



**FIRST MINING  
GOLD**



## **APPENDIX N**

### **WATER QUALITY TECHNICAL SUPPORT DOCUMENT**

- N-1 Surface Water Quality Baseline**
- N-2 Surface Water Quality Modelling Report
- N-3 Surface Water Quality Predictive Modeling of Pit Lake Water Quality



# **Water Quality Baseline Report 2023**

Springpole Gold Project

First Mining Gold Corp.

ONS2104

**Prepared by:**  
**WSP Canada Inc.**

**October 2024**



# Water Quality Baseline Report

## Springpole Gold Project

Red Lake District, Northwest Ontario  
Project #ONS2104

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## EXECUTIVE SUMMARY

First Mining Gold Corp. (FMG) proposes to develop, operate and eventually decommission / close an open pit gold and silver mine and ore process plant with supporting facilities known as the Springpole Gold Project (Project). The Project is located in a remote area of northwestern Ontario, approximately 110 kilometres (km) northeast of the Municipality of Red Lake and 145 km north of the Municipality of Sioux Lookout (Figure 1-1). The proposed main Project site is centered between Springpole Lake and Birch Lake which are both part of the regional Birch Lake watershed.

An environmental assessment (EA) pursuant to the Canadian Environmental Assessment Act, 2012 (SC 2012, c. 19, s. 52) and the Ontario Environmental Assessment Act (RSO 1990, c. E.18) is required to be completed for the Project. This report is one of a series of Technical Support Documents prepared by WSP Canada Inc. (WSP) on behalf of FMG to describe the predicted environmental effects of the Project.

Surface water quality baseline sampling has been ongoing since 2011 and has aimed to characterize watercourses that could be potentially affected by mine development and operation. More than 40 water quality stations have been monitored as part of this baseline program, with over 1,100 samples collected. The network of sites covers a range of waterbodies, including small unnamed inland lakes, large deep lake basins, and far-field regional stations, ensuring representative sampling. Sites have been carefully selected to encompass different ecological zones, flow regimes, and areas of potential interaction with the Project. Seasonal variations have been characterized with sampling conducted throughout the year, often monthly, to capture fluctuations in water quality related to changing hydrological conditions, lake stratification, and climatic patterns.

For the purposes of discussion here, the baseline study area for the Project is discretized into five general areas based on general location and size of the waterbody:

- Birch Lake;
- Springpole Lake;
- Seagrave Lake;
- Small unnamed local area lakes; and
- Regional stations.

Analytical results from all sampling programs were compared to provincial and federal water quality guidelines for the protection of aquatic life. Water quality guidelines are chemical and physical indicators that have been set to establish a measurable level of water quality that is protective of all aquatic life and life cycle stages for period of indefinite exposure.

Overall, results indicate that surface water quality of all monitored waterbodies is typical of oligotrophic lakes in northwestern Ontario, including low concentrations of nutrients (nitrate, nitrite, ammonia, phosphorus) and anions (e.g., chloride, sulphate), low turbidity, and saturated to near-saturated dissolved concentrations. The pH levels of Birch Lake, Springpole Lake, Seagrave Lake, small area lakes and regional stations were generally circumneutral (i.e., pH = 6.5 to 7.5 pH units). Low frequency slightly alkaline to alkaline pH values are associated with summer sampling of surface (epilimnion) waters of small area lakes, wherein slightly higher pH values are likely driven by photosynthesis and generally warmer water quality conditions.

There were a few occasions where measured baseline concentrations are outside the range of available water quality guidelines during the period of record for sampled waterbodies. These were very low frequency (less than 2% to up to 5% of total observations) and are considered representative of the natural

heterogeneity of these lake systems. Parameters of interest for the Project, based on baseline water quality being outside the range defined by water quality guidelines are:

- pH;
- Total phosphorus;
- Total iron; and
- Total copper.

## TABLE OF CONTENTS

	<b>PAGE</b>
<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
1.1 Influences of Consultation.....	1-1
1.2 Environmental Setting.....	1-2
<b>2.0 METHODOLOGY.....</b>	<b>2-1</b>
2.1 Data sources.....	2-1
2.2 Monitoring Stations.....	2-1
2.3 Methodologies.....	2-2
2.3.1 Sampling.....	2-2
2.3.2 Monitored Parameters.....	2-3
2.3.3 Data Analysis.....	2-3
2.4 Quality Assurance and Quality Control Results.....	2-4
2.4.1 2011 to 2013.....	2-4
2.4.2 2015 to 2018.....	2-4
2.4.3 2019 to 2020.....	2-5
2.4.4 2021 to 2022.....	2-5
<b>3.0 RESULTS.....</b>	<b>3-13</b>
3.1 Birch Lake.....	3-13
3.1.1 Lake Survey Results.....	3-13
3.1.2 Water Quality.....	3-14
3.2 Springpole Lake.....	3-15
3.2.1 Lake Survey Results.....	3-15
3.2.2 Water Quality.....	3-16
3.3 Seagrave Lake.....	3-18
3.3.1 Lake Survey Results.....	3-18
3.3.2 Water Quality.....	3-18
3.4 Small Area Lakes and Tributaries.....	3-19
3.4.1 Lake Survey Results.....	3-19
3.4.2 Water Quality.....	3-20
3.5 Regional Monitoring Stations.....	3-20
<b>4.0 CLOSING.....</b>	<b>4-1</b>
<b>5.0 REFERENCES.....</b>	<b>5-1</b>
<b>6.0 CLOSING.....</b>	<b>6-1</b>

**LIST OF TABLES**

Table 2-1: Baseline Stations .....2-6  
Table 2-2: Baseline Period of Record.....2-7  
Table 2-3: Monitored Parameters.....2-8  
Table 2-4: Surface Water Quality Guidelines.....2-10  
Table 3-1: Birch Lake Baseline Water Quality.....3-22  
Table 3-2: Springpole Lake –North Basin, Water Quality .....3-23

**LIST OF FIGURES**

Figure 1-1: Project Location .....1-3  
Figure 1-2: Local Watersheds .....1-4  
Figure 2-1: Baseline Water Quality Monitoring Stations .....2-11  
Figure 2-2: Surface Water Quality and Aquatic Resources Baseline Monitoring Stations .....2-12  
Figure 3-1: Birch Lake Bathymetry.....3-28  
Figure 3-2: Springpole Lake Bathymetry.....3-29  
Figure 3-3: Springpole Lake Bathymetry, Detailed View of the North Basin.....3-30  
Figure 3-4: Seagrave Lake Bathymetry .....3-31

**LIST OF ATTACHMENTS**

- Attachment A Historical Baselines Methods and Field Photographs
- Attachment B Tabulated Water Quality Data
- Attachment C Water Quality Graphs
- Attachment D Lake Survey Data

## 1.0 INTRODUCTION

First Mining Gold Corp. proposes to develop, operate and eventually decommission and close an open pit gold and silver mine and ore process plant with supporting facilities known as the Springpole Gold Project (Project). The Project is located in a remote area of northwestern Ontario, approximately 110 kilometres (km) northeast of the Municipality of Red Lake and 145 km north of the Municipality of Sioux Lookout (Figure 1-1).

An environmental assessment (EA) pursuant to the *Canadian Environmental Assessment Act, 2012* (SC 2012, c. 19, s. 52) and the Ontario *Environmental Assessment Act* (RSO 1990, c. E.18) is required to be completed for the Project. This report is one of a series of Technical Support Documents prepared by WSP Canada Inc. on behalf of First Mining Gold Corp. This introduction is included in each baseline document, such that the reports can be read independent of one another. Other environmental baseline reports in the series address the following environmental aspects:

- Air Quality
- Noise
- Geochemistry
- Hydrogeology
- Hydrology
- Aquatic Resources
- Terrestrial Resources; and
- Socioeconomic.

Water quality constitutes the physical, chemical, biological, and aesthetic characteristics of water which are determined by a variety of regional and local factors including rock weathering, surface transport, biological activity, and anthropogenic influences. Surface water quality is linked to important biological components of the natural environment including fish and fish habitat, wildlife and wildlife habitat, and human health.

### 1.1 Influences of Consultation

During the consultation process, Project-specific input from regulatory agencies and Indigenous communities were considered at key milestones of the ongoing environmental assessment (EA) process including baseline studies, alternatives, assessment approach, mitigation and monitoring where appropriate. Non-confidential information from Indigenous Traditional Knowledge and Traditional Land Use studies will be presented, where applicable.

An overview of the consultation input and key Indigenous information that was considered during the effects assessment in relation to this report is summarized in the final Environment Impact Statement / Environmental Assessment (EIS/EA). Feedback received relating to the surface water quality baseline program have been incorporated into this baseline report as follows:

- The sampling program was expanded to include three regional sampling locations downstream of the Project. These additional stations are representative of drainages associated with Cat Lake First Nation and Slate Falls Nation.
- Water quality samples were analyzed for cyanide during the 2021 surface water program and has continued through 2023.

- Sampling programs monitored surface water stations in the vicinity of groundwater/surface water interactions using (ultra-low) detection for mercury and methylmercury.
- Deep-basin water quality profile stations have been established in Birch Lake and Springpole Lake with measurements extending to the maximum depth to fully characterize water column.
- A new station (SW-07A) was established in 2021, proximate to the proposed discharge location and has continued to be sampled monthly through 2023.
- A new station (SW-01B) was established in 2023, proximate to existing station SW-01, the latter which will be overprinted by Project development.

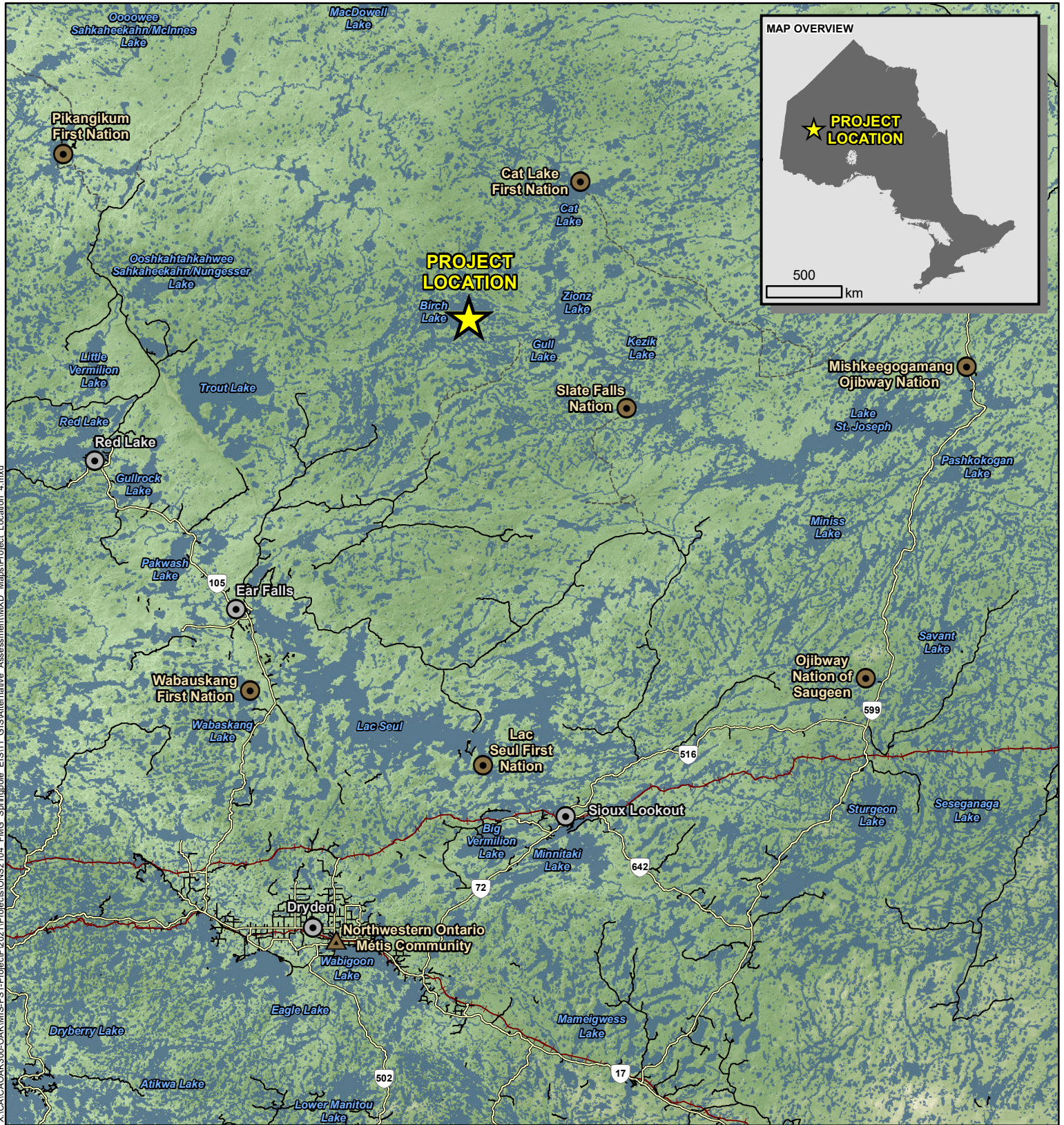
## 1.2 Environmental Setting

The proposed main Project site is centered between Springpole Lake and Birch Lake which are both part of the regional Birch Lake watershed (Figure 1-2). There is currently no all-season access road. The Springpole Project site and local area is currently accessible by floatplane direct to Springpole Lake during late spring, summer and early fall. In winter, the site is accessed by a wheel plane to an ice strip when constructed on Springpole Lake. During lake ice freeze-up in the fall and breakup in spring, the site is only accessible by helicopter.

The local Springpole Lake watershed area is approximately 97.5 square kilometres (km<sup>2</sup>), however the total area reporting to the Springpole Lake outflow is approximately 1,372 km<sup>2</sup>. The Springpole Lake watershed is part of the regional Birch Lake watershed, which has a watershed area of approximately 1,050 km<sup>2</sup>. The elevation of the surface water in Birch Lake near the Project site is approximately 2 m to 4 m higher than the water in Springpole Lake, depending on the season.

At a regional scale, Birch Lake flows further west then south before discharging into Exit Bay through an open river channel into Satterly Lake. From there, it flows through Bumpy Creek into Cromarty Lake where it joins the Springpole Lake watershed (Figure 1-2). Springpole Lake flows through the Birch River towards Lake St. Joseph, approximately 124 kilometres (km) downstream to the south. Historically, Lake St. Joseph discharged into the Albany River which ultimately flowed to James Bay. However, in 1957 the hydro dam constructed at the lower end of Lake St. Joseph at Rat Rapids was converted to a diversion dam as part of the Manitoba-Ontario Lake St. Joseph Diversion Agreement. The diversion dam has resulted in an average annual water flow of 86 m<sup>3</sup>/sec being redirected east towards Lac Seul through the Root River, and onwards to the Nelson River watershed to the west.

Tree cover generally consists of mature spruce, balsam, birch and poplar, with black spruce and muskeg swamps occupying low-lying areas. The use of the lands within and adjoining the site is generally wilderness. The site has been subject to mineral exploration intermittently since the 1920's and more recently dating back to 2009. There are no nearby permanent residences, although seasonal residences are present on Birch Lake and Johnson Island within Springpole Lake. The identified potentially affected or interested Indigenous communities are signatories of Treaty #3, Treaty #5 and Treaty #9.



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**LEGEND**

- ★ Project Location
- Town
- First Nation Reserve
- ▲ Northwestern Ontario Métis Community
- Highway
- Secondary Road
- Resource / Winter Road
- +— Railway

**NOTES:**  
 - Topographic information extracted from LIO, MNRF.



**SPRINGPOLE GOLD PROJECT**

**Project Location**

Datum: NAD83  
 Projection: UTM Zone 18N

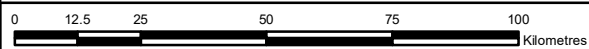


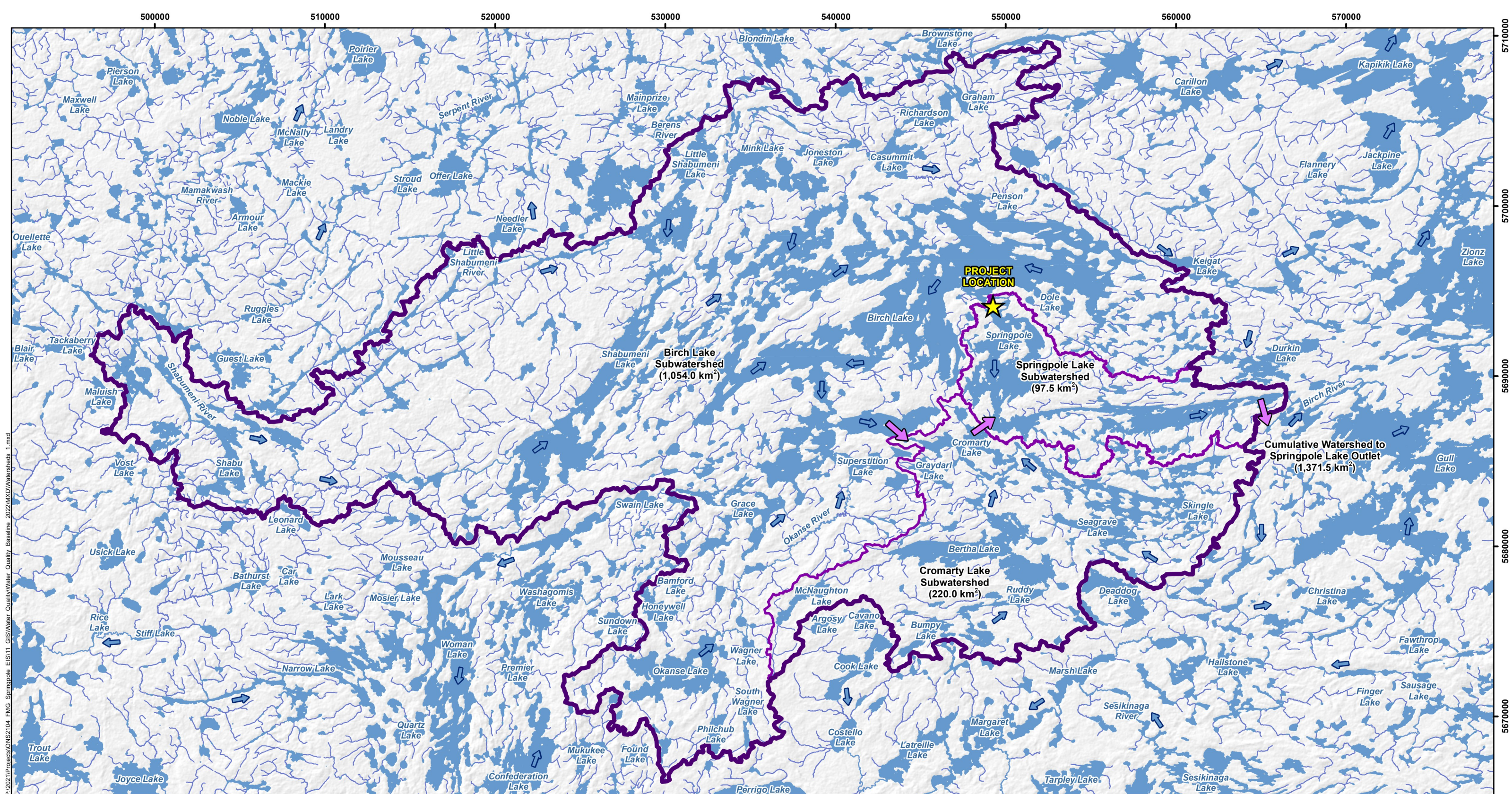
PROJECT N°: ONS2104

FIGURE: 1-1

SCALE: 1:1,500,000

DATE: September 2024





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**LEGEND**

- Project Location
- Cumulative Watershed to Springpole Lake Outlet (1,371.5 km<sup>2</sup>)
- Subwatershed (Labelled with Name and Local Area)
- Watercourse
- Waterbody
- Flow Direction
- Watershed Outlet Flow Direction

**NOTES:**  
 - Topographic information extracted from LIO, MNRF.  
 - Watershed delineations based on data provided by Aquspeara, data obtained through the Ontario Flow Assessment Tool (OFAT) and LIDAR provided by First Mining Gold, 2020.

Datum: NAD83  
 Projection: UTM Zone 15N

<b>SPRINGPOLE GOLD PROJECT</b>				
<b>Local Watersheds</b>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">PROJECT N<sup>o</sup>: ONS2104</td> <td style="width: 50%;">FIGURE: 1-2</td> </tr> <tr> <td>SCALE: 1:210,000</td> <td>DATE: June 2023</td> </tr> </table>	PROJECT N <sup>o</sup> : ONS2104	FIGURE: 1-2	SCALE: 1:210,000	DATE: June 2023
PROJECT N <sup>o</sup> : ONS2104	FIGURE: 1-2			
SCALE: 1:210,000	DATE: June 2023			

## **2.0 METHODOLOGY**

### **2.1 Data sources**

This report presents baseline data collected from 2011 to 2023. Sampling and analytical methodologies of the 2020 through 2023 baseline programs completed by WSP are presented in the following sections. This report also includes baseline monitoring data from studies conducted from 2011 to 2019 by others, including:

- Springpole Gold Project 2011 Aquatic Baseline Report (DST 2012);
- Springpole Gold Project 2012 Aquatic Baseline Report (DST 2013);
- Existing Conditions Report, Fish Community and Habitat. (FMG Portt and Associates 2018);
- Factual Report - Hydrology Program, Springpole ON (Frac Flow 2021);
- 2018 Water Monitoring Programs Springpole Project Site (North Rock 2019); and
- Various Lab Certificates of Analysis of Water Quality between 2011 and 2020.

Attachment A summarizes study areas and methodologies of these historical reports.

### **2.2 Monitoring Stations**

The baseline surface water quality study characterized existing conditions of watercourses that could be potentially affected by Project development. The monitoring network covers a range of waterbodies, including smaller inland lakes, tributaries, and regional stations, ensuring representative sampling across different areas of potential interaction with the Project. As appropriate, water quality monitoring stations were aligned with the sampling locations for baseline surface water hydrology, aquatic resources (including, sediment quality) and fisheries programs to support robust characterization of aquatic ecosystems in the area.

Surface water quality sampling stations are shown on Figure 2-1 and UTM coordinates for each station are provided in Table 2-1. A map showing surface water quality stations relative to aquatic resources and fisheries stations is presented in Figure 2-2. Field photos of water quality sampling locations are provided in Attachment A.

More than 40 water quality stations have been monitored as part of this baseline program, with over 1,100 samples collected to date. Table 2-2 presents the number of samples and period of record for each monitoring station. Seasonal variations have been characterized by sampling conducted throughout the year, often monthly, to capture any potential fluctuations in water quality related to changing hydrological conditions, lake stratification, and climatic patterns etc.

Additionally, as an outcome of consultation occurring during the draft EIS, the baseline sampling program was expanded in 2022 to include additional monitoring downstream of the southeast arm of Springpole Lake at three regional sampling locations (Figure 21). These additional stations are representative of drainages associated with Cat Lake First Nation and Slate Falls Nation and include:

- RSW-1: Gull Lake, downstream of inputs from Springpole Lake and Birch River;
- RSW-2: Gull Lake, upstream of RSW 1 / potential impacts from the Project; and
- RSW-3: downstream of RSW-1 and RSW-2, upstream of Slate Falls Nation Reserve.

A total of 37 samples have been collected to date from these regional stations.

Groundwater quality data were also collected as part of the hydrogeological baseline investigations for the Project (WSP 2023a), associated water quality data are provided in Attachment B.

## **2.3 Methodologies**

### **2.3.1 Sampling**

Surface water sampling was completed in accordance with industry standards and applicable provincial guidelines / standards. Sampling and field quality assurance / quality control (QA/QC) were completed in accordance with industry standards, and applicable standards and procedures as outlined in the Ministry of the Environment, Conservation and Parks (MECP) manual, Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario (MECP 1996).

At each sampling location, field measurements were collected with a calibrated multi-meter probe (Horiba U-22 or YSI multi) for field temperature, pH, conductivity, total dissolved solids (TDS), dissolved oxygen (DO); during deep-basin sampling, these measurements were taken at approximate 1 m intervals to ensure consistency for yearly comparisons and facilitate future Project design. Before the measurement was taken, the instrument was rinsed with lake water to avoid potential cross contamination between sampling locations.

During sampling, bottles not pre-spiked (preserved) by the laboratory were triple rinsed with lake water. Bottles requiring preservative were supplied pre-preserved by the laboratory. Samples requiring field filtering for dissolved metals were passed through a 0.45 µm inline filter into the appropriate bottle. The sample bottles were labelled with date, sample name, project name and requested analysis. All samples were immediately stored in a cooler with ice packs to maintain a temperature of approximately 4°C and shipped to accredited laboratory facilities. Accredited laboratories follow internal QA/QC procedures to verify and validate analytical results, including analysis of internal laboratory duplicates, reference standards, matrix spikes, and blanks.

Supplemental baseline sampling for ultra-low-level mercury and methyl mercury were performed at select locations. These samples were collected using the EPA Method 1631e: Clean Hands / Dirty Hands Sampling Protocol in order to reduce the potential for contamination. All samples were packed into a cooler and shipped to Flett Research Ltd. in Winnipeg, Manitoba, for the specialized laboratory analysis.

For each quarterly sampling event, one blind field duplicate, one trip blank and one field blank during each sampling event were used as QA/QC check. Similarly, as part of the QA/QC protocol used, a laboratory supplied field blank and travel blank were included for each surface water sampling event. As is standard best practice, these blanks were used to monitor the potential contamination of samples due to field practices, laboratory equipment, analytical methodology or sample containers etc. Field and travel blanks are provided by the accredited laboratory sample bottles for each sampling event. Field and travel blanks consist of deionized water that has been tested by the laboratory for purity and transferred into laboratory supplied containers.

Shipment of water samples to the laboratory occurred under a Chain of Custody protocol.

### 2.3.2 Monitored Parameters

Monitored water quality parameters are listed Table 2-3 and include:

- All parameters with Provincial Water Quality Objectives (PWQO) and interim PWQO (iPWQO) for the protection of aquatic life;
- All parameters prescribed by the Ontario Mine Closure Plan Regulation (O. Reg 35/24)
- Important co-factors for PWQO/iPWQO, or other appropriate water quality guideline, calculations (e.g., dissolved organic carbon, hardness, alkalinity);
- Parameters required by hydro-geochemical or effects modelling to support the effects assessment for the Project (e.g., major cations and anions); and
- Supplemental parameters (methyl mercury and ultra-low detection mercury).

### 2.3.3 Data Analysis

Water quality samples were analyzed for anions and nutrients, organic / inorganic carbon, total metals and dissolved metals. Tabulated water quality data are provided in Attachment B. Basic descriptive trend and summary statistics were calculated (minimum, 25<sup>th</sup> percentile values, average and 75<sup>th</sup> percentile values, 95<sup>th</sup> percentile values); all duplicate samples were averaged before inclusion in descriptive statistics. Timeseries plots were generated to interannual seasonal and interannual trends in water quality.

For analytical results that were less than the reported method detection limit (MDL), half the MDL was used in the statistical analyses, representing best practice for substitution of non-detects in statistical analyses and modelling of water quality is consistent with available guidance documents regarding data (EPA 1990; EEM 2014). In summary, half MDL substitution assumes that, on the average, all values between the MDL and zero could be present and that the average value of non-detects could be as high as half the detection limit.

Note that field parameters (field pH, conductivity and DO) were not consistently available for all monitoring locations and/or for all years. Accordingly, pH values summarized in the tables and graphs in this document represent lab pH values. Similarly, cyanides and fluoride were not monitored as part of the 2011 to 2020 baseline programs. These parameters were monitored as part of monitoring programs occurring in 2021 and 2022.

Analytical results were compared to a consistent set of Water Quality Guidelines for the Protection of Aquatic Life (WQG PAL). WQG PAL are chemical and physical indicators that have been set to establish a measurable level of water quality that is protective of all aquatic life and life cycle stages for period of indefinite exposure and are based on rigorous peer-reviewed studies. For parameters with Provincial Water Quality Objectives (PWQO) and interim PWQO (iPWQO), recent MECP guidance is the utilization of the most up-to-date and scientifically defensible WQG PAL sourced from either the PWQO / iPWQO, Canadian Council of Ministers of the Environment Water Quality Guidelines (CCME), Federal Water Quality Guidelines (FWQG) or PWQO/iPWQO. This approach ensures alignment with the evolving regulatory landscape and reflects FMG's commitment to adhere to the most up-to-date standards in safeguarding aquatic ecosystems. WQG PAL are listed in Table 2-4.

## **2.4 Quality Assurance and Quality Control Results**

Available information on historical QA/QC, WSP QA/QC results including Relative Percent Difference (RPD) results, are presented in this section for each monitoring period as well as Attachment B. Note, the RPD calculations are only applicable when both the sample and field duplicate concentrations are greater than 10 times the laboratory reportable method detection limit (MDL; Attachment B).

### **2.4.1 2011 to 2013**

During this period, 10 duplicates, 11 field blanks and 9 travel blanks were collected for analysis; all available QA/QC data and results of RPD analyses are presented in Attachment B.

Several parameters were identified above DST's acceptable RPD of 25% in 2011:

- Total suspended solids (TSS) in August 2011;
- Turbidity in June 2011, August 2011, and September 2011;
- Total Kjeldahl Nitrogen (TKN) in August 2011
- Total phosphorus in February 2011; and
- Total sodium in August 2011.

Note, all occurrences where the RPD is above 25% are for parameters from unfiltered samples and the corresponding dissolved parameters have acceptable RPD. It is interpreted that these elevated RPD values are a result of natural heterogeneity of suspended material in the water and are not indicative of data quality or sample integrity.

In 2012, four samples were elevated above the Cr (VI) PWQO and several samples were above the PWQO and (Canadian Water Quality Guidelines (CWQG) for total mercury. Previous consultation between DST Consulting and Maxxam Laboratories determined that these results likely reflect contaminated by an external source through lab handling and lab error. The determination of lab error causing contamination of these samples is further substantiated by results of subsequent baseline sampling programs i.e., samples collected between 2015 and 2022 do not show elevated Cr (VI) or mercury concentrations (see Section 3.0). Thus, for the 2011 to 2013 sampling events, Cr (IV) and total mercury results are not considered representative of baseline conditions and are not included in results discussed in Section 3.0. No additional parameters were above the acceptable limit of 25% and 10 times higher than the MDL.

### **2.4.2 2015 to 2018**

Between 2015 and 2018, 2 duplicates, 11 field blanks, and 8 travel blanks were collected for analysis; all available QA/QC data and results of RPD analyses are presented in Attachment B.

Results for internal laboratory QA/QC analyses (such as duplicate samples, standards, blanks and matrix spikes) were requested and no QA/QC irregularities were identified. Field QA/QC was established by following procedures outlined in (MECP 1996).

All parameters were within the acceptable RPD limit of 25% and 10 times higher than the MDL except for total ammonia on April 2018. The field and travel blanks had no observable contamination except for total ammonia. The majority of blanks between 2015 and 2018 were well above the MDL. That paired with the high percent RPD calculated for the duplicate samples makes it likely that there was a lab error in the total ammonia results and thus, ammonia data for this period is associated with a degree of uncertainty.

### **2.4.3 2019 to 2020**

Between 2019 and 2020, five duplicates, two field blanks and three travel blanks were collected for analysis. All available QA/QC data and results of RPD analyses are presented in Attachment B.

The field and travel blanks had no observable contamination. The RPD was calculated and is shown in Attachment B. All parameters were above the acceptable limit of 25%.

### **2.4.4 2021 to 2022**

During this period, 52 duplicates, 13 field blanks and 12 travel blanks were collected for analysis. All available QA/QC data and results of RPD analyses are presented in Attachment B.

Measurable values in field and trip blanks (i.e., higher than detection limits) were observed in most blanks for total ammonia as N, barium, total chromium, magnesium, manganese, silicon and sodium (Attachment B). The RPD was calculated and is shown in Attachment B. All parameters were above the acceptable limit of 25%.

**Table 2-1: Baseline Stations**

<b>Waterbody</b>	<b>Station ID</b>	<b>Zone</b>	<b>Easting</b>	<b>Northing</b>
Birch Lake	BIRCH-2	15	54613	569557
	SW-03	15	547 814	569 5321
	SW-04	15	543 193	569 3701
	SW-18	15	546 849	569 2115
	SW-19	15	551 135	569 5634
	SW-20	15	555 130	569 4364
	SW-23	15	549 892	569 5935
	SW-24	15	546 386	569 3618
	SW-28	15	553 005	569 8794
Springpole Lake	<b>North Basin</b>			
	L-15-B2	15	550 079	569 2357
	L-15-B6	15	550 202	569 0383
	SW-01	15	549 752	569 2997
	SW-01b	15	550 079	569 2357
	SW-02	15	550 202	569 0383
	SW-06	15	549 977	569 1730
	SW-08a	15	549 513	568 7806
	SW-15	15	551 876	568 9893
	SW-25	15	548 486	569 1592
	<b>Southeast Arm</b>			
	SW-07	15	559 997	568 7606
	SW-07a	15	552 551	568 7776
	SW-08	15	548 614	568 6939
	SW-16	15	555 633	568 8623
	SW-22	15	565 364	568 7538
	SW-27	15	565 179	568 7985
Seagrave Lake	SW-05	15	556 004	568 0888
	SW-10	15	555 119	568 3654
	SW-11	15	554 151	568 1294
	SW-12	15	556 426	568 2432
	SW-13	15	560 475	568 2458
	SW-14	15	557 194	567 9680
Small Area Lakes and Tributaries	<b>Tributaries into Birch Lake</b>			
	L-1	15	549 560	569 4596
	L-2	15	550 026	569 4248
	L-17	15	547 686	569 4282
	L-18	15	547 251	569 4638
	L-19	15	549 560	569 4596
	L-20	15	552 476	569 3629
	SW-09	15	547 852	569 3454
	SW-21	15	552 212	569 4796
	<b>Tributaries into Springpole Lake</b>			
	L-5	15	548 886	569 2916
	L-16	15	547 909	569 1836
	SW-26	15	548 869	569 2912
	Regional Downstream Locations	<b>Regional Stations</b>		
RSW-1		15	572 028	568 6784
RSW-2		15	576 444	569 1330
RSW-3		15	596 090	567 2035

**Table 2-2: Baseline Period of Record**

Year	Birch Lake	Springpole Lake		Inland Waterbodies	Seagrave Lake	Regional Stations	Total Samples
		North Basin	Southeast Arm				
2011	8	24	13	5	10	-	60
2012	25	19	27	8	25	-	104
2013	10	12	17	-	1	-	40
2015	5	8	10	-	-	-	23
2016	2	4	3	-	-	-	9
2017	7	8	9	5	-	-	29
2018	6	7	9	3	-	-	25
2019	2	3	4	-	3	-	12
2020	25	21	9	3	12	-	70
2021	91	100	47	59	4	-	301
2022	87	86	43	31	4	22	273
2023	75	75	36	19	1	15	221
Total Samples	343	367	227	133	60	37	1167

Note:

"-" indicates location was not sampled in this year; no data available.

**Table 2-3: Monitored Parameters**

<b>Lab Parameters</b>	<b>Units</b>	<b>MDL<sup>1</sup></b>
<b>General Parameters</b>		
Acidity (as CaCO <sub>3</sub> )	mg/L	2
Alkalinity, Total (as CaCO <sub>3</sub> )	mg/L	1
Hardness (as CaCO <sub>3</sub> )	mg/L	0.2
Total Suspended Solids	mg/L	1.0 to 3.0
Total Dissolved Solids	mg/L	13
<b>Nutrients and Anions</b>		
Ammonia, Total (as N)	mg/L	0.01
Chloride	mg/L	0.1
Unionized ammonia (as N)	mg/L	0.001
Nitrate (as N)	mg/L	0.02
Nitrite (as N)	mg/L	0.01
Phosphorus, Total	mg/L	0.0020 to 0.0050
Sulfate (SO <sub>4</sub> )	mg/L	0.30 to 1.0
Dissolved organic carbon (DOC)	mg/L	0.5
Total cyanide	mg/L	0.0005
WAD Cyanide	mg/L	0.0005
<b>Total and Dissolved Metals</b>		
Aluminum	mg/L	0.001
Antimony	mg/L	0.0001
Arsenic	mg/L	0.0001
Beryllium	mg/L	0.0001
Barium	mg/L	0.0001
Boron	mg/L	0.01
Cadmium	mg/L	0.000005
Calcium	mg/L	0.05
Chromium	mg/L	0.0001
Cobalt	mg/L	0.0001
Copper	mg/L	0.0001 to 0.00020
Iron	mg/L	0.01
Lead	mg/L	0.00005
Magnesium	mg/L	0.005
Manganese	mg/L	0.0001
Mercury <sup>2</sup>	mg/L	0.00001
Methylmercury <sup>2</sup>	ng/L	0.02
Molybdenum	mg/L	0.00005
Nickel	mg/L	0.0005
Potassium	mg/L	0.05
Selenium	mg/L	0.0005
Silver	mg/L	0.00001
Sodium	mg/L	0.05
Thallium	mg/L	0.00001
Tungsten	mg/L	0.0001
Uranium	mg/L	0.00001
Vanadium	mg/L	0.0005
Zinc	mg/L	0.001
Zirconium	mg/L	0.0002

**Table 2-3: Monitored Parameters**

<b>Lab Parameters</b>	<b>Units</b>	<b>MDL<sup>1</sup></b>
<b>Field Parameters</b>		
Conductivity	µS/cm	1
Field pH	s.u.	0.01
Temperature	°C	0.1
Dissolved Oxygen	mg/L	0.1

**Notes:**

<sup>1</sup> MDL: method detection limit.

<sup>2</sup> Supplemental low level (LL) mercury and methyl mercury analyses was additionally run for targeted sits at Flett laboratories; associated detection limits are 1.0 ng/L (ultra low mercury) and 0.02 ng/L (methyl mercury).

**Table 2-4: Surface Water Quality Guidelines**

Parameter	Units	Guidelines Values <sup>4</sup>			
		PWQO <sup>1</sup>	iPWQO <sup>1</sup>	CCME <sup>2</sup>	FEQG <sup>3</sup>
<b>General Parameters and Nutrients</b>					
pH		6.5 – 8.5	--	6.5 – 9.0	--
Sulphate	mg/L	--	--	--	--
Un-ionized Ammonia	mg/L	0.02	--	0.019	--
Chloride	mg/L	--	--	120	--
Ammonia (as N)	mg/L	--	--	1.8	--
Nitrate (as N)	mg/L	--	--	3	--
Nitrite-N	mg/L	--	--	0.06	--
<b>Total Metals</b>					
Aluminum	mg/L	--	0.075	0.1	0.66
Antimony	mg/L	--	0.02	--	--
Arsenic	mg/L	0.1	0.005	0.005	--
Boron	mg/L	--	0.2	1.5	--
Beryllium	mg/L	0.011	--	--	--
Cadmium	mg/L	0.0002	0.0001	0.00006	--
Chromium <sup>5</sup>	mg/L	0.0089	--	--	--
Cobalt	mg/L	--	0.0009	--	0.00078
Copper	mg/L	0.005	0.005	0.00022	0.0087 (dissolved)
Iron	mg/L	0.3	--	0.3	--
Lead	mg/L	0.01	0.001	0.001	0.00011 (dissolved)
Mercury	mg/L	0.0002	--	0.000026	--
Molybdenum	mg/L	--	0.04	0.073	--
Nickel	mg/L	0.025	--	0.025	--
Phosphorus	mg/L	--	0.03	--	--
Selenium	mg/L	0.1	--	--	--
Strontium	mg/L	--	--	--	2.5
Silver	mg/L	0.0001	--	0.00025	--
Thallium	mg/L	--	0.0003	0.0008	--
Uranium	mg/L	--	0.005	0.015	--
Vanadium	mg/L	--	0.006	--	0.12
Tungsten	mg/L	--	0.03	--	--
Zinc	mg/L	0.03	0.02	0.03	0.011
Zirconium	mg/L	--	0.004	--	--

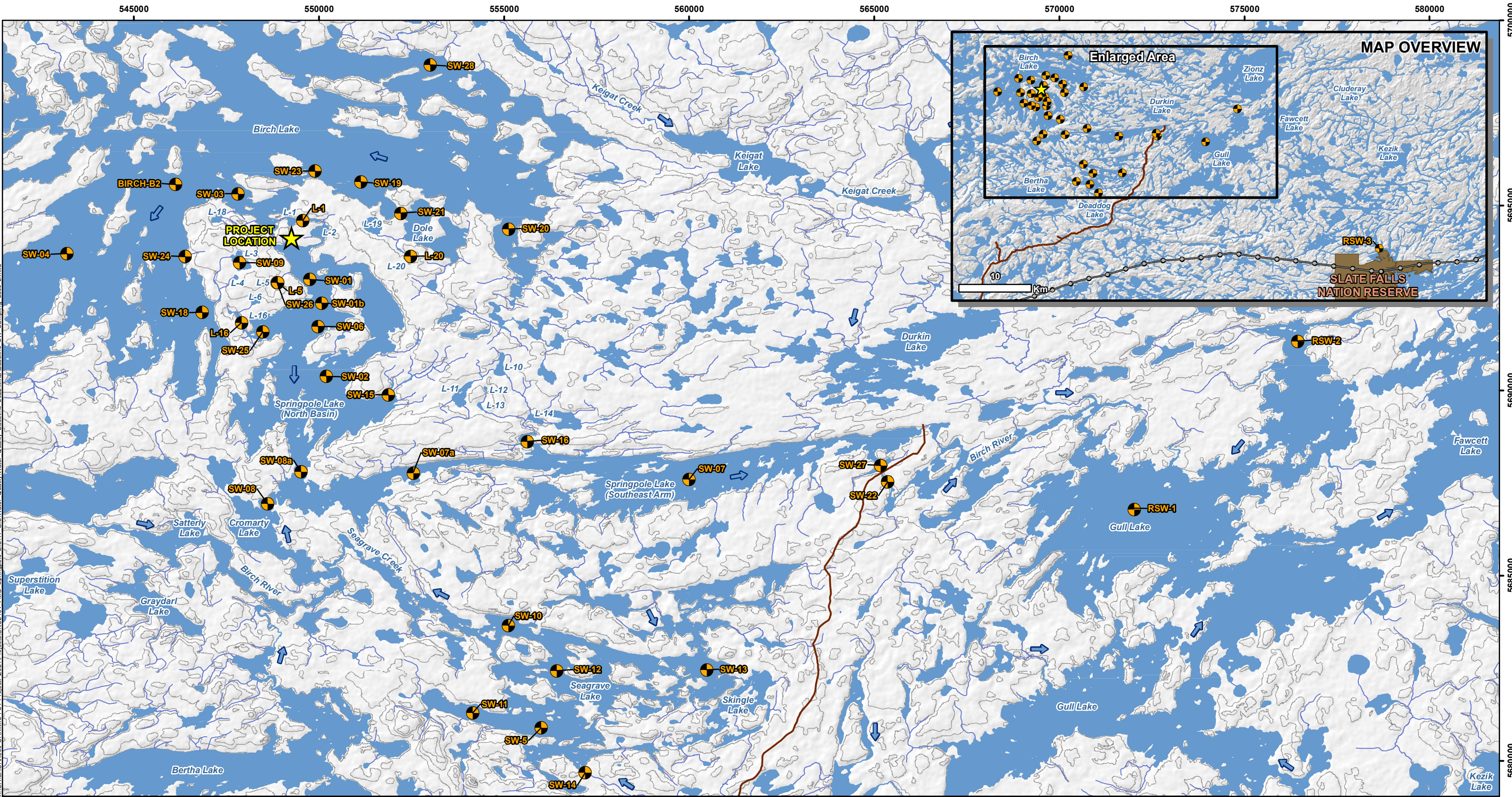
**Notes:**

Green shading indicates identified water quality guideline for the Protection of Aquatic Life (long-term exposure) applied in the baseline report, which represents the most up-to-date and / or scientifically defensible guideline within Ontario and/or at the federal level.

- 1 Provincial Water Quality Objectives (PWQO) and interim PWQO (iPWQO).
- 2 CCME: Canadian Council of Ministers of the Environment (CCME) water quality guidelines for the protection of aquatic life (long-term exposure).
- 3 FEQG: Federal Environmental Quality Guidelines; these are issued to support federal environmental quality monitoring and risk assessment for parameters for which CCME guidelines do not yet exist or are not reasonably expected to be updated in the near future.
- 4 As applicable, numerical guideline values were calculated using the most conservative approach (i.e., 25th percentile baseline values for ameliorating factors, save for zinc, which uses 75th percentile pH for the FEQG calculation). Examples as follows for Springpole Lake, station SW-01: follows:

	25 <sup>th</sup>	75 <sup>th</sup>
pH	7.24	7.58
Hardness (mg/L)	29	
DOC (mg/L)	7.3	
Chloride (mg/L)	1	
Alkalinity (mg/L)	29	

- 5 There is no guideline for concentrations of total chromium; it is most common to adopt the PWQO and CCME guidelines for hexavalent (0.001 mg/L) or trivalent (0.0089) chromium, dependent on site conditions.



**LEGEND**

- Project Location
- Baseline Water Quality Monitoring Stations (Labelled with ID)
- First Nation Reserve
- Existing Road
- Existing Transmission Line
- Contour (10 m intervals)
- Watercourse
- Waterbody
- Flow Direction

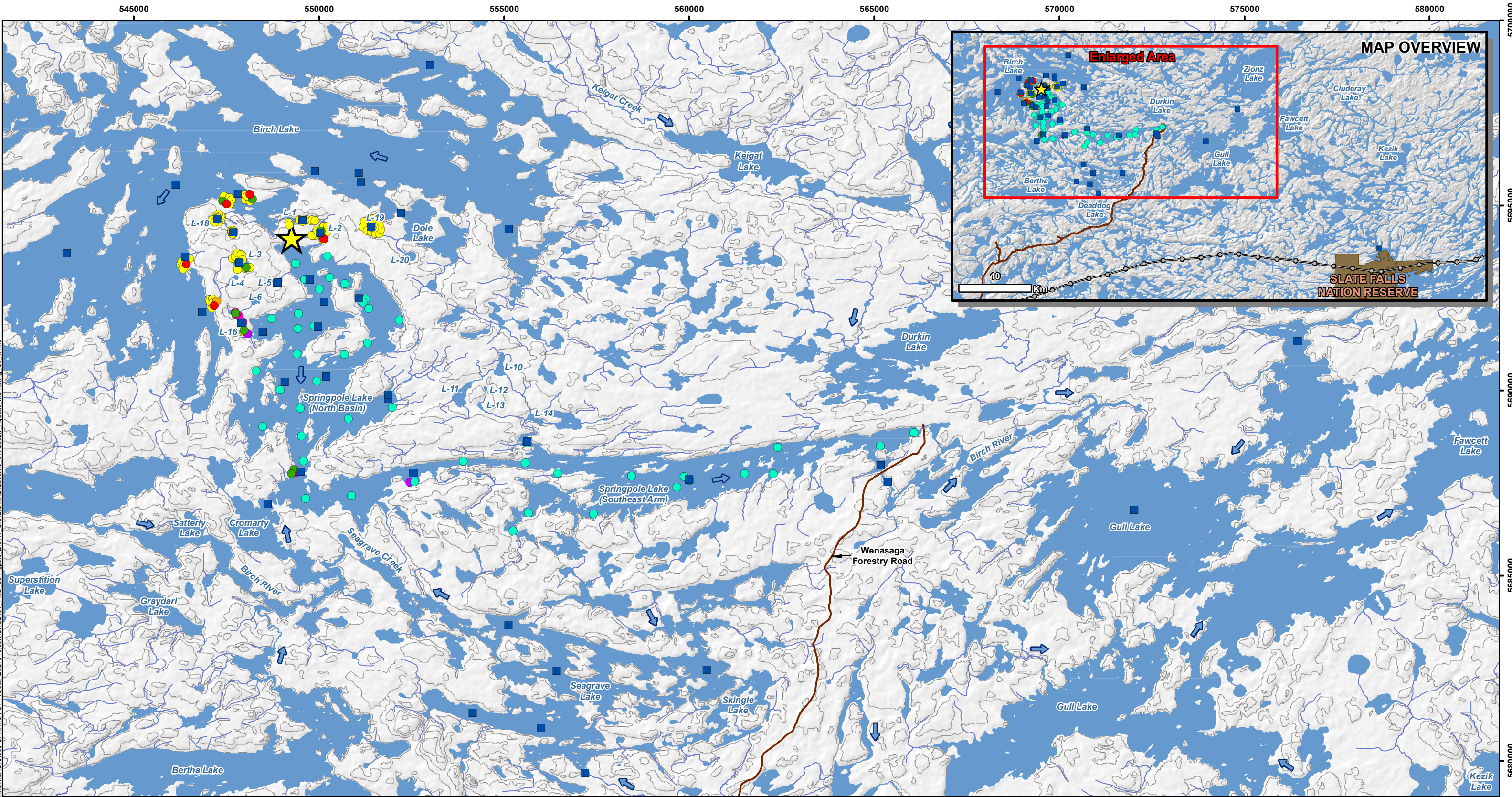
**NOTES:**  
 - Topographic information extracted from LIO, MNRF.

Datum: NAD83  
 Projection: UTM Zone 15N

<b>SPRINGPOLE GOLD PROJECT</b>	
<b>Baseline Water Quality Monitoring Stations</b>	
PROJECT N°: ONS2104	FIGURE: 2-1
SCALE: 1:97,500	DATE: September 2024



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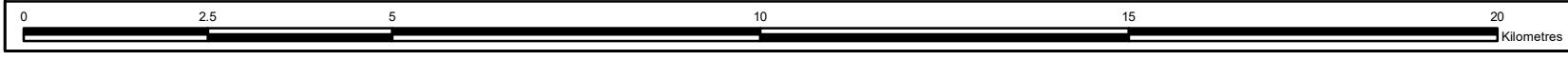
**LEGEND**

Project Location	Watercourse	Baseline Water Quality Monitoring Stations
First Nation Reserve	Waterbody	<b>Baseline Fisheries Monitoring Stations</b>
Existing Road	Flow Direction	Angling
Existing Transmission Line		Gill Net
Contour (10 m intervals)		Minnow Trap
		Dip Net
		Electrofishing
		Seine Net
		Broadscale

NOTES:  
- Topographic information extracted from LIO, MNRF.

Datum: NAD83  
Projection: UTM Zone 15N

<b>SPRINGPOLE GOLD PROJECT</b>	
<b>Surface Water Quality and Aquatic Resources Baseline Monitoring Stations</b>	
PROJECT N°: ONS2104	FIGURE: 2-2
SCALE: 1:97,500	DATE: August 2024



### 3.0 RESULTS

Water quality results and supporting information from lake surveys (limnological and bathymetric results) are presented in this section. Results of the QA/QC program are discussed in Section 2.5 and Attachment B.

For the purposes of discussion here, the water quality results are grouped into five general areas based on location and size of the waterbodies:

- Birch Lake
- Springpole Lake
- Seagrave Lake
- Small inland waterbodies
- Regional Stations

Table 2-2 (above) presents the number of samples and period of record for each monitoring location.

Surface water quality summary statistics are presented in Table 3-1 through Table 3-6. Summary statistics were compared to identified water quality guidelines for the Protection of Aquatic Life (long-term exposure; iPWQO, PWQO, CWQG or Federal Environmental Quality Guidelines (FEQG). Unless otherwise indicated, results are for total concentrations (i.e., unfiltered samples) and not dissolved concentrations. Timeseries graphs for select water quality parameters (pH, arsenic, cobalt, copper, iron, mercury, zinc) are presented in Figures C-1 through C-42 in Attachment C to illustrate interannual and seasonal trends, as applicable.

Discussion of these results is provided in the following sections.

#### 3.1 Birch Lake

##### 3.1.1 Lake Survey Results

Birch Lake is the largest water body in the baseline study area, with an area of 11,623 ha, an average depth of 7.4 m and a maximum depth of 38.0 m and a predominantly rocky shoreline (Attachment A). It is irregularly shaped and collects all surface water within the Birch Lake subwatershed; its main tributary is the Shabumeni River at the extreme western end of the lake (Figure 3-1). Birch Lake connects to Cromarty Lake through the Birch River, southwest of the Project where it discharges into the southeast arm of Springpole Lake. The total watershed area reporting to Birch Lake, downstream of the Project site, is approximately 762 km<sup>2</sup>.

The available bathymetry data, sourced from the Ministry of Natural Resources and Forestry lake survey data, indicates the maximum depth of Birch Lake is 37 m and its average depth is 7.4 m (Figure 3-1). The east end of the lake is deeper and more open than to the west, which is characterized by narrow channels and comparatively shallow water. Exit Bay (15 U 543960 5686513), near the outflow of the Birch River also has a large area of deep water where depths range up to 30 m. The outflow at Exit Bay is the beginning of the Birch River which connects Birch Lake and Springpole Lake and then continues downstream to the Cat River System.

Water temperature, DO and pH can vary with depth in a waterbody. These relationships are most pronounced in deep lakes, which become thermally stratified during the summer season in temperate climatic regions, like Ontario. That is, water is at its maximum density at 4°C and becomes less dense as it gets warmer. If a lake is sufficiently deep, when the lake surface is warmed in the spring and summer by the air and sun, a boundary layer known as the thermocline (metalimnion) develops where water temperatures decline and densities increase rapidly. This largely prevents the deep, colder and denser water (hypolimnion)

from mixing with the warmer water of the surface layer (epilimnion) until the surface layer cools in the fall. Measuring temperature, DO and pH gradients through the water column when the lake is stratified can be a useful means of determining trends in water quality parameters.

Temperature, DO and pH measurements were recorded at the same location in Birch Lake every summer over a period of six years, from 2011 to 2016 (SW-4); these data are provided in Attachment D. The maximum sampled depth at this location was 11 m. This location was not stratified and average temperature variation across all six years was less than 3°C from surface to bottom. However, the deeper portions of Birch Lake are likely to be stratified and colder (FMG 2018). The pH of the entire water column was circumneutral and ranged between 6.1 at bottom and 7.4 at surface, averaging 7.05 through the water column. DO concentrations varied little with depth, indicative of the fairly low productivity and low nutrient availability (i.e., oligotrophic) nature of this system (see Section 3.1.2).

### 3.1.2 Water Quality

A total of 343 water quality samples were collected between 2011 and 2024; summary statistics for monitored water quality parameters are presented in Table 3-1. Timeseries graphs for select water quality parameters (arsenic, cobalt, copper, iron, mercury, zinc) are presented in Attachment C to illustrate interannual and seasonal trends.

Birch Lake surface water conditions reflect those typical of oligotrophic lakes in northwestern Ontario, including low concentrations of nutrients and anions, low TSS and turbidity, and saturated to near-saturated DO concentrations. The pH levels of Birch Lake are circumneutral, ranging from 6.0 to 7.7 pH units.

Concentrations of total and dissolved metals in Birch Lake are also very low, often at or below analytical detection limits, and consistently below WQG PAL (Table 3-1a). Overall, there are few occasions where measured baseline concentrations are outside the range of identified water quality guidelines (WQG) during the period of record; these were:

- pH: on October 15, 2012 (6.49 pH units) at SW-20, and on June 18, 2022 (5.95 pH units), both which are below the PWQO of 6.5 pH units.
- Silver: on October 15, 2012 (0.00014 mg/L) at SW-20 which is above the PWQO of 0.0001 mg/L.
- Total phosphorous: on October 2015 (0.0245 mg/L), on October 2018 (0.0245 mg/L), on October 2021 (0.0381 mg/L), and February 2022 (0.060 mg/L) at SW-24, all of which are above the PWQO of 0.02 mg/L. A bottom sample in October 2021 at station SW-19 had total phosphorus concentration of 0.0931 mg/L.
- Iron: on August 29, 2013 (0.32 mg/L) at SW-24, on October 01, 2021 at Station SW-19 (0.330 mg/L; 1.09 mg/L), both which are above the PWQO of 0.3 mg/L.
- Cobalt: on August 29, 2013 (0.0017 mg/L) at SW-24 above the FEQG of 0.00078 mg/L.
- Total zinc concentration in SW-24 on February 16, 2023 (0.0222 mg/L), which was above the WQG PAL of 0.011 mg/L.

The number of samples having natural water quality above applicable WQG PAL in Birch Lake are of very low frequency (less than or equal to 5% of total observations over the period of record). Low frequency, sporadic concentrations greater than guidelines are considered to be representative natural heterogeneity of the Birch Lake system.

Additional discussion of baseline concentrations of pH, phosphorus, iron and mercury are provided below. These parameters correspond to identified parameters of interest for Birch Lake based on:

- Exceedance of WQG PAL in baseline conditions (pH, phosphorus, iron). Note, parameters with a single instance of results above WQG PAL across the entire sampling period (2011 through 2023) were not considered to be a parameter of interest for Birch Lake; these are silver, cobalt and zinc.
- Parameters identified as important by local Indigenous communities during consultation on the draft EIS/EA (mercury).

The pH levels of Birch Lake ranged from 5.95 to 8.03, typical of remote lakes in Northern Ontario. pH values fell outside the range specified by WQG PAL on two instances, a pH of 5.95 at SW-24 in June 2022 and a pH of 6.49 at SW-20 in October 2012. These occasional low pH values are considered to reflect the natural variability within the Birch Lake system.

Total phosphorous concentrations in Birch Lake ranged from 0.001 to 0.175 mg/L. Phosphorus concentrations were above the WQG PAL value of 0.02 mg/L in 14 samples over the period of record (or approximately 5%); however, overall, phosphorous concentrations are characterized as very low in Birch Lake as both average and 95<sup>th</sup> percentile concentrations are less than WQG PAL (Table 3-1a). The highest measured concentrations of total phosphorus were generally associated with lake bottom / hypolimnetic samples collected in 2021 for Birch Lake, at stations BIRCH-B1 and BIRCH-B2. This is likely associated with natural anoxic reduction processes and release of total phosphorus from lake bottom sediment, as part of natural phosphorus cycling in the Birch Lake system. There are no apparent seasonal trends for total phosphorus concentrations.

Total iron concentrations ranged from 0.005 to 3.2 mg/L in Birch Lake. The highest measured concentrations of total iron for Birch Lake were generally associated with lake bottom / hypolimnetic samples collected in 2021, at stations BIRCH-B1 and BIRCH-B2. As described above for total phosphorus, this is likely associated with natural anoxic reduction processes and release of total iron from lake bottom sediment, as part of natural iron cycling in the Birch Lake system. This is supported by Birch Lake total iron concentrations being associated with the dissolved phase (total iron concentrations constitute on average 75% of the dissolved iron, when total iron concentrations are greater than WQG PAL), rather than particulate matter or TSS. There are no apparent seasonal trends for total iron concentrations.

Total and dissolved concentrations of mercury have been monitored in Birch Lake since 2011, with ultra-low detection for total mercury and methylmercury added to the program in 2021. Concentrations of total mercury are very low, with 95% of samples below the analytical detection limit of less than 0.000005 mg/L. Most detectable concentrations of mercury were associated with Station SW-19 in June of 2021. Overall, total mercury concentrations in Birch Lake ranged from less than 0.000005 mg/L to 0.0000128 mg/L, below the WQG PAL limit of 0.000026 mg/L. The highest concentration of detected mercury was at Station SW-20 in June of 2021.

## **3.2 Springpole Lake**

### **3.2.1 Lake Survey Results**

Springpole Lake has a surface area of 25.6 square kilometres (km<sup>2</sup>) at 391.00 metres above sea level (masl; Figure 3-2). It has a predominantly rocky heterogeneous shoreline and contains numerous islands and rocky shoals. The Birch River is the largest tributary and enters at the southwest end of Springpole Lake through a short section of rapids below Cromarty Lake (15U 548646 5687018). The outflow of Springpole Lake is also through the Birch River at the east end into Gull Lake (15U 565192, 5687848) where it exits as the Cat River and continues to flow south.

Springpole Lake has a large, generally circular, north basin connected to the long, narrow southeast arm of the lake by a narrow channel (Figure 3-2 and Figure 3-3). The north basin is 4.5 km wide and 6.5 km long. It is generally deeper and more open than the southeast arm of the lake and has large areas of water exceeding 30 m in depth. Downstream of the north basin, the southeast arm is 17.7 km long. Much of that length is a narrow channel bound by a steep bedrock wall along the north shore. The more open areas of the southeast arm extend to the south where the slope of the topography is gentler. There is also a deep portion in the southeast arm, reaching 26 m in depth. Overall, Springpole Lake has a maximum depth of about 35 m and an average depth of approximately 6 m.

Measurements of temperature, DO and pH were collected at 1 m increments from surface to bottom with a YSI multi-parameter sonde to monitor and describe the stratification characteristics of the lake. Data were collected from the six deepest basins in Springpole Lake during the months of July and August, when the lake was stratified (see Attachment D). The monitoring program spans a period of six years from 2011 through 2016, though not all locations were sampled annually, and initial profiles did not extend all the way to the bottom at some locations due to equipment limitations. Average measurements from each basin are displayed separately in Attachment D and pooled data were used to characterize the lake as a whole (FMG 2018).

Most of the deep-water habitat in Springpole Lake is found in the northern portion of lake; the maximum sampled depth of the northern basin is greater than 30 m. Springpole Lake was stratified in all years of sampling; temperature variation ranges from 10°C to 15°C from surface to bottom, with DO ranging from 10 milligrams per litre (mg/L) to 5 mg/L at depth.

### **3.2.2 Water Quality**

A total of 567 water quality samples were collected between 2011 and 2023 from Springpole Lake north basin and the southeast arm of Springpole Lake. Summary statistics for monitored water quality parameters are presented in Table 3-2 and Table 3-3.

Similar to Birch Lake, surface water conditions of Spring Lake north basin and Springpole Lake southeast arm (downstream of Cromarty Lake inflows) reflect those typical of oligotrophic lakes in northwestern Ontario, including low concentrations of nutrients and anions, low turbidity and TSS, and saturated to near-saturated DO concentrations. The pH levels of Springpole Lake are circumneutral and range from 6.32 to 7.9 pH units. In general, higher pH (i.e. more alkaline pH) levels are associated with summer sampling of surface (epilimnion) waters, wherein slightly higher pH values are associated with elevated DO levels and thus are likely driven by photosynthesis.

Concentrations of total and dissolved metals in the north basin are low, often at or below analytical detection limits, and are consistently below WQG PAL. (Table 3-2, Table 3-3). Overall, there are few occasions where measured baseline concentrations are outside the range of identified WQG during the period of record. These were:

- Total phosphorous concentrations are generally greater than WQG of 0.02 mg/L in hypolimnetic (bottom) waters of Springpole Lake and are highest in early and late summer sampling campaigns (0.021 mg/L to 0.441 mg/L). The other observation that is greater than WQG was on February 1, 2011 (0.026 mg/L) at SW-06.
- Total copper: on February 8, 2012 (0.0068 mg/L) and June 13, 2021 (0.0082 mg/L) at SW-02, and August 28, 2013 in hypolimnetic (bottom) sample at SW-01, all of which are above the PWQO of 0.005 mg/L.
- pH: on September 27, 2019 (6.32 pH units) at SW-16 which is below the PWQO of 6.5 pH units

- Iron: on September 27, 2019 (0.759 mg/L) at SW-16, hypolimnetic (bottom) samples collected in September and October of 2021 at SW-02 (0.804 mg/L, 0.437 mg/L respectively), and SW-07 on March 14, 2023 (2.02 mg/L), which are all above the which is above the FEQG of 0.74 mg/L.

The above instances of elevated concentrations are of very low frequency (less than 2% of Springpole Lake observations), and generally are associated with hypolimnetic (bottom) samples. Sporadic, low frequency exceedances of WQG PAL are considered to be representative natural heterogeneity of the Springpole Lake system.

Additional discussion of baseline concentrations of phosphorus, copper and mercury are provided below. These parameters correspond to identified parameters of interest for the north basin based on:

- Exceedance of WQG PAL in baseline conditions (phosphorus, copper, iron). Parameters with a single instance of results above guidelines across the entire sampling period were not considered to be a parameter of interest for the for Springpole Lake
- Parameters identified as important through consultation with stakeholders and local Indigenous communities (mercury).

Phosphorous concentrations range from 0.001 mg/L to 0.44 mg/L in the north basin. Phosphorus concentrations were above the WQG PAL value of 0.02 mg/L in 26 samples over the period of record (approximately 9.5%). However, overall, phosphorous concentrations are characterized as low in the north basin, as average and 75<sup>th</sup> percentile concentrations are less than WQG PAL. The highest measured concentrations of phosphorus are associated with lake bottom / hypolimnetic samples collected in 2021 and 2022, with the highest frequency of exceedances at station SW-06. This is likely associated with natural anoxic reduction processes and release of phosphorus from lake bottom sediment, as part of natural phosphorus cycling in the lake system. There are no apparent seasonal trends for phosphorus concentrations.

Baseline copper concentrations range from <0.0005 mg/L to 0.012 mg/L in the north basin. Copper concentrations were above the WQG PAL value of 0.005 mg/L in three samples over the period of record (less than 2%). The concentrations of copper greater than WQG PAL were observed at stations SW-02 and SW-01.

Total and dissolved concentrations of mercury have been monitored in the north basin since 2011, with ultra-low detection total mercury and methylmercury analyses added to the baseline monitoring program in 2021. Concentrations of total mercury in the north basin are very low, with 94% of samples below the analytical detection limit of less than 0.000005 mg/L. Most detectable concentrations of mercury were associated with station SW-02. Overall, total mercury concentrations in the north basin ranged from less than 0.000005 mg/L to 0.000024 mg/L, which are below the WQG PAL limit of 0.000026 mg/L. The highest concentration of detected mercury (0.000024 mg/L) was at station SW-06 in May 2021.

Total and dissolved concentrations of mercury have been monitored in the southeast arm since 2011, with ultra-low detection of total mercury and methylmercury added to the baseline monitoring program in 2021. Concentrations of total mercury are very low, with 94% of samplings falling below the analytical detection limit of less than 0.000005 mg/L in the southeast arm. A single observation was recorded in October 2021 at station SW-16 where mercury concentration of 0.000047 mg/L was greater than the WQG PAL of 0.000026 mg/L (i.e., 1 sample of a total of 227 samples collected in the southewas arm). Otherwise, concentrations of total mercury range from 0.0000025 mg/L to 0.000012 mg/L, which is below the WQG PAL criteria. Natural aquatic environments contain mercury primarily due to long-range atmospheric transport of gaseous elemental mercury from sources like volcanic activity and industrial emissions, particularly from coal-fired power plants. Mercury is not proposed to be used in the process for gold mining

at the Springpole Gold Project, and the Project will not be a source of mercury. A description of key metals in host rock and ore is presented in Section 4.3 of Appendix K-1.1 (Static Geochemical Testing Baseline Report) of the EIS/EA. Solid phase mercury concentrations in the Project rock are low. Specifically, mercury concentrations were below qualitative threshold values (10 times crustal abundance) in 98% of the mine rock samples and 94% of the ore-grade samples. The potential for mercury leaching from the rock is also low for materials based on the results of leaching tests (Appendix K-1.1) and humidity cell tests (Appendix K-1.3).

### **3.3 Seagrave Lake**

#### **3.3.1 Lake Survey Results**

Seagrave Lake (15U, 556343 5683174) is upstream of Springpole Lake and connected to the Birch River between Birch and Springpole Lakes via Seagrave Creek (15U, 550273 5685133). Among the three large lakes constituting the baseline study area, Seagrave Lake has the smallest surface area (1,930.8 ha) but is the deepest with a maximum depth of 41.5 m (Figure 3-4). Seagrave has four deep basins that have generally east-west orientations and are connected by narrow channels.

During the summers of 2011 and 2012, temperature, DO and pH were measured at four locations in Seagrave Lake with a YSI multi-meter at 1 m increments from surface to a depth of 23 m; these data are provided in Attachment D.

The average thermocline depth was between 8 m and 9 m, as noted by the sharp decline in temperature (Attachment D). The concentrations of DO were greater than 6 mg/L throughout the water column. Average pH throughout the water column was 6.11.

#### **3.3.2 Water Quality**

A total of 50 water quality samples were collected between 2011 and 2023 from Seagrave Lake; summary statistics for monitored water quality parameters are presented in Table 3-4.

Similar to other Project area lakes, Seagrave Lake surface waters are typical of oligotrophic lakes in northwestern Ontario including limited nutrient availability, low turbidity, and saturated to near-saturated DO concentrations. The pH levels of Seagrave Lake are generally circumneutral over the period of record, ranging from 6.46 to 7.57 pH units. The TSS and TDS were very low. Concentrations of total and dissolved metals are low, generally at or below MDLs (Table 3-1c).

Overall, there are a few occasions where measured baseline concentration is above WQG PAL; these were:

- Total phosphorous: on August 1, 2011 (0.032 mg/L) at SW-05, on August 1, 2011 (0.042 mg/L) at SW-10, on May 1, 2012 (0.021 mg/L) at SW-14, all which are above the PWQO of 0.02 mg/L.
- pH: on October 12, 2012 (6.46 pH units) at SW-05, on October 12, 2012 (6.47 pH units) at SW-10, on October 12, 2012 (6.46 pH units) at SW-12, and October 12, 2012 (6.46 pH units) at SW-14, all which are below the PWQO of 6.5 pH units.
- Total iron in L-19, consistently above the PWQO of 0.3 mg/L.
- Total copper: on October 12, 2012 (0.0071 mg/L) at SW-10, which is above the PWQO of 0.005 mg/L.

All of the 75th percentiles and averages from the samples collected in the small area lake and tributaries were below identified WQG. Time series graphs for select water quality parameters, are presented in Attachment C.

Generally, instances of elevated concentrations are associated with elevated TSS concentrations, and thus are likely associated with natural run-off and rainfall events and/or natural heterogeneity of this system.

### **3.4 Small Area Lakes and Tributaries**

#### **3.4.1 Lake Survey Results**

Incidental monitoring has been completed in a number of small area lakes and tributaries in the baseline study area. Ten small lakes (<20 ha) within the project claim area were sampled as part of the baseline water quality program, with a total of 133 water quality samples collected between 2011 and 2023. These waterbodies are characterized by small waterbody size (i.e., less than 20 hectares; ha). Baseline surface water quality monitoring has occurred at:

- Lake-1 (L-1)
- Lake-2 (L-2)
- Lake-3 (L-3)
- Lake-5 (L-5)
- Lake-16 (L-16)
- Lake-17 (L-17)
- Lake-18 (L-18)
- Lake-19 (L-19)
- Lake L-20
- Dole Lake (L-13)

These small inland lakes are characterized as having soft organic sediments and shorelines consisting predominantly of floating vegetation mats with small outcrops of bedrock. The maximum waterbody depth ranges greatly from 1 to 27 m but typical maximum depth is between 5 to 7 m. Water level monitoring has shown that the peak water levels occur slightly earlier in the year (approximately 1 week) than the adjacent large basin lake systems (Birch Lake and Springpole Lake).

Small area lakes included here are:

- Unnamed Lake 3 (Lake 3, also known as Jamie Lake, equivalent to locations L-3 and SW-09).
- Unnamed Lake 5 (Lake 5, equivalent to SW-26).

#### **Lake 3**

Lake 3 (L-3, SW-09) has a surface area of 15.75 ha and is located approximately 1,200 m southwest of the existing Springpole Project camp (Figure 2-1). The shoreline is composed of a mix of exposed bedrock, large boulders, shrubs and standing timber. The depth of Jamie Lake increases gradually from shore to the centre of the lake where the maximum depth was 7.5 m. The lake was not stratified in 2015. The surface temperature was 26.1°C and DO at 1 m was 9.01 mg/L.

#### **Lake 5**

Lake 5 (SW-26) is located roughly 1 km south-southwest of the existing Springpole Project camp. The lake has a surface area of 4.03 ha and a maximum depth of 5 m. The shoreline is a mix of floating mat and solid hummocks supporting the growth of a variety of shrubs, Salix species, alders, grasses and sedges; There are small bedrock outcrops on the west shore of the lake. When surveyed in late June of 2012, the lake was not

stratified, and temperature declined quickly through the water column from 18.4°C at surface to 10.8°C at 4 m deep.

### 3.4.2 Water Quality

Summary statistics for monitored water quality parameters are presented in Table 3-5.

Similar to other Project area lakes, surface waters of small area lakes are generally oligotrophic, of limited nutrient availability, low turbidity and saturated to nearly saturated DO concentrations. The pH levels for these small area lakes are circumneutral to alkaline over the period of record, ranging from 6.8 to 8.0 pH units. The alkaline pH values are associated with summer sampling of surface (epilimnion) waters, wherein slightly higher pH values are likely driven by photosynthesis and generally warmer water quality conditions (relative to large-body lakes). The TSS and TDS are generally low, although are relatively higher than samples collected in the large body lakes. Concentrations of total and dissolved metals are low, generally at or below MDL (Table 3-5).

Overall, there are few occasions where measured baseline concentration is above identified WQG. These were:

- Phosphorous concentrations are frequently above the WQG of 0.02 mg/L in small inland waterbodies, with highest concentrations (0.0202 mg/L to 0.112 mg/L) generally observed in June, July and August. Highest concentrations were associated with Lake L-16 and Lake 5 (SW-26).
- Total copper: on September 13, 2020 (0.0083 mg/L) at SW-26, which is above the PWQO of 0.005 mg/L.
- Iron: on June 01, 2011 (0.85 mg/L), on August 17, 2011 (0.97 mg/L), on April 22, 2018 (0.567 mg/L), at SW-09, all which are above the PWQO of 0.3 mg/L. Iron was also higher than the PWQO in March of 2021 at Lake L-16 (1.8 mg/L) and Lake 5 (SW-26, 0.450 mg/L).

The 75th percentiles and averages for water quality for the sampled parameters in the small area lakes and tributaries were below identified WQG. The exception being phosphorous at SW-09 which has an average concentration of 0.0246 mg/L and a 75th percentile of 0.0253 mg/L. These statistics were created from 16 samples taken between 2011 and 2020. SW-09 is located in Unnamed Lake 3 that flows into Birch Lake on the west side of the Project.

### 3.5 Regional Monitoring Stations

The sampling program was expanded in 2022 to include three regional sampling locations downstream of the Project. These additional stations are representative of drainages associated with Cat Lake First Nation and Slate Falls Nation:

- RSW-1: Gull Lake, downstream of inputs from Springpole Lake and Birch River;
- RSW-2: Gull Lake, upstream of RSW 1 / potential impacts from the Project; and
- RSW-3: downstream of RSW-1 and RSW-2, upstream of Slate Falls Nation Reserve.

A total of 37 water quality samples were collected between in 2022 and 2023 at regional surface water stations; summary statistics for monitored water quality parameters are presented in Table 3-6.

Regional surface waters are typical of oligotrophic lakes in northwestern Ontario, low concentrations of nutrients (phosphorus, nitrate, ammonia, nitrite), low turbidity, and saturated to near-saturated DO concentrations. The pH levels of at regional stations were circumneutral and ranged from 7.27 to 7.61 pH units. The TSS and TDS were generally very low, but elevated concentrations of TSS were observed for

bottom samples (34 mg/L and 50 mg/L) collected at RSW-1 and RSW-3, respectively. Concentrations of total and dissolved metals were very low and were consistently below WQG and/or analytical detection limits (Table 3-6).

Overall, there was a single occasion where measured baseline concentration was above identified WQG at regional stations. This was total phosphorous on September 14, 2022 (0.0242 mg/L) for the hypolimnetic (bottom) sample at station RSW-03. All surface water samples of regional stations were below the WQG in 2023.

All of the 75th percentiles and averages from the samples collected from regional stations were below identified WQG.

**Table 3-1: Birch Lake Baseline Water Quality**

Parameter	Hardness (as CaCO <sub>3</sub> )	pH (unitless)	Total Suspended Solids	Total Dissolved Solids	Acidity (as CaCO <sub>3</sub> )	Alkalinity, Total (as CaCO <sub>3</sub> )	Ammonia, Total (as N)	Ammonia, Un- ionized (as N)	Chloride	Nitrate (as N)	Nitrite (as N)	Nitrate + Nitrite
<b>WQG PAL</b>	-	<b>6.5 to 8.5</b>	-	-	-	-	<b>2.22</b>	<b>0.02</b>	<b>128</b>	<b>3</b>	<b>0.06</b>	-
Count	341	339	339	339	250	341	341	1	220	305	305	43
Minimum	25	5.5	0.5	12	1	11.3	0.0025	0.005	0.11	0.01	0.005	0.05
25 <sup>th</sup>	27.9	7.4	1.5	43	1	28.2	0.0111	0.005	0.25	0.01	0.005	0.05
Average	29.1	7.5	1.5	48	2.1	29.8	0.028	0.005	0.25	0.01	0.005	0.05
75 <sup>th</sup>	31.2	7.6	1.5	53	2.5	31.7	0.11	0.005	0.5	0.046	0.005	0.05
95 <sup>th</sup>	55.5	7.8	3.1	80	3.4	56.9	0.8	0.005	0.53	0.073	0.005	0.06
Parameter	Phosphorus, Total	Phosphorus- Dissolved	Sulfate	DOC	Cyanide (Total)	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Beryllium (Be)	Cadmium (Cd)	Cobalt (Co)	Copper (Cu)
<b>WQG PAL</b>	<b>0.02</b>	-	-	-	0.005	<b>0.8</b>	<b>0.02</b>	<b>0.005</b>	<b>0.011</b>	<b>0.0001</b>	<b>0.00078</b>	<b>0.005</b>
Count	343	205	222	192	<b>300</b>	343	343	343	343	343	343	343
Minimum	0.001	0.0015	0.5	5.1	<b>0.0010</b>	0.0015	0.00005	0.00038	0.00001	0.0000025	0.00005	0.00025
25 <sup>th</sup>	0.0071	0.015	1.01	8.1075	<b>0.0010</b>	0.007125	0.00005	0.00085	0.00001	0.0000025	0.00005	0.00058
Average	0.009	0.025	1.12	8.845	<b>0.0010</b>	0.00955	0.00005	0.00098	0.00001	0.0000025	0.0001	0.00064
75 <sup>th</sup>	0.012	0.025	1.3	9.8	<b>0.0025</b>	0.0136	0.00005	0.0011	0.00005	0	0.00005	0.00072
95 <sup>th</sup>	0.025	0.025	1.9	16	<b>0.0025</b>	0.0268	0.00025	0.0013	0.00025	0.00005	0.00025	0.0011
Parameter	Iron (Fe)	Lead (Pb)	Mercury (Hg)	Moly. (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)
<b>WQG PAL</b>	<b>0.3</b>	<b>0.009</b>	<b>0.000026</b>	<b>0.073</b>	<b>0.025</b>	<b>0.1</b>	<b>0.0001</b>	<b>0.00025</b>	<b>0.005</b>	<b>0.006</b>	<b>0.02</b>	<b>0.004</b>
Count	343	343	301	343	343	343	343	343	343	343	343	343
Minimum	0.005	0.000025	0.0000025	0.000025	0.00025	0.000025	0.000005	0.000005	0.000005	0.00025	0.0001	0.00003
25 <sup>th</sup>	0.02	0.000025	0.0000025	0.00008025	0.00025	0.000076	0.000005	0.000005	0.000016	0.00025	0.0015	0.0001
Average	0.03	0.000025	0.0000025	0.000093	0.00025	0.000088	0.000005	0.000005	0.000018	0.00025	0.0015	0.0001
75 <sup>th</sup>	0.05	0.000025	0.0000025	0.00012	0.00025	0.00011	0.00001	0.00001	0.00002	0.00025	0.0015	0.0001
95 <sup>th</sup>	0.11	0.00025	0.0000025	0.00025	0.001	0.001	0.00005	0.00003	0.00005	0.0005	0.0049	0.0005

**Notes:**

**WQG PAL:** Water Quality Guideline for the Protection of Aquatic Life (long-term exposure), refer to Table 2-4.

(-) Indicates value is not available.

All units are mg/L (unless indicated otherwise).

All results are reported as total concentrations (e.g., total metals), unless indicated otherwise.

Results less than the analytical detection limit (DL) were incorporated into summary statistics as half DL (0.5\*DL).

Grey shaded values are greater than identified WQG PAL (none).

**Table 3-2: Springpole Lake –North Basin, Water Quality**

Parameter	Hardness (as CaCO <sub>3</sub> )	pH (unitless)	Total Suspended Solids	Total Dissolved Solids	Acidity (as CaCO <sub>3</sub> )	Alkalinity, Total (as CaCO <sub>3</sub> )	Ammonia, Total (as N)	Ammonia, Un-ionized (as N)	Chloride	Nitrate (as N)	Nitrite (as N)	Nitrate + Nitrite
<b>WQG</b>	-	<b>6.5 to 8.5</b>	-	-	-	-	<b>2.22</b>	<b>0.02</b>	<b>128</b>	<b>3</b>	<b>0.06</b>	-
Count	366	365	366	367	261	367	365	3	237	332	332	53
Minimum	23.7	6.4	0.5	14	1	24	0.0025	0.005	0.05	0.01	0.005	0.05
25 <sup>th</sup>	29.2	7.4	1.5	44	1	29.9	0.012	0.005	0.25	0.01	0.005	0.05
Average	30.55	7.5	1.5	48	2	31	0.025	0.005	0.25	0.01	0.005	0.05
75 <sup>th</sup>	32	7.6	1.5	52	2.7	32.2	0.12	0.005	0.5	0.05	0.005	0.05
95 <sup>th</sup>	35.4	7.7	2	66.7	3.4	35.2	1.5	0.005	0.5	0.11	0.005	0.05
Parameter	Phosphorus, Total	Phosphorus- Dissolved	Sulfate	DOC	Cyanide (Total)	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Beryllium (Be)	Cadmium (Cd)	Cobalt (Co)	Copper (Cu)
<b>WQG</b>	<b>0.02</b>	-	-	-	<b>0.005</b>	<b>0.8</b>	<b>0.02</b>	<b>0.005</b>	<b>0.011</b>	<b>0.0001</b>	<b>0.00078</b>	<b>0.005</b>
Count	367	223	243	216	304	367	367	367	367	367	367	367
Minimum	0.001	0.001	1	6.4	0.0010	0.0015	0.00005	0.00033	0.00001	0.0000025	0.00005	0.00025
25 <sup>th</sup>	0.0077	0.0095	1.4375	7.815	0.0010	0.0072	0.00005	0.0005	0.00001	0.0000025	0.00005	0.00066
Average	0.0095	0.015	1.6	8.4	0.0010	0.0098	0.00005	0.00054	0.00001	0.0000025	0.0001	0.00071
75 <sup>th</sup>	0.0129	0.025	1.825	9.0675	0.0025	0.01505	0.00005	0.000595	0.00005	0.0000025	0.00005	0.00081
95 <sup>th</sup>	0.0250	0.0250	2.4	11.3	0.0025	0.0286	0.00025	0.00093	0.00025	0.00005	0.00025	0.0013
Parameter	Iron (Fe)	Lead (Pb)	Mercury (Hg)	Moly. (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)
<b>WQG</b>	<b>0.3</b>	<b>0.009</b>	<b>0.000026</b>	<b>0.073</b>	<b>0.025</b>	<b>0.1</b>	<b>0.0001</b>	<b>0.00025</b>	<b>0.005</b>	<b>0.006</b>	<b>0.02</b>	<b>0.004</b>
Count	367	367	315	367	367	367	367	367	367	367	367	367
Minimum	0.005	0.000025	0.0000025	0.000025	0.00025	0.000025	0.000005	0.000005	0.000005	0.00025	0.0001	0.00003
25 <sup>th</sup>	0.021	0.000025	0.0000025	0.000098	0.00025	0.000080	0.000005	0.000005	0.000011	0.00025	0.0015	0.0001
Average	0.03	0.000025	0.0000025	0.00011	0.00025	0.0000905	0.000005	0.000005	0.000013	0.00025	0.0015	0.0001
75 <sup>th</sup>	0.05	0.000025	0.0000025	0.00014	0.00025	0.000109	0.000005	0.000005	0.000017	0.00025	0.0015	0.0001
95 <sup>th</sup>	0.1	0.00025	0.000003	0.00025	0.0005	0.00100	0.000050	0.00005	0.0002	0.0011	0.0044	0.0005

**Notes:**  
**WQG:** Water Quality Guideline for the Protection of Aquatic Life (long-term exposure), refer to Table 2-4.  
 ( - ) Indicates value is not available.  
 All units are mg/L (unless indicated otherwise).  
 All results are reported as total concentrations (e.g., total metals), unless indicated otherwise.  
 Results less than the analytical detection limit (DL) were incorporated into summary statistics as half DL (0.5\*DL).  
 Grey shaded values are greater than identified WQG (none).

**Table 3-3: Springpole Lake– Southeast Arm, Baseline Water Quality**

Parameter	Hardness (as CaCO <sub>3</sub> )	pH (unitless)	Total Suspended Solids	Total Dissolved Solids	Acidity (as CaCO <sub>3</sub> )	Alkalinity, Total (as CaCO <sub>3</sub> )	Ammonia, Total (as N)	Ammonia, Un-ionized (as N)	Chloride	Nitrate (as N)	Nitrite (as N)	Nitrate + Nitrite
<b>WQG</b>	-	<b>6.5 to 8.5</b>	-	-	-	-	<b>2.22</b>	<b>0.02</b>	<b>128</b>	<b>3</b>	<b>0.06</b>	-
Count	223	224	223	223	124	224	221	3	144	198	198	55
Minimum	23.9	6.3	0.3	18	1	10.8	0.003	0.005	0.16	0.01	0.005	0.05
25 <sup>th</sup>	26.2	7.3	1	42	1	26	0.015	0.005	0.25	0.01	0.005	0.05
Average	27.6	7.5	1.5	46	2.2	27.7	0.038	0.005	0.25	0.01	0.005	0.05
75 <sup>th</sup>	29	7.6	1.5	50.5	2.7	29.2	0.2	0.005	0.5	0.05	0.005	0.05
95 <sup>th</sup>	31.6	7.6	2	61.9	3.3	31.8	2.11	0.005	0.5	0.084	0.005	0.05
Parameter	Phosphorus, Total	Phosphorus- Dissolved	Sulfate	Dissolved Organic Carbon	Cyanide	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Beryllium (Be)	Cadmium (Cd)	Cobalt (Co)	Copper (Cu)
<b>WQG</b>	<b>0.02</b>	-	-	-	<b>0.005</b>	<b>0.8</b>	<b>0.02</b>	<b>0.005</b>	<b>0.011</b>	<b>0.0001</b>	<b>0.00078</b>	<b>0.005</b>
Count	224	149	146	150	135	227	227	227	227	227	227	227
Minimum	0.001	0.001	0.5	5.6	0.0010	0.0056	0.00005	0.0005	0.00001	0.0000025	0.00005	0.00025
25 <sup>th</sup>	0.008	0.007	1.1	9.27	0.0010	0.0152	0.00005	0.00057	0.00001	0.0000025	0.00005	0.00061
Average	0.01	0.015	1.2	9.865	0.0010	0.021	0.00005	0.00068	0.000022	0.0000025	0.00005	0.00067
75 <sup>th</sup>	0.012	0.025	1.4875	10.85	0.0010	0.0289	0.000075	0.0008	0.00005	0.0000195	0.000185	0.000765
95 <sup>th</sup>	0.019	0	1.8	12.5	0.0025	0.043	0.0003	0.001	0.0003	0.00005	0.0003	0.001
Parameter	Iron (Fe)	Lead (Pb)	Mercury (Hg)	Moly. (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)
<b>WQG</b>	<b>0.3</b>	<b>0.009</b>	<b>0.000026</b>	<b>0.073</b>	<b>0.025</b>	<b>0.1</b>	<b>0.0001</b>	<b>0.00025</b>	<b>0.005</b>	<b>0.006</b>	<b>0.02</b>	<b>0.004</b>
Count	227	227	173	227	227	227	227	227	227	227	227	227
Minimum	0.005	0.000025	0.0000025	0.000025	0.00025	0.000060	0.000005	0.000005	0.000005	0.00025	0.0001	0.00003
25 <sup>th</sup>	0.045	0.000025	0.0000025	0.0000875	0.00025	0.000082	0.000005	0.000005	0.000017	0.00025	0.0015	0.0001
Average	0.05	0.000025	0.0000025	0.000099	0.00025	0.000093	0.000005	0.000005	0.000019	0.00025	0.0015	0.0001
75 <sup>th</sup>	0.0605	0.00025	0.0000025	0.00025	0.0005	0.000250	0.00005	0.000025	0.00005	0.00025	0.0025	0.0005
95 <sup>th</sup>	0.087	0.00025	0.00001	0.00025	0.0007	0.001000	0.0001	0.0001	0.0001	0.0015	0.0043	0.0005

**Notes:**

**WQG:** Water Quality Guideline for the Protection of Aquatic Life (long-term exposure), refer to Table 2-4.

( - ) Indicates value is not available.

All units are mg/L (unless indicated otherwise).

All results are reported as total concentrations (e.g., total metals), unless indicated otherwise.

Results less than the analytical detection limit (DL) were incorporated into summary statistics as half DL (0.5\*DL).

Grey shaded values are greater than identified WQG (none).

**Table 3-4: Seagrave Lake, Baseline Water Quality**

Parameter	Hardness (as CaCO <sub>3</sub> )	pH (unitless)	Total Suspended Solids	Total Dissolved Solids	Acidity (as CaCO <sub>3</sub> )	Alkalinity, Total (as CaCO <sub>3</sub> )	Ammonia, Total (as N)	Ammonia, Un-ionized (as N)	Chloride	Nitrate (as N)	Nitrite (as N)	Nitrate + Nitrite
<b>WQG</b>	-	<b>6.5 to 8.5</b>	-	-	-	-	<b>2.22</b>	<b>0.02</b>	<b>128</b>	<b>3</b>	<b>0.06</b>	-
Count	58	58	58	58	9	58	58	-	40	43	43	34
Minimum	14	6.46	0.5	1.5	1	9.4	0.0025	-	0.18	0.01	0.005	0.05
25 <sup>th</sup>	23	6.96	0.5	32.5	1	23	0.025	-	0.5	0.05	0.005	0.05
Average	24	7.39	1	41	2.6	24.25	0.064	-	0.5	0.05	0.005	0.05
75 <sup>th</sup>	27.6	7.5	1.5	48.8	3	27.5	0.3	-	0.5	0.05	0.005	0.05
95 <sup>th</sup>	38.2	7.6	4.4	68.7	3.2	34.8	1.02	-	0.67	0.08	0.006	0.08
Parameter	Phosphorus, Total	Phosphorus-Dissolved	Sulfate	Dissolved Organic Carbon	Cyanide	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Beryllium (Be)	Cadmium (Cd)	Cobalt (Co)	Copper (Cu)
<b>WQG</b>	<b>0.02</b>	-	-	-	<b>0.005</b>	<b>0.8</b>	<b>0.02</b>	<b>0.005</b>	<b>0.011</b>	<b>0.0001</b>	<b>0.00078</b>	<b>0.005</b>
Count	58	39	42	53	25	60	60	60	60	60	60	60
Minimum	0.001	0.001	0.5	6	0.0010	0.0015	0.00005	0.00028	0.00001	0.0000025	0.00005	0.00025
25 <sup>th</sup>	0.0042	0.004	1.625	7.7	0.0010	0.019	0.00005	0.00043	0.00005	0.0000025	0.00005	0.0005
Average	0.008	0.008	2	8.4	0.0010	0.024	0.00025	0.0005	0.00025	0.00005	0.0003	0.000575
75 <sup>th</sup>	0.013	0.011	2.2	9.3	0.0010	0.028	0.00025	0.0005	0.00025	0.00005	0.00025	0.00075
95 <sup>th</sup>	0.025	0.016	3	15.3	0.0025	0.037	0.00025	0.001	0.00025	0.00005	0.00025	0.0014
Parameter	Iron (Fe)	Lead (Pb)	Mercury (Hg)	Moly. (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)
<b>WQG</b>	<b>0.3</b>	<b>0.009</b>	<b>0.000026</b>	<b>0.073</b>	<b>0.025</b>	<b>0.1</b>	<b>0.0001</b>	<b>0.00025</b>	<b>0.005</b>	<b>0.006</b>	<b>0.02</b>	<b>0.004</b>
Count	60	60	26	60	60	60	60	60	60	60	60	60
Minimum	0.012	0.000025	0.0000025	0.000025	0.00025	0.000058	0.000005	0.000005	0.000005	0.00025	0.0001	0.0001
25 <sup>th</sup>	0.044	0.000025	0.0000025	0.000066	0.00025	0.000081	0.000005	0.000005	0.000016	0.00025	0.0015	0.0001
Average	0.05	0.00025	0.0000025	0.00025	0.0005	0.001	0.00005	0.000025	0.00005	0.00025	0.0025	0.0005
75 <sup>th</sup>	0.05	0.00025	0	0.00025	0.0005	0.001	0.00005	0.00003	0.00005	0.00025	0.0025	0.0005
95 <sup>th</sup>	0.13	0.00029	0.00003	0.0005	0.0011	0.0012	0.00006	0.00005	0.0001	0.001	0.005	0.0005

**Notes:**  
**WQG:** Water Quality Guideline for the Protection of Aquatic Life (long-term exposure), refer to Table 2-4.  
 ( - ) Indicates value is not available.  
 All units are mg/L (unless indicated otherwise).  
 All results are reported as total concentrations (e.g., total metals), unless indicated otherwise.  
 Results less than the analytical detection limit (DL) were incorporated into summary statistics as half DL (0.5\*DL).  
 Grey shaded values are greater than identified WQG (none).

**Table 3-5: Small Inland Waterbodies, Baseline Water Quality**

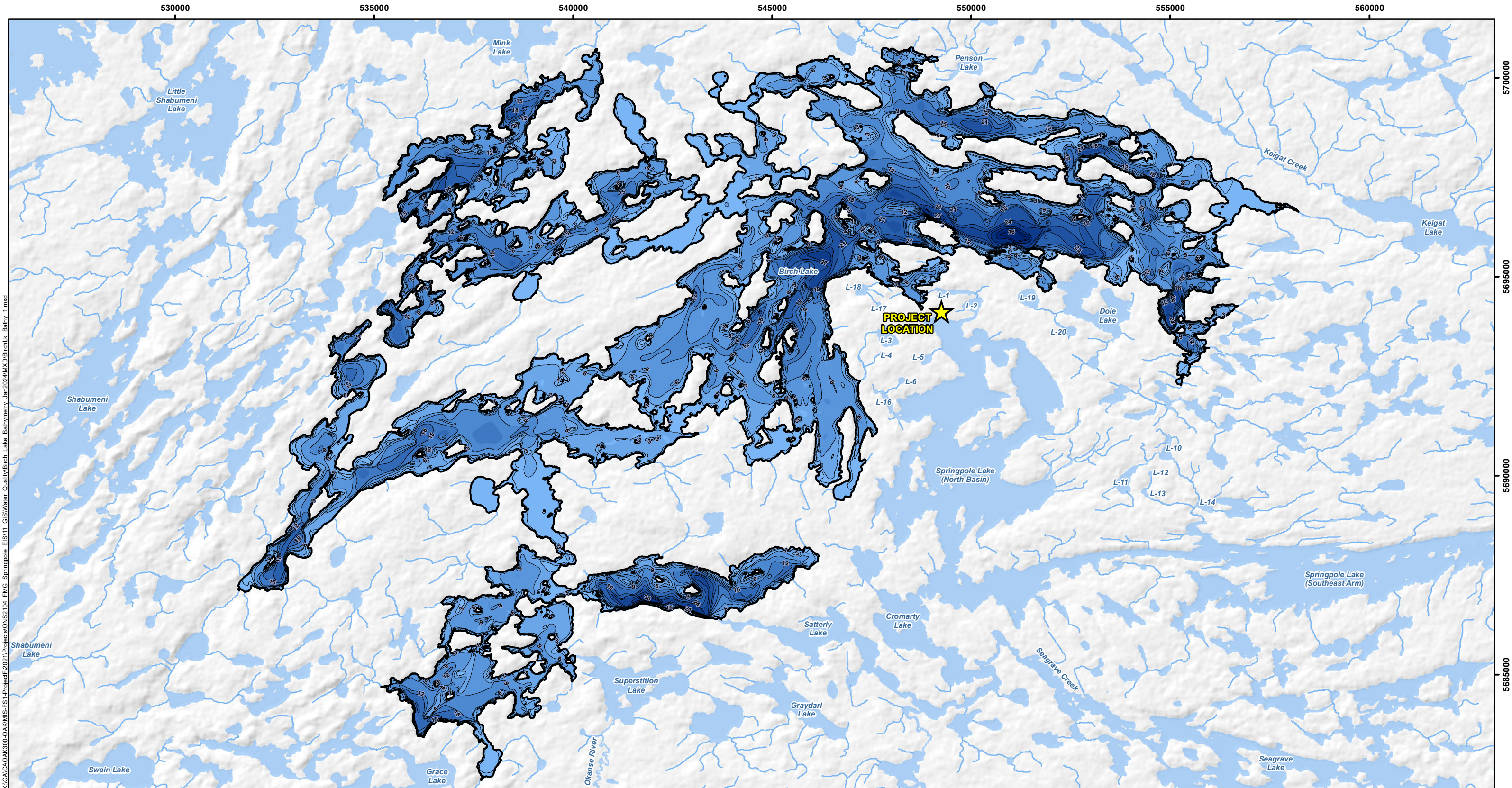
Parameter	Hardness (as CaCO <sub>3</sub> )	pH (unitless)	Total Suspended Solids	Total Dissolved Solids	Acidity (as CaCO <sub>3</sub> )	Alkalinity, Total (as CaCO <sub>3</sub> )	Ammonia, Total (as N)	Ammonia, Un-ionized (as N)	Chloride	Nitrate (as N)	Nitrite (as N)	Nitrate + Nitrite
<b>WQG</b>	-	<b>6.5 to 8.5</b>	-	-	-	-	<b>2.22</b>	<b>0.02</b>	<b>128</b>	<b>3</b>	<b>0.06</b>	-
Count	132	132	132	132	109	132	132	1	70	123	123	12
Minimum	24.9	6.75	1.5	3.5	1	20	0.0025	0.005	0.11	0.01	0.005	0.05
25 <sup>th</sup>	36	7.4675	1.5	69	1	34.625	0.025	0.005	0.25	0.01	0.005	0.05
Average	50.5	7.64	1.5	83.5	2.5	45.4	0.06	0.005	0.47	0.01	0.005	0.05
75 <sup>th</sup>	58.1	7.8	6	93	3	56.7	0.2	0.005	0.58	0.01	0.005	0.05
95 <sup>th</sup>	75	7.9	28.4	109	5.5	72.1	0.9	0.005	0.88	0.101	0.005	0.08
Parameter	Phosphorus, Total	Phosphorus- Dissolved	Sulfate	Dissolved Organic Carbon	Cyanide (Total)	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Beryllium (Be)	Cadmium (Cd)	Cobalt (Co)	Copper (Cu)
<b>WQG</b>	<b>0.02</b>	-	-	-	<b>0.005</b>	<b>0.8</b>	<b>0.02</b>	<b>0.005</b>	<b>0.011</b>	<b>0.0001</b>	<b>0.00078</b>	<b>0.005</b>
Count	132	65	103	81	120	132	132	132	132	132	132	132
Minimum	0.0037	0.001	0.15	2.5	0.0010	0.0041	0.00005	0.00035	0.00001	0.0000025	0.00005	0.00025
25 <sup>th</sup>	0.0116	0.015	0.5	15.8	0.0010	0.013	0.00005	0.0005	0.00001	0.0000025	0.00005	0.00025
Average	0.015	0.015	1.44	17.9	0.0010	0.022	0.00005	0.00061	0.00001	0.0000025	0.0001	0.00025
75 <sup>th</sup>	0.021	0.025	2.6	20	0.0025	0.038	0.00005	0.0007	0.00005	0.0000051	0.00005	0.0005
95 <sup>th</sup>	0.04	0.025	4.7	23.4	0.0025	0.08	0.00025	0.00086	0.00025	0.00005	0.00025	0.0011
Parameter	Iron (Fe)	Lead (Pb)	Mercury (Hg)	Moly. (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)
<b>WQG</b>	<b>0.3</b>	<b>0.009</b>	<b>0.000026</b>	<b>0.073</b>	<b>0.025</b>	<b>0.1</b>	<b>0.0001</b>	<b>0.00025</b>	<b>0.005</b>	<b>0.006</b>	<b>0.02</b>	<b>0.004</b>
Count	132	132	121	132	132	132	132	132	132	132	132	132
Minimum	0.027	0.000025	0.0000025	0.000025	0.00025	0.000025	0.000005	0.000005	0.000005	0.00025	0.0001	0.00003
25 <sup>th</sup>	0.065	0.000025	0.0000025	0.000025	0.00025	0.00007025	0.000005	0.000005	0.000005	0.00025	0.0015	0.0001
Average	0.104	0.000025	0.0000025	0.000069	0.00025	0.000085	0.000005	0.000005	0.000005	0.00025	0.0015	0.0001
75 <sup>th</sup>	0.16	0.000078	0.0000025	0.00019	0.00025	0.0001	0.000005	0.000005	0.000015	0.00025	0.0015	0.0001
95 <sup>th</sup>	0.57	0.00025	0.0000052	0.00025	0.00050	0.0010	0.00005	0.000025	0.00005	0.00038	0.0034	0.0005

**Notes:**  
**WQG:** Water Quality Guideline for the Protection of Aquatic Life (long-term exposure), refer to Table 2-4.  
 ( - ) Indicates value is not available.  
 All units are mg/L (unless indicated otherwise).  
 All results are reported as total concentrations (e.g., total metals), unless indicated otherwise.  
 Results less than the analytical detection limit (DL) were incorporated into summary statistics as half DL (0.5\*DL).  
 Grey shaded values are greater than identified WQG (none).

**Table 3-6: Regional Monitoring Stations, Baseline Water Quality**

Parameter	Hardness (as CaCO <sub>3</sub> )	pH (unitless)	Total Suspended Solids	Total Dissolved Solids	Acidity (as CaCO <sub>3</sub> )	Alkalinity, Total (as CaCO <sub>3</sub> )	Ammonia, Total (as N)	Ammonia, Un-ionized (as N)	Chloride	Nitrate (as N)	Nitrite (as N)	Nitrate + Nitrite
<b>WQG</b>	-	<b>6.5 to 8.5</b>	-	-	-	-	<b>2.22</b>	<b>0.02</b>	<b>128</b>	<b>3</b>	<b>0.06</b>	-
Count	37	37	37	37	37	37	37	-	37	37	37	-
Minimum	19.2	7.11	1.5	33	1	14.6	0.0025	-	0.15	0.01	0.005	-
25 <sup>th</sup>	21.9	7.23	1.5	41	1	18.7	0.0058	-	0.19	0.01	0.005	-
Average	22.8	7.32	1.5	48	2.1	22.6	0.015	-	0.25	0.01	0.005	-
75 <sup>th</sup>	25.9	7.4	1.5	50	2.6	24.7	0.03	-	0.25	0.06	0.005	-
95 <sup>th</sup>	30.3	7.5	4	57.4	3.2	30.7	0.4	-	0.25	0.11	0.005	-
Parameter	Phosphorus, Total	Phosphorus-Dissolved	Sulfate	Dissolved Organic Carbon	Cyanide (Total)	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Beryllium (Be)	Cadmium (Cd)	Cobalt (Co)	Copper (Cu)
<b>WQG</b>	<b>0.02</b>	-	-	-	<b>0.005</b>	<b>0.8</b>	<b>0.02</b>	<b>0.005</b>	<b>0.011</b>	<b>0.0001</b>	<b>0.00078</b>	<b>0.005</b>
Count	37	28	22	9	37	37	37	37	37	37	37	37
Minimum	0.0066	0.015	0.34	12.6	0.0010	0.008	0.00005	0.00032	0.00001	0.0000025	0.00005	0.00025
25 <sup>th</sup>	0.0087	0.025	0.4	13.6	0.0010	0.026	0.00005	0.00046	0.00001	0.0000025	0.00005	0.00025
Average	0.0111	0.025	0.575	14.8	0.0025	0.0386	0.00005	0.00052	0.00001	0.0000025	0.0001	0.00025
75 <sup>th</sup>	0.013	0.025	0.67	15.4	0.0025	0.05	0.00005	0.00056	0.00001	0.0000025	0.00005	0.0006
95 <sup>th</sup>	0.025	0.025	0.89	15.9	0.0025	0.08	0.00005	0.00072	0.00001	0.0000101	0.00005	0.00088
Parameter	Iron (Fe)	Lead (Pb)	Mercury (Hg)	Moly. (Mo)	Nickel (Ni)	Selenium (Se)	Silver (Ag)	Thallium (Tl)	Uranium (U)	Vanadium (V)	Zinc (Zn)	Zirconium (Zr)
<b>WQG</b>	<b>0.3</b>	<b>0.009</b>	<b>0.000026</b>	<b>0.073</b>	<b>0.025</b>	<b>0.1</b>	<b>0.0001</b>	<b>0.00025</b>	<b>0.005</b>	<b>0.006</b>	<b>0.02</b>	<b>0.004</b>
Count	37	37	37	37	37	37	37	37	37	37	37	37
Minimum	0.037	0.000025	0.0000025	0.000025	0.00025	0.000054	0.000005	0.000005	0.000013	0.00025	0.0015	0.0001
25 <sup>th</sup>	0.097	0.000025	0.0000025	0.00006	0.00025	0.000076	0.000005	0.000005	0.0000420	0.00025	0.0015	0.0001
Average	0.13	0.000025	0.0000025	0.00008	0.00025	0.000089	0.000005	0.000005	0.000047	0.00025	0.0015	0.0001
75 <sup>th</sup>	0.15	0.000025	0.0000025	0.0001	0.00025	0.0001	0.00001	0.00001	0.00006	0.00025	0.0015	0.0001
95 <sup>th</sup>	0.26	0.000109	0.0000025	0.00013	0.00051	0.00013	0.00001	0.00001	0.00007	0.00025	0.0015	0.0001

**Notes:**  
**WQG:** Water Quality Guideline for the Protection of Aquatic Life (long-term exposure), refer to Table 2-4.  
 ( - ) Indicates value is not available.  
 All units are mg/L (unless indicated otherwise).  
 All results are reported as total concentrations (e.g., total metals), unless indicated otherwise.  
 Results less than the analytical detection limit (DL) were incorporated into summary statistics as half DL (0.5\*DL).  
 Grey shaded values are greater than identified WQG (none).



**LEGEND**

- Project Location
- Bathymetry Contours (3 m interval)
- Birch Lake
- Waterbody
- Watercourse
- Contour (10 m intervals)

**Birch Lake Bathymetry (filled contours, metres)**

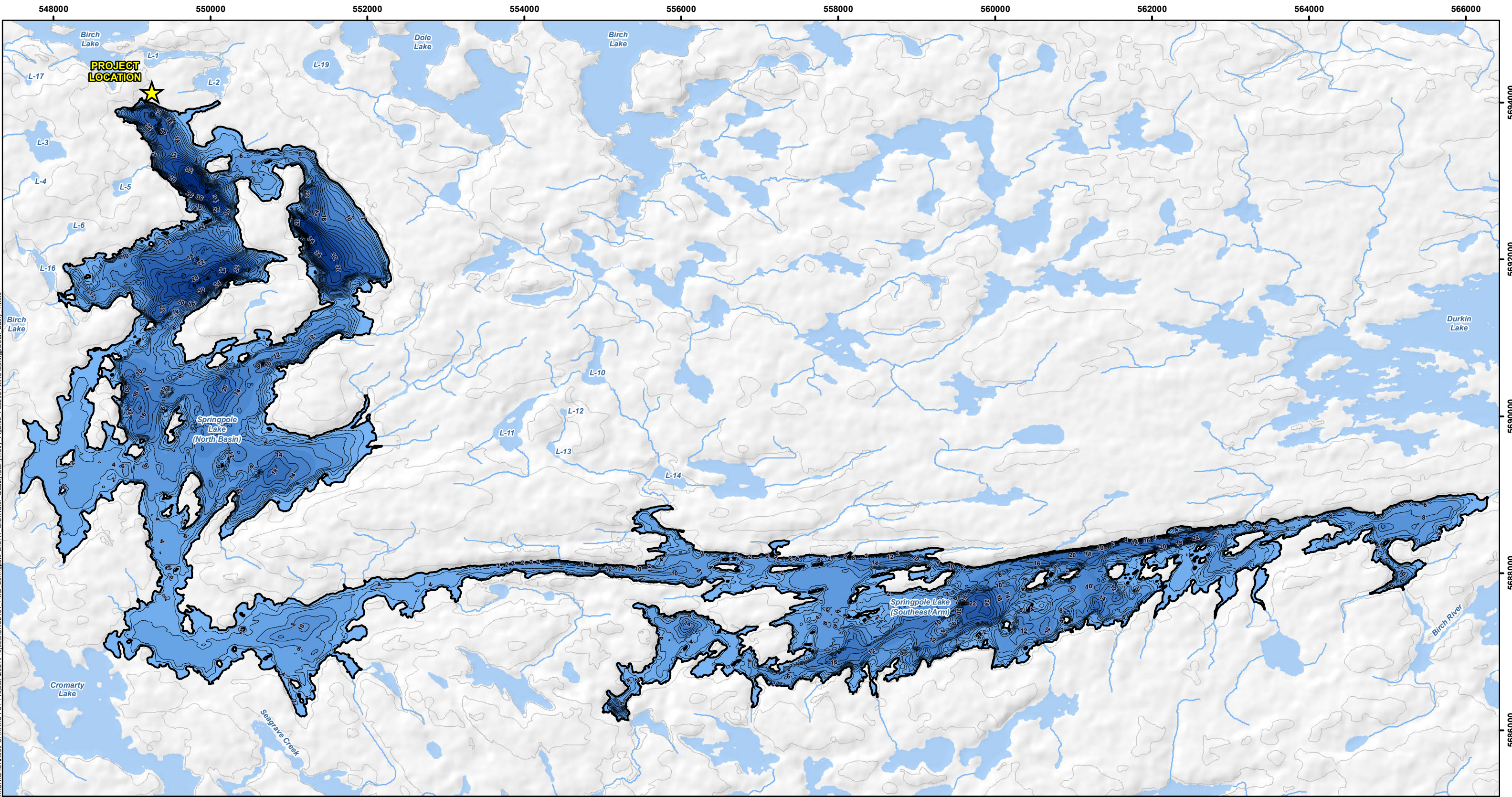
0 - 3	18 - 21
3 - 6	21 - 24
6 - 9	24 - 27
9 - 12	27 - 30
12 - 15	30 - 33
15 - 18	33 - 36

0 0.5 1 2 3 4 5  
Kilometres

**NOTES:**  
 - Topographic information extracted from LIO, MNRF.  
 - Birch Lake bathymetry extracted from LIO, MNRF.

Datum: NAD83  
 Projection: UTM Zone 15N

	<b>SPRINGPOLE GOLD PROJECT</b>
	<b>Birch Lake Bathymetry</b>
PROJECT N°: ONS2104	FIGURE: 3-1
SCALE: 1:90,000	DATE: January 2024



- LEGEND**
- Project Location
  - Bathymetry Contours (2 m interval)
  - Springpole Lake
  - Waterbody
  - Watercourse
  - Contour (10 m intervals)

**Springpole Lake Bathymetry (filled contours, metres)**

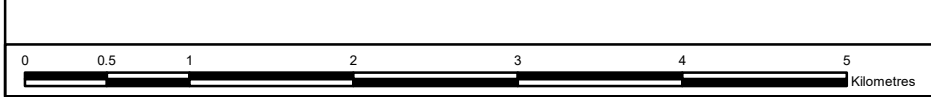
0 - 2	10 - 12	20 - 22	30 - 32
2 - 4	12 - 14	22 - 24	32 - 34
4 - 6	14 - 16	24 - 26	34 - 36
6 - 8	16 - 18	26 - 28	36 - 38
8 - 10	18 - 20	28 - 30	> 38

**NOTES:**  
 - Topographic information extracted from LIO, MNRF.  
 - Springpole Lake bathymetry provided by Story Environmental Inc, 2017/2019.



**SPRINGPOLE GOLD PROJECT**

**Springpole Lake Bathymetry**



Datum: NAD83  
 Projection: UTM Zone 15N



PROJECT N°: ONS2104

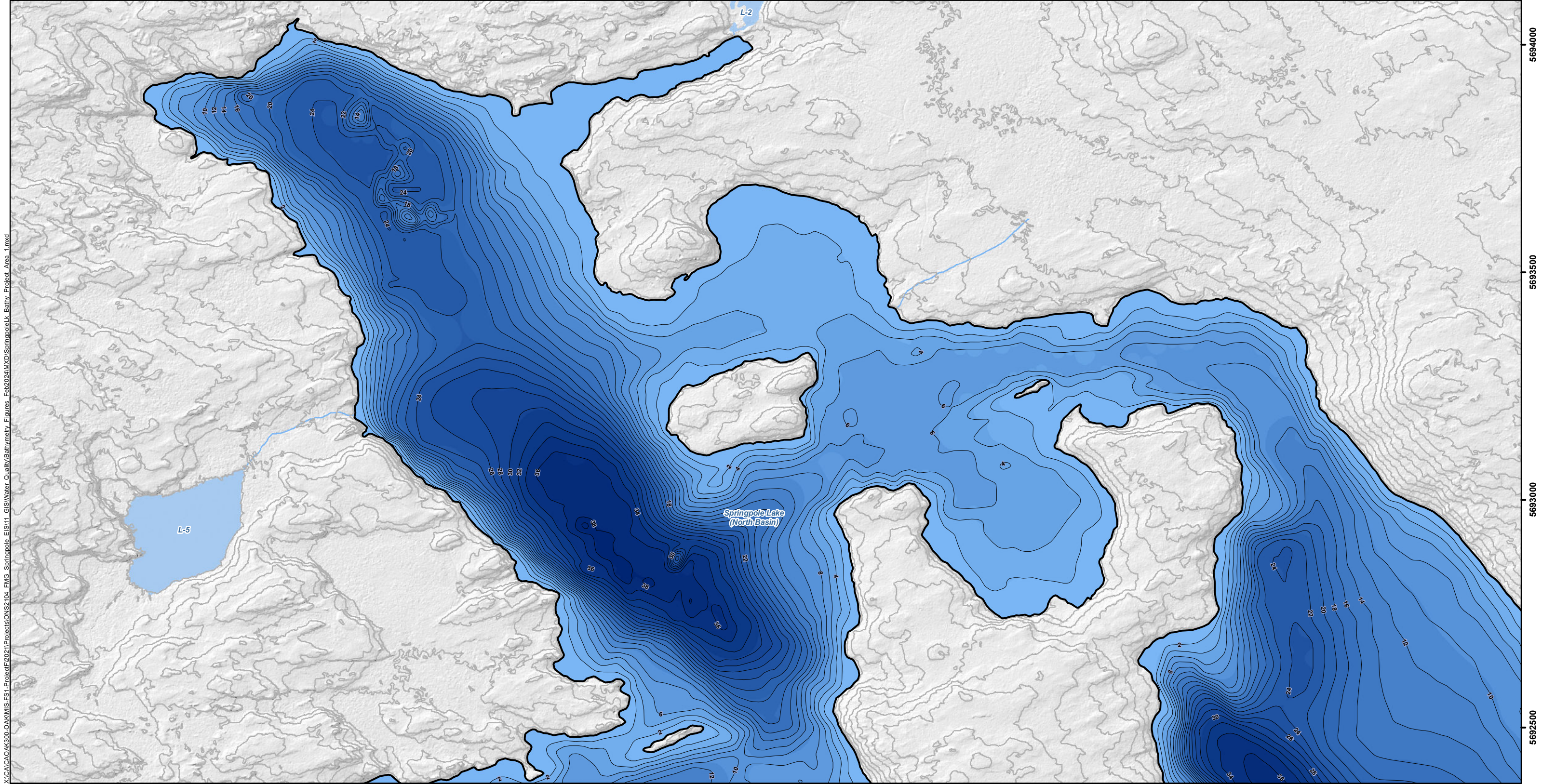
FIGURE: 3-2

SCALE: 1:46,000

DATE: February 2024

X:\CACA\OAK300-OAKMIS-FS1-Project\2021\Projects\ONS2104\_FMG\_Springpole\_EIS11\_GIS\Water\_Quantity\Bathymetry\_Figures\_Feb2024\MXD\SpringpoleLk\_Bathy\_1.mxd

548500 549000 549500 550000 550500 551000 551500



**LEGEND**

- Bathymetry Contours (2 m interval)
- ▭ Springpole Lake
- ▭ Waterbody
- Watercourse
- Contours (2 m interval)

Springpole Lake Bathymetry (filled contours, metres)			
0 - 2	10 - 12	20 - 22	30 - 32
2 - 4	12 - 14	22 - 24	32 - 34
4 - 6	14 - 16	24 - 26	34 - 36
6 - 8	16 - 18	26 - 28	36 - 38
8 - 10	18 - 20	28 - 30	> 38

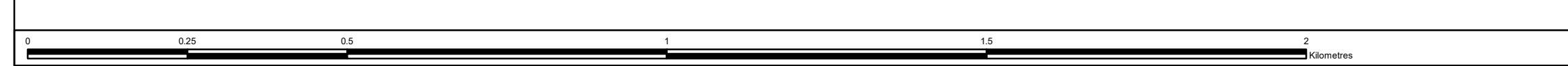
**NOTES:**

- Topographic information extracted from LIO, MNRF.
- Springpole Lake bathymetry provided by Story Environmental Inc, 2017/2019.



**SPRINGPOLE GOLD PROJECT**

**Springpole Lake Bathymetry  
Detailed View of the North Basin**



Datum: NAD83  
Projection: UTM Zone 15N

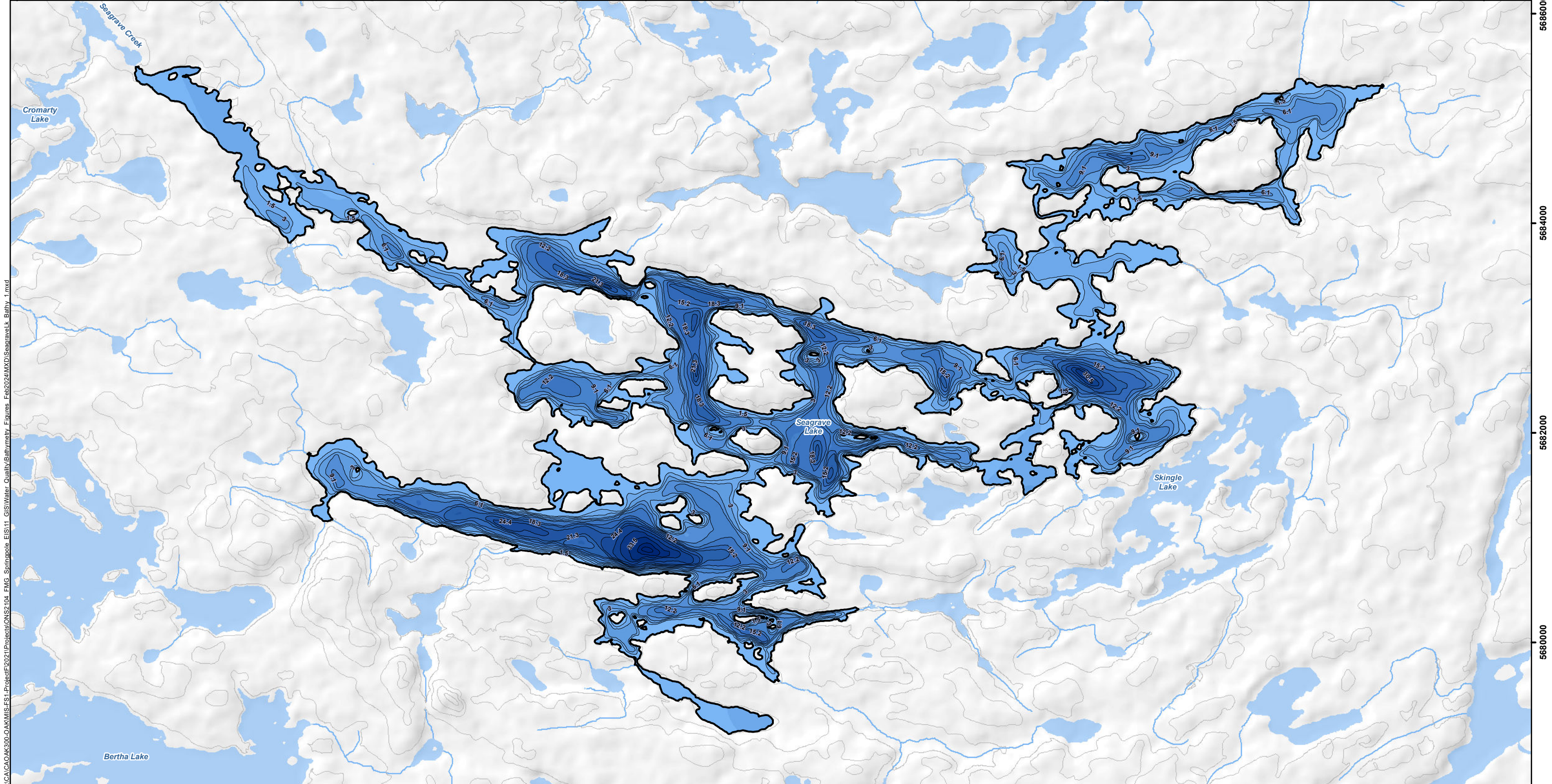
PROJECT N°: ONS2104  
SCALE: 1:8,000

FIGURE: 3-3  
DATE: February 2024

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569400  
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5693000  
5692500

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X:\CA\CAOAK300-OAKMIS-FS1-Project\2021\Projects\ONS2104\_FMG\_Springpole\_EIS11\_GIS\Water\_Quantity\Bathymetry\_Figures\_Feb2024\MXD\SeagraveLk\_Bathy\_1.mxd

568000  
5684000  
5682000  
5680000

**LEGEND**

- Bathymetry Contours
- Seagrave Lake
- Waterbody
- Watercourse
- Contour (10 m intervals)

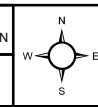
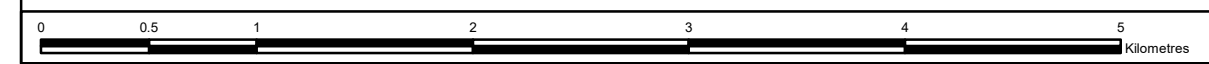
**Seagrave Lake Bathymetry (filled contours, metres)**

0.0 - 1.5	12.2 - 15.2	27.4 - 30.5
1.5 - 3.0	15.2 - 18.3	30.5 - 33.5
3.0 - 6.1	18.3 - 21.3	33.5 - 36.6
6.1 - 9.1	21.3 - 24.4	36.6 - 39.6
9.1 - 12.2	24.4 - 27.4	

**NOTES:**  
 - Topographic information extracted from LIO, MNRF.  
 - Seagrave Lake bathymetry extracted from LIO, MNRF.

Datum: NAD83  
 Projection: UTM Zone 15N

<b>SPRINGPOLE GOLD PROJECT</b>	
<b>Seagrave Lake Bathymetry</b>	
PROJECT N°: ONS2104	FIGURE: 3-4
SCALE: 1:35,000	DATE: February 2024



#### 4.0 CLOSING

This Surface Water Quality Baseline Report was prepared for FMG by WSP. The quality of information, conclusions and scheduling estimates contained herein is consistent with the level of effort involved in WSP's services and based on i) information available at the time of preparation; ii) data supplied by outside sources; and iii) the assumptions, conditions and qualifications set forth in this report.

The baseline surface water quality monitoring program, initiated in 2011, is designed to be both extensive and appropriate for informing the EIS/EA. More than 40 water quality stations have been monitored as part of this baseline program, with over 1,100 samples collected. The network of sites covers a range of water bodies, including smaller sensitive lakes, tributaries, and regional stations, ensuring representative sampling. Sites have been carefully selected to encompass different ecological zones, flow regimes, and areas of potential interaction with the Project. Seasonal variations are accounted for with sampling conducted throughout the year, often monthly, to capture fluctuations in water quality related to changing hydrological conditions and climatic patterns.

Baseline monitoring results indicate that surface water quality of monitored waterbodies are typical of oligotrophic lakes in northwestern Ontario, including low concentrations of nutrients and anions, low turbidity, and saturated to near-saturated DO concentrations. The pH levels of Birch Lake, Springpole Lake, Seagrave Lake, small area lakes and regional monitoring stations were generally circumneutral; low frequency slightly alkaline to alkaline pH values are associated with summer sampling of surface (epilimnion) waters, wherein slightly higher pH values are likely driven by photosynthesis and generally warmer water quality conditions.

Concentrations of total and dissolved metals are very low in monitored waterbodies, consistently below WQG. There were a few occasions where measured baseline concentrations are outside the range of identified available water quality during the period of record; these were very low frequency (>2% to 5% of observations) and are considered representative of the natural heterogeneity of these surface water systems. Parameters of interest for the Project, based on baseline water quality being outside the range defined by water quality guidelines are

- pH
- Phosphorus
- Iron
- Copper

Sporadic, low frequency exceedances of WQG are common in natural lake systems proximate to mineralized zones and considered to be representative natural heterogeneity of the waterbodies in the baseline study area.

Yours truly,  
WSP Canada Inc.

## 5.0 REFERENCES

- DST Consulting Engineering (DST). 2012. Springpole Gold Project 2011 Aquatic Baseline Report (DST File No. OE-KN-012948).
- DST Consulting Engineering (DST). 2013. Springpole Gold Project 2012 Aquatic Baseline Report (DST File No. OE-KN-014468).
- First Gold Mining (2021). Lab Certificates of Analysis of Water Quality Results between 2011 and 2020, personal communication.
- First Mining Gold and C. Portt and Associates. 2018. Springpole Project, Existing Conditions Report, Fish Community and Habitat.
- Frac Flow Consultants (Frac Flow). 2021. Factual Report - Hydrology Program, Springpole ON (File No. FFC-NL-3134-007).
- Ministry of the Environment. 1996. Guidance on Sampling and Analytical Method for Use at Contaminated Sites in Ontario.
- Ministry of Environment and Energy. 1999. Water Management Policies Guidelines Provincial Water Quality Objectives. Queens Printer for Ontario.
- North Rock Environmental (North Rock). 2019. 2018 Water Monitoring Programs Springpole Project Site (Project No. 18-031-03).
- Wood Environment & Infrastructure Americas (Wood). 2021. DRAFT 2019-2020 Aquatic Resource Assessment Springpole Gold Project (Project #TC190403).
- WSP 2023. 2023 Baseline Hydrogeological Conditions. Springpole Gold Project, November 2023)

## 6.0 CLOSING

This Surface Water Quality Baseline Report was prepared for FMG by WSP. The quality of information, conclusions and scheduling estimates contained herein is consistent with the level of effort involved in WSP's services and based on i) information available at the time of preparation; ii) data supplied by outside sources; and iii) the assumptions, conditions and qualifications set forth in this report.

Yours truly,  
WSP Canada Inc.

Prepared by:

Reviewed by:

***Original Signed***

***Original Signed***

Amy Elliott, Ph.D.  
Senior Geoscientist

Sheila Daniel  
Principal Geoscientist

# **Attachment A**

## **Historical Baselines Methods and Field Photographs**



**Photo A- 1. Birch Lake inlet hydrometric station, June 2011 (DST 2012)**



**Photo A- 2. Springpole Lake, Northern Basin, Shoreline, May 2017 (FMG 2018)**

Springpole Gold Project  
Surface Water Quality Baseline Report



**Photo A- 3. Springpole Lake, Northern Basin, Shoreline, May 2017 (FMG 2018)**



**Photo A- 4. Springpole Lake, July 2020**



**Photo A- 5. Cromarty Lake Inlet to Springpole Lake, June 2011 (DST 2012)**



**Photo A- 6. Outflow from WB5 to Springpole Lake**



**Photo A- 7. Unnamed Lake 3, (SW-09) (FMG 2018)**



**Photo A- 8. Unnamed Lake 5, (SW-26) (FMG 2018)**



**Photo A- 9. Unnamed Lake 1 (SW-26) (FMG 2018)**



**Photo A- 10. Unnamed Lake 2, facing north (FMG 2018)**



**Photo A- 11. Un-named Lake 4 (FMG 2018)**



**Photo A- 12. Unnamed Lake 10 (FMG 2018)**



**Photo A- 13. Unnamed Lake 11 (FMG 2018)**



**Photo A- 14. Unnamed Lake 11 (FMG 2018)**



**Photo A- 15. Unnamed Lake 12 (FMG 2018)**



**Photo A- 16. Unnamed Lake 13 (FMG 2018)**



View facing downstream (July 18, 2019)



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

**Photo A- 17. Lake 5 (L-5)**



North Basin, (July 25, 2020)



North Basin, (July 25, 2020)

**Photo A- 18. Springpole Lake**



L-19 site overview facing west (August 2021)



L-19 site overview facing southwest (September 2021)

**Photo A- 18. Small Inland Waterbodies (L-19)**



L-1 site overview facing north (March 2021)



L-1 site overview facing northeast (August 2021)

**Photo A- 19. Small Inland Waterbodies (L-1)**

Springpole Gold Project  
Surface Water Quality Baseline Report



Facing downstream at culvert (Jul. 16, 2019)



Facing downstream at culvert (Sep. 17, 2019)



Culvert inflow (Jul. 20, 2019)



Culvert inflow (Sep. 17, 2019)

**Plate E.1-1: Small Inland Waterbodies, Sample Area L-2-OUT**



View facing upstream (Jul. 26, 2019)



View facing upstream (Sep. 17, 2019)



View facing upstream (Jul. 26, 2019)



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

**Plate E.1-3: Small Inland Waterbodies , Sample Area L-2-OUT-US**



View facing downstream (Jul. 18, 2019)



View facing downstream (Sep. 13, 2019)



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



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

**Plate E.1-4: Small Inland Waterbodies , Sample Area L-5-OUT**



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



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



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



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

**Plate E.1-8: Small Inland Waterbodies , Sample Area L-16-IN**

Springpole Gold Project  
Surface Water Quality Baseline Report



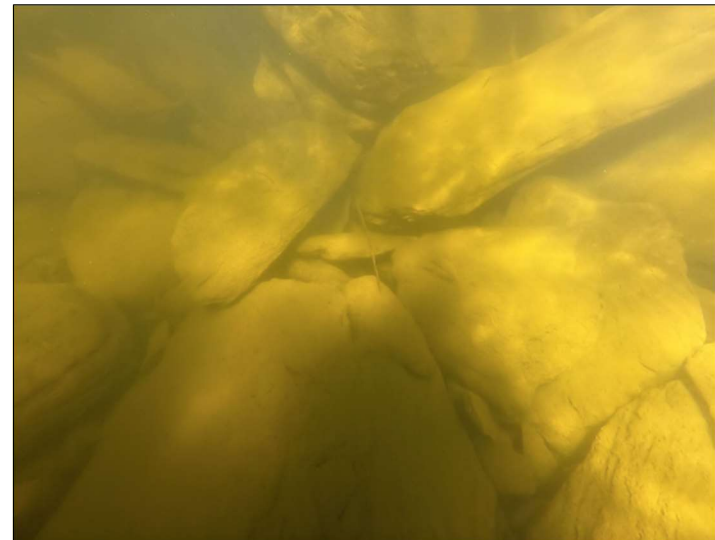
Effort ID SPL-LG-12 gillnet sample area (Jul. 26, 2020)



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



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



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

**Plate E.1-13: Springpole Lake (L-15)**

Springpole Gold Project  
Surface Water Quality Baseline Report



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



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



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



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

**Plate E.1-14: Springpole Lake (L-15)**

## Historical Baseline, Sampling Methodology

This report summarizes available information regarding baseline data collected from 2011 through 2020 to support the Springpole Gold Project. Sampling and analytical methodologies of the 2020, 2021 and 2022 as follows: Springpole Gold Project 2011 Aquatic Baseline Report (DST 2012);

- Springpole Gold Project 2012 Aquatic Baseline Report (DST 2013);
- Existing Conditions Report, Fish Community and Habitat. (FMG Portt and Associates 2018);
- Factual Report - Hydrology Program, Springpole ON (Frac Flow 2021);
- 2018 Water Monitoring Programs Springpole Project Site (North Rock 2019); and
- Various Lab Certificates of Analysis of Water Quality between 2011 and 2020.

### 1.0 2011 to 2013 Water Sampling

The following section summarizes the methodology as described in DST (2012, 2013). Note that the data from water quality sampling completed in 2013 were provided in Excel (FMG, 2021); there is no standalone report documenting the 2013 sampling events.

Surface water sampling was completed in accordance with industry standards and applicable provincial guidelines / standards. Shipment of water samples to the laboratory occurred under a Chain of Custody protocol. The laboratory used for chemical analysis is an accredited Standards Council of Canada (SCC) laboratory.

Surface water quality sampling began in February 2011 for lakes and streams in the area. Ten sampling locations were monitored (SW-01 through SW-10) on five lakes during 2011. An additional five sampling locations were added in 2012 (Table 2-2).

At each sampling location, field measurements were collected for water temperature, pH, conductivity, total dissolved solids (TDS), dissolved oxygen (DO), turbidity and oxygen reduction potential (ORP). These measurements were taken using a Horiba U-22 or YSI multi-meter prior to water sampling. Before the measurement was taken, the instrument was rinsed with lake water to avoid potential cross contamination between sampling locations.

Lake samples were collected less than 1 m from the surface using a Kemmerer Water Sampler from a boat that was anchored from the bow and stern to prevent drifting from the site. During the summer sampling event (third quarter; Q3), samples were collected from the top, mid-depth, and bottom water for applicable sampling locations. Corresponding field measurements taken at 1 m depth intervals to the lake bottom or to the full length of the multi-meter cable. The purpose of this was to observe any physical or chemical stratification of the water column which may exist during summer months.

Samples were collected directly into laboratory supplied containers from the Kemmerer Water Sampler. During sampling, bottles not requiring preservative were triple rinsed with lake water. Bottles requiring preservative were supplied pre-preserved by the laboratory. Samples requiring field filtering for dissolved metals were passed through a 0.45 µm inline filter into the appropriate bottle. The sample bottles were labelled with date, sample name, project name and requested analysis. All samples were immediately stored in a cooler with ice packs to maintain a temperature of approximately 4°C, and shipped to Maxxam Analytics in Mississauga, Ontario, to be analyzed.

Samples for low level mercury and methyl mercury investigation were collected in 2021-May and 2012-October. These samples were collected using the EPA Method 1631e: Clean Hands / Dirty Hands

Sampling Protocol in order to reduce the potential for contamination. All methyl mercury samples were frozen, packed into a cooler and shipped to Flett Research Ltd. in Winnipeg, Manitoba, for the specialized laboratory analysis. Total mercury samples were maintained at a temperature of approximately 4°C in a cooler packed with ice, during transport.

For each quarterly sampling event, one blind field duplicate, one trip blank and one field blank during each sampling event were used as a quality assurance / quality control (QA/QC) check (see Section 2.5 and Appendix B) Similarly, as part of the QA/QC protocol used, a laboratory supplied field blank and travel blank were included for each surface water sampling event. As is standard best practice, these blanks were used to monitor the potential contamination of samples due to field practices, laboratory equipment, analytical methodology or sample containers etc. Field and travel blanks are made by Maxxam laboratory technicians and provided with the sample bottles for each sampling event. Field and travel blanks consist of deionized water that has been tested by the laboratory for purity, and transferred into laboratory supplied containers.

## **2.0 2015 to 2018 Water Sampling**

The following section summarizes the methodology used in 2018 as described in North Rock (2019). Note that the North Rock-collected 2015-2017 data were provided in excel (FMG 2021), and there is no standalone report documenting sampling events in these years.

Sampling and field QA/QC were completed in accordance with industry standards, and applicable standards and procedures as outlined in the Ministry of the Environment Conservation and Parks (MECP) manual, *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (MECP 1996).

Laboratory-supplied clean bottles were used to collect surface water samples from Springpole Lake and Birch Lake. For sample collection, the bottles were dipped into the water body while taking care not to disturb bottom sediments, where such sediments were present.

Prior to collecting surface water samples, pH, temperature, conductivity and DO were measured using field-testing equipment. Samples were also examined for colour and/or odour, which was documented in the field notes.

Where applicable, sample bottles were pre-charged by the laboratory with the appropriate preservative and field filtering was completed as required.

The samples were stored in insulated containers in an effort to maintain a consistent temperature during transport. Trip blanks and field blanks were collected as appropriate during each sampling event. All samples were stored in insulated containers with ice packs and submitted to ALS Laboratory (ALS), a CALA certified and accredited independent laboratory.

Clean disposable nitrile gloves were worn during purging and sampling, and then discarded and replaced after collecting each sample to prevent potential sample cross-contamination and to maintain sample integrity. Following sampling, the containers were carefully packaged to prevent breakage and placed in chilled coolers. The coolers were delivered under Chain of Custody to the analytical laboratory for analysis.

In 2018, duplicate surface water samples were unable to be collected from Springpole Lake and Birch Lake during the October event due to lack of available bottles. Although duplicate samples were collected for groundwater from SP11-102 in June and from DDH1 in October to ensure quality control and ensure laboratory consistency (reported under a separate cover: Groundwater Baseline Report).

### **3.0 2019 to 2020 Water Sampling**

The following section summarizes the methodology used in 2019 and 2020 as described in FracFlow (2021). Laboratory-supplied bottles were used to collect surface water samples from Springpole Lake and Birch Lake. Samples were collected by dipping the bottles into the surface waterbody or watercourse, without disturbing bottom sediments where such sediments were present. Blind duplicates and trip blanks were also collected in the field.

Where applicable, sample bottles were pre-charged by the laboratory with the appropriate preservative and field filtering was completed as required. The samples were stored in insulated containers to maintain a consistent temperature during transport to the laboratory.

All samples were stored in the refrigerator at the Springpole Project site until they could be shipped to Sioux Lookout via Slate Falls Airways or Bamaji Air Inc. Staff from FMG took custody of the samples upon arrival at Sioux Lookout, and shipped those samples to ALS Environmental for analysis.

Surface water sampling was completed in accordance with industry standards. Shipment of water samples to ALS occurred under a Chain of Custody protocol. ALS is an accredited SCC laboratory and, as such, follows internal QA/QC procedures to verify and validate analytical results, including analysis of internal laboratory duplicates, reference standards, matrix spikes, and blanks.

### **4.0 References**

- DST Consulting Engineering (DST). 2012. Springpole Gold Project 2011 Aquatic Baseline Report (DST File No. OE-KN-012948).
- DST Consulting Engineering (DST). 2013. Springpole Gold Project 2012 Aquatic Baseline Report (DST File No. OE-KN-014468).
- First Gold Mining (2021). Lab Certificates of Analysis of Water Quality Results between 2011 and 2020, personal communication.
- First Mining Gold and C. Portt and Associates. 2018. Springpole Project, Existing Conditions Report, Fish Community and Habitat.
- Frac Flow Consultants (Frac Flow). 2021. Factual Report - Hydrology Program, Springpole ON (File No. FFC-NL-3134-007).

# **Attachment B**

## **Tabulated Water Quality Data**

### Summary of Baseline Groundwater Quality, All Wells

Parameter	Units	Water Quality Guideline <sup>(1)</sup>		25 <sup>th</sup> Percentile	Mean	75 <sup>th</sup> Percentile
Conductivity	umhos/cm	-	-	338	429	532
Hardness (as CaCO <sub>3</sub> )	mg/L	-	-	146	204	277
Alkalinity, Total (as CaCO <sub>3</sub> )	mg/L	-	-	170	251	296
Ammonia, Total (as N)	mg/L	-	-	0.028	0.283	0.261
Chloride	mg/L	120	CWQG	0.24	3.12	1.48
Fluoride	mg/L	0.12	CWQG	0.0365	0.0796	0.109
Nitrate-N	mg/L	13	CWQG	0.01	0.141	0.103
Nitrite-N	mg/L	0.06	CWQG	0.005	0.00624	0.005
Sulphate	mg/L	-	-	5.73	24.4	24.9
Aluminum, Dissolved	mg/L	0.075	iPWQO	0.00425	0.0397	0.0428
Antimony, Dissolved	mg/L	0.02	iPWQO	0.00005	0.000343	0.00038
Arsenic, Dissolved	mg/L	0.005	CWQG	0.000395	0.00243	0.00221
Beryllium, Dissolved	mg/L	1.1	PWQO	0.00001	0.0000683	0.00005
Boron, Dissolved	mg/L	0.2	PWQO	0.005	0.0151	0.0135
Cadmium, Dissolved	mg/L	0.00029	CWQG	0.0000025	0.0000136	0.0000143
Chromium, Dissolved	mg/L	0.0078	CWQG	0.000145	0.00051	0.000405
Cobalt, Dissolved	mg/L	0.0009	iPWQO	0.00005	0.000611	0.00066
Copper, Dissolved	mg/L	0.004	CWQG	0.000465	0.00329	0.00356
Iron, Dissolved	mg/L	0.3	CWQG	0.03	1.58	1.9
Lead, Dissolved	mg/L	0.005	iPWQO	0.000025	0.000074	0.0000545
Mercury, Dissolved	mg/L	0.000026	CWQG	0.0000025	0.00000776	0.0000025
Molybdenum, Dissolved	mg/L	0.04	iPWQO	0.000703	0.00453	0.00289
Nickel, Dissolved	mg/L	0.025	PWQO	0.000525	0.00169	0.00194
Phosphorus, Dissolved	mg/L	0.02 / 0.03	iPWQO	0.025	0.0326	0.025
Selenium, Dissolved	mg/L	0.002	CWQG	0.0000585	0.000242	0.000183
Silver, Dissolved	mg/L	0.0001	PWQO	0.000005	0.000007	0.000005
Strontium, Dissolved	mg/L	-	-	0.111	0.334	0.408000
Thallium, Dissolved	mg/L	0.0003	iPWQO	0.000005	0.00000742	0.000005
Titanium, Dissolved	mg/L	-	-	0.00015	0.00155	0.000885
Tungsten, Dissolved	mg/L	-	-	0.00005	0.00319	0.00246
Uranium, Dissolved	mg/L	0.015	CWQG	0.000142	0.000897	0.000828
Vanadium, Dissolved	mg/L	0.006	iPWQO	0.00025	0.000899	0.000935
Zinc, Dissolved	mg/L	0.02	iPWQO	0.0005	0.0165	0.0036

**Note:**

(1) Surface water quality guidelines are not directly applicable to groundwater quality and are here provided for benchmarking / comparison purposes only. Water quality guidelines represent both federal and provincial criteria. Where applicable, guideline values are calculated here using average baseline groundwater hardness (204 mg CaCO<sub>3</sub>/L), and average pH (7.64).

Grey highlighted numbers are greater than the identified surface water quality guideline.

CWQG: Canadian Council of Ministers of the Environment Water Quality Guidelines for the Protection of Aquatic Life

PWQO: Ontario Provincial Water Quality Objectives

iPWQO: Ontario Interim Provincial Water Quality Objectives

**Tabulated Groundwater Quality Data**

Grounwater Well I.D.	Date	Report	conductivity $\mu\text{S/cm}$	hardness (as $\text{CaCO}_3$ ), dissolved	pH (pH units)	solids, total suspended [TSS]	solids, total dissolved [TDS]	acidity (as $\text{CaCO}_3$ )	alkalinity, total (as $\text{CaCO}_3$ )	ammonia, total (as N)	bromide	chloride	fluoride	nitrate (as N)	nitrite (as N)	phosphorus, total	silicate (as $\text{SiO}_2$ )	sulfate (as $\text{SO}_4$ )
3134-BL0385-108M	8/24/2019	L2338207-1	509	265	7.55	3.9	300	<1.0	281	0.144	<0.10	8.58	0.059	<0.020	<0.010	0.0069	12.9	25.1
3134-BL-310-60M	8/25/2019	L2338207-8	614	324	7.28	9.1	386	6.7	318	0.154	<0.10	9.54	0.061	0.128	0.013	0.027	13	31.8
3134-BL341-60M	8/26/2019	L2338207-10	440	228	7.3	45.2	277	1.8	294	0.037	<0.10	0.15	0.047	<0.020	<0.010	0.0633	9.3	28.5
3134-BL354-104M	8/24/2019	L2338207-3	430	226	7.02	115	274	3.4	247	<0.020	<0.10	0.69	0.038	0.373	<0.010	0.091	12	19
3134-BL52-138M	8/25/2019	L2338207-5	543	282	7.55	14.1	334	<1.0	268	0.247	<0.10	1.33	0.129	0.117	<0.010	0.0193	12.7	35.8
3134-BL52-238M	8/25/2019	L2338207-6	575	296	7.46	31.7	355	<1.0	235	<0.020	<0.10	2.5	0.068	0.262	<0.010	0.0318	12.9	45
3134-BL52-435M	8/25/2019	L2338207-7	589	302	7.52	27.1	371	<1.0	143	<0.020	<0.10	4.02	0.062	0.083	<0.010	0.027	13.1	41
3134-BL52-60M	8/24/2019	L2338207-4	551	279	7.51	15.2	336	1.6	289	0.246	<0.10	1.49	0.1	0.107	<0.010	0.0162	13.1	36.4
3134-BLDUP-1	8/24/2019	L2338207-2	502	266	7.49	5.9	317	<1.0	258	0.118	<0.10	8.65	0.059	<0.020	<0.010	0.0079	12.4	25.5
3134-MW2	8/26/2019	L2338207-9	479	290	7.68	2680	442	<1.0	277	<0.020	<0.20	1.1	0.057	0.034	<0.020	0.81	17.3	5.36
BH-1000	9/13/2017	L1992648-10	154	73.5	7.26	765	120	10.3	77.8	0.073	<0.10	0.58	<0.020	0.082	<0.010	0.675	-	3.41
BH-1000	10/12/2018	L2181887-10	491	248	7.85	9.7	276	9.3	254	0.515	<0.10	0.29	0.136	0.027	<0.010	0.037	-	14.4
BH-ESF1SD	10/12/2022	TY2203082	623	257	8.22	898	405	<2.0	364	1.73	<0.20	3	0.087	<0.040	<0.020	0.309	16.3	6.79
BH-WSF15S	10/12/2022	TY2203082	636	287	7.85	7180	390	8.8	389	4.24	<0.20	1.7	0.065	0.098	<0.020	3.93	19.2	3.95
BH-WSF2-12D	10/11/2022	TY2203082	354	189	7.95	88.2	243	3.8	204	0.4	<0.10	1.1	0.042	<0.020	<0.010	0.0894	13.3	5.56
BH-WSF2-12S	10/11/2022	TY2203082	376	185	7.61	518	295	10.4	211	1.32	<0.10	1.84	0.035	<0.020	<0.010	0.484	16.6	8.74
BH-WSF2-14D	10/16/2022	TY2203082	747	260	8.15	304	515	<2.0	314	1.7	0.25	13.7	0.042	0.048	<0.020	0.166	18.2	98.4
BH-WSF2-14S	10/16/2022	TY2203082	1470	91.6	8.22	14700	920	<50.0	1080	0.238	1.46	63	0.369	<0.200	<0.100	6.31	2.55	352
BL-0321D	10/12/2022	TY2203082	456	202	8.08	6680	252	<2.0	258	0.897	<0.10	0.65	0.11	0.035	<0.010	5.24	14.7	5.03
BL-0321S	10/12/2022	TY2203082	793	62.9	8.18	3980	612	<5.0	582	0.269	0.54	17.4	0.442	0.066	<0.020	1.86	2.67	146
BL-0334S	10/15/2022	TY2203082	525	276	7.76	223	316	<2.0	273	0.0254	<0.10	<0.50	0.052	0.113	<0.010	0.126	11.5	30.5
BL08-385	9/13/2017	L1992648-8	511	260	7.5	2	314	17.4	284	0.111	<0.10	14.4	0.032	<0.020	<0.010	<0.0030	-	23.9
BL08-385	6/5/2018	L2107105-16	290	155	6.99	2	221	14.9	125	0.026	0.12	12.1	<0.020	0.107	<0.010	-	-	9.11
BL08-385	10/12/2018	L2181887-8	363	187	7.04	177	236	24	163	0.596	0.15	10.5	<0.020	0.328	0.014	0.0153	-	14.4
BL08-385	5/20/2021	L2592750-1	416	196	8.09	40.2	242	9.1	161	0.0152	0.57	31.3	0.02	0.101	<0.010	0.0372	9.92	16.4
BL08-385	8/29/2021	L2635314-1	434	191	7.56	197	267	7.6	171	0.0136	0.36	21.7	0.02	0.173	<0.010	0.0669	12	21.8
BL235	8/30/2021	L2635314-8	515	247	7.91	25.5	298	2.6	252	0.0626	<0.10	0.3	0.042	0.033	<0.010	0.0133	10.7	35.3
BL-235	9/12/2017	L1992648-7	472	245	7.38	248	291	22.4	243	0.028	<0.10	0.17	0.055	<0.020	<0.010	0.0295	-	26.9
BL-235	6/5/2018	L2107105-19	408	231	7.53	4.7	279	8.6	192	0.069	<0.10	0.16	0.028	0.033	<0.010	-	-	25.6
BL-235	10/12/2018	L2181887-7	491	247	7.58	19.2	280	13.3	223	0.277	<0.10	0.2	0.034	0.042	<0.010	0.0067	-	38.5
BL-235	5/20/2021	L2592750-3	454	238	8.16	194	247	9.2	237	0.14	<0.10	0.46	0.053	0.066	<0.010	0.277	9.74	35.2
BL-235	10/17/2021	L2653721-5	537	277	7.47	69.5	310	5.5	258	0.0222	<0.10	0.84	0.049	0.035	<0.010	0.027	11.5	35.9
BL-235	8/27/2022	TY2201449	518	263	-	215	298	<2.0	237	-	<0.10	0.53	0.027	0.023	<0.010	-	10.1	32
BL-334D	10/8/2022	TY2203082	544	285	7.81	158	349	6.3	295	0.0945	<0.10	0.76	0.046	0.04	<0.010	0.0533	12.9	21
BL-385	10/15/2021	L2653721-6	399	192	7.11	38.3	235	8.4	157	0.0097	0.27	17.8	0.025	0.025	<0.010	0.0484	12.1	23.1
DDH1	9/12/2017	L1992648-5	601	320	7.57	14.5	355	18.3	313	0.162	<0.10	0.23	0.15	<0.020	<0.010	0.0191	-	52.6
DDH1	6/5/2018	L2107105-17	498	282	7.57	6.1	295	8.7	258	0.091	0.11	0.19	0.11	<0.020	<0.010	-	-	18.6
DDH1	10/12/2018	L2181887-5	492	255	7.78	6.7	251	10.3	239	0.228	<0.10	0.33	0.139	<0.020	<0.010	0.0137	-	13.9
DDH1	5/21/2021	L2592750-7	454	247	8.31	25.8	519	<2.0	250	0.028	<0.10	0.23	0.142	<0.020	<0.010	0.022	12.4	17.2
DDH1	8/30/2021	L2635314-6	453	236	8.16	18.6	205	<2.0	244	0.0341	<0.10	0.25	0.148	<0.020	<0.010	0.0185	11.5	14.3
DDH1	10/19/2021	L2653721-8	449	229	7.72	16.7	222	2.8	244	0.044	<0.10	0.2	0.158	<0.020	<0.010	0.0357	11.1	11.3
DDH1	8/27/2022	TY2201449	525	259	-	13.6	290	<2.0	248	0.103	<0.10	<0.50	0.104	<0.020	<0.010	0.016	11.9	21.9
DDH2	9/12/2017	L1992648-6	600	312	7.51	9.3	359	22.1	299	0.121	<0.10	0.43	0.089	<0.020	<0.010	0.0138	-	50.2
DDH2	6/5/2018	L2107105-18	550	311	7.62	11.3	334	9.4	289	0.111	<0.10	0.35	0.067	<0.020	<0.010	-	-	26.4
DDH2	10/12/2018	L2181887-6	518	257	7.86	25.5	264	8	276	0.866	<0.10	0.26	0.079	0.036	0.01	0.0961	-	4.38
DDH2	5/21/2021	L2592750-8	531	287	8.24	27.6	271	<2.0	303	0.89	<0.10	0.24	0.097	<0.020	<0.010	0.26	10.5	22.2
DDH2	8/30/2021	L2635314-3	532	251	8.12	46	271	<2.0	306	2.09	<0.10	0.37	0.074	<0.020	<0.010	0.217	7.88	2.2
DDH2	10/19/2021	L2653721-9	510	265	7.91	22.9	256	2.4	297	0.671	<0.10	0.16	0.074	<0.020	<0.010	0.08	7.34	0.86
DDH2	8/27/2022	TY2201449	568	310	-	20.8	320	<2.0	269	0.149	<0.10	<0.50	0.058	<0.020	<0.010	0.0393	12	26.8
DUP01	8/31/2021	L2635314-12	358	169	7.85	136	257	3.6	186	0.167	<0.10	0.27	0.035	<0.020	<0.010	0.0878	10.1	16.3
GW-DUP-01	5/24/2021	L2592750-13	447	248	8.32	22.3	230	<2.0	253	0.029	<0.10	0.23	0.158	<0.020	<0.010	0.0217	11.8	18.6

**Tabulated Groundwater Quality Data**

Gronwater Well I.D.	Date	Report	conductivity µS/cm	hardness (as CaCO3), dissolved	pH (pH units)	solids, total suspended [TSS]	solids, total dissolved [TDS]	acidity (as CaCO3)	alkalinity, total (as CaCO3)	ammonia, total (as N)	bromide	chloride	fluoride	nitrate (as N)	nitrite (as N)	phosphorus, total	silicate (as SiO2)	sulfate (as SO4)
GW-DUP-01	10/19/2021	L2653721-10	510	263	7.92	24.7	265	<2.0	297	0.656	<0.10	0.16	0.094	<0.020	<0.010	0.0749	7.31	1.1
GW-DUP-01	8/27/2022	TY2201449	513	264	-	174	288	2.6	239	0.085	<0.10	<0.50	0.022	0.024	<0.010	0.178	9.71	30.4
HG22-ME-01 (A)	10/17/2022	TY2203082	346	184	8.2	128	212	<2.0	197	0.0707	<0.10	<0.50	0.025	0.032	<0.010	0.0548	10.5	12.2
HG-22-ME-09 (B)	10/11/2022	TY2203082	346	162	8.08	555	205	<2.0	189	0.0433	<0.10	1.46	0.066	<0.020	<0.010	0.0964	11	12.9
HG22-MW007B	10/14/2022	TY2203082	1580	196	8.3	395	1220	<2.0	244	0.0354	<1.00	45.1	0.38	<0.200	<0.100	0.123	9.5	544
HG-22-MW-01 (A)	8/27/2022	TY2201449	378	173	-	2540	234	<2.0	179	-	<0.10	0.68	<0.020	0.048	<0.010	-	10.2	12.3
HG22-MW-01 (B)	10/17/2022	TY2203082	428	208	8.23	86.1	277	<2.0	169	0.03	<0.10	9.34	0.193	0.057	<0.010	0.071	9.57	64.1
HG22-MW-01(A) DUP	10/17/2022	TY2203082	348	184	8.2	124	214	<2.0	197	0.0632	<0.10	<0.50	0.024	0.034	<0.010	0.0663	10.3	11.8
HG22-MW02A	10/14/2022	TY2203082	409	218	8.26	29.4	282	<2.0	217	0.0124	<0.10	1.27	0.026	<0.020	<0.010	0.0292	12	24.4
HG22-MW02ADUP	10/14/2022	TY2203082	411	211	8.27	18.3	260	<2.0	216	0.0181	<0.10	1.31	0.026	<0.020	<0.010	0.0245	11.6	25.7
HG22-MW02B	10/14/2022	TY2203082	360	176	8.23	191	256	<2.0	190	0.0963	<0.10	1.96	0.094	<0.020	<0.010	0.0983	9.38	23.6
HG-22-MW03 (B)	10/8/2022	TY2203082	470	232	8.13	26.2	271	<2.0	209	0.0148	<0.10	1.92	0.041	3.85	<0.010	0.0277	11	26.8
HG-22-MW-03 (B)	8/27/2022	TY2201449	479	217	-	23.2	298	<2.0	180	-	<0.10	4.32	0.136	2.46	<0.010	-	10.2	43
HG22-MW03A	10/14/2022	TY2203082	462	222	8.28	151	281	<2.0	228	0.0386	<0.10	2.41	0.059	<0.020	<0.010	0.11	11.2	28.3
HG-22-MW-07 (A)	10/8/2022	TY2203082	469	162	8.23	77.6	287	<2.0	218	0.468	<0.10	3.23	0.11	<0.020	<0.010	0.0444	12.8	36.6
HG-22-MW-09 (A)	10/11/2022	TY2203082	378	174	8.13	216	244	<2.0	180	0.0405	<0.10	3.22	0.067	0.375	<0.010	0.126	15.3	25.4
HG22-MW10A	10/11/2022	TY2203082	292	139	8.1	48.2	179	<2.0	137	0.0241	<0.10	1.79	0.047	0.368	<0.010	0.0469	9.7	21.9
HG22-MW11A	10/9/2022	TY2203082	329	171	7.58	3080	258	4.2	193	0.0592	<0.10	<0.50	0.042	<0.020	<0.010	1.39	11.7	3.48
HG22-MW11ADUP	10/9/2022	TY2203082	331	166	7.54	2820	246	4.5	190	0.0413	<0.10	<0.50	0.04	<0.020	<0.010	1.32	11.8	3.44
HG22-MW11B	10/9/2022	TY2203082	390	201	8.11	54.4	233	<2.0	225	0.566	<0.10	<0.50	0.07	<0.020	<0.010	0.0668	14.3	3.78
HG22-MW12A	10/13/2022	TY2203082	349	161	8.26	342	222	<2.0	204	0.258	<0.10	0.95	0.117	<0.020	<0.010	0.168	13.3	4.87
HG22-MW12B	10/14/2022	TY2203082	348	176	8.26	182	252	<2.0	203	0.154	<0.10	0.73	0.07	<0.020	<0.010	0.146	12.9	4.91
MW1	6/5/2018	L2107105-1	136	74.4	7.03	12500	260	7.3	54.9	0.258	<0.10	0.99	0.032	2.04	<0.010	-	-	6.49
MW1	10/12/2018	L2181887-11	197	71.9	7.04	17800	218	13.8	89.2	0.219	<0.10	0.97	0.038	0.561	<0.010	24.4	-	7.1
MW1	5/22/2021	L2592750-10	324	110	7.26	166000	760	15.9	209	0.359	<0.10	8.55	0.053	0.134	<0.010	58.8	8.64	11.7
MW2	9/12/2017	L1992648-1	580	285	7.75	12000	386	15.2	353	<0.020	<0.10	0.13	0.061	<0.020	<0.010	1.99	-	5.89
MW2	6/5/2018	L2107105-2	555	343	7.59	4510	419	10	314	0.083	<0.10	0.9	0.041	0.045	<0.010	-	-	7.25
MW2	10/12/2018	L2181887-1	575	334	7.68	9900	346	16.8	318	0.064	<0.10	0.6	0.066	0.068	0.015	6.01	-	7.39
MW2	5/20/2021	L2592750-2	503	326	7.97	14100	364	12.7	958	0.0492	<0.10	0.26	0.093	<0.020	<0.010	9.89	15.1	6.51
MW2	8/29/2021	L2635314-2	557	286	7.94	21600	410	8.8	594	0.039	<0.10	0.13	0.071	0.034	<0.010	2.69	17.7	6.45
MW2	10/15/2021	L2653721-1	540	306	7.9	4010	459	10.4	351	0.0306	<0.10	0.1	0.074	<0.020	<0.010	2.23	18.2	5.99
MW2	8/27/2022	TY2201449	489	309	-	28400	358	5.1	273	<0.0050	<0.10	<0.50	0.036	0.041	<0.010	3.11	16.5	6.13
MW3	6/5/2018	L2107105-3	173	76.9	6.86	8090	276	18.8	90.5	0.427	<0.10	0.67	0.029	0.119	<0.010	-	-	1.44
MW3	10/12/2018	L2181887-2	115	66.4	6.56	1450	124	26.3	52.1	0.09	<0.10	0.28	0.021	0.104	<0.010	1.66	-	2.04
MW3	5/20/2021	L2592750-4	210	124	7.54	1840	132	17.9	125	0.58	<0.10	0.42	0.046	<0.020	<0.010	2.36	12.3	<0.30
MW3	8/30/2021	L2635314-7	233	124	6.87	2570	171	11.7	131	0.548	<0.10	0.25	0.048	0.026	<0.010	2.34	14.3	0.41
MW3	10/19/2021	L2653721-2	241	121	6.64	5310	206	15.6	129	0.73	<0.10	1.97	0.035	<0.020	<0.010	1.51	14.1	<0.30
MW3	8/27/2022	TY2201449	155	109	-	20900	175	4.6	72	0.76	<0.10	0.76	0.037	0.279	<0.010	4.02	13.1	1.23
MW4	9/12/2017	L1992648-3	240	93.5	7.7	0	0	7.8	128	0.11	<0.10	1.24	0.055	<0.020	<0.010	7.27	-	10.7
MW4	6/5/2018	L2107105-4	112	63	6.87	1890	328	10.4	55.2	0.119	<0.10	0.17	0.034	0.116	<0.010	-	-	5.43
MW4	10/12/2018	L2181887-3	156	45.6	6.7	35100	124	24	66	0.224	<0.10	0.24	0.039	0.153	0.016	17.6	-	9.59
MW4	5/21/2021	L2592750-9	82	39.7	6.87	6760	391	8.3	41.4	0.0571	<0.10	0.19	0.025	0.131	<0.010	2.91	5.56	1.71
MW4	8/30/2021	L2635314-9	107	52.2	6.9	2690	97	4.8	54.8	0.0353	<0.10	<0.10	0.026	0.045	<0.010	2.09	9.59	1.39
MW4	10/19/2021	L2653721-3	102	56.3	6.79	26000	510	5.6	52	0.135	<0.10	0.34	0.041	0.16	<0.010	9.37	8.7	0.89
MW5	9/12/2017	L1992648-4	502	285	7.49	20400	389	21	303	0.073	<0.10	0.19	0.13	<0.020	<0.010	24.9	-	17.1
MW5	6/5/2018	L2107105-20	551	315	7.73	101000	1170	11.7	315	0.038	<0.10	0.17	0.13	0.055	<0.010	-	-	19.5
MW5	10/12/2018	L2181887-4	615	314	7.64	65000	410	17.9	324	0.126	<0.10	0.26	0.161	0.119	0.01	28.7	-	23.9
MW5	5/21/2021	L2592750-6	279	153	7.95	7430	323	2.5	449	0.0466	<0.10	0.41	0.113	0.052	<0.010	3.84	8.86	6.94
MW5	8/31/2021	L2635314-10	590	290	7.85	19900	458	8.3	499	0.0137	<0.10	0.22	0.161	0.081	<0.010	7.96	15	23.2
MW5	10/19/2021	L2653721-4	602	308	7.51	4170	465	7.7	355	0.0123	<0.10	0.24	0.182	0.082	<0.010	0.87	15.9	24.5
MW5	8/27/2022	TY2201449	560	316	-	7510	456	2.6	291	0.0144	<0.10	<0.50	0.108	0.031	<0.010	2.23	15.2	22.9

### Tabulated Groundwater Quality Data

Grounwater Well I.D.	Date	Report	conductivity μS/cm	hardness (as CaCO3), dissolved	pH (pH units)	solids, total suspended [TSS]	solids, total dissolved [TDS]	acidity (as CaCO3)	alkalinity, total (as CaCO3)	ammonia, total (as N)	bromide	chloride	fluoride	nitrate (as N)	nitrite (as N)	phosphorus, total	silicate (as SiO2)	sulfate (as SO4)
MW5	10/8/2022	TY2203082	600	323	7.96	1250	407	8.2	340	0.0172	<0.20	<1.00	0.084	0.116	<0.020	1.75	15.4	26.8
SP11-064	9/13/2017	L1992648-11	379	204	7.36	<2.0	243	18.1	253	<0.020	<0.10	0.15	0.028	0.029	<0.010	0.0046	-	17.1
SP11-064	6/5/2018	L2107105-14	285	159	7.11	2.4	199	11.1	133	0.033	<0.10	0.18	0.021	0.172	<0.010	-	-	17.6
SP11-064	5/21/2021	L2592750-5	366	189	8.08	30.2	227	3.3	186	0.0171	<0.10	0.68	0.032	1.39	<0.010	0.0487	10.6	18.1
SP11-064	8/31/2021	L2635314-11	363	170	7.86	51.3	301	2.7	185	0.151	<0.10	0.28	0.039	<0.020	<0.010	0.0126	11.1	16
SP11-064	10/19/2021	L2653721-7	436	213	7.2	167	253	7.5	215	<0.0050	<0.10	0.37	0.03	0.518	<0.010	0.0503	12.8	21.6
SP11-102	9/13/2017	L1992648-9	159	74.5	7.31	573	109	9.5	79.6	0.11	<0.10	0.92	<0.020	0.08	<0.010	0.479	-	3.96
SP11-102	6/5/2018	L2107105-15	112	57.4	7.15	350	104	4.5	55.9	<0.020	<0.10	0.21	<0.020	0.096	<0.010	-	-	2.4
SP11-102	10/12/2018	L2181887-9	76.6	47	6.93	4.4	59	8.4	33.3	0.123	<0.10	0.4	<0.020	0.144	<0.010	0.0101	-	2.42
SP-FBH-01-D	9/20/2020	L2507954-11	420	210	7.92	5080	381	<2.0	487	0.0124	<0.10	0.31	0.059	<0.020	<0.010	5.1	10.2	3.14
SP-FBH-02-D	9/20/2020	L2507954-10	293	134	7.79	489	229	3.3	176	0.162	<0.10	1.46	0.147	<0.020	<0.010	0.171	12.6	9.1
SP-FBH-03-D	9/19/2020	L2507954-6	317	122	7.98	3430	305	<2.0	185	0.235	<0.10	6.64	0.164	0.089	<0.010	3.72	11.3	27.5
SP-FBH-04-D	9/20/2020	L2507954-14	379	166	7.87	358	258	<2.0	239	0.276	<0.10	1.79	0.111	<0.020	<0.010	0.289	13.6	8.02
SP-FBH-06-D	9/22/2020	L2508708-2	376	141	7.87	1480	270	6.4	200	0.0059	<0.10	6.72	0.07	<0.020	<0.010	0.847	9	26
SPFBH-07-R1-D	9/19/2020	L2507954-8	358	143	7.88	55300	306	<5.0	267	0.073	<0.10	0.49	0.148	<0.020	<0.010	61	9.7	8.97
SP-FBH-09-R1-D	9/19/2020	L2507954-5	414	191	7.74	4640	277	3.9	318	0.665	<0.10	0.82	0.185	<0.020	<0.010	3.51	12.7	11.7
SP-FBH-11-D	9/19/2020	L2507954-7	600	280	7.55	28800	420	8.2	372	3.31	<0.10	1.36	0.147	<0.020	<0.010	83.8	14.5	4.11
SP-FBH-12-D	9/20/2020	L2507954-13	369	192	7.77	27.5	254	3	247	0.613	<0.10	0.4	0.073	<0.020	<0.010	0.0492	12.9	0.7
SP-FBH-14-D	9/22/2020	L2508708-3	444	149	7.92	169000	482	5.7	799	1.53	<0.10	3.43	0.153	<0.020	<0.010	21.7	11.9	23.7
SP-GW-BL-143-D	9/16/2020	L2507837-1	290	119	8.01	<3.0	177	2	147	0.371	<0.10	0.85	0.099	0.031	<0.010	0.0058	7.8	24.7
SP-GW-BL-235	7/7/2020	L2471783-3	450	233	7.66	<3.0	292	11	230	0.38	<0.10	0.21	0.124	<0.020	<0.010	<0.050	12.9	37.2
SP-GW-BL-235	9/16/2020	L2507837-4	497	251	7.69	<3.0	319	5.7	283	0.33	<0.10	0.2	0.093	<0.020	<0.010	0.0362	12.2	39.4
SP-GW-BL-321-D	7/15/2020	L2475724-5	431	186	8.05	9	255	<2.0	247	0.754	<0.10	0.91	0.158	<0.020	<0.010	<0.050	14.7	6.34
SP-GW-BL-334-D	7/15/2020	L2475724-4	507	245	7.57	787	381	4.2	345	0.37	<0.10	0.4	0.118	<0.020	<0.010	<0.25	13.9	21.7
SP-GW-BL-334-D	9/17/2020	L2507954-1	537	265	7.65	54.4	345	11.9	325	0.201	<0.10	0.18	0.071	<0.020	<0.010	0.052	13.3	17.7
SP-GW-BL-385	7/7/2020	L2471783-4	427	201	7.74	62	276	8	193	<0.010	0.21	22.6	0.036	0.092	<0.010	<0.050	10.8	13.9
SP-GW-BL-385	9/16/2020	L2507837-3	495	242	7.72	5.8	299	5.7	264	0.0192	0.28	17	0.033	0.051	<0.010	0.0155	11.5	18.4
SP-GW-DUP-1	9/20/2020	L2507954-12	297	134	7.82	602	227	2.2	179	0.161	<0.10	1.67	0.145	<0.020	<0.010	0.164	12.4	10.5
SP-GW-DUP-2	9/22/2020	L2508708-4	441	151	7.82	137000	522	6.7	653	1.52	<0.10	3.77	0.145	<0.020	<0.010	19.4	10.5	25.7
SP-GW-DUP-4	7/15/2020	L2475724-6	505	244	7.52	1300	346	5	381	0.373	<0.10	0.31	0.104	<0.020	<0.010	<0.25	12.9	18.9
SP-GW-MW2	7/14/2020	L2475724-1	543	292	7.74	9690	454	10	452	0.027	<0.10	0.15	0.071	<0.020	<0.010	6.41	16.1	5.87
SP-GW-MW2	9/20/2020	L2507954-9	562	301	7.65	4440	496	13.3	872	0.0462	<0.10	0.13	0.07	<0.020	<0.010	2.64	16.9	5.86
SP-GW-MW3	7/14/2020	L2475724-2	174	89.8	7	2070	195	15.6	104	0.172	<0.10	0.2	0.05	<0.020	<0.010	1.31	10.7	0.52
SP-GW-MW4	7/14/2020	L2475724-3	142	71.6	6.82	32200	735	16.7	77.7	0.075	<0.10	0.12	0.051	0.057	<0.010	6.72	14	4.06
SP-GW-MW4	9/17/2020	L2507954-3	101	54.5	6.79	28100	1360	13.8	76	0.077	<0.10	<0.10	0.048	0.106	<0.010	41.2	9.3	2.84
SP-GW-MW5	9/17/2020	L2507954-2	581	306	7.61	14500	645	12.5	464	0.028	<0.10	0.2	0.166	0.23	<0.010	6.35	14.8	23.8
SP-GW-MW5	7/6/2020	L2471783-1	525	277	7.62	33900	397	19.9	366	0.012	<0.10	0.29	0.199	0.224	<0.010	3.87	12.3	22.6
SP-GW-SP11-064	7/6/2020	L2471783-2	284	138	7.24	4.6	167	15	141	<0.010	<0.10	0.17	0.047	0.08	<0.010	<0.050	10.8	17.8
SP-GW-SP11-064	9/16/2020	L2507837-2	364	175	7.5	<3.0	223	9.5	193	<0.0050	<0.10	0.29	0.032	0.373	<0.010	<0.0030	12.2	19.3
SP-GW-W3	9/17/2020	L2507954-4	222	138	6.72	12800	510	19.8	143	0.28	<0.10	0.55	0.038	<0.020	<0.010	6.45	11.9	<0.30
SPW20-002	10/17/2022	TY2203082	79.7	41.8	7.51	6.9	87	2.8	35.6	0.0234	<0.10	1.31	<0.020	0.117	<0.010	0.0044	9.72	1.67
SPW20-002	10/13/2022	TY2203082	265	123	8.19	29.8	157	<2.0	144	0.0979	<0.10	<0.50	0.083	<0.020	<0.010	0.0421	10.7	5.6
TRIP BLANK	5/24/2021	L2592750-11	6.4	<0.50	5.53	<3.0	<10	<2.0	<2.0	<0.0050	<0.10	<0.10	<0.020	<0.020	<0.010	<0.0030	0.126	<0.30
TRIP BLANK	8/30/2021	L2635314-4	<1.0	<0.50	5.73	<3.0	<10	<2.0	<2.0	0.0075	<0.10	<0.10	<0.020	<0.020	<0.010	<0.0030	1.42	<0.30
TRIP BLANK	10/19/2021	L2653721-11	<1.0	<0.50	5.49	<3.0	<10	<2.0	<2.0	<0.0050	<0.10	<0.10	<0.020	<0.020	<0.010	<0.0030	<0.50	<0.30
TRIP BLANK	8/27/2022	TY2201449	<2.0	<0.50	-	<3.0	<10	<2.0	<2.0	0.0546	<0.10	<0.50	<0.020	<0.020	<0.010	<0.0020	<0.50	<0.30
TRIP BLANK	10/8/2022	TY2203082	<2.0	<0.50	5.36	<3.0	<10	<2.0	<2.0	0.008	<0.10	<0.50	<0.020	<0.020	<0.010	<0.0020	<0.50	<0.30
FIELD BLANK	7/15/2020	L2475724-7	1.8	<0.50	5.64	<3.0	<10	<2.0	<2.0	0.206	<0.10	<0.10	<0.020	0.024	<0.010	<0.050	0.037	<0.30
FIELD BLANK	5/24/2021	L2592750-12	3.7	<0.50	5.88	<3.0	<10	<2.0	<2.0	0.0055	<0.10	<0.10	<0.020	<0.020	<0.010	<0.0030	0.212	<0.30
FIELD BLANK	8/30/2021	L2635314-5	2.7	<0.50	6.33	<3.0	<10	<2.0	<2.0	0.0581	<0.10	<0.10	<0.020	<0.020	<0.010	<0.0030	2.05	<0.30
FIELD BLANK	8/27/2022	TY2201449	5.6	<0.50	-	<3.0	<10	<2.0	2.8	0.0105	<0.10	<0.50	0.031	<0.020	<0.010	<0.0020	<0.50	<0.30

**Tabulated Groundwater Quality Data**

Grounwater Well I.D.	Date	Report	conductivity $\mu\text{S}/\text{cm}$	hardness (as $\text{CaCO}_3$ ), dissolved	pH (pH units)	solids, total suspended [TSS]	solids, total dissolved [TDS]	acidity (as $\text{CaCO}_3$ )	alkalinity, total (as $\text{CaCO}_3$ )	ammonia, total (as N)	bromide	chloride	fluoride	nitrate (as N)	nitrite (as N)	phosphorus, total	silicate (as $\text{SiO}_2$ )	sulfate (as $\text{SO}_4$ )
FIELD BLANK	10/8/2022	TY2203082	<2.0	<0.50	5.84	<3.0	<10	2.5	<2.0	0.008	<0.10	<0.50	0.025	<0.020	<0.010	<0.0020	<0.50	<0.30
FIELD BLANK	9/22/2020	L2508708-5	1.5	<0.50	6.2	<3.0	<10	<2.0	<2.0	<0.0050	<0.10	<0.10	<0.020	<0.020	<0.010	<0.0030	<0.010	<0.30
FIELD BLANK	6/5/2018	L2107105-21	500	267	7.71	2.7	287	8.7	264	0.063	<0.10	0.2	0.104	<0.020	<0.010	-	-	19.4
FIELD BLANK	7/6/2020	L2471783-5	1.4	<0.50	5.75	<3.0	<10	<2.0	<2.0	<0.010	<0.10	<0.10	<0.020	<0.020	<0.010	<0.050	<0.010	<0.30

*Notes*

*All units are mg/L unless otherwise indicated*

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	cyanide, strong acid dissociable (total)	carbon, dissolved organic [DOC]	dissolved mercury filtration location	dissolved metals filtration location	aluminum dissolved	antimony, dissolved	arsenic, dissolved	barium, dissolved	beryllium, dissolved	bismuth, dissolved	boron, dissolved	cadmium, dissolved	calcium, dissolved	cesium, dissolved	chromium dissolved	cobalt, dissolved	copper, dissolved
3134-BL0385-108M	8/24/2019	-	-	-	FIELD	0.0049	0.00086	0.00223	0.132	0.00016	<0.000050	0.016	0.0000128	82.2	0.000316	<0.00010	0.00114	<0.00020
3134-BL-310-60M	8/25/2019	-	-	-	FIELD	0.014	0.00069	0.00541	0.193	0.00018	<0.000050	0.022	0.0000156	98.6	0.000231	0.0018	0.00408	0.00436
3134-BL341-60M	8/26/2019	-	-	-	FIELD	0.043	0.00023	0.00086	0.0214	<0.00010	<0.000050	<0.010	0.00019	66.4	0.000072	0.00021	0.00135	0.00334
3134-BL354-104M	8/24/2019	-	-	-	FIELD	0.0112	0.00022	0.00072	0.00957	<0.00010	<0.000050	<0.010	0.0000115	70.8	0.000116	0.00011	0.00016	0.00502
3134-BL52-138M	8/25/2019	-	-	-	FIELD	0.0039	0.00026	0.00048	0.101	0.00039	<0.000050	0.034	0.0000175	81	0.00109	0.00099	0.00052	0.0189
3134-BL52-238M	8/25/2019	-	-	-	FIELD	0.0023	0.00056	0.00077	0.0576	0.00137	<0.000050	0.031	0.0000575	86.6	0.000615	0.00134	0.00096	0.07
3134-BL52-435M	8/25/2019	-	-	-	FIELD	0.0027	0.00074	0.00077	0.0654	0.00151	<0.000050	0.035	0.0000637	88.9	0.000764	0.00098	0.00258	0.0637
3134-BL52-60M	8/24/2019	-	-	-	FIELD	0.0032	0.00022	0.00055	0.093	0.00019	<0.000050	0.03	0.0000124	80.8	0.000993	0.00044	0.0004	0.00721
3134-BLDUP-1	8/24/2019	-	-	-	FIELD	0.0054	0.00083	0.00223	0.133	0.00014	<0.000050	0.015	0.0000108	81.9	0.000317	0.00014	0.00114	<0.00020
3134-MW2	8/26/2019	-	-	-	FIELD	0.0122	0.0034	0.00024	0.0286	<0.00010	<0.000050	<0.010	0.0000127	83.4	<0.000010	0.00466	0.00019	0.00189
BH-1000	9/13/2017	-	4.8	FIELD	FIELD	0.0232	0.00013	0.00054	0.0254	<0.00010	<0.000050	<0.010	0.0000055	26.7	0.000061	0.00031	0.00029	0.00313
BH-1000	10/12/2018	<0.0020	5.39	FIELD	FIELD	<0.0010	<0.00010	0.00462	0.108	<0.00010	<0.000050	<0.010	<0.0000050	64.9	0.000023	0.00011	<0.00010	<0.00020
BH-ESF1SD	10/12/2022	<0.0050	18	Field	Field	0.0026	<0.00010	0.00067	0.387	<0.000020	<0.000050	0.032	<0.0000050	74.8	0.00003	0.00059	0.00026	<0.00020
BH-WSF15S	10/12/2022	<0.0050	18.2	Field	Field	0.012	<0.00010	0.00379	0.175	<0.000020	<0.000050	0.03	<0.0000050	86.2	0.000021	<0.00050	0.00136	<0.00020
BH-WSF2-12D	10/11/2022	<0.0050	22.7	Field	Field	0.0426	<0.00010	0.00112	0.0429	0.00008	<0.000050	<0.010	<0.0000050	60.6	0.000057	0.00078	0.00032	<0.00020
BH-WSF2-12S	10/11/2022	<0.0050	44.1	Field	Field	0.117	<0.00010	0.00126	0.0517	0.000037	<0.000050	<0.010	<0.0000050	60.8	0.000013	0.00135	0.00015	0.0015
BH-WSF2-14D	10/16/2022	<0.0050	30.1	Field	Field	0.0881	<0.00010	0.00155	0.0777	0.000025	<0.000050	0.025	<0.0000050	86.3	0.000071	0.00088	0.00013	0.00084
BH-WSF2-14S	10/16/2022	<0.0050	76.9	Field	Field	0.056	0.00037	0.0121	0.0849	<0.000040	<0.000100	0.133	<0.0000250	28.8	<0.000020	0.0154	0.00093	0.00154
BL-0321D	10/12/2022	<0.0050	7.39	Field	Field	0.222	0.00097	0.00207	0.144	0.000029	<0.000050	0.038	<0.0000050	56.2	0.000381	<0.00050	0.00029	0.0006
BL-0321S	10/12/2022	<0.0050	40	Field	Field	0.0233	0.00017	0.00093	0.0512	<0.000020	<0.000050	0.05	<0.0000400	17.4	0.000014	<0.00050	0.00011	0.00134
BL-0334S	10/15/2022	<0.0050	10	Field	Field	0.0103	0.00032	0.00024	0.0762	<0.000020	<0.000050	0.018	0.0000306	92	0.000103	0.00109	0.00028	0.0106
BL08-385	9/13/2017	-	6.3	FIELD	FIELD	0.0053	0.00181	0.00118	0.127	<0.00010	<0.000050	<0.010	<0.0000050	81.2	0.0002	<0.00010	0.00156	0.00027
BL08-385	6/5/2018	<0.0020	12.2	FIELD	FIELD	0.0998	0.00069	0.00067	0.0293	<0.00010	<0.000050	0.01	<0.0000050	46.3	0.000067	0.00045	0.00019	0.00277
BL08-385	10/12/2018	<0.0020	8.32	FIELD	FIELD	0.0456	0.00103	0.00048	0.0476	<0.00010	<0.000050	<0.010	<0.0000050	55.3	0.000082	0.00028	0.00022	0.00212
BL08-385	5/20/2021	<0.0020	7.5	FIELD	FIELD	0.0312	0.00154	0.0021	0.0481	<0.00010	<0.000050	<0.010	<0.0000050	59.2	0.000046	0.00035	0.00115	0.00122
BL08-385	8/29/2021	<0.0020	10.2	FIELD	FIELD	0.0539	0.00171	0.00291	0.0302	<0.000020	<0.000050	0.012	<0.0000050	56.8	0.000085	0.00065	0.00085	0.0014
BL235	8/30/2021	<0.0020	7.28	FIELD	FIELD	0.0165	0.00028	0.0334	0.0613	<0.000020	<0.000050	<0.010	0.0000072	76.6	0.000142	0.0002	0.00287	0.0008
BL-235	9/12/2017	-	6.7	FIELD	FIELD	0.0075	<0.00010	0.00396	0.0602	<0.00010	<0.000050	<0.010	<0.0000050	78.2	0.000146	<0.00010	0.00144	<0.00020
BL-235	6/5/2018	<0.0020	10.7	FIELD	FIELD	0.0234	0.00027	0.0097	0.0441	<0.00010	<0.000050	<0.010	<0.0000050	70.6	0.000133	0.00025	0.00068	0.00228
BL-235	10/12/2018	<0.0020	6.48	FIELD	FIELD	0.0073	0.00017	0.00674	0.0506	<0.00010	<0.000050	<0.010	<0.0000050	76.3	0.000124	0.00011	0.00088	0.00083
BL-235	5/20/2021	<0.0020	8.01	FIELD	FIELD	0.0082	0.00024	0.0075	0.0597	<0.00010	<0.000050	<0.010	<0.0000050	71.9	0.000156	0.00017	0.00027	0.00171
BL-235	10/17/2021	<0.0020	8.77	FIELD	FIELD	0.0046	0.00024	0.00674	0.0653	<0.000020	<0.000050	<0.010	<0.0000050	86.4	0.00016	<0.00010	0.00105	0.00069
BL-235	8/27/2022	<0.0050	-	Field	Field	0.0059	0.0002	0.00752	0.0546	<0.000020	<0.000050	<0.010	<0.0000050	82.1	0.00014	<0.00050	0.00065	0.00064
BL-334D	10/8/2022	<0.0050	11.5	Field	Field	0.0107	0.00017	0.00029	0.048	<0.000020	<0.000050	0.019	0.0000233	97.4	0.000053	<0.00050	0.00058	0.00919
BL-385	10/15/2021	<0.0020	8.92	FIELD	FIELD	0.0429	0.00268	0.00809	0.0147	<0.000020	<0.000050	0.011	<0.0000050	56.5	0.000093	0.00173	0.00593	0.00121
DDH1	9/12/2017	-	4.7	FIELD	FIELD	<0.0020	<0.00010	0.00256	0.0982	<0.00010	<0.000050	<0.010	<0.0000050	85.1	0.000079	0.00011	<0.00010	<0.00020
DDH1	6/5/2018	<0.0020	4.5	FIELD	FIELD	<0.0020	<0.00010	0.00451	0.0953	<0.00010	<0.000050	<0.010	<0.0000050	75.7	0.000024	<0.00010	<0.00010	<0.00020
DDH1	10/12/2018	<0.0020	4.82	FIELD	FIELD	<0.0010	<0.00010	0.00474	0.108	<0.00010	<0.000050	<0.010	<0.0000050	66.7	0.000024	<0.00010	<0.00010	<0.00020
DDH1	5/21/2021	<0.0020	6.44	FIELD	FIELD	0.0013	<0.00010	0.00523	0.119	<0.00010	<0.000050	<0.010	<0.0000050	65.5	0.000026	<0.00010	<0.00010	0.00079
DDH1	8/30/2021	<0.0020	7.25	FIELD	FIELD	<0.0010	<0.00010	0.00511	0.103	<0.000020	<0.000050	<0.010	<0.0000050	61.2	0.000019	0.00012	<0.00010	<0.00020
DDH1	10/19/2021	<0.0020	6.62	LAB	FIELD	0.0015	<0.00010	0.00507	0.111	<0.000020	<0.000050	<0.010	<0.0000050	58.2	0.000021	<0.00010	<0.00010	0.00031
DDH1	8/27/2022	<0.0050	3.79	Field	Field	<0.0010	<0.00010	0.0053	0.106	<0.000020	<0.000050	<0.010	<0.0000050	67.8	0.00003	<0.00050	<0.00010	<0.00020
DDH2	9/12/2017	-	3.3	FIELD	FIELD	<0.0020	<0.00010	<0.00010	0.238	<0.00010	<0.000050	<0.010	<0.0000050	89.9	0.000053	<0.00010	<0.00010	<0.00020
DDH2	6/5/2018	<0.0020	3.6	FIELD	FIELD	<0.0020	<0.00010	0.00022	0.569	<0.00010	<0.000050	<0.010	<0.0000050	89.1	0.000014	<0.00010	0.00022	<0.00020
DDH2	10/12/2018	<0.0020	14.6	FIELD	FIELD	<0.0010	<0.00010	0.00029	1.48	<0.00010	<0.000050	<0.010	<0.0000050	69.6	<0.000010	0.00047	<0.00010	<0.00020
DDH2	5/21/2021	<0.0020	5.2	FIELD	FIELD	<0.0010	<0.00010	0.00056	1.03	<0.00010	<0.000050	<0.010	<0.0000050	80	0.000014	<0.00010	0.00023	0.0012
DDH2	8/30/2021	<0.0020	8.61	FIELD	FIELD	<0.0010	<0.00010	0.00048	0.717	<0.000020	<0.000050	<0.010	<0.0000050	69.2	0.000012	0.00033	<0.00010	<0.00020
DDH2	10/19/2021	<0.0020	5.82	LAB	FIELD	<0.0010	<0.00010	0.00047	0.523	<0.000020	<0.000050	<0.010	<0.0000050	71.9	<0.000010	<0.00010	<0.00010	<0.00020
DDH2	8/27/2022	<0.0050	4.52	Field	Field	0.001	<0.00010	0.00051	0.706	<0.000020	<0.000050	<0.010	<0.0000050	87.9	0.00001	<0.00050	<0.00010	<0.00020
DUP01	8/31/2021	<0.0020	4.55	FIELD	FIELD	0.0016	0.00017	0.00061	0.0666	<0.000020	<0.000050	<0.010	<0.0000050	62.3	0.000071	0.00018	0.00454	<0.00020
GW-DUP-01	5/24/2021	<0.0020	5.38	FIELD	FIELD	<0.0010	<0.00010	0.00524	0.115	<0.00010	<0.000050	<0.010	<0.0000050	64.8	0.000026	<0.00010	<0.00010	<0.00020

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	cyanide, strong acid dissociable (total)	carbon, dissolved organic [DOC]	dissolved mercury filtration location	dissolved metals filtration location	aluminum dissolved	antimony, dissolved	arsenic, dissolved	barium, dissolved	beryllium, dissolved	bismuth, dissolved	boron, dissolved	cadmium, dissolved	calcium, dissolved	cesium, dissolved	chromium dissolved	cobalt, dissolved	copper, dissolved
GW-DUP-01	10/19/2021	<0.0020	5.59	FIELD	FIELD	0.0011	<0.00010	0.0005	0.57	<0.000020	<0.000050	<0.010	<0.0000050	71.8	<0.000010	<0.00010	<0.00010	<0.00020
GW-DUP-01	8/27/2022	<0.0050	6.72	Field	Field	0.0058	0.00019	0.00809	0.0536	<0.000020	<0.000050	<0.010	<0.0000050	82.3	0.000142	<0.00050	0.00065	0.00061
HG22-ME-01 (A)	10/17/2022	<0.0050	4.81	Field	Field	0.0069	0.0001	0.00054	0.0268	<0.000020	<0.000050	<0.010	0.000006	66.2	0.000032	<0.00050	0.00037	0.00246
HG-22-ME-09 (B)	10/11/2022	<0.0050	7.15	Field	Field	0.0047	0.00058	0.00114	0.0272	<0.000020	<0.000050	<0.010	0.0000083	50.5	0.000014	<0.00050	0.00054	0.0009
HG22-MW007B	10/14/2022	<0.0050	56.8	Laboratory	Laboratory	0.0264	0.00116	0.00131	0.0728	<0.000020	<0.000050	0.114	<0.0000300	56.6	0.00003	<0.00050	0.00056	0.00179
HG-22-MW-01 (A)	8/27/2022	<0.0050	7.56	Field	Field	0.021	0.00015	0.00041	0.0157	<0.000020	<0.000050	<0.010	<0.0000050	64.9	0.000014	<0.00050	0.00065	0.00452
HG22-MW-01 (B)	10/17/2022	<0.0050	11.4	Field	Field	0.0097	0.00125	0.00083	0.0538	<0.000020	<0.000050	0.039	0.0000086	58.9	<0.000010	<0.00050	0.00018	0.00251
HG22-MW-01(A) DUP	10/17/2022	<0.0050	4.39	Field	Field	0.0083	0.0001	0.00052	0.0334	<0.000020	<0.000050	<0.010	0.0000057	66.1	0.000032	<0.00050	0.00038	0.00413
HG22-MW02A	10/14/2022	<0.0050	4.75	Field	Field	0.0097	0.00052	0.00102	0.0747	<0.000020	<0.000050	0.011	0.0000103	75.6	<0.000010	<0.00050	0.00348	0.00577
HG22-MW02ADUP	10/14/2022	<0.0050	5.08	Field	Field	0.0086	0.00052	0.00099	0.0571	<0.000020	<0.000050	0.011	0.0000124	73.7	<0.000010	<0.00050	0.00348	0.00269
HG22-MW02B	10/14/2022	<0.0050	11.2	Field	Field	0.0145	0.00102	0.00153	0.0414	<0.000020	<0.000050	0.125	<0.0000050	56.4	<0.000010	<0.00050	0.00038	0.0012
HG-22-MW03 (B)	10/8/2022	<0.0050	4.18	Field	Field	0.0069	0.0005	0.0003	0.0618	<0.000020	<0.000050	0.011	0.0000077	77.1	<0.000010	<0.00050	0.00035	0.00357
HG-22-MW-03 (B)	8/27/2022	<0.0050	-	Field	Field	0.0089	0.00039	0.0003	0.032	<0.000020	<0.000050	0.016	<0.0000050	72.4	<0.000010	<0.00050	0.00038	0.00072
HG22-MW03A	10/14/2022	<0.0050	7.79	Field	Field	0.0289	0.00078	0.0037	0.0364	<0.000020	<0.000050	0.048	0.0000268	68.4	0.00005	<0.00050	0.00048	0.00104
HG-22-MW-07 (A)	10/8/2022	<0.0050	7.23	Field	Field	0.0166	0.00033	0.00061	0.0666	<0.000020	<0.000050	0.124	<0.0000100	33.4	<0.000010	<0.00050	0.00031	0.00089
HG-22-MW-09 (A)	10/11/2022	<0.0050	6.43	Field	Field	0.0119	0.00038	0.00044	0.0408	<0.000020	<0.000050	0.011	<0.0000050	61.1	<0.000010	<0.00050	0.00018	0.00147
HG22-MW10A	10/11/2022	<0.0050	7.41	Field	Field	0.01	0.00047	0.00095	0.0557	<0.000020	<0.000050	<0.010	0.0000064	46.1	<0.000010	<0.00050	0.00018	0.00451
HG22-MW11A	10/9/2022	<0.0050	14.5	Field	Field	0.0172	<0.00010	0.0006	0.0308	<0.000020	<0.000050	<0.010	0.000022	49.1	<0.000010	0.00052	0.00296	0.00474
HG22-MW11ADUP	10/9/2022	<0.0050	14.5	Field	Field	0.0206	<0.00010	0.00059	0.0392	<0.000020	<0.000050	<0.010	0.0000197	47	<0.000010	<0.00050	0.00291	0.00617
HG22-MW11B	10/9/2022	<0.0050	5.82	Field	Field	0.0057	<0.00010	0.00046	0.173	<0.000020	<0.000050	0.025	<0.0000050	55.2	0.000418	<0.00050	0.00034	0.0026
HG22-MW12A	10/13/2022	<0.0050	4.2	Field	Field	0.0089	0.00038	0.00084	0.125	<0.000020	<0.000050	0.018	<0.0000050	43.2	0.000165	<0.00050	0.00021	0.00323
HG22-MW12B	10/14/2022	<0.0050	3.57	Field	Field	0.009	0.00025	0.00048	0.0681	<0.000020	<0.000050	0.013	<0.0000050	49.4	0.000051	<0.00050	0.0003	0.00109
MW1	6/5/2018	<0.0020	24.5	LAB	LAB	0.171	0.00024	0.00095	0.00842	<0.00010	<0.000050	<0.010	0.0000141	22.4	<0.000010	0.00057	<0.00010	0.00393
MW1	10/12/2018	<0.0020	33	FIELD	FIELD	0.203	<0.00050	0.00097	0.012	<0.000050	<0.000025	<0.050	<0.000025	22	<0.000050	0.00097	<0.00050	0.0053
MW1	5/22/2021	<0.10	28.8	FIELD	FIELD	0.173	0.00036	0.0013	0.0177	<0.00010	<0.000050	0.014	0.000184	32.8	0.000014	0.00067	0.00212	0.00481
MW2	9/12/2017	-	5.4	FIELD	FIELD	0.0044	0.00037	0.00149	0.0405	<0.00010	<0.000050	<0.010	<0.0000050	84	<0.000010	<0.00010	0.0013	0.0004
MW2	6/5/2018	<0.0020	5.2	LAB	LAB	0.0075	0.0002	0.00033	0.0297	<0.00010	<0.000050	<0.010	0.0000885	102	<0.000010	<0.00010	0.00026	0.00157
MW2	10/12/2018	<0.0020	6.22	LAB	LAB	0.0048	0.00025	0.0004	0.0336	<0.00010	<0.000050	<0.010	0.0000786	98.1	<0.000010	<0.00010	0.00038	0.00214
MW2	5/20/2021	<0.0020	4.91	FIELD	FIELD	0.423	0.00027	0.0004	0.0313	<0.00010	<0.000050	0.01	0.0000197	96	0.000037	0.00111	0.00079	0.00391
MW2	8/29/2021	<0.0020	5.71	FIELD	FIELD	0.0066	<0.00010	0.00018	0.0219	<0.000020	<0.000050	<0.010	0.0000143	82.9	<0.000010	0.00013	<0.00010	0.00093
MW2	10/15/2021	<0.0020	6.2	FIELD	FIELD	0.0034	0.00013	0.00137	0.0242	<0.000020	<0.000050	0.012	0.0000107	88.7	<0.000010	<0.00010	<0.00010	0.00187
MW2	8/27/2022	<0.0050	-	Field	Field	<0.0010	<0.00010	0.0002	0.0229	<0.000020	<0.000050	<0.010	0.0000052	91.2	<0.000010	<0.00050	<0.00010	0.00097
MW3	6/5/2018	<0.020	28.2	LAB	LAB	0.0844	0.0001	0.00118	0.0368	<0.00010	<0.000050	<0.010	<0.0000050	24.4	0.000024	0.0003	0.00017	0.00157
MW3	10/12/2018	<0.0020	30.8	LAB	LAB	0.114	0.00013	0.00077	0.0215	<0.00010	<0.000050	<0.010	0.0000075	20.8	<0.000010	0.00027	<0.00010	0.00107
MW3	5/20/2021	<0.0020	37.7	FIELD	FIELD	0.0756	0.00047	0.0118	0.0628	<0.00010	<0.000050	<0.010	0.0000103	39	0.000019	0.00082	0.00102	0.00034
MW3	8/30/2021	<0.0020	42.6	FIELD	FIELD	0.13	<0.00010	0.0135	0.0694	0.000034	<0.000050	0.015	0.0000143	39.6	<0.000010	0.00102	0.00111	0.00089
MW3	10/19/2021	<0.10	47.3	FIELD	FIELD	0.0964	<0.00010	0.0188	0.0566	0.000024	<0.000050	0.013	0.0000088	38.3	<0.000010	0.00091	0.00112	0.00091
MW3	8/27/2022	<0.0200	51.4	Field	Field	0.15	<0.00100	0.0203	0.0577	<0.000200	<0.000500	<0.100	<0.0000500	35.2	<0.000100	<0.00500	<0.00100	<0.00200
MW4	9/12/2017	-	0	0	LAB	0.0314	0.00016	0.0004	0.0251	<0.00010	<0.000050	<0.010	0.0000082	32.7	<0.000010	0.0003	<0.00010	0.00923
MW4	6/5/2018	<0.0020	13.5	LAB	LAB	0.0951	<0.00010	0.00025	0.0169	<0.00010	<0.000050	<0.010	<0.0000050	21.9	<0.000010	0.0003	<0.00010	0.00882
MW4	10/12/2018	<0.0020	24.4	FIELD	FIELD	0.0616	<0.00020	0.00045	0.0126	<0.00020	<0.00010	<0.020	<0.000010	15.8	<0.000020	0.00025	<0.00020	0.00683
MW4	5/21/2021	<0.020	22.8	FIELD	FIELD	0.0639	<0.00010	0.0003	0.0104	<0.00010	<0.000050	<0.010	0.0000052	14.2	<0.000010	0.00022	<0.00010	0.0019
MW4	8/30/2021	<0.0020	23.3	FIELD	FIELD	0.0505	<0.00010	0.00035	0.0147	<0.000020	<0.000050	<0.010	0.0000061	18.5	<0.000010	0.00026	<0.00010	0.00271
MW4	10/19/2021	<0.10	20	FIELD	FIELD	0.0468	<0.00010	0.00148	0.0161	<0.000020	<0.000050	<0.010	0.0000215	19.4	<0.000010	0.00016	0.00019	0.00588
MW5	9/12/2017	-	3.9	LAB	LAB	0.0037	<0.00010	0.00057	0.052	<0.00010	<0.000050	<0.010	0.0000502	93.2	<0.000010	<0.00010	0.00268	0.0005
MW5	6/5/2018	<0.020	5.2	LAB	LAB	0.0056	<0.00010	0.00022	0.0408	<0.00010	<0.000050	<0.010	0.0000152	103	<0.000010	<0.00010	<0.00010	0.00146
MW5	10/12/2018	<0.0020	5.15	FIELD	FIELD	0.0026	<0.00010	0.00016	0.0446	<0.00010	<0.000050	<0.010	0.0000279	102	<0.000010	<0.00010	0.00029	0.00104
MW5	5/21/2021	<0.010	23.5	FIELD	FIELD	0.502	<0.00010	0.00051	0.0255	<0.00010	<0.000050	<0.010	0.000032	48.8	0.000069	0.00134	0.00067	0.00592
MW5	8/31/2021	<0.0020	5.12	FIELD	FIELD	0.0028	<0.00010	0.00012	0.0417	<0.000020	<0.000050	<0.010	0.0000082	94	<0.000010	0.00023	<0.00010	0.00118
MW5	10/19/2021	<0.0020	6.95	FIELD	FIELD	0.0171	<0.00010	0.00119	0.0421	<0.000020	<0.000050	<0.010	0.0000117	99	<0.000010	0.00027	<0.00010	0.0012
MW5	8/27/2022	<0.0050	5.3	Field	Field	0.002	<0.00010	0.00015	0.0431	<0.000020	<0.000050	<0.010	<0.0000050	103	<0.000010	<0.00050	<0.00010	0.00104

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	cyanide, strong acid dissociable (total)	carbon, dissolved organic [DOC]	dissolved mercury filtration location	dissolved metals filtration location	aluminum dissolved	antimony, dissolved	arsenic, dissolved	barium, dissolved	beryllium, dissolved	bismuth, dissolved	boron, dissolved	cadmium, dissolved	calcium, dissolved	cesium, dissolved	chromium dissolved	cobalt, dissolved	copper, dissolved
MW5	10/8/2022	<0.0050	5.18	Field	Field	0.175	<0.00010	0.00026	0.0547	<0.000020	<0.000050	<0.010	0.0000137	102	0.000031	0.00084	0.00021	0.00269
SP11-064	9/13/2017	-	5	LAB	LAB	0.0028	<0.00010	0.00019	0.0153	<0.00010	<0.000050	<0.010	0.0000395	77.7	0.000071	<0.00010	<0.00010	0.00406
SP11-064	6/5/2018	<0.0020	5.3	FIELD	FIELD	0.0078	<0.00010	0.00016	0.00526	<0.00010	<0.000050	<0.010	0.0000231	60.8	0.000046	0.0002	<0.00010	0.0064
SP11-064	5/21/2021	<0.0020	6.45	FIELD	FIELD	0.0071	0.00011	0.00031	0.0188	<0.00010	<0.000050	<0.010	0.0000382	72.1	0.000052	0.00026	0.00016	0.00544
SP11-064	8/31/2021	<0.0020	4.53	FIELD	FIELD	0.0016	0.00013	0.00042	0.0685	<0.000020	<0.000050	<0.010	0.0000102	63.1	0.000071	0.00015	0.00372	<0.00020
SP11-064	10/19/2021	<0.0020	5.28	FIELD	FIELD	0.0043	<0.00010	0.00148	0.022	<0.000020	<0.000050	<0.010	0.0000186	80.8	0.000069	<0.00010	0.00015	0.00233
SP11-102	9/13/2017	-	4.8	FIELD	FIELD	0.0253	0.00017	0.00054	0.0269	<0.00010	<0.000050	<0.010	<0.0000050	26.9	0.000058	0.00033	0.00029	0.00312
SP11-102	6/5/2018	<0.0020	5.4	FIELD	FIELD	0.0411	<0.00010	0.00039	0.00857	<0.00010	<0.000050	<0.010	<0.0000050	21.6	0.000044	0.0006	<0.00010	0.00423
SP11-102	10/12/2018	<0.0020	4.7	FIELD	FIELD	0.0808	<0.00010	0.00032	0.0129	<0.00010	<0.000050	<0.010	<0.0000050	17.4	0.000053	0.00056	0.00025	0.00423
SP-FBH-01-D	9/20/2020	<0.0020	5.4	FIELD	FIELD	0.0232	0.0004	0.00198	0.0319	<0.00010	<0.000050	<0.010	0.0000162	72.1	0.000102	0.00021	0.0002	0.0042
SP-FBH-02-D	9/20/2020	<0.0020	<5.0	FIELD	FIELD	0.012	0.00091	0.00103	0.0349	<0.00010	<0.000050	0.013	<0.0000050	38.7	0.000029	0.00015	0.00018	<0.00020
SP-FBH-03-D	9/19/2020	<0.0020	20	FIELD	FIELD	0.0244	0.00021	0.00553	0.017	<0.00010	<0.000050	<0.010	0.0000051	38.3	0.000034	0.00014	0.00019	0.00133
SP-FBH-04-D	9/20/2020	<0.0020	5.2	FIELD	FIELD	0.0063	0.00197	0.00218	0.0465	<0.00010	<0.000050	0.082	<0.0000050	53.4	0.000055	0.00012	0.00038	<0.00020
SP-FBH-06-D	9/22/2020	<0.0020	17.8	FIELD	FIELD	0.0146	0.00157	0.00255	0.123	<0.00010	<0.000050	0.054	0.0000209	46.6	0.00002	0.00016	0.00119	0.00275
SPFBH-07-R1-D	9/19/2020	<0.0020	<5.0	FIELD	FIELD	0.0316	0.00058	0.00057	0.0104	<0.00010	<0.000050	0.012	0.0000091	41.9	0.000072	0.00012	0.00067	0.00165
SP-FBH-09-R1-D	9/19/2020	<0.0020	14.8	FIELD	FIELD	0.161	0.00061	0.00135	0.171	<0.00010	<0.000050	0.029	<0.0000050	54	0.00119	0.00031	0.00017	<0.00020
SP-FBH-11-D	9/19/2020	<0.0020	27.7	FIELD	FIELD	0.0051	0.00032	0.00343	0.574	<0.00010	<0.000050	0.023	<0.0000050	81	0.000982	0.00046	0.00028	0.00043
SP-FBH-12-D	9/20/2020	<0.0020	21.7	FIELD	FIELD	0.0244	0.00038	0.0004	0.0504	<0.00010	<0.000050	<0.010	<0.0000050	61.1	0.00007	0.00032	0.00019	0.00023
SP-FBH-14-D	9/22/2020	<0.0020	7.4	FIELD	FIELD	0.0065	0.00081	0.00161	0.0744	<0.00010	<0.000050	0.013	<0.0000050	48.9	0.000123	0.00027	0.00011	0.00142
SP-GW-BL-143-D	9/16/2020	<0.020	8.5	FIELD	FIELD	0.0024	<0.00010	0.0014	0.132	0.00049	<0.000050	0.022	<0.0000050	35.1	0.000409	0.00085	<0.00010	0.00061
SP-GW-BL-235	7/7/2020	<0.0020	21.6	FIELD	FIELD	0.0277	<0.00010	0.0021	0.114	0.00018	<0.000050	<0.010	<0.0000050	71.4	0.000298	<0.00050	0.00047	0.00033
SP-GW-BL-235	9/16/2020	<0.0020	12.6	FIELD	FIELD	0.0191	<0.00010	0.00236	0.115	0.00013	<0.000050	<0.010	<0.0000050	76.9	0.000295	0.00028	0.00044	<0.00020
SP-GW-BL-321-D	7/15/2020	<0.0020	8.9	FIELD	FIELD	0.0042	<0.00010	0.00181	0.119	<0.00010	<0.000050	0.047	<0.0000050	52.7	0.000204	0.00015	0.00012	<0.00020
SP-GW-BL-334-D	7/15/2020	<0.0020	14.3	FIELD	FIELD	0.0067	<0.00010	0.00036	0.0868	<0.00010	<0.000050	0.026	0.000011	77.4	0.000079	0.00028	0.00188	0.00208
SP-GW-BL-334-D	9/17/2020	<0.0020	10.9	FIELD	FIELD	0.0097	<0.00010	0.00032	0.0747	<0.00010	<0.000050	0.019	0.0000152	88.7	0.000049	0.00037	0.00118	0.00889
SP-GW-BL-385	7/7/2020	<0.0020	14.1	FIELD	FIELD	0.0284	0.00111	0.001	0.0552	<0.00010	<0.000050	0.01	<0.0000050	62.5	0.000109	<0.00050	0.00023	0.00143
SP-GW-BL-385	9/16/2020	<0.0020	6	LAB	FIELD	0.009	0.00161	0.00138	0.0953	<0.00010	<0.000050	0.012	<0.0000050	74	0.000132	0.00018	0.00065	0.00096
SP-GW-DUP-1	9/20/2020	<0.0020	<5.0	FIELD	FIELD	0.0097	0.00089	0.00098	0.0339	<0.00010	<0.000050	0.012	0.0000051	38.3	0.000028	0.00011	0.00018	<0.00020
SP-GW-DUP-2	9/22/2020	<0.0020	9.1	FIELD	FIELD	0.0067	0.00081	0.00157	0.0764	<0.00010	<0.000050	0.013	<0.0000050	50.1	0.000128	0.00026	<0.00010	0.00136
SP-GW-DUP-4	7/15/2020	<0.0020	14.9	FIELD	FIELD	0.008	<0.00010	0.00037	0.086	<0.00010	<0.000050	0.028	0.00001	77	0.000071	0.00029	0.00195	0.00213
SP-GW-MW2	7/14/2020	<0.0020	5.3	FIELD	FIELD	0.0012	<0.00010	0.00017	0.0225	<0.00010	<0.000050	<0.010	0.000006	84.2	<0.000010	<0.00010	0.0001	0.0008
SP-GW-MW2	9/20/2020	<0.0020	<5.0	FIELD	FIELD	0.0035	<0.00010	0.00023	0.0314	<0.00010	<0.000050	0.011	0.0000051	86.8	<0.000010	0.00013	0.00012	0.00355
SP-GW-MW3	7/14/2020	<0.0020	40.7	FIELD	FIELD	0.12	<0.00010	0.00696	0.0414	<0.00010	<0.000050	<0.010	0.000008	28.2	<0.000010	0.00059	0.00103	0.0003
SP-GW-MW4	7/14/2020	<0.010	21.7	FIELD	FIELD	0.0489	<0.00010	0.0003	0.0245	<0.00010	<0.000050	<0.010	0.000022	24.7	<0.000010	0.00026	0.00011	0.00828
SP-GW-MW4	9/17/2020	<0.0020	23.7	FIELD	FIELD	0.048	<0.00010	0.00034	0.0169	<0.00010	<0.000050	<0.010	0.0000131	18.7	<0.000010	0.00032	<0.00010	0.00586
SP-GW-MW5	9/17/2020	<0.0020	5.9	FIELD	FIELD	0.156	<0.00010	0.00024	0.0552	<0.00010	<0.000050	<0.010	0.0000162	98.3	0.000027	0.00061	0.00028	0.00448
SP-GW-MW5	7/6/2020	<0.0020	8.7	FIELD	FIELD	0.0148	<0.00010	0.0002	0.0365	<0.00010	<0.000050	<0.010	0.0000079	90.8	<0.000010	<0.00050	<0.00010	0.00156
SP-GW-SP11-064	7/6/2020	<0.0020	12.3	FIELD	FIELD	0.0157	<0.00010	0.00017	0.0104	<0.00010	<0.000050	<0.010	0.0000322	53	0.000057	<0.00050	0.0001	0.00686
SP-GW-SP11-064	9/16/2020	<0.0020	7.9	FIELD	FIELD	0.0055	<0.00010	0.00018	0.0168	<0.00010	<0.000050	<0.010	0.0000363	66.8	0.000084	0.00014	<0.00010	0.00559
SP-GW-W3	9/17/2020	<0.010	64.2	FIELD	FIELD	0.204	0.0001	0.00837	0.0611	<0.00010	<0.000050	<0.010	0.0000172	43.3	0.000011	0.00099	0.00161	0.00063
SPW20-002	10/17/2022	<0.0050	20.4	Field	Field	0.149	<0.00010	0.00055	0.0062	<0.000020	<0.000050	<0.010	<0.0000050	14.6	0.00002	<0.00050	<0.00010	0.00112
SPW20-002	10/13/2022	<0.0050	4.97	Field	Field	0.0054	0.00018	0.00679	0.0218	<0.000020	<0.000050	<0.010	<0.0000050	37	0.000051	<0.00050	0.00043	0.0003
TRIP BLANK	5/24/2021	<0.0020	0.56	FIELD	FIELD	<0.0010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00010	<0.00010	<0.00020
TRIP BLANK	8/30/2021	<0.0020	<0.50	FIELD	FIELD	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00010	<0.00010	<0.00020
TRIP BLANK	10/19/2021	<0.0020	<0.50	FIELD	FIELD	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00010	<0.00010	<0.00020
TRIP BLANK	8/27/2022	<0.0050	-	Field	Field	<0.0010	<0.00010	<0.00010	<0.00010	<0.000020	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00050	<0.00010	<0.00020
TRIP BLANK	10/8/2022	<0.0050	<0.50	Field	Field	0.0022	<0.00010	<0.00010	0.00027	<0.000020	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00050	<0.00010	<0.00020
FIELD BLANK	7/15/2020	<0.0020	<0.50	FIELD	FIELD	<0.0010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00010	<0.00010	<0.00020
FIELD BLANK	5/24/2021	<0.0020	0.53	FIELD	FIELD	<0.0010	<0.00010	<0.00010	0.00047	<0.00010	<0.000050	<0.010	<0.0000050	0.058	0.000012	0.00072	<0.00010	<0.00020
FIELD BLANK	8/30/2021	<0.0020	0.77	FIELD	FIELD	0.0161	<0.00010	<0.00010	0.00213	<0.000020	<0.000050	<0.010	0.0000112	0.081	<0.000010	0.00021	<0.00010	0.00062
FIELD BLANK	8/27/2022	<0.0050	<0.50	Field	Field	<0.0010	<0.00010	<0.00010	0.00051	<0.000020	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00050	<0.00010	0.00029

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	cyanide, strong acid dissociable (total)	carbon, dissolved organic [DOC]	dissolved mercury filtration location	dissolved metals filtration location	aluminum, dissolved	antimony, dissolved	arsenic, dissolved	barium, dissolved	beryllium, dissolved	bismuth, dissolved	boron, dissolved	cadmium, dissolved	calcium, dissolved	cesium, dissolved	chromium, dissolved	cobalt, dissolved	copper, dissolved
FIELD BLANK	10/8/2022	<0.0050	<0.50	Field	Field	<0.0010	<0.00010	<0.00010	0.00035	<0.000020	<0.000050	<0.010	<0.0000050	0.054	<0.000010	<0.00050	<0.00010	0.00098
FIELD BLANK	9/22/2020	<0.0020	<0.50	FIELD	FIELD	<0.0010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00010	<0.00010	0.00028
FIELD BLANK	6/5/2018	<0.0020	4.4	FIELD	FIELD	<0.0020	<0.00010	0.00454	0.0935	<0.00010	<0.000050	<0.010	<0.0000050	71.3	0.000033	0.00012	<0.00010	<0.00020
FIELD BLANK	7/6/2020	<0.0020	<0.50	FIELD	FIELD	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.010	<0.0000050	<0.050	<0.000010	<0.00050	<0.00010	<0.00020

*Notes*

*All units are mg/L unless otherwise indicated*

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	iron, dissolved	lead, dissolved	lithium, dissolved	magnesium, dissolved	manganese, dissolved	mercury, dissolved	molybdenum, dissolved	nickel, dissolved	phosphorus, dissolved	potassium, dissolved	rubidium, dissolved	selenium, dissolved	silicon, dissolved	silver, dissolved	sodium, dissolved	strontium, dissolved	sulfur, dissolved	tellurium, dissolved	thallium, dissolved	thorium, dissolved
3134-BL0385-108M	8/24/2019	0.951	<0.000050	0.0019	14.6	0.272	-	0.00488	0.0017	<0.050	1.14	0.00194	0.000105	5.55	<0.000010	3.65	1.29	9.56	<0.00020	<0.000010	<0.00010
3134-BL-310-60M	8/25/2019	0.773	<0.000050	0.0025	19	0.904	-	0.00161	0.00381	<0.050	1.82	0.00267	0.000126	5.83	<0.000010	8.52	0.932	12.3	<0.00020	<0.000010	<0.00010
3134-BL341-60M	8/26/2019	0.127	0.000303	0.0012	15.1	0.402	-	0.00209	0.00244	<0.050	2.04	0.0038	0.00009	4.05	0.000012	1.13	0.27	12.1	<0.00020	0.000042	<0.00010
3134-BL354-104M	8/24/2019	0.07	<0.000050	0.002	11.8	0.0197	-	0.000205	0.002	<0.050	0.609	0.00117	0.00018	5.47	<0.000010	1.33	0.17	7.16	<0.00020	<0.000010	<0.00010
3134-BL52-138M	8/25/2019	0.035	<0.000050	0.0023	19.3	0.104	-	0.00115	0.00124	<0.050	1.62	0.00235	0.00009	5.75	<0.000010	8.63	3.71	13.6	<0.00020	0.000012	<0.00010
3134-BL52-238M	8/25/2019	0.012	<0.000050	0.0021	19.4	0.204	-	0.00108	0.00294	<0.050	1.09	0.00188	0.000206	5.78	<0.000010	8.44	1.41	16.1	<0.00020	0.000012	<0.00010
3134-BL52-435M	8/25/2019	0.012	<0.000050	0.0025	19.3	0.423	-	0.00127	0.00371	<0.050	1.23	0.00222	0.000136	5.86	<0.000010	10.3	1.62	17.8	<0.00020	0.000014	<0.00010
3134-BL52-60M	8/24/2019	0.048	<0.000050	0.0022	18.7	0.0844	-	0.00111	0.00098	<0.050	1.56	0.00219	0.000082	5.62	<0.000010	7.68	3.5	13.3	<0.00020	<0.000010	<0.00010
3134-BLDUP-1	8/24/2019	0.944	<0.000050	0.0019	14.9	0.267	-	0.00464	0.0017	<0.050	1.15	0.002	0.000091	5.64	<0.000010	3.59	1.27	9.46	<0.00020	<0.000010	<0.00010
3134-MW2	8/26/2019	0.027	<0.000050	0.0047	19.7	0.0317	-	0.000692	0.00291	<0.050	1.26	0.00119	<0.000050	7.73	0.000015	5.23	0.0956	2.4	<0.00020	<0.000010	<0.00010
BH-1000	9/13/2017	0.026	<0.000050	<0.0010	1.63	0.0185	0.000005	0.000755	0.00094	<0.050	0.679	0.00108	0.000068	5.25	<0.000010	1.17	0.0636	1.09	<0.00020	<0.000010	<0.00010
BH-1000	10/12/2018	6.01	<0.000050	0.0027	20.9	0.397	<0.0000050	0.00244	<0.00050	<0.050	1.76	0.00315	0.000216	6.18	<0.000010	2.57	0.216	4.84	<0.00020	<0.000010	<0.00010
BH-ESF1SD	10/12/2022	4.11	<0.000050	0.0098	17	0.184	<0.0000050	0.00106	0.00222	0.053	4.56	0.0033	0.00008	8.37	<0.000010	36.5	0.872	3.36	<0.00020	<0.000010	<0.00010
BH-WSF15S	10/12/2022	6.34	<0.000050	0.0089	17.5	0.196	<0.0000050	0.00128	0.00312	<0.050	3.09	0.00111	0.00006	11.7	<0.000010	21.1	0.602	1.08	<0.00020	<0.000010	<0.00010
BH-WSF2-12D	10/11/2022	0.856	<0.000050	0.0018	9.2	0.201	<0.0000050	0.000741	0.00314	<0.050	1.93	0.00142	0.000091	6.34	<0.000010	2.28	0.167	2.13	<0.00020	<0.000010	0.00013
BH-WSF2-12S	10/11/2022	3.58	0.000088	0.0024	8.14	0.431	<0.0000050	0.000169	0.00158	0.094	2.36	0.00331	0.000088	8.01	<0.000010	7.41	0.165	2.87	<0.00020	<0.000010	0.00016
BH-WSF2-14D	10/16/2022	1.98	<0.000050	0.0052	10.8	0.419	<0.0000050	0.000462	0.00064	0.095	3.71	0.00216	0.000108	9.74	<0.000010	67.6	0.277	35.8	<0.00020	<0.000010	<0.00010
BH-WSF2-14S	10/16/2022	0.271	<0.000100	0.0097	4.77	0.184	<0.0000050	0.139	0.00179	0.179	2.85	0.00045	<0.000100	3.26	<0.000020	356	0.41	145	<0.00040	<0.000020	<0.00020
BL-0321D	10/12/2022	2.23	0.000206	0.0034	15	0.166	<0.0000050	0.00187	0.00073	0.062	4.41	0.00399	<0.000050	7.88	0.000044	15.9	0.78	1.46	<0.00020	<0.000010	0.00013
BL-0321S	10/12/2022	0.057	0.000085	0.0015	4.72	0.0503	<0.0000050	0.155	0.002	<0.050	2.59	0.00123	<0.000050	2.75	<0.000010	152	0.751	48.7	<0.00020	<0.000010	<0.00010
BL-0334S	10/15/2022	0.034	0.000087	0.0026	11.2	0.0344	<0.0000050	0.00243	0.0041	<0.050	3.9	0.00698	0.00469	5.97	<0.000010	3.66	0.635	11	<0.00020	<0.000010	<0.00010
BL08-385	9/13/2017	0.41	<0.000050	0.0013	13.9	0.274	<0.0000050	0.00914	0.0023	<0.050	0.954	0.00179	0.000091	5.49	<0.000010	2.4	0.92	7.58	<0.00020	<0.000010	<0.00010
BL08-385	6/5/2018	0.321	<0.000050	0.0013	9.67	0.0217	0.0000099	0.000191	0.00081	<0.050	0.664	0.00111	0.000165	5.26	<0.000010	1.57	0.0933	3.02	<0.00020	0.000013	0.00017
BL08-385	10/12/2018	2.09	<0.000050	<0.0010	11.8	0.0421	0.0000077	0.000239	0.00092	<0.050	0.774	0.00119	0.000158	5.5	<0.000010	1.97	0.126	4.55	<0.00020	<0.000010	<0.00010
BL08-385	5/20/2021	1.03	<0.000050	<0.0010	11.7	0.0506	<0.0000050	0.00177	0.00771	<0.050	0.678	0.00112	0.00018	4.96	<0.000010	2.55	0.125	4.43	<0.00020	<0.000010	<0.00010
BL08-385	8/29/2021	2.1	<0.000050	<0.0010	11.9	0.0539	<0.0000050	0.000873	0.00358	<0.030	0.829	0.00157	0.000166	6.22	<0.000010	3.01	0.114	6.31	<0.00020	<0.000010	<0.00010
BL235	8/30/2021	1.23	0.000225	0.0013	13.6	0.634	0.0000066	0.000825	0.00259	<0.030	1.57	0.00188	<0.000050	5.43	<0.000010	1.25	0.522	12.2	<0.00020	0.000018	<0.00010
BL-235	9/12/2017	0.442	<0.000050	0.0017	12.2	0.483	<0.0000050	0.00106	0.00124	<0.050	1.64	0.00168	0.000051	4.72	<0.000010	1.2	0.48	8.58	<0.00020	<0.000010	<0.00010
BL-235	6/5/2018	0.244	<0.000050	0.0018	13.2	0.157	0.0000098	0.00106	0.00259	<0.050	1.33	0.00174	0.000083	4.39	<0.000010	1.04	0.413	9.06	<0.00020	0.000013	<0.00010
BL-235	10/12/2018	0.229	<0.000050	0.0014	13.6	0.291	<0.0000050	0.00103	0.00168	<0.050	1.52	0.00185	<0.000050	4.8	<0.000010	1.04	0.481	11.7	<0.00020	0.000018	<0.00010
BL-235	5/20/2021	0.221	<0.000050	0.0015	14.1	0.101	0.0000051	0.00126	0.00122	<0.050	1.51	0.00198	0.000073	4.88	<0.000010	1.36	0.498	11.4	<0.00020	<0.000010	<0.00010
BL-235	10/17/2021	0.14	<0.000050	0.002	14.9	0.345	<0.0000050	0.00118	0.00164	<0.030	1.91	0.00181	<0.000050	5.61	<0.000010	1.58	0.572	12	<0.00020	0.000019	<0.00010
BL-235	8/27/2022	0.205	<0.000050	0.0011	14.2	0.21	<0.0000050	0.000946	0.00161	<0.050	1.59	0.0018	0.000064	5.03	<0.000010	1.2	0.511	10.9	<0.00020	0.000016	<0.00010
BL-334D	10/8/2022	0.033	<0.000050	0.0017	10.1	0.0595	<0.0000050	0.00182	0.00253	<0.050	2.71	0.00776	0.000712	6.39	<0.000010	4.16	0.461	6.81	<0.00020	0.00003	<0.00010
BL-385	10/15/2021	1.96	<0.000050	0.0011	12.4	0.0353	0.0000186	0.0058	0.0418	<0.030	0.88	0.00166	0.000083	6.27	<0.000010	2.89	0.102	6.25	<0.00020	<0.000010	<0.00010
DDH1	9/12/2017	3.46	<0.000050	0.0048	26.2	0.305	<0.0000050	0.00219	<0.00050	<0.050	1.95	0.00243	<0.000050	6.52	<0.000010	3.22	0.604	16.9	<0.00020	<0.000010	<0.00010
DDH1	6/5/2018	6.67	<0.000050	0.0035	22.7	0.415	<0.0000050	0.00217	<0.00050	<0.050	1.76	0.00277	<0.000050	6.44	<0.000010	2.49	0.234	5.83	<0.00020	<0.000010	<0.00010
DDH1	10/12/2018	6.09	<0.000050	0.0028	21.5	0.4	<0.0000050	0.00245	<0.00050	<0.050	1.76	0.0031	0.000166	6.23	<0.000010	2.55	0.221	5.38	<0.00020	<0.000010	<0.00010
DDH1	5/21/2021	5.07	<0.000050	0.0027	20.4	0.401	<0.0000050	0.00285	<0.00050	<0.050	1.6	0.00309	<0.000050	5.94	<0.000010	2.58	0.238	5.89	<0.00020	<0.000010	<0.00010
DDH1	8/30/2021	4.47	<0.000050	0.0026	20.3	0.369	<0.0000050	0.00282	<0.00050	<0.030	1.51	0.0029	0.000123	5.95	<0.000010	2.35	0.219	5.62	<0.00020	<0.000010	<0.00010
DDH1	10/19/2021	4.39	<0.000050	0.0027	20.3	0.383	<0.0000050	0.00264	<0.00050	<0.030	1.72	0.00367	<0.000050	5.61	<0.000010	2.52	0.202	3.3	<0.00020	<0.000010	<0.00010
DDH1	8/27/2022	3.86	<0.000050	0.0026	21.7	0.363	<0.0000050	0.00293	<0.00050	<0.050	1.58	0.00305	<0.000050	5.72	<0.000010	2.44	0.241	6.63	<0.00020	<0.000010	<0.00010
DDH2	9/12/2017	2.77	<0.000050	0.0041	21.2	0.166	<0.0000050	0.00517	<0.00050	<0.050	2.57	0.00213	<0.000050	6.64	<0.000010	3.38	0.956	17	<0.00020	<0.000010	<0.00010
DDH2	6/5/2018	8.37	<0.000050	0.0044	21.6	0.238	<0.0000050	0.00345	<0.00050	<0.050	1.95	0.00133	<0.000050	6.31	<0.000010	2.59	0.471	8.24	<0.00020	<0.000010	<0.00010
DDH2	10/12/2018	10.9	<0.000050	0.0038	20.2	0.311	<0.0000050	0.00605	<0.00050	0.312	2.37	0.00272	0.000373	4.53	<0.000010	2.64	0.27	1.66	<0.00020	<0.000010	<0.00010
DDH2	5/21/2021	7.31	<0.000050	0.0038	21.1	0.261	<0.0000050	0.00543	<0.00050	<0.050	1.88	0.00165</									

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	iron, dissolved	lead, dissolved	lithium, dissolved	magnesium, dissolved	manganese, dissolved	mercury, dissolved	molybdenum, dissolved	nickel, dissolved	phosphorus, dissolved	potassium, dissolved	rubidium, dissolved	selenium, dissolved	silicon, dissolved	silver, dissolved	sodium, dissolved	strontium, dissolved	sulfur, dissolved	tellurium, dissolved	thallium, dissolved	thorium, dissolved
GW-DUP-01	10/19/2021	4.71	<0.000050	0.0036	20.4	0.274	<0.0000050	0.0105	<0.00050	<0.030	1.58	0.00127	<0.000050	3.86	<0.000010	2.41	0.28	<0.50	<0.00020	<0.000010	<0.00010
GW-DUP-01	8/27/2022	0.23	<0.000050	0.0014	14.1	0.212	<0.0000050	0.00101	0.00159	<0.050	1.59	0.00185	0.000059	4.83	<0.000010	1.18	0.522	10.2	<0.00020	0.000016	<0.00010
HG22-ME-01 (A)	10/17/2022	0.204	<0.000050	<0.0010	4.66	0.104	0.0000061	0.000776	<0.00050	<0.050	0.948	0.00119	0.000148	5.33	<0.000010	2.54	0.174	3.97	<0.00020	<0.000010	<0.00010
HG-22-ME-09 (B)	10/11/2022	<0.010	<0.000050	0.0033	8.76	0.134	<0.0000050	0.00215	0.00174	<0.050	1.71	0.00126	0.000143	5.29	<0.000010	10.7	0.276	4.61	<0.00020	<0.000010	<0.00010
HG22-MW007B	10/14/2022	<0.010	<0.000050	0.0298	13.2	0.118	<0.0000050	0.0292	0.00588	<0.050	5.23	0.00144	0.00262	4.89	<0.000010	305	0.361	187	<0.00020	0.000032	<0.00010
HG-22-MW-01 (A)	8/27/2022	0.108	<0.000050	<0.0010	2.58	0.0988	<0.0000050	0.00111	<0.00050	<0.050	0.532	0.00068	0.000415	5.03	<0.000010	4.81	0.111	3.94	<0.00020	<0.000010	<0.00010
HG22-MW-01 (B)	10/17/2022	<0.010	<0.000050	0.0106	14.7	0.0209	<0.0000050	0.00911	0.00219	<0.050	3.55	0.00087	0.00108	4.94	<0.000010	13.1	0.159	21	<0.00020	<0.000010	<0.00010
HG22-MW-01(A) DUP	10/17/2022	0.199	<0.000050	<0.0010	4.67	0.102	0.0000072	0.000726	<0.00050	<0.050	0.939	0.00119	0.000167	5.24	<0.000010	2.54	0.172	3.9	<0.00020	<0.000010	<0.00010
HG22-MW02A	10/14/2022	<0.010	0.000069	0.0024	7.07	0.835	<0.0000050	0.00237	0.00239	<0.050	2.45	0.00072	0.000516	6.1	<0.000010	8.25	0.149	8.84	<0.00020	<0.000010	<0.00010
HG22-MW02ADUP	10/14/2022	<0.010	<0.000050	0.0024	6.59	0.835	<0.0000050	0.00233	0.0024	<0.050	2.28	0.00076	0.000483	5.98	<0.000010	7.85	0.144	9.03	<0.00020	<0.000010	<0.00010
HG22-MW02B	10/14/2022	0.013	<0.000050	0.0043	8.51	0.0482	<0.0000050	0.00255	0.00118	<0.050	2.76	0.00133	0.000394	4.76	<0.000010	13.8	0.198	7.9	<0.00020	<0.000010	<0.00010
HG-22-MW03 (B)	10/8/2022	<0.010	0.000092	0.0033	9.69	0.0399	<0.0000050	0.00174	0.00121	<0.050	1.55	0.00067	0.000296	5.22	<0.000010	2.91	0.13	9.78	<0.00020	<0.000010	<0.00010
HG-22-MW-03 (B)	8/27/2022	<0.010	<0.000050	0.0036	8.87	0.0273	<0.0000050	0.00299	0.00067	<0.050	1.45	0.00053	0.000335	4.69	<0.000010	8.36	0.12	12.1	<0.00020	<0.000010	<0.00010
HG22-MW03A	10/14/2022	0.074	<0.000050	0.0047	12.4	0.111	<0.0000050	0.00216	0.00108	<0.050	1.77	0.0008	0.00022	5.89	<0.000010	11.6	0.265	9.43	<0.00020	<0.000010	<0.00010
HG-22-MW-07 (A)	10/8/2022	0.02	<0.000050	0.0066	19	0.036	<0.0000050	0.00839	0.0021	<0.050	3.69	0.00188	0.000319	6.33	<0.000010	38.9	0.7	12.3	<0.00020	0.000012	<0.00010
HG-22-MW-09 (A)	10/11/2022	0.012	<0.000050	0.003	5.28	0.0482	<0.0000050	0.00121	0.00086	<0.050	1.33	0.00096	0.000369	7.36	<0.000010	10.3	0.104	8.13	<0.00020	<0.000010	<0.00010
HG22-MW10A	10/11/2022	<0.010	0.00007	0.0028	5.79	0.0125	<0.0000050	0.00173	0.00089	<0.050	1.3	0.00047	0.000478	4.55	<0.000010	4.7	0.139	7.88	<0.00020	<0.000010	<0.00010
HG22-MW11A	10/9/2022	0.192	0.00007	0.0027	11.8	0.875	0.000011	0.00378	0.00491	<0.050	3.06	0.00078	0.000085	5.77	0.000011	1.99	0.0778	1.17	<0.00020	<0.000010	0.00011
HG22-MW11ADUP	10/9/2022	0.192	0.000117	0.0026	11.9	0.851	0.0000123	0.0036	0.0049	<0.050	3.08	0.00077	0.000083	5.78	0.000014	2.15	0.0771	1.28	<0.00020	<0.000010	0.00011
HG22-MW11B	10/9/2022	0.287	<0.000050	0.0043	15.4	0.122	<0.0000050	0.000735	0.00085	<0.050	3.76	0.00331	<0.000050	7.04	<0.000010	8.75	0.343	1.31	<0.00020	<0.000010	<0.00010
HG22-MW12A	10/13/2022	0.303	0.000089	0.0041	13	0.0647	<0.0000050	0.00136	<0.00050	<0.050	4.51	0.00295	<0.000050	6.43	<0.000010	9.78	0.214	1.65	<0.00020	<0.000010	<0.00010
HG22-MW12B	10/14/2022	0.144	<0.000050	0.0032	12.9	0.067	<0.0000050	0.00109	0.00106	<0.050	3.23	0.00186	0.000086	6.37	<0.000010	6.8	0.178	1.67	<0.00020	<0.000010	<0.00010
MW1	6/5/2018	0.157	0.000096	0.0022	4.51	0.00309	0.0000116	0.000636	0.00188	<0.050	1.31	0.00048	0.00014	3.97	<0.000010	3.25	0.0478	2.42	<0.00020	0.000011	0.00024
MW1	10/12/2018	0.179	0.00028	<0.0050	4.12	0.0172	0.0000237	0.001	<0.0025	<0.25	1.89	<0.0010	<0.00025	4.47	<0.000050	3.82	0.062	<2.5	<0.0010	<0.000050	<0.00050
MW1	5/22/2021	0.491	0.00178	0.0021	6.74	0.0499	0.0000071	0.000513	0.00325	<0.050	1.81	0.00129	0.00013	4.33	<0.000010	5.26	0.111	3.7	<0.00020	0.000013	0.00036
MW2	9/12/2017	1.45	<0.000050	0.0057	18.2	0.36	0.000496	0.00137	0.00179	<0.050	1.58	0.00127	<0.000050	7.23	<0.000010	2.92	0.0935	2.32	<0.00020	<0.000010	<0.00010
MW2	6/5/2018	<0.010	<0.000050	0.0056	21.6	0.0431	0.000009	0.000702	0.0019	<0.050	1.2	0.00106	<0.000050	7.6	<0.000010	3.04	0.108	2.37	<0.00020	<0.000010	<0.00010
MW2	10/12/2018	<0.010	<0.000050	0.0056	21.6	0.0982	<0.0000050	0.00075	0.00198	<0.050	1.6	0.00105	0.000067	8.32	<0.000010	3.2	0.106	1.93	<0.00020	<0.000010	<0.00010
MW2	5/20/2021	0.585	0.0005	0.0056	20.9	0.089	<0.0000050	0.000342	0.00247	0.1	1.2	0.00192	<0.000050	7.92	<0.000010	2.96	0.106	3.19	<0.00020	<0.000010	0.00047
MW2	8/29/2021	<0.010	<0.000050	0.0047	19.3	0.0299	<0.0000050	0.000622	0.00098	<0.030	1.07	0.00083	<0.000050	9.06	<0.000010	3.1	0.102	1.74	<0.00020	<0.000010	<0.00010
MW2	10/15/2021	<0.010	<0.000050	0.0054	20.4	0.0293	<0.0000050	0.000732	0.00112	<0.030	1.13	0.00084	<0.000050	8.9	<0.000010	3.47	0.0969	1.74	<0.00020	<0.000010	<0.00010
MW2	8/27/2022	<0.010	<0.000050	0.0052	19.7	0.017	<0.0000050	0.000542	0.00089	<0.050	1.06	0.00086	0.000057	8.34	<0.000010	3.12	0.0982	1.95	<0.00020	<0.000010	<0.00010
MW3	6/5/2018	0.314	0.00016	0.0014	3.86	0.0533	0.0000062	0.000245	0.0006	<0.050	0.76	0.00227	0.000082	4.28	<0.000010	1.11	0.139	0.81	<0.00020	0.000017	<0.00010
MW3	10/12/2018	0.415	0.000144	<0.0010	3.49	0.0259	0.0000058	0.000093	0.00065	<0.050	0.237	0.00113	0.000069	4.09	<0.000010	0.698	0.11	<0.50	<0.00020	<0.000010	<0.00010
MW3	5/20/2021	11.3	0.000069	0.0014	6.4	1.03	<0.0000050	0.000837	0.00156	<0.050	0.995	0.00104	0.000079	6.05	<0.000010	1.56	0.227	<0.50	<0.00020	<0.000010	0.00029
MW3	8/30/2021	13.3	0.000188	0.0012	6.15	1.47	0.0000055	0.000433	0.00082	<0.030	1.26	0.00202	0.00009	7.7	<0.000010	1.75	0.259	<0.50	<0.00020	<0.000010	0.00033
MW3	10/19/2021	15.3	0.000218	0.0014	6.07	1.69	<0.0000050	0.000569	0.00079	0.034	1.3	0.00188	0.000088	7.42	<0.000010	2.41	0.243	<0.50	<0.00020	<0.000010	0.00035
MW3	8/27/2022	13.5	<0.000500	<0.0100	5.09	1.35	<0.0000050	<0.000500	<0.00500	<0.500	0.899	<0.00200	<0.000500	6.75	<0.000100	1.07	0.205	<5.00	<0.00200	<0.000100	<0.00100
MW4	9/12/2017	0.136	0.000177	0.0016	2.86	0.0119	0	0.00249	0.00137	<0.050	2.22	0.00284	0.000151	5.55	<0.000010	7.03	0.0741	3.62	<0.00020	0.000014	0.00015
MW4	6/5/2018	0.079	<0.000050	0.0011	2.04	0.00322	<0.0000050	0.000806	0.00144	<0.050	0.92	0.00076	0.000069	4.66	<0.000010	1.29	0.0369	1.8	<0.00020	<0.000010	<0.00010
MW4	10/12/2018	0.081	0.00014	<0.0020	1.47	0.0565	0.0000074	0.0004	0.0014	<0.10	0.61	0.00046	<0.00010	4.04	<0.000020	0.92	0.0256	2.4	<0.00040	<0.000020	<0.00020
MW4	5/21/2021	0.059	<0.000050	<0.0010	1.03	0.00336	0.0000066	0.000167	<0.00050	<0.050	0.567	0.00091	0.000092	2.55	<0.000010	0.777	0.0273	<0.50	<0.00020	<0.000010	<0.00010
MW4	8/30/2021	0.036	<0.000050	<0.0010	1.46	0.00942	<0.0000050	0.000266	0.00083	<0.030	0.388	0.00057	0.00009	4.64	<0.000010	0.926	0.0376	<0.50	<0.00020	<0.000010	<0.00010
MW4	10/19/2021	0.065	<0.000050	<0.0010	1.88	0.449	<0.0000050	0.00128	0.00277	<0.030	0.789	0.00078	0.000074	4.74	<0.000010	1.15	0.0333	<0.50	<0.00020	<0.000010	<0.00010
MW5	9/12/2017	<0.010	<0.000050	0.0099	12.8	0.799	<0.0000050	0.00887	0.00423	<0.050	3.11	0.00029	0.000102	5.69	<0.000010	3.05	0.128	6.08	<0.00020	<0.000010	<0.00010
MW5	6/5/2018	<0.010	<0.0000																		

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	iron, dissolved	lead, dissolved	lithium, dissolved	magnesium, dissolved	manganese, dissolved	mercury, dissolved	molybdenum, dissolved	nickel, dissolved	phosphorus, dissolved	potassium, dissolved	rubidium, dissolved	selenium, dissolved	silicon, dissolved	silver, dissolved	sodium, dissolved	strontium, dissolved	sulfur, dissolved	tellurium, dissolved	thallium, dissolved	thorium, dissolved
MW5	10/8/2022	0.239	0.000165	0.0092	16.6	0.0086	<0.000050	0.00361	0.00078	<0.050	1.6	0.00108	0.00133	7.99	<0.000010	4.04	0.149	10	<0.00020	<0.000010	<0.00010
SP11-064	9/13/2017	0.02	<0.000050	<0.0010	2.48	0.0121	<0.000050	0.000632	<0.00050	<0.050	0.315	0.00088	0.000086	5.55	<0.000010	1.43	0.119	6.14	<0.00020	<0.000010	<0.00010
SP11-064	6/5/2018	0.022	<0.000050	<0.0010	1.68	0.00534	0.0000054	0.000358	<0.00050	<0.050	0.195	0.00058	0.000111	4.8	<0.000010	1.26	0.0874	6.17	<0.00020	<0.000010	<0.00010
SP11-064	5/21/2021	0.087	0.000051	<0.0010	2.23	0.0374	<0.000050	0.000714	0.00053	<0.050	0.254	0.00072	0.000162	5.11	<0.000010	1.5	0.117	5.87	<0.00020	<0.000010	<0.00010
SP11-064	8/31/2021	3.73	<0.000050	<0.0010	3.12	0.279	<0.000050	0.00254	0.00304	<0.030	0.773	0.00119	<0.000050	5.65	<0.000010	1.84	0.187	5.31	<0.00020	<0.000010	<0.00010
SP11-064	10/19/2021	0.095	<0.000050	<0.0010	2.76	0.0351	<0.000050	0.00124	0.00068	<0.030	0.327	0.00098	0.000102	6.16	<0.000010	1.84	0.134	6.96	<0.00020	<0.000010	<0.00010
SP11-102	9/13/2017	0.027	<0.000050	<0.0010	1.75	0.0203	<0.000050	0.000836	0.00101	<0.050	0.683	0.00109	0.000071	5.29	<0.000010	1.19	0.0698	1.14	<0.00020	<0.000010	<0.00010
SP11-102	6/5/2018	0.02	<0.000050	<0.0010	0.845	0.00046	0.0000081	0.000233	<0.00050	<0.050	0.489	0.0009	0.000099	5.11	<0.000010	0.944	0.0228	0.65	<0.00020	<0.000010	<0.00010
SP11-102	10/12/2018	0.034	<0.000050	<0.0010	0.854	0.0041	<0.000050	0.000204	0.00111	<0.050	0.5	0.00134	0.000063	5.07	<0.000010	0.89	0.0226	0.53	<0.00020	<0.000010	<0.00010
SP-FBH-01-D	9/20/2020	0.072	<0.000050	0.0017	7.35	0.0545	0.0000072	0.000672	0.00052	<0.050	2.53	0.00333	0.00007	4.54	<0.000010	1.93	0.187	1	<0.00020	<0.000010	<0.00010
SP-FBH-02-D	9/20/2020	0.193	<0.000050	0.0028	9.11	0.16	0.0000051	0.00135	0.00057	<0.050	2.26	0.00131	0.000092	5.91	<0.000010	10.8	0.127	5.09	<0.00020	<0.000010	<0.00010
SP-FBH-03-D	9/19/2020	0.131	0.000133	0.0037	6.31	0.272	<0.000050	0.00846	0.00058	<0.050	2.56	0.00192	0.000155	5.54	<0.000010	18.6	0.215	12.5	<0.00020	<0.000010	<0.00010
SP-FBH-04-D	9/20/2020	0.053	<0.000050	0.0045	7.83	0.186	<0.000050	0.00213	0.0013	<0.050	2.33	0.0021	0.000267	6.16	<0.00010	14.7	0.316	2.49	<0.00020	<0.000010	<0.00010
SP-FBH-06-D	9/22/2020	0.02	<0.000050	0.0164	5.96	0.904	0.0000106	0.0137	0.00283	<0.050	5.17	0.00142	0.000237	3.65	<0.000010	36.5	0.149	15.7	<0.00020	0.000011	<0.00010
SPFBH-07-R1-D	9/19/2020	0.111	0.000051	0.0029	9.28	0.153	<0.000050	0.00254	0.00058	<0.050	1.09	0.00144	0.000078	5.13	0.000013	11	0.15	3.23	<0.00020	0.000016	<0.00010
SP-FBH-09-R1-D	9/19/2020	0.935	0.000061	0.0051	13.6	0.076	<0.000050	0.00105	0.00062	<0.050	2.93	0.00483	<0.000050	6.34	<0.000010	12.4	0.567	3.85	<0.00020	<0.000010	<0.00010
SP-FBH-11-D	9/19/2020	2.74	<0.000050	0.0118	18.9	0.263	<0.000050	0.00114	0.00079	<0.050	4.5	0.00351	0.000085	10.5	<0.000010	12.7	0.405	1.52	<0.00020	<0.000010	<0.00010
SP-FBH-12-D	9/20/2020	1.14	<0.000050	0.0027	9.46	0.165	0.000005	0.000189	<0.00050	<0.050	1.97	0.00168	0.000146	6.2	<0.000010	3.52	0.171	<0.50	<0.00020	<0.000010	<0.00010
SP-FBH-14-D	9/22/2020	0.154	0.000069	0.004	6.44	0.14	<0.000050	0.00497	<0.00050	<0.050	3.17	0.00237	0.000113	6.21	<0.000010	17.2	0.213	5.61	<0.00020	<0.000010	<0.00010
SP-GW-BL-143-D	9/16/2020	2.16	<0.000050	0.0033	7.5	0.157	<0.000050	0.00484	0.0006	<0.050	1.88	0.00189	0.000186	3.71	<0.000010	12	0.31	8.17	<0.00020	<0.000010	<0.00010
SP-GW-BL-235	7/7/2020	1.84	<0.000050	0.0023	13.2	0.571	<0.000050	0.00107	<0.00050	<0.050	1.83	0.00232	0.00057	5.77	<0.000050	1.94	0.505	12.4	<0.00020	<0.000010	<0.00010
SP-GW-BL-235	9/16/2020	1.75	<0.000050	0.003	14.4	0.56	<0.000050	0.000907	0.0005	<0.050	1.91	0.00225	0.000331	5.75	<0.000010	1.74	0.54	13.9	<0.00020	<0.000010	<0.00010
SP-GW-BL-321-D	7/15/2020	0.928	<0.000050	0.0035	13.2	0.17	<0.000050	0.00279	<0.00050	<0.050	4.31	0.00345	<0.000050	7.05	<0.000010	18.6	0.646	3.23	<0.00020	<0.000010	<0.00010
SP-GW-BL-334-D	7/15/2020	0.266	<0.000050	0.0032	12.5	0.172	<0.000050	0.00178	0.00077	<0.050	4.33	0.00515	0.000176	6.18	<0.000010	11.3	1	6.72	<0.00020	<0.000010	<0.00010
SP-GW-BL-334-D	9/17/2020	0.045	<0.000050	0.0026	10.4	0.0762	0.0000052	0.00136	0.00148	<0.050	3.28	0.00584	0.000385	6.24	<0.000010	4.78	0.623	7.41	<0.00020	0.000019	<0.00010
SP-GW-BL-385	7/7/2020	0.133	<0.000050	<0.0010	10.9	0.0358	<0.000050	0.000259	0.00103	<0.050	0.696	0.00128	0.000257	5.09	<0.000050	3.04	0.191	4.78	<0.00020	<0.000010	<0.00010
SP-GW-BL-385	9/16/2020	0.172	<0.000050	0.0017	14	0.126	<0.000050	0.00403	0.00205	<0.050	0.854	0.00143	0.000132	5.44	<0.000010	3.71	0.492	6.27	<0.00020	<0.000010	<0.00010
SP-GW-DUP-1	9/20/2020	0.187	<0.000050	0.0028	9.26	0.162	<0.000050	0.00135	0.0006	<0.050	2.29	0.00124	0.000062	5.76	<0.000010	11	0.129	4.77	<0.00020	<0.000010	<0.00010
SP-GW-DUP-2	9/22/2020	0.151	0.000064	0.0041	6.38	0.14	<0.000050	0.00499	<0.00050	<0.050	3.22	0.00231	0.000131	6.2	<0.000010	16.9	0.213	5.43	<0.00020	<0.000010	<0.00010
SP-GW-DUP-4	7/15/2020	0.396	<0.000050	0.0032	12.6	0.173	<0.000050	0.00184	0.00078	<0.050	4.15	0.00495	0.000136	6.29	<0.000010	11.2	0.981	7.01	<0.00020	<0.000010	<0.00010
SP-GW-MW2	7/14/2020	<0.010	<0.000050	0.0052	19.8	0.0233	<0.000050	0.000459	0.00074	<0.050	0.958	0.0007	<0.000050	7.85	<0.000010	2.8	0.099	1.73	<0.00020	<0.000010	<0.00010
SP-GW-MW2	9/20/2020	<0.010	0.000146	0.0059	20.4	0.0367	<0.000050	0.000703	0.00086	<0.050	1.1	0.00081	<0.000050	8.31	<0.000010	2.97	0.0967	2.1	<0.00020	<0.000010	<0.00010
SP-GW-MW3	7/14/2020	4.79	0.000166	0.0012	4.69	1.14	<0.000050	0.000328	0.00067	<0.050	0.513	0.00161	0.000083	4.8	<0.000010	0.88	0.175	<0.50	<0.00020	<0.000010	0.00019
SP-GW-MW4	7/14/2020	0.058	0.000099	0.001	2.38	0.131	<0.000050	0.00089	0.00199	<0.050	0.992	0.00119	0.000091	4.77	<0.000010	1.35	0.0471	1.51	<0.00020	<0.000010	<0.00010
SP-GW-MW4	9/17/2020	0.085	<0.000050	0.001	1.88	0.0777	<0.000050	0.000621	0.00175	<0.050	0.783	0.00063	0.000079	4.62	<0.000010	1.11	0.0333	1.83	<0.00020	<0.000010	<0.00010
SP-GW-MW5	9/17/2020	0.276	0.000256	0.0102	14.8	0.0117	<0.000050	0.00384	0.00086	<0.050	1.81	0.00073	0.00144	7.1	<0.000010	3.61	0.139	8.28	<0.00020	<0.000010	<0.00010
SP-GW-MW5	7/6/2020	0.015	<0.000050	0.0076	12.3	0.00142	<0.000050	0.00298	<0.00050	<0.050	1.18	0.00097	0.00164	6.34	<0.000050	3.35	0.126	7.3	<0.00020	<0.000010	<0.00010
SP-GW-SP11-064	7/6/2020	0.023	<0.000050	<0.0010	1.38	0.00504	0.0000078	0.000341	0.00064	<0.050	0.224	0.00069	0.000135	4.85	<0.000050	1.12	0.09	5.83	<0.00020	<0.000010	<0.00010
SP-GW-SP11-064	9/16/2020	0.032	0.000058	<0.0010	2	0.00694	0.0000061	0.000457	0.00051	<0.050	0.302	0.00094	0.000171	5.53	<0.000010	1.52	0.114	6.68	<0.00020	<0.000010	<0.00010
SP-GW-W3	9/17/2020	4.34	0.00029	0.0016	7.21	1.35	0.000009	0.000421	0.00124	<0.050	1.47	0.00304	0.000161	5.83	<0.000010	1.21	0.246	<0.50	<0.00020	<0.000010	0.00019
SPW20-002	10/17/2022	0.047	<0.000050	<0.0010	1.3	0.00154	<0.000050	<0.000050	0.0008	<0.050	0.728	0.00218	0.00008	4.9	<0.000010	0.844	0.0248	0.57	<0.00020	<0.000010	<0.00010
SPW20-002	10/13/2022	0.422	<0.000050	0.0035	7.49	0.0657	<0.000050	0.00414	0.00112	<0.050	2.63	0.00134	<0.000050	5.1	<0.000010	6.32	0.178	1.76	<0.00020	<0.000010	<0.00010
TRIP BLANK	5/24/2021	<0.010	<0.000050	<0.0010	<0.0050	<0.00010	<0.000050	<0.000050	<0.00050	<0.050	<0.050	<0.00020	<0.000050	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.00020	<0.000010	<0.00010
TRIP BLANK	8/30/2021	<0.010	<0.000050	<0.0010	<0.0050	<0.00010	<0.000050	<0.000050	<0.00050	<0.030	<0.050	<0.00020	<0.000050	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.00020	<0.000010	<0.00010
TRIP BLANK	10/19/2021	<0.010	<0.000050	<0.0010	<0.0050	<0.00010	<0.000050	<0.000050	<0.00050	<0.030	<0.050	<0.00020	<0.000050	<0.050	<0.000010	<0.050	<0.00020	<0.50	<0.00020	&lt	

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	iron, dissolved	lead, dissolved	lithium, dissolved	magnesium, dissolved	manganese, dissolved	mercury, dissolved	molybdenum, dissolved	nickel, dissolved	phosphorus, dissolved	potassium, dissolved	rubidium, dissolved	selenium, dissolved	silicon, dissolved	silver, dissolved	sodium, dissolved	strontium, dissolved	sulfur, dissolved	tellurium, dissolved	thallium, dissolved	thorium, dissolved
FIELD BLANK	10/8/2022	<0.010	<0.000050	<0.0010	<0.0050	0.00011	<0.0000050	<0.000050	<0.00050	<0.050	<0.050	<0.00020	<0.000050	<0.050	<0.000010	0.164	<0.00020	<0.50	<0.00020	<0.000010	<0.00010
FIELD BLANK	9/22/2020	<0.010	<0.000050	<0.0010	<0.0050	<0.00010	<0.0000050	<0.000050	<0.00050	<0.050	<0.050	<0.00020	<0.000050	0.145	<0.000010	<0.050	<0.00020	<0.50	<0.00020	<0.000010	<0.00010
FIELD BLANK	6/5/2018	6.5	<0.000050	0.0033	21.5	0.402	<0.0000050	0.00222	<0.00050	<0.050	1.66	0.00277	0.000074	6.32	<0.000010	2.44	0.233	6.31	<0.00020	<0.000010	<0.00010
FIELD BLANK	7/6/2020	<0.010	<0.000050	<0.0010	<0.0050	<0.00050	<0.0000050	<0.000050	<0.00050	<0.050	<0.050	<0.00020	<0.000050	<0.050	<0.000050	<0.050	<0.0010	<0.50	<0.00020	<0.000010	<0.00010

*Notes*

*All units are mg/L unless otherwise indicated*

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	tin, dissolved	titanium, dissolved	tungsten, dissolved	uranium, dissolved	vanadium , dissolved	zinc, dissolved	zirconium , dissolved	Ra-226
3134-BL0385-108M	8/24/2019	<0.00010	<0.00030	0.0013	0.000279	<0.00050	0.0498	0.000652	-
3134-BL-310-60M	8/25/2019	<0.00010	<0.00066	0.00207	0.000463	0.00088	0.095	0.00467	-
3134-BL341-60M	8/26/2019	<0.00010	0.00087	0.00094	0.000738	<0.00050	0.0751	0.00186	-
3134-BL354-104M	8/24/2019	<0.00010	<0.00030	0.00011	0.000058	<0.00050	0.136	0.000089	-
3134-BL52-138M	8/25/2019	<0.00010	<0.00030	0.00272	0.000215	<0.00050	0.179	0.00131	-
3134-BL52-238M	8/25/2019	<0.00010	<0.00030	0.00094	0.000284	<0.00050	0.687	0.000324	-
3134-BL52-435M	8/25/2019	<0.00010	<0.00030	0.00107	0.000307	<0.00050	0.438	0.000333	-
3134-BL52-60M	8/24/2019	<0.00010	<0.00030	0.00225	0.000239	<0.00050	0.0891	0.00117	-
3134-BLDUP-1	8/24/2019	<0.00010	<0.00030	0.00122	0.000257	<0.00050	0.0493	0.000665	-
3134-MW2	8/26/2019	0.00022	0.00059	<0.00010	0.000443	0.00176	0.0214	0.000139	-
BH-1000	9/13/2017	<0.00010	<0.00030	0.00653	0.000118	<0.00050	0.0751	0.000138	-
BH-1000	10/12/2018	<0.00010	<0.00030	0.00287	0.000407	<0.00050	<0.0010	0.000132	-
BH-ESF1SD	10/12/2022	0.00016	<0.00030	0.00565	0.000833	0.00093	0.0013	<0.00030	-
BH-WSF15S	10/12/2022	<0.00010	0.00047	0.00114	0.000156	0.00069	0.0014	<0.00030	-
BH-WSF2-12D	10/11/2022	0.00016	0.00139	0.00011	0.000378	0.00136	0.004	0.00366	-
BH-WSF2-12S	10/11/2022	0.00023	0.0077	0.0004	0.000104	0.00323	0.0037	0.00382	-
BH-WSF2-14D	10/16/2022	0.00017	0.00128	0.0012	0.000224	0.00329	0.0021	0.00199	-
BH-WSF2-14S	10/16/2022	0.00027	0.00147	0.21	0.00143	0.0021	0.0022	<0.00040	-
BL-0321D	10/12/2022	0.00014	0.00792	0.00637	0.00104	0.00087	0.0036	0.00165	-
BL-0321S	10/12/2022	0.00052	0.00075	0.00696	0.00251	0.00074	0.003	<0.00030	-
BL-03345	10/15/2022	0.00054	<0.00030	0.00041	0.00107	<0.00050	0.0282	<0.00030	-
BL08-385	9/13/2017	<0.00010	<0.00030	0.00058	0.000344	<0.00050	<0.0010	0.000458	-
BL08-385	6/5/2018	<0.00010	<0.00090	<0.00010	0.000069	<0.00050	<0.0010	0.000537	-
BL08-385	10/12/2018	<0.00010	0.00031	<0.00010	0.000081	<0.00050	<0.0010	0.00036	-
BL08-385	5/20/2021	<0.00010	<0.00030	<0.00010	0.00017	<0.00050	<0.0010	0.00028	-
BL08-385	8/29/2021	<0.00010	0.00039	<0.00010	0.000143	<0.00050	0.0011	0.00056	-
BL235	8/30/2021	<0.00010	0.0007	0.00059	0.000618	<0.00050	0.0026	0.00095	-
BL-235	9/12/2017	<0.00010	0.00033	0.00039	0.00054	<0.00050	0.0023	0.00116	-
BL-235	6/5/2018	<0.00010	<0.00030	0.00057	0.000652	<0.00050	<0.0010	0.000909	-
BL-235	10/12/2018	<0.00010	<0.00030	0.00013	0.000573	<0.00050	<0.0010	0.000512	-
BL-235	5/20/2021	0.00012	<0.00030	0.00039	0.000709	<0.00050	0.002	0.00082	-
BL-235	10/17/2021	<0.00010	<0.00030	0.00026	0.000538	<0.00050	0.0025	0.00056	-
BL-235	8/27/2022	<0.00010	<0.00030	0.00017	0.000519	<0.00050	0.0011	0.00051	-
BL-334D	10/8/2022	0.00015	0.00032	0.00086	0.00092	0.00088	0.0076	0.00043	-
BL-385	10/15/2021	0.00084	<0.00030	0.00012	0.000141	<0.00050	<0.0010	0.00037	-
DDH1	9/12/2017	<0.00010	<0.00030	0.0031	0.000817	<0.00050	<0.0010	0.000398	-
DDH1	6/5/2018	<0.00010	<0.00030	0.00269	0.000435	<0.00050	<0.0010	0.000169	-
DDH1	10/12/2018	<0.00010	<0.00030	0.00292	0.000416	<0.00050	<0.0010	0.000141	-
DDH1	5/21/2021	0.00013	<0.00030	0.00227	0.000521	<0.00050	0.0011	<0.00020	-
DDH1	8/30/2021	<0.00010	<0.00030	0.00245	0.00049	<0.00050	<0.0010	<0.00020	-
DDH1	10/19/2021	<0.00010	<0.00030	0.00261	0.000381	<0.00050	<0.0010	<0.00020	-
DDH1	8/27/2022	<0.00010	<0.00030	0.00241	0.000453	<0.00050	<0.0010	<0.00030	-
DDH2	9/12/2017	<0.00010	<0.00030	0.00149	0.000407	<0.00050	<0.0010	0.00078	-
DDH2	6/5/2018	<0.00010	<0.00030	0.00106	0.000285	<0.00050	<0.0010	0.000417	-
DDH2	10/12/2018	<0.00010	<0.00030	0.00266	0.000061	<0.00050	<0.0010	0.00008	-
DDH2	5/21/2021	0.00014	<0.00030	0.00172	0.000271	<0.00050	0.0022	0.00021	-
DDH2	8/30/2021	<0.00010	<0.00030	0.00236	0.000091	<0.00050	<0.0010	<0.00020	-
DDH2	10/19/2021	<0.00010	<0.00030	0.00249	0.000071	<0.00050	<0.0010	<0.00020	-
DDH2	8/27/2022	<0.00010	<0.00030	0.00151	0.000426	<0.00050	<0.0010	0.0005	-
DUP01	8/31/2021	<0.00010	<0.00030	0.00082	0.000395	<0.00050	<0.0010	<0.00020	-
GW-DUP-01	5/24/2021	<0.00010	<0.00030	0.00219	0.000502	<0.00050	<0.0010	<0.00020	-

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	tin, dissolved	titanium, dissolved	tungsten, dissolved	uranium, dissolved	vanadium , dissolved	zinc, dissolved	zirconium , dissolved	Ra-226
GW-DUP-01	10/19/2021	<0.00010	<0.00030	0.00264	0.000071	<0.00050	<0.0010	<0.00020	-
GW-DUP-01	8/27/2022	<0.00010	<0.00030	0.00019	0.000512	<0.00050	<0.0010	0.0005	-
HG22-ME-01 (A)	10/17/2022	<0.00010	<0.00030	0.00241	0.000141	<0.00050	0.0012	<0.00030	-
HG-22-ME-09 (B)	10/11/2022	0.00028	<0.00030	0.00035	0.00119	0.00059	0.0028	<0.00030	-
HG22-MW007B	10/14/2022	0.0007	<0.00030	0.00701	0.047	0.00071	0.0027	0.00034	-
HG-22-MW-01 (A)	8/27/2022	<0.00010	<0.00030	0.00257	0.000404	<0.00050	<0.0010	<0.00030	-
HG22-MW-01 (B)	10/17/2022	0.00033	<0.00030	0.00446	0.00419	<0.00050	0.0069	<0.00030	-
HG22-MW-01(A) DUP	10/17/2022	0.00012	<0.00030	0.00242	0.000142	<0.00050	0.0017	<0.00030	-
HG22-MW02A	10/14/2022	0.00019	<0.00030	0.00521	0.000811	<0.00050	0.0217	<0.00030	-
HG22-MW02ADUP	10/14/2022	0.0001	<0.00030	0.00524	0.000795	<0.00050	0.0196	<0.00030	-
HG22-MW02B	10/14/2022	0.00051	0.00031	0.00572	0.00104	<0.00050	0.0173	<0.00030	-
HG-22-MW03 (B)	10/8/2022	0.00022	<0.00030	0.00117	0.000875	<0.00050	0.0048	<0.00030	-
HG-22-MW-03 (B)	8/27/2022	0.00016	<0.00030	0.00193	0.00104	<0.00050	0.0013	<0.00030	-
HG22-MW03A	10/14/2022	0.00022	0.00044	0.00293	0.00117	<0.00050	0.0062	<0.00030	-
HG-22-MW-07 (A)	10/8/2022	0.00021	0.00069	0.0106	0.00139	0.00118	0.002	<0.00030	-
HG-22-MW-09 (A)	10/11/2022	0.00012	<0.00030	0.0004	0.00107	<0.00050	0.0021	<0.00030	-
HG22-MW10A	10/11/2022	0.00035	<0.00030	0.00247	0.000967	<0.00050	0.023	0.00036	-
HG22-MW11A	10/9/2022	<0.00010	0.0016	0.00281	0.000477	0.00063	0.001	0.002	-
HG22-MW11ADUP	10/9/2022	<0.00010	0.0017	0.00271	0.000458	0.00064	0.002	0.00196	-
HG22-MW11B	10/9/2022	0.00012	<0.00030	0.00114	0.000457	0.00054	0.0031	0.00056	-
HG22-MW12A	10/13/2022	0.00012	<0.00030	0.00188	0.00125	0.00051	0.0024	0.00063	-
HG22-MW12B	10/14/2022	0.00016	<0.00030	0.00161	0.00106	0.00078	0.0043	0.00094	-
MW1	6/5/2018	<0.00010	0.00483	<0.00010	0.000075	0.00054	<0.0010	0.00138	-
MW1	10/12/2018	<0.00050	0.0067	<0.00050	0.000078	<0.0025	<0.0050	0.00141	-
MW1	5/22/2021	0.00017	0.0063	<0.00010	0.000249	0.00133	0.0055	0.0018	-
MW2	9/12/2017	<0.00010	0.00057	0.00011	0.000732	0.00297	<0.0010	0.000415	-
MW2	6/5/2018	<0.00010	0.0009	<0.00010	0.000471	0.00391	<0.0010	0.000228	-
MW2	10/12/2018	<0.00010	0.00061	<0.00010	0.000547	0.00551	<0.0010	0.000267	-
MW2	5/20/2021	0.00019	0.0198	<0.00010	0.000515	0.0021	0.0044	0.00093	-
MW2	8/29/2021	<0.00010	<0.00072	<0.00010	0.000447	0.00097	<0.0010	<0.00020	-
MW2	10/15/2021	<0.00010	<0.00030	<0.00010	0.000452	0.00102	0.0016	<0.00020	-
MW2	8/27/2022	<0.00010	<0.00030	0.0001	0.000441	0.00096	<0.0010	<0.00030	-
MW3	6/5/2018	<0.00010	0.00165	<0.00010	0.000031	<0.00050	<0.0010	0.000794	-
MW3	10/12/2018	<0.00010	0.00174	<0.00010	0.000026	<0.00050	0.0012	0.000386	-
MW3	5/20/2021	0.00014	0.00633	<0.00010	0.000068	0.00537	0.0036	0.00226	-
MW3	8/30/2021	<0.00010	0.00719	<0.00010	0.000048	0.00566	0.0019	0.00228	-
MW3	10/19/2021	<0.00010	0.00741	<0.00010	0.000059	0.00724	0.003	0.00257	-
MW3	8/27/2022	<0.00100	0.0132	<0.00100	<0.000100	0.0123	<0.0100	0.00354	-
MW4	9/12/2017	0.00017	0.00253	<0.00010	0.000455	<0.00050	<0.0010	0.000529	-
MW4	6/5/2018	<0.00010	0.00467	<0.00010	0.000048	<0.00050	<0.0010	0.000432	-
MW4	10/12/2018	<0.00020	0.00228	<0.00020	0.000021	<0.0010	<0.0020	0.00024	-
MW4	5/21/2021	<0.00010	0.00135	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
MW4	8/30/2021	<0.00010	0.00082	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
MW4	10/19/2021	<0.00010	0.0023	<0.00010	0.000027	<0.00050	<0.0010	0.00024	-
MW5	9/12/2017	<0.00010	0.00042	<0.00010	0.00128	<0.00050	<0.0010	0.000119	-
MW5	6/5/2018	<0.00010	0.00066	<0.00010	0.000889	<0.00050	<0.0010	0.00014	-
MW5	10/12/2018	<0.00010	<0.00030	<0.00010	0.000936	<0.00050	<0.0010	0.000075	-
MW5	5/21/2021	0.00013	0.0203	<0.00010	0.000446	0.00163	0.0037	0.00126	-
MW5	8/31/2021	<0.00010	<0.00030	<0.00010	0.00091	<0.00050	<0.0010	<0.00020	-
MW5	10/19/2021	<0.00010	0.00128	<0.00010	0.000914	<0.00050	0.0015	<0.00020	-
MW5	8/27/2022	<0.00010	<0.00030	<0.00010	0.000879	<0.00050	<0.0010	<0.00030	-

**Tabulated Groundwater Quality I**

Grounwater Well I.D.	Date	tin, dissolved	titanium, dissolved	tungsten, dissolved	uranium, dissolved	vanadium , dissolved	zinc, dissolved	zirconium , dissolved	Ra-226
MW5	10/8/2022	<0.00010	0.0134	<0.00010	0.00091	0.00094	0.0027	0.00035	-
SP11-064	9/13/2017	<0.00010	<0.00030	<0.00010	0.000256	<0.00050	0.0029	0.000103	-
SP11-064	6/5/2018	<0.00010	<0.00030	<0.00010	0.000098	<0.00050	0.0018	0.000117	-
SP11-064	5/21/2021	0.00013	<0.00030	0.00011	0.000213	<0.00050	0.0039	<0.00020	-
SP11-064	8/31/2021	<0.00010	<0.00030	0.00081	0.00041	<0.00050	0.001	<0.00020	-
SP11-064	10/19/2021	<0.00010	<0.00030	<0.00010	0.000298	<0.00050	0.0047	<0.00020	-
SP11-102	9/13/2017	<0.00010	<0.00030	0.00628	0.000117	<0.00050	0.0725	0.000158	-
SP11-102	6/5/2018	<0.00010	<0.00030	0.00085	0.000091	<0.00050	<0.0010	0.00017	-
SP11-102	10/12/2018	<0.00010	<0.00030	0.0056	0.000076	<0.00050	0.0025	0.000187	-
SP-FBH-01-D	9/20/2020	<0.00010	0.00063	0.00276	0.000349	<0.00050	<0.0010	0.00075	0.16
SP-FBH-02-D	9/20/2020	0.00012	<0.00030	0.00119	0.000986	<0.00050	<0.0010	0.0017	-
SP-FBH-03-D	9/19/2020	0.00019	<0.00090	0.00155	0.00107	<0.00050	<0.0010	0.00025	-
SP-FBH-04-D	9/20/2020	0.00017	<0.00030	0.00391	0.000614	0.00119	0.0011	0.00045	-
SP-FBH-06-D	9/22/2020	0.00087	0.00034	0.016	0.00172	<0.00050	0.0017	<0.00020	-
SPFBH-07-R1-D	9/19/2020	<0.00010	<0.00066	0.0111	0.0009	<0.00050	0.0011	<0.00020	-
SP-FBH-09-R1-D	9/19/2020	<0.00010	<0.0039	0.00159	0.000363	0.00142	0.0012	0.00139	0.23
SP-FBH-11-D	9/19/2020	0.00019	0.00056	0.00288	0.000168	0.00098	0.0012	0.00129	-
SP-FBH-12-D	9/20/2020	<0.00010	0.0012	0.00038	0.000437	0.00098	<0.0010	0.00423	-
SP-FBH-14-D	9/22/2020	0.00011	0.00071	0.00371	0.00143	0.00299	0.0026	0.00118	-
SP-GW-BL-143-D	9/16/2020	<0.00010	<0.00030	0.00108	0.000333	<0.00050	0.0027	0.0005	-
SP-GW-BL-235	7/7/2020	<0.00010	0.00185	0.00171	0.00068	0.00176	0.0045	0.00628	-
SP-GW-BL-235	9/16/2020	<0.00010	0.00132	0.00141	0.000713	0.00144	<0.0010	0.00593	0.108
SP-GW-BL-321-D	7/15/2020	<0.00010	<0.00030	0.00781	0.00121	0.0005	0.0035	0.00096	-
SP-GW-BL-334-D	7/15/2020	<0.00010	<0.00030	0.00276	0.00169	0.00165	0.0058	0.00048	-
SP-GW-BL-334-D	9/17/2020	<0.00010	<0.00030	0.00374	0.000822	0.00117	0.0018	0.00046	<0.010
SP-GW-BL-385	7/7/2020	<0.00010	<0.00030	0.00018	0.000138	<0.00050	<0.0010	0.00032	-
SP-GW-BL-385	9/16/2020	<0.00010	<0.00030	0.00045	0.000223	<0.00050	<0.0010	0.00039	0.021
SP-GW-DUP-1	9/20/2020	0.00012	<0.00030	0.00119	0.000992	<0.00050	<0.0010	0.00175	-
SP-GW-DUP-2	9/22/2020	0.00011	0.00062	0.00367	0.00142	0.00295	0.0013	0.00121	-
SP-GW-DUP-4	7/15/2020	<0.00010	0.00034	0.00262	0.00165	0.00162	0.0066	0.0005	-
SP-GW-MW2	7/14/2020	<0.00010	<0.00030	<0.00010	0.00041	0.00096	<0.0010	<0.00020	-
SP-GW-MW2	9/20/2020	0.00016	<0.00030	<0.00010	0.000433	0.00103	0.0025	<0.00020	-
SP-GW-MW3	7/14/2020	<0.00010	0.00486	<0.00010	0.00003	0.00321	0.0028	0.00107	-
SP-GW-MW4	7/14/2020	<0.00010	0.00358	<0.00010	0.000041	<0.00050	0.003	0.00034	-
SP-GW-MW4	9/17/2020	<0.00010	0.00333	<0.00010	0.000028	<0.00050	<0.0010	0.0003	-
SP-GW-MW5	9/17/2020	0.0001	0.00972	<0.00010	0.000902	0.00068	0.0036	0.00035	0.2
SP-GW-MW5	7/6/2020	<0.00010	0.00082	<0.00010	0.000774	<0.00050	0.001	<0.00020	-
SP-GW-SP11-064	7/6/2020	<0.00010	<0.00030	0.00063	0.000094	<0.00050	0.0039	<0.00020	-
SP-GW-SP11-064	9/16/2020	<0.00010	<0.00030	<0.00010	0.000142	<0.00050	0.0035	<0.00020	<0.010
SP-GW-W3	9/17/2020	<0.00010	0.00994	<0.00010	0.000042	0.00435	0.0043	0.00144	-
SPW20-002	10/17/2022	<0.00010	0.00072	<0.00010	0.000012	<0.00050	<0.0010	<0.00030	-
SPW20-002	10/13/2022	<0.00010	<0.00030	0.00178	0.00295	<0.00050	0.0014	<0.00030	-
TRIP BLANK	5/24/2021	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
TRIP BLANK	8/30/2021	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
TRIP BLANK	10/19/2021	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
TRIP BLANK	8/27/2022	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00030	-
TRIP BLANK	10/8/2022	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00030	-
FIELD BLANK	7/15/2020	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
FIELD BLANK	5/24/2021	0.0004	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
FIELD BLANK	8/30/2021	0.00046	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
FIELD BLANK	8/27/2022	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00030	-

**Tabulated Groundwater Quality I**

<b>Grounwater Well I.D.</b>	<b>Date</b>	<b>tin, dissolved</b>	<b>titanium, dissolved</b>	<b>tungsten, dissolved</b>	<b>uranium, dissolved</b>	<b>vanadium , dissolved</b>	<b>zinc, dissolved</b>	<b>zirconium , dissolved</b>	<b>Ra-226</b>
FIELD BLANK	10/8/2022	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00030	-
FIELD BLANK	9/22/2020	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	0.001	<0.00020	-
FIELD BLANK	6/5/2018	<0.00010	<0.00030	0.00271	0.000466	<0.00050	<0.0010	0.000187	-
FIELD BLANK	7/6/2020	<0.00010	<0.00030	<0.00010	<0.000010	<0.00050	<0.0010	<0.00020	-
<i>Notes</i>									
<i>All units are mg/L unless otherwise indicated</i>									

Table B- 1. Tabulated Duplicate Results

Parameter	Unit	SW-01	DUP SW-01	RPD%	SW-08	DUP SW-08	RPD%	SW-09	DUP SW-09	RPD%	SW-02	DUP SW-02	RPD%
		1-Feb-11	4-Feb-11		1-Jun-11	3-Jun-11		1-Aug-11	17-Aug-11		1-Sep-11	27-Sep-11	
pH	pH	7.3	7.28	0.27	7.36	7.36	0.00	6.85	6.9	0.73	7.43	7.64	2.79
Total Hardness (as CaCO3)	mg/L	34	34	0.00	26	25	3.92	32	34	6.06	29	30	3.39
Total Dissolved Solids	mg/L	44	44	0.00	30	34	12.50	38	46	19.05	60	60	0.00
Total Organic Carbon	mg/L	8.4	8.4	0.00	8.7	8.7	0.00	16.7	15.1	10.06	7.4	0	200.00
Total Phosphorus (as P)	mg/L	0.02	0.015	28.57	0.015	0.015	0.00	0.049	0.042	15.38	0.007	0.005	33.33
Total Suspended Solids	mg/L	0.5	0.5	0.00	3	2	40.00	76	120	44.90	2	0	200.00
Acidity	mg/L as CaCO3	-	-	-	-	-	-	-	-	-	-	-	-
M-Alkalinity (pH 4.5)	mg/L as CaCO3	31	30	3.28	22	23	4.44	32	33	3.08	30	27.7	7.97
Ammonia (as N)	mg/L	0.025	0.025	0.00	0.025	0.025	0.00	0.09	0.09	0.00	0.12	0.119	0.84
Chloride	mg/L	0.5	0.5	0.00	0.5	0.5	0.00	0.5	0.5	0.00	0.5	0.21	81.69
Fluoride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.03	50.00
Nitrite (as N)	mg/L	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	-	0.005	0.02	120.00
Sulphate	mg/L	2	2	0.00	1	1	0.00	0.5	0.5	0.00	2	1.77	12.20
Conductivity	µS/cm	68	67	1.48	51	51	0.00	66	67	1.50	60	63.8	6.14
Cr(VI)	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.01	190.24
Dissolved Organic Carbon	mg/L	8.5	8.5	0.00	8.5	8.4	1.18	13.9	15.2	8.93	7.5	7.6	1.32
Total Aluminum	mg/L	0.010	0.0070	35.29	0.041	0.0500	19.78	0.320	0.3700	14.49	0.016	0.0130	20.69
Total Antimony	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.005	180.95
Total Arsenic	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.001	0.001	0.00	0.0005	0.0005	0.00
Total Barium	mg/L	0.008	0.008	0.00	0.006	0.007	15.38	0.014	0.016	13.33	0.007	0.01	35.29
Total Beryllium	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.001	120.00
Total Bismuth	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Boron	mg/L	0.024	0.01	82.35	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.05	163.64
Total Cadmium	mg/L	0.00005	0.00004	155.56	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Calcium	mg/L	11	12	8.70	8.3	8.6	3.55	17	18	5.71	9.9	9.01	9.41
Total Chromium	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.001	85.71
Total Cobalt	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Copper	mg/L	0.001	0.001	0.00	0.0005	0.0005	0.00	0.003	0.003	0.00	0.001	0.0011	9.52
Total Iron	mg/L	0.05	0.05	0.00	0.05	0.05	0.00	0.85	0.97	13.19	0.05	0.05	0.00
Total Lead	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.0015	0.0016	6.45	0.00025	0.001	120.00
Total Lithium	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	-	200.00
Total Magnesium	mg/L	1.6	1.6	0.00	1.2	1.3	8.00	0.76	0.76	0.00	1.4	1.35	3.64
Total Manganese	mg/L	0.001	0.001	0.00	0.006	0.007	15.38	0.21	0.23	9.09	0.006	0.0063	4.88
Total Molybdenum	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.00025	0.00025	0.00	0.00025	0.001	120.00
Total Nickel	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.002	120.00
Total Potassium	mg/L	0.72	0.73	1.38	0.58	0.63	8.26	0.5	0.49	2.02	0.67	1	39.52
Total Selenium	mg/L	0.001	0.001	0.00	0.001	0.001	0.00	0.001	0.001	0.00	0.001	0.005	133.33
Total Silver	mg/L	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Sodium	mg/L	0.78	0.78	0.00	0.61	0.66	7.87	0.64	0.42	41.51	0.65	0.78	18.18
Total Strontium	mg/L	0.025	0.025	0.00	0.018	0.019	5.41	0.022	0.023	4.44	0.021	0.0205	2.41
Total Thallium	mg/L	0.000025	0.000025	0.00	0.000025	0.000025	0.00	0.000025	0.000025	0.00	0.000025	0.0003	169.23
Total Tin	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Titanium	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.007	0.008	13.33	0.0025	0.002	22.22
Total Tungsten	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.002	0.001	66.67	0.0005	0.01	180.95
Total Uranium	mg/L	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.005	196.04
Total Vanadium	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.00025	0.00025	0.00	0.00025	0.001	120.00
Total Zinc	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.007	0.006	15.38	0.0025	0.0124	132.89
Total Zirconium	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Mercury	mg/L	0.00001	0.00007	150.00	0.000005	0.000005	0.00	0.00003	0.00003	0.00	0.00011	0.0001	9.52
Dissolved Mercury	mg/L	0.00002	0.00002	0.00	0.000005	0.000005	0.00	0.00002	0.00001	66.67	0.00012	0.00014	15.38
Orthophosphate (as P)	mg/L	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00	0.005	-	200.00

indicates value not available  
RPD – relative percent difference  
Green highlighted values indicate RPD is greater than 25% for this parameter



Table B- 1. Tabulated Duplicate Results

Parameter	Unit	SW-01	DUP SW-01	RPD%	SW-10	DUP SW-10	RPD%	SW-07	DUP SW-07	RPD%	SW-03	DUP SW-03	RPD%
		9-Feb-12	9-Feb-12		1-May-12	1-May-12		6-Jun-12	6-Jun-12		8-Jul-12	8-Jul-12	
pH	pH	7.71	7.42	3.83	6.96	7.12	2.27	7.5	7.49	0.13	7.52	7.48	0.53
Total Hardness (as CaCO3)	mg/L	32	34	6.06	24	30	22.22	26	26	0.00	26	27	3.77
Total Dissolved Solids	mg/L	60	54	10.53	20	24	18.18	42	18	80.00	38	20	62.07
Total Organic Carbon	mg/L	8.4	8.3	1.20	7.5	7.2	4.08	8.7	8.3	4.71	7.4	7.6	2.67
Total Phosphorus (as P)	mg/L	0.01	0.012	18.18	0.009	0.016	56.00	0.001	0.001	0.00	0.007	0.012	52.63
Total Suspended Solids	mg/L	0.5	0.5	0.00	0.5	3	142.86	0.5	0.5	0.00	0.5	0.5	0.00
Acidity	mg/L as CaCO3	-	-	-	-	-	-	-	-	-	-	-	-
M-Alkalinity (pH 4.5)	mg/L as CaCO3	33	32	3.08	23	29	23.08	25	24	4.08	27	27	0.00
Ammonia (as N)	mg/L	0.025	1	190.24	0.025	0.025	0.00	0.056	0.05	11.32	0.025	0.025	0.00
Chloride	mg/L	0.5	0.5	0.00	0.5	0.5	0.00	0.5	0.5	0.00	0.5	0.5	0.00
Fluoride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.05	0.00
Nitrite (as N)	mg/L	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00
Sulphate	mg/L	2	2	0.00	3.1	1.6	63.83	1.9	1.6	17.14	1.5	1.5	0.00
Conductivity	µS/cm	71	70	1.42	52	65	22.22	54	54	0.00	56	56	0.00
Cr(VI)	mg/L	0.0014	0.001	33.33	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Dissolved Organic Carbon	mg/L	8.4	8.4	0.00	7.9	7.1	10.67	9.3	9.3	0.00	7.5	7.7	2.63
Total Aluminum	mg/L	0.053	0.0059	159.93	0.036	0.0200	57.14	0.021	0.0240	13.33	0.010	0.0110	9.52
Total Antimony	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Arsenic	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Barium	mg/L	0.0085	0.0082	3.59	0.0058	0.007	18.75	0.0061	0.0063	3.23	0.0056	0.0055	1.80
Total Beryllium	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Bismuth	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Boron	mg/L	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00
Total Cadmium	mg/L	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Calcium	mg/L	12	11	8.70	7.6	10	27.27	8.4	9.1	8.00	9.1	8.3	9.20
Total Chromium	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00
Total Cobalt	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Copper	mg/L	0.0005	0.0005	0.00	0.0011	0.0014	24.00	0.0013	0.0013	0.00	0.0005	0.0005	0.00
Total Iron	mg/L	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.05	0.00	0.05	0.05	0.00
Total Lead	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Lithium	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00
Total Magnesium	mg/L	1.6	1.6	0.00	1.1	1.4	24.00	1.3	1.4	7.41	1.4	1.3	7.41
Total Manganese	mg/L	0.001	0.001	0.00	0.0027	0.0049	57.89	0.0027	0.003	10.53	0.001	0.001	0.00
Total Molybdenum	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Nickel	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Potassium	mg/L	0.74	0.74	0.00	0.51	0.6	16.22	0.6	0.64	6.45	0.55	0.52	5.61
Total Selenium	mg/L	0.001	0.001	0.00	0.001	0.001	0.00	0.001	0.001	0.00	0.001	0.001	0.00
Total Silver	mg/L	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Sodium	mg/L	0.78	0.74	5.26	0.66	0.69	4.44	0.66	0.7	5.88	0.63	0.61	3.23
Total Strontium	mg/L	0.024	0.023	4.26	0.015	0.023	42.11	0.02	0.021	4.88	0.019	0.019	0.00
Total Thallium	mg/L	0.000025	0.000025	0.00	0.000025	0.000025	0.00	0.000025	0.000025	0.00	0.000025	0.000025	0.00
Total Tin	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Titanium	mg/L	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00
Total Tungsten	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Total Uranium	mg/L	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Vanadium	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Zinc	mg/L	0.015	0.005	100.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00	0.0025	0.0025	0.00
Total Zirconium	mg/L	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Mercury	mg/L	0.00093	0.00004	183.51	0.00019	0.00006	104.00	0.00027	0.00029	7.14	0.00093	0.00017	138.18
Dissolved Mercury	mg/L	0.0004	0.00002	180.95	0.00007	0.00006	15.38	0.00008	0.0001	22.22	-	-	-
Orthophosphate (as P)	mg/L	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00	0.005	0.005	0.00

indicates value not available  
RPD – relative percent difference  
Green highlighted values indicate RPD is greater than 25% for this parameter



Table B- 1. Tabulated Duplicate Results

Parameter	Unit	SW-22	DUP SW-22	RPD%	SW-20	DUP SW-20	RPD%	SW-09	DUP SW-09	RPD%	SW-24	DUP SW-24	RPD%
		3-Sep-12	3-Sep-12		15-Oct-12	15-Oct-12		11-Sep-17	11-Sep-17		20-Apr-18	20-Apr-18	
pH	pH	6.76	6.65	1.64	6.49	6.54	0.77	7.67	7.58	1.18	7.7	7.52	2.37
Total Hardness (as CaCO3)	mg/L	27	26	3.77	29	30	3.39	36.2	36.4	0.55	120	110	8.70
Total Dissolved Solids	mg/L	62	76	20.29	58	60	3.39	66	53	21.85	180	155	14.93
Total Organic Carbon	mg/L	8.8	8.6	2.30	7.8	7.9	1.27	20.3	19	6.62	27.5	26.9	2.21
Total Phosphorus (as P)	mg/L	0.008	0.009	11.76	0.001	0.001	0.00	0.016	0.0156	2.53	0.0149	0.0134	10.60
Total Suspended Solids	mg/L	0.5	0.5	0.00	2	0.5	120.00	14.1	11.7	18.60	1	1	0.00
Acidity	mg/L as CaCO3	-	-	-	-	-	-	-	-	-	-	-	-
M-Alkalinity (pH 4.5)	mg/L as CaCO3	27	25	7.69	29	29	0.00	35	34.4	1.73	128	98.6	25.95
Ammonia (as N)	mg/L	0.26	0.27	3.77	0.13	0.3	79.07	0.19	0.046	122.03	2.22	0.03	194.67
Chloride	mg/L	-	-	-	0.5	0.5	0.00	-	-	-	-	-	-
Fluoride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	-	-	0.05	0.05	0.00	-	-	-	-	-	-
Nitrite (as N)	mg/L	-	-	-	0.005	0.005	0.00	-	-	-	-	-	-
Sulphate	mg/L	-	-	-	0.5	0.5	0.00	-	-	-	-	-	-
Conductivity	µS/cm	57	56	1.77	59	59	0.00	65.5	65.4	0.15	254	200	23.79
Cr(VI)	mg/L	0.00025	0.00025	0.00	0.00025	0.00025	0.00	0.0005	0.0005	0.00	0.0005	0.0005	0.00
Dissolved Organic Carbon	mg/L	10	9.9	1.01	7.5	8.3	10.13	15.4	15.6	1.29	25.4	26.1	2.72
Total Aluminum	mg/L	0.013	0.0190	37.50	0.014	-	-	0.036	0.0334	7.77	0.009	0.0071	27.88
Total Antimony	mg/L	0.00025	0.00025	0.00	0.00025	-	-	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Arsenic	mg/L	0.0005	0.0005	0.00	0.0013	-	-	0.00065	0.00064	1.55	0.001	0.00093	7.25
Total Barium	mg/L	0.0065	0.0063	3.13	0.0066	-	-	0.00456	0.00453	0.66	0.0177	0.0159	10.71
Total Beryllium	mg/L	0.00025	0.00025	0.00	0.00025	-	-	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Bismuth	mg/L	0.0005	0.0005	0.00	0.0005	-	-	0.000025	0.000025	0.00	0.000025	0.000025	0.00
Total Boron	mg/L	0.005	0.012	82.35	0.005	-	-	0.005	0.005	0.00	0.005	0.005	0.00
Total Cadmium	mg/L	0.00005	0.00005	0.00	0.00011	-	-	0.0000065	0.0000025	88.89	0.0000025	0.0000025	0.00
Total Calcium	mg/L	9.3	9.2	1.08	9.4	-	-	13.5	13.6	0.74	35.4	32.6	8.24
Total Chromium	mg/L	0.0025	0.0025	0.00	0.0025	-	-	0.00014	0.00011	24.00	0.00023	0.00026	12.24
Total Cobalt	mg/L	0.00025	0.00025	0.00	0.00025	-	-	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Copper	mg/L	0.0005	0.0005	0.00	0.0016	-	-	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Iron	mg/L	0.05	0.05	0.00	0.05	-	-	0.201	0.187	7.22	0.064	0.06	6.45
Total Lead	mg/L	0.00025	0.00025	0.00	0.00025	-	-	0.00008	0.000064	22.22	0.000025	0.000025	0.00
Total Lithium	mg/L	0.0025	0.0025	0.00	0.0025	-	-	0.0005	0.0005	0.00	0.0016	0.0014	13.33
Total Magnesium	mg/L	1.5	1.5	0.00	1.4	-	-	0.795	0.774	2.68	8.26	7.62	8.06
Total Manganese	mg/L	0.0062	0.0063	1.60	0.0095	-	-	0.0537	0.0513	4.57	0.0112	0.0118	5.22
Total Molybdenum	mg/L	0.00025	0.00025	0.00	0.00025	-	-	0.000025	0.000025	0.00	0.000468	0.000442	5.71
Total Nickel	mg/L	0.0005	0.0005	0.00	0.0005	-	-	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Potassium	mg/L	0.68	0.68	0.00	0.58	-	-	0.46	0.443	3.77	1.3	1.2	8.00
Total Selenium	mg/L	0.001	0.001	0.00	0.001	-	-	0.000076	0.000098	25.29	0.000169	0.000127	28.38
Total Silver	mg/L	0.00005	0.00005	0.00	0.00014	-	-	0.000005	0.000005	0.00	0.000005	0.000005	0.00
Total Sodium	mg/L	0.69	0.73	5.63	0.6	-	-	0.505	0.47	7.18	1.88	1.73	8.31
Total Strontium	mg/L	0.02	0.019	5.13	0.02	-	-	0.0131	0.0132	0.76	0.159	0.147	7.84
Total Thallium	mg/L	0.000025	0.000025	0.00	0.000068	-	-	0.000005	0.000005	0.00	0.000005	0.000005	0.00
Total Tin	mg/L	0.0005	0.0005	0.00	0.0005	-	-	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Titanium	mg/L	0.0025	0.0025	0.00	0.0025	-	-	0.00124	0.00096	25.45	0.00039	0.00015	88.89
Total Tungsten	mg/L	0.0005	0.0005	0.00	0.0005	-	-	0.00005	0.00005	0.00	0.00005	0.00005	0.00
Total Uranium	mg/L	0.00005	0.00005	0.00	0.00017	-	-	0.000005	0.000005	0.00	0.000036	0.000032	11.76
Total Vanadium	mg/L	0.00025	0.0011	125.93	0.00057	-	-	0.00025	0.00025	0.00	0.00025	0.00025	0.00
Total Zinc	mg/L	0.0025	0.0025	0.00	0.0051	-	-	0.0052	0.0015	110.45	0.0015	0.0033	75.00
Total Zirconium	mg/L	0.0005	0.0005	0.00	0.0005	-	-	0.00003	0.00003	0.00	0.000138	0.000141	2.15
Mercury	mg/L	-	-	-	-	-	-	0.0000025	0.0000025	0.00	0.0000025	0.0000025	0.00
Dissolved Mercury	mg/L	0.000005	0.000005	0.00	0.000005	0.000005	0.00	0.0000025	0.0000025	0.00	0.0000025	0.0000025	0.00
Orthophosphate (as P)	mg/L	-	-	-	0.005	0.005	0.00	0.0015	0.0015	0.00	0.0015	0.0015	0.00

indicates value not available  
RPD – relative percent difference  
Green highlighted values indicate RPD is greater than 25% for this parameter



Table B-2. Tabulated Field, Lab, and Travel Blank Results

Parameter	Unit	Field Blank	Travel Blank	Field Blank	Field Blank	Travel Blank	Field Blank	Travel Blank	Field Blank	Interlab Field Blank	Travel Blank	Field Blank	Travel Blank	Field Blank	Travel Blank
		5-Feb-11	5-Feb-11	1-Jun-11	18-Aug-11	18-Aug-11	27-Sep-11	27-Sep-11	30-Sep-11	30-Sep-11	9-Feb-12	9-Feb-12	1-May-12	1-May-12	6-Jun-12
pH	pH	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Hardness (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Dissolved Solids	mg/L	0.01	0.01	0.01	0.07	0.01	0.01	0.01	0.012	0.01	0.01	0.01	0.01	0.01	0.01
Total Organic Carbon	mg/L	0.0002	0.0002	0.0002	0.0007	0.0003	0.0004	0.0005	0.0004	-	0.00034	0.00072	0.0002	0.00023	0.00027
Total Phosphorus (as P)	mg/L	0.000005	0.000016	0.000004	0.00001	0.000003	0.000002	0.000006	0.000002	0.000005	0.000002	0.000002	0.000002	0.00001	0.000002
Total Suspended Solids	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acidity	mg/L as CaCO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-Alkalinity (pH 4.5)	mg/L as CaCO3	1	1	1	1	1	1	1	1	5	1	1	1	1	1
Ammonia (as N)	mg/L	0.05	0.05	0.05	0.18	0.18	0.05	0.05	0.11	0.079	0.05	0.05	0.05	0.05	0.05
Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.03	0.1	0.1	0.1	0.1	0.1
Nitrite (as N)	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01
Sulphate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conductivity	µS/cm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Aluminum	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.007	0.005	0.005
Total Antimony	mg/L	0.005	0.006	0.008	0.005	0.005	0.005	0.005	0.005	0.01	0.0005	0.0005	0.0005	0.0005	0.0005
Total Arsenic	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Total Barium	mg/L	0.005	0.005	0.005	0.002	0.002	0.002	0.002	0.002	0.01	0.002	0.002	0.002	0.002	0.002
Total Beryllium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.0005	0.0005	0.0005	0.0005
Total Bismuth	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Total Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.01	0.01	0.01	0.01	0.01
Total Cadmium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Total Calcium	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2
Total Chromium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.005	0.005	0.005	0.005	0.005
Cr(VI)	mg/L	0.0005	0.0005	0.0005	0.0009	0.0005	-	-	0.0005	0.01	0.0011	0.0009	0.0005	0.0005	0.0005
Total Cobalt	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Copper	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0018
Total Iron	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.1	0.1
Total Lead	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.0005	0.0005	0.0005	0.0005
Total Lithium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	-	0.005	0.005	0.005	0.005	0.005
Total Magnesium	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.05	0.05	0.05	0.05	0.05
Total Manganese	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002
Total Molybdenum	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.0005	0.0005	0.0005	0.0005
Total Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001
Total Potassium	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1	0.2	0.2	0.2	0.2	0.2
Total Selenium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.002	0.002	0.002	0.002	0.002
Total Silicon	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	1	0.05	0.05	0.05	0.05	0.05
Total Silver	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Total Sodium	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.1	0.1
Total Strontium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Total Sulphur	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Tellurium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-	0.001	0.001	0.001	0.001	0.001
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.0003	0.00005	0.00005	0.00005	0.000065	0.00005
Total Tin	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Total Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.002	0.005	0.005	0.005	0.005	0.005
Total Tungsten	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.01	0.001	0.001	0.001	0.001	0.001
Total Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.005	0.0001	0.0001	0.0001	0.0001	0.0001
Total Vanadium	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.0005	0.0005	0.0005	0.0005	0.0005
Total Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.003	0.005	0.005	0.005	0.005	0.005
Total Zirconium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.001	0.001	0.001	0.001	0.001
Mercury	mg/L	0.00001	0.00001	0.00001	0.00002	0.00002	0.00001	0.00001	0.00001	0.0001	0.00001	0.00001	0.00001	0.00001	0.00001
Dissolved Mercury	mg/L	-	-	-	0.00002	-	-	-	0.00001	0.0001	-	-	-	-	-
Notes															
- indicates value is not available															

Notes:  
- indicates value not available



Table B-2. Tabulated Field, Lab, and Travel Blank Results

Parameter	Unit	Field Blank	Travel Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank	Field Blank
		6-Jun-12	8-Jul-12	8-Jul-12	4-Aug-12	18-Sep-12	8-Jun-15	3-Aug-15	6-Oct-15	15-Aug-16	5-Jun-17	11-Sep-17	2-Nov-17	21-Apr-18	6-May-18
pH	pH	-	-	-	5.75	5.75	6.19	5.51	5.6	5.65	6.66	6.25	5.56	5.86	5.48
Total Hardness (as CaCO3)	mg/L	-	-	-	0.5	0.5	0.25	0.035	-	0.25	0.25	0.25	0.25	0.25	0.25
Total Dissolved Solids	mg/L	0.01	0.01	0.01	5	5	5	5	5	5	5	5	5	5	5
Total Organic Carbon	mg/L	0.00029	0.0002	0.0002	0.1	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total Phosphorus (as P)	mg/L	0.000002	0.000002	0.000002	0.001	0.001	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Total Suspended Solids	mg/L	-	-	-	0.5	0.5	0.25	0.25	0.25	0.25	0.25	1	1	1	1
Acidity	mg/L as CaCO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M-Alkalinity (pH 4.5)	mg/L as CaCO3	1	1.5	1.6	0.5	0.5	1	1	1	1	1	1	1	1	1
Ammonia (as N)	mg/L	0.05	0.05	0.05	0.025	0.025	-	0.272	6.46	4.47	6.23	0.328	0.171	1.35	0.057
Chloride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate (as N)	mg/L	0.1	0.1	0.1	-	-	0.01	0.01	0.01	0.01	0.01	-	-	-	-
Nitrite (as N)	mg/L	0.01	0.01	0.01	-	-	0.005	0.005	0.005	0.005	0.005	-	-	-	-
Sulphate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conductivity	µS/cm	-	-	-	1.3	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total Aluminum	mg/L	0.005	0.005	0.005	0.003	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Total Antimony	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.00005	0.0001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Arsenic	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.00005	0.0001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Barium	mg/L	0.002	0.002	0.002	0.001	0.001	0.000025	0.00005	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Beryllium	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.00005	0.0001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Bismuth	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.000025	0.00005	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Boron	mg/L	0.01	0.01	0.01	0.005	0.005	0.005	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Total Cadmium	mg/L	0.0001	0.0001	0.0001	0.00005	0.00005	0.0000025	0.000005	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025
Total Calcium	mg/L	0.2	0.2	0.2	0.1	0.1	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Chromium	mg/L	0.005	0.005	0.005	0.0025	0.0025	0.00005	0.0001	0.00005	0.00021	0.0001	0.00005	0.00055	0.00005	0.00005
Cr(VI)	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Cobalt	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.00005	0.0001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Copper	mg/L	0.001	0.001	0.0051	0.0005	0.0005	0.00025	0.0005	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Iron	mg/L	0.1	0.1	0.1	0.05	0.05	0.005	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Total Lead	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.000025	0.00005	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Lithium	mg/L	0.005	0.005	0.005	0.0025	0.0025	0.0005	0.001	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Magnesium	mg/L	0.05	0.05	0.05	0.025	0.025	0.0025	0.005	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Manganese	mg/L	0.002	0.002	0.002	0.001	0.001	0.00005	0.0001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Molybdenum	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.000025	0.00005	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Nickel	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.00025	0.0005	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Potassium	mg/L	0.2	0.2	0.2	0.1	0.1	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Selenium	mg/L	0.002	0.002	0.002	0.001	0.001	0.000025	0.00005	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Silicon	mg/L	0.05	0.05	0.05	-	-	-	-	-	-	-	-	-	-	-
Total Silver	mg/L	0.0001	0.0001	0.0001	0.00005	0.00005	0.000005	0.00001	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Total Sodium	mg/L	0.1	0.1	0.1	0.05	0.05	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Total Strontium	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Total Sulphur	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Tellurium	mg/L	0.001	0.001	0.001	-	-	-	-	-	-	-	-	-	-	-
Total Thallium	mg/L	0.00005	0.00005	0.00005	0.000025	0.000025	0.000005	0.00001	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Total Tin	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.00005	0.0001	0.00005	0.00005	0.00016	0.00031	0.00005	0.00035	0.0001
Total Titanium	mg/L	0.005	0.005	0.005	0.0025	0.0025	0.00015	0.0003	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015
Total Tungsten	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.00005	0.0001	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Uranium	mg/L	0.0001	0.0001	0.0001	0.00005	0.00005	0.000005	0.00001	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Total Vanadium	mg/L	0.0005	0.0005	0.0005	0.00025	0.00025	0.00025	0.0005	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Zinc	mg/L	0.005	0.005	0.005	0.0025	0.0025	0.0015	0.003	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Total Zirconium	mg/L	0.001	0.001	0.001	0.0005	0.0005	0.00015	0.0003	0.00015	0.00015	0.00003	0.00003	0.00003	0.00003	0.00003
Mercury	mg/L	0.00001	0.00001	0.00001	0.000005	0.000005	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025
Dissolved Mercury	mg/L	-	-	-	0.000005	0.000005	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025

Notes:  
- indicates value not available



**Table B-2. Tabulated Field, Lab, and Travel Blank Results**

Parameter	Unit	Field blank	Field Blank	Trip Blank	Field Blank	Field Blank	Trip Blank
		5-Jun-18	14-Oct-18	14-Oct-18	24-Mar-20	13-Sep-20	13-Sep-20
pH	pH	5.77	5.74	5.82	6	5.4	5.35
Total Hardness (as CaCO3)	mg/L	0.25	0.25	0.25	0.25	0.25	0.25
Total Dissolved Solids	mg/L	5	5	5	5	5	5
Total Organic Carbon	mg/L	0.5	0.25	0.25	0.25	1.88	0.83
Total Phosphorus (as P)	mg/L	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Total Suspended Solids	mg/L	1	0.25	0.25	1	1.5	1.5
Acidity	mg/L as CaCO3	-	-	-	-	-	-
M-Alkalinity (pH 4.5)	mg/L as CaCO3	1	1	1	1	1	1
Ammonia (as N)	mg/L	0.01	12.4	1.23	0.019	0.0913	0.0025
Chloride	mg/L	-	0.05	0.05	-	-	-
Fluoride	mg/L	-	-	-	-	-	-
Nitrate (as N)	mg/L	-	0.01	0.01	-	-	-
Nitrite (as N)	mg/L	-	0.005	0.005	-	-	-
Sulphate	mg/L	-	0.15	0.15	-	-	-
Conductivity	µS/cm	1.5	0.5	1.1	1.5	1.1	1
Total Aluminum	mg/L	0.002	0.002	0.002	0.003	0.002	0.002
Total Antimony	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Arsenic	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Barium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Beryllium	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Bismuth	mg/L	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Boron	mg/L	0.005	0.005	0.005	0.005	0.005	0.005
Total Cadmium	mg/L	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025
Total Calcium	mg/L	0.025	0.025	0.025	0.055	0.025	0.025
Total Chromium	mg/L	0.00012	0.00005	0.00005	0.00005	0.00005	0.00005
Cr(VI)	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Cobalt	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Copper	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Iron	mg/L	0.005	0.005	0.005	0.005	0.005	0.005
Total Lead	mg/L	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Lithium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005
Total Magnesium	mg/L	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
Total Manganese	mg/L	0.00015	0.00005	0.00005	0.00005	0.00005	0.00005
Total Molybdenum	mg/L	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Nickel	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Potassium	mg/L	0.025	0.025	0.025	0.025	0.025	0.025
Total Selenium	mg/L	0.000025	0.000025	0.000025	0.000025	0.000025	0.000025
Total Silicon	mg/L	-	-	-	-	-	-
Total Silver	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Total Sodium	mg/L	0.025	0.025	0.025	0.025	0.025	0.025
Total Strontium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Total Sulphur	mg/L	-	-	-	-	-	-
Total Tellurium	mg/L	-	-	-	-	-	-
Total Thallium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Total Tin	mg/L	0.00005	0.00005	0.00005	0.00078	0.00012	0.00005
Total Titanium	mg/L	0.00015	0.00015	0.00015	0.00015	0.00015	0.00015
Total Tungsten	mg/L	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005
Total Uranium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005
Total Vanadium	mg/L	0.00025	0.00025	0.00025	0.00025	0.00025	0.00025
Total Zinc	mg/L	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Total Zirconium	mg/L	0.00003	0.00003	0.00003	0.0001	0.0001	0.0001
Mercury	mg/L	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025
Dissolved Mercury	mg/L	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025	0.0000025

Notes:  
- indicates value not available



**Table B-1: Baseline Surface Water Quality (2011 - 2022), SW-01**

Parameter	Count	Units	WQG PAL <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	34	mg/L	-	0	26	30.8	32	35.7
pH	34	-	6.5 – 8.5	0	6.52	7.41	7.6	7.73
Sulfate (SO <sub>4</sub> )	20	mg/L	-	0	1.3	1.96	2	3.25
Calcium (Ca)-Total	34	mg/L	-	0	9.2	10.1	10.2	11.3
Magnesium (Mg)-Total	34	mg/L	-	0	1.3	1.48	1.52	1.74
Sodium (Na)-Total	34	mg/L	-	0	0.594	0.823	0.747	0.927
Potassium (K)-Total	34	mg/L	-	0	0.59	0.665	0.68	0.756
Chloride (Cl)	14	mg/L	120	0	0.21	0.479	0.5	0.5
Fluoride (F)	33	mg/L	0.12	0	0.01	0.0339	0.05	0.05
Nitrate (as N)	25	mg/L	3	0	0.01	0.034	0.05	0.05
Nitrite (as N)	25	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	33	mg/L	0.02	0	0.0015	0.00424	0.005	0.005
Cyanide, Total	5	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	34	mg/L	0.66	1	0.0015	0.0183	0.0129	0.0341
Antimony (Sb)-Total	34	mg/L	0.02	0	0.00005	0.000134	0.00025	0.00025
Arsenic (As)-Total	34	mg/L	0.005	0	0.00049	0.000536	0.000565	0.00063
Beryllium (Be)-Total	34	mg/L	0.011	0	0.00001	0.000128	0.00025	0.00025
Boron (B)-Total	34	mg/L	2	0	0.005	0.00529	0.005	0.005
Cadmium (Cd)-Total	34	mg/L	0.0001	0	0.0000025	0.0000224	0.00005	0.00005
Chromium (Cr)-Total	20	mg/L	0.0089	2	0.00005	0.000799	0.000263	<b>0.00513</b>
Cobalt (Co)-Total	34	mg/L	0.00078	0	0.00005	0.000132	0.00025	0.00025
Copper (Cu)-Total	34	mg/L	0.005	0	0.0005	0.00111	0.00108	0.00281
Iron (Fe)-Total	34	mg/L	0.3	0	0.011	0.0367	0.05	0.05
Lead (Pb)-Total	34	mg/L	0.003	0	0.000025	0.000165	0.00025	0.00025
Mercury (Hg)-Total	20	mg/L	0.000026	0	0.0000025	0.0000031	0.0000025	0.00000652
Molybdenum (Mo)-Total	34	mg/L	0.073	0	0.000059	0.000211	0.00025	0.0005
Nickel (Ni)-Total	34	mg/L	0.025	0	0.00025	0.000452	0.0005	0.000549
Selenium (Se)-Total	34	mg/L	0.1	0	0.000052	0.000463	0.001	0.001
Silver (Ag)-Total	34	mg/L	0.0001	0	0.000005	0.0000247	0.00005	0.00005
Uranium (U)-Total	34	mg/L	0.005	0	0.000005	0.0000282	0.00005	0.00005
Vanadium (V)-Total	34	mg/L	0.12	0	0.00025	0.000272	0.00025	0.0005
Zinc (Zn)-Total	34	mg/L	0.02	0	0.0015	0.00309	0.00288	0.00814
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.00001	0.000155	0.000227	0.000387

**Notes:**

<sup>1</sup> WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here

**Bolded** values are greater than WQG PAL

For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.

Notes:

- indicates value not available

**Table B-2: Baseline Surface Water Quality (2011 - 2022), SW-02**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	22	mg/L	-	0	27.9	30.5	31.7	34.7
pH	22	-	6.5 – 8.5	0	6.55	7.33	7.57	7.65
Sulfate (SO <sub>4</sub> )	17	mg/L	-	0	1.3	1.83	2	2.16
Calcium (Ca)-Total	22	mg/L	-	0	9.4	10.2	10.5	11.3
Magnesium (Mg)-Total	22	mg/L	-	0	1.3	1.46	1.5	1.6
Sodium (Na)-Total	22	mg/L	-	0	0.63	0.711	0.732	0.875
Potassium (K)-Total	22	mg/L	-	0	0.596	0.655	0.671	0.739
Chloride (Cl)	11	mg/L	120	0	0.23	0.475	0.5	0.5
Fluoride (F)	21	mg/L	0.12	0	0.01	0.037	0.05	0.05
Nitrate (as N)	17	mg/L	3	0	0.01	0.0374	0.05	0.051
Nitrite (as N)	17	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	21	mg/L	0.02	0	0.0015	0.00317	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	22	mg/L	0.66	0	0.006	0.00985	0.0128	0.015
Antimony (Sb)-Total	22	mg/L	0.02	0	0.00005	0.00015	0.00025	0.00025
Arsenic (As)-Total	22	mg/L	0.005	0	0.00049	0.000569	0.000568	0.000794
Beryllium (Be)-Total	22	mg/L	0.011	0	0.00001	0.000143	0.00025	0.00025
Boron (B)-Total	22	mg/L	2	0	0.005	0.00536	0.005	0.005
Cadmium (Cd)-Total	22	mg/L	0.0001	0	0.0000025	0.0000264	0.00005	0.00005
Chromium (Cr)-Total	11	mg/L	0.0089	0	0.00011	0.000205	0.000225	0.000405
Cobalt (Co)-Total	22	mg/L	0.00078	0	0.00005	0.00015	0.00025	0.00025
Copper (Cu)-Total	22	mg/L	0.005	2	0.0005	0.0016	0.0011	<b>0.00661</b>
Iron (Fe)-Total	22	mg/L	0.3	0	0.016	0.0404	0.05	0.05
Lead (Pb)-Total	22	mg/L	0.003	0	0.000025	0.000194	0.00025	0.00025
Mercury (Hg)-Total	11	mg/L	0.000026	0	0.0000025	0.00000406	0.0000042	0.0000094
Molybdenum (Mo)-Total	22	mg/L	0.073	0	0.000066	0.000198	0.00025	0.000488
Nickel (Ni)-Total	22	mg/L	0.025	0	0.00025	0.000375	0.0005	0.0005
Selenium (Se)-Total	22	mg/L	0.1	0	0.000064	0.000543	0.001	0.001
Silver (Ag)-Total	22	mg/L	0.0001	0	0.000005	0.0000293	0.00005	0.00005
Uranium (U)-Total	22	mg/L	0.005	0	0.000005	0.0000313	0.00005	0.00005
Vanadium (V)-Total	22	mg/L	0.12	0	0.00025	0.000273	0.00025	0.000488
Zinc (Zn)-Total	22	mg/L	0.02	0	0.0015	0.00256	0.0025	0.00548
Methylmercury (MeHg)-Total	6	ng/L	4	0	0.00001	0.0000425	0.0000455	0.000092

**Notes:**

1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here

**Bolded** values are greater than WQG PAL

For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.

Notes:

- indicates value not available

**Table B-3: Baseline Surface Water Quality (2011 - 2022), SW-03**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	34	mg/L	-	0	25	28.6	29.9	33.1
pH	35	-	6.5 – 8.5	0	6.52	7.41	7.54	7.68
Sulfate (SO <sub>4</sub> )	21	mg/L	-	0	0.5	1.38	1.61	2
Calcium (Ca)-Total	35	mg/L	-	0	8.3	9.31	9.54	10.7
Magnesium (Mg)-Total	35	mg/L	-	0	1.17	1.43	1.5	1.61
Sodium (Na)-Total	35	mg/L	-	0	0.548	0.657	0.682	0.741
Potassium (K)-Total	35	mg/L	-	0	0.45	0.558	0.582	0.621
Chloride (Cl)	15	mg/L	120	0	0.18	0.525	0.5	0.71
Fluoride (F)	34	mg/L	0.12	1	0.01	0.0504	0.05	0.05
Nitrate (as N)	26	mg/L	3	0	0.01	0.0368	0.05	0.0515
Nitrite (as N)	26	mg/L	0.06	0	0.005	0.00519	0.005	0.005
Phosphorus, dissolved	34	mg/L	0.02	0	0.0015	0.00294	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.0012	0.001	0.0019
Aluminum (Al)-Total	35	mg/L	0.66	0	0.0039	0.0108	0.012	0.0175
Antimony (Sb)-Total	35	mg/L	0.02	0	0.00005	0.000136	0.00025	0.00025
Arsenic (As)-Total	35	mg/L	0.005	0	0.0005	0.000899	0.0011	0.00127
Beryllium (Be)-Total	35	mg/L	0.011	0	0.00001	0.000131	0.00025	0.00025
Boron (B)-Total	35	mg/L	2	0	0.005	0.00517	0.005	0.005
Cadmium (Cd)-Total	35	mg/L	0.0001	0	0.0000025	0.0000231	0.00005	0.00005
Chromium (Cr)-Total	20	mg/L	0.0089	0	0.00005	0.00021	0.00025	0.000448
Cobalt (Co)-Total	35	mg/L	0.00078	0	0.00005	0.000136	0.00025	0.00025
Copper (Cu)-Total	35	mg/L	0.005	0	0.0005	0.000782	0.00094	0.00123
Iron (Fe)-Total	35	mg/L	0.3	0	0.013	0.0383	0.05	0.05
Lead (Pb)-Total	35	mg/L	0.003	0	0.000025	0.000125	0.00025	0.00025
Mercury (Hg)-Total	20	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	35	mg/L	0.073	0	0.00006	0.000172	0.00025	0.000325
Nickel (Ni)-Total	35	mg/L	0.025	0	0.00025	0.000357	0.0005	0.0005
Selenium (Se)-Total	35	mg/L	0.1	0	0.000064	0.000479	0.001	0.001
Silver (Ag)-Total	35	mg/L	0.0001	0	0.000005	0.0000254	0.00005	0.00005
Uranium (U)-Total	35	mg/L	0.005	0	0.000015	0.0000324	0.00005	0.00005
Vanadium (V)-Total	35	mg/L	0.12	0	0.00025	0.000264	0.00025	0.000325
Zinc (Zn)-Total	35	mg/L	0.02	0	0.0015	0.00214	0.0025	0.00325
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.00001	0.0000573	0.000081	0.000113

**Notes:**

1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here

**Bolded** values are greater than WQG PAL

For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.

Notes:

- indicates value not available

**Table B-4: Baseline Surface Water Quality (2011 - 2022), SW-04**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	21	mg/L	-	0	26	28.2	29.5	31
pH	21	-	6.5 – 8.5	0	6.53	7.33	7.53	7.62
Sulfate (SO <sub>4</sub> )	16	mg/L	-	0	0.5	1.23	1.5	2
Calcium (Ca)-Total	21	mg/L	-	0	8.1	9.2	9.4	10
Magnesium (Mg)-Total	21	mg/L	-	0	1.1	1.42	1.47	1.54
Sodium (Na)-Total	21	mg/L	-	0	0.58	0.682	0.698	0.79
Potassium (K)-Total	21	mg/L	-	0	0.43	0.573	0.61	0.67
Chloride (Cl)	10	mg/L	120	0	0.5	0.5	0.5	0.5
Fluoride (F)	20	mg/L	0.12	0	0.01	0.0378	0.05	0.05
Nitrate (as N)	16	mg/L	3	0	0.01	0.0375	0.05	0.05
Nitrite (as N)	16	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	20	mg/L	0.02	0	0.0015	0.0034	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	21	mg/L	0.66	0	0.0081	0.0144	0.016	0.026
Antimony (Sb)-Total	21	mg/L	0.02	0	0.00005	0.00019	0.00025	0.00025
Arsenic (As)-Total	21	mg/L	0.005	0	0.0005	0.000851	0.0011	0.00132
Beryllium (Be)-Total	21	mg/L	0.011	0	0.00001	0.000151	0.00025	0.00025
Boron (B)-Total	21	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	21	mg/L	0.0001	0	0.0000025	0.0000313	0.00005	0.00005
Chromium (Cr)-Total	10	mg/L	0.0089	0	0.00014	0.000265	0.00025	0.000542
Cobalt (Co)-Total	21	mg/L	0.00078	0	0.00005	0.000162	0.00025	0.00025
Copper (Cu)-Total	21	mg/L	0.005	0	0.0005	0.000954	0.001	0.0019
Iron (Fe)-Total	21	mg/L	0.3	0	0.019	0.0442	0.05	0.051
Lead (Pb)-Total	21	mg/L	0.003	0	0.000025	0.000161	0.00025	0.00025
Mercury (Hg)-Total	10	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	21	mg/L	0.073	0	0.000068	0.00021	0.00025	0.0005
Nickel (Ni)-Total	21	mg/L	0.025	0	0.00025	0.000525	0.0005	0.00096
Selenium (Se)-Total	21	mg/L	0.1	0	0.000054	0.000603	0.001	0.001
Silver (Ag)-Total	21	mg/L	0.0001	0	0.000005	0.000034	0.00005	0.00005
Uranium (U)-Total	21	mg/L	0.005	0	0.000014	0.0000362	0.00005	0.00005
Vanadium (V)-Total	21	mg/L	0.12	0	0.00025	0.000295	0.00025	0.0005
Zinc (Zn)-Total	21	mg/L	0.02	0	0.0015	0.00237	0.0025	0.0031
Methylmercury (MeHg)-Total	6	ug/L	4	0	0.00001	0.000027	0.0000318	0.000045

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-5: Baseline Surface Water Quality (2011 - 2022), SW-05**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	12	mg/L	-	0	22	23.5	24	25.4
pH	12	-	6.5 – 8.5	0	6.46	7.15	7.43	7.52
Sulfate (SO <sub>4</sub> )	9	mg/L	-	0	1.7	2.12	2.2	2.76
Calcium (Ca)-Total	12	mg/L	-	0	7.9	8.5	8.48	9.85
Magnesium (Mg)-Total	12	mg/L	-	0	1	1.07	1.1	1.28
Sodium (Na)-Total	12	mg/L	-	0	0.64	0.675	0.69	0.714
Potassium (K)-Total	12	mg/L	-	0	0.62	0.688	0.719	0.744
Chloride (Cl)	9	mg/L	120	0	0.5	0.5	0.5	0.5
Fluoride (F)	11	mg/L	0.12	0	0.022	0.0454	0.05	0.05
Nitrate (as N)	9	mg/L	3	0	0.05	0.05	0.05	0.05
Nitrite (as N)	9	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	11	mg/L	0.02	0	0.0015	0.00436	0.005	0.005
Cyanide, Total	-	mg/L	0.005	0	-	-	-	-
Aluminum (Al)-Total	12	mg/L	0.66	0	0.014	0.0249	0.0283	0.036
Antimony (Sb)-Total	12	mg/L	0.02	0	0.00005	0.000217	0.00025	0.00025
Arsenic (As)-Total	12	mg/L	0.005	0	0.0003	0.000469	0.0005	0.0005
Beryllium (Be)-Total	12	mg/L	0.011	0	0.00005	0.000217	0.00025	0.00025
Boron (B)-Total	12	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	12	mg/L	0.0001	0	0.0000025	0.0000421	0.00005	0.00005
Chromium (Cr)-Total	2	mg/L	0.0089	0	0.00014	0.000195	0.000223	0.000245
Cobalt (Co)-Total	12	mg/L	0.00078	0	0.00005	0.000217	0.00025	0.00025
Copper (Cu)-Total	12	mg/L	0.005	0	0.0005	0.000707	0.001	0.00115
Iron (Fe)-Total	12	mg/L	0.3	0	0.018	0.0454	0.05	0.05
Lead (Pb)-Total	12	mg/L	0.003	0	0.000025	0.000213	0.00025	0.00025
Mercury (Hg)-Total	2	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	12	mg/L	0.073	0	0.000025	0.000257	0.00025	0.0005
Nickel (Ni)-Total	12	mg/L	0.025	0	0.00025	0.000458	0.0005	0.0005
Selenium (Se)-Total	12	mg/L	0.1	0	0.000062	0.000845	0.001	0.001
Silver (Ag)-Total	12	mg/L	0.0001	0	0.000005	0.0000442	0.00005	0.00005
Uranium (U)-Total	12	mg/L	0.005	0	0.000012	0.0000438	0.00005	0.00005
Vanadium (V)-Total	12	mg/L	0.12	0	0.00025	0.000333	0.000313	0.000608
Zinc (Zn)-Total	12	mg/L	0.02	0	0.0015	0.00255	0.0025	0.00367
Methylmercury (MeHg)-Total	-	ug/L	4	0	-	-	-	-

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-6: Baseline Surface Water Quality (2011 - 2022), SW-06**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
pH	14	-	-	0	6.82	7.44	7.57	7.61
Sulfate (SO <sub>4</sub> )	11	mg/L	6.5 – 8.5	0	1	1.78	2	2.19
Calcium (Ca)-Total	14	mg/L	-	0	9.3	10.3	10.8	11.4
Magnesium (Mg)-Total	14	mg/L	-	0	1.4	1.49	1.52	1.67
Sodium (Na)-Total	14	mg/L	-	0	0.65	0.71	0.731	0.799
Potassium (K)-Total	14	mg/L	-	0	0.55	0.661	0.677	0.734
Chloride (Cl)	5	mg/L	120	0	0.5	0.5	0.5	0.5
Fluoride (F)	14	mg/L	0.12	0	0.01	0.0342	0.05	0.05
Nitrate (as N)	11	mg/L	3	0	0.01	0.0344	0.05	0.055
Nitrite (as N)	11	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	14	mg/L	0.02	0	0.0015	0.00329	0.005	0.00675
Cyanide, Total	6	mg/L	0.01	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	14	mg/L	0.66	0	0.0025	0.00945	0.0114	0.018
Antimony (Sb)-Total	14	mg/L	0.02	0	0.00005	0.000162	0.00025	0.00038
Arsenic (As)-Total	14	mg/L	0.005	0	0.00049	0.000543	0.00059	0.000627
Beryllium (Be)-Total	14	mg/L	0.011	0	0.00001	0.00011	0.00025	0.00025
Boron (B)-Total	14	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	14	mg/L	0.0001	0	0.0000025	0.00002	0.00005	0.00005
Chromium (Cr)-Total	9	mg/L	0.0089	0	0.00013	0.000184	0.00025	0.000262
Cobalt (Co)-Total	14	mg/L	0.00078	0	0.00005	0.000121	0.00025	0.00025
Copper (Cu)-Total	14	mg/L	0.005	0	0.0005	0.000884	0.001	0.00148
Iron (Fe)-Total	14	mg/L	0.3	0	0.005	0.0308	0.05	0.05
Lead (Pb)-Total	14	mg/L	0.003	0	0.000025	0.000107	0.00025	0.00025
Mercury (Hg)-Total	9	mg/L	0.000026	0	0.0000025	0.00000487	0.0000025	0.0000153
Molybdenum (Mo)-Total	14	mg/L	0.073	0	0.000083	0.000194	0.00025	0.0005
Nickel (Ni)-Total	14	mg/L	0.025	0	0.00025	0.000339	0.0005	0.0005
Selenium (Se)-Total	14	mg/L	0.1	0	0.000073	0.000413	0.001	0.001
Silver (Ag)-Total	14	mg/L	0.0001	0	0.000005	0.0000239	0.00005	0.00005
Uranium (U)-Total	14	mg/L	0.005	0	0.000005	0.0000256	0.00005	0.00005
Vanadium (V)-Total	14	mg/L	0.006	0	0.00025	0.000286	0.00025	0.0005
Zinc (Zn)-Total	14	mg/L	0.011	0	0.0015	0.00216	0.0025	0.00387
Methylmercury (MeHg)-Total	5	ug/L	4	0	0.00001	0.0000304	0.000028	0.0000704

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL..**

Notes:

- indicates value not available

**Table B-7: Baseline Surface Water Quality (2011 - 2022), SW-07**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	19	mg/L	-	0	24	27.4	28.7	30.3
pH	18	-	6.5 – 8.5	0	6.53	7.28	7.48	7.57
Sulfate (SO <sub>4</sub> )	14	mg/L	-	0	1	1.39	1.65	2
Calcium (Ca)-Total	18	mg/L	-	0	8.3	9.14	9.48	9.98
Magnesium (Mg)-Total	18	mg/L	-	0	1.2	1.37	1.4	1.6
Sodium (Na)-Total	18	mg/L	-	0	0.6	0.675	0.688	0.766
Potassium (K)-Total	18	mg/L	-	0	0.565	0.621	0.636	0.699
Chloride (Cl)	10	mg/L	120	0	0.5	0.65	0.5	1.33
Fluoride (F)	17	mg/L	0.12	0	0.022	0.0399	0.05	0.05
Nitrate (as N)	14	mg/L	3	0	0.01	0.0426	0.05	0.056
Nitrite (as N)	14	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	17	mg/L	0.02	0	0.0015	0.00356	0.005	0.005
Cyanide, Total	5	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	18	mg/L	0.66	0	0.0106	0.0184	0.0226	0.0276
Antimony (Sb)-Total	18	mg/L	0.02	0	0.00005	0.000161	0.00025	0.00025
Arsenic (As)-Total	18	mg/L	0.005	0	0.0005	0.000586	0.000648	0.000793
Beryllium (Be)-Total	18	mg/L	0.011	0	0.00001	0.000154	0.00025	0.00025
Boron (B)-Total	18	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	18	mg/L	0.0001	0	0.0000025	0.0000291	0.00005	0.00005
Chromium (Cr)-Total	8	mg/L	0.0089	0	0.00014	0.00024	0.00025	0.000393
Cobalt (Co)-Total	18	mg/L	0.00078	0	0.00005	0.000161	0.00025	0.00025
Copper (Cu)-Total	18	mg/L	0.005	0	0.00025	0.000878	0.00108	0.00175
Iron (Fe)-Total	18	mg/L	0.3	0	0.029	0.0466	0.05	0.0522
Lead (Pb)-Total	18	mg/L	0.003	0	0.000025	0.00015	0.00025	0.00025
Mercury (Hg)-Total	8	mg/L	0.000026	0	0.0000025	0.0000035	0.0000025	0.0000077
Molybdenum (Mo)-Total	18	mg/L	0.073	0	0.000064	0.000193	0.00025	0.000288
Nickel (Ni)-Total	18	mg/L	0.025	0	0.00025	0.000427	0.0005	0.000566
Selenium (Se)-Total	18	mg/L	0.1	0	0.000068	0.000594	0.001	0.001
Silver (Ag)-Total	18	mg/L	0.0001	0	0.000005	0.0000322	0.00005	0.00005
Uranium (U)-Total	18	mg/L	0.005	0	0.000012	0.0000356	0.00005	0.00005
Vanadium (V)-Total	18	mg/L	0.12	0	0.00025	0.000264	0.00025	0.000288
Zinc (Zn)-Total	18	mg/L	0.02	0	0.0015	0.00228	0.0025	0.00297
Methylmercury (MeHg)-Total	5	ug/L	4	0	0.000023	0.0000386	0.000044	0.000056

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-8: Baseline Surface Water Quality (2011 - 2022), SW-07a**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Conductivity (EC)	14	mg/L	-	0	53.6	59.4	61.5	64.9
Hardness (as CaCO <sub>3</sub> )	14	-	-	0	25.9	28.6	29.4	32.4
pH	14	mg/L	6.5 – 8.5	0	7.19	7.5	7.5	7.6
Total Suspended Solids	14	mg/L	-	0	1.5	11.4	1.5	48.4
Alkalinity, Total (as CaCO <sub>3</sub> )	14	mg/L	-	0	23.2	29.9	30.5	36.2
Ammonia, Total (as N)	14	mg/L	-	0	0.0025	0.0342	0.0451	0.0915
Nitrate (as N)	14	mg/L	-	0	0.01	0.0426	0.0100	0.1723
Nitrite (as N)	14	mg/L	-	0	0.005	0.005	0.005	0.005
Phosphorus, Total	14	mg/L	120	0	0.0083	0.011007143	0.0122	0.013945
Sulfate (SO <sub>4</sub> )	14	mg/L	0.12	0	1.1	1.2	1.3	1.4
Cyanide, Total	14	mg/L	3	0	0.001	0.001214286	0.001	0.0025
Dissolved Organic Carbon	14	mg/L	0.06	0	9.5	10.6	11.0	11.8
Aluminum (Al)-Total	14	mg/L	0.02	0	0.011	0.0249	0.0280	0.0424
Antimony (Sb)-Total	14	mg/L	0.005	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	14	mg/L	0.66	0	0.00056	0.000763571	0.0008175	0.00098
Cadmium (Cd)-Total	14	mg/L	0.02	0	0.0000025	2.90714E-06	0.0000025	0.000004495
Chromium (Cr)-Total	14	mg/L	0.005	0	0.00016	0.000239286	0.00025	0.000364
Cobalt (Co)-Total	14	mg/L	0.011	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	14	mg/L	2	0	0.00056	0.000812857	0.000725	0.00169
Iron (Fe)-Total	14	mg/L	0.0001	0	0.040	0.051	0.057	0.061
Lead (Pb)-Total	14	mg/L	0.0089	0	0.000025	2.99286E-05	0.000025	0.000058
Magnesium (Mg)-Total	14	mg/L	0.00078	0	1.3	1.4	1.5	1.6
Manganese (Mn)-Total	14	mg/L	0.005	0	0.00144	0.005973571	0.0070875	0.00893
Mercury (Hg)-Total	14	mg/L	0.3	0	0.0000025	3.18571E-06	0.0000025	0.00000586
Molybdenum (Mo)-Total	14	mg/L	0.003	0	0.000077	0.000122357	0.00010425	0.00025
Nickel (Ni)-Total	14	mg/L	0.000026	0	0.00025	0.002377143	0.00025	0.015
Selenium (Se)-Total	14	mg/L	0.073	0	0.000069	0.00075	0.000095	0.0008
Silver (Ag)-Total	14	mg/L	0.025	0	0.000005	0.000005	0.000005	0.000005
Strontium (Sr)-Total	14	mg/L	0.1	0	0.0182	0.054	0.022	0.25
Thallium (Tl)-Total	14	mg/L	0.0001	0	0.000005	1.14286E-05	0.000005	0.00005
Uranium (U)-Total	14	mg/L	0.005	0	0.000014	4.96429E-05	0.0000185	0.00025
Vanadium (V)-Total	14	mg/L	0.12	0	0.0003	0.0004	0.0003	0.0015
Zinc (Zn)-Total	14	mg/L	0.02	0	0.0001	0.0013	0.0015	0.0015

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-9: Baseline Surface Water Quality (2011 - 2022), SW-08**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	31	mg/L	-	0	24	27.2	28.5	30.2
pH	32	-	6.5 – 8.5	0	6.5	7.35	7.5	7.6
Sulfate (SO <sub>4</sub> )	19	mg/L	-	0	1	1.39	1.6	2
Calcium (Ca)-Total	32	mg/L	-	0	7.9	8.98	9.39	10.3
Magnesium (Mg)-Total	32	mg/L	-	0	1.2	1.37	1.4	1.54
Sodium (Na)-Total	32	mg/L	-	0	0.598	0.664	0.692	0.741
Potassium (K)-Total	32	mg/L	-	0	0.53	0.617	0.646	0.671
Chloride (Cl)	13	mg/L	120	0	0.26	0.482	0.5	0.5
Fluoride (F)	31	mg/L	0.12	1	0.01	0.0458	0.05	0.05
Nitrate (as N)	24	mg/L	3	0	0.01	0.032	0.05	0.05
Nitrite (as N)	24	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	31	mg/L	0.02	0	0.0015	0.00421	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	32	mg/L	0.66	0	0.0091	0.0271	0.0363	0.0418
Antimony (Sb)-Total	32	mg/L	0.02	0	0.00005	0.000133	0.00025	0.00025
Arsenic (As)-Total	32	mg/L	0.005	0	0.0005	0.000678	0.000815	0.000937
Beryllium (Be)-Total	32	mg/L	0.011	0	0.00001	0.000126	0.00025	0.00025
Boron (B)-Total	32	mg/L	2	0	0.005	0.00519	0.005	0.005
Cadmium (Cd)-Total	32	mg/L	0.0001	0	0.0000025	0.0000227	0.00005	0.00005
Chromium (Cr)-Total	19	mg/L	0.0089	0	0.00012	0.000247	0.00025	0.000377
Cobalt (Co)-Total	32	mg/L	0.00078	0	0.00005	0.000131	0.00025	0.00025
Copper (Cu)-Total	32	mg/L	0.005	0	0.0005	0.000784	0.000765	0.00167
Iron (Fe)-Total	32	mg/L	0.3	0	0.026	0.0564	0.0665	0.0779
Lead (Pb)-Total	32	mg/L	0.003	0	0.000025	0.000123	0.00025	0.00025
Mercury (Hg)-Total	19	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	32	mg/L	0.073	0	0.000054	0.000163	0.00025	0.00025
Nickel (Ni)-Total	32	mg/L	0.025	0	0.00025	0.000419	0.0005	0.000505
Selenium (Se)-Total	32	mg/L	0.1	0	0.000068	0.00046	0.001	0.001
Silver (Ag)-Total	32	mg/L	0.0001	0	0.000005	0.0000245	0.00005	0.00005
Uranium (U)-Total	32	mg/L	0.005	0	0.000016	0.0000322	0.00005	0.00005
Vanadium (V)-Total	32	mg/L	0.12	0	0.00025	0.000258	0.00025	0.00025
Zinc (Zn)-Total	32	mg/L	0.02	0	0.0015	0.00217	0.0025	0.00334
Methylmercury (MeHg)-Total	5	ug/L	4	0	0.000024	0.0000338	0.000029	0.000053

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL..**

Notes:

- indicates value not available

**Table B-10: Baseline Surface Water Quality (2011 - 2022), SW-09**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	22	mg/L	-	0	29	36.8	38.6	45.4
pH	22	-	6.5 – 8.5	0	6.8	7.47	7.64	7.77
Sulfate (SO <sub>4</sub> )	15	mg/L	-	0	0.15	0.337	0.5	0.5
Calcium (Ca)-Total	22	mg/L	-	0	11	14.2	14.6	18
Magnesium (Mg)-Total	22	mg/L	-	0	0.61	0.773	0.81	0.907
Sodium (Na)-Total	22	mg/L	-	0	0.38	0.474	0.499	0.627
Potassium (K)-Total	22	mg/L	-	0	0.316	0.456	0.495	0.656
Chloride (Cl)	9	mg/L	120	0	0.13	0.626	0.5	1.4
Fluoride (F)	21	mg/L	0.12	0	0.01	0.0259	0.05	0.05
Nitrate (as N)	16	mg/L	3	0	0.01	0.0361	0.05	0.0565
Nitrite (as N)	16	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	21	mg/L	0.02	0	0.0015	0.00283	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	22	mg/L	0.66	2	0.0087	0.0381	0.0262	<b>0.126</b>
Antimony (Sb)-Total	22	mg/L	0.02	0	0.00005	0.000132	0.00025	0.00025
Arsenic (As)-Total	22	mg/L	0.005	0	0.0005	0.00058	0.0006	0.000788
Beryllium (Be)-Total	22	mg/L	0.011	0	0.00001	0.000125	0.00025	0.00025
Boron (B)-Total	22	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	22	mg/L	0.0001	0	0.0000025	0.0000227	0.00005	0.00005
Chromium (Cr)-Total	13	mg/L	0.0089	0	0.00005	0.000183	0.00025	0.000342
Cobalt (Co)-Total	22	mg/L	0.00078	0	0.00005	0.000132	0.00025	0.00025
Copper (Cu)-Total	22	mg/L	0.005	0	0.00025	0.000498	0.0005	0.00117
Iron (Fe)-Total	22	mg/L	0.3	0	0.05	0.159	0.163	0.55
Lead (Pb)-Total	22	mg/L	0.003	0	0.000025	0.000176	0.00025	0.00025
Mercury (Hg)-Total	13	mg/L	0.000026	0	0.0000025	0.00000316	0.0000025	0.00000654
Molybdenum (Mo)-Total	22	mg/L	0.073	0	0.000025	0.000128	0.00025	0.00025
Nickel (Ni)-Total	22	mg/L	0.025	0	0.00025	0.000352	0.0005	0.0005
Selenium (Se)-Total	22	mg/L	0.1	0	0.000055	0.000454	0.001	0.001
Silver (Ag)-Total	22	mg/L	0.0001	0	0.000005	0.0000252	0.00005	0.00005
Uranium (U)-Total	22	mg/L	0.005	0	0.000005	0.0000238	0.00005	0.00005
Vanadium (V)-Total	22	mg/L	0.12	0	0.00025	0.000261	0.00025	0.00025
Zinc (Zn)-Total	22	mg/L	0.02	0	0.0015	0.00228	0.0025	0.00507
Methylmercury (MeHg)-Total	6	ug/L	4	0	0.000039	0.0000712	0.0000475	0.000171

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-11: Baseline Surface Water Quality (2011 - 2022), SW-09**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	27	mg/L	-	0	27	31.2	32	36
pH	28	-	6.5 – 8.5	0	6.52	7.42	7.59	7.67
Sulfate (SO <sub>4</sub> )	14	mg/L	-	0	1.49	1.77	1.85	2.39
Calcium (Ca)-Total	28	mg/L	-	0	8.98	10.3	10.9	12
Magnesium (Mg)-Total	28	mg/L	-	0	1.3	1.46	1.47	1.74
Sodium (Na)-Total	28	mg/L	-	0	0.592	0.71	0.748	0.87
Potassium (K)-Total	28	mg/L	-	0	0.604	0.665	0.68	0.774
Chloride (Cl)	8	mg/L	120	0	0.22	0.465	0.5	0.5
Fluoride (F)	27	mg/L	0.12	1	0.01	0.0441	0.05	0.05
Nitrate (as N)	19	mg/L	3	0	0.01	0.0296	0.05	0.0515
Nitrite (as N)	19	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	27	mg/L	0.02	9	0.0015	0.00448	0.005	0.0092
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	28	mg/L	0.66	6	0.0049	0.0291	0.021	<b>0.107</b>
Antimony (Sb)-Total	28	mg/L	0.02	0	0.00005	0.000109	0.00025	0.00025
Arsenic (As)-Total	28	mg/L	0.005	0	0.00049	0.000569	0.000575	0.000735
Beryllium (Be)-Total	28	mg/L	0.011	0	0.00001	0.000101	0.00025	0.00025
Boron (B)-Total	28	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	28	mg/L	0.0001	0	0.0000025	0.000017	0.00005	0.00005
Chromium (Cr)-Total	20	mg/L	0.0089	0	0.00012	0.000223	0.000255	0.000359
Cobalt (Co)-Total	28	mg/L	0.00078	0	0.00005	0.00011	0.00025	0.00025
Copper (Cu)-Total	28	mg/L	0.005	0	0.0005	0.000805	0.000895	0.0013
Iron (Fe)-Total	28	mg/L	0.3	0	0.012	0.0661	0.05	0.247
Lead (Pb)-Total	28	mg/L	0.003	0	0.000025	0.000103	0.00025	0.00025
Mercury (Hg)-Total	20	mg/L	0.000026	0	0.0000025	0.00000322	0.0000025	0.00000767
Molybdenum (Mo)-Total	28	mg/L	0.073	0	0.000076	0.000148	0.00025	0.00025
Nickel (Ni)-Total	28	mg/L	0.025	0	0.00025	0.000343	0.0005	0.0005
Selenium (Se)-Total	28	mg/L	0.1	0	0.000059	0.000353	0.001	0.001
Silver (Ag)-Total	28	mg/L	0.0001	0	0.000005	0.0000193	0.00005	0.00005
Uranium (U)-Total	28	mg/L	0.005	0	0.000005	0.0000242	0.00005	0.00005
Vanadium (V)-Total	28	mg/L	0.12	0	0.00025	0.000304	0.00025	0.000608
Zinc (Zn)-Total	28	mg/L	0.02	0	0.0015	0.00204	0.0025	0.0033
Methylmercury (MeHg)-Total	6	ug/L	4	0	0.00001	0.0000312	0.0000375	0.0000458

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL..**

Notes:

- indicates value not available

**Table B-12: Baseline Surface Water Quality (2011 - 2022), SW-16**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	28	mg/L	-	0	23.9	27.8	29.1	30.1
pH	29	-	6.5 – 8.5	0	6.32	7.26	7.48	7.58
Sulfate (SO <sub>4</sub> )	16	mg/L	-	0	0.5	1.24	1.4	1.6
Calcium (Ca)-Total	28	mg/L	-	0	8	9.14	9.64	10.2
Magnesium (Mg)-Total	28	mg/L	-	0	0.897	1.33	1.4	1.53
Sodium (Na)-Total	28	mg/L	-	0	0.406	0.656	0.691	0.727
Potassium (K)-Total	28	mg/L	-	0	0.55	0.63	0.661	0.707
Chloride (Cl)	10	mg/L	120	0	0.23	0.473	0.5	0.5
Fluoride (F)	28	mg/L	0.12	1	0.01	0.0438	0.05	0.05
Nitrate (as N)	21	mg/L	3	0	0.01	0.0318	0.05	0.05
Nitrite (as N)	21	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	28	mg/L	0.02	9	0.0015	0.00291	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	28	mg/L	0.66	1	0.0124	0.0301	0.0293	0.0426
Antimony (Sb)-Total	28	mg/L	0.02	0	0.00005	0.000114	0.00025	0.00025
Arsenic (As)-Total	28	mg/L	0.005	0	0.0005	0.000682	0.00083	0.00102
Beryllium (Be)-Total	28	mg/L	0.011	0	0.00001	0.000109	0.00025	0.00025
Boron (B)-Total	28	mg/L	2	0	0.005	0.00525	0.005	0.005
Cadmium (Cd)-Total	28	mg/L	0.0001	0	0.0000025	0.0000185	0.00005	0.00005
Chromium (Cr)-Total	19	mg/L	0.0089	0	0.00013	0.000301	0.000275	0.000655
Cobalt (Co)-Total	28	mg/L	0.00078	0	0.00005	0.000126	0.00025	0.00025
Copper (Cu)-Total	28	mg/L	0.005	0	0.0005	0.000753	0.00084	0.00117
Iron (Fe)-Total	28	mg/L	0.3	0	0.05	0.0899	0.0715	0.113
Lead (Pb)-Total	28	mg/L	0.003	0	0.000025	0.000112	0.00025	0.00025
Mercury (Hg)-Total	19	mg/L	0.000026	1	0.0000025	0.00000578	0.00000385	0.0000138
Molybdenum (Mo)-Total	28	mg/L	0.073	0	0.000025	0.000142	0.00025	0.00025
Nickel (Ni)-Total	28	mg/L	0.025	0	0.00025	0.000398	0.0005	0.000706
Selenium (Se)-Total	28	mg/L	0.1	0	0.000065	0.000384	0.001	0.001
Silver (Ag)-Total	28	mg/L	0.0001	0	0.000005	0.0000209	0.00005	0.00005
Uranium (U)-Total	28	mg/L	0.005	0	0.000005	0.0000274	0.00005	0.00005
Vanadium (V)-Total	28	mg/L	0.12	0	0.00025	0.00026	0.00025	0.00025
Zinc (Zn)-Total	28	mg/L	0.02	0	0.0015	0.00253	0.0025	0.00416
Methylmercury (MeHg)-Total	6	ug/L	4	0	0.000037	0.0000603	0.0000813	0.0000913

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-13: Baseline Surface Water Quality (2011 - 2022), SW-18**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	9	mg/L	-	0	26.1	29.2	30.1	31.2
pH	9	-	6.5 – 8.5	0	7.36	7.53	7.6	7.64
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	1.06	1.32	1.15	2.07
Calcium (Ca)-Total	9	mg/L	-	0	9.01	9.64	10.2	10.4
Magnesium (Mg)-Total	9	mg/L	-	0	1.38	1.5	1.53	1.69
Sodium (Na)-Total	9	mg/L	-	0	0.611	0.693	0.72	0.788
Potassium (K)-Total	9	mg/L	-	0	0.519	0.575	0.579	0.644
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	9	mg/L	0.12	0	0.01	0.0208	0.026	0.0298
Nitrate (as N)	6	mg/L	3	0	0.01	0.0163	0.01	0.0385
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	9	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	9	mg/L	0.66	0	0.0045	0.0109	0.0124	0.019
Antimony (Sb)-Total	9	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	9	mg/L	0.005	0	0.00079	0.00105	0.00113	0.00129
Beryllium (Be)-Total	9	mg/L	0.011	0	0.00001	0.0000322	0.00005	0.00005
Boron (B)-Total	9	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	9	mg/L	0.0001	0	0.0000025	0.0000025	0.0000025	0.0000025
Chromium (Cr)-Total	9	mg/L	0.0089	0	0.00005	0.000183	0.00025	0.000256
Cobalt (Co)-Total	9	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	9	mg/L	0.005	0	0.00058	0.000702	0.0008	0.000806
Iron (Fe)-Total	9	mg/L	0.3	0	0.013	0.0284	0.036	0.0448
Lead (Pb)-Total	9	mg/L	0.003	0	0.000025	0.000032	0.000025	0.0000628
Mercury (Hg)-Total	9	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	9	mg/L	0.073	0	0.000058	0.0000906	0.000101	0.00011
Nickel (Ni)-Total	9	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	9	mg/L	0.1	0	0.000072	0.0000888	0.000099	0.000108
Silver (Ag)-Total	9	mg/L	0.0001	0	0.000005	0.00000944	0.000005	0.000025
Uranium (U)-Total	9	mg/L	0.005	0	0.000016	0.0000176	0.000019	0.000019
Vanadium (V)-Total	9	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	9	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.00001	0.00003	0.00004	0.000056

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL...**

Notes:

- indicates value not available

**Table B-14: Baseline Surface Water Quality (2011 - 2022), SW-18**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	10	mg/L	-	0	27.1	30.2	31.4	33.7
pH	10	-	6.5 – 8.5	0	7.34	7.53	7.61	7.62
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	0.96	1.2	1.24	1.54
Calcium (Ca)-Total	10	mg/L	-	0	9.34	9.83	9.91	11
Magnesium (Mg)-Total	10	mg/L	-	0	1.42	1.52	1.54	1.68
Sodium (Na)-Total	10	mg/L	-	0	0.612	0.684	0.705	0.794
Potassium (K)-Total	10	mg/L	-	0	0.503	0.573	0.591	0.664
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	10	mg/L	0.12	0	0.01	0.0223	0.0265	0.0297
Nitrate (as N)	6	mg/L	3	0	0.01	0.0248	0.037	0.0588
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	10	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	10	mg/L	0.66	0	0.0025	0.00855	0.00925	0.0171
Antimony (Sb)-Total	10	mg/L	0.02	0	0.00005	0.000116	0.00005	0.000413
Arsenic (As)-Total	10	mg/L	0.005	0	0.00088	0.00105	0.00113	0.00121
Beryllium (Be)-Total	10	mg/L	0.011	0	0.00001	0.000034	0.00005	0.00005
Boron (B)-Total	10	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	10	mg/L	0.0001	0	0.0000025	0.00000342	0.0000025	0.00000731
Chromium (Cr)-Total	10	mg/L	0.0089	0	0.00011	0.000199	0.00024	0.00025
Cobalt (Co)-Total	10	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	10	mg/L	0.005	0	0.00058	0.000764	0.00074	0.00123
Iron (Fe)-Total	10	mg/L	0.3	0	0.011	0.0277	0.024	0.0624
Lead (Pb)-Total	10	mg/L	0.003	0	0.000025	0.0000342	0.000025	0.000073
Mercury (Hg)-Total	10	mg/L	0.000026	0	0.0000025	0.00000344	0.0000025	0.00000722
Molybdenum (Mo)-Total	10	mg/L	0.073	0	0.000057	0.0000846	0.0000928	0.000111
Nickel (Ni)-Total	10	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	10	mg/L	0.1	0	0.000058	0.0000886	0.0000985	0.00014
Silver (Ag)-Total	10	mg/L	0.0001	0	0.000005	0.000009	0.000005	0.000025
Uranium (U)-Total	10	mg/L	0.005	0	0.000014	0.0000176	0.000019	0.0000206
Vanadium (V)-Total	10	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	10	mg/L	0.02	0	0.0015	0.0021	0.00263	0.00377
Methylmercury (MeHg)-Total	7	ug/L	4	0	0.00001	0.0000276	0.000038	0.0000546

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-15: Baseline Surface Water Quality (2011 - 2022), SW-21**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	14	mg/L	-	0	48	53.6	55.4	60.3
pH	14	-	6.5 – 8.5	0	6.86	7.66	7.87	7.97
Sulfate (SO <sub>4</sub> )	11	mg/L	-	0	0.5	1.11	1.4	1.65
Calcium (Ca)-Total	14	mg/L	-	0	16	17.2	17.6	18.8
Magnesium (Mg)-Total	14	mg/L	-	0	2.89	3.12	3.19	3.58
Sodium (Na)-Total	14	mg/L	-	0	0.72	0.805	0.84	0.892
Potassium (K)-Total	14	mg/L	-	0	0.35	0.428	0.44	0.474
Chloride (Cl)	5	mg/L	120	0	0.5	0.5	0.5	0.5
Fluoride (F)	13	mg/L	0.12	0	0.01	0.033	0.05	0.05
Nitrate (as N)	11	mg/L	3	0	0.01	0.0331	0.05	0.057
Nitrite (as N)	11	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	13	mg/L	0.02	0	0.0015	0.00285	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	14	mg/L	0.66	0	0.0025	0.00873	0.0107	0.0154
Antimony (Sb)-Total	14	mg/L	0.02	0	0.00005	0.000136	0.00025	0.00025
Arsenic (As)-Total	14	mg/L	0.005	0	0.0004	0.000531	0.000565	0.000683
Beryllium (Be)-Total	14	mg/L	0.011	0	0.00001	0.000124	0.00025	0.00025
Boron (B)-Total	14	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	14	mg/L	0.0001	0	0.0000025	0.0000229	0.00005	0.00005
Chromium (Cr)-Total	8	mg/L	0.0089	0	0.00005	0.000215	0.00025	0.000458
Cobalt (Co)-Total	14	mg/L	0.00078	0	0.00005	0.000136	0.00025	0.00025
Copper (Cu)-Total	14	mg/L	0.005	0	0.00025	0.000357	0.0005	0.0005
Iron (Fe)-Total	14	mg/L	0.3	0	0.013	0.0811	0.105	0.212
Lead (Pb)-Total	14	mg/L	0.003	0	0.000025	0.000139	0.00025	0.000259
Mercury (Hg)-Total	8	mg/L	0.000026	0	0.0000025	0.00000323	0.0000025	0.00000627
Molybdenum (Mo)-Total	14	mg/L	0.073	0	0.000025	0.000138	0.00025	0.00025
Nickel (Ni)-Total	14	mg/L	0.025	0	0.00025	0.000376	0.0005	0.000504
Selenium (Se)-Total	14	mg/L	0.1	0	0.000025	0.000462	0.001	0.001
Silver (Ag)-Total	14	mg/L	0.0001	0	0.000005	0.0000271	0.00005	0.00005
Uranium (U)-Total	14	mg/L	0.005	0	0.000005	0.000033	0.00005	0.0000745
Vanadium (V)-Total	14	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	14	mg/L	0.02	0	0.0015	0.00193	0.0025	0.0025
Methylmercury (MeHg)-Total	5	ug/L	4	0	0.00001	0.000021	0.000025	0.0000354

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-16: Baseline Surface Water Quality (2011 - 2022), SW-22**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	29	mg/L	-	0	24.6	27.6	28.8	30.9
pH	30	-	6.5 – 8.5	0	6.54	7.33	7.5	7.63
Sulfate (SO <sub>4</sub> )	17	mg/L	-	0	1.2	1.48	1.6	1.72
Calcium (Ca)-Total	29	mg/L	-	0	8.03	9.08	9.45	10.2
Magnesium (Mg)-Total	29	mg/L	-	0	1.2	1.38	1.4	1.55
Sodium (Na)-Total	29	mg/L	-	0	0.577	0.674	0.7	0.758
Potassium (K)-Total	29	mg/L	-	0	0.54	0.619	0.64	0.678
Chloride (Cl)	11	mg/L	120	0	0.41	0.492	0.5	0.5
Fluoride (F)	29	mg/L	0.12	1	0.01	0.043	0.05	0.05
Nitrate (as N)	22	mg/L	3	0	0.01	0.0313	0.05	0.05
Nitrite (as N)	22	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	29	mg/L	0.02	0	0.0015	0.00276	0.005	0.005
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	29	mg/L	0.66	0	0.0117	0.019	0.022	0.0294
Antimony (Sb)-Total	29	mg/L	0.02	0	0.00005	0.000121	0.00025	0.00025
Arsenic (As)-Total	29	mg/L	0.005	0	0.0005	0.000649	0.00075	0.000882
Beryllium (Be)-Total	29	mg/L	0.011	0	0.00001	0.000113	0.00025	0.00025
Boron (B)-Total	29	mg/L	2	0	0.005	0.00541	0.005	0.005
Cadmium (Cd)-Total	29	mg/L	0.0001	0	0.0000025	0.0000189	0.00005	0.00005
Chromium (Cr)-Total	19	mg/L	0.0089	0	0.00012	0.000345	0.00027	0.000834
Cobalt (Co)-Total	29	mg/L	0.00078	0	0.00005	0.000119	0.00025	0.00025
Copper (Cu)-Total	29	mg/L	0.005	0	0.0005	0.000755	0.00084	0.00122
Iron (Fe)-Total	29	mg/L	0.3	0	0.032	0.0549	0.056	0.0854
Lead (Pb)-Total	29	mg/L	0.003	0	0.000025	0.000107	0.00025	0.00025
Mercury (Hg)-Total	19	mg/L	0.000026	0	0.0000025	0.00000272	0.0000025	0.00000291
Molybdenum (Mo)-Total	29	mg/L	0.073	0	0.00007	0.000152	0.00025	0.00025
Nickel (Ni)-Total	29	mg/L	0.025	0	0.00025	0.000362	0.0005	0.000536
Selenium (Se)-Total	29	mg/L	0.1	0	0.000062	0.000405	0.001	0.001
Silver (Ag)-Total	29	mg/L	0.0001	0	0.000005	0.0000219	0.00005	0.00005
Uranium (U)-Total	29	mg/L	0.005	0	0.000016	0.0000319	0.00005	0.00005
Vanadium (V)-Total	29	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	29	mg/L	0.02	0	0.0015	0.00198	0.0025	0.00286
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.00001	0.0000327	0.000044	0.0000528

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL..**

Notes:

- indicates value not available

**Table B-17: Baseline Surface Water Quality (2011 - 2022), SW-23**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	11	mg/L	-	0	26.4	31.9	31.4	43.1
pH	11	-	6.5 – 8.5	0	7.42	7.55	7.62	7.65
Sulfate (SO <sub>4</sub> )	7	mg/L	-	0	1.01	1.43	1.7	2.01
Calcium (Ca)-Total	11	mg/L	-	0	9.03	10.7	10.9	14.6
Magnesium (Mg)-Total	11	mg/L	-	0	1.33	1.5	1.54	1.68
Sodium (Na)-Total	11	mg/L	-	0	0.618	0.688	0.712	0.798
Potassium (K)-Total	11	mg/L	-	0	0.489	0.585	0.611	0.68
Chloride (Cl)	2	mg/L	120	0	0.5	0.5	0.5	0.5
Fluoride (F)	11	mg/L	0.12	0	0.01	0.0287	0.0295	0.05
Nitrate (as N)	8	mg/L	3	0	0.01	0.0254	0.05	0.052
Nitrite (as N)	8	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	11	mg/L	0.02	0	0.0015	0.00214	0.0015	0.005
Cyanide, Total	5	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	11	mg/L	0.66	0	0.0042	0.0119	0.0101	0.0276
Antimony (Sb)-Total	11	mg/L	0.02	0	0.00005	0.0000864	0.00005	0.00025
Arsenic (As)-Total	11	mg/L	0.005	0	0.00047	0.000931	0.00109	0.0012
Beryllium (Be)-Total	11	mg/L	0.011	0	0.00001	0.0000755	0.00005	0.00025
Boron (B)-Total	11	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	11	mg/L	0.0001	0	0.0000025	0.0000111	0.0000025	0.00005
Chromium (Cr)-Total	9	mg/L	0.0089	0	0.00012	0.000229	0.00026	0.000334
Cobalt (Co)-Total	11	mg/L	0.00078	0	0.00005	0.0000864	0.00005	0.00025
Copper (Cu)-Total	11	mg/L	0.005	0	0.0005	0.000691	0.000735	0.000985
Iron (Fe)-Total	11	mg/L	0.3	0	0.014	0.0351	0.038	0.0865
Lead (Pb)-Total	11	mg/L	0.003	0	0.000025	0.0000824	0.000116	0.00025
Mercury (Hg)-Total	9	mg/L	0.000026	0	0.0000025	0.00000292	0.0000025	0.00000478
Molybdenum (Mo)-Total	11	mg/L	0.073	0	0.000067	0.000116	0.00011	0.00025
Nickel (Ni)-Total	11	mg/L	0.025	0	0.00025	0.000295	0.00025	0.0005
Selenium (Se)-Total	11	mg/L	0.1	0	0.000065	0.000255	0.000115	0.001
Silver (Ag)-Total	11	mg/L	0.0001	0	0.000005	0.0000168	0.000025	0.00005
Uranium (U)-Total	11	mg/L	0.005	0	0.000005	0.000022	0.000021	0.00005
Vanadium (V)-Total	11	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	11	mg/L	0.02	1	0.0015	0.00367	0.002	0.013
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.00001	0.0000173	0.000021	0.0000298

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL...**

Notes:

- indicates value not available

**Table B-18: Baseline Surface Water Quality (2011 - 2022), SW-24**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	18	mg/L	-	0	25.9	43.6	58.9	75.6
pH	19	-	6.5 – 8.5	0	6.75	7.53	7.66	7.84
Sulfate (SO <sub>4</sub> )	8	mg/L	-	0	1.06	1.75	1.65	3.92
Calcium (Ca)-Total	19	mg/L	-	0	8.58	13.3	17.8	21.8
Magnesium (Mg)-Total	19	mg/L	-	0	1.35	2.53	3.92	4.62
Sodium (Na)-Total	19	mg/L	-	0	0.583	0.99	0.896	2.12
Potassium (K)-Total	19	mg/L	-	0	0.512	0.772	0.647	1.49
Chloride (Cl)	2	mg/L	120	0	0.5	2.75	3.88	4.78
Fluoride (F)	19	mg/L	0.12	1	0.01	0.0645	0.0395	<b>0.131</b>
Nitrate (as N)	12	mg/L	3	0	0.01	0.0996	0.02	0.48
Nitrite (as N)	12	mg/L	0.06	1	0.005	0.0129	0.005	0.0477
Phosphorus, dissolved	19	mg/L	0.02	4	0.0015	<b>0.0281</b>	0.0015	<b>0.0545</b>
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	19	mg/L	0.66	1	0.0063	0.0448	0.0126	<b>0.0883</b>
Antimony (Sb)-Total	19	mg/L	0.02	0	0.00005	0.000124	0.00005	0.000325
Arsenic (As)-Total	19	mg/L	0.005	1	0.0005	0.00141	0.00108	0.00234
Beryllium (Be)-Total	19	mg/L	0.011	0	0.00001	0.0000626	0.00005	0.00025
Boron (B)-Total	19	mg/L	2	0	0.005	0.00574	0.005	0.0064
Cadmium (Cd)-Total	19	mg/L	0.0001	0	0.0000025	0.00000779	0.0000025	0.00005
Chromium (Cr)-Total	17	mg/L	0.0089	0	0.00011	0.000212	0.00023	0.000356
Cobalt (Co)-Total	19	mg/L	0.00078	1	0.00005	0.000147	0.00005	0.000395
Copper (Cu)-Total	19	mg/L	0.005	0	0.00025	0.000781	0.00074	0.00123
Iron (Fe)-Total	19	mg/L	0.3	1	0.016	0.202	0.043	0.396
Lead (Pb)-Total	19	mg/L	0.003	0	0.000025	0.0000878	0.000025	0.000315
Mercury (Hg)-Total	17	mg/L	0.000026	0	0.0000025	0.00000274	0.0000025	0.00000332
Molybdenum (Mo)-Total	19	mg/L	0.073	0	0.000063	0.000193	0.00025	0.000477
Nickel (Ni)-Total	19	mg/L	0.025	0	0.00025	0.000487	0.00025	0.0009
Selenium (Se)-Total	19	mg/L	0.1	0	0.000063	0.000183	0.0000965	0.001
Silver (Ag)-Total	19	mg/L	0.0001	0	0.000005	0.0000118	0.000005	0.00005
Uranium (U)-Total	19	mg/L	0.005	0	0.000015	0.0000225	0.000021	0.00005
Vanadium (V)-Total	19	mg/L	0.12	0	0.00025	0.000337	0.00025	0.000415
Zinc (Zn)-Total	19	mg/L	0.02	0	0.0015	0.00229	0.0015	0.0073
Methylmercury (MeHg)-Total	4	ug/L	4	0	0.00001	0.0000283	0.0000373	0.0000595

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.L.**

Notes:

- indicates value not available

**Table B-19: Baseline Surface Water Quality (2011 - 2022), SW-25**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	9	mg/L	-	0	28	31.3	32.1	34.2
pH	9	-	6.5 – 8.5	0	7.49	7.58	7.65	7.68
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	1.48	1.67	1.65	2.09
Calcium (Ca)-Total	9	mg/L	-	0	9.19	10.2	10.4	11.3
Magnesium (Mg)-Total	9	mg/L	-	0	1.34	1.5	1.52	1.7
Sodium (Na)-Total	9	mg/L	-	0	0.651	0.748	0.765	0.917
Potassium (K)-Total	9	mg/L	-	0	0.571	0.668	0.676	0.764
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	9	mg/L	0.12	0	0.01	0.0259	0.028	0.0362
Nitrate (as N)	6	mg/L	3	0	0.01	0.0222	0.01	0.0648
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	9	mg/L	0.02	0	0.0015	0.00169	0.0015	0.00252
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	9	mg/L	0.66	0	0.0058	0.00823	0.0093	0.0123
Antimony (Sb)-Total	9	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	9	mg/L	0.005	0	0.00045	0.00058	0.00061	0.000752
Beryllium (Be)-Total	9	mg/L	0.011	0	0.00001	0.0000322	0.00005	0.00005
Boron (B)-Total	9	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	9	mg/L	0.0001	0	0.0000025	0.0000025	0.0000025	0.0000025
Chromium (Cr)-Total	9	mg/L	0.0089	0	0.00005	0.000181	0.00024	0.00025
Cobalt (Co)-Total	9	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	9	mg/L	0.005	0	0.00064	0.000773	0.00082	0.001
Iron (Fe)-Total	9	mg/L	0.3	0	0.011	0.023	0.029	0.03
Lead (Pb)-Total	9	mg/L	0.003	0	0.000025	0.0000301	0.000025	0.0000526
Mercury (Hg)-Total	9	mg/L	0.000026	0	0.0000025	0.00000303	0.0000025	0.00000538
Molybdenum (Mo)-Total	9	mg/L	0.073	0	0.000075	0.000108	0.000115	0.000137
Nickel (Ni)-Total	9	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	9	mg/L	0.1	0	0.000082	0.0000982	0.000106	0.00011
Silver (Ag)-Total	9	mg/L	0.0001	0	0.000005	0.00000944	0.000005	0.000025
Uranium (U)-Total	9	mg/L	0.005	0	0.000005	0.0000108	0.000015	0.0000156
Vanadium (V)-Total	9	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	9	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.000022	0.0000533	0.000069	0.0000978

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-20: Baseline Surface Water Quality (2011 - 2022), SW-26**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	8	mg/L	-	0	52.2	58.5	57.3	73
pH	8	-	6.5 – 8.5	0	7.52	7.72	7.79	7.82
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	1.31	1.72	1.9	1.97
Calcium (Ca)-Total	8	mg/L	-	0	20.1	22.6	22.3	27.8
Magnesium (Mg)-Total	8	mg/L	-	0	1.06	1.21	1.22	1.43
Sodium (Na)-Total	8	mg/L	-	0	0.565	0.599	0.598	0.682
Potassium (K)-Total	8	mg/L	-	0	0.111	0.227	0.323	0.361
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	8	mg/L	0.12	0	0.01	0.0136	0.013	0.0253
Nitrate (as N)	6	mg/L	3	0	0.01	0.0157	0.0183	0.03
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	8	mg/L	0.02	2	0.0015	<b>0.00201</b>	0.00193	<b>0.00366</b>
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	8	mg/L	0.66	0	0.0077	0.014	0.0145	0.0237
Antimony (Sb)-Total	8	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	8	mg/L	0.005	0	0.00035	0.00045	0.00047	0.000591
Beryllium (Be)-Total	8	mg/L	0.011	0	0.00001	0.00003	0.00005	0.00005
Boron (B)-Total	8	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	8	mg/L	0.0001	0	0.0000025	0.00000729	0.0000025	0.0000274
Chromium (Cr)-Total	8	mg/L	0.0089	0	0.00016	0.000205	0.00025	0.000263
Cobalt (Co)-Total	8	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	8	mg/L	0.005	1	0.00025	0.00145	0.00075	<b>0.00576</b>
Iron (Fe)-Total	8	mg/L	0.3	0	0.041	0.0603	0.075	0.0861
Lead (Pb)-Total	8	mg/L	0.003	0	0.000025	0.000025	0.000025	0.000025
Mercury (Hg)-Total	8	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	8	mg/L	0.073	0	0.000025	0.0000613	0.0000713	0.0000819
Nickel (Ni)-Total	8	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	8	mg/L	0.1	0	0.000056	0.0000856	0.000094	0.0000992
Silver (Ag)-Total	8	mg/L	0.0001	0	0.000005	0.00001	0.00001	0.000025
Uranium (U)-Total	8	mg/L	0.005	0	0.000005	0.00000838	0.0000113	0.0000133
Vanadium (V)-Total	8	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	8	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.000086	0.000242	0.000321	0.000497

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-21: Baseline Surface Water Quality (2011 - 2022), SW-27**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	7	mg/L	-	0	27.5	29.2	29.6	31
pH	7	-	6.5 – 8.5	0	7.4	7.52	7.56	7.62
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	1.21	1.35	1.32	1.68
Calcium (Ca)-Total	7	mg/L	-	0	8.91	9.63	9.93	10.4
Magnesium (Mg)-Total	7	mg/L	-	0	1.37	1.46	1.5	1.58
Sodium (Na)-Total	7	mg/L	-	0	0.644	0.715	0.739	0.782
Potassium (K)-Total	7	mg/L	-	0	0.541	0.62	0.643	0.66
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	7	mg/L	0.12	0	0.01	0.0204	0.025	0.0274
Nitrate (as N)	6	mg/L	3	0	0.01	0.0208	0.0213	0.0513
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	7	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	7	mg/L	0.66	0	0.0083	0.0171	0.0193	0.0283
Antimony (Sb)-Total	7	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	7	mg/L	0.005	0	0.00063	0.000843	0.000965	0.00112
Beryllium (Be)-Total	7	mg/L	0.011	0	0.00001	0.0000271	0.00005	0.00005
Boron (B)-Total	7	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	7	mg/L	0.0001	0	0.0000025	0.00000549	0.0000072	0.0000134
Chromium (Cr)-Total	7	mg/L	0.0089	0	0.0002	0.000223	0.000235	0.00025
Cobalt (Co)-Total	7	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	7	mg/L	0.005	0	0.00058	0.00068	0.000725	0.000823
Iron (Fe)-Total	7	mg/L	0.3	0	0.026	0.047	0.054	0.0582
Lead (Pb)-Total	7	mg/L	0.003	0	0.000025	0.000084	0.000025	0.000314
Mercury (Hg)-Total	7	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	7	mg/L	0.073	0	0.000025	0.0000871	0.000099	0.000108
Nickel (Ni)-Total	7	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	7	mg/L	0.1	0	0.000064	0.0000843	0.0000925	0.000101
Silver (Ag)-Total	7	mg/L	0.0001	0	0.000005	0.00000786	0.000005	0.000019
Uranium (U)-Total	7	mg/L	0.005	0	0.000015	0.000017	0.000017	0.0000191
Vanadium (V)-Total	7	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	7	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.00001	0.00003	0.00004	0.00004

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-22: Baseline Surface Water Quality (2011 - 2022), SW-28**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	7	mg/L	-	0	28.5	30	30.6	31.6
pH	7	-	6.5 – 8.5	0	6.91	7.47	7.61	7.64
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	0.89	1.22	1.37	1.61
Calcium (Ca)-Total	7	mg/L	-	0	9.24	9.89	10.3	10.7
Magnesium (Mg)-Total	7	mg/L	-	0	1.38	1.48	1.53	1.59
Sodium (Na)-Total	7	mg/L	-	0	0.634	0.792	0.706	1.25
Potassium (K)-Total	7	mg/L	-	0	0.548	0.586	0.605	0.616
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	7	mg/L	0.12	0	0.01	0.0216	0.0245	0.0271
Nitrate (as N)	6	mg/L	3	0	0.01	0.0228	0.0378	0.0493
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	7	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	7	mg/L	0.66	0	0.0053	0.0119	0.0164	0.0199
Antimony (Sb)-Total	7	mg/L	0.02	0	0.00005	0.0000629	0.00005	0.000113
Arsenic (As)-Total	7	mg/L	0.005	0	0.00079	0.00117	0.00126	0.00148
Beryllium (Be)-Total	7	mg/L	0.011	0	0.00001	0.0000271	0.00005	0.00005
Boron (B)-Total	7	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	7	mg/L	0.0001	0	0.0000025	0.0000025	0.0000025	0.0000025
Chromium (Cr)-Total	7	mg/L	0.0089	0	0.00013	0.000196	0.000225	0.000257
Cobalt (Co)-Total	7	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	7	mg/L	0.005	0	0.00055	0.000793	0.000795	0.00133
Iron (Fe)-Total	7	mg/L	0.3	0	0.014	0.0354	0.036	0.0656
Lead (Pb)-Total	7	mg/L	0.003	0	0.000025	0.0000333	0.000025	0.0000656
Mercury (Hg)-Total	7	mg/L	0.000026	0	0.0000025	0.00000331	0.0000025	0.00000649
Molybdenum (Mo)-Total	7	mg/L	0.073	0	0.000064	0.0000819	0.000092	0.0001
Nickel (Ni)-Total	7	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	7	mg/L	0.1	0	0.000076	0.0000903	0.0000915	0.000114
Silver (Ag)-Total	7	mg/L	0.0001	0	0.000005	0.00000786	0.000005	0.000019
Uranium (U)-Total	7	mg/L	0.005	0	0.000016	0.0000179	0.000019	0.0000211
Vanadium (V)-Total	7	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	7	mg/L	0.02	0	0.0015	0.00196	0.0015	0.00374
Methylmercury (MeHg)-Total	2	ug/L	4	0	0.000047	0.000081	0.000098	0.000112

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-23: Baseline Surface Water Quality (2011 - 2022), L-1**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	5	mg/L	-	0	56.6	64.7	65.1	76.9
pH	5	-	6.5 – 8.5	0	7.72	7.82	7.88	7.9
Sulfate (SO <sub>4</sub> )	5	mg/L	-	0	2.37	2.9	3.31	3.62
Calcium (Ca)-Total	5	mg/L	-	0	17.6	20	21.8	22.5
Magnesium (Mg)-Total	5	mg/L	-	0	3.68	4.14	4.5	4.65
Sodium (Na)-Total	5	mg/L	-	0	0.788	0.861	0.891	0.917
Potassium (K)-Total	5	mg/L	-	0	0.445	0.513	0.577	0.591
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	5	mg/L	0.12	0	0.028	0.0422	0.047	0.0486
Nitrate (as N)	5	mg/L	3	0	0.01	0.042	0.01	0.138
Nitrite (as N)	5	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	5	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	5	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	5	mg/L	0.66	0	0.0075	0.0169	0.0156	0.0366
Antimony (Sb)-Total	5	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	5	mg/L	0.005	0	0.0006	0.00069	0.00072	0.000816
Beryllium (Be)-Total	5	mg/L	0.011	0	0.00001	0.000026	0.00005	0.00005
Boron (B)-Total	5	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	5	mg/L	0.0001	0	0.0000025	0.00000302	0.0000025	0.00000458
Chromium (Cr)-Total	5	mg/L	0.0089	0	0.00016	0.000188	0.00019	0.000238
Cobalt (Co)-Total	5	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	5	mg/L	0.005	0	0.00025	0.000314	0.00025	0.000506
Iron (Fe)-Total	5	mg/L	0.3	0	0.046	0.082	0.096	0.0984
Lead (Pb)-Total	5	mg/L	0.003	0	0.000025	0.000025	0.000025	0.000025
Mercury (Hg)-Total	5	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	5	mg/L	0.073	0	0.000173	0.000195	0.000204	0.000216
Nickel (Ni)-Total	5	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	5	mg/L	0.1	0	0.000053	0.0000642	0.000077	0.0000794
Silver (Ag)-Total	5	mg/L	0.0001	0	0.000005	0.000009	0.000005	0.000021
Uranium (U)-Total	5	mg/L	0.005	0	0.000005	0.0000106	0.000013	0.0000138
Vanadium (V)-Total	5	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	5	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.000083	0.000105	0.000116	0.000125

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-24: Baseline Surface Water Quality (2011 - 2022), L-16**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	5	mg/L	-	0	46.2	52.3	52.8	58.1
pH	5	-	6.5 – 8.5	0	7.57	7.7	7.75	7.77
Sulfate (SO <sub>4</sub> )	5	mg/L	-	0	0.93	1.13	1.3	1.36
Calcium (Ca)-Total	5	mg/L	-	0	17.7	19.2	20.5	20.9
Magnesium (Mg)-Total	5	mg/L	-	0	1.31	1.4	1.44	1.58
Sodium (Na)-Total	5	mg/L	-	0	0.669	0.73	0.797	0.801
Potassium (K)-Total	5	mg/L	-	0	0.532	0.571	0.583	0.584
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	5	mg/L	0.12	0	0.01	0.028	0.024	0.0632
Nitrate (as N)	5	mg/L	3	0	0.01	0.0264	0.01	0.0756
Nitrite (as N)	5	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	5	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	5	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	5	mg/L	0.66	0	0.0098	0.0159	0.0119	0.0305
Antimony (Sb)-Total	5	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	5	mg/L	0.005	0	0.00041	0.000504	0.00054	0.000628
Beryllium (Be)-Total	5	mg/L	0.011	0	0.00001	0.000026	0.00005	0.00005
Boron (B)-Total	5	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	5	mg/L	0.0001	0	0.0000025	0.00000342	0.0000025	0.00000618
Chromium (Cr)-Total	5	mg/L	0.0089	0	0.0002	0.00022	0.00023	0.000246
Cobalt (Co)-Total	5	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	5	mg/L	0.005	0	0.00025	0.000372	0.00052	0.000576
Iron (Fe)-Total	5	mg/L	0.3	0	0.077	0.102	0.111	0.117
Lead (Pb)-Total	5	mg/L	0.003	0	0.000025	0.000025	0.000025	0.000025
Mercury (Hg)-Total	5	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	5	mg/L	0.073	0	0.000106	0.000118	0.000125	0.000125
Nickel (Ni)-Total	5	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	5	mg/L	0.1	0	0.000025	0.0000652	0.000086	0.000086
Silver (Ag)-Total	5	mg/L	0.0001	0	0.000005	0.000009	0.000005	0.000021
Uranium (U)-Total	5	mg/L	0.005	0	0.000005	0.000006	0.000005	0.000009
Vanadium (V)-Total	5	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	5	mg/L	0.02	0	0.0015	0.00188	0.0015	0.00302
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.000073	0.000115	0.000137	0.000166

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-25: Baseline Surface Water Quality (2011 - 2022), L-19**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	6	mg/L	-	0	30.2	39.8	40	52.6
pH	6	-	6.5 – 8.5	0	7.4	7.53	7.63	7.68
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	0.15	0.507	0.535	0.82
Calcium (Ca)-Total	6	mg/L	-	0	9.18	13.2	13	19.7
Magnesium (Mg)-Total	6	mg/L	-	0	1.32	2.16	2.46	2.67
Sodium (Na)-Total	6	mg/L	-	0	0.58	0.723	0.786	0.813
Potassium (K)-Total	6	mg/L	-	0	0.338	0.433	0.47	0.535
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	6	mg/L	0.12	0	0.01	0.0172	0.0235	0.0263
Nitrate (as N)	6	mg/L	3	0	0.01	0.01	0.01	0.01
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	6	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	6	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	6	mg/L	0.66	0	0.0267	0.0392	0.0421	0.0594
Antimony (Sb)-Total	6	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	6	mg/L	0.005	0	0.00051	0.00071	0.0008	0.000908
Beryllium (Be)-Total	6	mg/L	0.011	0	0.00001	0.0000233	0.00004	0.00005
Boron (B)-Total	6	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	6	mg/L	0.0001	0	0.0000025	0.0000036	0.00000445	0.00000615
Chromium (Cr)-Total	6	mg/L	0.0089	0	0.00014	0.000195	0.000208	0.00024
Cobalt (Co)-Total	6	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	6	mg/L	0.005	0	0.00025	0.00033	0.00025	0.00061
Iron (Fe)-Total	6	mg/L	0.3	0	0.088	0.218	0.191	0.482
Lead (Pb)-Total	6	mg/L	0.003	0	0.000025	0.000093	0.000118	0.000157
Mercury (Hg)-Total	6	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	6	mg/L	0.073	0	0.000025	0.000025	0.000025	0.000025
Nickel (Ni)-Total	6	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	6	mg/L	0.1	0	0.000025	0.0000927	0.000119	0.000146
Silver (Ag)-Total	6	mg/L	0.0001	0	0.000005	0.00000833	0.000005	0.00002
Uranium (U)-Total	6	mg/L	0.005	0	0.000005	0.000005	0.000005	0.000005
Vanadium (V)-Total	6	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	6	mg/L	0.02	0	0.0015	0.0018	0.0015	0.00285
Methylmercury (MeHg)-Total	3	ug/L	4	0	0.000116	0.000223	0.000277	0.000402

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-26: Baseline Surface Water Quality (2011 - 2022), L-17**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	3	mg/L	-	0	43.7	50.7	54.3	54.6
pH	3	-	6.5 – 8.5	0	7.36	7.41	7.44	7.46
Sulfate (SO <sub>4</sub> )	3	mg/L	-	0	0.37	2.45	3.49	3.75
Calcium (Ca)-Total	3	mg/L	-	0	15.1	19.2	21.3	21.4
Magnesium (Mg)-Total	3	mg/L	-	0	0.822	1.03	1.13	1.13
Sodium (Na)-Total	3	mg/L	-	0	0.505	0.651	0.725	0.738
Potassium (K)-Total	3	mg/L	-	0	0.36	0.784	0.997	0.999
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	3	mg/L	0.12	0	0.01	0.0137	0.0155	0.0199
Nitrate (as N)	3	mg/L	3	0	0.01	0.01	0.01	0.01
Nitrite (as N)	3	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	3	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	3	mg/L	0.005	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	3	mg/L	0.66	0	0.0343	0.0436	0.0482	0.0588
Antimony (Sb)-Total	3	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	3	mg/L	0.005	0	0.00055	0.00069	0.00076	0.000864
Beryllium (Be)-Total	3	mg/L	0.011	0	0.00001	0.00001	0.00001	0.00001
Boron (B)-Total	3	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	3	mg/L	0.0001	0	0.0000025	0.00000453	0.00000555	0.00000599
Chromium (Cr)-Total	3	mg/L	0.0089	0	0.00026	0.000287	0.0003	0.000308
Cobalt (Co)-Total	3	mg/L	0.00078	0	0.00005	0.0000833	0.0001	0.00014
Copper (Cu)-Total	3	mg/L	0.005	0	0.00025	0.00034	0.000385	0.000493
Iron (Fe)-Total	3	mg/L	0.3	0	0.078	0.123	0.146	0.18
Lead (Pb)-Total	3	mg/L	0.003	0	0.000025	0.000025	0.000025	0.000025
Mercury (Hg)-Total	3	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	3	mg/L	0.073	0	0.000025	0.000025	0.000025	0.000025
Nickel (Ni)-Total	3	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	3	mg/L	0.1	0	0.000065	0.0000783	0.000085	0.000093
Silver (Ag)-Total	3	mg/L	0.0001	0	0.000005	0.000005	0.000005	0.000005
Uranium (U)-Total	3	mg/L	0.005	0	0.000005	0.000005	0.000005	0.000005
Vanadium (V)-Total	3	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	3	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Methylmercury (MeHg)-Total	-	ug/L	4	0	-	-	-	-

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL...**

Notes:

- indicates value not available

**Table B-27: Baseline Surface Water Quality (2011 - 2022), L-18**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	6	mg/L	-	0	37.8	43.5	43.7	54.2
pH	6	-	6.5 – 8.5	0	7.06	7.43	7.55	7.6
Sulfate (SO <sub>4</sub> )	6	mg/L	-	0	0.15	1.29	1.83	2.03
Calcium (Ca)-Total	6	mg/L	-	0	13	15.5	16.5	17.4
Magnesium (Mg)-Total	6	mg/L	-	0	0.863	1.36	1.08	2.68
Sodium (Na)-Total	6	mg/L	-	0	0.567	0.826	0.641	1.59
Potassium (K)-Total	6	mg/L	-	0	0.33	0.413	0.478	0.488
Chloride (Cl)	-	mg/L	120	0	-	-	-	-
Fluoride (F)	6	mg/L	0.12	0	0.01	0.01	0.01	0.01
Nitrate (as N)	6	mg/L	3	0	0.01	0.0207	0.0213	0.0505
Nitrite (as N)	6	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, dissolved	6	mg/L	0.02	0	0.0015	0.0015	0.0015	0.0015
Cyanide, Total	6	mg/L	0.01	0	0.001	0.001	0.001	0.001
Aluminum (Al)-Total	6	mg/L	0.66	1	0.035	0.0483	0.0487	0.0715
Antimony (Sb)-Total	6	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	6	mg/L	0.005	0	0.00064	0.000775	0.000833	0.00095
Beryllium (Be)-Total	6	mg/L	0.011	0	0.00001	0.0000233	0.00004	0.00005
Boron (B)-Total	6	mg/L	2	0	0.005	0.005	0.005	0.005
Cadmium (Cd)-Total	6	mg/L	0.0001	0	0.0000025	0.00000535	0.00000655	0.0000126
Chromium (Cr)-Total	6	mg/L	0.0025	0	0.00022	0.000253	0.000258	0.00029
Cobalt (Co)-Total	6	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	6	mg/L	0.005	0	0.00025	0.000628	0.000758	0.00106
Iron (Fe)-Total	6	mg/L	0.3	0	0.1	0.183	0.213	0.369
Lead (Pb)-Total	6	mg/L	0.003	0	0.000025	0.0000565	0.0000893	0.000104
Mercury (Hg)-Total	6	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	6	mg/L	0.073	0	0.000025	0.0000317	0.000025	0.000055
Nickel (Ni)-Total	6	mg/L	0.025	0	0.00025	0.00025	0.00025	0.00025
Selenium (Se)-Total	6	mg/L	0.1	0	0.000058	0.0000888	0.000106	0.000111
Silver (Ag)-Total	6	mg/L	0.001	0	0.000005	0.00000833	0.000005	0.00002
Uranium (U)-Total	6	mg/L	0.005	0	0.000005	0.000005	0.000005	0.000005
Vanadium (V)-Total	6	mg/L	0.006	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	6	mg/L	0.011	0	0.0015	0.00182	0.0015	0.00293
Methylmercury (MeHg)-Total	3	ug/L	-	0	0.000096	0.000181	0.000223	0.000237

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.L.**

Notes:

- indicates value not available

**Table B-28: Baseline Surface Water Quality (2011 - 2022), RSW-1**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	7	mg/L	-	0	22.3	22.8	23.0	23.3
pH	7	-	6.5 – 8.5	0	7.2	7.28	7.33	7.4
Total Suspended Solids	7	mg/L	-	0	1.5	12.6	18.85	40.3
Ammonia, Total (as N)	7	mg/L	2.22	0	0.0025	0.095	0.032	0.40
Nitrate (as N)	7	mg/L	3	0	0.01	0.01	0.01	0.01
Nitrite (as N)	7	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, Total	7	mg/L	0.02	0	0.0079	0.010	0.0122	0.013
Cyanide, Total	7	mg/L	0.005	0	0.001	0.00142	0.00175	0.0025
Dissolved Organic Carbon	7	mg/L	-	0	12.6	13.17	13.45	13.6
Aluminum (Al)-Total	7	mg/L	0.66	0	0.0348	0.0732	0.0432	0.20
Antimony (Sb)-Total	7	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	7	mg/L	0.005	0	0.00045	0.000549	0.000615	0.000641
Cadmium (Cd)-Total	7	mg/L	0.0001	1	0.0000025	0.0000048	0.0000025	0.0001391
Chromium (Cr)-Total	7	mg/L	-	0	0.00025	0.00041	0.000515	0.000761
Cobalt (Co)-Total	7	mg/L	0.00078	0	0.00005	0.00006	0.00005	0.000092
Copper (Cu)-Total	7	mg/L	0.005	0	0.00025	0.000428571	0.000635	0.000721
Iron (Fe)-Total	7	mg/L	0.3	3	0.087	0.174	0.14	0.396
Lead (Pb)-Total	7	mg/L	0.001	0	0.000025	0.00009	0.000025	0.00035
Magnesium (Mg)-Total	7	mg/L	-	0	1.26	1.30	1.3	1.3
Manganese (Mn)-Total	7	mg/L	-	0	0.0051	0.012	0.015	0.0189
Mercury (Hg)-Total	7	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	7	mg/L	0.073	0	0.000053	0.00007	0.000085	0.0001056
Nickel (Ni)-Total	7	mg/L	0.025	0	0.00025	0.000287	0.00025	0.000432
Selenium (Se)-Total	7	mg/L	0.1	0	0.000054	0.000076	0.000084	0.0000937
Silver (Ag)-Total	7	mg/L	0.00025	0	0.000005	0.000005	0.000005	0.000005
Sodium (Na)-Total	7	mg/L	-	0	0.552	0.599	0.6005	0.685
Sulfur (S)-Total	7	mg/L	-	0	0.25	0.25	0.25	0.25
Thallium (Tl)-Total	7	mg/L	0.0008	0	0.000005	0.000006	0.000005	0.0000085
Uranium (U)-Total	7	mg/L	0.015	0	0.000026	0.00004	0.0000465	0.0000582
Vanadium (V)-Total	7	mg/L	0.12	0	0.00025	0.00032	0.00025	0.0006
Zinc (Zn)-Total	7	mg/L	0.011	0	0.0015	0.0015	0.0015	0.0015
Zirconium (Zr)-Total	7	ug/L	0.004	0	0.0001	0.0001	0.0001	0.0001

**Notes:**

**1 WQG PAL; Water quality guideline for the Protection of Aquatic Life, as defined in Table 2-4 for the purposes of summary here**

**Bolded values are greater than WQG PAL**

**For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.**

Notes:

- indicates value not available

**Table B-29: Baseline Surface Water Quality (2011 - 2022), RSW-2**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	7	mg/L	-	0	19.2	19.8	19.9	20.84
pH	7	-	6.5 – 8.5	0	7.11	7.1	7.225	7.267
Total Suspended Solids	7	mg/L	-	0	1.5	11.0	18.15	34.4
Ammonia, Total (as N)	7	mg/L	2.22	0	0.0025	0.10	0.0391	0.44
Nitrate (as N)	7	mg/L	3	0	0.01	0.01	0.01	0.01
Nitrite (as N)	7	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, Total	7	mg/L	0.02	0	0.0066	0.011628571	0.0133	0.01389
Cyanide, Total	7	mg/L	0.01	0	0.001	0.001428571	0.00175	0.0025
Dissolved Organic Carbon	7	mg/L	-	0	15.3	15.66666667	15.85	16.05
Aluminum (Al)-Total	7	mg/L	0.66	0	0.051	0.057371429	0.06035	0.06189
Antimony (Sb)-Total	7	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	7	mg/L	0.005	0	0.00032	0.000397143	0.000435	0.000477
Cadmium (Cd)-Total	7	mg/L	0.0001	1	0.0000025	2.88571E-06	0.0000025	0.00000439
Chromium (Cr)-Total	7	mg/L	-	0	0.00021	0.000482857	0.00045	0.001153
Cobalt (Co)-Total	7	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	7	mg/L	0.005	0	0.00025	0.000294286	0.00025	0.000467
Iron (Fe)-Total	7	mg/L	0.3	0	0.136	0.181714286	0.2045	0.2154
Lead (Pb)-Total	7	mg/L	0.001	0	0.000025	3.95714E-05	0.0000505	0.000076
Magnesium (Mg)-Total	7	mg/L	-	0	1.24	1.288571429	1.325	1.337
Manganese (Mn)-Total	7	mg/L	-	0	0.00751	0.014534286	0.01915	0.01969
Mercury (Hg)-Total	7	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	7	mg/L	0.073	0	0.000025	5.75714E-05	0.0000795	0.0001082
Nickel (Ni)-Total	7	mg/L	0.025	0	0.00025	0.000365714	0.00025	0.000817
Selenium (Se)-Total	7	mg/L	0.1	0	0.000056	0.000077	0.000089	0.0000951
Silver (Ag)-Total	7	mg/L	0.00025	0	0.000005	0.000005	0.000005	0.000005
Sodium (Na)-Total	7	mg/L	-	0	0.478	0.498285714	0.5125	0.5186
Sulfur (S)-Total	7	mg/L	-	0	0.25	0.25	0.25	0.25
Thallium (Tl)-Total	7	mg/L	0.0008	0	0.000005	0.000005	0.000005	0.000005
Uranium (U)-Total	7	mg/L	0.015	0	0.000041	0.000051	0.000057	0.0000677
Vanadium (V)-Total	7	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	7	mg/L	0.011	0	0.0015	0.0015	0.0015	0.0015
Zirconium (Zr)-Total	7	ug/L	0.004	0	0.0001	0.0001	0.0001	0.0001

**Notes:**

1 As applicable, numerical guideline values were calculated using the most conservative approach (i.e., 25th percentile baseline values for ameliorating factors, save for zinc, which uses 75th percentile pH for the FEQG calculation).

**Bolded** values are greater than water quality guidelines.

For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.

Notes:

- indicates value not available

**Table B-30: Baseline Surface Water Quality (2011 - 2022), RSW-3**

Parameter	Count	Units	Guideline <sup>(1)</sup>	Exceedances	Minimum	Mean	75 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Hardness (as CaCO <sub>3</sub> )	9	mg/L	-	0	22.6	21.7	24.1	23.3
pH	9	-	6.5 – 8.5	0	7.33	7.17	7.3\	7.4
Total Suspended Solids	9	mg/L	-	0	50	1.5	12.49	3.4
Ammonia, Total (as N)	9	mg/L	2.22	0	0.0982	0.0057	0.067755556	0.0429
Nitrate (as N)	9	mg/L	3	0	0.01	0.01	0.027	0.024
Nitrite (as N)	9	mg/L	0.06	0	0.005	0.005	0.005	0.005
Phosphorus, Total	9	mg/L	0.02	0	0.0069	0.0067	0.0126\	0.0156
Cyanide, Total	9	mg/L	0.01	0	0.001	0.001	0.0015	0.0025
Dissolved Organic Carbon	9	mg/L	-	0		8.17	13.2425	14.95
Aluminum (Al)-Total	9	mg/L	0.66	0	0.051	0.0121	0.0411\	0.051
Antimony (Sb)-Total	9	mg/L	0.02	0	0.00005	0.00005	0.00005	0.00005
Arsenic (As)-Total	9	mg/L	0.005	0	0.00042	0.00042	0.000481	0.00052
Cadmium (Cd)-Total	9	mg/L	0.0001	1	0.0000025	0.0000025	0.0000029	0.0000025
Chromium (Cr)-Total	9	mg/L	-	0	0.00037	0.0002	0.000263333	0.00027
Cobalt (Co)-Total	9	mg/L	0.00078	0	0.00005	0.00005	0.00005	0.00005
Copper (Cu)-Total	9	mg/L	0.005	0	0.00025	0.00025	0.00043\	0.00059
Iron (Fe)-Total	9	mg/L	0.3	0	0.118	0.035	0.117	0.131
Lead (Pb)-Total	9	mg/L	0.001	0	0.000025	0.000025	0.000028	0.000025
Magnesium (Mg)-Total	9	mg/L	-	0	1.39	1.31	1.398	1.41
Manganese (Mn)-Total	9	mg/L	-	0	0.00905	0.00172	0.017654444	0.0162
Mercury (Hg)-Total	9	mg/L	0.000026	0	0.0000025	0.0000025	0.0000025	0.0000025
Molybdenum (Mo)-Total	9	mg/L	0.073	0	0.000068	0.000025	0.000079	0.000099
Nickel (Ni)-Total	9	mg/L	0.025	0	0.00025	0.00025	0.000281111	0.00025
Selenium (Se)-Total	9	mg/L	0.1	0	0.000091	0.000057	0.000078	0.000086
Silver (Ag)-Total	9	mg/L	0.00025	0	0.000005	0.000005	0.000005	0.000005
Sodium (Na)-Total	9	mg/L	-	0	0.593	0.559	0.616	0.593
Sulfur (S)-Total	9	mg/L	-	0	0.25	0.25	0.30\	0.25
Thallium (Tl)-Total	9	mg/L	0.0008	0	0.000005	0.000005	0.000005	0.000005
Uranium (U)-Total	9	mg/L	0.015	0	0.000048	0.000005	0.00004	0.000048
Vanadium (V)-Total	9	mg/L	0.12	0	0.00025	0.00025	0.00025	0.00025
Zinc (Zn)-Total	9	mg/L	0.011	0	0.0015	0.0015	0.0015	0.0015
Zirconium (Zr)-Total	9	ug/L	0.004	0	0.0001	0.0001	0.0001	0.0001

**Notes:**

1 As applicable, numerical guideline values were calculated using the most conservative approach (i.e., 25th percentile baseline values for ameliorating factors, save for zinc, which uses 75th percentile pH for the FEQG calculation)

**Bolded** values are greater than water quality guidelines.

For summary statistic derivation, values less than laboratory method detection limit (i.e., <MDL) were replaced with a value equal to 50% of the MDL.

Notes:

- indicates value not available

Notes:  
- indicates value not available

# **Attachment C**

## **Water Quality Graphs**

Figure C-1. Birch Lake – pH

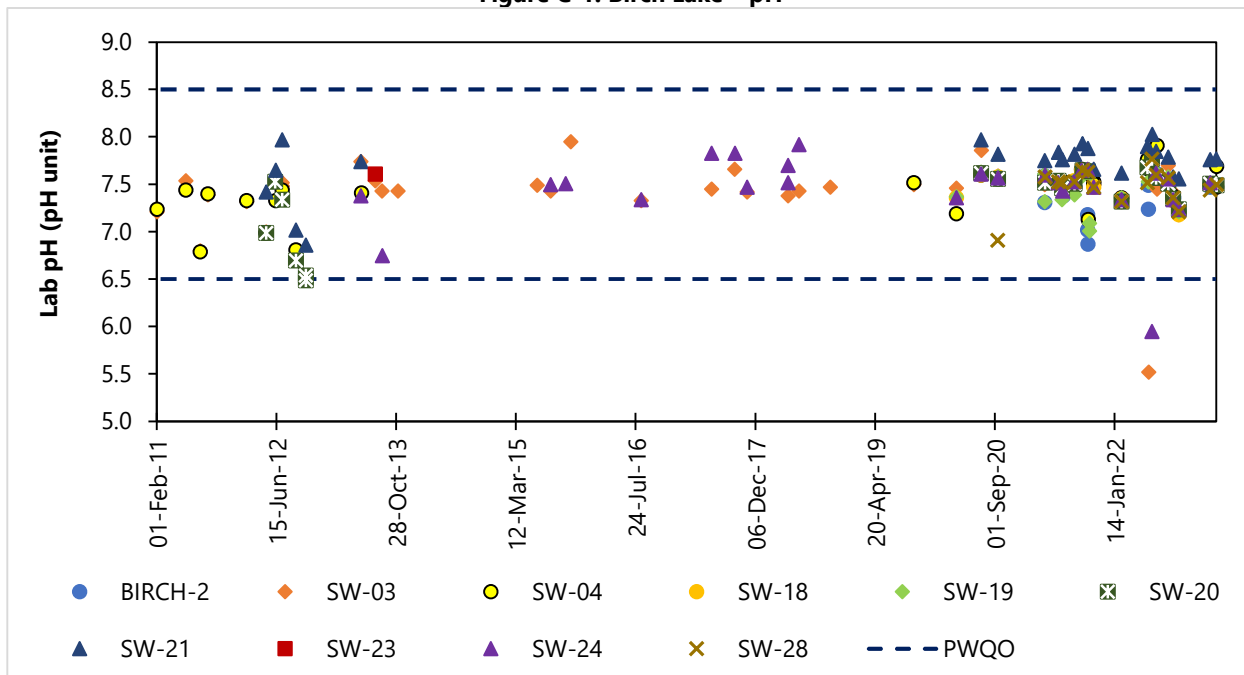
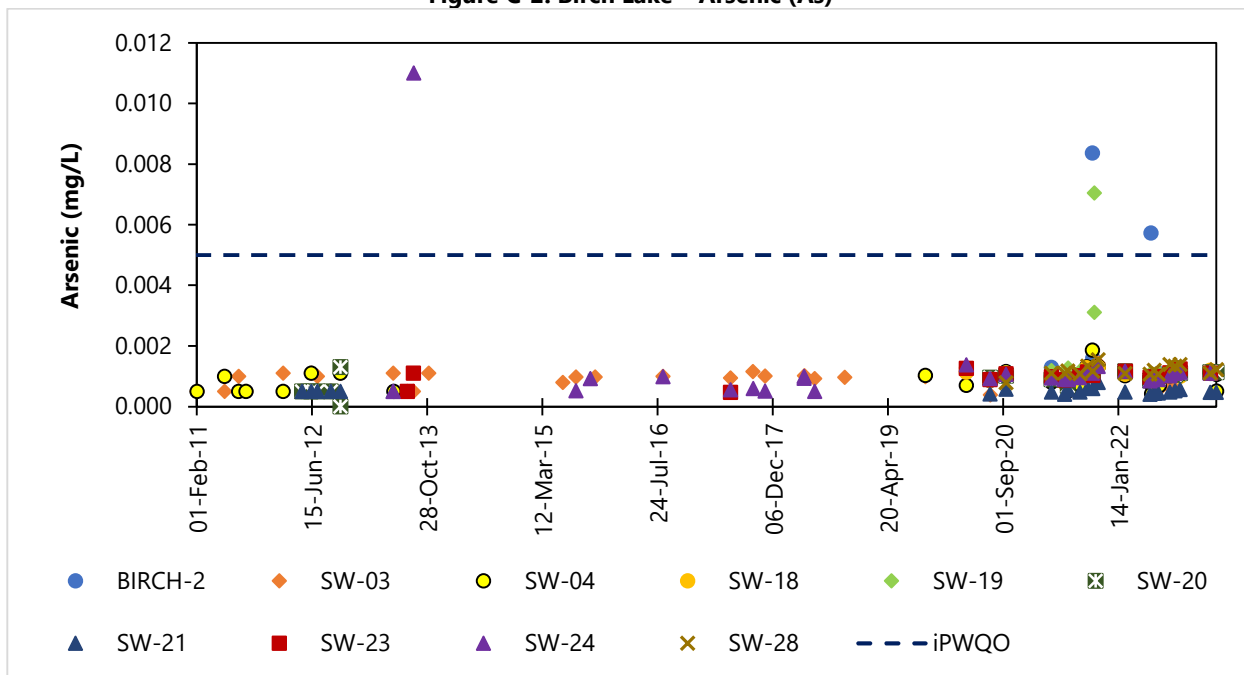
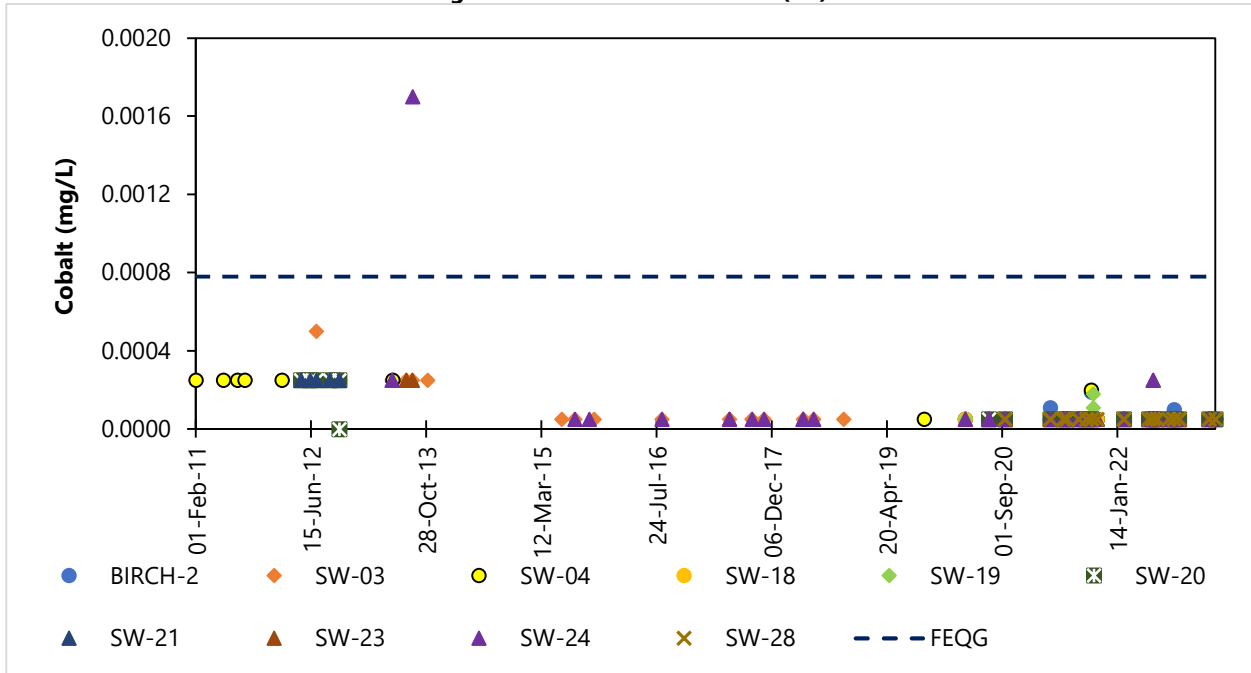


Figure C-2. Birch Lake – Arsenic (As)



**Figure C-3. Birch Lake – Cobalt (Co)**



**Figure C-4. Birch Lake – Copper (Cu)**

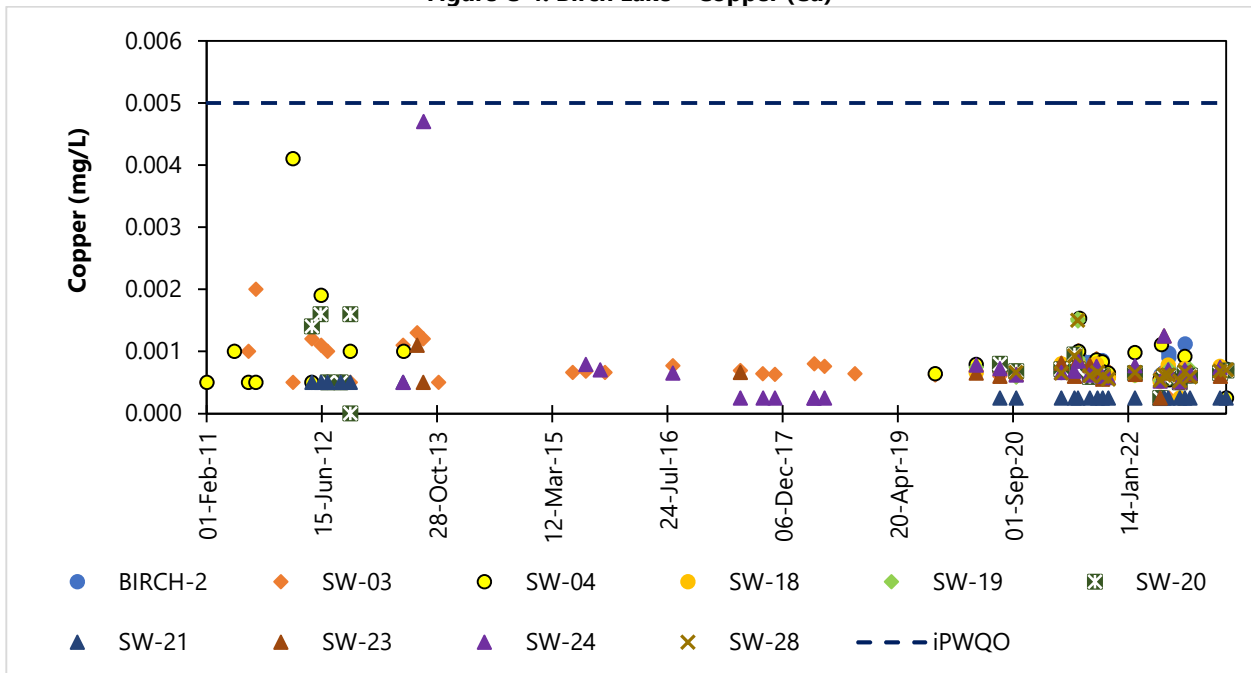




Figure C-7. Birch Lake – Zinc (Zn)

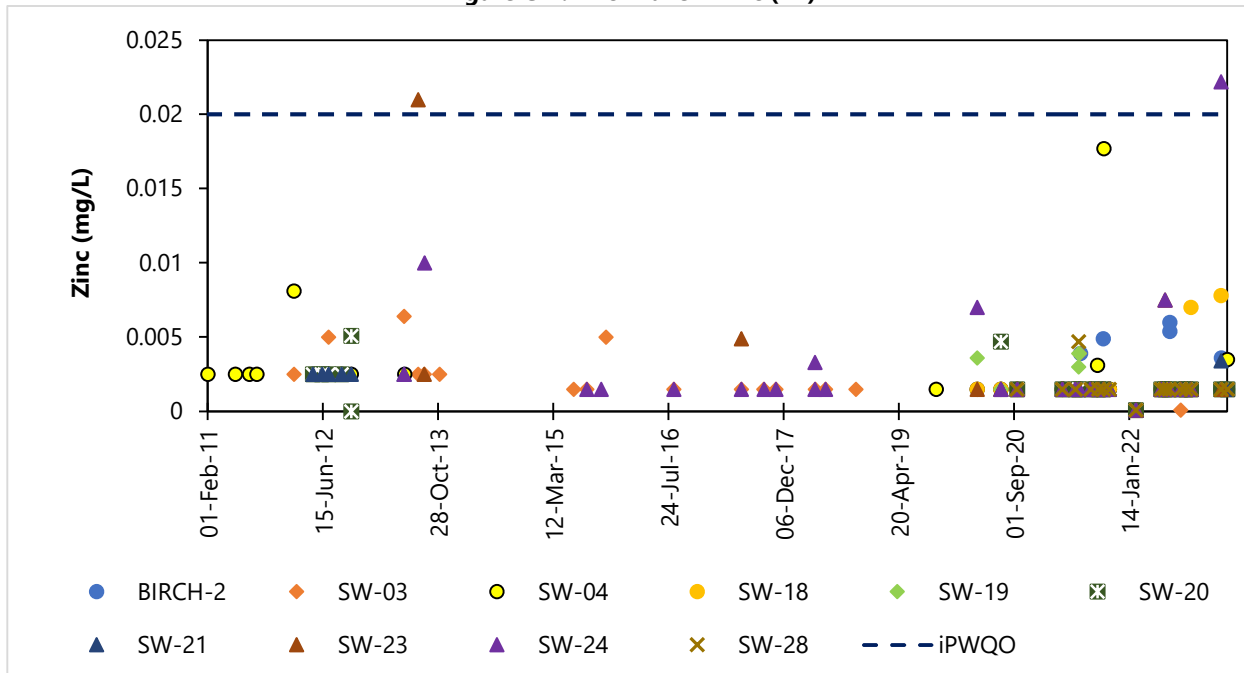


Figure C-8. Springpole Lake, North Basin – pH

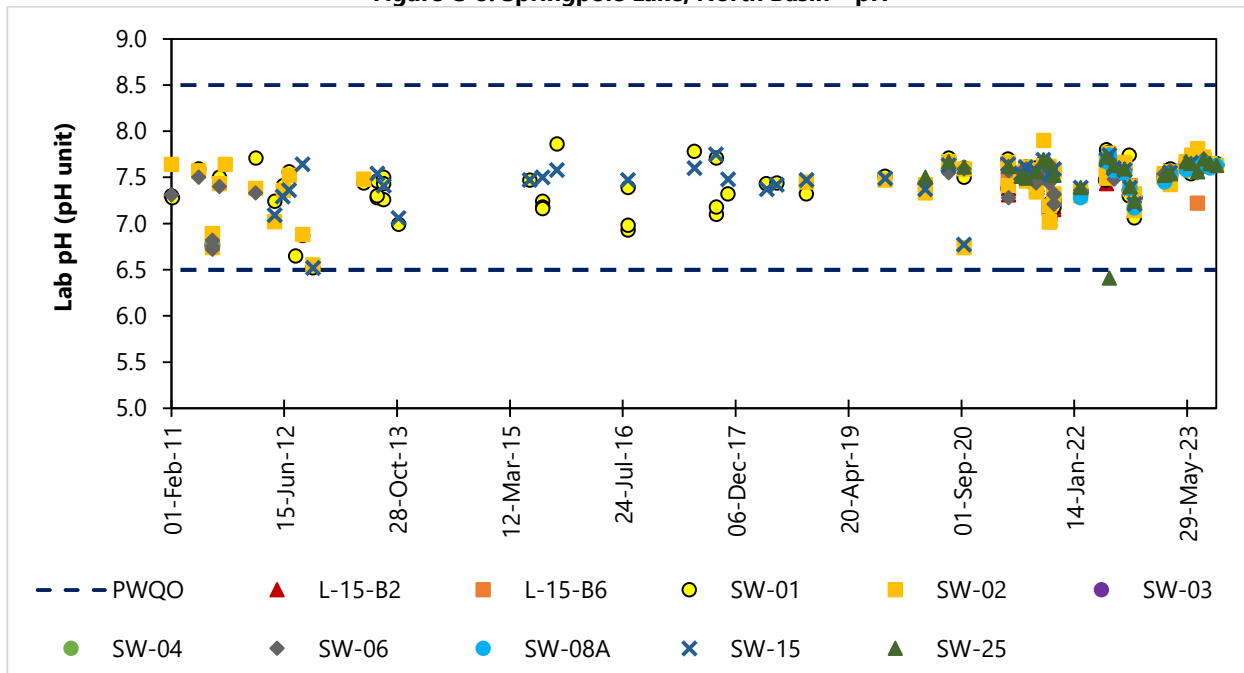


Figure C-9. Springpole Lake, North Basin – Arsenic (As)

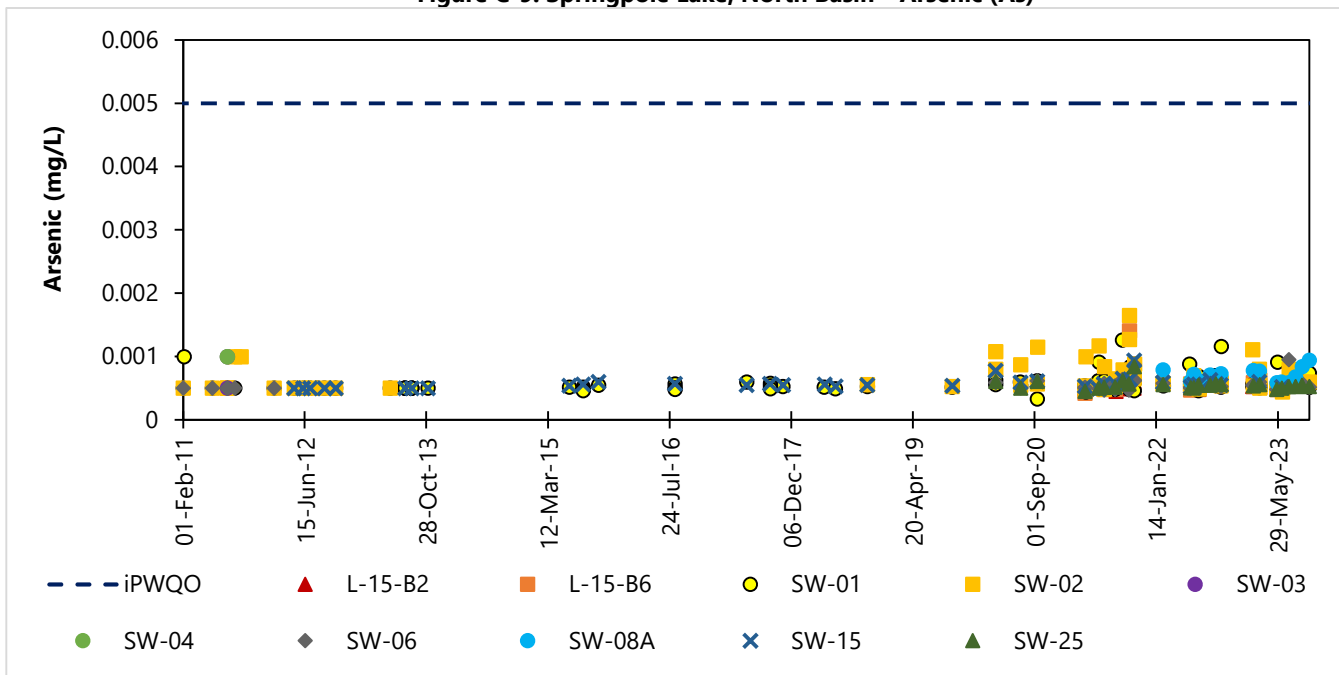
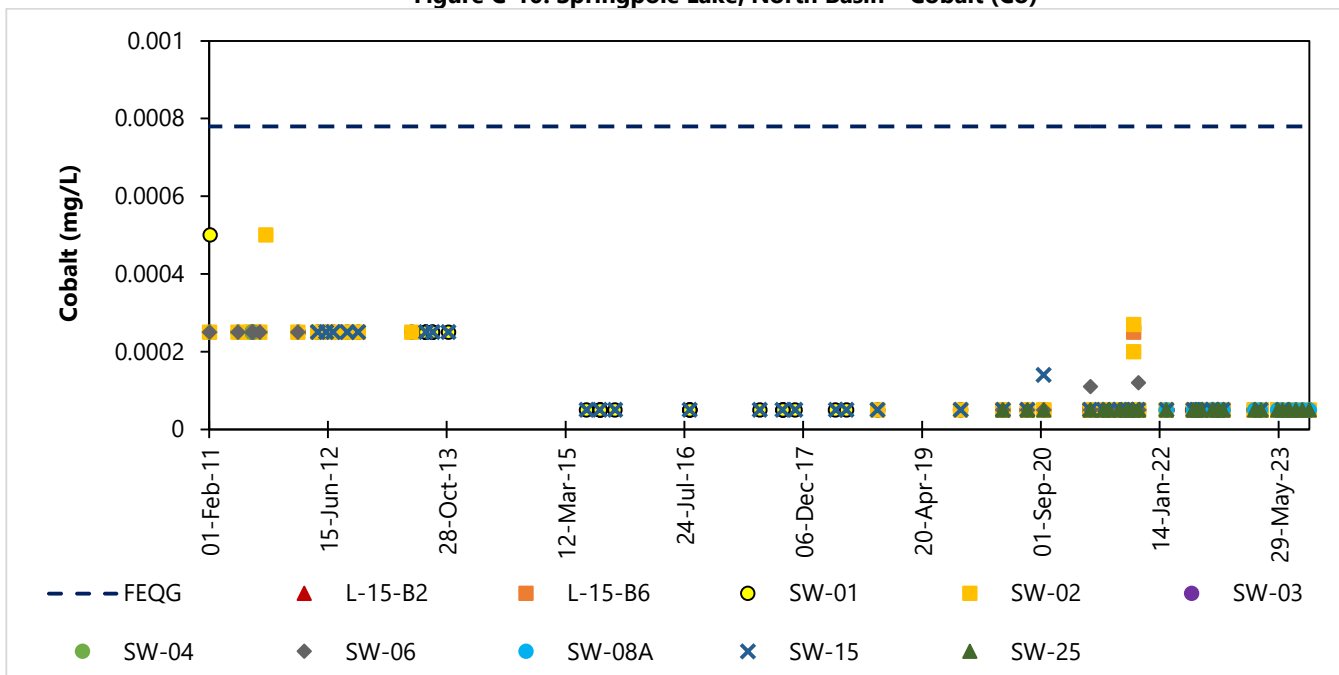
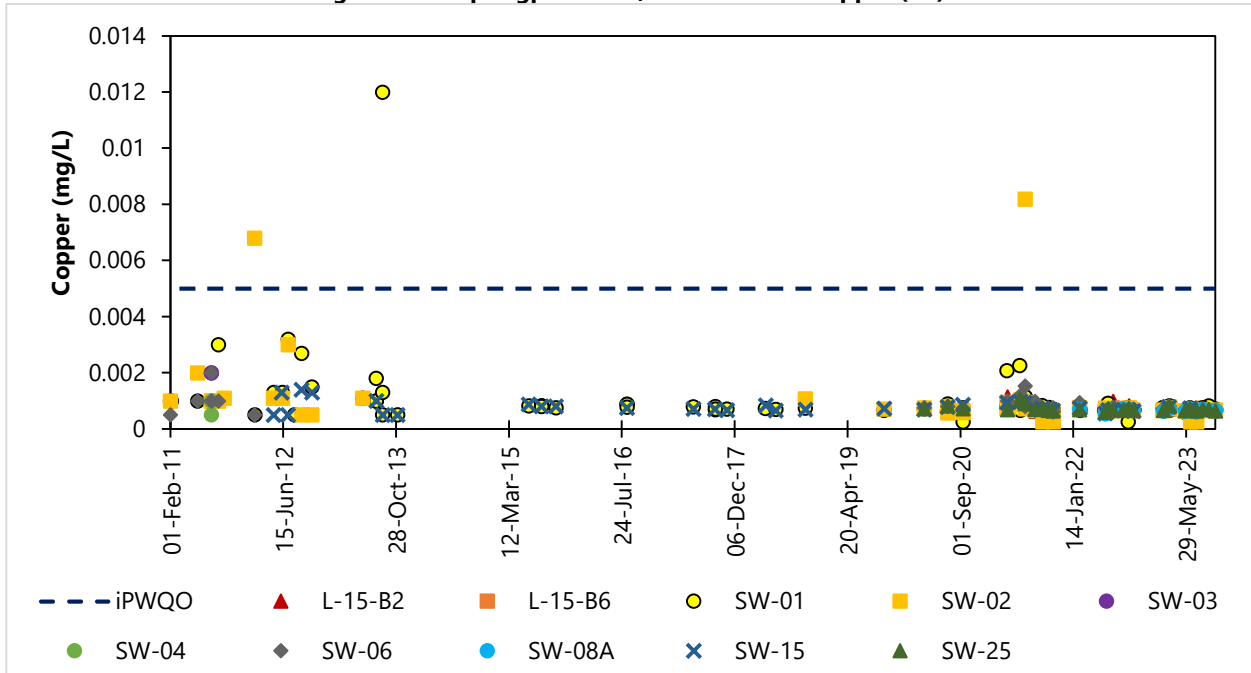


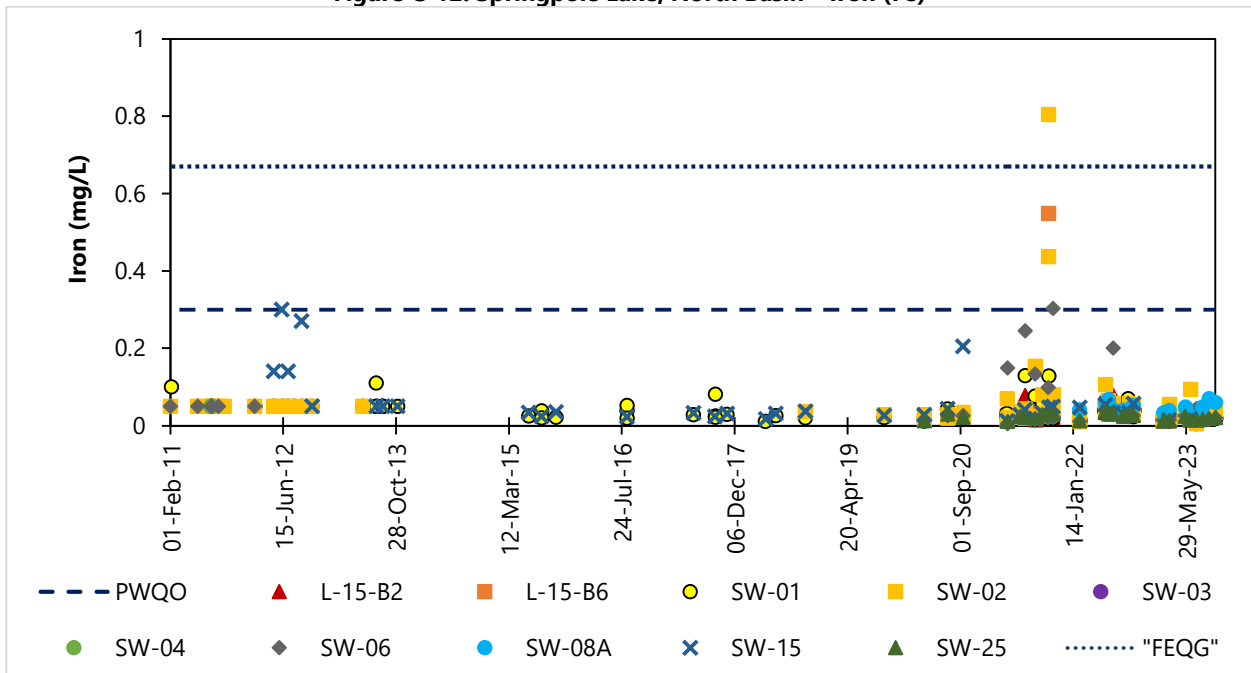
Figure C-10. Springpole Lake, North Basin – Cobalt (Co)



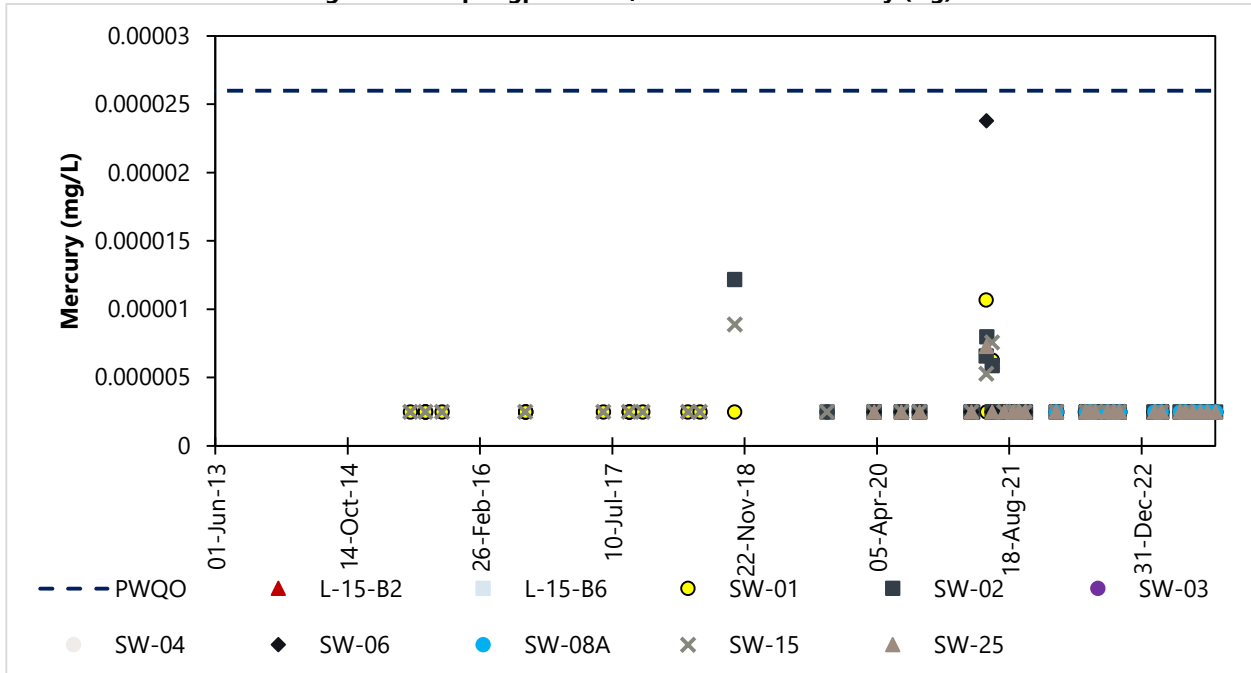
**Figure C-11. Springpole Lake, North Basin – Copper (Cu)**



**Figure C-12. Springpole Lake, North Basin – Iron (Fe)**



**Figure C-13. Springpole Lake, North Basin – Mercury (Hg)**



**Figure C-14. Springpole Lake, North Basin – Zinc (Zn)**

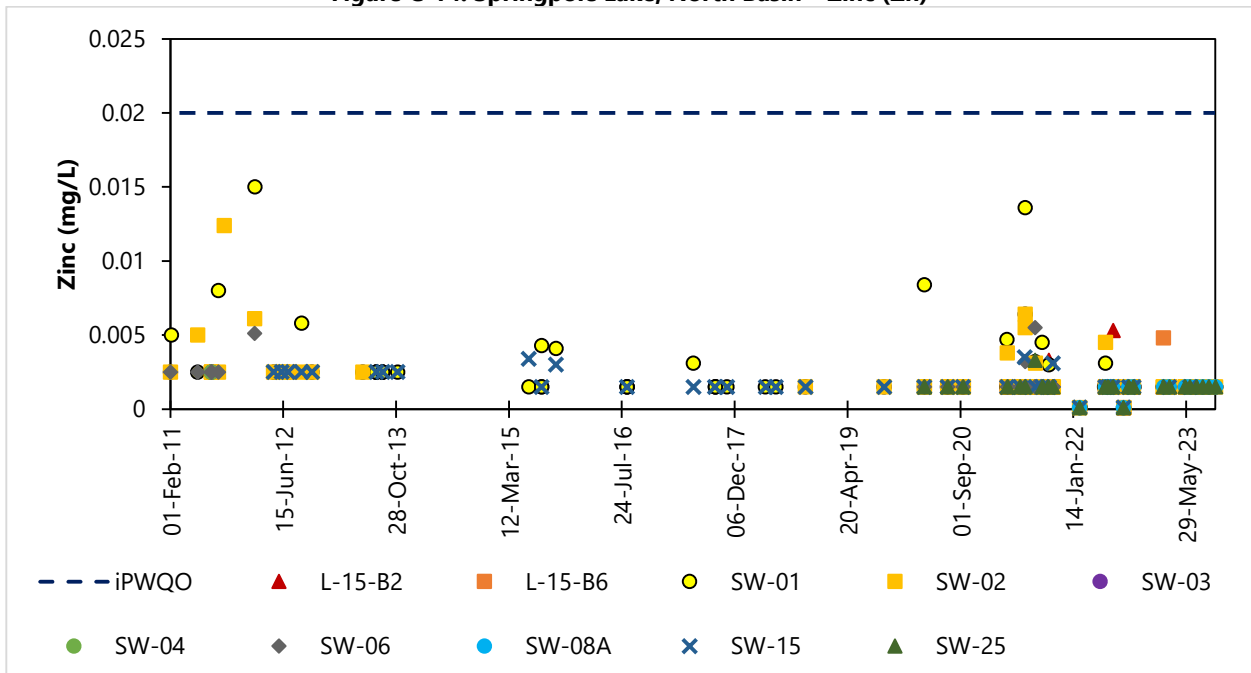


Figure C-15. Springpole Lake, Southeast Arm – pH

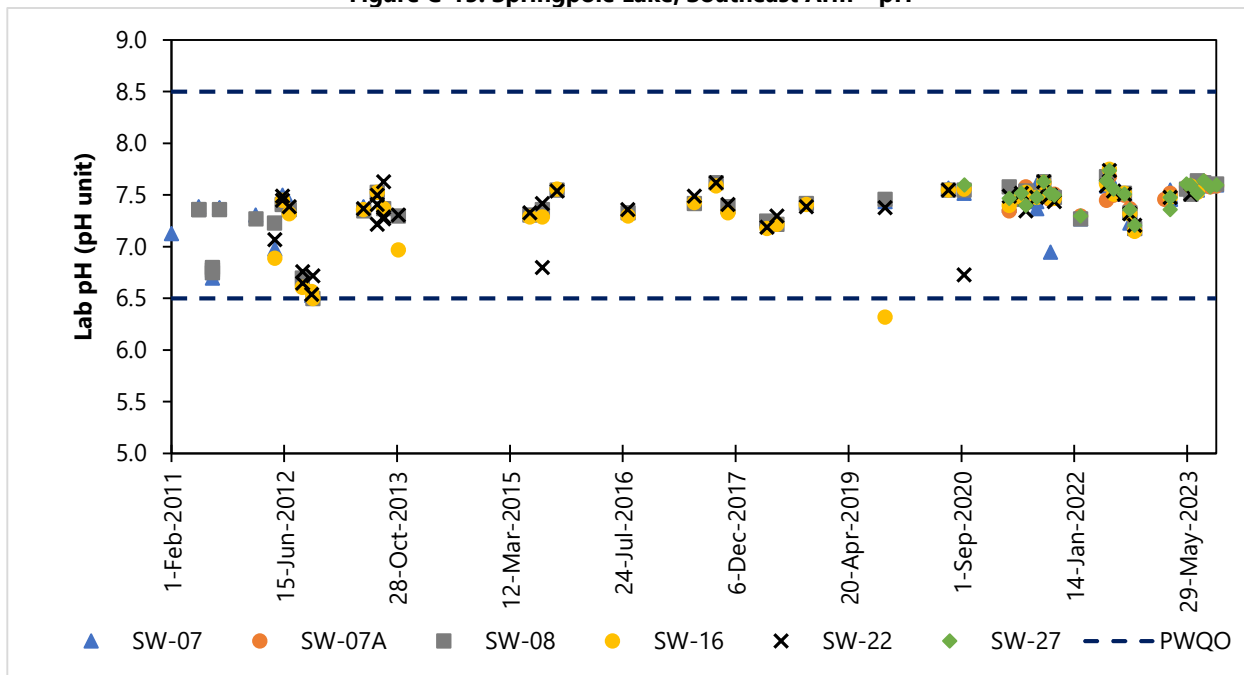
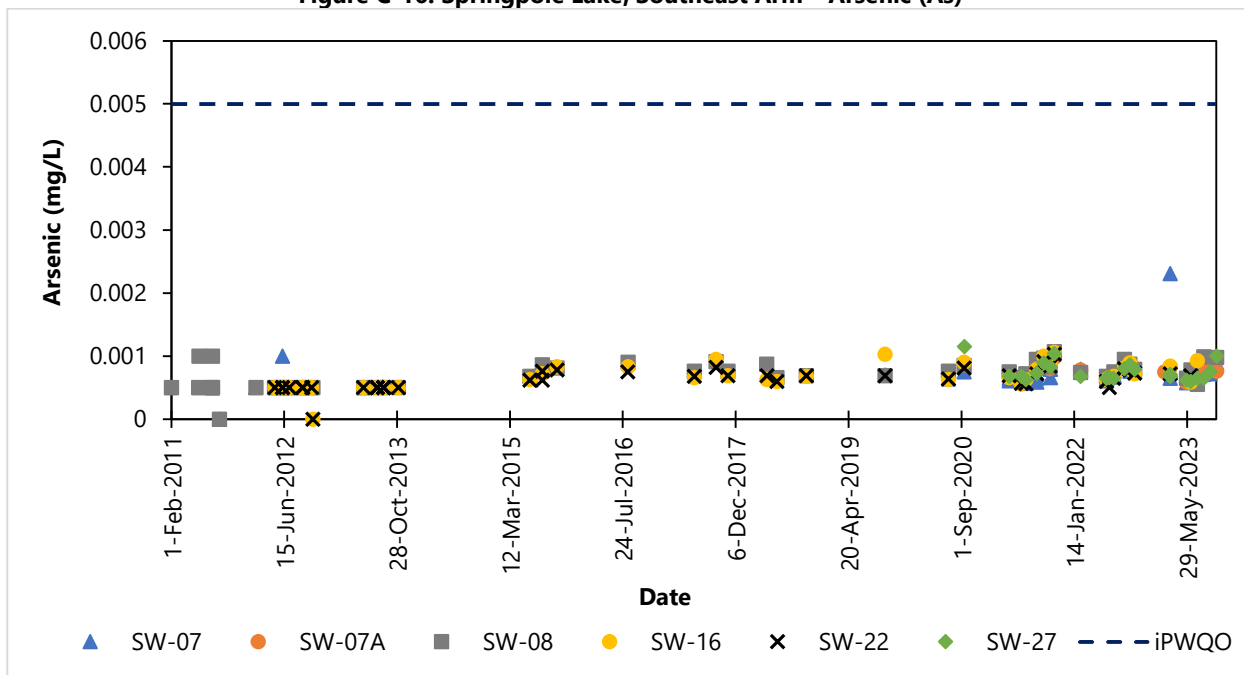
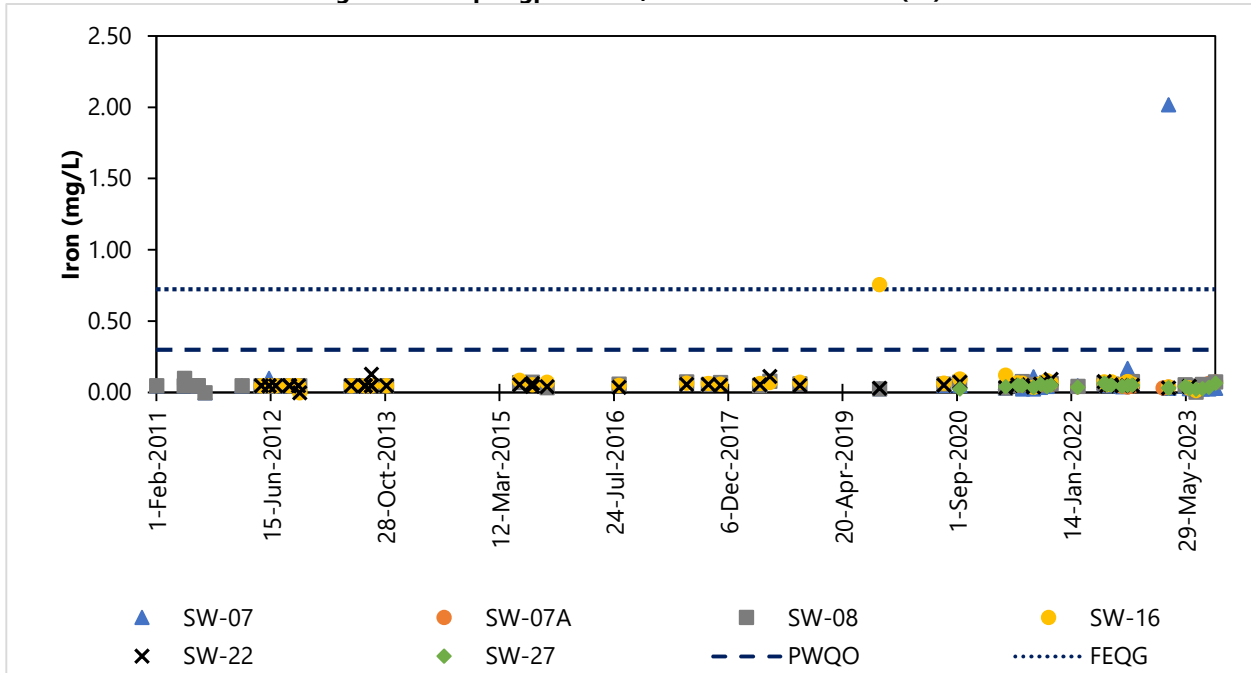


Figure C-16. Springpole Lake, Southeast Arm – Arsenic (As)





**Figure C-19. Springpole Lake, Southeast Arm – Iron (Fe)**



**Figure C-20. Springpole Lake, Southeast Arm – Mercury (Hg)**

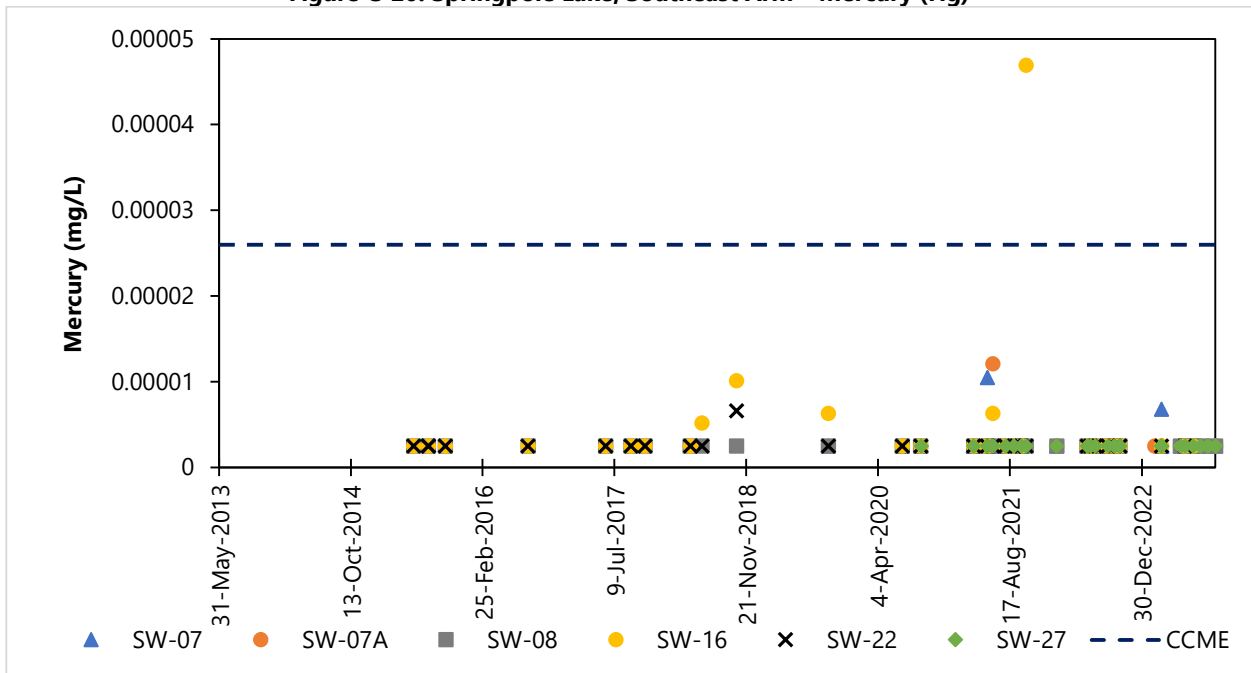


Figure C-21. Springpole Lake, Southeast Arm – Zinc (Zn)

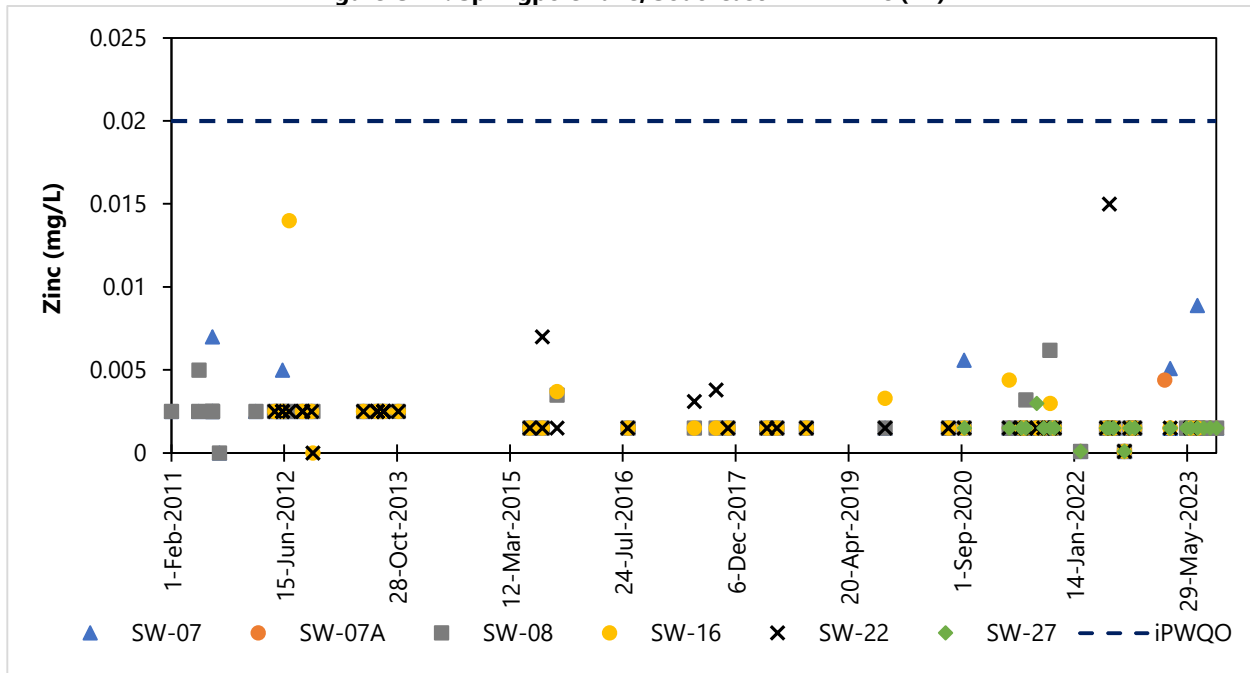
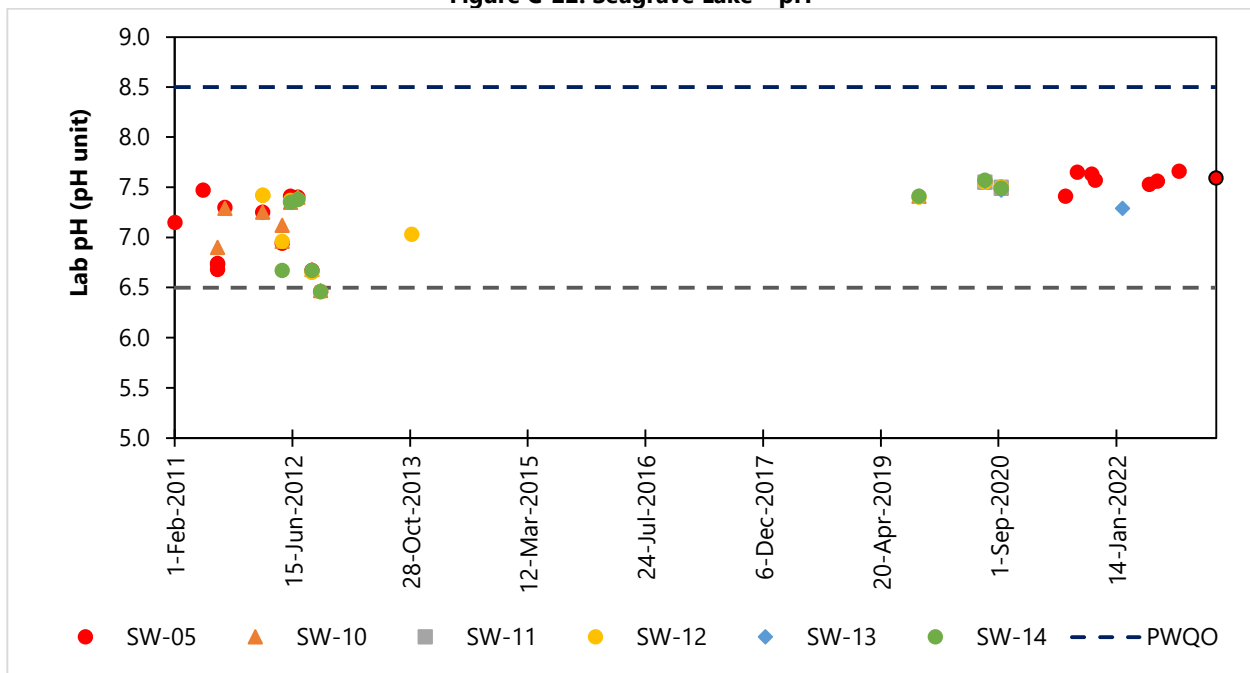
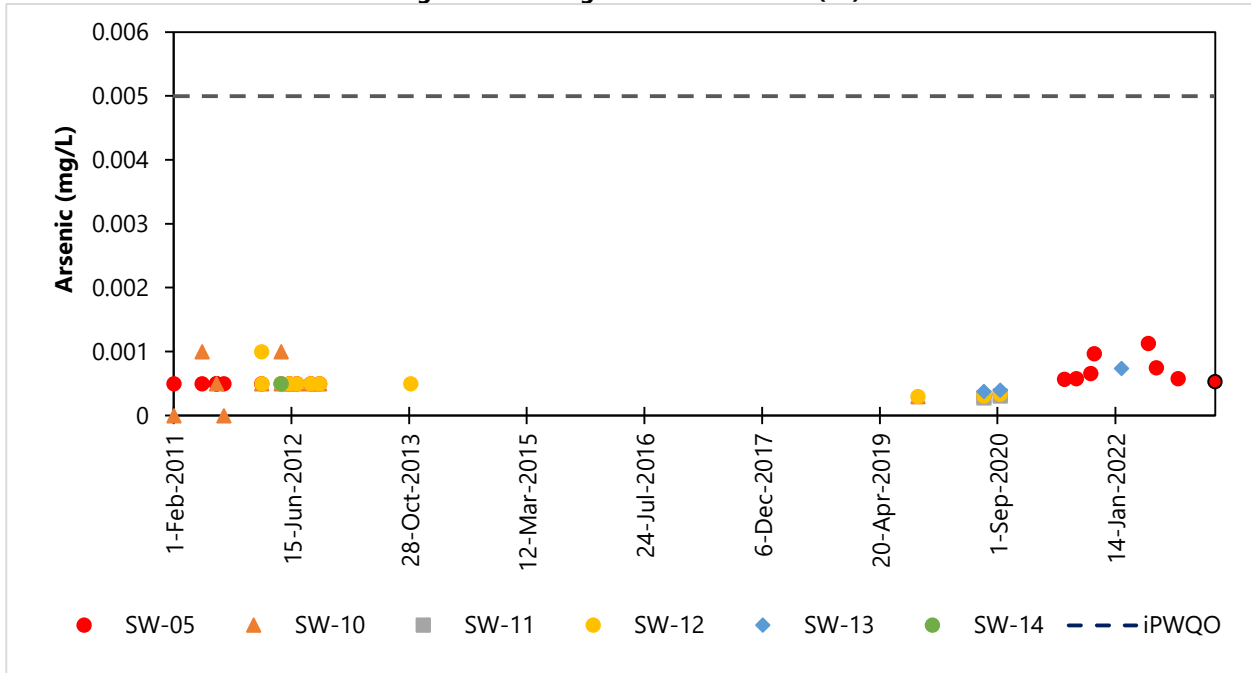


Figure C-22. Seagrave Lake – pH



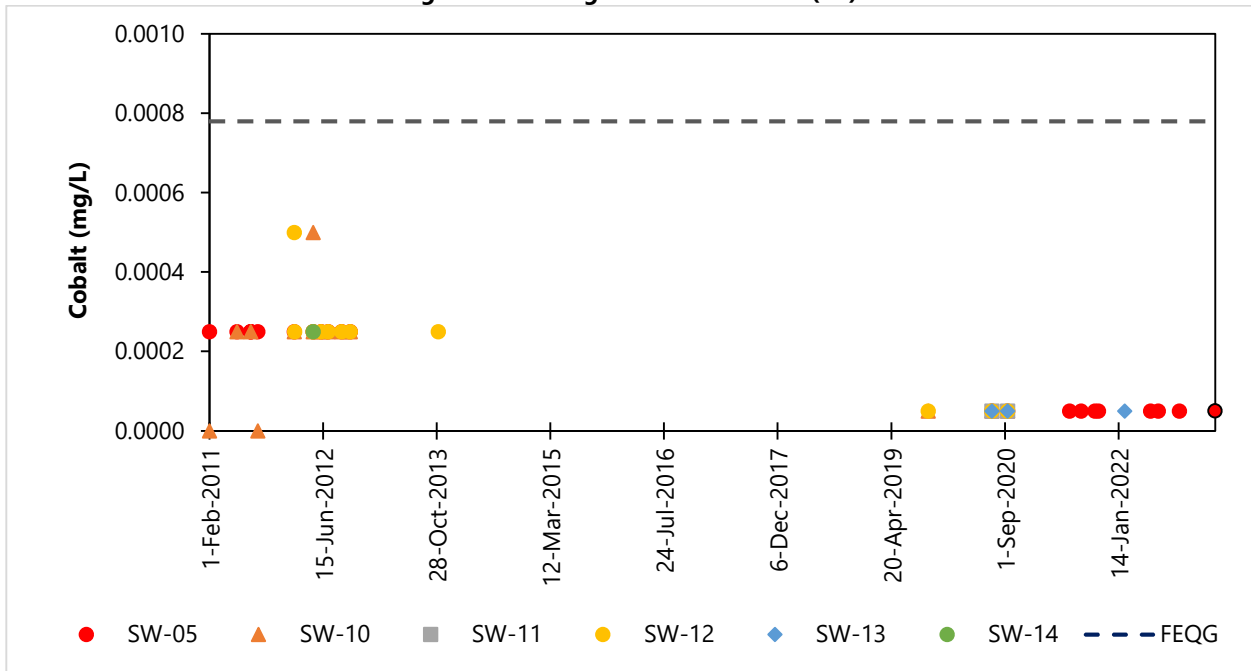
Note: 2023 SW-05 sample point outlined in black.

**Figure C-23. Seagrave Lake – Arsenic (As)**



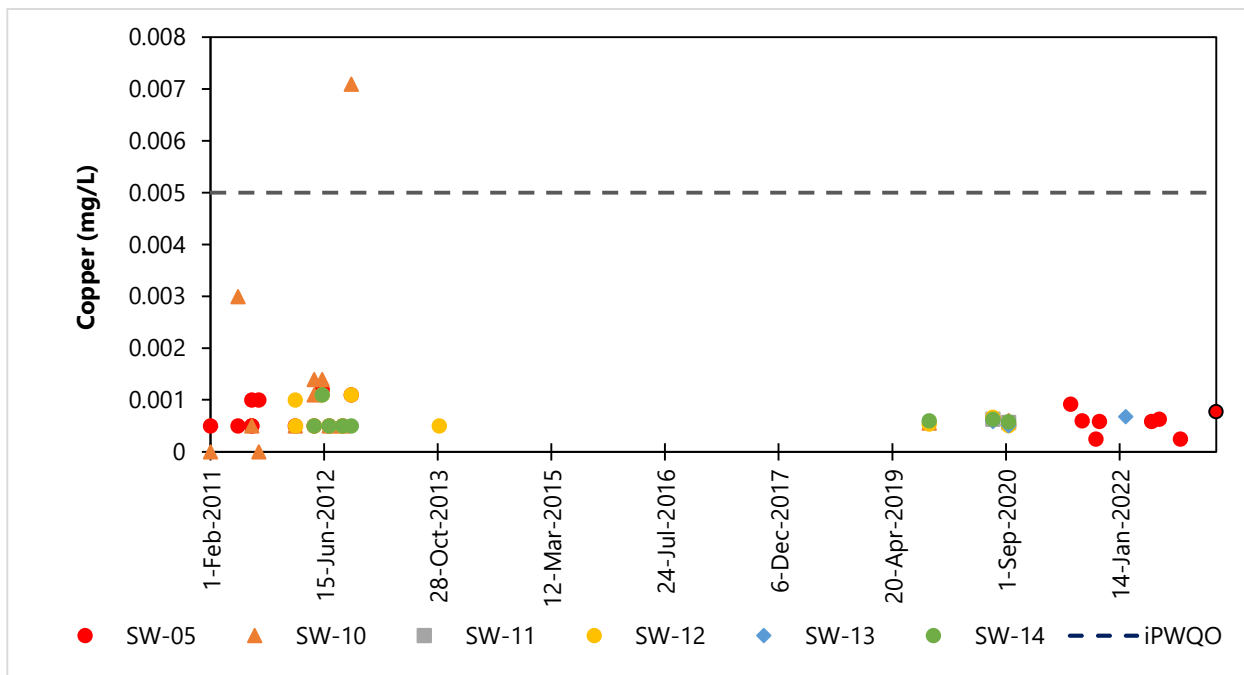
**Note:** 2023 SW-05 sample point outlined in black.

**Figure C-24. Seagrave Lake – Cobalt (Co)**



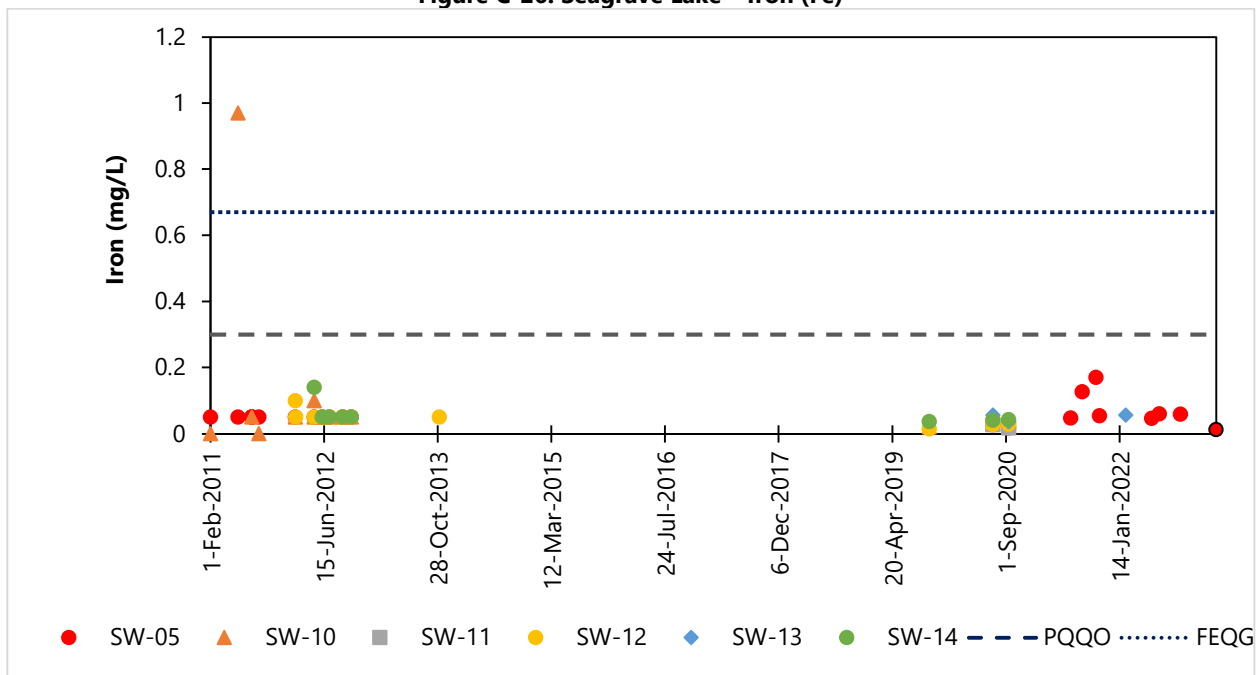
**Note:** 2023 SW-05 sample point outlined in black.

**Figure C-25. Seagrave Lake – Copper (Cu)**



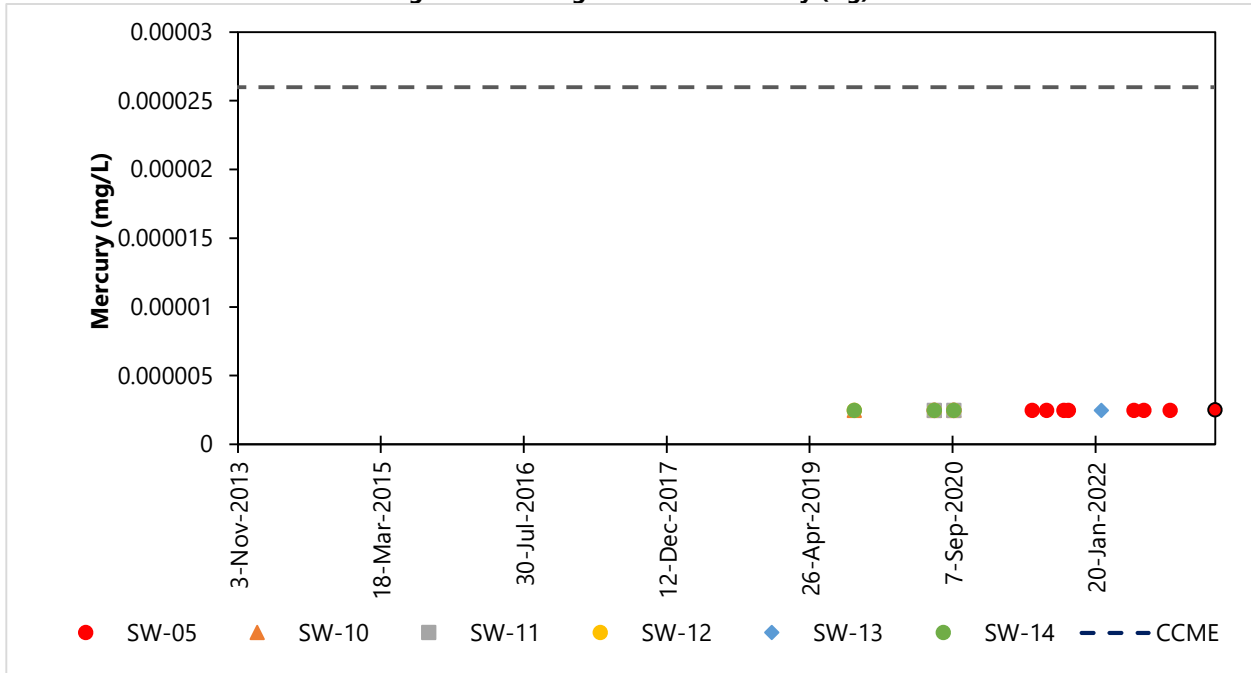
Note: 2023 SW-05 sample point outlined in black.

Figure C-26. Seagrave Lake – Iron (Fe)



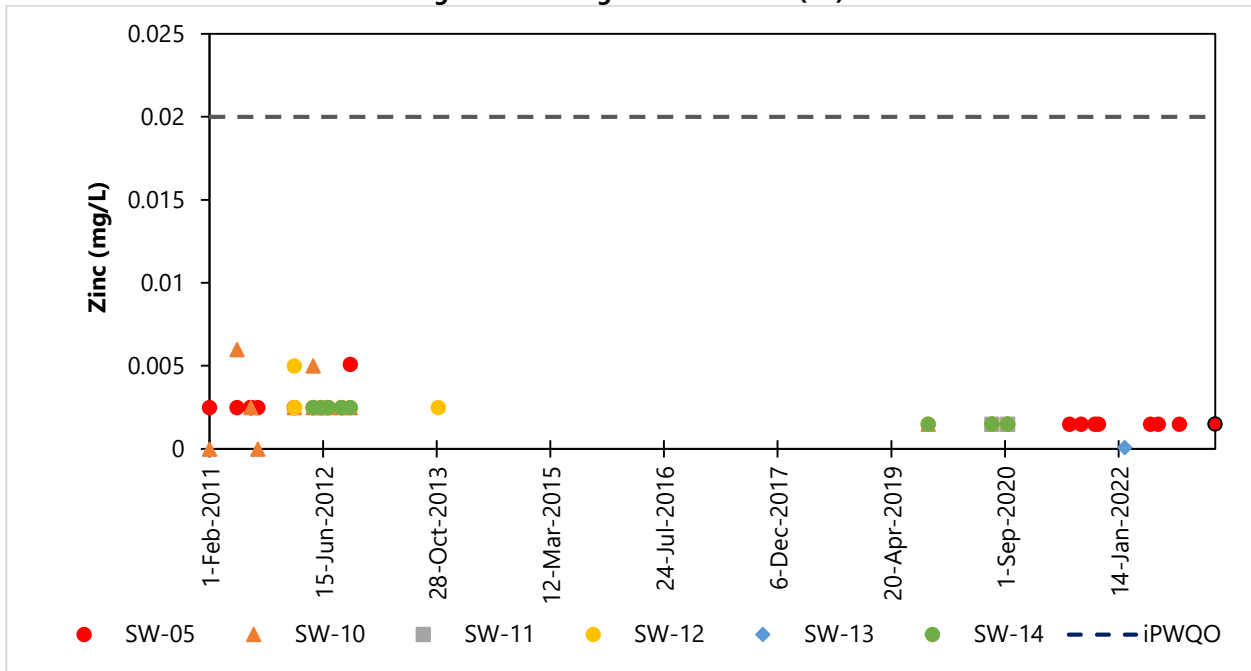
Note: 2023 SW-05 sample point outlined in black.

**Figure C-27. Seagrave Lake – Mercury (Hg)**



**Note:** 2023 SW-05 sample point outlined in black.

**Figure C-28. Seagrave Lake – Zinc (Zn)**



**Note:** 2023 SW-05 sample point outlined in black.

**Figure C-29. Local Inland Lakes and Tributaries – pH**

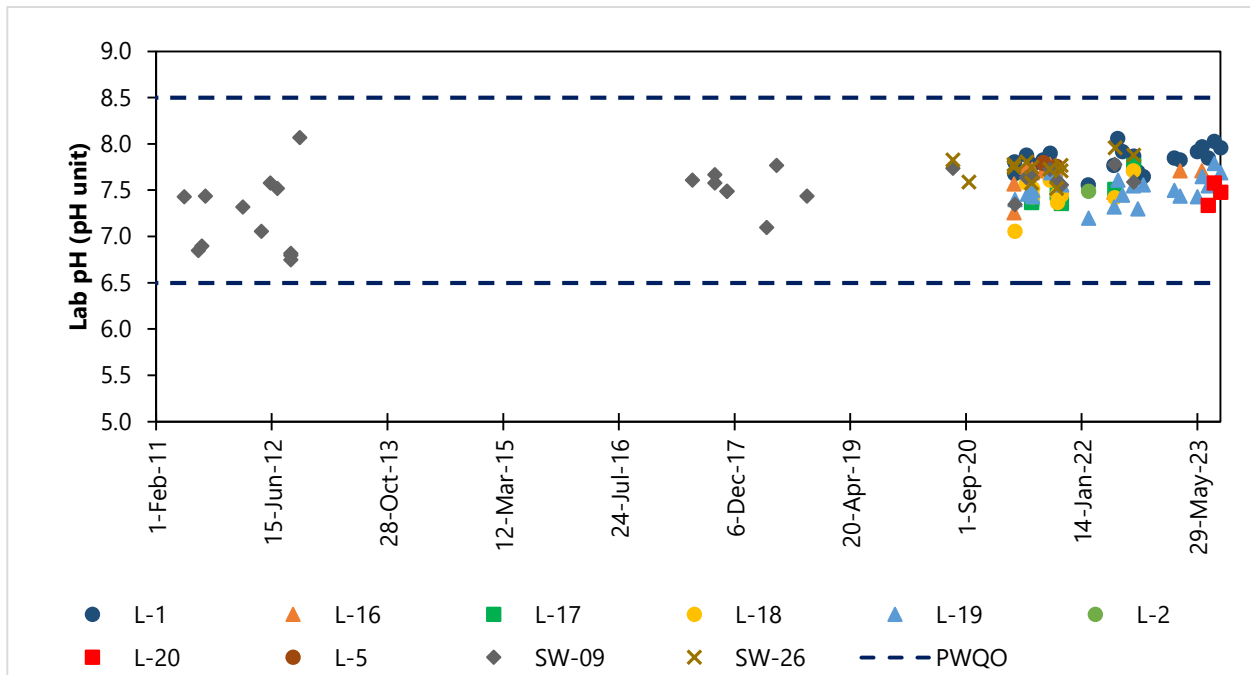
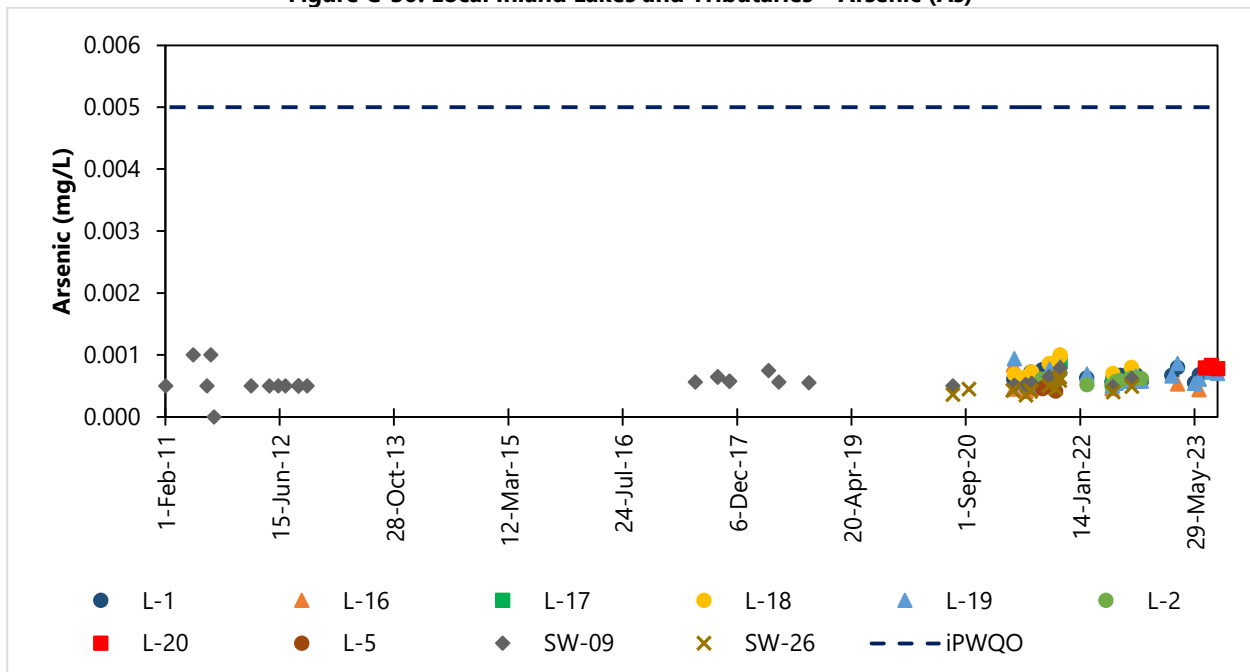
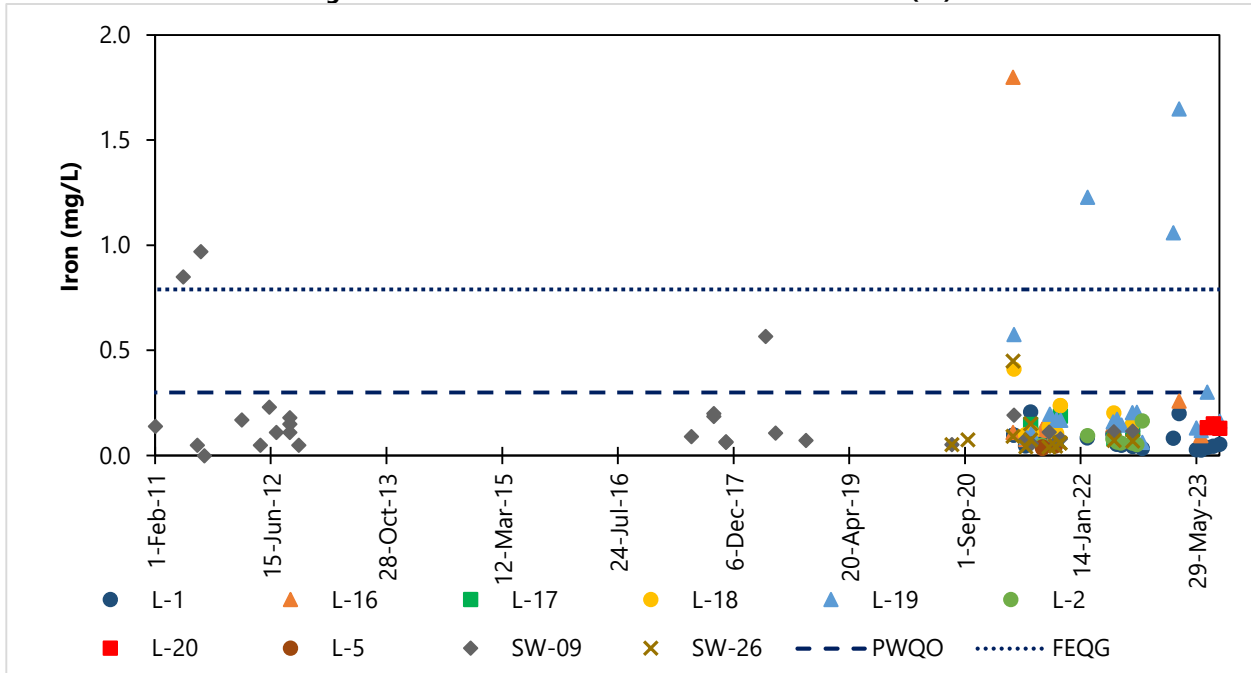


Figure C-30. Local Inland Lakes and Tributaries – Arsenic (As)





**Figure C-33. Local Inland Lakes and Tributaries – Iron (Fe)**



**Figure C-34. Local Inland Lakes and Tributaries – Mercury (Hg)**

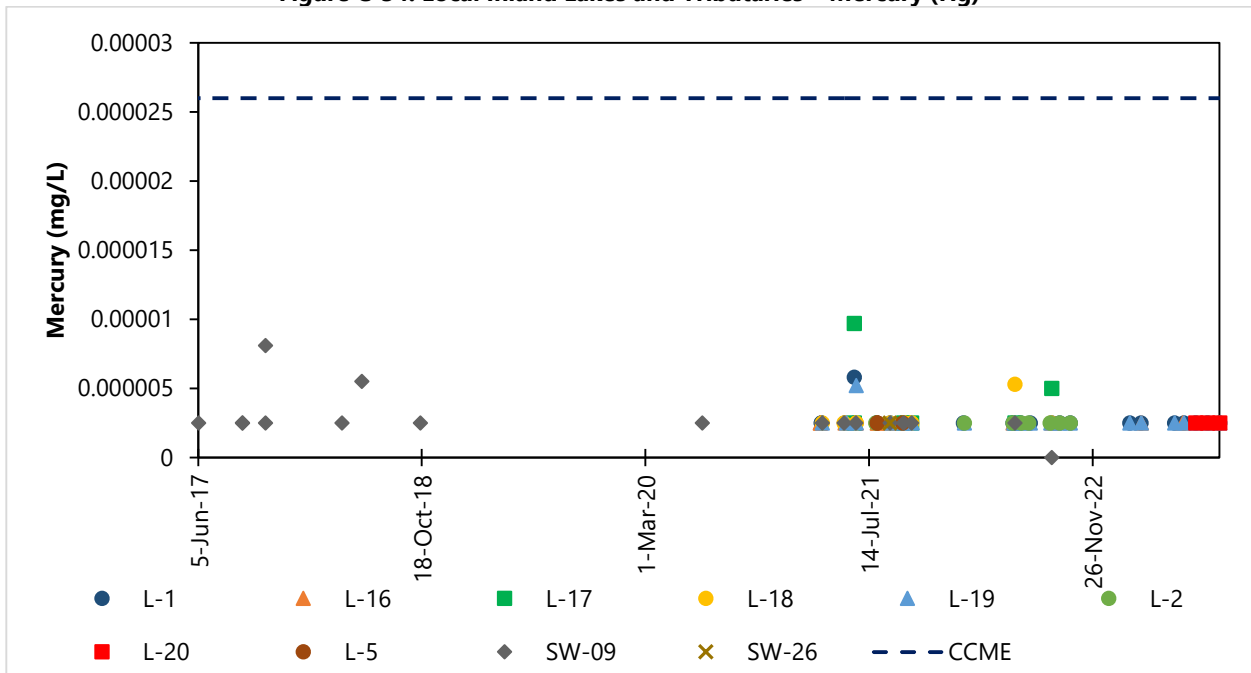




Figure C-37. Regional Monitoring Stations – Arsenic (As)

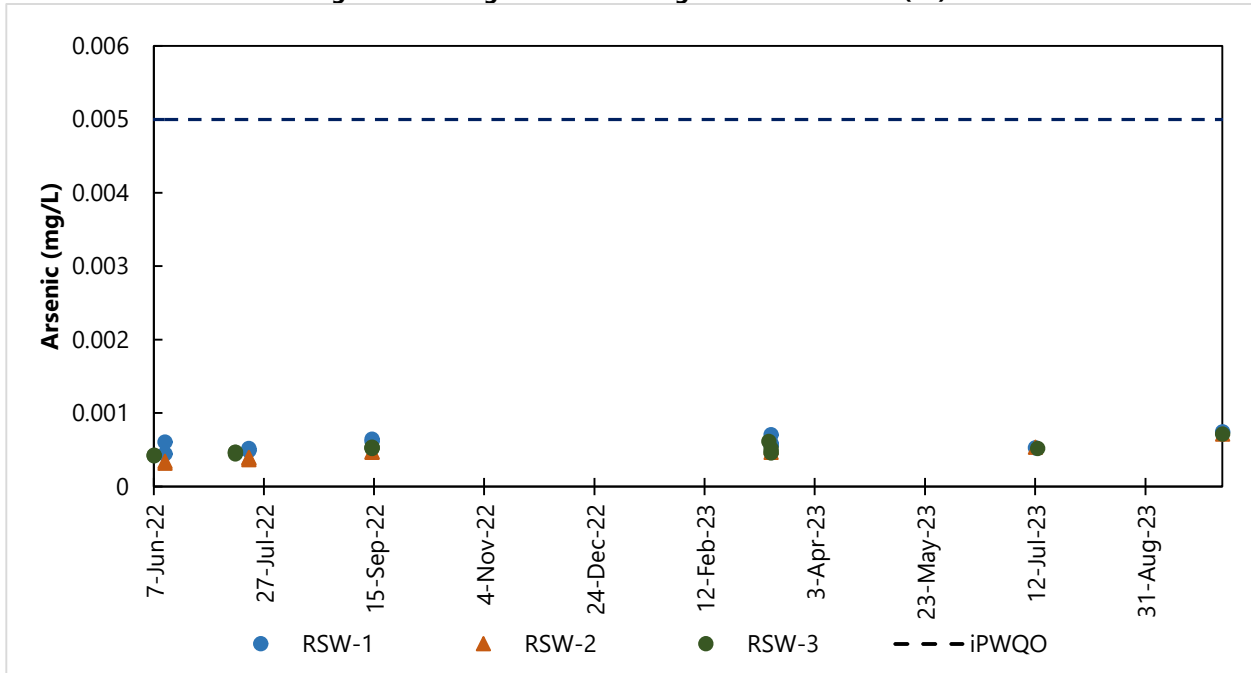


Figure C-38. Regional Monitoring Stations – Cobalt (Co)

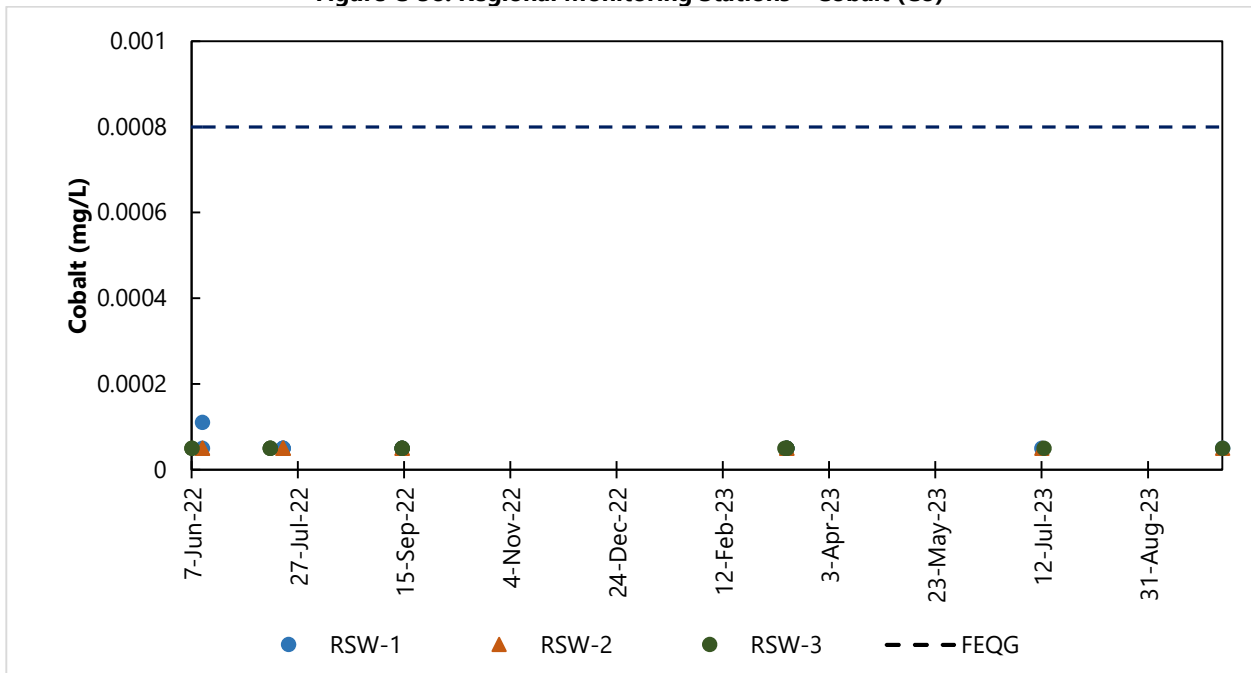


Figure C-39. Regional Monitoring Stations – Copper (Cu)

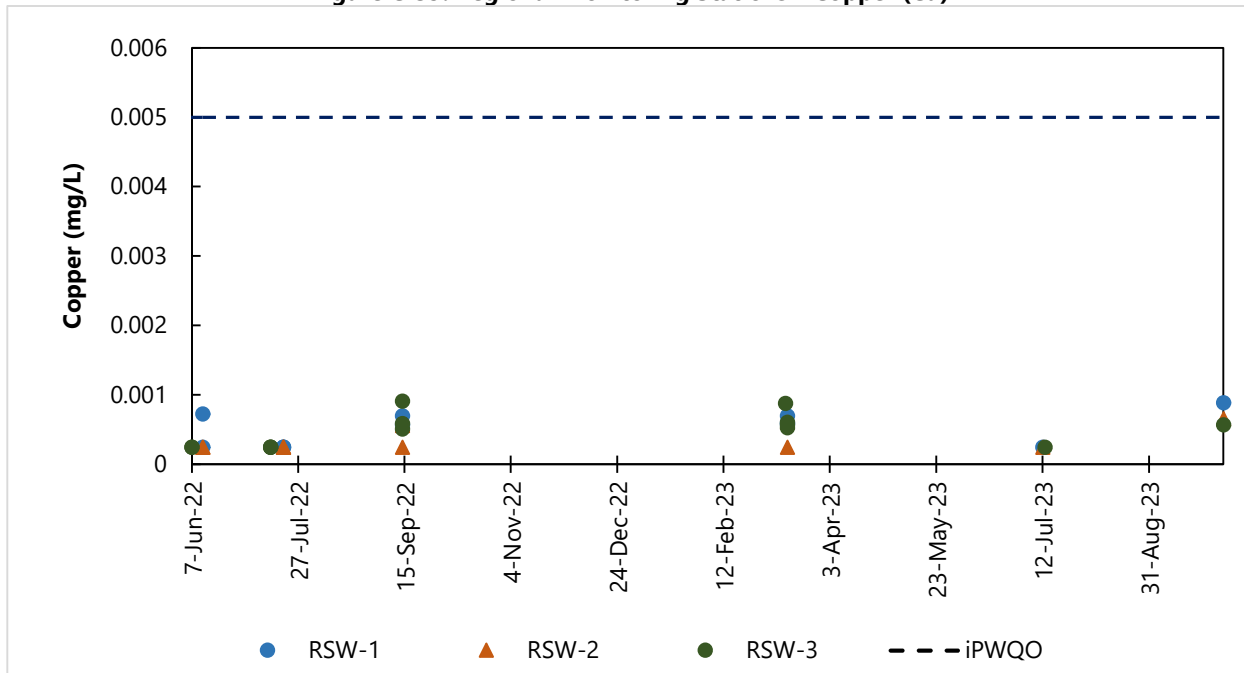


Figure C-40. Regional Monitoring Stations – Iron (Fe)

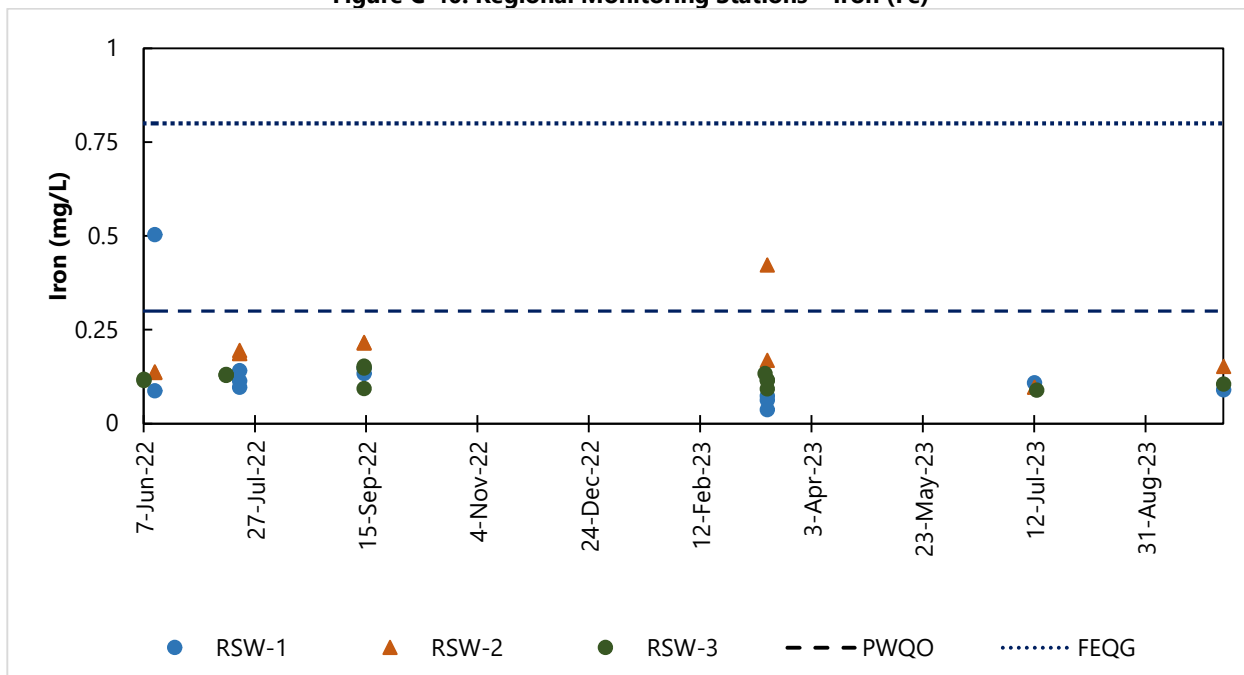


Figure C-41. Regional Monitoring Stations – Mercury (Hg)

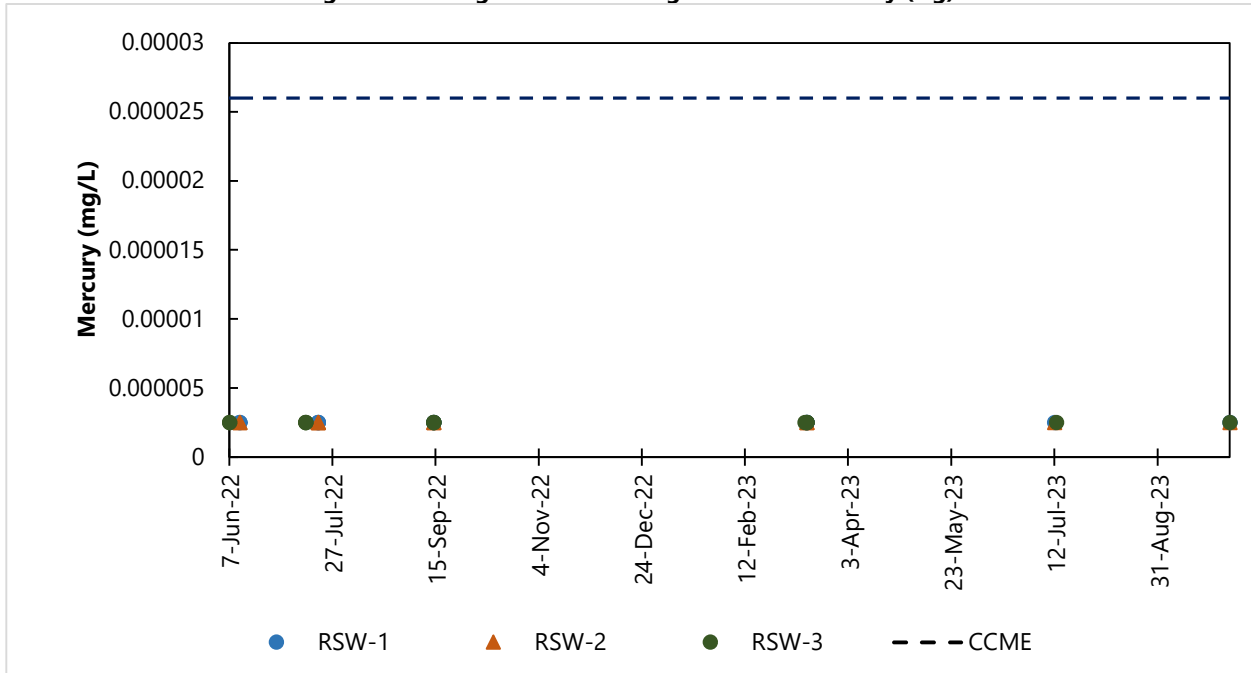
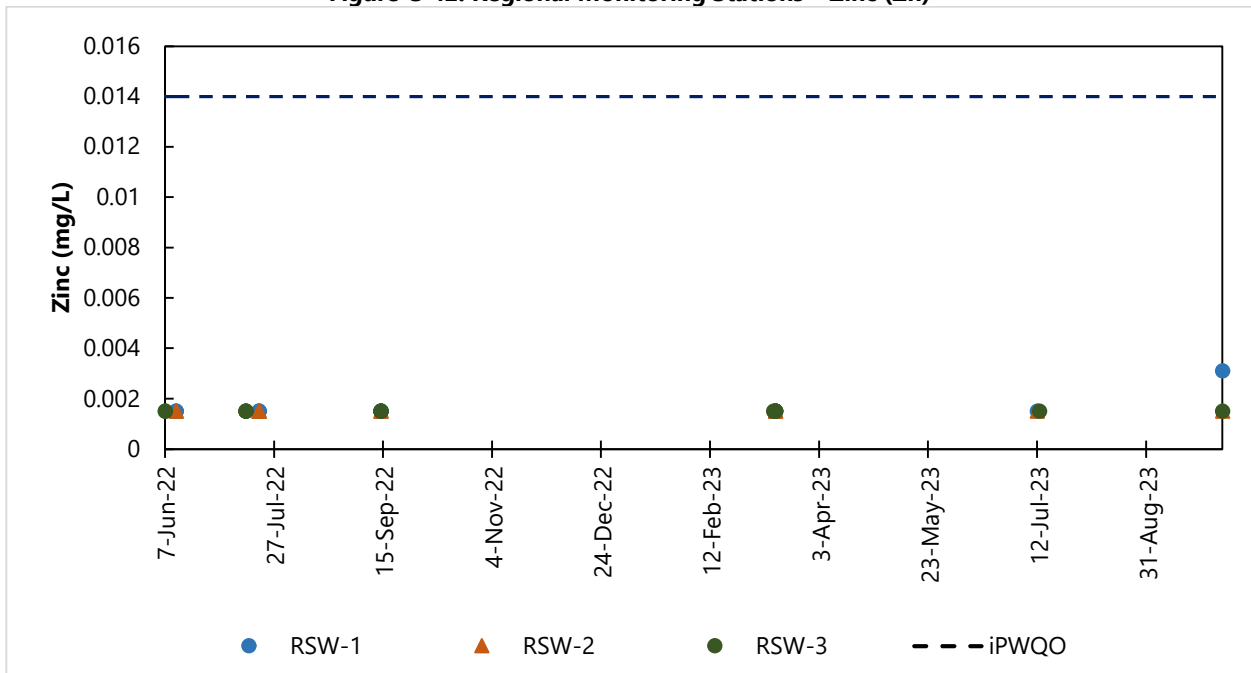


Figure C-42. Regional Monitoring Stations – Zinc (Zn)



# **Attachment D**

## **Lake Survey Data**

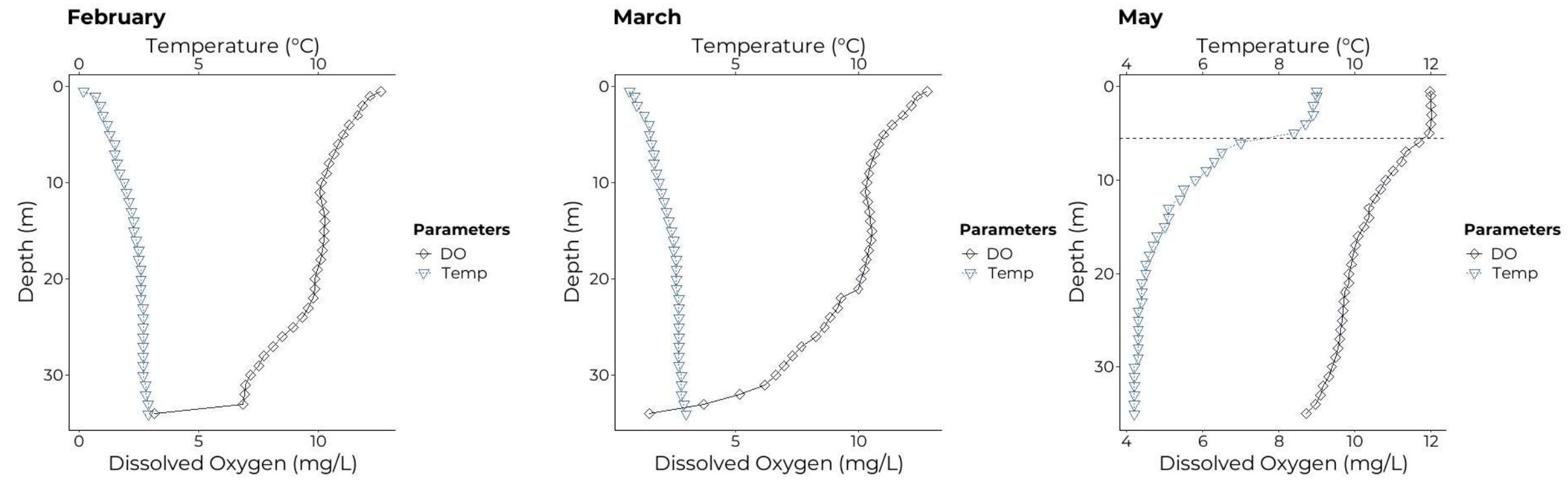


Figure D1-1: 2023 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B1)

Note: Dashed line represents thermocline.

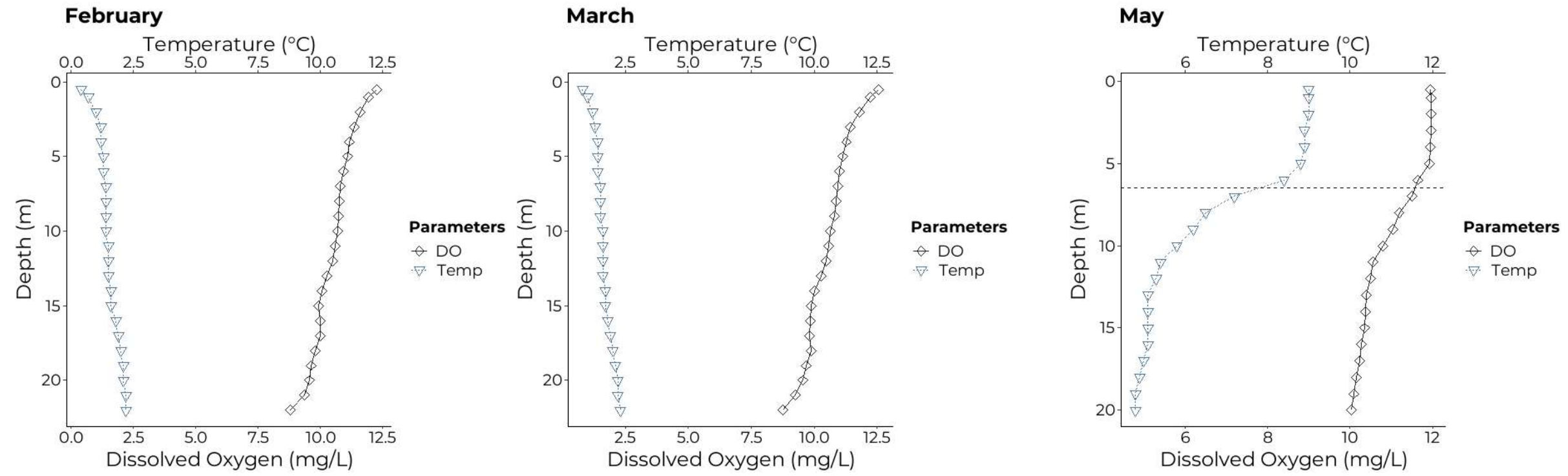


Figure D1-2: 2023 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B2)

Note: Dashed line represents thermocline.

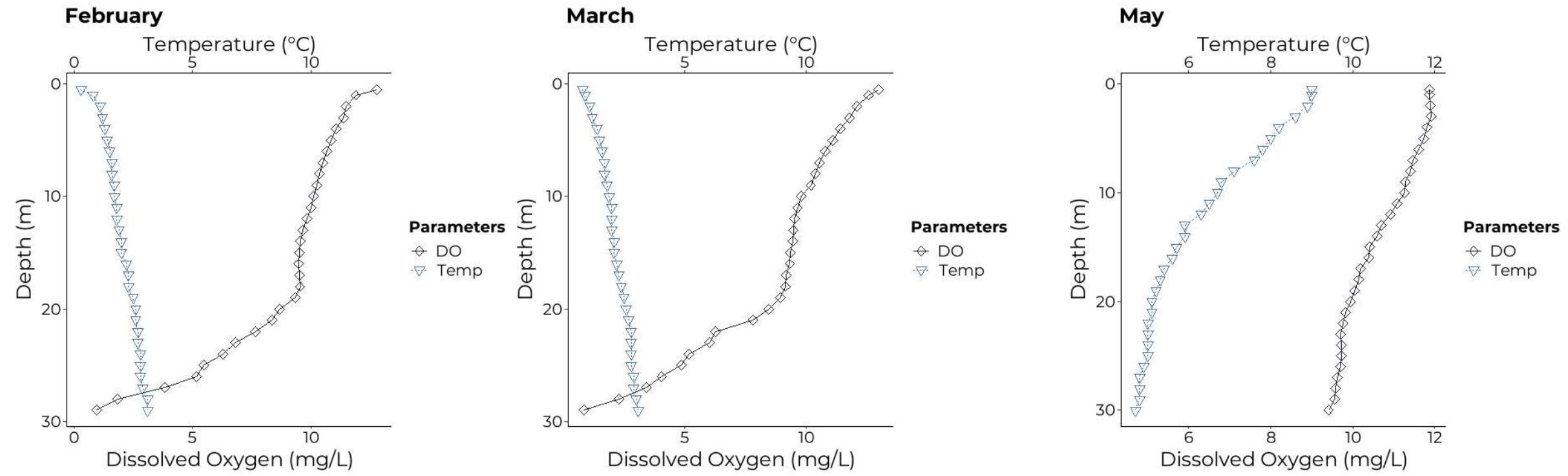


Figure D1-3: 2023 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B3)

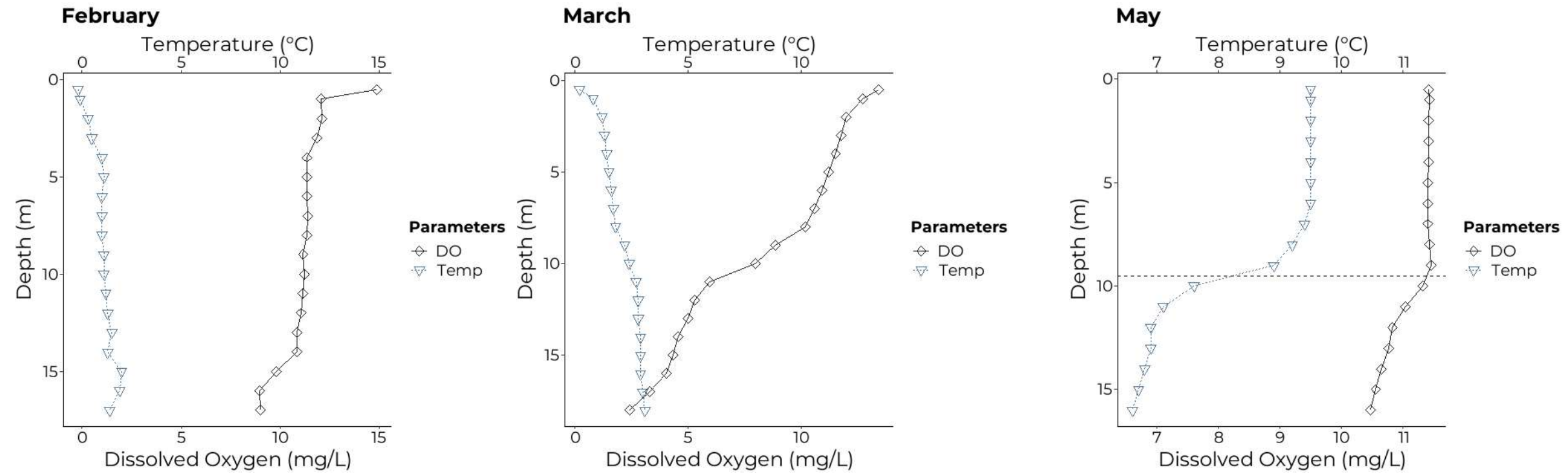


Figure D1-4: 2023 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B4)

Note: Dashed line represents thermocline.

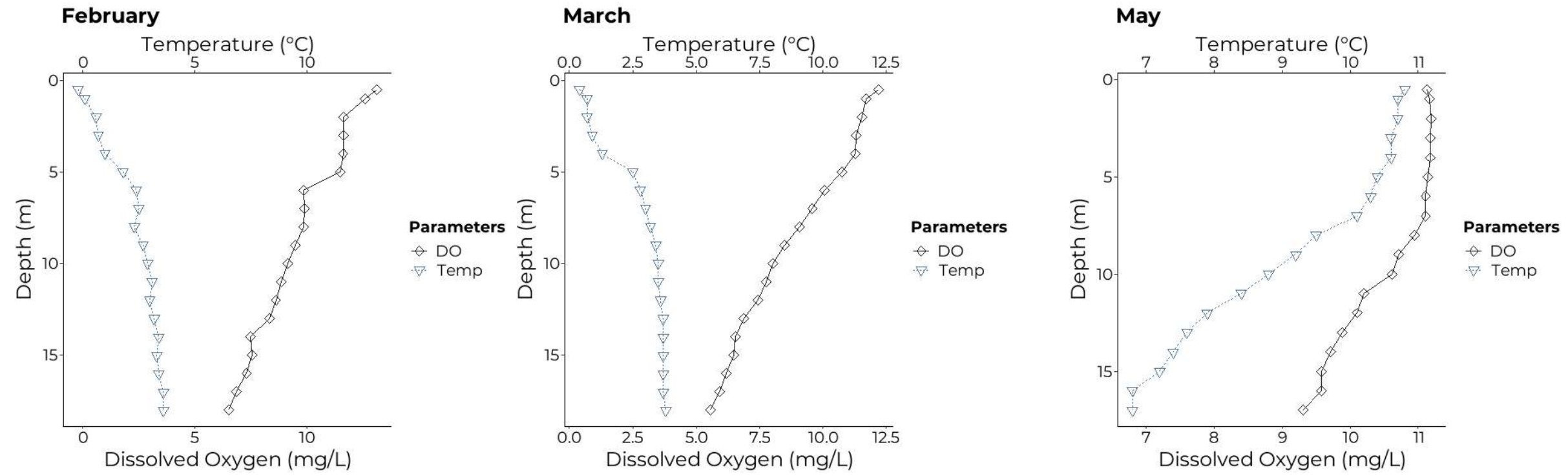


Figure D1-5: 2023 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B5)

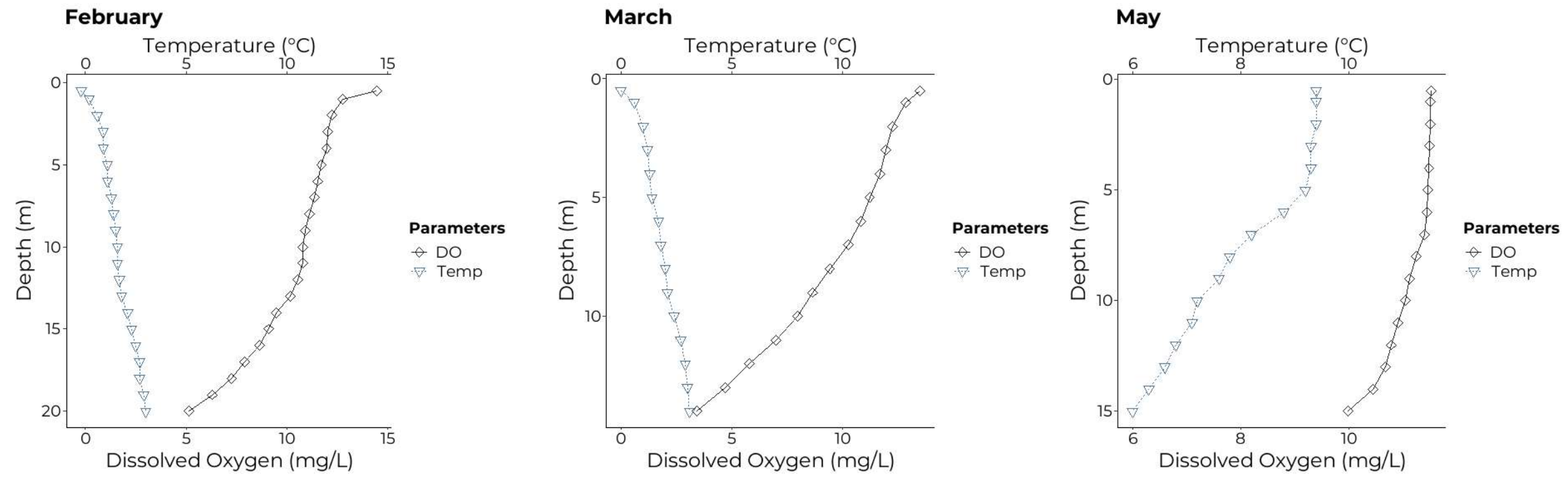


Figure D1-6: 2023 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B6)

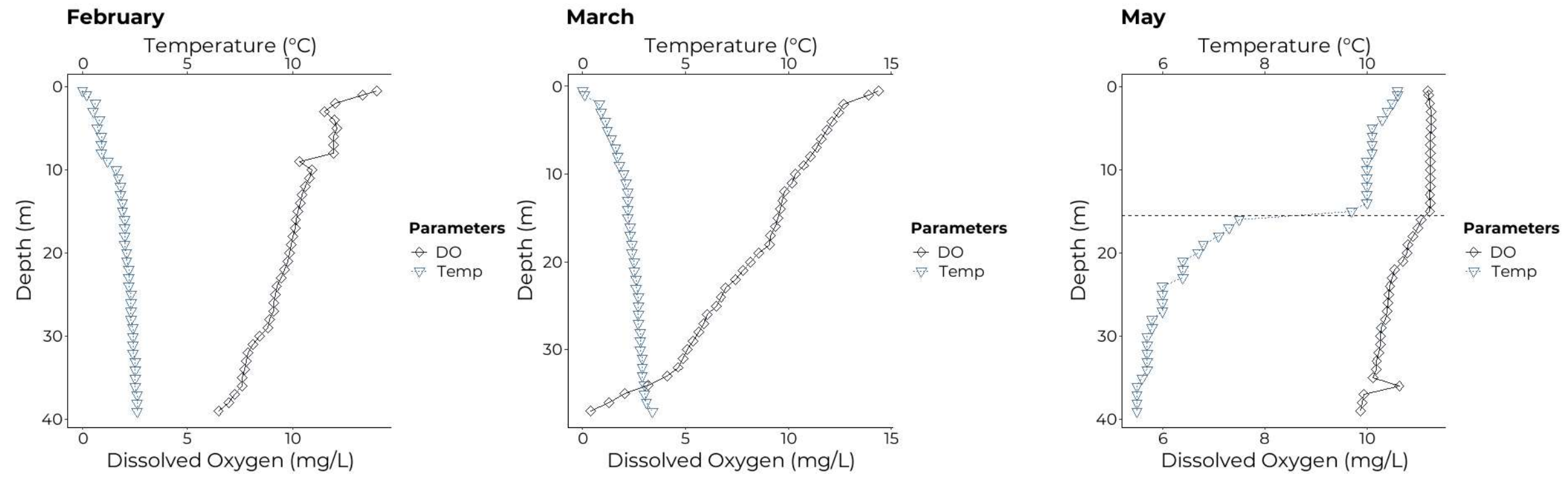


Figure D1-7: 2023 Temperature and Dissolved Oxygen Profiles – Birch Lake (Basin B1)

Note: Dashed line represents thermocline.

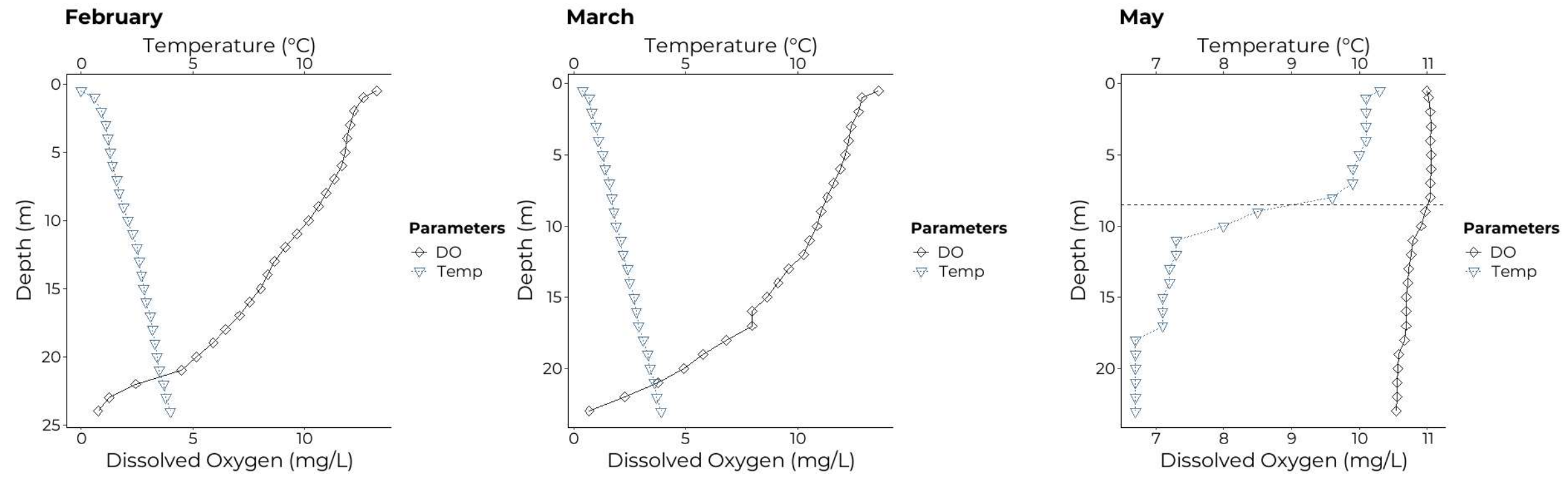
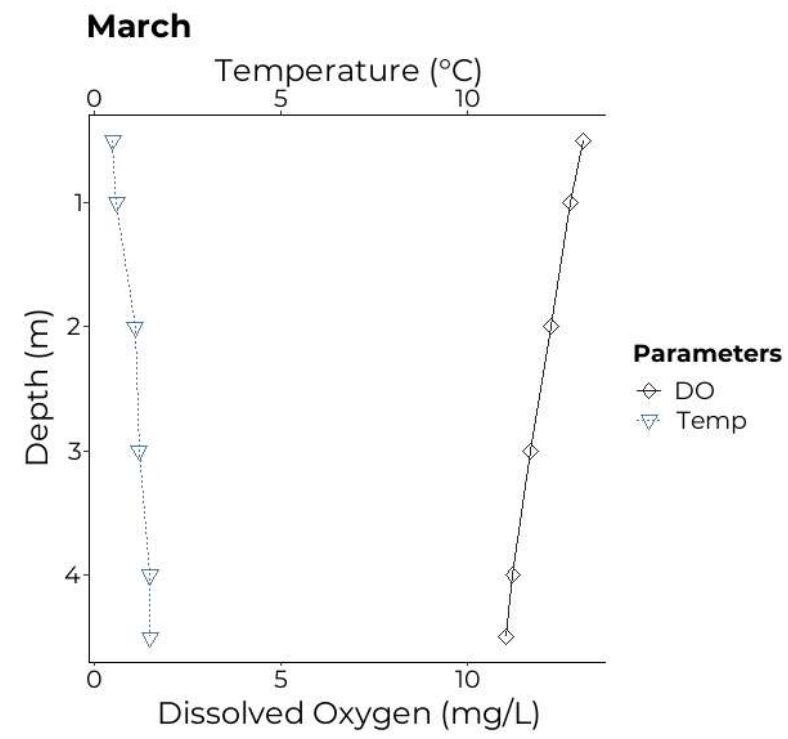


Figure D1-8: 2023 Temperature and Dissolved Oxygen Profiles – Birch Lake (Basin B2)

Note: Dashed line represents thermocline.



**Figure D1-9: 2023 Temperature and Dissolved Oxygen Profiles – Surface Water 01b (SW-01b)**

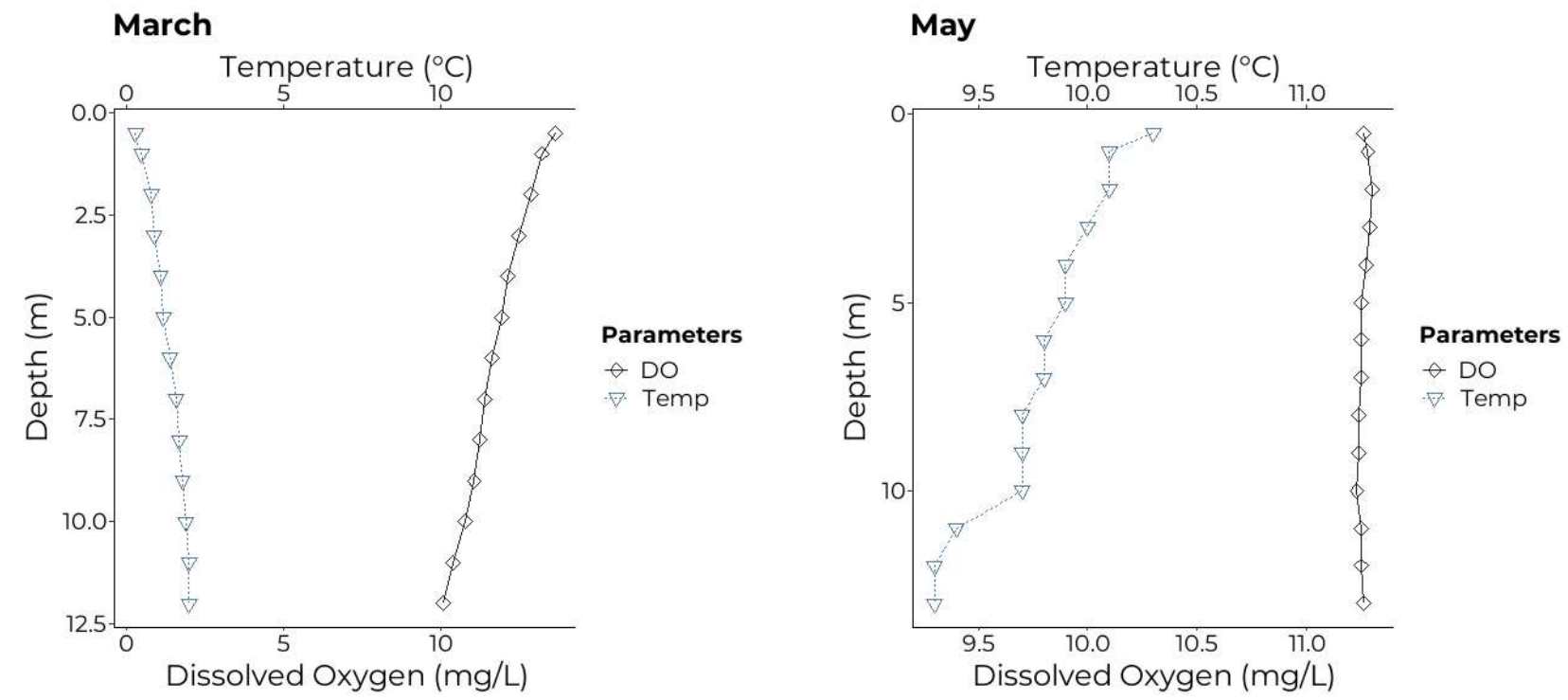


Figure D1-10: 2023 Temperature and Dissolved Oxygen Profiles – Surface Water 23 (SW-23)

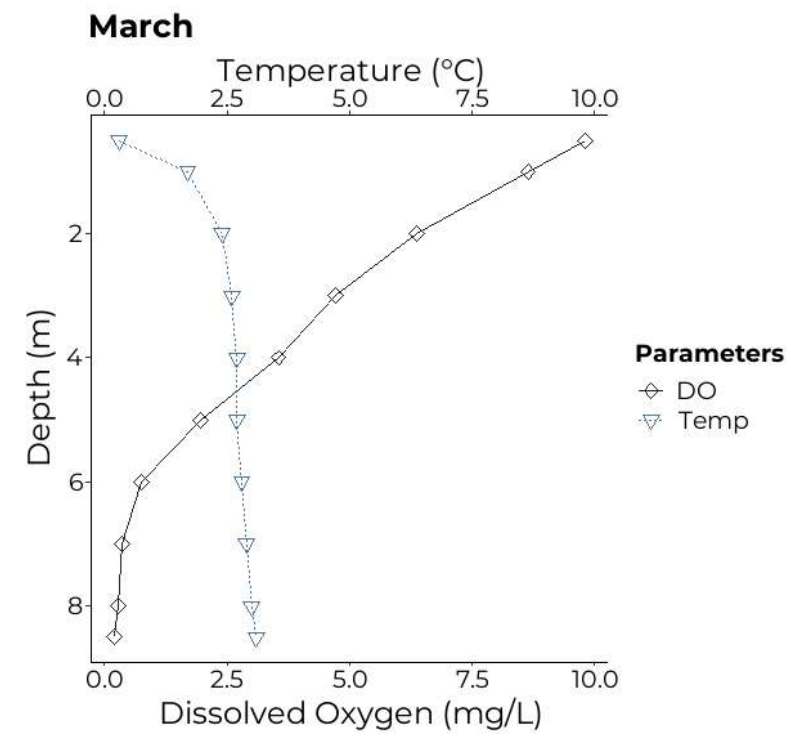
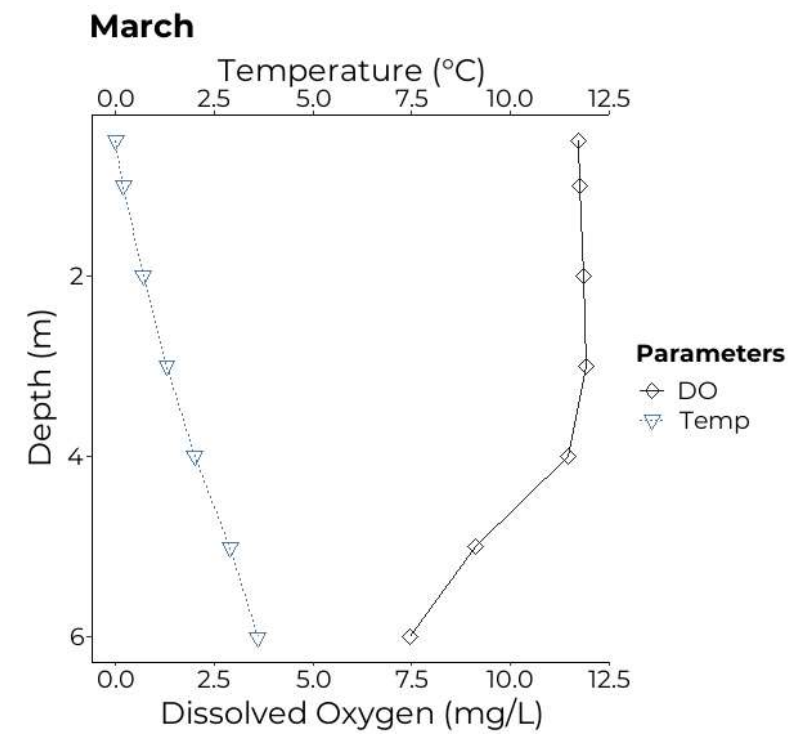
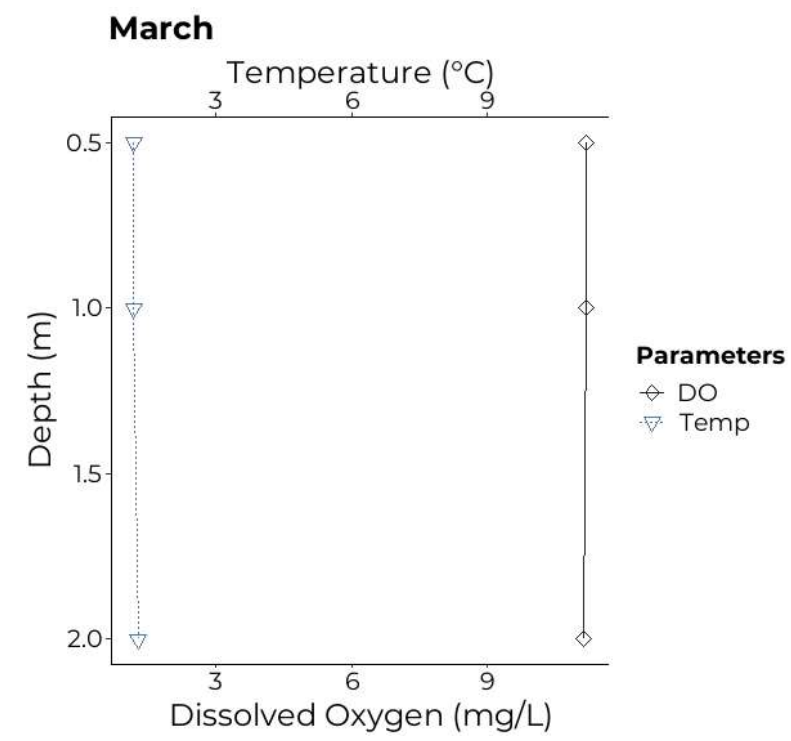


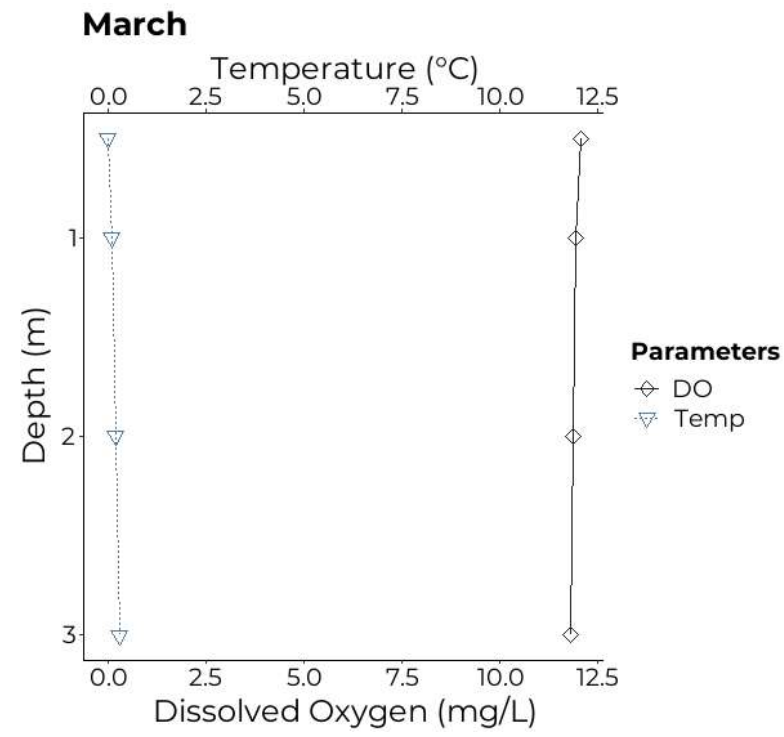
Figure D1-11: 2023 Temperature and Dissolved Oxygen Profiles – Lake 16 (L-16)



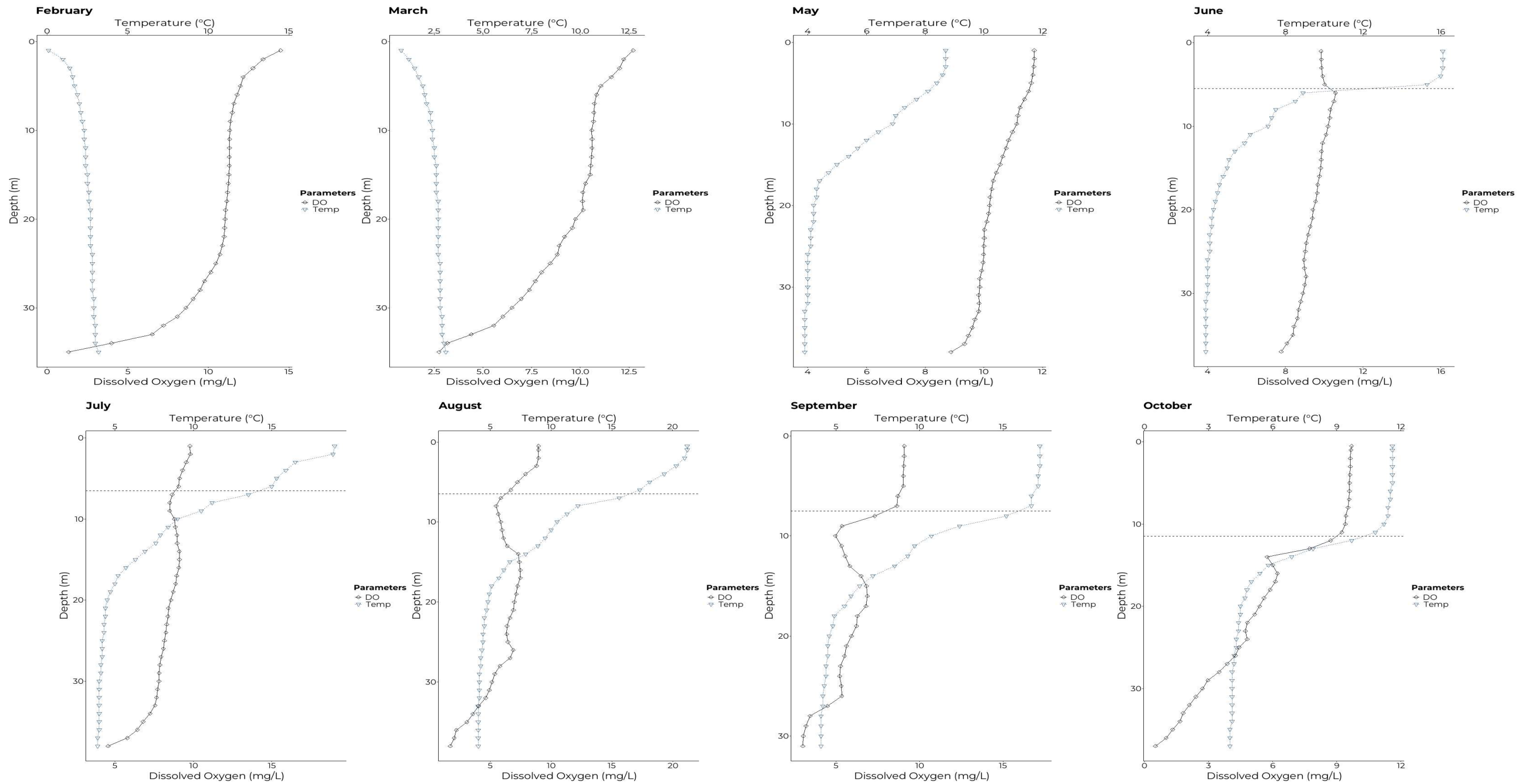
**Figure D1-12: 2023 Temperature and Dissolved Oxygen Profiles – Regional 1 (RSW-1)**



**Figure D1-13: 2023 Temperature and Dissolved Oxygen Profiles – Regional 2 (RSW-2)**



**Figure D1-14: 2023 Temperature and Dissolved Oxygen Profiles – Regional 3 (RSW-3)**



**Figure D1-15: 2022 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B1)**

Note: Dashed line represents thermocline.

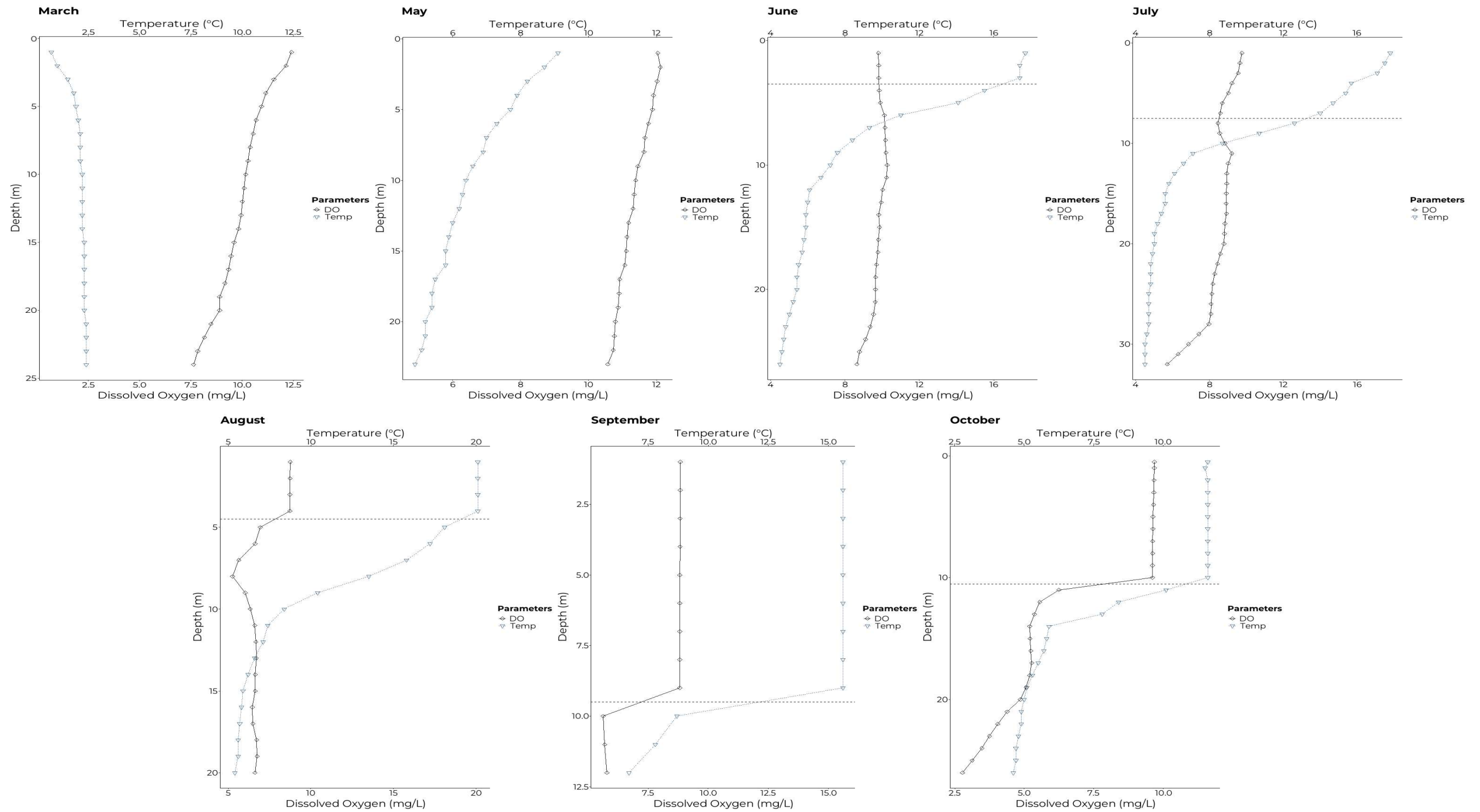


Figure D1-16: 2022 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B2)

Note: Dashed line represents thermocline.

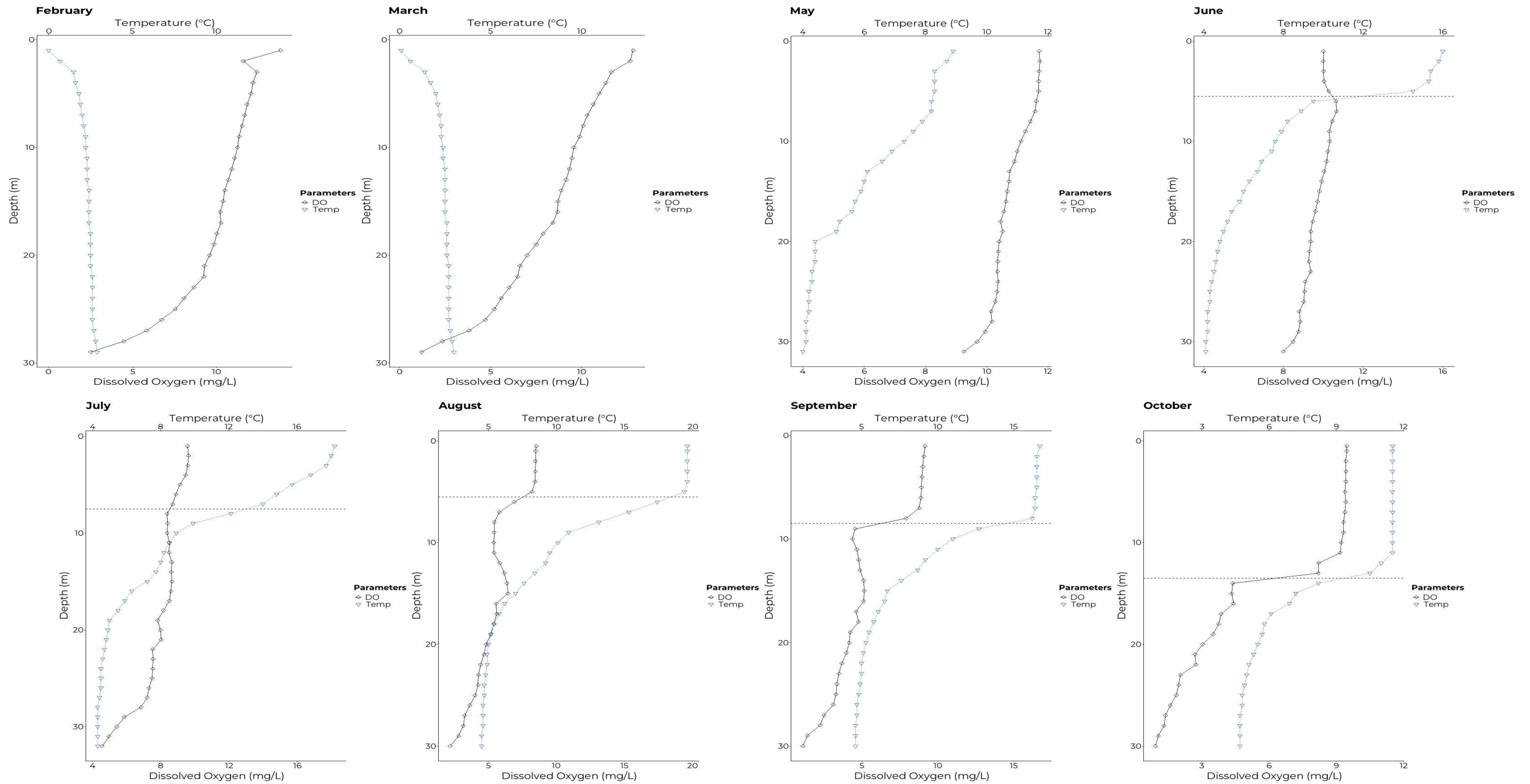


Figure D1-17: 2022 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B3)

Note: Dashed line represents thermocline.

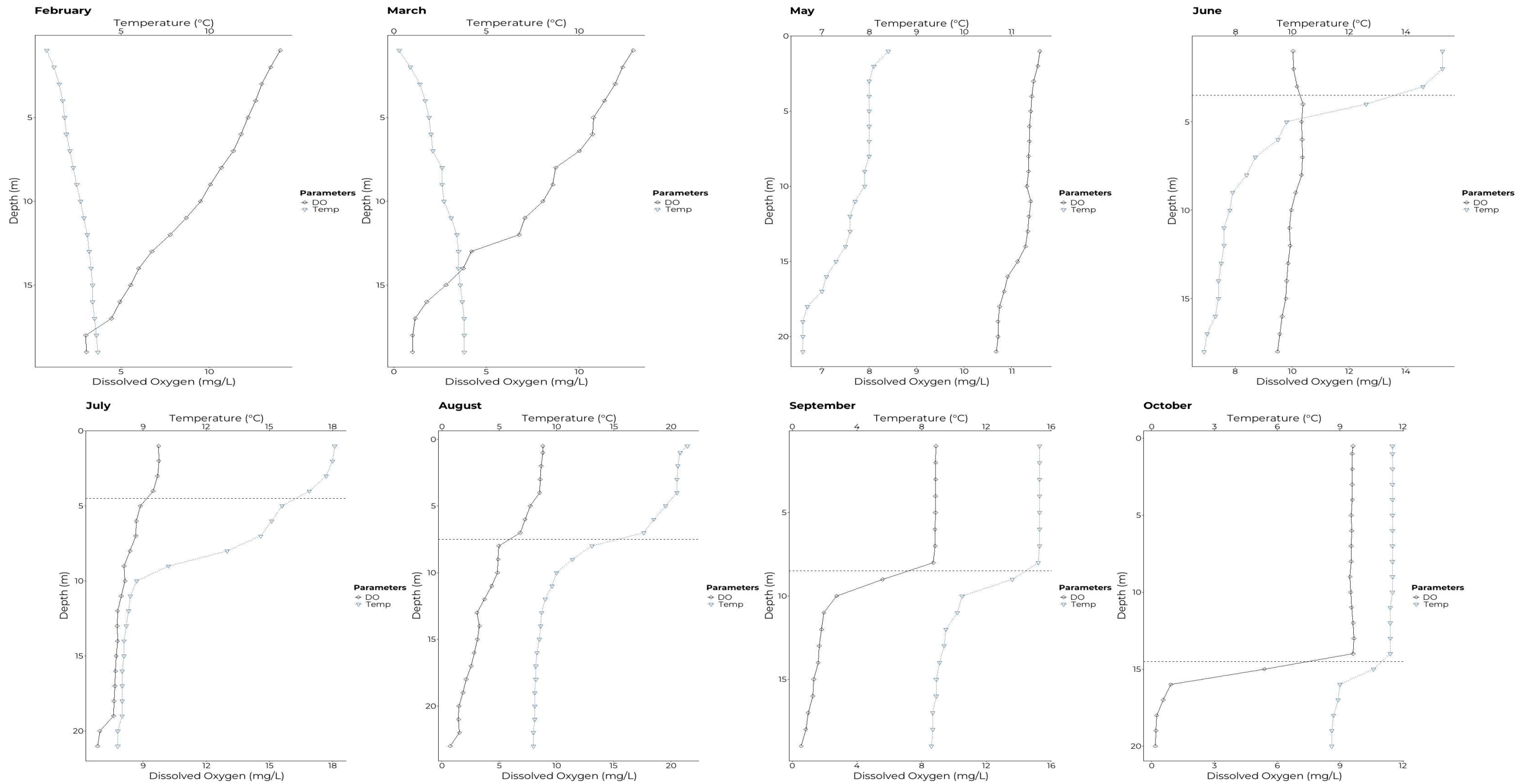


Figure D1-18: 2022 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B4)

Note: Dashed line represents thermocline.

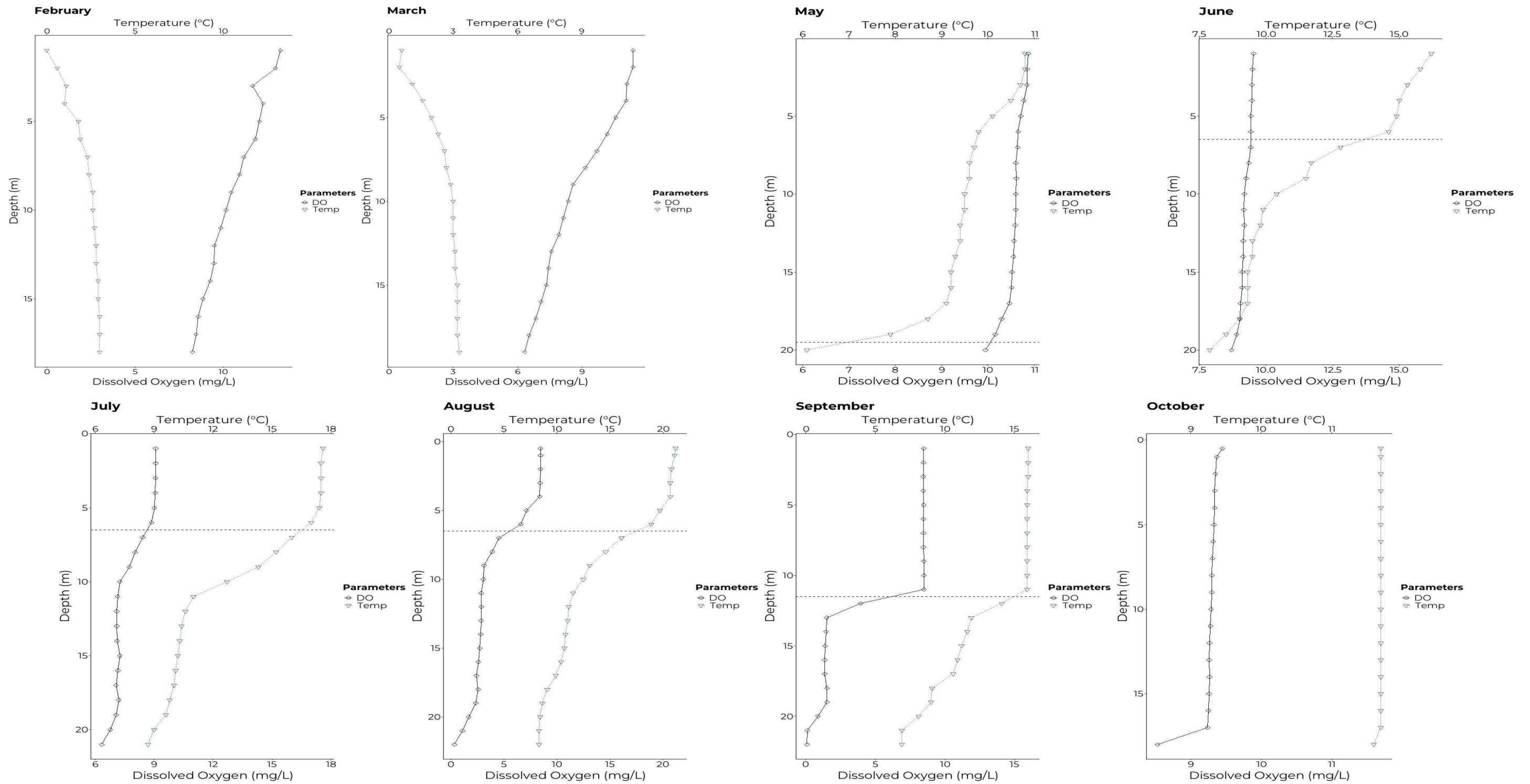


Figure D1-19: 2022 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B5)

Note: Dashed line represents thermocline.

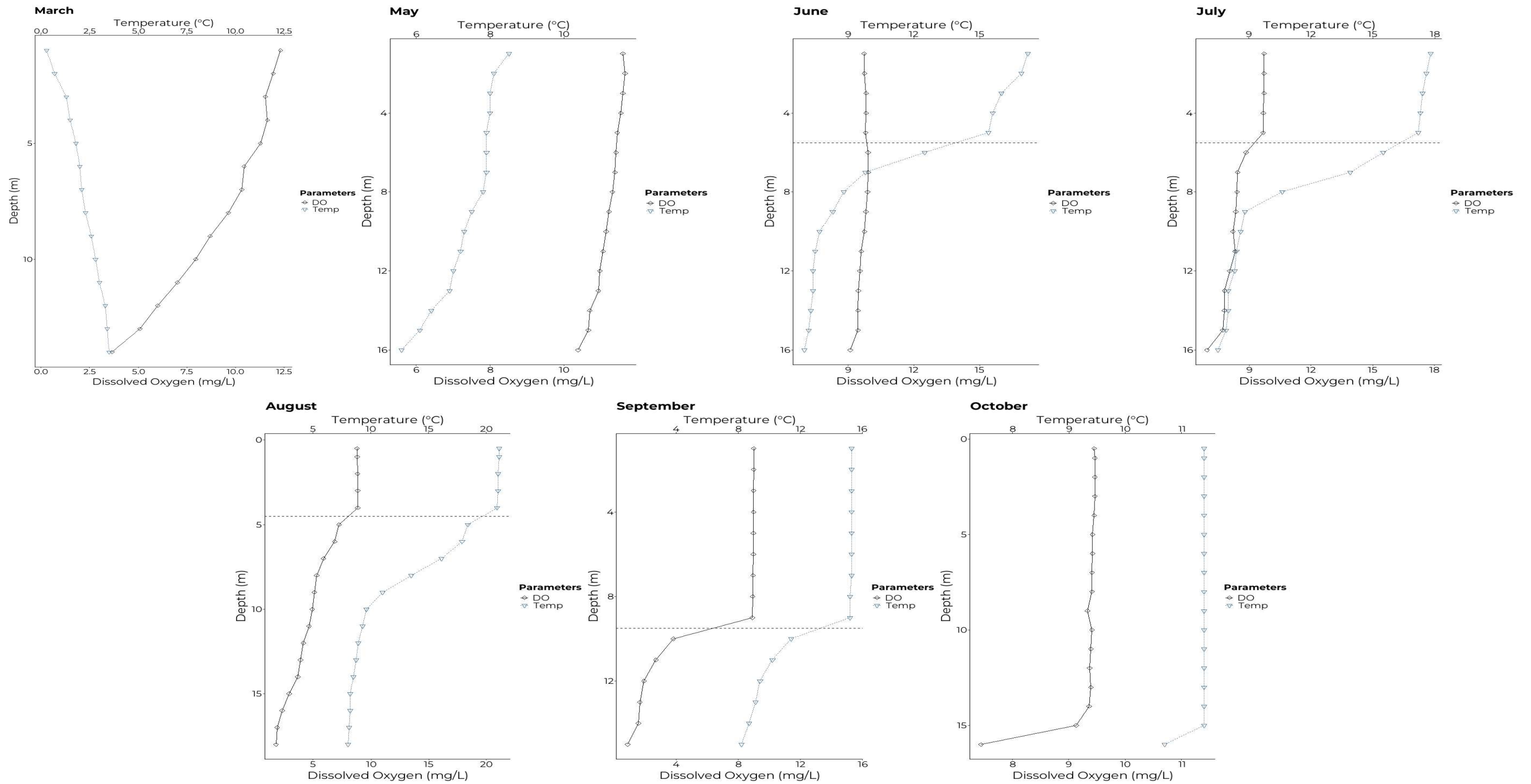


Figure D1-20: 2022 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B6)

Note: Dashed line represents thermocline.

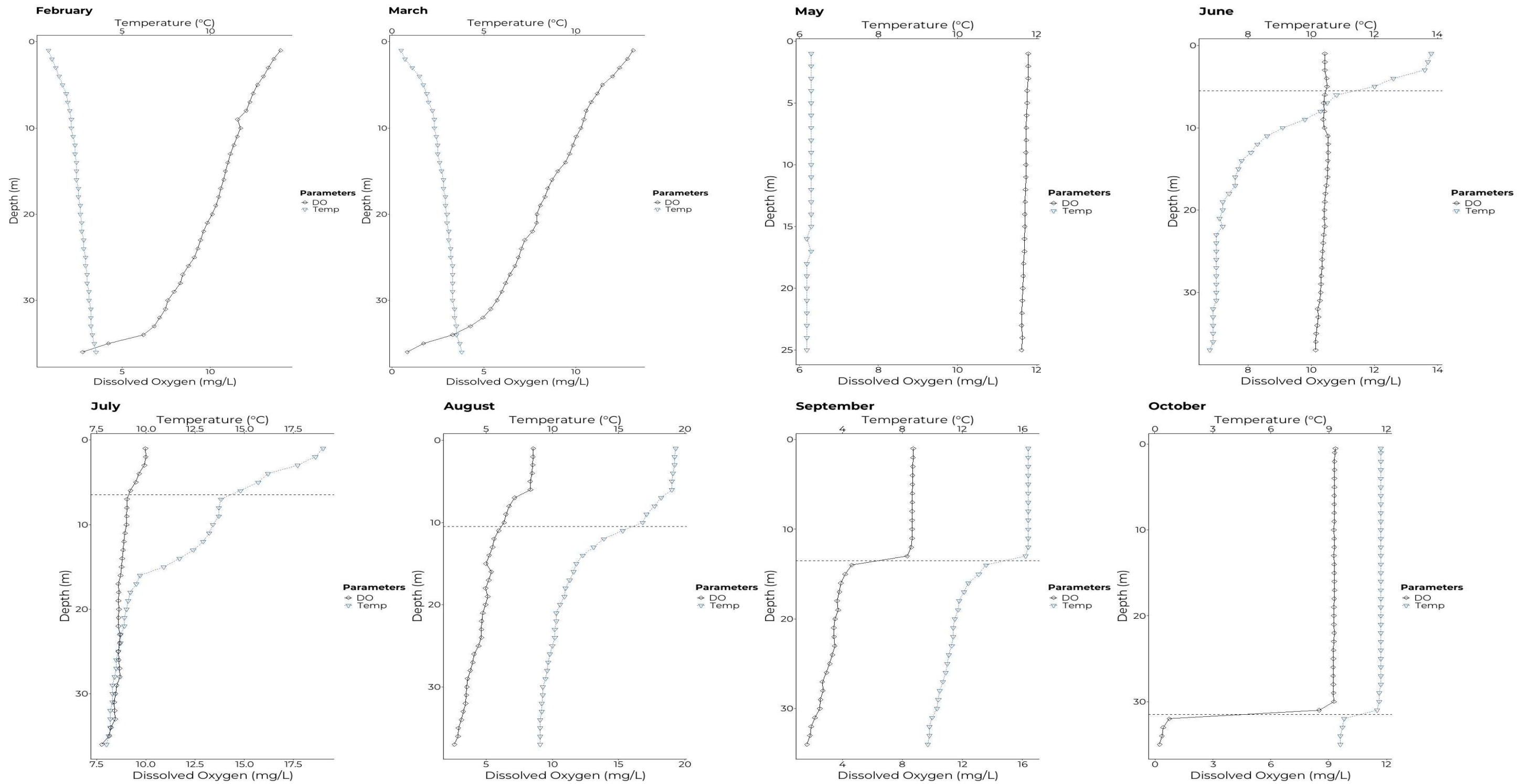


Figure D1-21: 2022 Temperature and Dissolved Oxygen Profiles – Birch Lake (Basin B1)

Note: Dashed line represents thermocline.

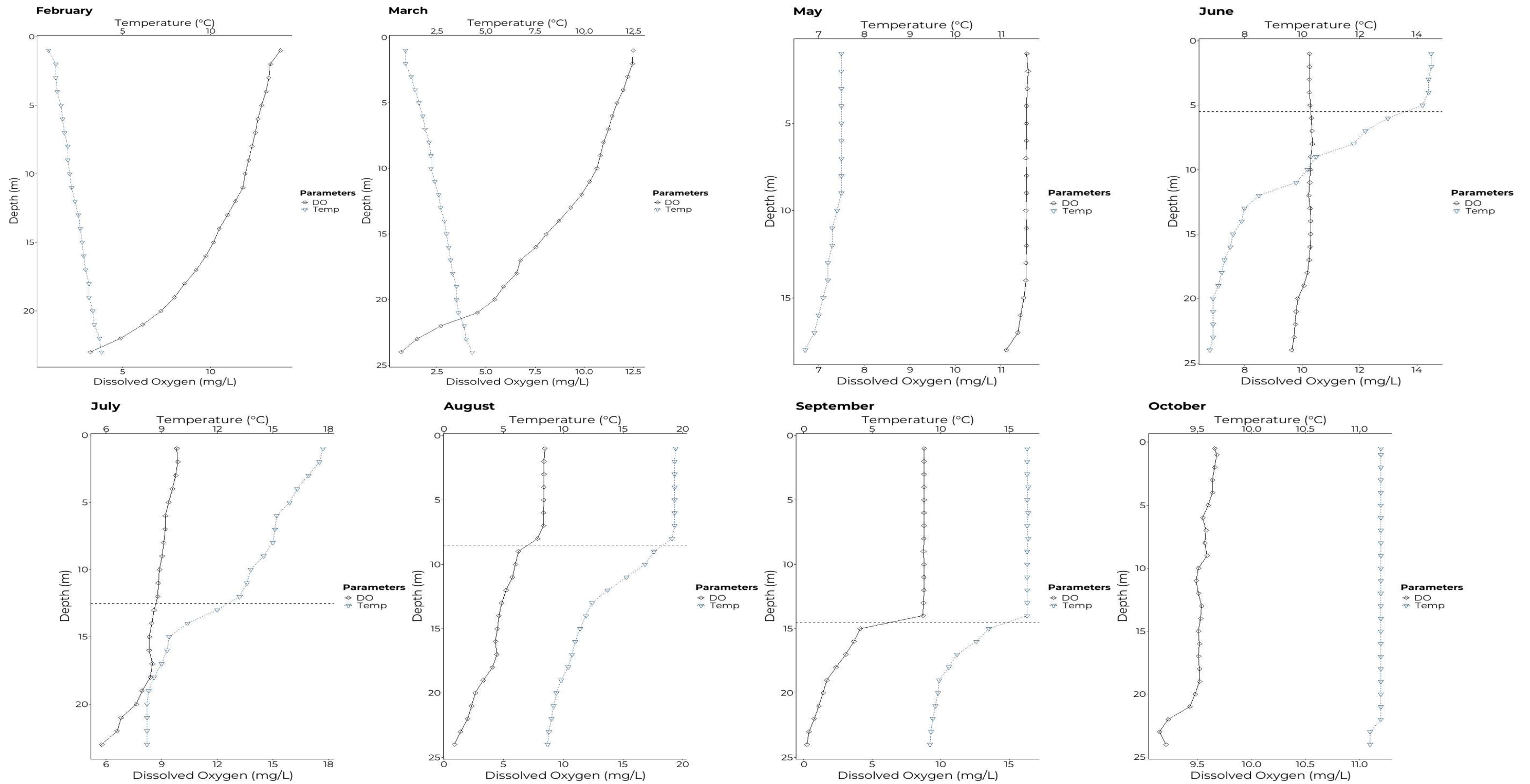


Figure D1-22: 2022 Temperature and Dissolved Oxygen Profiles – Birch Lake (Basin B2)

Note: Dashed line represents thermocline.

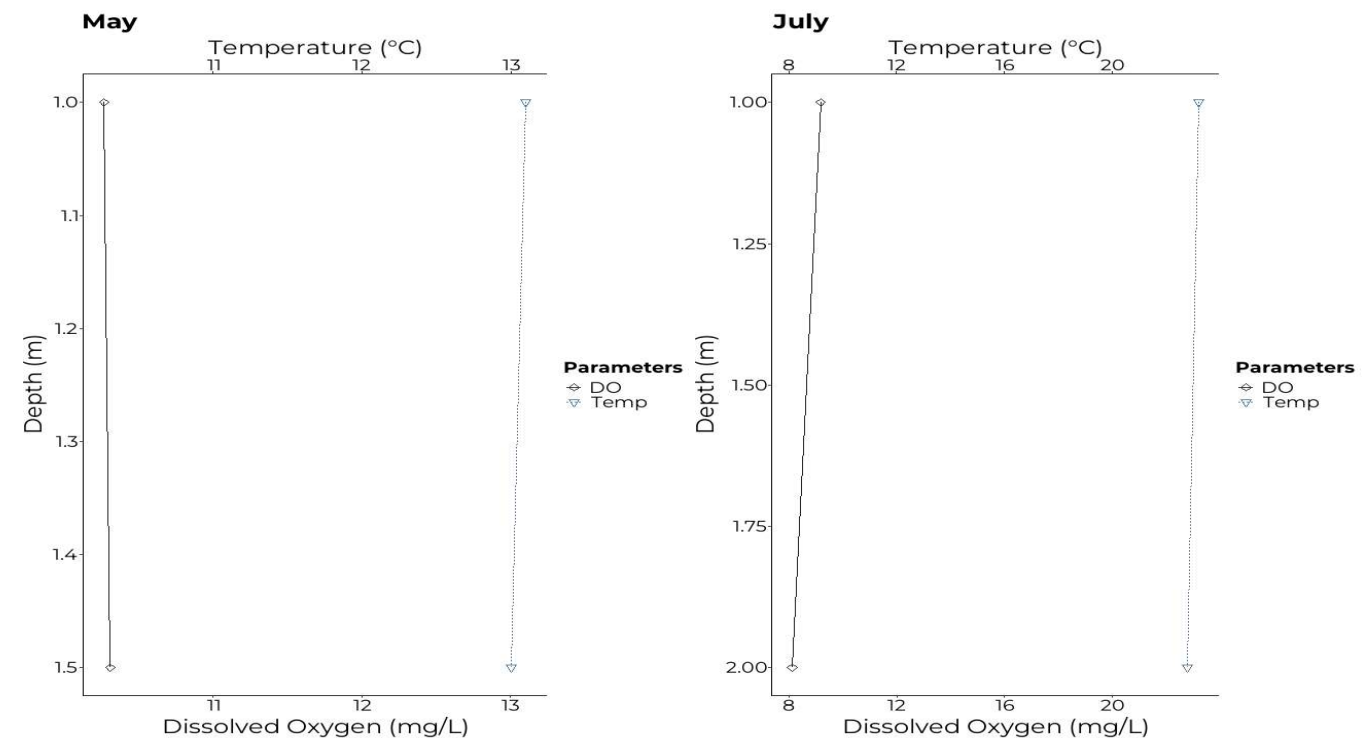


Figure D1-23: 2022 Temperature and Dissolved Oxygen Profiles – Lake 1 (L-1)

Note: Dashed line represents thermocline.

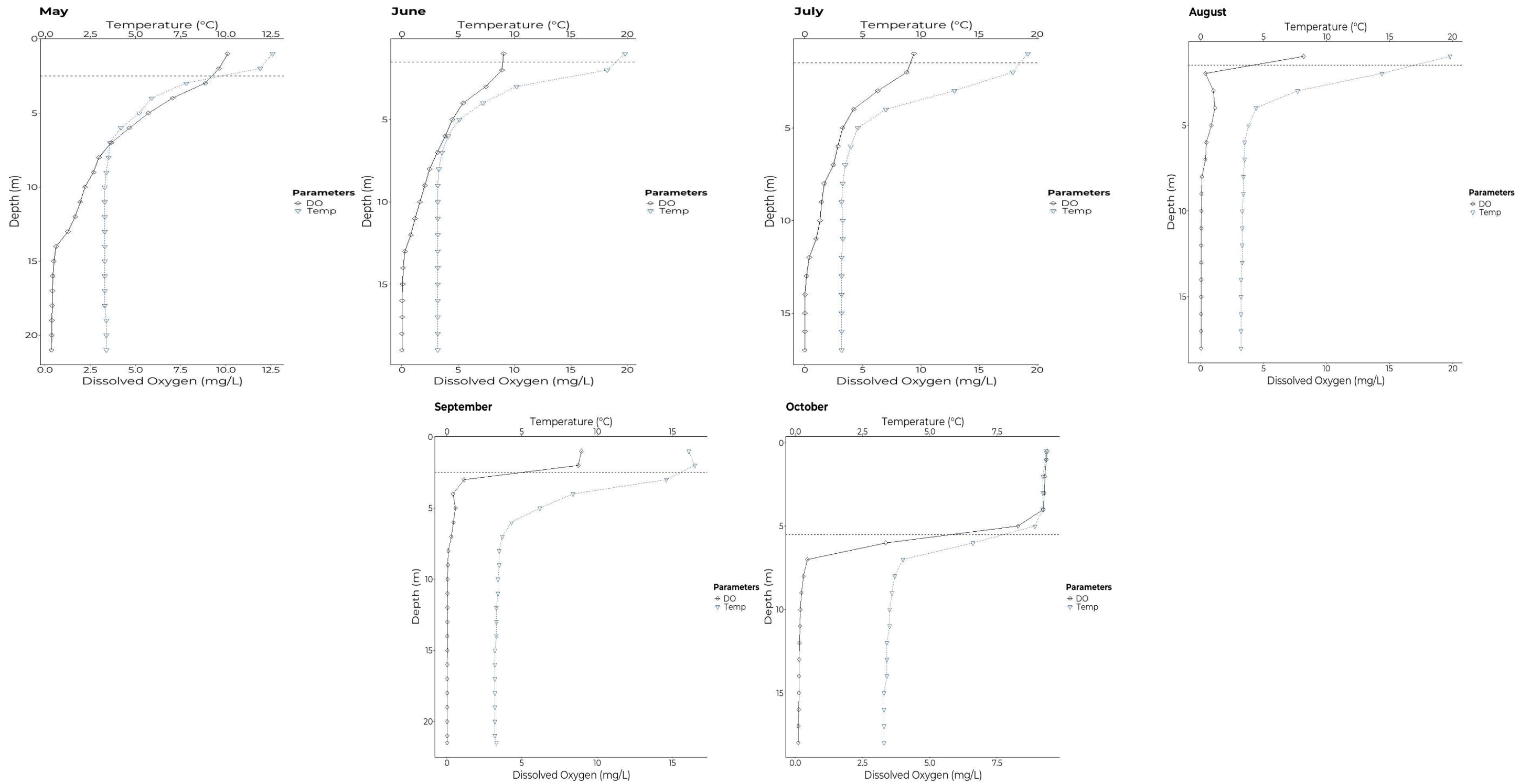
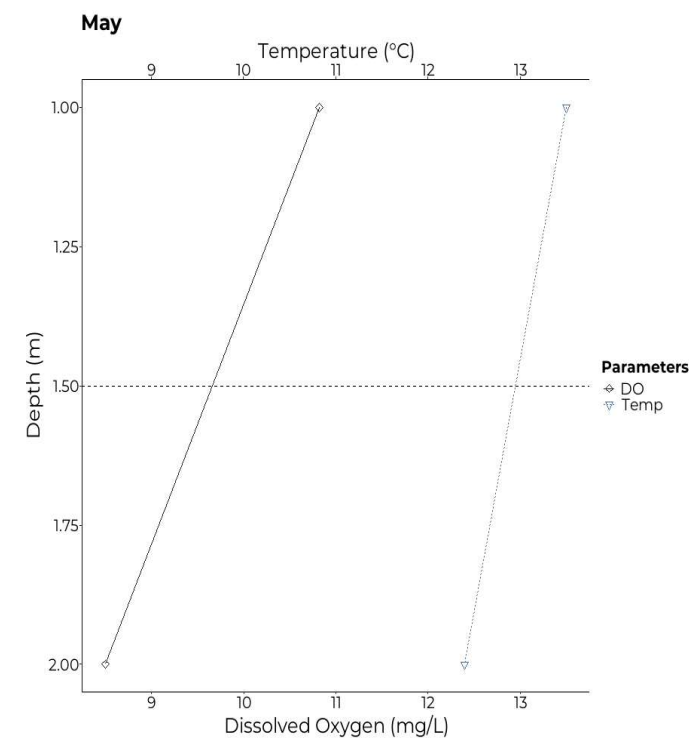


Figure D1-24: 2022 Temperature and Dissolved Oxygen Profiles – Lake 2 (L-2)

Note: Dashed line represents thermocline.



**Figure D1-25: 2022 Temperature and Dissolved Oxygen Profiles – Surface Water 9 (SW-9)**

Note: Dashed line represents thermocline.

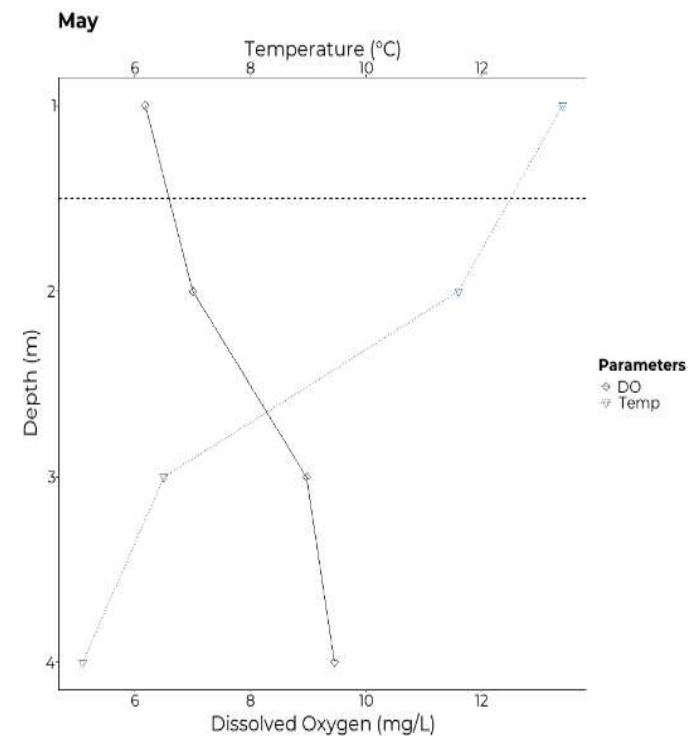
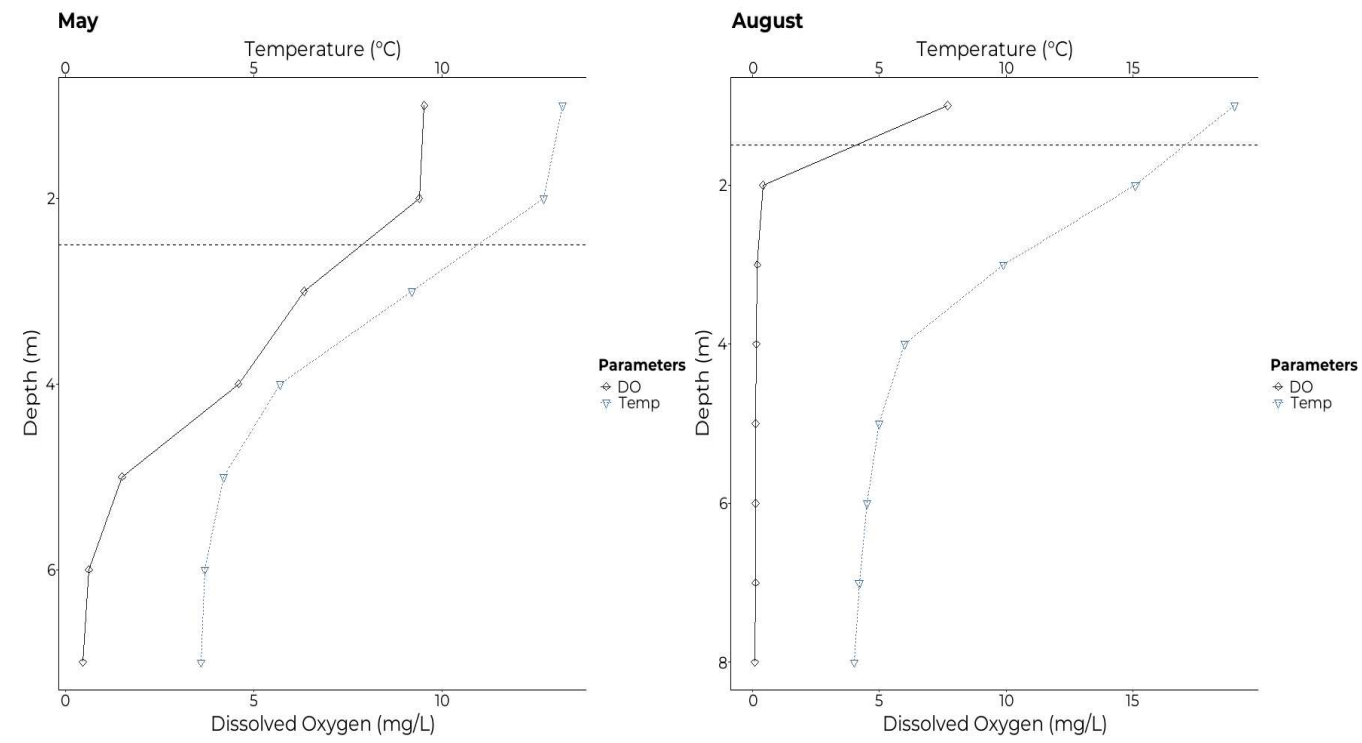


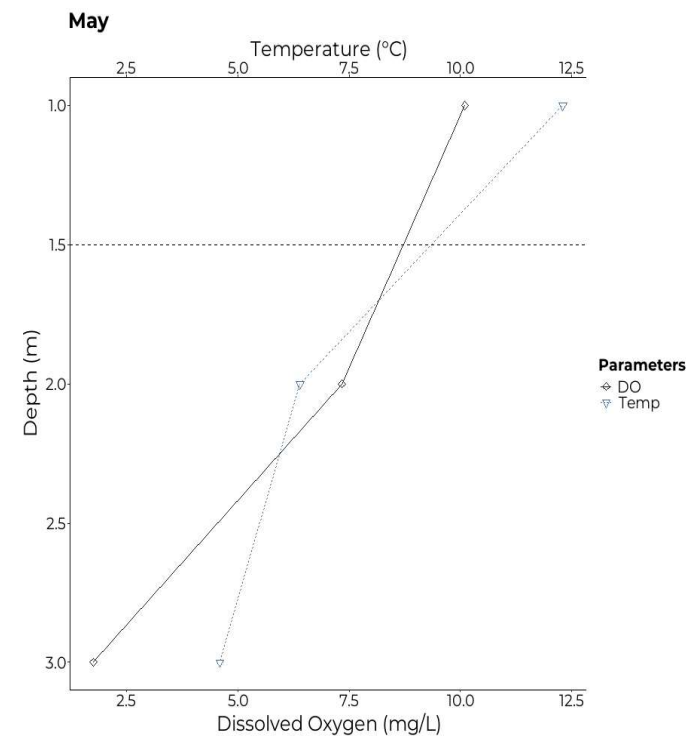
Figure D1-26: 2022 Temperature and Dissolved Oxygen Profiles – Surface Water 26 (SW-26)

Note: Dashed line represents thermocline.



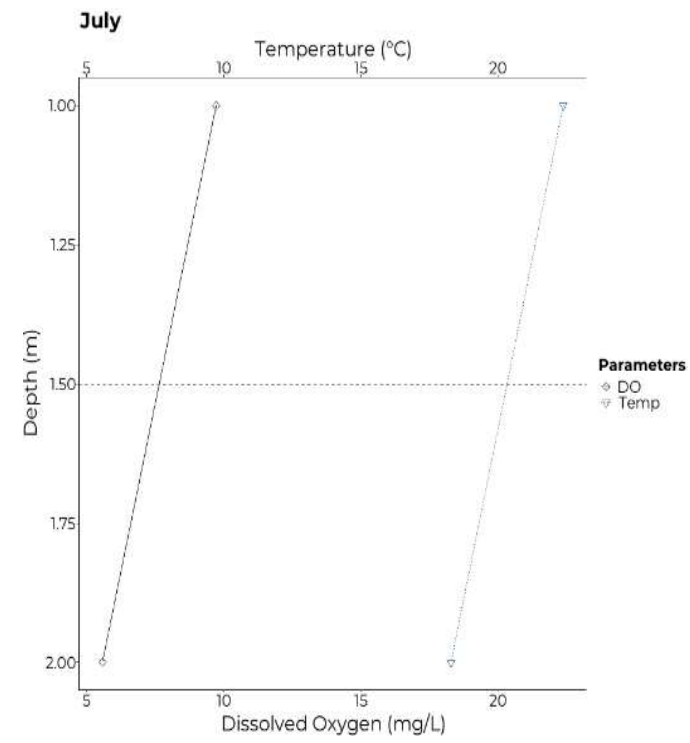
**Figure D1-27: 2022 Temperature and Dissolved Oxygen Profiles – Lake 16 (L-16)**

Note: Dashed line represents thermocline.



**Figure D1-28: 2022 Temperature and Dissolved Oxygen Profiles – Lake 17 (L-17)**

Note: Dashed line represents thermocline.



**Figure D1-29: 2022 Temperature and Dissolved Oxygen Profiles – Lake 19 (L-19)**

Note: Dashed line represents thermocline.

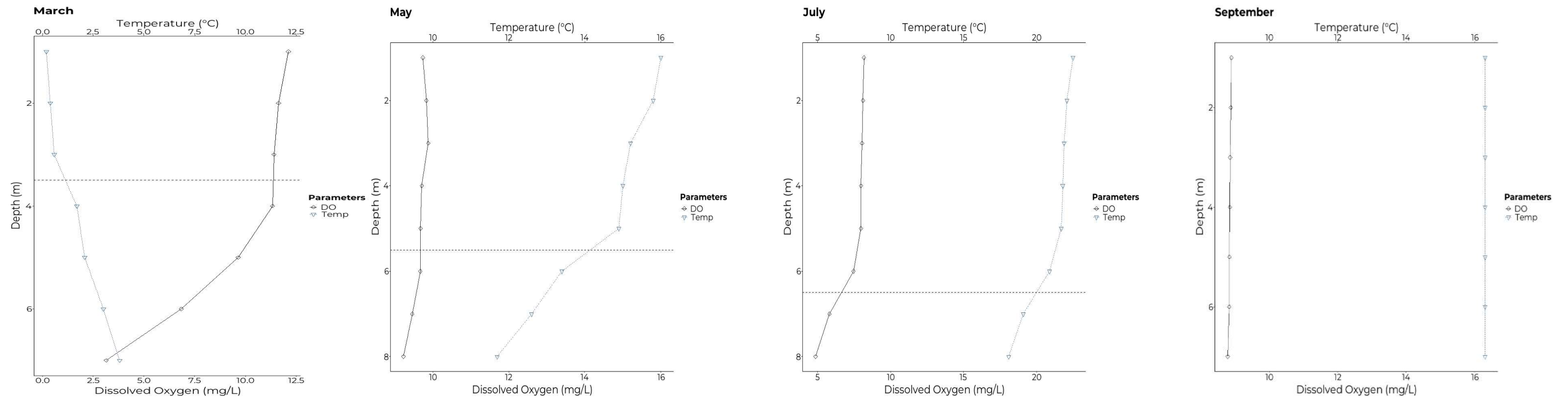


Figure D1-30: 2022 Temperature and Dissolved Oxygen Profiles – Regional 1 (RSW-1)

Note: Dashed line represents thermocline.

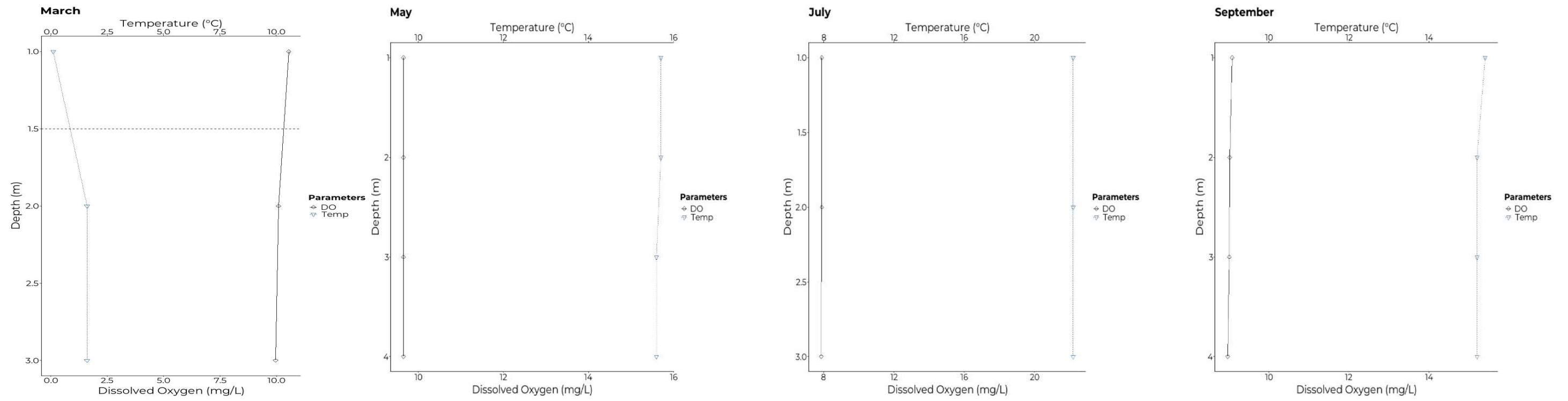


Figure D1-31: 2022 Temperature and Dissolved Oxygen Profiles – Regional 2 (RSW-2)

Note: Dashed line represents thermocline.

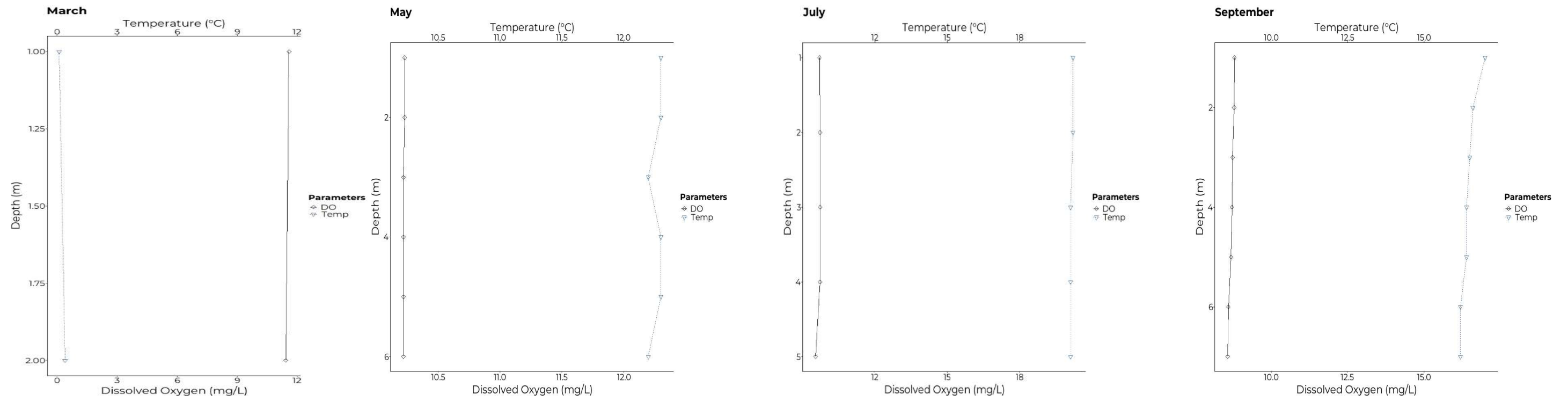


Figure D1-32: 2022 Temperature and Dissolved Oxygen Profiles – Regional 3 (RSW-3)

Note: Dashed line represents thermocline.

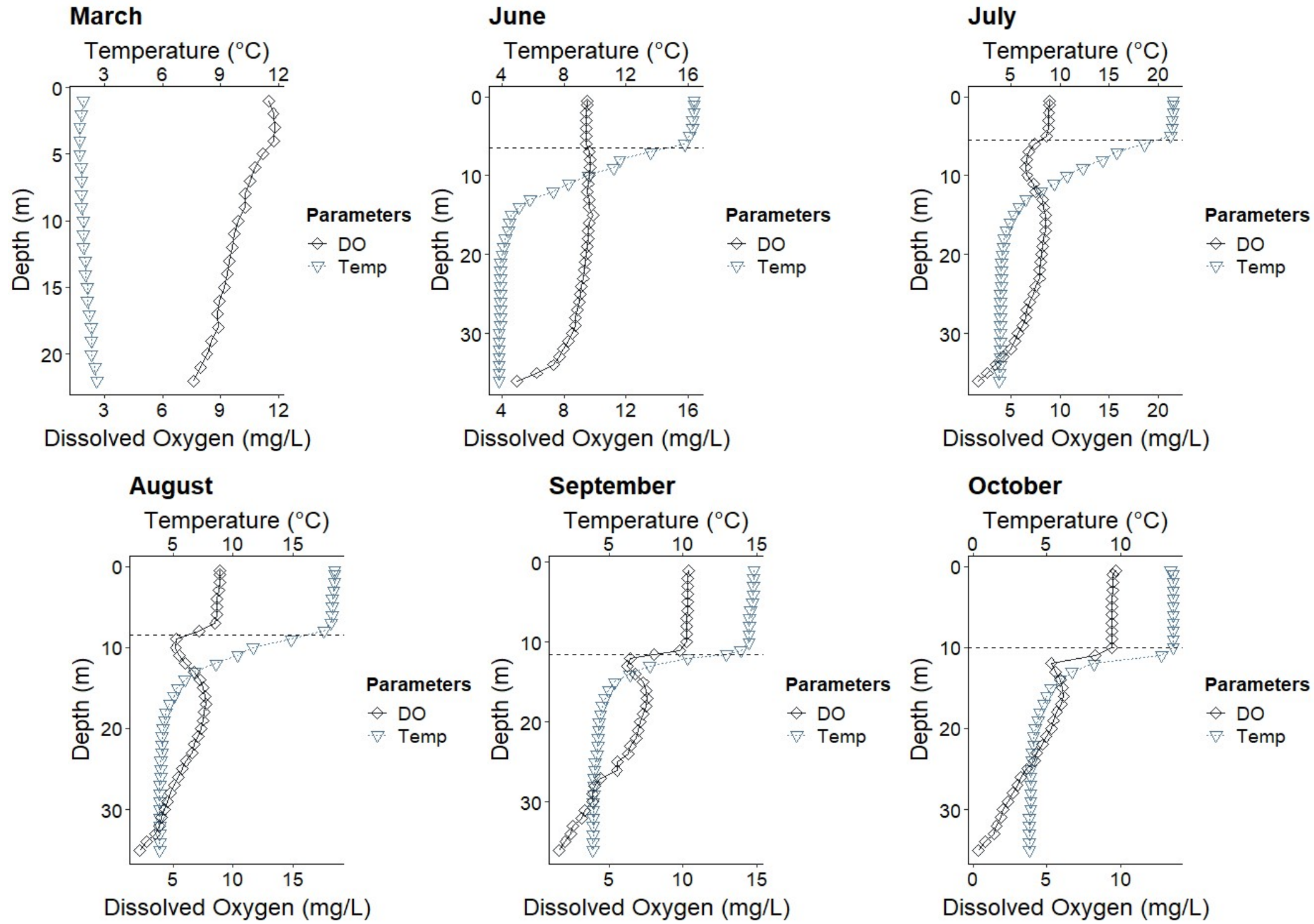


Figure D1-33: 2021 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B1)

Note: Dashed line represents thermocline.

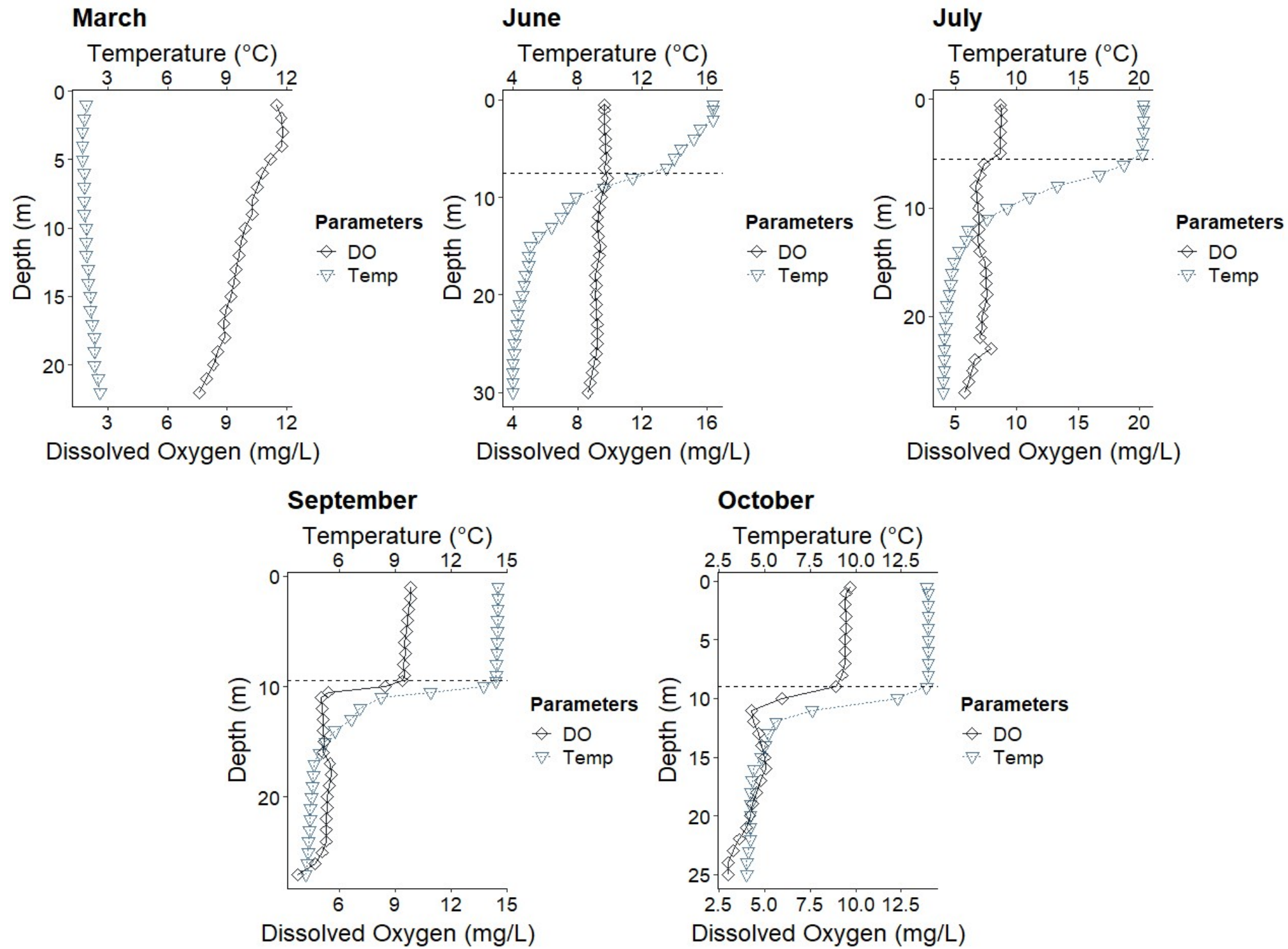


Figure D1-34: 2021 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B2)

Note: Dashed line represents thermocline.

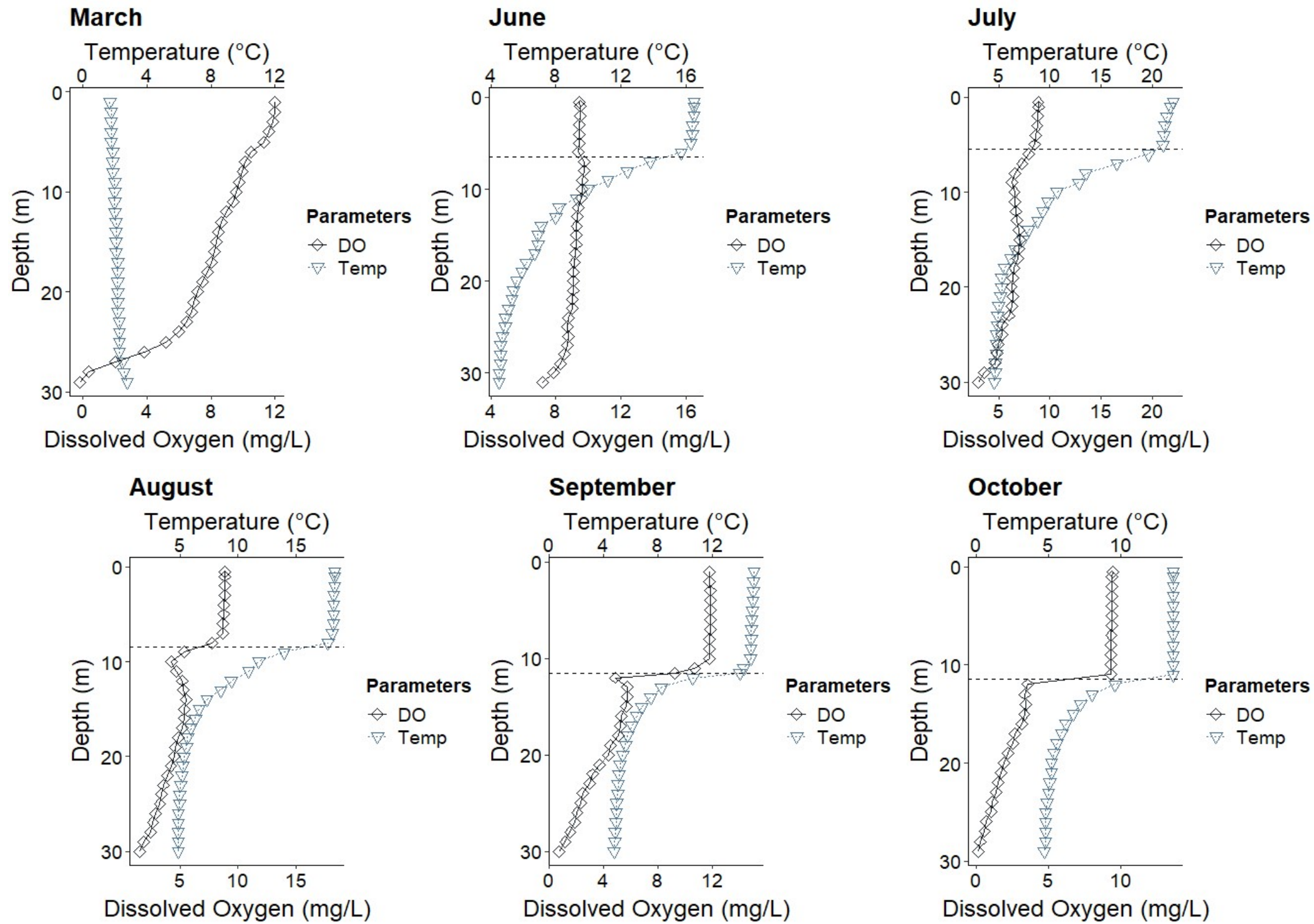


Figure D1-35: 2021 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B3)

Note: Dashed line represents thermocline.

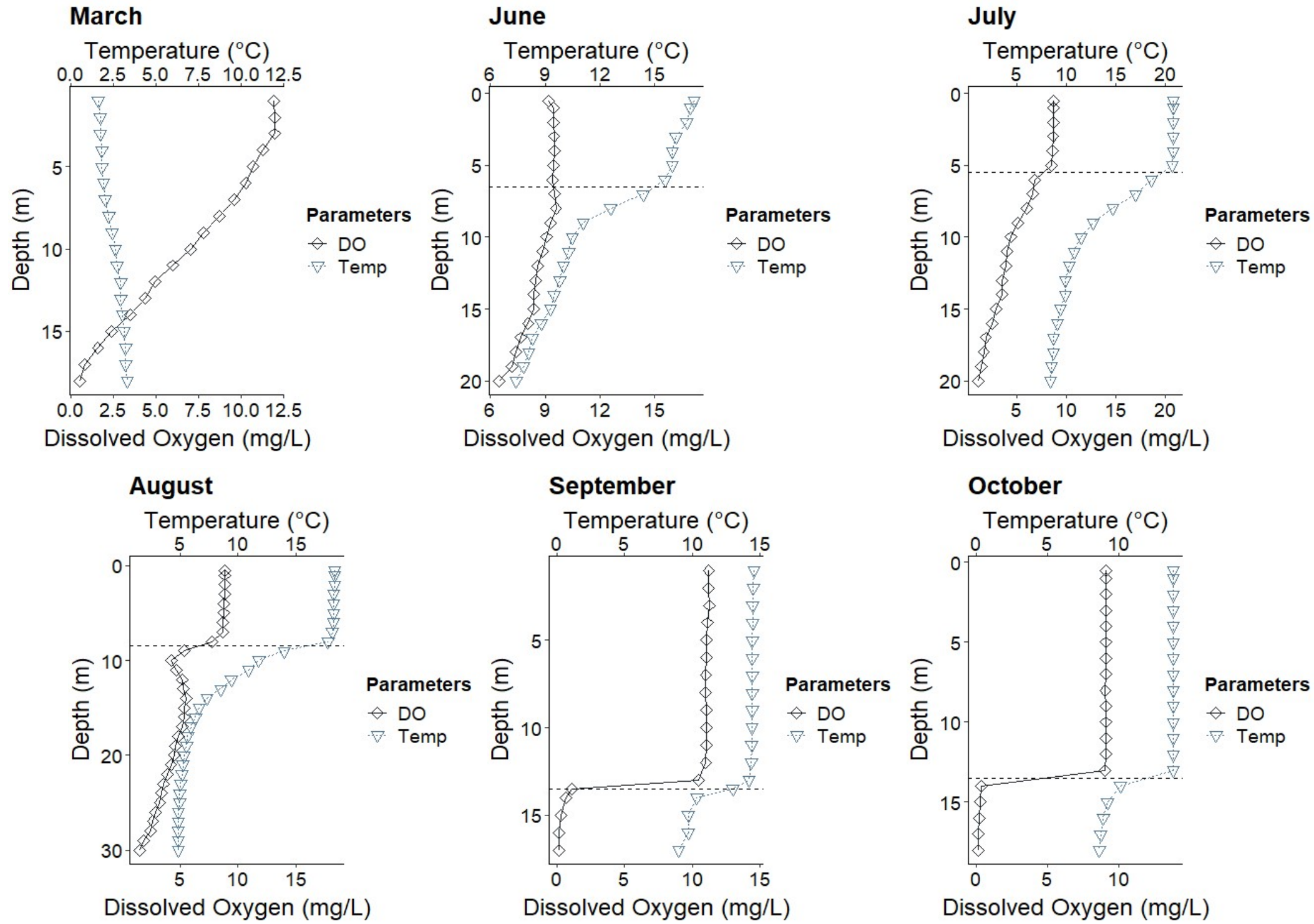


Figure D1-36: 2021 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B4)

Note: Dashed line represents thermocline.

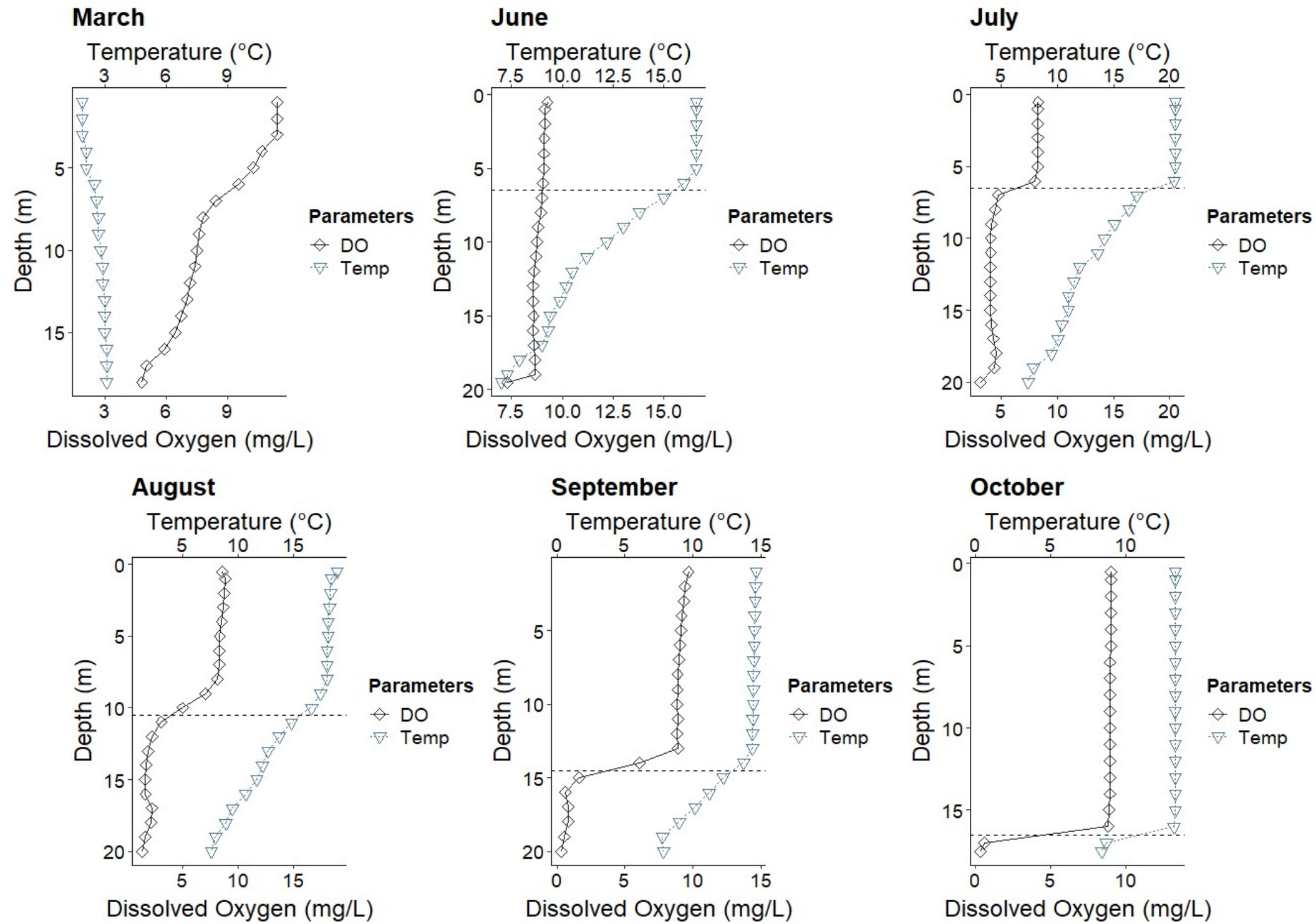


Figure D1-37: 2021 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B5)

Note: Dashed line represents thermocline.

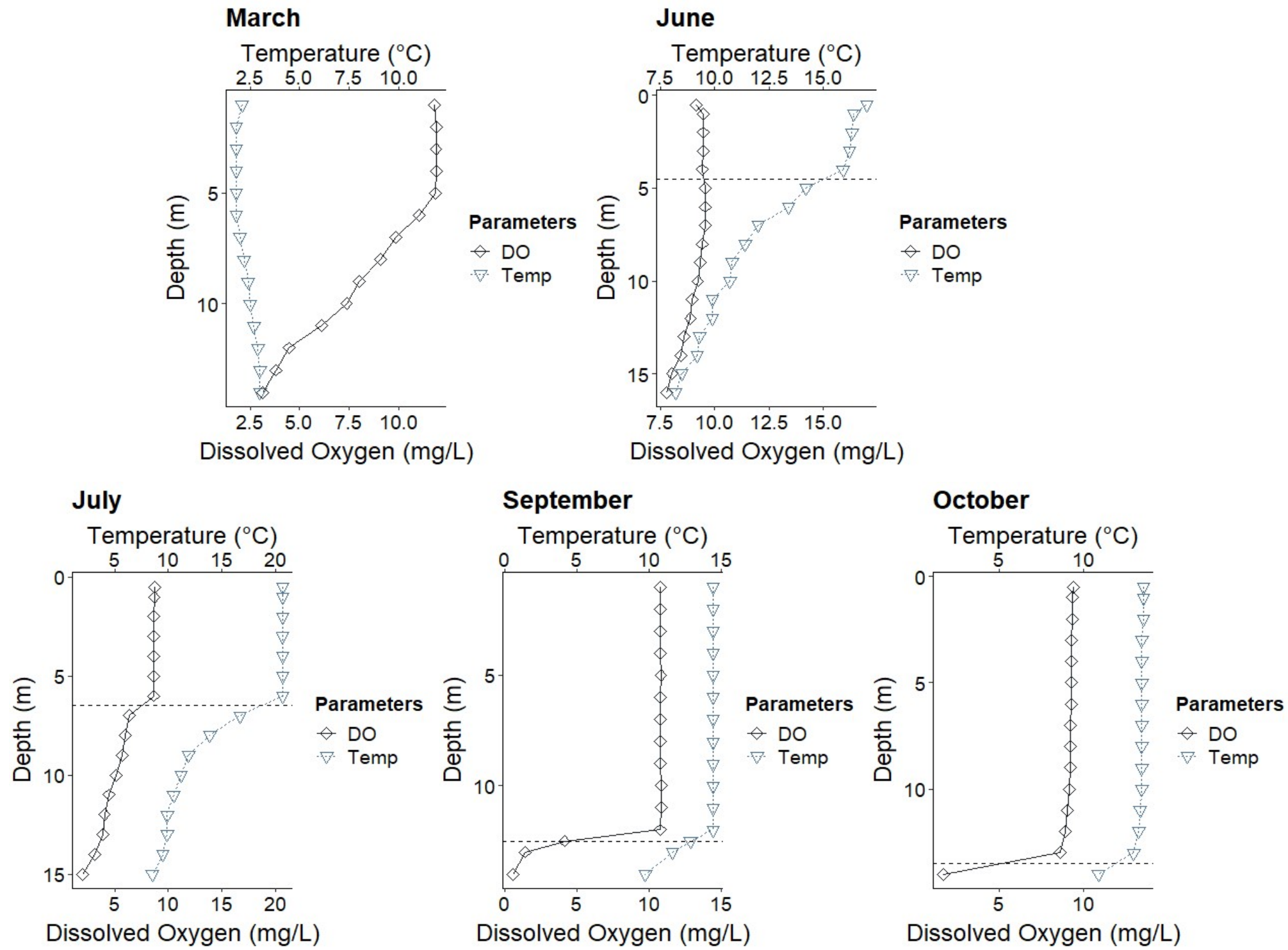


Figure D1-38: 2021 Temperature and Dissolved Oxygen Profiles – Springpole Lake (L-15-B6)

Note: Dashed line represents thermocline.

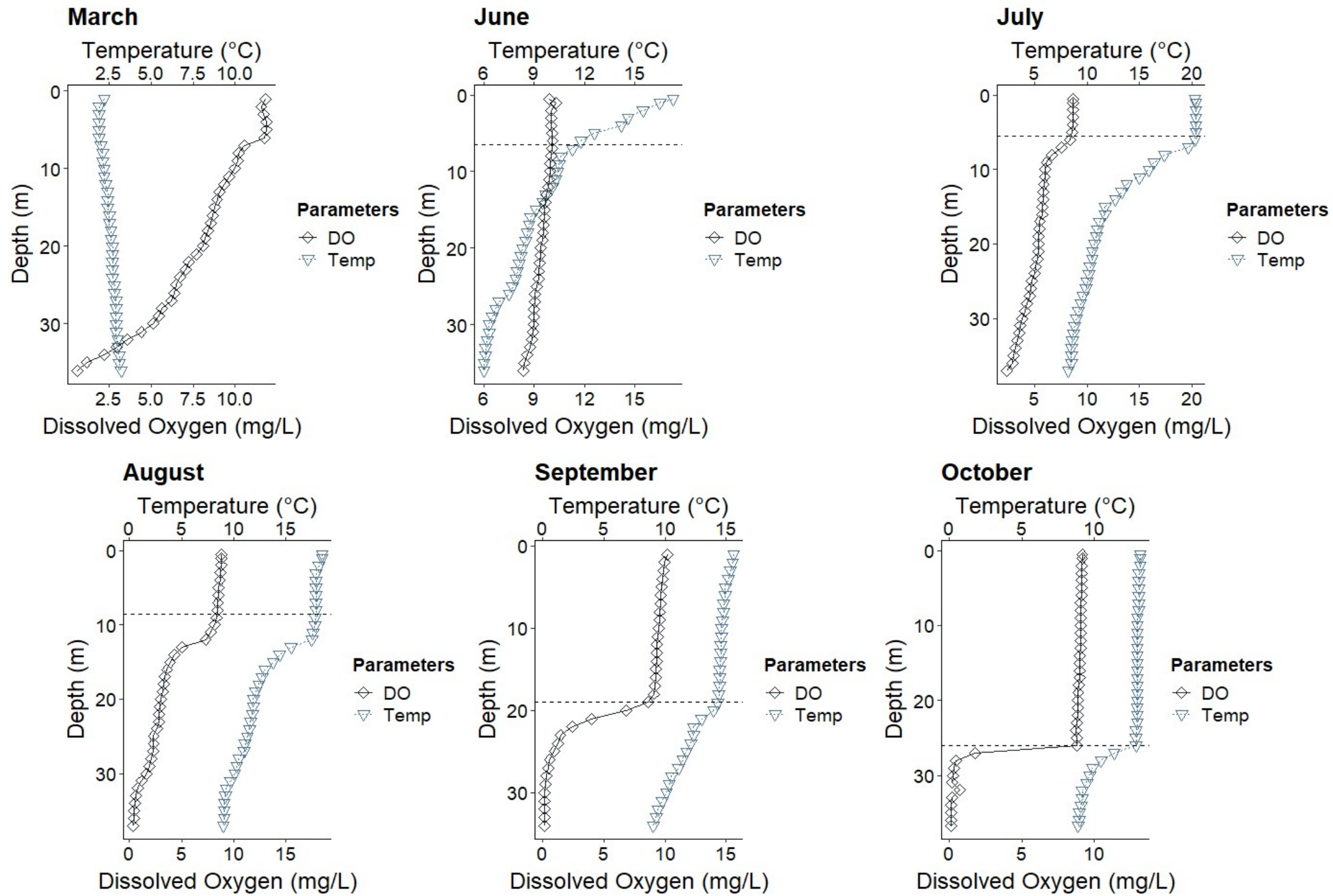


Figure D1-39: 2021 Temperature and Dissolved Oxygen Profiles – Birch Lake (Basin B1)

Note: Dashed line represents thermocline.

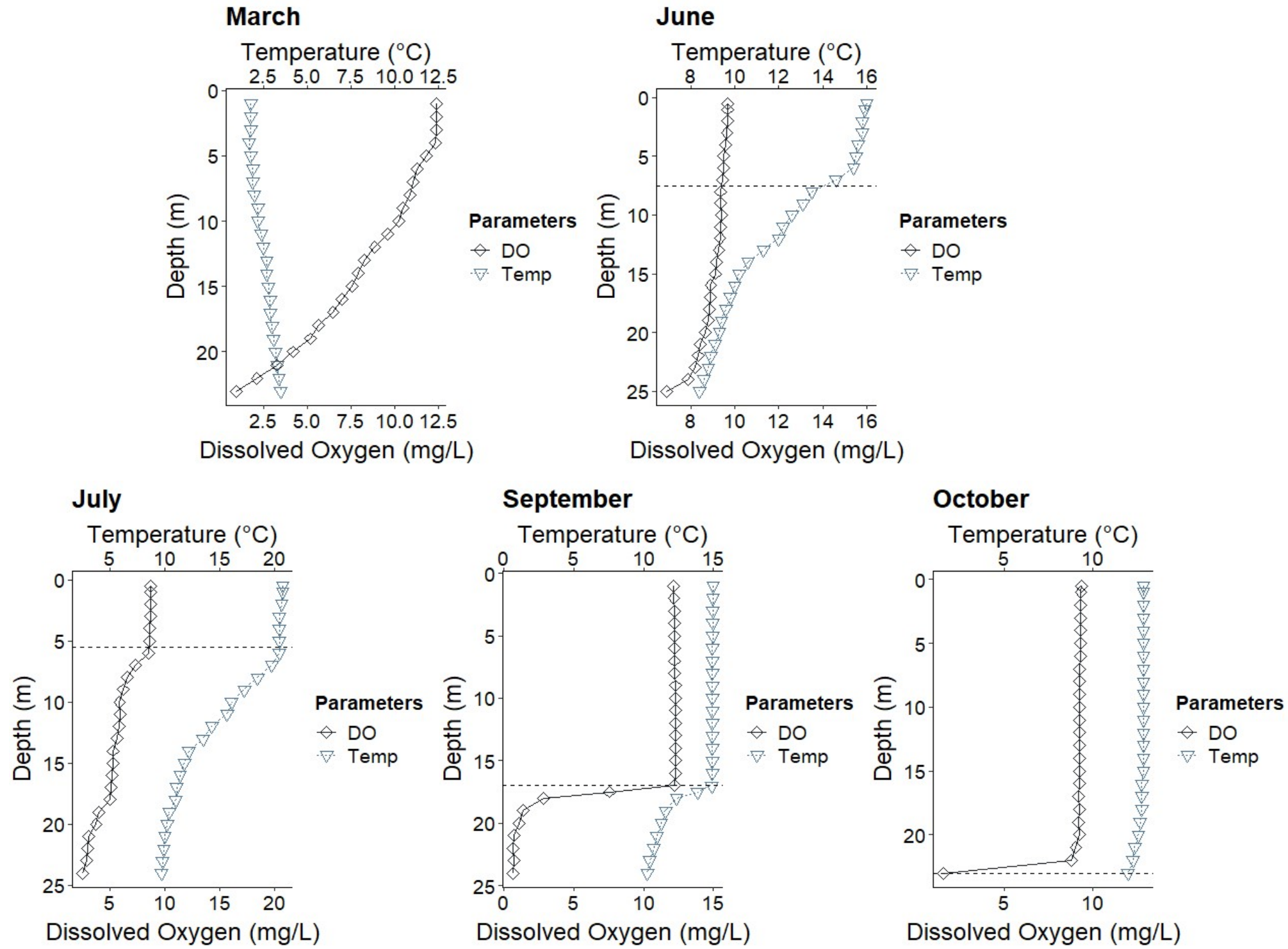


Figure D1-40: 2021 Temperature and Dissolved Oxygen Profiles – Birch Lake (Basin B2)

Note: Dashed line represents thermocline.