7	4.5	5.2	5.3	5.9	6.6

wood.



				Samı	ole Area	L-2-OUT-S	L-5-OUT-S	L-6-OUT-S	S-9-S	S-9-US01-S	S-9-US02-S	L-16-IN-S
			Sample D	ate (yyyy-	mm-dd)	2019-09-17	2019-09-13	2019-09-14	2019-09-10	2019-09-11	2019-09-10	2019-09-14
Demonstra	11	201	PS	QG	CSQG							
Parameter	Units	RDL	LEL	SEL	PEL							
Magnesium (Mg)	ug/g	50.0				3,100	3,600	4,200	4,100	2,700	1500	4,500
Manganese (Mn)	ug/g	1	460	1100		430	660	680	950	450	210	1,500
Molybdenum (Mo)	ug/g	0.5				<0.50	<0.50	<0.50	<0.50	<0.50	0.76	0.65
Mercury (Hg)	ug/g	0.050	0.200	2.000	0.486	0.064	0.15	<0.050	0.11	0.092	0.11	0.083
Nickel (Ni)	ug/g	0.50	16	75		16	15	14	17	12	6.8	18
Phosphorus (P)	ug/g	50	600	2,000		690	820	750	870	770	600	930
Potassium (K)	ug/g	200.00				740	560	670	510	430	200	1000
Selenium (Se)	ug/g	0.50				<0.50	0.89	<0.50	0.91	0.72	0.9	0.55
Silver (Ag)	ug/g	0.20				<0.20	0.2	<0.20	<0.20	<0.20	<0.20	<0.20
Sodium (Na)	ug/g	50.00				110	70	94	91	66	60	91
Strontium (Sr)	ug/g	1.00				29	29	15	34	35	120	24
Thallium (TI)	ug/g	0.050				0.16	0.14	0.096	0.11	0.086	0.066	0.14
Tin (Sn)	ug/g	1.000				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium (U)	ug/g	0.05				0.63	1.1	0.52	1.9	0.79	1.9	0.79
Vanadium (V)	ug/g	5.0				22	26	26	28	20	12	32
Zinc (Zn)	ug/g	5.0	120	820	315	80	46	35	42	30	19	45

#### Notes:

- 1. PSQG; Provincial Sediment Quality Guidelines for the protection and management of aquatic sediment quality in Ontario
- 2. CSQG; Canadian Council of Ministers of the Environment Canadian Sediment Quality Guidelines for the protection of aquatic life
- ${\tt 3.\square}$   $\,$  MDL; Method Detection Limit provided by Bureau Veritas, Mississauga, ON
- $4.\square$  '<' indicates that the reported concentration was less than the MDL
- 5.□ Green shaded values indicate concentrations that exceed the PSQG LEL
- 6.□ Blue shaded values indicate concentrations that exceed both the PSQG SEL and PSQG LEL
- $7.\square$  Purple shaded values indicate concentrations that exceed both the CSQG PEL and PSQG LEL

Project # TC190403 | March 2021 Page D2

• • • wood.



Table D1.1b: Springpole Lake Southeast Basin Sediment Quality Results Summary (2019)

				Sam	ole Area	SPR-EXP-1	SPR-EXP-2	SPR-EXP-3	SPR-EXP-4	SPR-EXP-5
		:	Sample Da	ate (dd-m	ımm-yy)	29-Aug-19	29-Aug-19	29-Aug-19	29-Aug-19	30-Aug-19
December	11.5	MDI	PS	QG	CSQG				-	
Parameter	Unit	MDL	LEL	SEL	PEL					
Leachable Anions & Nutrients										
Total Kjeldahl Nitrogen	ug/g	100	0.055	0.48		-	-	-	-	-
Organic / Inorganic Carbon										
Fraction Organic Carbon	g/g	0.001				0.007	0.007	0.005	0.007	0.009
Total Organic Carbon	%	0.05	1	10		0.70	0.74	0.49	0.70	0.92
Metals										
Aluminum	ug/g	50				2090	1870	1940	1830	3050
Antimony	ug/g	0.20 or 0.10				<	<	<	<	<
Arsenic	ug/g	1.0 or 0.1	6	33	17	1.09	1.07	1.21	1.14	1.28
Barium	ug/g	0.50				10.6	10.4	9.8	9.4	15.6
Beryllium	ug/g	0.20 or 0.10				<	<	<	<	<
Bismuth	ug/g	1.0 or 0.2				<	<	<	<	<
Boron	ug/g	5.0				<	<	<	<	<
Cadmium	ug/g	0.10 or 0.02	0.6	10	3.5	0.04	0.04	0.04	0.04	0.07
Calcium	ug/g	50				2480	2020	1890	2120	3090
Chromium	ug/g	1.0 or 0.5	26	110	90	5.81	5.30	5.33	5.18	8.26
Cobalt	ug/g	0.10				1.62	1.38	1.32	1.42	2.17
Copper	ug/g	0.50	16	110	197	2.15	2.09	1.68	1.83	3.38
Iron	ug/g	50	20000	40000		3260	3060	3510	3230	4450
Lead	ug/g	1.0 or 0.5	31	250	91.3	3.24	2.91	2.80	2.51	3.77
Lithium	ug/g	2				2.6	2.5	2.5	2.3	3.8
Magnesium	ug/g	50 or 20				927	807	823	787	1330
Manganese	ug/g	1.0	460	1100		71.0	81.6	84.1	81.0	99.2
Mercury	ug/g	0.05	0.2	2	0.486	-	-	-	-	-
Molybdenum	ug/g	0.50 or 0.1				0.12	<	<	<	0.15
Nickel	ug/g	0.50	16	75		4.0	3.6	3.5	3.3	5.5
Phosphorus	ug/g	50	600	2000		586	462	411	467	560



				Sam	ple Area	SPR-EXP-1	SPR-EXP-2	SPR-EXP-3	SPR-EXP-4	SPR-EXP-5
		S	Sample Da	ate (dd-m	nmm-yy)	29-Aug-19	29-Aug-19	29-Aug-19	29-Aug-19	30-Aug-19
Down on the s	l lait	MDI	PS	QG	CSQG					
Parameter	Unit	MDL	LEL	SEL	PEL					
Potassium	ug/g	200 or 100				150	150	130	150	260
Selenium	ug/g	0.50 or 0.2				<	<	<	<	<
Silver	ug/g	0.20 or 0.10				<	<	<	<	<
Sodium	ug/g	50				72	68	57	57	89
Strontium	ug/g	1.0 or 0.5				8.6	6.9	7.7	7.7	10.6
Sulfur	ug/g	1000				<	<	<	<	<
Thallium	ug/g	0.050				<	<	<	<	<
Tin	ug/g	1.0 or 2.0				<	<	<	<	<
Titanium	ug/g	5.0 or 1.0				389	291	327	306	463
Tungsten	ug/g	0.5				<	<	<	<	<
Uranium	ug/g	0.05				0.29	0.28	0.28	0.23	0.34
Vanadium	ug/g	5.0 or 0.2				7.52	6.47	6.83	6.46	9.98
Zinc	ug/g	5.0 or 2.0	120	820	315	9.1	8.6	8.2	7.9	12.4
Zirconium	ug/g	1				<	<	<	<	<

#### Notes:

- 1. PSQG; Provincial Sediment Quality Guidelines for the protection and management of aquatic sediment quality in Ontario
- 2. CSQG; Canadian Council of Ministers of the Environment Canadian Sediment Quality Guidelines for the protection of aquatic life
- $4.\square$  '<' indicates that the reported concentration was less than the MDL
- $5.\square$  '-' indicates that the parameter was not analyzed
- 6.□ Samples collected by and results provided by Story Environmental Inc.

Project # TC190403 | March 2021 wood.



Table D1.1c: Springpole Lake Sediment Quality Results Summary (2020)

				Sam	ple Area	L-15-S-01	L-15-S-02	L-15-S-03	L-15-S -04	L-15-S 05	L-15-D-01	L-15-D-02	L-15-D-03	L-15-D-04	L-15-D-05	L-15DUP	
			Sample	e Date (yy-	mm-dd)	20-09-10	20-09-10	20-09-10	20-09-11	20-09-11	20-09-11	20-09-11	20-09-11	20-09-11	20-09-12	20-09-11	Relative
Parameter	Units	RDL	PS	QG	CSQG												Percent Difference
Parameter	Units	KDL	LEL	SEL	PEL												
Physical Properties																	1.4
рН	pH Units	N/A				5.40	5.04	5.21	5.24	5.22	5.08	4.94	5.02	5.01	4.86	4.97	0
Moisture	%	1.0				89	89	89	89	89	90	90	90	90	89	89	
Leachable Anions & Nutrients																	3.2
Total Kjeldahl Nitrogen	ug/g	100	550	4800		12,500	12,700	12,300	12,200	12,700	13,400	13,700	13,300	13,500	12,000	12,300	0
Nitrite (N)	ug/g	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0
Nitrate (N)	ug/g	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	0
Nitrate + Nitrite (N)	ug/g	3				<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	0
Total Organic Carbon	mg/kg	500	10,000	100,000		110,000	120,000	120,000	12,0000	12,0000	130,000	130,000	130,000	130,000	110,000	120,000	
Metals																	11.1
Aluminum (Al)	ug/g	50				17,000	17,000	18,000	18,000	17,000	18,000	18,000	18,000	17,000	17,000	19,000	1.9
Antimony (Sb)	ug/g	0.20				0.53	0.51	0.55	0.41	0.52	0.41	0.49	0.48	0.40	0.61	0.52	0
Arsenic (As)	ug/g	1.0	6	33	17	27	12	20	23	21	8.0	8.2	8.3	8.4	11	12	7.4
Barium (Ba)	ug/g	0.50				210	130	170	200	180	110	120	110	120	140	140	0
Beryllium (Be)	ug/g	0.20				0.61	0.52	0.57	0.60	0.55	0.49	0.51	0.50	0.50	0.56	0.52	0
Bismuth (Bi)	ug/g	1.0				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1
Boron (B)	ug/g	5.0				9.7	9.2	11	10	9.3	9.3	9.4	9.1	9.3	9.0	9.3	4.3
Cadmium (Cd)	ug/g	0.10	0.6	10	3.5	0.91	0.72	0.94	0.91	0.79	1.1	1.0	1.0	1.0	0.82	0.69	1.4
Calcium (Ca)	ug/g	50				7,500	7,200	7,500	7,400	7,200	7,400	7,400	7,200	7,300	6,900	7,100	4.5
Chromium (Cr)	ug/g	1.0	26	110	90	42	43	43	44	41	42	40	41	41	42	45	7.4
Cobalt (Co)	ug/g	0.10				16	13	15	17	15	11	11	11	11	16	14	2.1
Copper (Cu)	ug/g	0.50	16	110	197	47	47	46	49	46	53	51	51	51	47	48	2.7
Iron (Fe)	ug/g	50	20,000	40,000		52,000	37,000	46,000	51,000	48,000	29,000	29,000	28,000	30,000	36,000	38,000	0
Lead (Pb)	ug/g	1.0	31	250	91.3	33	29	32	33	31	35	35	34	35	36	29	3.9
Magnesium (Mg)	ug/g	50				7,700	7,600	7,900	7,900	7,500	7,500	7,200	7,200	7,200	7,400	7,900	1.0
Manganese (Mn)	ug/g	1.0	460	1100		3,000	1,000	1,900	2,700	2,300	470	490	470	520	960	990	0
Molybdenum (Mo)	ug/g	0.50				1.8	1.4	1.4	1.8	1.5	1.2	1.2	1.2	1.2	1.6	1.4	3.0
Nickel (Ni)	ug/g	0.50	16	75		36	33	35	37	33	32	31	31	31	34	34	0
Phosphorus (P)	ug/g	50	600	2,000		2,600	1,700	2,300	2,600	2,500	1,400	1,500	1,400	1,800	1,500	1,700	5.1
Potassium (K)	ug/g	200				1,900	1,900	1,900	1,900	1,900	2,000	1,900	1,900	2,000	1,900	2,000	5.4
Selenium (Se)	ug/g	0.50				2.2	1.8	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	0
Silver (Ag)	ug/g	0.20				0.22	0.22	0.20	0.21	0.22	0.29	0.29	0.25	0.25	<0.20	<0.20	6.1
Sodium (Na)	ug/g	50				190	160	170	170	160	200	180	180	180	170	170	0.0

Project # TC190403 | March 2021



				Sam	ple Area	L-15-S-01	L-15-S-02	L-15-S-03	L-15-S -04	L-15-S 05	L-15-D-01	L-15-D-02	L-15-D-03	L-15-D-04	L-15-D-05	L-15DUP	
			Sample	e Date (yy-	-mm-dd)	20-09-10	20-09-10	20-09-10	20-09-11	20-09-11	20-09-11	20-09-11	20-09-11	20-09-11	20-09-12	20-09-11	Relative
Danamatan	l laita	DD!	PS	QG	CSQG												Percent Difference
Parameter	Units	RDL	LEL	SEL	PEL												
Strontium (Sr)	ug/g	1.0				26	24	25	26	25	25	25	23	24	24	24	8.7
Thallium (TI)	ug/g	0.050				0.41	0.36	0.40	0.42	0.35	0.32	0.35	0.33	0.31	0.38	0.33	0
Tin (Sn)	ug/g	1.0				1.0	1.0	<1.0	<1.0	<1.0	1.0	1.0	1.1	<1.0	<1.0	<1.0	12.5
Titanium (Ti)	ug/g	5.0				450	450	520	510	430	510	500	500	490	530	510	0
Uranium (U)	ug/g	0.050				2.4	2.1	2.2	2.2	2.2	2.0	2.0	1.9	1.9	2.1	2.1	3.4
Vanadium (V)	ug/g	5.0				63	57	63	65	59	53	51	51	51	64	59	0
Zinc (Zn)	ug/g	5.0	120	820	315	120	110	120	120	110	110	100	100	110	120	110	8.0
Mercury (Hg)	ug/g	0.050	0.2	2	0.486	0.14	0.13	0.15	0.14	0.15	0.18	0.16	0.18	0.19	0.14	0.12	1.4

## Notes:

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- 4.□ '<' indicates that the reported concentration was less than the MDL
- 5.□ '-' indicates that the parameter was not analyzed
- $6.\square$  Green shaded values indicate concentrations that exceed the PSQG LEL
- 7.□ Blue shaded values indicate concentrations that exceed the PSQG SEL and LEL

Project # TC190403 | March 2021



**Table D1.2a:** Inland Waterbodies Sediment Particle Size Distribution (2019)

				Particle S	Size		
Sample Area	Replicate Station	Clay (< 0.0039 mm)	Silt (0.0039 - 0.062 mm)	Fine Sand (0.062 - 0.2 mm)	Coarse Sand (0.2 - 2.0 mm)	Gravel (2.0 - 16.0 mm)	Pebble / Cobble (> 16.0 mm)
		%	%	%	%	%	%
Lake 2	L-2-OUT	10.4	45.5	31.3	12.9	0.0	0.0
Lake 5	L-5-OUT-S	8.8	37.7	31.0	22.6	0.0	0.0
Lake 6	L-6-OUT-S	6.8	22.9	39.5	30.8	0.0	0.0
	S-9-S	3.8	37.5	35.3	23.5	0.0	0.0
Stream 9	S-9-US02-S	2.5	28.8	38.0	30.7	0.0	0.0
	S-9-US01-S	7.3	51.6	28.1	13.0	0.0	0.0
Lake 16	L16-IN-S	9.5	41.7	31.0	17.9	0.0	0.0

Note:

Table D1.2b: Springpole Lake Southeast Basin Sediment Particle Size Distribution (2019)

				Partic	le Size		
Sample Area	Replicate Station	Fines (< 0.075 mm)	Fine Sand (0.075 - 0.425 mm)	Medium Sand (0.425 - 2.0 mm)	Coarse Sand (2.0 - 4.75 mm)	Gravel (4.75 mm - 3 in.)	Cobbles (> 3 in.)
		%	%	%	%	%	%
	SPL-EXP-1	20.5	74.6	4.9	<1.0	<1.0	<1.0
Carianala	SPL-EXP-2	17.7	79.9	2.5	<1.0	<1.0	<1.0
Springpole Lake Arm	SPL-EXP-3	5.8	79.4	14.4	<1.0	<1.0	<1.0
Lake Allii	SPL-EXP-4	11.3	79.6	9.0	<1.0	<1.0	<1.0
	SPL-EXP-5	22.5	73.7	3.8	<1.0	<1.0	<1.0
	Mean	15.56	77.44	6.92	<1	<1	<1
	Median	17.70	79.40	4.90	<1	<1	<1
	Minimum	5.80	73.70	2.50	<1	<1	<1
	Maximum	22.50	79.90	14.40	<1	<1	<1
Standa	ard Deviation	6.90	3.03	4.84	N/A	N/A	N/A
St	andard Error	3.09	1.35	2.16	N/A	N/A	N/A

Note:

<sup>1.□</sup> Samples collected by Wood.

<sup>1.</sup> Samples collected and data provided by Story Environmental Inc.



**Table D1.2c:** Springpole Lake Sediment Particle Size Distribution (2020)

				Part	icle Size		
Sample Area	Replicate Station	Clay (<0.0039 mm)	Silt (0.0039 - 0.062 mm)	Fine Sand (0.062 - 0.2 mm)	Coarse Sand (0.2 - 2.0 mm)	Gravel (2.0 - 16.0 mm)	Pebble / Cobble (> 16.0 mm)
		%	%	%	%	%	%
	L-15-S-01	8.62	24.12	37.90	29.36	0.00	0.00
Springpole	L-15-S-02	8.30	24.33	18.40	48.97	0.00	0.00
Lake	L-15-S-03	10.56	19.80	22.38	47.26	0.00	0.00
(nearshore)	L-15-S-04	3.00	35.65	37.48	23.87	0.00	0.00
	L-15-S-05	5.71	32.72	24.86	36.71	0.00	0.00
	Mean	7.24	27.32	28.20	37.23	0.00	0.00
	Median	8.30	24.33	24.86	36.71	0.00	0.00
	Minimum	3.00	19.80	18.40	23.87	0.00	0.00
	Maximum	10.56	35.65	37.90	48.97	0.00	0.00
Stan	dard Deviation	2.93	6.60	8.96	10.94	0.00	0.00
	Standard Error	1.31	2.95	4.01	4.89	0.00	0.00
	L-15-D-01	15.31	28.92	11.33	44.44	0.00	0.00
Springpole	L-15-D-02	10.58	19.01	19.36	51.05	0.00	0.00
Lake Area	L-15-D-03	12.24	26.72	16.17	44.87	0.00	0.00
D (offshore)	L-15-D-04	11.74	29.17	13.63	45.46	0.00	0.00
	L-15-D-05	11.49	24.17	16.84	47.50	0.00	0.00
	Mean	12.27	25.60	15.47	46.66	0.00	0.00
	Median	11.74	26.72	16.17	45.46	0.00	0.00
	Minimum	10.58	19.01	11.33	44.44	0.00	0.00
	Maximum	15.31	29.17	19.36	51.05	0.00	0.00
Stan	dard Deviation	1.80	4.20	3.08	2.72	0.00	0.00
	Standard Error	0.81	1.88	1.38	1.22	0.00	0.00

Note:

<sup>1.□</sup> Samples collected by Wood.



Table D2.1a: Inland Waterbodies Benthic Invertebrate Community Metrics (2019)

Waterbody	Station	Count	TID (#/m²)	Richness	Simpson's Diversity	Evenness	% EPT	% Chironomids
	S-9	240	3,478	9	0.49	0.22	2.50	11.25
Stream 9	S-9-US-01	12	174	1	0.00	1.00	0.00	0.00
	S-9-US-02	93	1,348	4	0.38	0.40	0.00	77.42
Lake 2	L-2-OUT	264	3,826	17	0.87	0.46	4.55	22.73
Lake 5	L-5-OUT	24	348	4	0.42	0.43	0.00	75.00
Lake 6	L-6-OUT	42	609	6	0.65	0.48	0.00	4.76
Lake 16	L-16-IN	60	870	3	0.29	0.47	3.33	13.33

Note:

Table D2.1b: Springpole Lake Southeast Basin Benthic Invertebrate Community Metrics (2019)

Waterbody	Station	Count	TID (#/m²)	Richness	Simpson's Diversity	Evenness	% EPT	% Chironomids
	SPR-EXP-1	568	8,232	19	0.81	0.27	21.13	39.79
	SPR-EXP-2	571	8,275	26	0.75	0.15	13.31	47.64
Springpole Lake	SPR-EXP-3	389	5,638	18	0.81	0.29	29.82	30.59
	SPR-EXP-4	425	6,159	21	0.84	0.30	30.82	27.53
	SPR-EXP-5	663	9,609	20	0.75	0.20	14.33	45.85
	Mean	523.20	7583	21	0.79	0.24	21.88	38.28
	Median	568.00	8232	20	0.81	0.27	21.13	39.79
	Minimum	389.00	5638	18	0.75	0.15	13.31	27.53
	Maximum	663.00	9609	26	0.84	0.30	30.82	47.64
	Standard Error	50.74	735.35	1.39	0.02	0.03	3.70	4.01
Stan	dard Deviation	113.46	1644.29	3.11	0.04	0.06	8.28	8.97

Note:

Project # TC190403 | March 2021 Page D9

• • wood.

<sup>1.□</sup> Samples collected by Wood.

<sup>1.</sup> Samples collected and data provided by Story Environmental Inc.



**Table D2.1c:** Springpole Lake Benthic Invertebrate Community Metrics (2020)

Waterbody	Station	Cou nt	TID (#/m²)	Richness	Simpson's Diversity	Evenness	% EPT	% Chironomids
	L-15-S-01	110	159.42	5	0.46	0.37	0	1.82
Springpole	L-15-S-02	86	124.64	6	0.57	0.39	0	0
Lake	L-15-S-03	64	92.75	6	0.61	0.43	0	1.56
(nearshore)	L-15-S-04	87	126.09	6	0.59	0.4	0	1.15
	L-15-S-05	111	160.87	7	0.61	0.37	0	2.7
	Mean	91.6	132.75	6	0.57	0.39	0	1.45
	Median	87	126.09	6	0.59	0.39	0	1.56
	Minimum	64	92.75	5	0.46	0.37	0	0
	Maximum	111	160.87	7	0.61	0.43	0	2.7
S	tandard Error	8.74	12.67	0.32	0.03	0.01	0	0.44
Stanc	lard Deviation	19.5 5	28.34	0.71	0.06	0.02	0	0.99
6	L-15-D-01	46	66.67	7	0.81	0.76	0	23.91
Springpole Lake	L-15-D-02	9	13.04	5	0.72	0.7	0	22.22
Area D	L-15-D-03	4	5.8	1	0	1	0	100
(offshore)	L-15-D-04	12	17.39	2	0.44	0.9	0	66.67
(Olishore)	L-15-D-05	23	33.33	5	0.72	0.72	0	30.43
	Mean	18.8	27.25	4	0.54	0.82	0	48.65
	Median	12	17.39	5	0.72	0.76	0	30.43
	Minimum	4	5.8	1	0	0.7	0	22.22
	Maximum	46	66.67	7	0.81	1	0	100
S	tandard Error	7.48	10.84	1.1	0.15	0.06	0	15.17
Stanc	lard Deviation	16.7 2	24.24	2.45	0.33	0.13	0	33.92



Table D2.2a: Inland Waterbodies Benthic Invertebrate Taxa Proportions by Area (2019)

Taxa	S9	S-9-US-01	S-9-US-02	L-2-OUT	L-5-OUT	L-6-OUT	L-16-IN
Erpobdellidae	0.00	0.00	0.00	3.03	0.00	0.00	0.00
Glossiphoniidae	3.23	0.00	0.00	1.52	10.00	0.00	0.00
Enchytraeidae	0.00	0.00	0.00	0.00	0.00	52.38	0.00
Lumbriculidae	0.00	0.00	0.00	1.52	0.00	0.00	0.00
Tubificidae	0.00	0.00	0.00	9.09	0.00	0.00	0.00
Hyalellidae	0.00	0.00	0.00	4.55	0.00	0.00	0.00
Chrysomelidae	0.00	0.00	0.00	1.52	0.00	0.00	0.00
Dytiscidae	0.00	0.00	0.00	1.52	0.00	0.00	0.00
Ceratopogonidae	0.00	0.00	0.00	0.00	2.50	0.00	8.33
Chironomidae:	77.42	13.33	0.00	22.73	11.25	4.76	75.00
Dolichopodidae	0.00	0.00	0.00	0.00	0.00	9.52	0.00
Ephydridae	0.00	0.00	0.00	0.00	0.00	4.76	0.00
Tabanidae	0.00	0.00	0.00	6.06	0.00	0.00	0.00
Tipulidae	0.00	0.00	0.00	0.00	0.00	4.76	0.00
Baetidae	0.00	0.00	0.00	1.52	0.00	0.00	0.00
Leptophlebiidae	0.00	0.00	0.00	0.00	1.25	0.00	0.00
Corixidae	0.00	0.00	0.00	0.00	1.25	0.00	0.00
Crambidae	0.00	0.00	0.00	3.03	0.00	0.00	0.00
Aeshnidae	0.00	0.00	0.00	0.00	1.25	0.00	0.00
Corduliidae	0.00	0.00	0.00	0.00	1.25	0.00	8.33
Limnephilidae	0.00	3.33	0.00	1.52	0.00	0.00	0.00
Phryganeidae	0.00	0.00	0.00	1.52	1.25	0.00	0.00
Sphaeriidae	9.68	83.33	100.00	15.15	70.00	23.81	8.33
Hydrobiidae	0.00	0.00	0.00	18.18	0.00	0.00	0.00
Planorbidae	9.68	0.00	0.00	4.55	0.00	0.00	0.00
Valvatidae	0.00	0.00	0.00	3.03	0.00	0.00	0.00

# Notes:

1.□ Benthic invertebrate proportions were calculated at the family level



Table D2.2b: Springpole Southeast Basin Benthic Invertebrate Taxa Proportions by Area (2019)

Taxa	SPR-EXP-1	SPR-EXP-2	SPR-EXP-3	SPR-EXP-4	SPR-EXP-5
Nemata	2.46	2.80	6.94	4.00	1.51
Dugesiidae	0.35	1.05	0.26	0.00	0.30
Enchytraeidae	0.00	0.35	0.26	0.00	0.00
Naididae	2.11	7.36	5.14	4.24	1.21
Hygrobatidae	0.00	0.35	0.00	0.24	0.00
Lebertiidae	0.00	0.35	0.26	0.00	0.00
Limnesiidae	0.00	0.35	0.00	0.00	0.00
Mideopsidae	0.00	0.70	0.26	0.47	0.00
Oxidae	0.00	0.35	0.00	0.00	0.00
Pionidae	0.00	0.00	0.00	0.00	0.00
Unionicolidae	0.35	0.00	0.00	0.24	0.00
Hyalellidae	0.00	1.05	0.00	0.00	0.00
Elmidae	1.06	0.35	0.00	0.71	0.90
Caenidae	8.10	2.10	1.03	2.59	5.73
Ephemeridae	8.10	5.60	25.19	22.35	4.37
Sialidae	2.82	0.00	0.00	0.24	2.71
Coenagrionidae	0.00	0.00	0.00	0.24	0.00
Corduliidae	0.00	0.00	0.00	0.24	0.00
Gomphidae	0.00	0.35	0.00	0.00	0.15
Dipseudopsidae	0.00	1.05	0.00	0.24	0.30
Hydroptilidae	0.35	0.70	0.00	0.00	0.30
Leptoceridae	3.87	2.80	3.08	4.00	3.32
Molannidae	0.70	1.05	0.51	1.65	0.30
Ceratopogonidae	4.58	7.71	7.71	5.41	4.52
Chaoboridae	1.76	0.00	0.51	0.00	0.30
Chironomidae	39.79	47.64	30.59	27.53	45.85
Hydrobiidae	3.52	0.70	1.54	0.24	0.60
Lymnaeidae	2.82	0.70	0.51	4.94	2.41
Planorbidae	10.56	8.06	13.11	12.24	12.22
Valvatidae	1.41	1.75	1.54	0.24	1.51
Sphaeriidae	5.28	4.55	1.54	8.00	11.46
Unionidae	0.00	0.18	0.00	0.00	0.00

### Notes:

<sup>1.</sup> Benthic invertebrate proportions were calculated at the family level, with the exception of the genus Nemata

<sup>2.</sup> Samples collected and data provided by Story Environmental Inc.



# Table D2.2c: Springpole Lake Benthic Invertebrate Taxa Proportions (2020)

Taxa	L-15-S-1	L-15-S-2	L-15-S-3	L-15-S-4	L-15-S-5	L-15-D-1	L-15-D-2	L-15-D-3	L-15-D-4	L-15-D-5
Nemata	0.00	2.33	0.00	0.00	2.70	2.17	0.00	0.00	0.00	0.00
Naididae	0.00	2.33	3.13	4.60	1.80	23.91	44.44	0.00	33.33	8.70
Ostracoda	11.82	9.30	17.19	22.99	18.02	10.87	11.11	0.00	0.00	13.04
Pontoporreiidae	70.91	61.63	57.81	58.62	57.66	21.74	11.11	0.00	0.00	39.13
Chaoboridae	0.91	4.65	4.69	1.15	3.60	8.70	11.11	0.00	0.00	0.00
Chironomidae	1.82	0.00	1.56	1.15	2.70	23.91	22.22	100.00	66.67	30.43
Sphaeriidae	14.55	19.77	15.63	11.49	13.51	8.70	0.00	0.00	0.00	8.70

Page D13 Project # TC190403 | March 2021 wood.



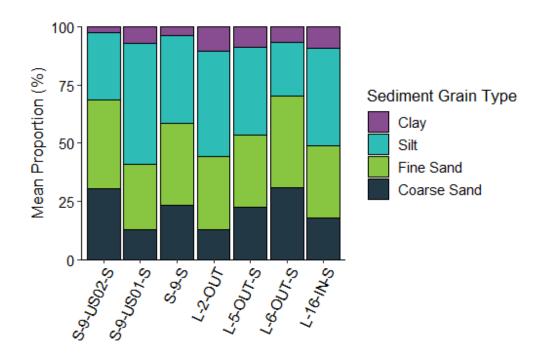


Figure D1.1: Inland Waterbodies Sediment Particle Size Distribution (2019)

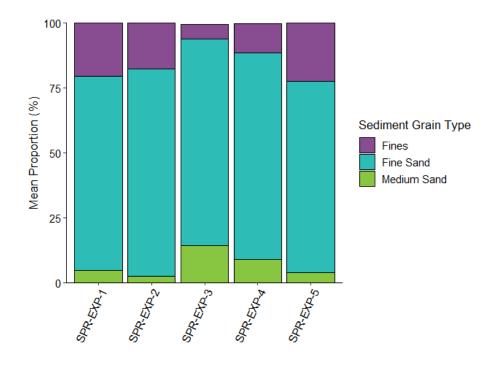


Figure D1.2: Springpole Lake Southeast Basin Sediment Particle Size Distribution (2019)



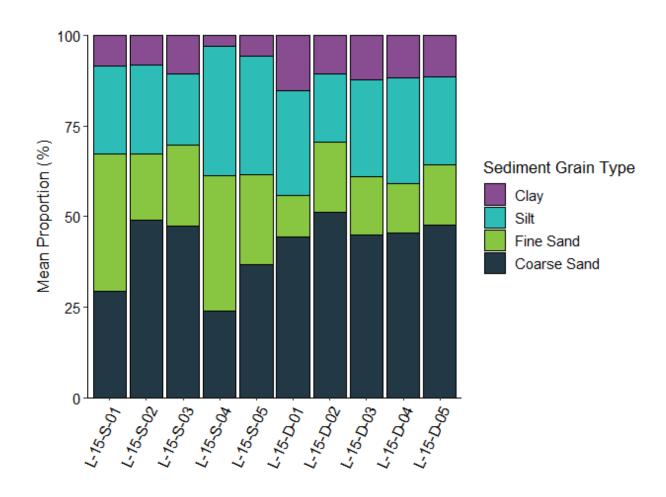
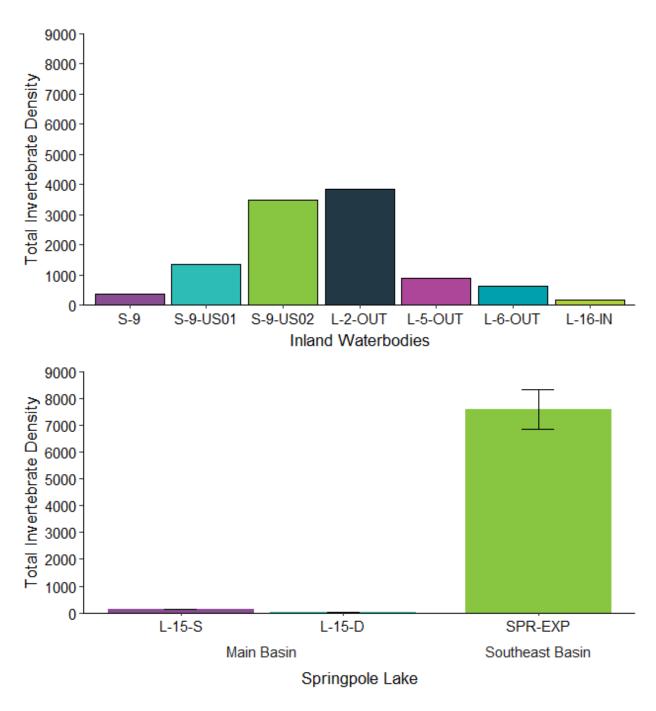


Figure D1.3: Springpole Lake Sediment Particle Size Distribution (2020)





**Benthic Invertebrate Community Total Invertebrate Density** Figure D2.1:

Project # TC190403 | March 2021 wood.



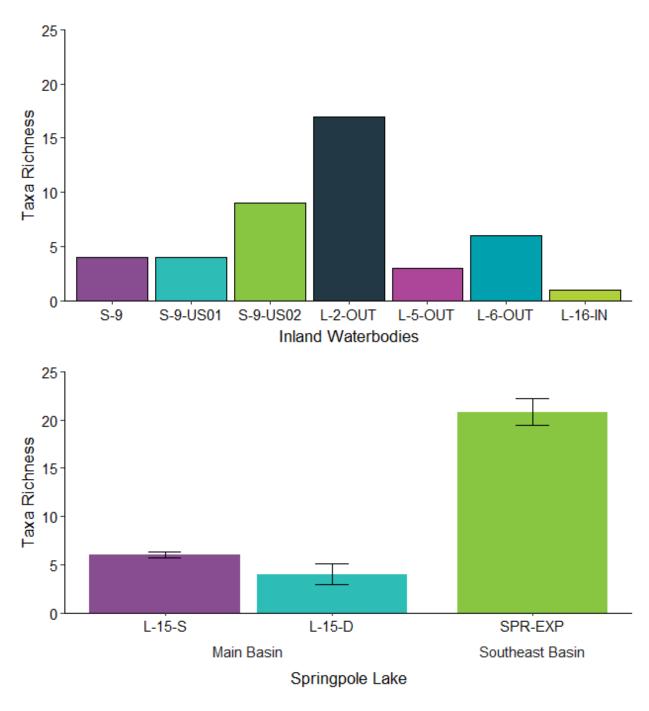


Figure D2.2: Benthic Invertebrate Community Taxa Richness



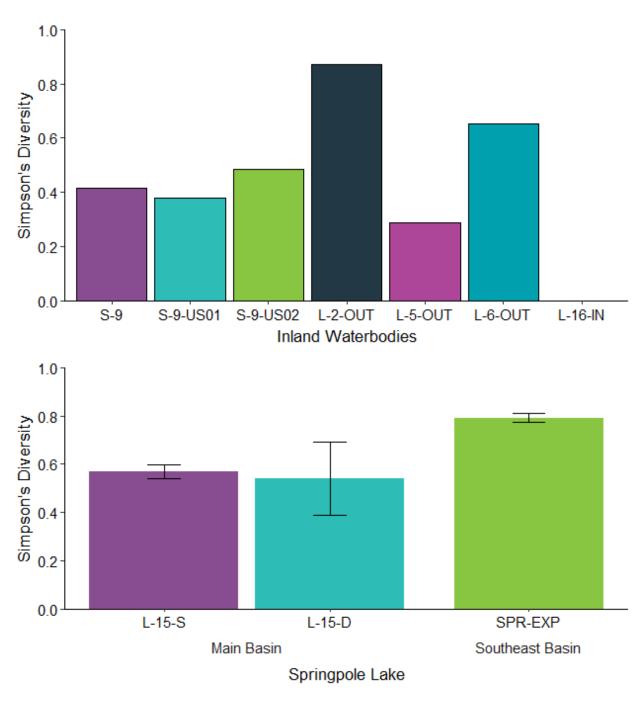


Figure D2.3: Benthic Invertebrate Community Simpson's Diversity



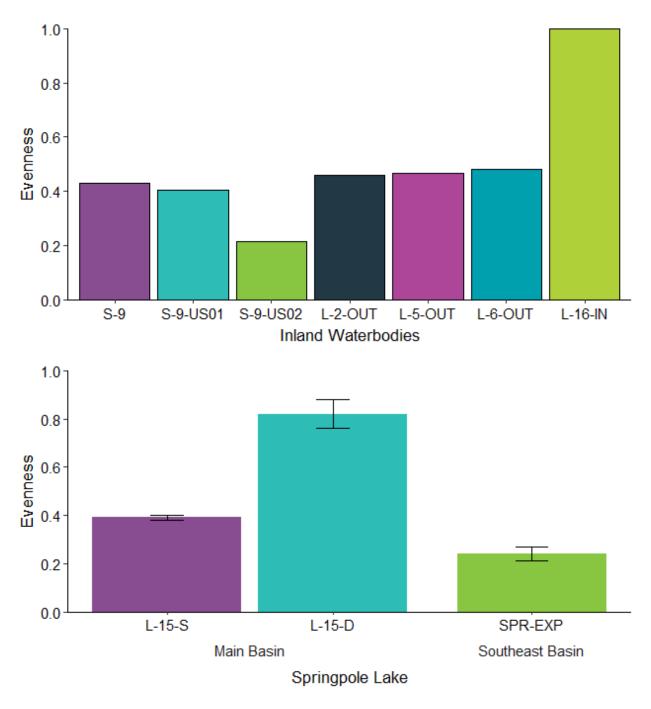


Figure D2.4: Benthic Invertebrate Community Evenness

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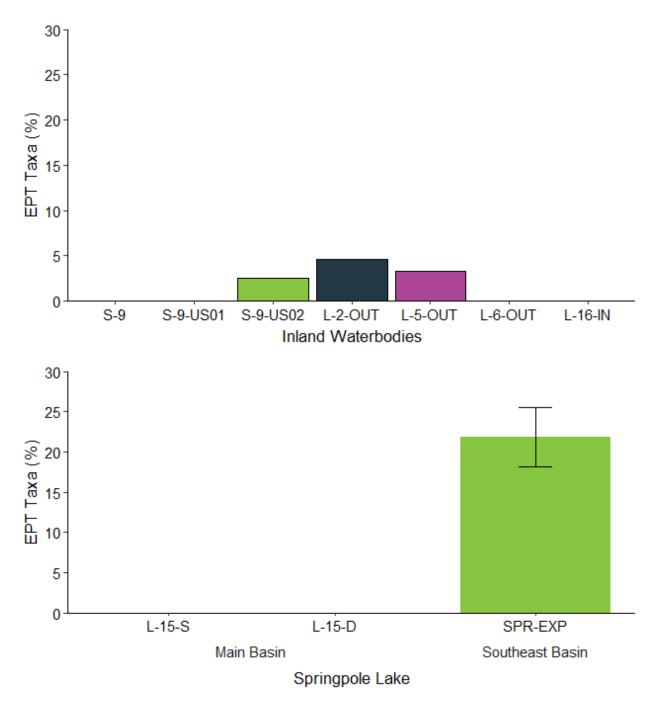


Figure D2.5: Benthic Invertebrate Community Percent EPT

 $\underline{\text{Note}}\text{:}$  The L-15-S and L-15-D series of samples did not contain EPT taxa.



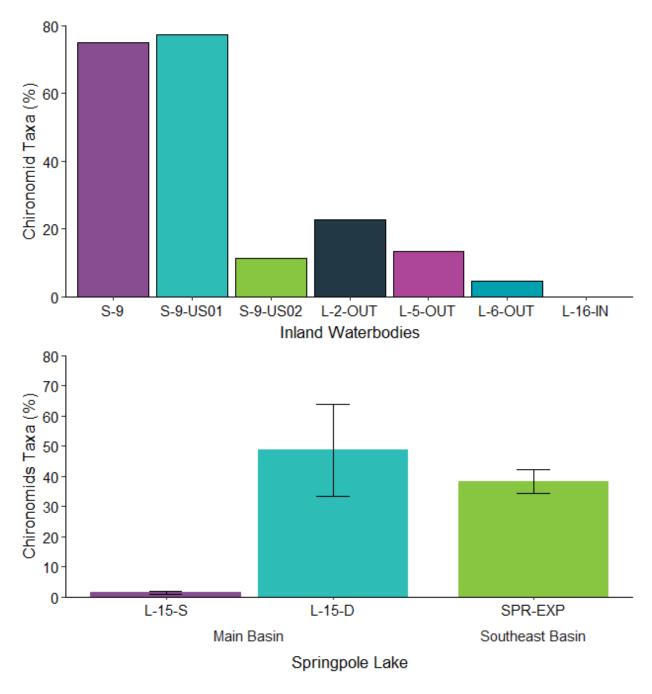


Figure D2.6: Benthic Invertebrate Community Percent Chironomids

wood.



Your Project #: TC190403 Site#: FMG Springpole Your C.O.C. #: 735665-01-01

**Attention: Dale Klodnicki** 

Wood Environment & Infrastructure Solutions, a division of Wood Canada
160 Traders Blvd
Mississauga, ON
CANADA L4Z3K7

Report Date: 2019/09/28

Report #: R5899654 Version: 1 - Final

# **CERTIFICATE OF ANALYSIS**

BV LABS JOB #: B9Q6959 Received: 2019/09/24, 11:05 Sample Matrix: Sediment

Sample Matrix: Sediment # Samples Received: 8

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	<b>Laboratory Method</b>	Reference
Strong Acid Leachable Metals by ICPMS	8	2019/09/26	2019/09/27	CAM SOP-00447	EPA 6020B m
Moisture	8	N/A	2019/09/26	CAM SOP-00445	Carter 2nd ed 51.2 m
Nitrate (NO3) and Nitrite (NO2) in Soil	8	2019/09/27	2019/09/27	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH CaCl2 EXTRACT	8	2019/09/26	2019/09/26	CAM SOP-00413	EPA 9045 D m
Calculated Total Kjeldahl Nitrogen	8	N/A	2019/09/27	CAM SOP-00460	EPA 351.2 m
Total Organic Carbon in Soil	8	N/A	2019/09/27	CAM SOP-00468	BCMOE TOC Aug 2014

#### Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.



Your Project #: TC190403 Site#: FMG Springpole Your C.O.C. #: 735665-01-01

**Attention: Dale Klodnicki** 

Wood Environment & Infrastructure Solutions, a division of Wood Canada 160 Traders Blvd Mississauga, ON CANADA L4Z3K7

Report Date: 2019/09/28

Report #: R5899654 Version: 1 - Final

# **CERTIFICATE OF ANALYSIS**

BV LABS JOB #: B9Q6959 Received: 2019/09/24, 11:05

**Encryption Key** 

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Gina Baybayan, Project Manager

Email: Gina.Baybayan@bvlabs.com

Phone# (905)817-5766

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Wood Canada

Client Project #: TC190403 Sampler Initials: AL

# TKN (CALCULATED IN SOIL)

BV Labs ID		KVZ766	KVZ767	KVZ768	KVZ769	KVZ770	KVZ771		
Samulius Data		2019/09/10	2019/09/11	2019/09/10	2019/09/17	2019/09/13	2019/09/14		
Sampling Date		14:00	15:30	12:30	09:45	10:30	13:35		
COC Number		735665-01-01	735665-01-01	735665-01-01	735665-01-01	735665-01-01	735665-01-01		
	UNITS	S-9-US02-S	S-9-US01-S	S-9-S	WB02-OUT-S	WB05-OUT-S	WB06-OUT-S	RDL	QC Batch
Inorganics	-							<u> </u>	
Inorganics Moisture	%	88	79	81	75	83	72	1.0	6355029
	% ug/g	88 12700	79 13700	81 12200	75 6210	83 8950	72 3640	1.0	6355029 6349895
Moisture	, -		_	-					

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		KVZ772		KVZ773		
Sampling Date		2019/09/14 12:00		2019/09/14		
COC Number		735665-01-01		735665-01-01		
	UNITS	WB16-IN-S	QC Batch	DUP 1-S	RDL	QC Batch
Inorganics						
Moisture	%	80	6355029	73	1.0	6355156
Calculated Total Kjeldahl Nitrogen	ug/g	12000	6349895	9810	100	6349895
Nitrite (N)	ug/g	<0.5	6356342	<0.5	0.5	6356342



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Client Project #: TC190403 Sampler Initials: AL

## **RESULTS OF ANALYSES OF SEDIMENT**

BV Labs ID		KVZ766	KVZ767	KVZ768	KVZ769	KVZ769	KVZ770		
Sampling Date		2019/09/10 14:00	2019/09/11 15:30	2019/09/10 12:30	2019/09/17 09:45	2019/09/17 09:45	2019/09/13 10:30		
COC Number		735665-01-01	735665-01-01	735665-01-01	735665-01-01	735665-01-01	735665-01-01		
	UNITS	S-9-US02-S	S-9-US01-S	S-9-S	WB02-OUT-S	WB02-OUT-S Lab-Dup	WB05-OUT-S	RDL	QC Batch
Inorganics									
Total Organic Carbon	mg/kg	460000	230000	200000	75000	77000	160000	500	6355025
Available (CaCl2) pH	Нq	5.60	5.23	5.45	5.25	N/A	5.48	N/A	6353836

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

N/A = Not Applicable

BV Labs ID		KVZ771	KVZ772	KVZ773		
Sampling Date		2019/09/14	2019/09/14	2019/09/14		
Sampling Date		13:35	12:00	2019/09/14		
COC Number		735665-01-01	735665-01-01	735665-01-01		
	UNITS	WB06-OUT-S	WB16-IN-S	DUP 1-S	RDL	QC Batch
Inorganics						
Inorganics Total Organic Carbon	mg/kg	75000	130000	170000	500	6355025
	mg/kg pH	75000 6.23	130000 5.99	170000 5.95	500 N/A	6355025 6353836
Total Organic Carbon	рН					



Wood Canada

Client Project #: TC190403 Sampler Initials: AL

# **ELEMENTS BY ATOMIC SPECTROSCOPY (SEDIMENT)**

<u></u>								
BV Labs ID		KVZ766	KVZ767	KVZ768	KVZ769	KVZ770		
Sampling Date		2019/09/10	2019/09/11	2019/09/10	2019/09/17	2019/09/13		
		14:00	15:30	12:30	09:45	10:30		
COC Number		735665-01-01	735665-01-01	735665-01-01	735665-01-01	735665-01-01		
	UNITS	S-9-US02-S	S-9-US01-S	S-9-S	WB02-OUT-S	WB05-OUT-S	RDL	QC Batch
Metals								
Acid Extractable Aluminum (Al)	ug/g	4400	8200	9600	8300	9700	50	6354947
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	<0.20	0.25	<0.20	0.20	6354947
Acid Extractable Arsenic (As)	ug/g	1.3	1.1	1.5	4.5	3.0	1.0	6354947
Acid Extractable Barium (Ba)	ug/g	120	120	120	59	81	0.50	6354947
Acid Extractable Beryllium (Be)	ug/g	<0.20	<0.20	<0.20	0.25	0.26	0.20	6354947
Acid Extractable Bismuth (Bi)	ug/g	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	6354947
Acid Extractable Boron (B)	ug/g	10	<5.0	<5.0	<5.0	<5.0	5.0	6354947
Acid Extractable Cadmium (Cd)	ug/g	0.27	0.22	0.25	0.19	0.22	0.10	6354947
Acid Extractable Calcium (Ca)	ug/g	31000	19000	17000	6300	17000	50	6354947
Acid Extractable Chromium (Cr)	ug/g	8.1	22	26	20	28	1.0	6354947
Acid Extractable Cobalt (Co)	ug/g	3.9	6.5	12	6.7	7.8	0.10	6354947
Acid Extractable Copper (Cu)	ug/g	16	17	22	17	35	0.50	6354947
Acid Extractable Iron (Fe)	ug/g	7000	10000	17000	15000	16000	50	6354947
Acid Extractable Lead (Pb)	ug/g	5.9	5.3	5.2	7.3	7.7	1.0	6354947
Acid Extractable Magnesium (Mg)	ug/g	1500	2700	4100	3100	3600	50	6354947
Acid Extractable Manganese (Mn)	ug/g	210	450	950	430	660	1.0	6354947
Acid Extractable Molybdenum (Mo)	ug/g	0.76	<0.50	<0.50	<0.50	<0.50	0.50	6354947
Acid Extractable Nickel (Ni)	ug/g	6.8	12	17	16	15	0.50	6354947
Acid Extractable Phosphorus (P)	ug/g	600	770	870	690	820	50	6354947
Acid Extractable Potassium (K)	ug/g	200	430	510	740	560	200	6354947
Acid Extractable Selenium (Se)	ug/g	0.90	0.72	0.91	<0.50	0.89	0.50	6354947
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	0.20	0.20	6354947
Acid Extractable Sodium (Na)	ug/g	60	66	91	110	70	50	6354947
Acid Extractable Strontium (Sr)	ug/g	120	35	34	29	29	1.0	6354947
Acid Extractable Thallium (TI)	ug/g	0.066	0.086	0.11	0.16	0.14	0.050	6354947
Acid Extractable Tin (Sn)	ug/g	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	6354947
Acid Extractable Uranium (U)	ug/g	1.9	0.79	1.9	0.63	1.1	0.050	6354947
Acid Extractable Vanadium (V)	ug/g	12	20	28	22	26	5.0	6354947
Acid Extractable Zinc (Zn)	ug/g	19	30	42	80	46	5.0	6354947
Acid Extractable Mercury (Hg)	ug/g	0.11	0.092	0.11	0.064	0.15	0.050	6354947
RDL = Reportable Detection Limit								

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



Wood Canada

Client Project #: TC190403 Sampler Initials: AL

# **ELEMENTS BY ATOMIC SPECTROSCOPY (SEDIMENT)**

BV Labs ID		KVZ771	KVZ772	KVZ773		
Sampling Date		2019/09/14 13:35	2019/09/14 12:00	2019/09/14		
COC Number		735665-01-01	735665-01-01	735665-01-01		
	UNITS	WB06-OUT-S	WB16-IN-S	DUP 1-S	RDL	QC Batch
Metals		•	·	·		•
Acid Extractable Aluminum (AI)	ug/g	7400	9500	9800	50	6354947
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	<0.20	0.20	6354947
Acid Extractable Arsenic (As)	ug/g	5.0	7.5	8.4	1.0	6354947
Acid Extractable Barium (Ba)	ug/g	37	87	94	0.50	6354947
Acid Extractable Beryllium (Be)	ug/g	<0.20	0.23	0.21	0.20	6354947
Acid Extractable Bismuth (Bi)	ug/g	<1.0	<1.0	<1.0	1.0	6354947
Acid Extractable Boron (B)	ug/g	<5.0	<5.0	<5.0	5.0	6354947
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.19	0.25	0.10	6354947
Acid Extractable Calcium (Ca)	ug/g	9300	15000	16000	50	6354947
Acid Extractable Chromium (Cr)	ug/g	23	27	28	1.0	6354947
Acid Extractable Cobalt (Co)	ug/g	7.9	12	13	0.10	6354947
Acid Extractable Copper (Cu)	ug/g	11	16	16	0.50	6354947
Acid Extractable Iron (Fe)	ug/g	21000	26000	28000	50	6354947
Acid Extractable Lead (Pb)	ug/g	4.5	6.6	7.2	1.0	6354947
Acid Extractable Magnesium (Mg)	ug/g	4200	4500	4600	50	6354947
Acid Extractable Manganese (Mn)	ug/g	680	1500	1700	1.0	6354947
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.65	0.64	0.50	6354947
Acid Extractable Nickel (Ni)	ug/g	14	18	18	0.50	6354947
Acid Extractable Phosphorus (P)	ug/g	750	930	980	50	6354947
Acid Extractable Potassium (K)	ug/g	670	1000	1000	200	6354947
Acid Extractable Selenium (Se)	ug/g	<0.50	0.55	0.66	0.50	6354947
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	0.20	6354947
Acid Extractable Sodium (Na)	ug/g	94	91	91	50	6354947
Acid Extractable Strontium (Sr)	ug/g	15	24	26	1.0	6354947
Acid Extractable Thallium (Tl)	ug/g	0.096	0.14	0.16	0.050	6354947
Acid Extractable Tin (Sn)	ug/g	<1.0	<1.0	<1.0	1.0	6354947
Acid Extractable Uranium (U)	ug/g	0.52	0.79	0.88	0.050	6354947
Acid Extractable Vanadium (V)	ug/g	26	32	33	5.0	6354947
Acid Extractable Zinc (Zn)	ug/g	35	45	46	5.0	6354947
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.083	0.097	0.050	6354947
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Acid Extractable Mercury (Hg)  RDL = Reportable Detection Limit	ug/g			-		



Wood Canada

Client Project #: TC190403 Sampler Initials: AL

### **TEST SUMMARY**

BV Labs ID: KVZ766 Sample ID: S-9-US02-S Collected:

2019/09/10

Matrix: Sediment

Shipped:

**Received:** 2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	СОМВ	6355025	N/A	2019/09/27	Dhruvik Modh

BV Labs ID: KVZ767 Sample ID: S-9-US01-S Matrix: Sediment

**Collected:** 2019/09/11

Shipped: 2019/09/24 Received:

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	СОМВ	6355025	N/A	2019/09/27	Dhruvik Modh

**BV Labs ID:** KVZ768 Sample ID: S-9-S

Matrix: Sediment

Collected: Shipped:

2019/09/10

**Received:** 2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	СОМВ	6355025	N/A	2019/09/27	Dhruvik Modh

BV Labs ID: KVZ769 Sample ID: WB02-OUT-S Matrix: Sediment

Collected: Shipped:

2019/09/17

**Received:** 2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	COMB	6355025	N/A	2019/09/27	Dhruvik Modh



Report Date: 2019/09/28

Wood Environment & Infrastructure Solutions, a division of

Wood Canada

Client Project #: TC190403 Sampler Initials: AL

### **TEST SUMMARY**

BV Labs ID: KVZ769 Dup Sample ID: WB02-OUT-S Collected:

2019/09/17

Matrix: Sediment

Shipped:

**Received:** 2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Organic Carbon in Soil	COMB	6355025	N/A	2019/09/27	Dhruvik Modh

BV Labs ID: KVZ770 Collected: 2019/09/13

WB05-OUT-S Sample ID: Matrix: Sediment

Shipped: Received: 2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	СОМВ	6355025	N/A	2019/09/27	Dhruvik Modh

BV Labs ID: KVZ771 Sample ID: WB06-OUT-S Matrix: Sediment

Collected: Shipped:

2019/09/14

2019/09/24 Received:

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	COMB	6355025	N/A	2019/09/27	Dhruvik Modh

BV Labs ID: KVZ772 Sample ID: WB16-IN-S Matrix: Sediment

Collected:

2019/09/14

Shipped: Received:

2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355029	N/A	2019/09/26	Prgya Panchal
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	6356342	2019/09/27	2019/09/27	Chandra Nandlal
pH CaCl2 EXTRACT	AT	6353836	2019/09/26	2019/09/26	Neil Dassanayake
Calculated Total Kjeldahl Nitrogen		6349895	N/A	2019/09/27	Automated Statchk
Total Organic Carbon in Soil	COMB	6355025	N/A	2019/09/27	Dhruvik Modh

BV Labs ID: KVZ773 Sample ID: DUP 1-S Matrix: Sediment Collected: 2019/09/14

Shipped:

Received: 2019/09/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6354947	2019/09/26	2019/09/27	Daniel Teclu
Moisture	BAL	6355156	N/A	2019/09/26	Prgya Panchal



Matrix: Sediment

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Client Project #: TC190403 Sampler Initials: AL

### **TEST SUMMARY**

BV Labs ID: KVZ773 Collected: 2019/09/14 Sample ID: DUP 1-S

Shipped:

**Received:** 2019/09/24

**Test Description** Instrumentation Batch **Extracted Date Analyzed** Analyst Nitrate (NO3) and Nitrite (NO2) in Soil LACH 6356342 2019/09/27 2019/09/27 Chandra Nandlal 2019/09/26 pH CaCl2 EXTRACT ΑТ 6353836 2019/09/26 Neil Dassanayake Calculated Total Kjeldahl Nitrogen 6349895 N/A 2019/09/27 **Automated Statchk** Total Organic Carbon in Soil 6355025 N/A 2019/09/27 Dhruvik Modh COMB



Wood Canada

Client Project #: TC190403 Sampler Initials: AL

# **GENERAL COMMENTS**

Each te	emperature is the	average of up to th	hree cooler temperatures taken at receipt
	Package 1	4.0°C	
Result	s relate only to th	e items tested.	



## **QUALITY ASSURANCE REPORT**

Wood Environment & Infrastructure Solutions, a division of

**Wood Canada** 

Client Project #: TC190403 Sampler Initials: AL

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RP	D	QC Sta	ndard
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6353836	Available (CaCl2) pH	2019/09/26			100	97 - 103			0.61 (1)	N/A		
6354947	Acid Extractable Aluminum (Al)	2019/09/27	NC	75 - 125	105	80 - 120	<50	ug/g				
6354947	Acid Extractable Antimony (Sb)	2019/09/27	105	75 - 125	104	80 - 120	<0.20	ug/g	NC (1)	30		
6354947	Acid Extractable Arsenic (As)	2019/09/27	104	75 - 125	103	80 - 120	<1.0	ug/g	NC (1)	30		
6354947	Acid Extractable Barium (Ba)	2019/09/27	98	75 - 125	102	80 - 120	<0.50	ug/g	22 (1)	30		
6354947	Acid Extractable Beryllium (Be)	2019/09/27	105	75 - 125	103	80 - 120	<0.20	ug/g	NC (1)	30		
6354947	Acid Extractable Bismuth (Bi)	2019/09/27	102	75 - 125	102	80 - 120	<1.0	ug/g				
6354947	Acid Extractable Boron (B)	2019/09/27	103	75 - 125	106	80 - 120	<5.0	ug/g	NC (1)	30		
6354947	Acid Extractable Cadmium (Cd)	2019/09/27	105	75 - 125	103	80 - 120	<0.10	ug/g	NC (1)	30		
6354947	Acid Extractable Calcium (Ca)	2019/09/27	NC	75 - 125	109	80 - 120	<50	ug/g				
6354947	Acid Extractable Chromium (Cr)	2019/09/27	105	75 - 125	107	80 - 120	<1.0	ug/g	11 (1)	30		
6354947	Acid Extractable Cobalt (Co)	2019/09/27	103	75 - 125	106	80 - 120	<0.10	ug/g	11 (1)	30		
6354947	Acid Extractable Copper (Cu)	2019/09/27	102	75 - 125	106	80 - 120	<0.50	ug/g	13 (1)	30		
6354947	Acid Extractable Iron (Fe)	2019/09/27	NC	75 - 125	106	80 - 120	<50	ug/g				
6354947	Acid Extractable Lead (Pb)	2019/09/27	102	75 - 125	104	80 - 120	<1.0	ug/g	6.1 (1)	30		
6354947	Acid Extractable Magnesium (Mg)	2019/09/27	NC	75 - 125	102	80 - 120	<50	ug/g				
6354947	Acid Extractable Manganese (Mn)	2019/09/27	NC	75 - 125	106	80 - 120	<1.0	ug/g				
6354947	Acid Extractable Mercury (Hg)	2019/09/27	91	75 - 125	97	80 - 120	<0.050	ug/g	NC (1)	30		
6354947	Acid Extractable Molybdenum (Mo)	2019/09/27	108	75 - 125	104	80 - 120	<0.50	ug/g	NC (1)	30		
6354947	Acid Extractable Nickel (Ni)	2019/09/27	106	75 - 125	105	80 - 120	<0.50	ug/g	15 (1)	30		
6354947	Acid Extractable Phosphorus (P)	2019/09/27	NC	75 - 125	108	80 - 120	<50	ug/g				
6354947	Acid Extractable Potassium (K)	2019/09/27	NC	75 - 125	104	80 - 120	<200	ug/g				
6354947	Acid Extractable Selenium (Se)	2019/09/27	108	75 - 125	105	80 - 120	<0.50	ug/g	NC (1)	30		
6354947	Acid Extractable Silver (Ag)	2019/09/27	105	75 - 125	106	80 - 120	<0.20	ug/g	NC (1)	30		
6354947	Acid Extractable Sodium (Na)	2019/09/27	110	75 - 125	106	80 - 120	<50	ug/g				
6354947	Acid Extractable Strontium (Sr)	2019/09/27	NC	75 - 125	107	80 - 120	<1.0	ug/g				
6354947	Acid Extractable Thallium (TI)	2019/09/27	103	75 - 125	103	80 - 120	<0.050	ug/g	NC (1)	30		
6354947	Acid Extractable Tin (Sn)	2019/09/27	108	75 - 125	107	80 - 120	<1.0	ug/g				
6354947	Acid Extractable Uranium (U)	2019/09/27	103	75 - 125	102	80 - 120	<0.050	ug/g	3.7 (1)	30		
6354947	Acid Extractable Vanadium (V)	2019/09/27	107	75 - 125	107	80 - 120	<5.0	ug/g	16 (1)	30		



QUALITY ASSURANCE REPORT(CONT'D)

Wood Environment & Infrastructure Solutions, a division of

**Wood Canada** 

Client Project #: TC190403

Sampler Initials: AL

			Matrix	Spike	SPIKED	BLANK	Method E	Blank	RP	D	QC Sta	ndard
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6354947	Acid Extractable Zinc (Zn)	2019/09/27	100	75 - 125	106	80 - 120	<5.0	ug/g	20 (1)	30		
6355025	Total Organic Carbon	2019/09/27					<500	mg/kg	2.9 (2)	35	105	75 - 125
6355029	Moisture	2019/09/26							0.62 (1)	20		
6355156	Moisture	2019/09/26							1.4 (1)	20		
6356342	Nitrite (N)	2019/09/27	101	75 - 125		`	<0.5	ug/g	NC (1)	25		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

- (1) Duplicate Parent ID
- (2) Duplicate Parent ID [KVZ769-01]



Wood Canada

Client Project #: TC190403 Sampler Initials: AL

### **VALIDATION SIGNATURE PAGE**

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Appendix E
Photo Record





Facing downstream at culvert (Jul. 16, 2019)



Culvert inflow (Jul. 20, 2019)



Facing downstream at culvert (Sep. 17, 2019)



Culvert inflow (Sep. 17, 2019)

Plate E.1-1: Sample Area L-2-OUT





Finescale Dace (Jul. 17, 2019)



Yellow Perch, adult with YOY inset photo (Jul. 17, 2019)



Flooded conditions of channel at L-2-OUT (Sep. 17, 2019)



Downstream of L-2-OUT facing Springpole Lake (Sep. 17, 2019)

Plate E.1-2: Sample Area L-2-OUT

Page E.1- 2 Project # TC190403 | March 2021





View facing upstream (Jul. 26, 2019)



View facing upstream (Jul. 26, 2019)



View facing upstream (Sep. 17, 2019)



Substrate and macrophytes at outflow of WB02-OUT-US (Jul. 26, 2019)

Plate E.1-3: Sample Area L-2-OUT-US





View facing downstream (Jul. 18, 2019)



View facing beaver pond upstream at L-5-OUT (Jul. 18, 2019)



View facing downstream (Sep. 13, 2019)



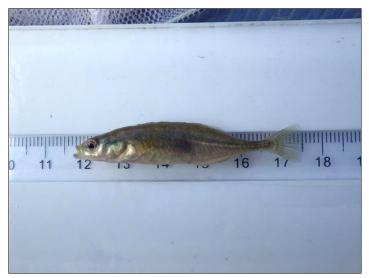
View facing beaver pond upstream at L-5-OUT (Sep. 13, 2019)

Plate E.1-4: Sample Area L-5-OUT





Male Iowa Darter near outflow (Jul. 19, 2019)



Brook Stickleback near outflow (Jul. 19, 2019)



Outflow of L-5-OUT into Springpole Lake (Sep. 13, 2019)



Pool near outflow of L-5-OUT (Sep. 13, 2019)

Plate E.1-5: Sample Area L-5-OUT





View facing upstream (Jul. 16, 2019)



View facing downstream (Jul. 16, 2018)



View facing upstream (Sep. 12, 2019)



View facing downstream (Sep. 12, 2019)

Plate E1-6: Sample Area S-9-US02





View facing beaver dam at S-9-US01 (Sep. 11, 2019)



Ponar grab near beaver dam at S-9-US01 (Sep. 11, 2019)



View facing downstream at beaver dam S-9-US01 (Sep. 11, 2019)



Outflow from beaver dam S-9-US01 (Sep. 11, 2019)

Plate E.1-7: Sample Area S-9-US02





Outflow of L-16-IN (Jul. 20, 2019)



Inflow of L-16-IN (Sep. 14, 2019)



Outflow of L-16-IN (Sep. 14, 2019)



Petite ponar grab sample from L-16-IN (Sep. 14, 2019)

Plate E.1-8: Sample Area L-16-IN





Golden Shiner at outflow of L-2-OUT-US (Jul. 17, 2019)



Spottail Shiner at outflow of L-2-OUT-US (Jul. 17, 2019)



Blacknose Shiner at outflow of L-2-OUT-US (Sep. 17, 2019)



Northern Pike from L-16-IN (Sep. 23, 2019)

Plate E.1-9: Fish Specimens from L-2-OUT-US and L-16





Walleye from L-15 (Effort ID SPL-LG-05; Jul. 25, 2020)



Late alevin stage fish (Effort ID SPL-MT-01; Jul. 26, 2020)



Late alevin stage fish (Effort ID SPL-MT-01 (Jul. 26, 2020)



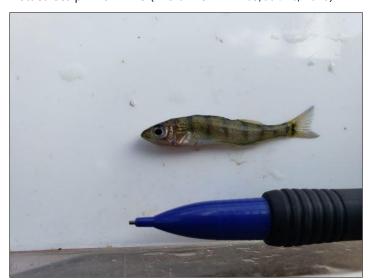
Bluntnose Minnow from L-15 (Effort ID SPL-MT-04; Jul. 26, 2020)

Plate E.1-10: Fish Specimens from Springpole Lake (L-15)





Mottled Sculpin from L-15 (Effort ID SPL-MT-05; Jul. 26, 2020)



Young of the year Yellow Perch (Jul. 26, 2020)



Young of the Year Spottail Shiner from L-15 (Effort ID SPL-EF-01; Jul. 27, 2020)



Adult Walleye from L-15 (Effort ID SPL-LG-05; Jul. 25, 2020)

Plate E.1-11: Fish Specimens from Springpole Lake (L-15)





Sediment in Petite ponar (100% full) from L-15-S-01 (Sep. 10, 2020)



Amphipods from sieved benthic sample at L-15-S-01 (Sep. 10, 2020)



Sediment in Petite ponar (100% full) from L-15-D-01 (Sep. 11, 2020)



Chironomids and Amphipods from L-15-D-01 (Sep. 11, 2020)

Plate E.1-12: Sediment and Benthic Samples from Springpole Lake (L-15)





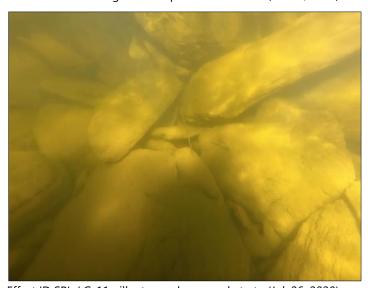
Effort ID SPL-LG-12 gillnet sample area (Jul. 26, 2020)



Effort ID SPL-LG-11 gillnet sample area (Jul. 26, 2020)



Effort ID SPL-LG-12 gillnet sample area substrate (Jul. 26, 2020)



Effort ID SPL-LG-11 gillnet sample area substrate (Jul. 26, 2020)

Plate E.1-13: Fish Habitat in Springpole Lake (L-15)

wood.





Effort ID SPL-MT-05 sample area (Jul. 25, 2020)



Effort ID SPL-LG-5 GN sample area (Jul. 25, 2020)



Effort ID SPL-MT-05 sample area substrate (Jul. 25, 2020)



Effort ID SPL-LG-5 GN sample area substrate (Jul. 25, 2020)

Plate E.1-14: Fish Habitat in Springpole Lake (L-15)

wood.

**Limitations** 



## Limitations

1.□ The work performed in the preparation of this report and the conclusions presented are subject to the a.□ The Standard Terms and Conditions which form a part of our Professional Services Contract; b. ☐ The Scope of Services; c. Time and Budgetary limitations as described in our Contract; and d. ☐ The Limitations stated herein. 2.□ No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented. 3.□ The conclusions presented in this report were based, in part, on visual observations of the Site and attendant structures. Our conclusions cannot and are not extended to include those portions of the Site or structures, which are not reasonably available, in Wood's opinion, for direct observation. 4.□ The environmental conditions at the Site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the Site with any applicable local, provincial or federal bylaws, orders-in-council, legislative enactments and regulations was not performed. 5.□ The Site history research included obtaining information from third parties and employees or agents of the owner. No attempt has been made to verify the accuracy of any information provided, unless specifically noted in our report. 6.□ Where testing was performed, it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, may be present on-site and may be revealed by different or other testing not provided for in our contract. 7.□ Because of the limitations referred to above, different environmental conditions from those stated in our report may exist. Should such different conditions be encountered, Wood must be notified in order that it may determine if modifications to the conclusions in the report are necessary. 8.□ The utilization of Wood's services during the implementation of any remedial measures will allow Wood to observe compliance with the conclusions and recommendations contained in the report. Wood's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered. 9.□ This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report is the sole responsibility of such third party. Wood accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein. 10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of Wood. 11. Provided that the report is still reliable, and less than 12 months old, Wood will issue a third-party reliance letter to parties that the client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on Wood's report, by such reliance agree to be bound by our proposal and Wood's standard reliance letter. Wood's standard reliance letter indicates that in no event shall Wood be liable for any damages, howsoever arising, relating to third-party reliance on Wood's report. No reliance by any party is permitted without such agreement.