APPENDIX 18 2025 AQUATIC ECOSYSTEM MONITORING PROGRAM (AEMP) REPORT

Aquatic Effects Monitoring Program 2025 Annual Report

Meliadine Gold Mine

Prepared for:

Agnico Eagle Mines Limited
Meliadine Division
Rankin Inlet, Nunavut X0C 0G0

FINAL

March 27, 2026

Azimuth Consulting Group Inc.
218-2902 West Broadway
Vancouver, B.C., V6K 2G8

Report Version Log

Version	Dates	Distribution
Draft review	February 26 – March 18	e-copy to the Meliadine Environment Department
Final	March 27, 2026	e-copy to the Meliadine Environment Department

PLAIN LANGUAGE SUMMARY

This report summarizes the results of the 2025 Aquatic Effects Monitoring Program (AEMP) for Agnico Eagle's Meliadine Gold Mine near Rankin Inlet, Nunavut. The AEMP is required each year under the Mine's Water Licence (2AM-MEL1631).

The AEMP includes two main components: the Meliadine Lake study and the Peninsula Lakes study. Together, these studies help determine whether the Mine is operating as planned and support informed water management decisions to protect aquatic health.

Meliadine Lake Study – Meliadine Lake is the main focus of monitoring because treated water from the Mine is released into the lake during the ice-free season (mid-June to early October). The amount of water released varies each year depending on snowfall and rainfall.

The Meliadine Lake study follows a control-impact design with a gradient approach, where water quality and biological monitoring are conducted at multiple locations to assess potential mining-related effects. Sampling focuses on the near-field area (MEL-01), where treated water is released, the mid-field area (MEL-02) downstream, and three far-field areas, including near the outlet to Peter Lake and the outlet to the Meliadine River.

Each year, the program measures water quality and phytoplankton (tiny aquatic plants). Other parts of the aquatic ecosystem, such as bottom-dwelling invertebrates, sediment quality, and fish (Lake Trout and stickleback), are studied every three years, with the most recent assessment completed in 2024.

Peninsula Lakes Study – This study focuses on smaller lakes located near the Mine. It looks at whether water quality in these lakes is changing due to land disturbance during construction, or from dust and emissions from operations.

Regional Reference Lakes Study – In 2025, water samples were also collected from Peter Lake and Atulik Lake, which are located farther from the Mine. These lakes are part of an ongoing study to better understand how regional climate conditions may influence water quality across the area.

Mining Activities on Site in 2025

In 2025, Agnico Eagle expanded mining into the Pump deposit. To support this work, Lake A8, which had previously been monitored as part of the Peninsula Lakes Study, was drained. Most of the water from Lake A8 was pumped into Meliadine Lake near the Exploration Camp, while some was sent to the main Collection Pond (CP1), where it was treated along with runoff from the mine site. As a result, more water than usual was released into Meliadine Lake in 2025.

Treated water from CP1 was released into Meliadine Lake from mid-June to early October. Water samples were collected weekly and tested for chemical parameters to confirm that the water met the

limits set in the Water Licence. Additional tests were completed to check whether the treated water could affect aquatic life. Each month, samples were sent to a laboratory to assess effects on the survival of fish and aquatic invertebrates. In June, July, and October, CP1 water was also tested on a sensitive aquatic plant to assess potential longer-term effects.

Results from the 2025 effluent monitoring program showed that treated water met all Water Licence limits. Tests also showed that water released into Meliadine Lake did not harm fish or aquatic invertebrates and did not affect the growth of aquatic plants. Overall, the results indicate that water management was compliant with effluent quality requirements of the Water Licence.

Regional Climate Considerations

Water quality in Meliadine Lake can change due to both natural processes and human activities. While mining-related influences are closely monitored, climate-driven factors can also play an important role. Warmer temperatures and variable rainfall affect how water moves through the environment and can influence water quality. As a result, changes observed in Meliadine Lake and nearby lakes may reflect both mining activities and broader climate trends. A key part of the AEMP is to distinguish between these influences.

In recent years, the Rankin Inlet area has experienced warmer-than-average temperatures compared to earlier decades. Although 2025 was cooler than the unusually warm years from 2021 to 2024, it was still warmer than most years prior to 2020. Several months in 2025, including June, September, and October, were relatively mild, and November was the warmest on record since 2013. Overall, these conditions are part of an ongoing trend of regional warming.

Precipitation in the region continues to vary from year to year. In 2025, total precipitation was moderate compared to recent years, but some months experienced heavy rainfall. For example, July 2025 was one of the wettest Julys in the past decade. Short periods of high rainfall are important because they can increase runoff, connect water pathways across the landscape, and move naturally occurring substances into lakes. In addition, high rainfall in September 2024 may have influenced water quality observed during the 2025 open water season by increasing the amount of water and materials carried into lakes prior to ice cover.

Water Quality Trends at Regional Reference Lakes

A three-year study began in 2025 to better understand how water quality is changing over time in lakes that are not affected by the Mine. This work focuses on Peter Lake and Atulik Lake, which are located outside the area of mine influence and provide important reference conditions for comparison. The study combines baseline data collected in the late 1990s with more recent monitoring results from 2021, 2024, and 2025.

Early results show that some major ions and metals that have increased over time in Meliadine Lake are also increasing in these reference lakes. Because these lakes are not influenced by mining, these changes are understood to reflect broader regional processes, such as climate-related changes in temperature, rainfall, and runoff, and their influence on water quality across the Kivalliq region. Sampling planned for 2026 and 2027 will help improve understanding of natural trends in the region and support interpretation of monitoring results.

Meliadine Lake Water Quality

No exceedances of drinking water guidelines or guidelines for the protection of aquatic life were identified in samples collected from Meliadine Lake in 2025. Concentrations of most parameters remain well below levels of concern, consistent with conclusions reported by consultants for the Kivalliq Inuit Association in the 2024 report titled *Aquatic State of Environment Report for Meliadine Lake* (Prairie Scientific, 2024).

Water quality is changing over time across the region, including in Meliadine Lake and in nearby reference lakes that are not affected by mining. These changes are linked to regional climate factors, such as warming temperatures, changes in rainfall, and increased runoff. The extent of change varies between lakes depending on local conditions such as geology and watershed characteristics.

Mine-related effects on water quality are mainly confined to areas near the diffuser, where treated water enters the lake. In this area, some parameters—such as major ions, nutrients, and metals—are higher than baseline conditions. A small number of parameters exceeded predicted concentrations at the edge of the mixing zone (100 m from the diffuser), including total dissolved solids, chloride, fluoride, sodium, and manganese. However, farther from the diffuser in the East Basin, key indicators such as total dissolved solids and chloride remain well below predicted levels.

All parameters with thresholds related to potential effects on aquatic life remained below AEMP Action Levels. Total phosphorus concentrations were close to the Action Level in 2025, which is set at 75% of the concentration associated with the baseline classification of the lake as oligotrophic. However, similar concentrations were also observed in the reference lakes and during the baseline period. This indicates that phosphorus concentrations are naturally elevated relative to the Action Level and primarily influenced by natural conditions and regional factors, rather than mining activities.

Overall, the results indicate that water quality in Meliadine Lake remains protective of aquatic life and human health, and that current water management measures are effective. Monitoring will continue to track changes over time.

Meliadine Lake Phytoplankton Community

Phytoplankton are microscopic algae at the base of the lake's food web. To determine which algal groups were present and how abundant they were, water samples were collected throughout Meliadine Lake during the open-water period in 2025 (July to September). These results help assess how the lake functions and whether mining activities have changed primary productivity.

Phosphorus levels, an important nutrient for algal growth, have remained stable in Meliadine Lake during operations. Over more than ten years of monitoring, there is no evidence that nutrient enrichment from mine activities has led to increases in overall phytoplankton biomass. Results from chronic aquatic plant tests on effluent discharged to Meliadine Lake also show no increase in plant growth, supporting the conclusion that effluent poses a low risk of increased primary productivity.

In August 2025, phytoplankton biomass in the East Basin (MEL-01) was at the upper end of the range observed during operations. It was similar to levels in 2019 and 2021, when summer rainfall was also high. Biomass at MEL-01 increased later in the summer, while it decreased in mid-field and reference areas in Meliadine Lake. This pattern matched a period of increased water inputs to the East Basin, including dewatering of Lake A8.

In 2025, the phytoplankton community composition was similar across all areas of Meliadine Lake. This consistency shows that the community structure was similar both near and far from mine influence. Since 2015, long-term monitoring has shown subtle, lake-wide shifts in the algal community, likely driven by regional climate changes. Water discharged to Meliadine Lake may cause short-term, localized changes in phytoplankton biomass in the East Basin, but the 2025 pattern suggests that regional climate conditions play an important role in how phytoplankton communities vary across the lake over time.

Peninsula Lakes Water Quality

Water quality monitoring in 2025 focused on Lake D7, Lake B7, and the newly added Lake E3. These lakes are used to assess potential effects from dust and airborne emissions from the Mine. Lake B7 near the Tailings Storage Facility (TSF), while Lake D7 is located in a separate watershed to the west of the Mine. Lake E3 is located northwest of the main camp. Together, they provide insight into how dust and airborne emissions may influence water quality in the surrounding area.

Results show that mining activities have not directly affected water quality in Lake D7. While some parameters have increased compared to earlier years of monitoring (2015 to 2017), these changes are consistent with broader regional trends and are linked to climate-driven processes. Water quality trends in Lake E3 are similar to those observed in Lake D7, suggesting that temporal trends in this lake primarily reflect regional background conditions rather than mining-related influences.

Mining activities have contributed to changes in water quality in Lake B7. The parameters most affected include major ions such as calcium, sodium, chloride, and sulphate, as well as some metals, particularly arsenic. Arsenic concentrations in Lake B7 exceeded the AEMP Action Level in all samples collected in 2025. Concentrations followed a clear seasonal pattern, increasing through the summer and peaking in mid-August, then declining in the fall to levels similar to early summer. Increasing trends over time suggest that the TSF is the main source of arsenic, although regional climate factors may also play a role.

To better understand potential effects on aquatic life, Agnico Eagle conducted a series of laboratory tests to evaluate both short-term and longer-term (chronic) effects. The focus was on algae and aquatic invertebrates, which are generally more sensitive to arsenic in surface water than fish.

Results from 2025 showed minor effects on algae, with about a 20% reduction in growth compared to the laboratory control. No effects were observed on aquatic invertebrate growth or reproduction in chronic tests, and no effects were observed on fish survival. Overall, these results indicate a limited biological response at current concentrations.

Scope of the 2026 AEMP

The scope of the 2026 AEMP includes surface water and phytoplankton sampling in Meliadine Lake, along with water quality sampling in the Peninsula Lakes, following the same approach as in 2025. No targeted studies are planned for 2026.

Water sampling will also be conducted at Atulik Lake and Peter Lake in August as part of Year 2 of the regional reference lakes study.

TABLE OF CONTENTS

PLAIN LANGUAGE SUMMARY II
TABLE OF CONTENTS VII
LIST OF FIGURES IX
LIST OF TABLES XIII
LIST OF APPENDICES XV
ACKNOWLEDGEMENTS XVI
USE & LIMITATIONS OF THIS REPORT XVII
ACRONYMS & GLOSSARY OF TERMS XVIII

1 INTRODUCTION 1
1.1 Background 1
1.2 AEMP Study Design 2
1.3 Objectives and Key Questions 3
1.4 2025 Activities 3
1.5 Report Structure 4
2 SOURCE CHARACTERIZATION 9
2.1 Introduction 9
2.2 Key Findings – Source Characterization 9
2.3 Regional Climate Context and Background Water Quality 10
2.4 MEL-14 Effluent Monitoring Program 28
2.5 Snow Core Monitoring Program 42
3 WATER QUALITY – MELIADINE LAKE 47
3.1 Introduction 47
3.2 Summary of the 2025 Meliadine Lake Water Quality Program 48
3.3 Methods 51
3.4 Results and Discussion 57
3.5 Conclusions 80
3.6 Supplemental Water Quality Plots 82
4 WATER QUALITY – PENINSULA LAKES 88
4.1 Introduction 88
4.2 Findings from the 2025 Peninsula Lakes Water Quality Program 89
4.3 Methods 90

4.4 Results and Discussion 93
4.5 Conclusions 100
4.6 Supplemental Water Quality Plots 107
5 PHYTOPLANKTON COMMUNITY 114
5.1 Introduction 114
5.2 Findings from the 2025 Phytoplankton Study 115
5.3 Methods 115
5.4 Results and Discussion 121
5.5 Conclusions 151
6 RESPONSE FRAMEWORK AND LOW ACTION LEVEL ASSESSMENT 153
6.1 Meliadine Lake Low Action Level Assessment 155
6.2 Peninsula Lakes Water Quality Summary 155
7 REFERENCES 159

LIST OF FIGURES

Figure 1-1. Study Area for the Aquatic Effects Monitoring Program 5
Figure 1-2. Overview of the Meliadine Mine 6
Figure 2-1. Average monthly temperatures (°C) since 2013. 17
Figure 2-2. Annual precipitation (mm) from 1981-2025. 18
Figure 2-3. Annual rainfall (mm) from 1981-2025. 19
Figure 2-4. Cumulative precipitation as rain since 2013. 20
Figure 2-5. Concentrations of select parameters of interest in Peter Lake, Atulik Lake and the Meliadine Lake reference areas since the late 1990s 27
Figure 2-6. Daily Discharge (m^3) from CP1 to Meliadine Lake, 2018-2025. 30
Figure 2-7. Daily discharge to Meliadine Lake in 2025 from CP1 and Lake A8 dewatering. 31
Figure 2-8. Total dissolved solids and constituent ions in end-of-pipe effluent at MEL-14, 2018-2024. 37
Figure 2-9. Concentrations of nutrients measured in end-of-pipe samples from MEL-14, 2018-2024... 38
Figure 2-10. Concentrations of metals measured in end-of-pipe samples from MEL-14, 2018-2025..... 39
Figure 2-11. Percent composition of major ions in effluent from MEL-14. 40
Figure 2-12. Annual loadings (kg) from CP1 to Meliadine Lake for selected parameters. 41
Figure 2-13. Concentrations of total suspended solids and selected metals of interest in snow core samples collected in April 2025. 44
Figure 2-14. Relationship between metals concentrations and TSS at SNOCOR stations (2020–2025).... 45
Figure 2-15. TSS concentrations at SNOCOR stations (2020–2025). 46
Figure 3-1. Surface water sampling stations in Meliadine Lake 49
Figure 3-2. Surface water temperature results from limnology profiles taken during the open water season since 2013. 59
Figure 3-3. Average temperature, dissolved oxygen, pH, and specific conductivity profiles by month in 2025. 60
Figure 3-4. Specific conductivity (µS/cm) results from the 2025 limnology profiles. 61
Figure 3-5. Specific conductivity (µS/cm) profiles during the open water season from 2013 to 2025. .. 62
Figure 3-6. Meliadine Lake 2025 water chemistry results from the open-water sampling events normalized to the AEMP Benchmark, Action Level, and Normal Range. 64
Figure 3-7. Measured TDS concentrations (mg/L) at MEL-01 compared to predicted concentrations in the East Basin of Meliadine Lake. 67

Figure 3-8. Chloride concentrations (mg/L) at MEL-01 compared to predicted concentrations in the East Basin of Meliadine Lake. 68
Figure 3-9. Temporal trend for chloride, sodium, and sulphate at MEL-01, MEL-02, and MEL-03 since 2013. 73
Figure 3-10. Temporal trends for total phosphorus, TKN, and DOC at MEL-01, MEL-02, and MEL-03 since 2013. 74
Figure 3-11. Temporal trends for arsenic, strontium, and uranium at MEL-01, MEL-02, and MEL-03 since 2013. 75
Figure 3-12. Time series plots of TDS and major ions in Meliadine Lake, Atulik Lake, and Peter Lake since 2013. 83
Figure 3-13. Time series plots of selected nutrients in Meliadine Lake, Atulik Lake, and Peter Lake since 2013. 84
Figure 3-14. Time series plots of selected metals of interest in Meliadine Lake, Atulik Lake, and Peter Lake since 2013. 85
Figure 3-15. Time series plots of selected metals of interest in Meliadine Lake, Atulik Lake, and Peter Lake since 2013. 86
Figure 3-16. Time series plots of selected metals of interest in Meliadine Lake, Atulik Lake, and Peter Lake since 2013. 87
Figure 4-1. Average surface water temperatures at the Peninsula Lakes, 2015-2025. 94
Figure 4-2. Field measurements of dissolved oxygen (mg/L), pH, and specific conductivity (µS/cm) at the Peninsula Lakes since 2015. 95
Figure 4-3. Temporal trends for key parameters of interest in the Peninsula Lakes since 2015. 103
Figure 4-4. Temporal trends for arsenic (µg/L) and sulphate (mg/L) in the Peninsula Lakes since 2015. 106
Figure 4-5. Concentration of total dissolved solids and constituent major Ions in the Peninsula Lakes since 2015. 108
Figure 4-6. Conductivity, alkalinity, and the concentration of selected nutrients in the Peninsula Lakes since 2015. 109
Figure 4-7. Aluminum, arsenic, barium, and boron concentrations in the Peninsula Lakes since 2015. 110
Figure 4-8. Cobalt, copper, iron, and lead concentrations in the Peninsula Lakes since 2015. 111
Figure 4-9. Lithium, manganese, molybdenum, and nickel concentrations in the Peninsula Lakes since 2015. 112

Figure 4-10. Strontium, titanium, uranium, and zinc concentrations in the Peninsula Lakes since 2015. 113
Figure 5-1. Annual loadings (kg/year) of nitrogen and total phosphorus to Meliadine Lake 123
Figure 5-2 Phytoplankton Biomass (mg/m³) in Meliadine Lake during the August field sampling event since 2013. 126
Figure 5-3 Phytoplankton biomass (mg/m³) in Meliadine Lake in July, August and September. 126
Figure 5-4. Chlorophyll-a concentrations (µg/L) in Meliadine Lake during the August field sampling event since 2015. 129
Figure 5-5. Relationship between chlorophyll-a and phytoplankton biomass for Meliadine Lake by year, August 2016 through 2025. 130
Figure 5-6. Relationship between chlorophyll-a and phytoplankton biomass for Meliadine Lake by monitoring location during the August sampling event, 2015 through 2025. 131
Figure 5-7. Relationship between chlorophyll-a and phytoplankton biomass for Meliadine Lake by monitoring location during seasonal sampling in 2025 (July, August, and September)..... 132
Figure 5-8. Relationship between nutrient concentrations (DOC, nitrogen, and phosphorus) and phytoplankton biomass and chlorophyll-a in Meliadine Lake, August 2013-2025..... 134
Figure 5-9. Relationship between nutrient concentrations (DOC, nitrogen, and phosphorus) and phytoplankton biomass and chlorophyll-a at the near-field area (MEL-01), August 2013-2025. 135
Figure 5-10. Trophic Status Index values for Meliadine Lake, 2013 through 2024. 136
Figure 5-11 Phytoplankton richness, biomass (mg/m³), and density (cells/L), August sampling event 2013-2025. 140
Figure 5-12. Mean phytoplankton richness, biomass (mg/m³), and density (cells/L) by major taxa, August 2013-2025. 141
Figure 5-13. Relative richness, biomass (mg/m³), and density (cells/L) by major taxa, August 2013-2025. 142
Figure 5-14. Mean phytoplankton richness, biomass (mg/m³), and density (cells/L) by major taxa, July, August and September 2025..... 143
Figure 5-15. Mean phytoplankton richness, biomass (mg/m³), and density (cells/L) by major taxa, July, August and September 2017..... 144
Figure 5-16. Bray-Curtis Dissimilarity, Simpson's Diversity, and Simpson's Evenness, August 2013-2025. 146
Figure 5-17. Ordination of the reference and exposure area phytoplankton results by phase and location for Meliadine Lake. 149

Figure 5-18. Non-metric multidimensional scaling (nMDS) results showing ordination of the phytoplankton results by year and location for Meliadine Lake. 150

LIST OF TABLES

Table 1-1. Key Questions for the Aquatic Effects Monitoring Program 7
Table 1-2. Overview of the 2025 sampling program for Meliadine Lake, the Regional Reference Lakes, and the Peninsula Lakes. 8
Table 2-1. Average monthly temperature reported in Rankin Inlet from 2013 to 2025 16
Table 2-2. Cumulative monthly precipitation reported in Rankin Inlet from 2013 to 2025 16
Table 2-3. Open-water sampling events in Peter Lake and Atulik Lake 21
Table 2-4. Total dissolved solids (TDS) and sulphate (SO_4) concentrations in Atulik Lake, Peter Lake, and Meliadine Lake reference areas since the late 1990s 23
Table 2-5. Total phosphorus (TP) and dissolved organic carbon concentrations in Atulik Lake, Peter Lake, and Meliadine Lake reference areas since the late 1990s 24
Table 2-6. Arsenic and barium concentrations in Atulik Lake, Peter Lake, and Meliadine Lake reference areas since the late 1990s 25
Table 2-7. Surface Contact Water Management Plan (2025). 28
Table 2-8. Monthly discharge (m^3) from CP1 to Meliadine Lake, 2018-2025. 29
Table 2-9. MEL-14 effluent limits in the Type A Amended Water Licence (2AM-MEL1631) 32
Table 2-10. MEL-14 effluent chemistry results, June and July 2025. 35
Table 2-11. MEL-14 effluent chemistry results, August, September, and October 2025. 36
Table 3-1. Meliadine Lake water sampling events in 2025 50
Table 3-2. Water quality parameters collected for the AEMP. 51
Table 3-3. Exceedances of the AEMP Action Levels and Benchmarks in 2025. 63
Table 3-4. Parameters at MEL-01 that exceeded water quality model predictions at the edge of the mixing zone in 2025. 65
Table 3-5. Comparison of water quality results from 2025 against the Normal Ranges and water quality model predictions in the 2014 FEIS 71
Table 3-6. Tukey post-hoc results and percent change in concentration at MEL-01, MEL-02, and MEL-03 from 2024 to 2025. 72
Table 3-7. Percent change in the concentration of major ions from 2021 to 2025 in Atulik Lake, Meliadine Lake, and Peter Lake. 76
Table 3-8. Percent change in the concentration of selected metals of interest from 2021 to 2025 in Atulik Lake, Meliadine Lake, and Peter Lake. 78
Table 4-1. Water samples collected for the Peninsula Lakes study in 2025. 89

Table 4-2. Exceedances of the AEMP Action Levels and Benchmarks in Lakes D7, B7, and E3 in 2025. 96
Table 4-3. Lake D7 water quality assessment, 2025. 101
Table 4-4. Lake B7 water quality screening assessment, 2025. 102
Table 4-5. Evaluation of mining-related changes in water quality among the Peninsula Lakes. 104
Table 5-1. Trophic classification for lakes based on total phosphorus trigger ranges (CCME, 2004)... 119
Table 5-2. Trophic classification for lakes based on ranges of total phosphorus, chlorophyll-a and Secchi depth (Vollenweider, 1968). 120
Table 5-3. Trophic status index calculations. 120
Table 5-4. Trophic status index and general trophic classifications for lakes (Carlson, 1977). 120
Table 5-5. Baseline phytoplankton community data from Meliadine Lake in 1997, 1998 and 2013... 122
Table 5-6. Phytoplankton biomass (mg/m^3; mean ± 1SD) in August in Meliadine Lake since 2013. ... 125
Table 5-7. Chlorophyll-a (µg/L; mean ± 1SD) in Meliadine Lake during the August sampling event ... 128
Table 6-1. Meliadine Lake 2025 Low Action Level Assessment. 158

LIST OF APPENDICES

APPENDIX A QUALITY ASSURANCE / QUALITY CONTROL

APPENDIX B SOURCE CHARACTERIZATION – SUPPORTING INFORMATION

Appendix B1 CP1 Discharge Volumes, MEL-14 Effluent Quality Results, and SNOCOR Chemistry Results from 2025

Appendix B2 Supplemental Figures – MEL-14 Effluent Chemistry and Loadings to Meliadine Lake (2018-2025)

APPENDIX C MELIADINE LAKE WATER QUALITY – SUPPORTING INFORMATION

Appendix C1 Meliadine Lake Water Quality – 2025 Data and Summary Statistics

Appendix C2 Meliadine Lake Water Quality – Temporal Plots

Appendix C3 Meliadine Lake Water Quality – ANOVA Results

APPENDIX D PENINSULA LAKES WATER QUALITY – SUPPORTING INFORMATION

Appendix D1 Peninsula Lakes Water Quality – 2025 Data and Summary Statistics

Appendix D2 Lake B7 Toxicity Test Results

APPENDIX E PHYTOPLANKTON – SUPPORTING INFORMATION

Appendix E1 Phytoplankton Taxonomy – Supporting Metrics

Appendix E2 2025 Phytoplankton Taxonomy and Chlorophyll-a Lab Reports

ACKNOWLEDGEMENTS

The following individuals contributed to the preparation and review of the 2025 AEMP Report:

- Eric Franz (MSc) – Data analysis and reporting; primary review; Project Manager
- Ian McIvor (MSc, RPBio) – Phytoplankton community data analysis and reporting
- Sophia Hsu (MRM, BIT) – Document support
- Gary Mann (MSc, RPBio) – Senior technical advisor

We thank the Meliadine Environment Department for their support of the 2025 AEMP and acknowledge the following individuals for their technical review of the report: Sara Savoie, Jade Robitaille, John Baechler, Alexandre Langlais-Bourassa, and Lisa Ramilo.

USE & LIMITATIONS OF THIS REPORT

This report was prepared by Azimuth Consulting Group Inc. for the use of Agnico Eagle Mines Ltd., who has been party to the development of the scope of work for this project and understands its limitations. The extent to which previous investigations were relied on is detailed in the report.

In providing this report and performing the services in preparation of this report Azimuth accepts no responsibility in respect of the site described in this report or for any business decisions relating to the site, including decisions in respect of the management, purchase, sale or investment in the site.

This report and the assessments and recommendations contained in it are intended for the sole and exclusive use of Agnico Eagle.

Any use of, reliance on, or decision made by a third party based on this report, or the services performed by Azimuth in preparation of this report is expressly prohibited, without prior written authorization from Azimuth. Without such prior written authorization, Azimuth accepts no liability or responsibility for any loss, damage, or liability of any kind that may be suffered or incurred by any third party as a result of that third party's use of, reliance on, or any decision made based on this report or the services performed by Azimuth in preparation of this report.

The findings contained in this report are based, in part, upon information provided by others. In preparing this report, Azimuth has assumed that the data or other information provided by others is factual and accurate. If any of the information is inaccurate, site conditions change, new information is discovered, and/or unexpected conditions are encountered in future work, then modifications by Azimuth to the findings, conclusions and recommendations of this report may be necessary.

In addition, the conclusions and recommendations of this report are based upon applicable legislation existing at the time the report was drafted. Changes to legislation, such as an alteration in acceptable limits of contamination, may alter conclusions and recommendations.

This report is time-sensitive and pertains to a specific site and a specific scope of work. It is not applicable to any other site, development, or remediation other than that to which it specifically refers. Any change in the site, remediation or proposed development may necessitate a supplementary investigation and assessment.

ACRONYMS & GLOSSARY OF TERMS

Acronym / Term	Definition
AEMP	Aquatic Effects Monitoring Program is the primary instrument for determining if the mine is causing changes in the aquatic environment
AEMP Benchmark	The AEMP Benchmarks are screening guidelines that are protective of aquatic life and human drinking water quality for the project
AEMP Action Level	The AEMP Action Level is an early warning trigger equal to 75% of the AEMP Benchmark
ANOVA	Analysis of Variance: A statistical method used to compare means among three or more groups to determine if at least one group mean is significantly different
Biomass	Biomass is the amount or weight of phytoplankton in per unit of water (µg/L or mg/m^3)
Bray Curtis Index	A statistical measure of similarity or dissimilarity between two ecological communities based on species composition and abundance; values range from 0 (identical communities) to 1 (completely dissimilar communities)
CCME	Canadian Council of Ministers of the Environment
CIRNAC	Crown Indigenous Relations and Northern Affairs Canada
CP	Collection Pond: Pond constructed for the collection and temporary storage of surface contact water that is eventually treated and discharged to Meliadine Lake.
DO	Dissolved oxygen
DOC	Dissolved organic carbon: a measure of the amount of organic matter present in water that passes through a 0.45 µm filter.
DQO	Data quality objective: are statements that define the degree of confidence in conclusions from data produced from a sampling program.
ECCC	Environment and Climate Change Canada
EEM	Environmental Effects Monitoring is a science-based monitoring program developed by Environment and Climate Change Canada. EEM describes monitoring that mining companies must undertake to detect and measure changes in aquatic ecosystems (i.e., receiving environments)
EWTP	Effluent Water Treatment Plant treats surface contact water from Collection Pond 1 (CP1) to lower TSS prior to discharge to Meliadine Lake
FEIS	Final Environmental Impact Statement
GCDWQ	Canadian Drinking Water Quality Guideline (Health Canada)

Acronym / Term	Definition
IQ	Inuit Qaujimaningit: Inuit traditional knowledge (including variations such as Inuit Qaujimajatuqangit), local and community-based knowledge, and Inuit epistemology as it relates to Inuit Inuit Qaujimajatuqangit: guiding principles of Inuit social values (NIRB 2018)
KivIA	Kivalliq Inuit Association
MDMER	Metal and Diamond Mining Effluent Regulations
MF	Mid-field area in Meliadine Lake (MEL-02)
NF	Near-field in Meliadine Lake (MEL-01); East Basin of Meliadine Lake
nMDS	Non-Metric Multidimensional Scaling: A multivariate statistical method that condenses complex data with multiple variables into a two-dimensional plot. Used here to visually assess differences in phytoplankton and benthic invertebrate community structure across areas and years
NIRB	Nunavut Impact Review Board: The government agency responsible for reviewing and assessing the potential ecosystemic and socio-economic effects of the Meliadine Gold mine Project presented in the Final Environmental Impact Statement
Normal Range	The range of baseline/reference conditions within the study area lakes; in the water quality monitoring program, the Normal Range is used to identify parameters that may have increased in concentration due to mining activities
NWB	Nunavut Water Board: The government agency responsible for regulating water use and management in the Nunavut Settlement Area. Terms and Conditions regarding water use for the Meliadine Gold Project are outlined in Water Licence No: 2AM-MEL1631
Overburden	Overburden is soil and till that need to be removed prior to developing the open pits.
Parameters	The term used to describe what gets measured in samples of surface water, sediment, and fish tissue collected in the various monitoring programs. Calcium, magnesium, iron, and aluminum are examples of parameters.
Phytoplankton	Phytoplankton are a diverse group of aquatic plant species (algae) that form the base of the food web in Meliadine Lake. Like other plants, they use sunlight, nutrients, and carbon sources to grow
PL-DL	Outlet of Peter Lake to the Dianna River
QA/QC	Quality Assurance: Practices employed (e.g., use of experienced field staff, standard operating procedures (SOPs), field data sheets, and certified laboratories) to collect scientifically defensible samples meeting pre-defined data quality objectives (DQOs); Quality Control: Samples used to evaluate whether field sampling methods and laboratory analytical procedures are producing data that meet DQOs

Acronym / Term	Definition
RCA	Reference condition approach; a method that evaluates site conditions relative to reference (baseline) conditions to identify potential changes.
REF	Reference areas in Meliadine Lake (MEL-03, MEL-04, and MEL-05)
Safe drinking water	In the context of the AEMP, water is considered safe for drinking if measured concentrations of parameters are below guidelines published by Health Canada
Significance threshold	Significance thresholds are narrative statements that represent attributes of the aquatic environment that must be preserved as the Project develops
Simpson's Diversity	A measure of species diversity in a community, accounting for both richness (number of species) and evenness (distribution of individuals among species); higher values indicate greater diversity
Simpson's Evenness	A measure of how evenly individuals are distributed among species in a community; values range from 0 (dominated by one species) to 1 (equal distribution among species)
SNOCOR	Snow core chemistry monitoring station
Species richness	The number of different (distinct) species in a sample, used to describe the diversity of biological communities such as phytoplankton and benthic invertebrates
SSWQO	Site-Specific Water Quality Objectives: guidelines developed specifically for the lakes around Meliadine, considering background water quality in the region; SSWQOs were established for fluoride, arsenic, and iron as part of the AEMP (Golder 2014)
Surface contact water	Runoff from rain and snowmelt that is collected on-site; this water is collected, treated, and discharged to Meliadine Lake
Tailings	Residual particulate waste left over after ore is processed to extract gold
TDS	Total Dissolved Solids: the total concentration of dissolved substances in water, including inorganic salts and small organic matter (e.g., calcium, magnesium, potassium, carbonates, chlorides)
TKN	Total Kjeldahl nitrogen: the sum of organic nitrogen in water and total ammonia
TMF	Toxicity Modifying Factor: water parameters such as hardness, DOC, and pH, that can either lessen or increase a substance's effects on aquatic life. Because water benchmarks and guidelines are developed using tests conducted within specific TMF ranges, their values may change depending on site-specific conditions.
TN	Total nitrogen: the sum of organic and inorganic nitrogen in water (TKN + nitrate + nitrite)

Acronym / Term	Definition
TOC	Total Organic Carbon, a measure of the amount of organic matter present in a sample (water or sediment)
TP	Total phosphorus: the sum of all forms of phosphorus in aquatic systems: inorganic phosphorus, particulate organic phosphorus, and dissolved (soluble) organic phosphorus
TSF	Tailings Storage Facility is the engineered structure used to store and contain tailings produced during the milling of ore
TSI	A numerical scale used to classify the nutrient status and productivity of a water body, typically based on chlorophyll-a concentrations, total phosphorus, and/or Secchi depth — higher TSI values indicate more eutrophic conditions, while lower values indicate more oligotrophic conditions
TSS	Total Suspended Solids: the total concentration of suspended solids that are undissolved in water, including silt, clay, metals, and other organic and inorganic materials
Tukey's HSD test	Tukey's Honestly Significant Difference: A post-hoc test used after ANOVA or ANCOVA to find out which groups are different from each other
Waste rock	Waste rock is fragment rock with no economic value that is initially removed during development of the open pit and underground mine workings
WQG	Water quality guideline: generic term referring to guidelines developed by various agencies for protection of aquatic life
Water Licence	The Amended Type A Water Licence (2AM-MEL1631) authorizes Agnico Eagle to use waters and deposit waste in support of mining operations at Meliadine
WQM	Water quality model; predictions were developed for the edge of the mixing zone (100 m from the diffuser) and for far-field conditions in the East Basin of Meliadine Lake (Volume 7, 2014 FEIS; Agnico Eagle, 2014)
WRSF	Waste rock and overburden storage facilities

1 INTRODUCTION

This report presents the findings of the 2025 Aquatic Effects Monitoring Program (AEMP) for the Meliadine Gold Mine (the Mine) located in the Kivalliq District of Nunavut, near the western shore of Hudson Bay in Northern Canada (**Figure 1-1**). The AEMP is designed to assess the potential effects of mining activities on the aquatic environment and was developed in consultation with communities, stakeholders, and regulators, and incorporates components of the federal Environmental Effects Monitoring (EEM) program, as required under the *Metal and Diamond Mining Effluent Regulations* (MDMER; Government of Canada, 2024). Inuit Qaujimajatuqangit (IQ; Traditional Knowledge) played a key role in shaping and refining the AEMP, as documented in the Main Application for the Type A Water Licence (Agnico Eagle, 2015).

The AEMP has been conducted annually in Meliadine Lake and nearby small lakes, collectively referred to as the Peninsula Lakes since 2015. This report fulfills requirements under Nunavut Impact Review Board (NIRB) Project Certificate No. 006 (NIRB, 2022) and the Nunavut Water Board (NWB) amended Type A Water Licence 2AM-MEL1631 (NWB, 2024).

1.1 Background

The Mine was approved by the NIRB on February 26, 2015, subject to the terms and conditions outlined in Project Certificate and the Type A Water Licence granted by the NWB on April 1, 2016 and subsequently amended (2021, 2024). The Mine became subject to the Metal and Diamond Mining Effluent Regulations (MDMER) on August 21, 2016, with the onset of dewatering of Lake H17 to create Collection Pond 1 (CP1). CP1 is the primary collection pond for surface contact water (precipitation and runoff) collected at the Mine. The dewatering of Lake H17 occurred between August 21 and October 1, 2016, using a temporary diffuser located in the 'Narrows' north of the Mine. In August 2017, a permanent diffuser was installed in the East Basin of Meliadine Lake. Since June 21, 2018, surface contact water has been diverted to CP1, where it undergoes treatment at the Effluent Water Treatment Plant (EWTP) before being discharged into Meliadine Lake.

The Mine began commercial gold production in 2019, utilizing both underground and open-pit mining methods to develop the Tiriganiaq deposit. Additional deposits—Wesmeg, Wesmeg North, Pump, F Zone, and Discovery—were included in Project Certificate No. 006 (NIRB, 2022). Approval to develop these deposits was granted under the Type A Water Licence Amendment, issued by the NWB in October 2024. A satellite image of the Mine as of September 2025 is shown in **Figure 1-2**.

1.2 AEMP Study Design

The AEMP consists of two distinct monitoring programs: the Meliadine Lake Study and the Peninsula Lakes Study. The two programs share common field and analytical methods, quality assurance and quality control protocols, and data evaluation approaches, but differ in scope and focus. Brief overviews of the Meliadine Lake and Peninsula Lakes Studies are provided below. A detailed description of the program design is presented in Version 3 of the AEMP Design Plan (Azimuth, 2025a; hereafter referred to as the "AEMP Design Plan").

Meliadine Lake Study

Meliadine Lake is the primary focus of the AEMP because it is the receiving environment for treated surface contact water collected at the Mine. The Meliadine Lake Study was designed around the EEM program, with additional monitoring requirements arising from the environmental assessment and Water Licence processes. Every three years (most recently in 2024), the AEMP includes assessments of fish health, benthic invertebrate community and sediment, and fish tissue chemistry, in addition to the core AEMP components of surface water quality and phytoplankton community. In the intervening years, monitoring focuses on surface water quality and the phytoplankton community.

The scope of the 2025 AEMP for Meliadine Lake included surface water quality monitoring and the phytoplankton community study.

Peninsula Lakes Study

The small lakes and ponds near the Mine do not receive direct effluent discharges. Potential mining related influences on water quality in these systems include aerial emissions (including dust) and physical alterations to local watersheds associated with Mine development. During stakeholder consultations conducted during the permitting phase, it was agreed that regular water quality monitoring was sufficient for the Peninsula Lakes Study.

Three lakes were originally included in the Peninsula Lakes Study: Lake A8, Lake B7, and Lake D7. To accommodate development of Pump and Wesmeg deposits south of the Mine, several small ponds and Lake A8 were dewatered starting 2024 and 2025. Consequently, Lake A8 was removed from the AEMP in 2025 and replaced with Lake E3 (MEL-15) (Azimuth, 2025a). Lake E3 is located approximately 1,500 m northwest of the TSF and has been monitored since 2018 as a condition of the Water Licence[1] (i.e., biannual sampling). The proximity of Lake E3 to the TSF makes it an ideal location for monitoring changes in water quality caused by non-point source discharges.

[1] According to Table 2 of 2AM-MEL1631, biannual sampling is required at Lake E3 during the open water period. Agnico Eagle has typically collected monthly samples at this location.

Lake B7 will eventually be converted into Collection Pond 7 (CP7) to serve as a surge storage reservoir for surface contact water from CP1. For now, Lake B7 is retained in the Peninsula Lakes study design.

No construction or mining activities are planned for the area adjacent to Lake D7 (located west and south of Lake B7).

1.3 Objectives and Key Questions

The objectives of the AEMP are to:

- Determine the short- and long-term effects of the Mine on aquatic receiving environments,
- Evaluate the accuracy of predictions made in the Final Environmental Impact Statement (FEIS),
- Provide a Response Framework (**Section 6**) with mechanisms to ensure that environmental monitoring results trigger timely and appropriate actions to mitigate potential impacts on aquatic receiving environments.

Key questions were developed in Version 1 of the AEMP Design Plan (Golder, 2016) to guide the methods, data analyses, and interpretation of monitoring results. The key questions for each monitoring component are summarized in **Table 1-1**, while an overview of the monitoring components collected in each study area is provided in **Table 1-2**.

1.4 2025 Activities

A summary of mining activities that were undertaken in 2025 is provided below, with a focus on those activities that help support the water quality assessment in Meliadine Lake and the Peninsula Lakes when interpreting the results from the AEMP.

- Mining of the Tiriganiaq deposit through open-pit and underground operations. Waste rock and overburden from Tiriganiaq Pit 1 was deposited in Waste Rock Storage Facility 1 (WRSF1). Overburden only was placed in WRSF3.
- Open pit mining of the Pump deposit – located south of Lake A8 – started in 2025. Development of the Pump deposit started in 2024 with construction of an access road (Pump Road) south of Tiriganiaq Pit 1 and a fish salvage program in several small ponds near the site of the open pits and WRSF6. The Pump Road was completed in 2025, along with preparation of WRSF6, and other infrastructure. Mining was completed in Pump Pit 1 in 2025 and is ongoing in Pump Pit 2.
- Treated surface contact water was discharged from CP1 to Meliadine Lake from June 12 to October 10, 2025. The Effluent Water Treatment Plant (EWTP) operated throughout the discharge period with routine operational interruptions consistent with normal plant operations. Effluent discharge is discussed in greater detail in **Section 2.4**.

- Lake A8 was dewatered between June 11 and August 30 to advance mining activities in the Pump and Wesmeg area. A fish salvage program was completed concurrently with dewatering. Fish from Lake A8 were released to Meliadine Lake. A summary of the dewatering process is provided in **Section 2.4.2**.

Other than the activities described above, there were no additional operational changes in 2025 that would meaningfully influence the interpretation of water quality data in Meliadine Lake or the Peninsula Lakes. Furthermore, no major spills were reported during the year that have the potential to impact water quality in Meliadine Lake or other small lakes and ponds near the Mine.

1.5 Report Structure

The results of the 2025 AEMP are organized into the following chapters. Supplemental information, including raw data, summary statistics and supporting figures, is provided in appendices to streamline the main document.

- Introduction
- Source Characterization (**Appendix B**)
- Meliadine Lake Water Quality (**Appendix C**)
- Peninsula Lakes Water Quality (**Appendix D**)
- Phytoplankton Community (**Appendix E**)
- Integrated Summary, including the Low Action Level Assessment

The quality assurance and quality control (QA/QC) assessment results for each component are summarized in their respective chapters. Additional details on QA/QC methods and results are provided in **Appendix A**, where applicable.

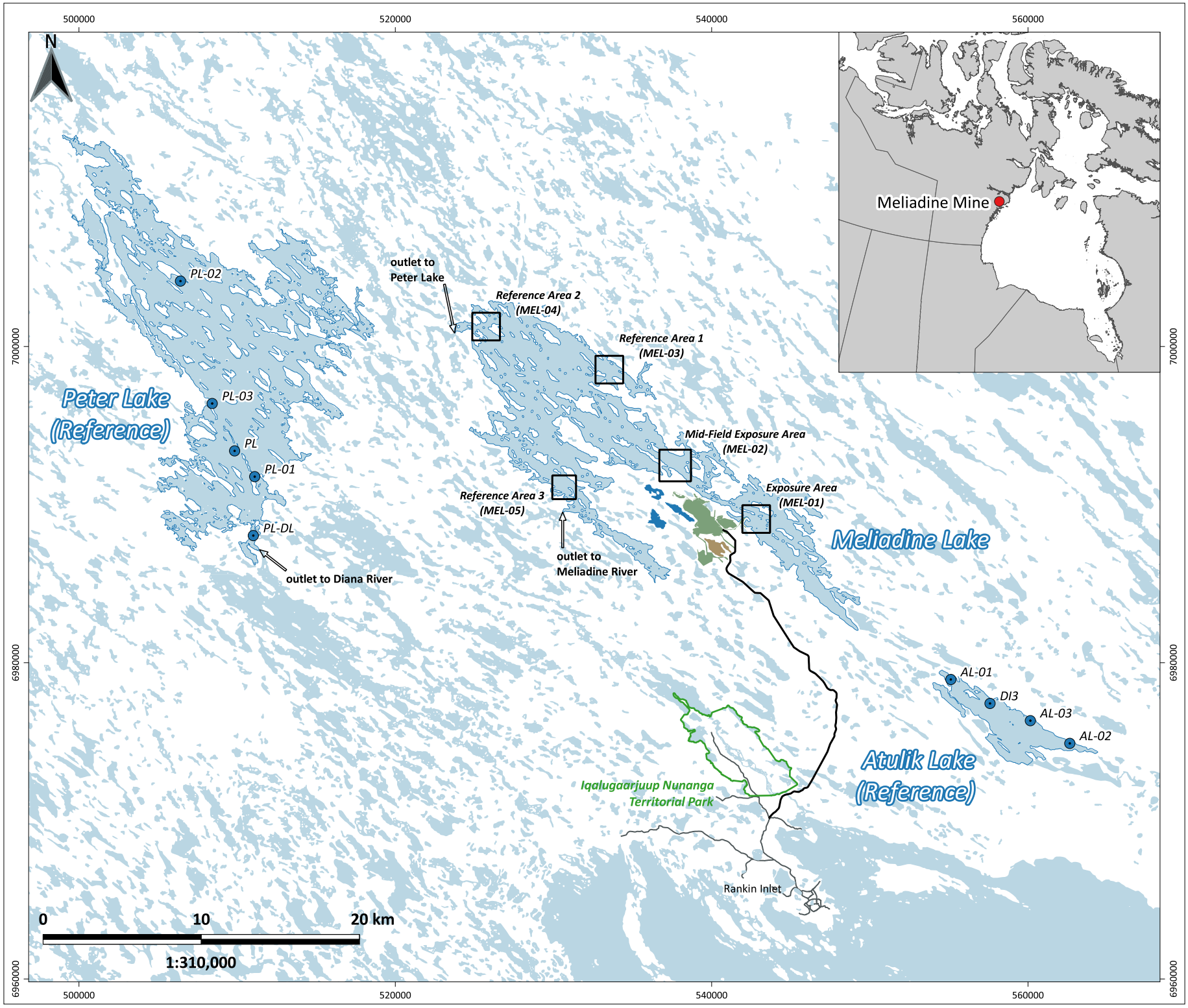


Figure 1-1
Location of the Meliadine Mine

Aquatic Effects Monitoring Program
2025 Annual Report

AZIMUTH

NAD83(CSRS) / UTM zone 15N
QGIS version: 3.22.11-Białowieża
Prepared by E. Franz
March 2, 2026

REFERENCES

1. Mine Plan provided by Agnico Eagle
2. Roads and waterbodies from NRCan
3. Iqalugaarjuup Nunanga Territorial Park boundary from Canadian Protected & Conserved Areas Database (CPCAD)

LEGEND

- Extent of the Mine (2025)
- All weather access road
- Study Area Lakes
- Peninsula Lakes
- Lake A8 (dewatered in 2025)
- AEMP Study Areas
- Surface water stations in Peter Lake and Atulik Lake; sampling dates are provided in Table 2-3



Figure 1-2
Overview of the Meliadine Mine

Aquatic Effects Monitoring Program
2025 Annual Report

AZIMUTH

NAD83(CSRS) / UTM zone 15N
QGIS version: 3.22.11-Białowieża
Prepared by E. Franz
February 28, 2026

REFERENCES
1. Mine Plan provided by Agnico Eagle
2. The satellite image of the Meliadine Mine was taken on September 22, 2025

LEGEND
- Extent of the Mine (2025)
- All-weather access road
- Peninsula Lakes
- Lake A8 (dewatered in 2025)
- Surface water station
- Snow core station

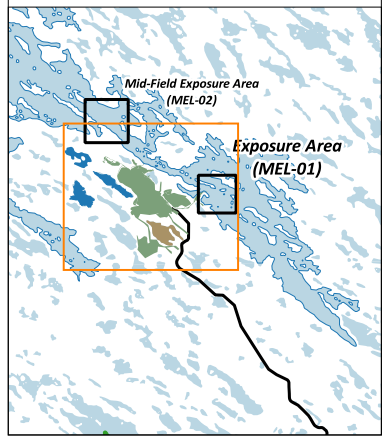


Table 1-1. Key Questions for the Aquatic Effects Monitoring Program

Component	Key Questions
Meliadine Lake	
Water Quality	Are concentrations of key parameters in effluent less than limits specified in the Water Licence?
	Has water quality in the exposure areas changed over time, relative to reference/baseline areas?
	Is water quality consistent with predictions in the FEIS and below guidelines to protect aquatic life and human health?
	Is water quality below guidelines to protect aquatic life and human health?
Phytoplankton Community	Is the phytoplankton community affected by potential mine-related changes in water quality in Meliadine Lake?
Peninsula Lakes	
Water Quality	Is water quality consistent with predictions in the FEIS and below guidelines to protect aquatic life and human health?
	Has water quality changed over time relative to baseline conditions?

Table 1-2. Overview of the 2025 sampling program for Meliadine Lake, the Regional Reference Lakes, and the Peninsula Lakes.

Component	Meliadine Lake Study Areas													Reference Lakes[a]	
	MEL-01 Near-field				MEL-02 Mid-field				MEL-03 REF 1			MEL-04 REF 2	MEL-05 REF 3	AL	PL
	Mar	Jul	Aug	Sep	Mar	Jul	Aug	Sep	Jul	Aug	Sep	Aug	Aug	Aug	Aug
Surface Water Quality	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Phytoplankton	NR	●	●	●	NR	●	●	●	●	●	●	●	●	NR	NR

Component	Peninsula Lakes Study Areas							
	Lake B7[b]				Lake D7		Lake E3[c]	
	Jul	Aug	Sep	Oct	Jul	Aug	Jul	Aug
Surface Water Quality	●	●	◎	◎	●	●	●	●

Notes:
NR = sampling not required
● Sampling completed as planned
◎ Supplemental sampling
○ Sampling not completed as planned
[a] The external reference lakes are Atulik Lake (AL) and Peter Lake (PL). Surface water quality data was collected in August as part of the regional water quality assessment.
[b] Supplement sampling completed in Lake B7 to characterize seasonal trends.
[c] Routine water sampling was also completed in Lake E3 (MEL-15) for compliance under the Water Licence (2AM-MEL1631).

2 SOURCE CHARACTERIZATION

2.1 Introduction

This section summarizes the current understanding of how mining operations may influence water quality in Meliadine Lake and the Peninsula Lakes. For Meliadine Lake, the primary potential source of mining-related effects on water quality is the discharge of treated surface contact water. The compliance monitoring station, referred to as the Final Discharge Point (MEL-14), is sampled weekly for chemistry, monthly for acute toxicity testing, and quarterly for sublethal toxicity testing when the Mine is actively discharging. Discharge volumes and chemistry results are used to calculate monthly and annual loadings, which inform the evaluation of whether observed spatial and temporal changes in water quality are plausibly linked to treated effluent discharge.

Water quality in the Peninsula Lakes may be influenced by cumulative effects associated with hydrologic alterations, dust deposition, and aerial emissions. The potential effects of dust and aerial emissions are evaluated using chemistry data from the snow core monitoring program, which is conducted annually in late winter.

2.2 Key Findings – Source Characterization

- **Regional water quality trends** – A three-year study was initiated in 2025 to evaluate temporal trends in water quality at two reference lakes located outside the influence of the Mine (Peter Lake and Atulik Lake). Preliminary results indicate that several parameters, including key parameters monitored in effluent discharged to Meliadine Lake, are exhibiting regional-scale increases. These trends are attributed to regional climatic variability rather than mining-related activities.
- **Effluent chemistry** – There were no exceedances of the effluent quality limits in any of the effluent samples collected from MEL-14.
- **Acute toxicity tests** – Monthly acute toxicity testing with Rainbow Trout and *Daphnia magna* was conducted on water MEL-14 in 2025. Water from MEL-14 was not acutely toxic in any of the tests.
- **Sublethal (chronic) toxicity tests** – Sublethal toxicity testing was completed on samples from MEL-14 collected on June 16, July 7, and October 6 using *Lemna minor* (duckweed). No effects to frond yield or biomass were observed in any of the tests.

- **Snow chemistry results** – There was a noticeable reduction in TSS and metals measured at the snow core monitoring station (SNOCOR) in 2025. The TSS concentration measured at the near-field stations south of Tiriganiaq Pit 1 was the lowest since monitoring started in 2020. These results indicate efforts undertaken in 2025 to mitigate off-site migration of dust were effective. Snowpack chemistry at stations north of the main camp and east of WRSF3 was similar to background levels.

2.3 Regional Climate Context and Background Water Quality

Other than the Mine, there are no significant anthropogenic sources known to have the potential to cause detectable changes in water quality in Meliadine Lake or the Peninsula Lakes. However, water quality can respond to natural drivers, including short-term weather patterns and longer-term trends associated with climate variability. These factors may influence parameters such as temperature, flow conditions, and runoff, which in turn can contribute to changes in surface water quality and the structure of aquatic ecosystems (Schindler et al., 1996; Smol et al., 2005; Sharma et al., 2019). For instance, climate-driven changes in precipitation and runoff can influence sediment and nutrient loading, potentially altering water clarity and productivity (Bouchard et al., 2013).

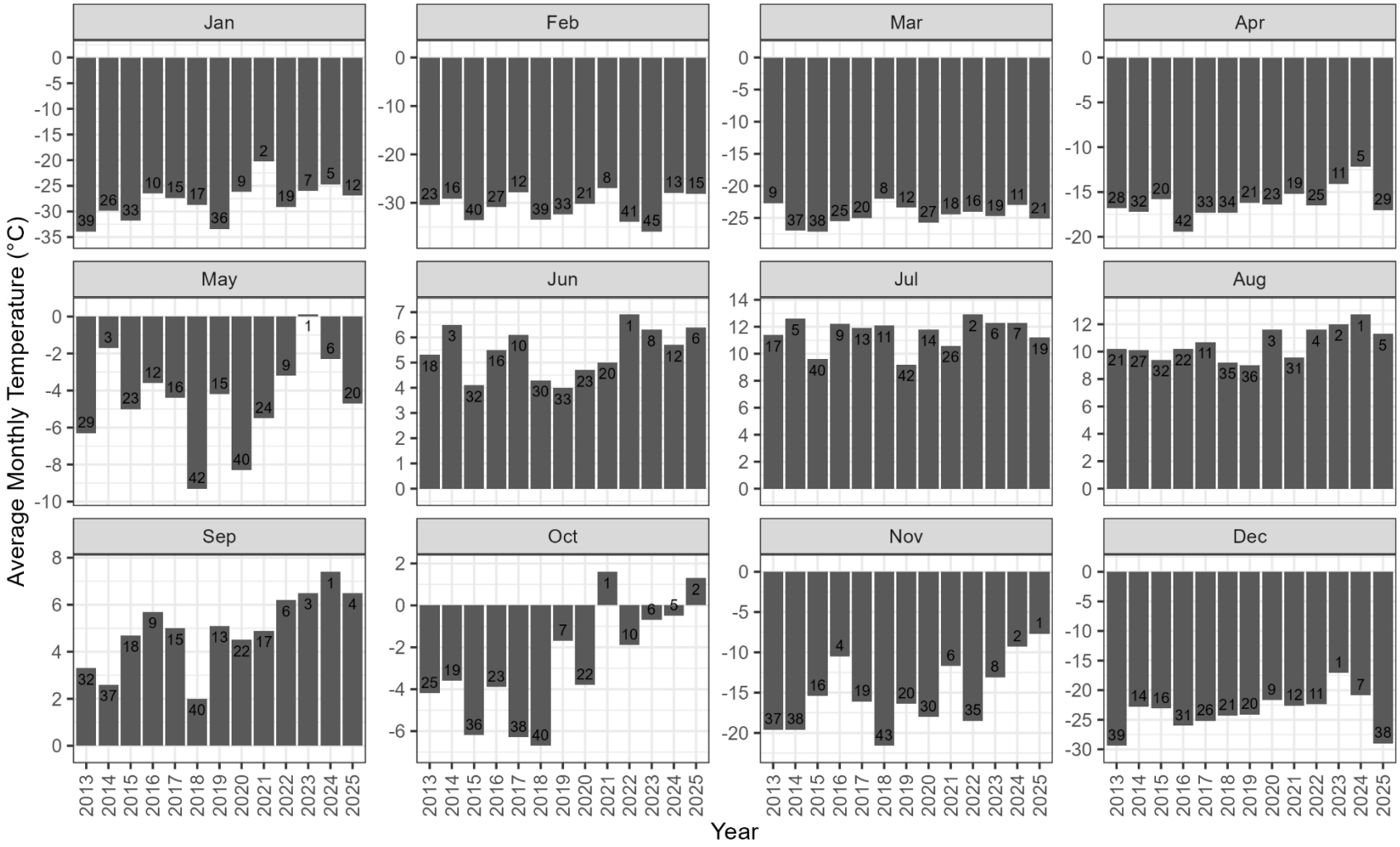
The purpose of the AEMP is to evaluate whether project-related activities are affecting the aquatic environment and to verify predictions made during the environmental assessment. A key component of the AEMP is distinguishing mine-related influences from natural variability and other potential sources of change. The potential influence of climate on water quality is therefore qualitatively evaluated using two complementary lines of evidence: (1) regional temperature and precipitation data, and (2) water quality data from two reference lakes: Peter Lake and Atulik Lake. Regional climate data, particularly precipitation, provide insight into climate variability as a potential factor influencing water quality at the regional scale, while the reference lake data reflect the integrated response of lake systems to those broader climatic influences.

2.3.1 Climate Data

Climate data collected at Rankin Inlet Airport[2] since 1981 are used to assess temperature and precipitation trends in the region. The following tables and figures were used to support the discussion:

- **Table 2-1** presents tabulated monthly mean temperature and precipitation data.
- **Figure 2-1** shows the average temperature for each month since 2013.
- **Notes**: Precipitation data is from the weather station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/).
  The number inside each bar indicates the temperature rank for each year since 1981 (e.g., the average temperature in January 2025 was the 12th highest since 1981).

[2] Station name = RANKIN INLET A (https://climate.weather.gc.ca/historical_data/search_historic_data_e.html). Daily weather data were downloaded from ClimateData.com. which is a collaboration between Environment and Climate Change Canada (ECCC), the Computer Research Institute of Montréal (CRIM), CLIMAtlantic, Ouranos, the Pacific Climate Impacts Consortium (PCIC), the Prairie Climate Centre (PCC), and HabitatSeven.


Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Average Monthly Temperature (°C)
Year
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

- Figure 2-2 illustrates total annual precipitation (rain and snow combined) since 1981.
- **Figure 2-3** displays total annual rainfall since 1981.
- **Figure 2-4** shows cumulative annual rainfall since 2013, highlighting the timing and magnitude of summer rainfall events.

Temperature

Average annual temperatures in Rankin Inlet from 2013 to 2025 show a clear shift toward warmer conditions relative to earlier decades (**Table 2-1**; **Figure 2-1**). The 2020s decadal average (-8.0 °C) is approximately 1.8 °C warmer than the 1980s (-11.2 °C) and about 1.5 °C warmer than the 1990s (-10.4 °C), consistent with broader Arctic warming trends. Since 2021, annual mean temperatures have remained among the warmest in the record, with 2024 (-6.7 °C) ranking second warmest since 2013 and 2021 (-6.8 °C) ranking third.

In this context, 2025 (-8.3 °C) was cooler than the exceptionally warm years of 2021–2024 but remained warmer than most years prior to 2020. Several months in 2025, including June, September, and October, were comparatively mild, and November 2025 was the warmest November in the 2013–2025 record. Overall, 2025 reflects continued above-historical-average temperatures, reinforcing that recent water quality trends are occurring within a period of sustained regional warming rather than under baseline climatic conditions.

Precipitation

Precipitation in Rankin Inlet over the 2013–2025 period has been highly variable, with several extreme years influencing the overall pattern (**Table 2-2**). The most notable year was 2019, which recorded 484 mm of precipitation (the highest annual total going back to 1981 [**Notes**:

Precipitation data is from the weather station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/).

The number inside each bar indicates the temperature rank for each year since 1981 (e.g., the average temperature in January 2025 was the 12th highest since 1981).

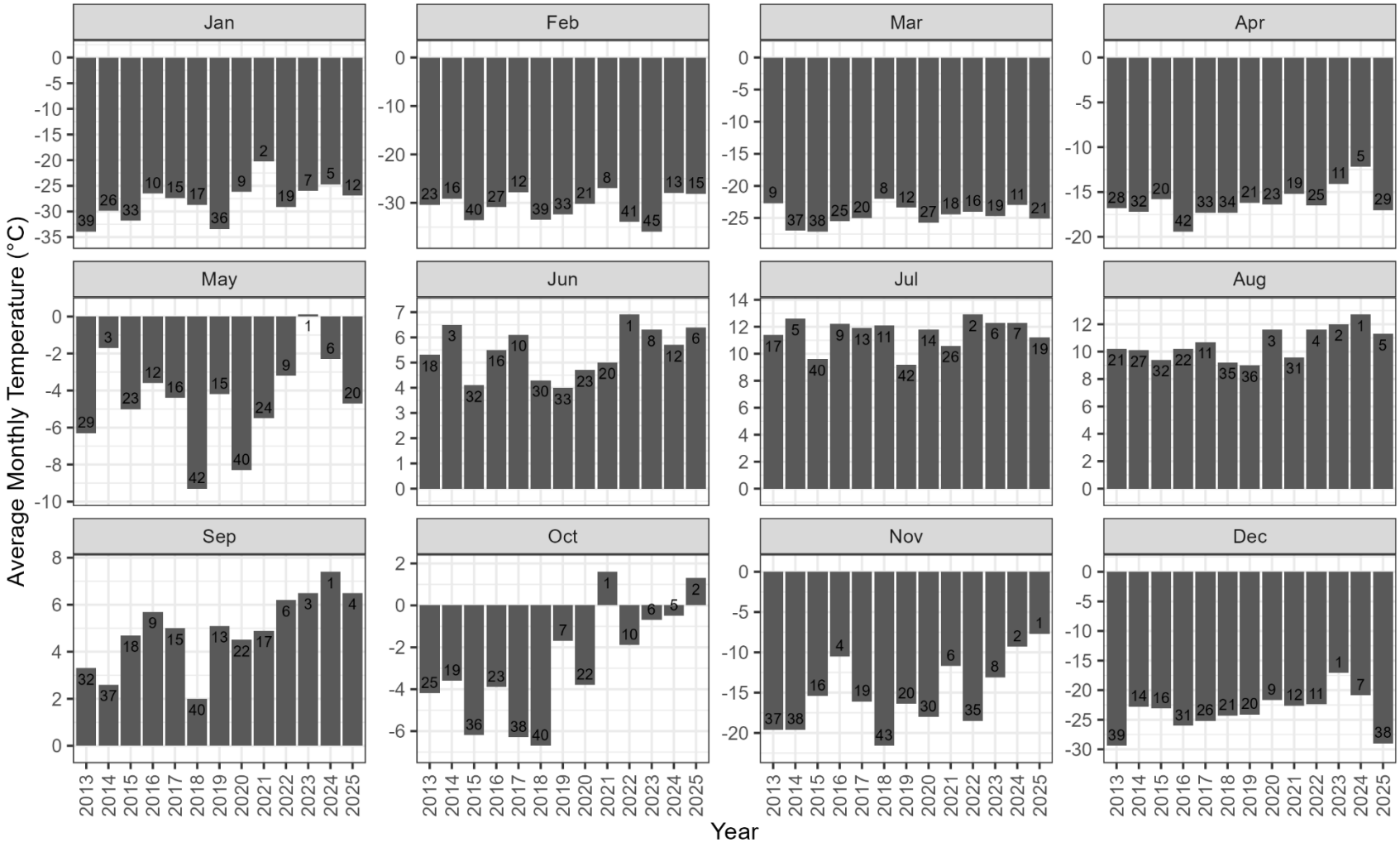

Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Average Monthly Temperature (°C)
Year
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

Figure 2-2]). Other recent wet years include 2021 (416 mm; rank 4) and 2024 (376 mm; rank 9), whereas 2023 was exceptionally dry (136 mm; rank 45).

In this context, 2025 (275 mm; rank 30) was not an exceptionally wet year overall but included notable monthly events. For example, July 2025 (81 mm; **Figure 2-4**) was the second wettest July since 2013. High-precipitation months are hydrologically significant because intense rainfall events, particularly during the summer, can enhance runoff, increase hydrologic connectivity, and mobilize geochemical constituents from soils and surficial materials.

Table 2-1. Average monthly temperature reported in Rankin Inlet from 2013 to 2025

Year	Monthly Average Temperature (°C) from 2013 to 2025												Annual Mean (°C)	Rank[a]
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
2013	-33.9	-30.4	-22.7	-16.8	-6.3	5.3	11.4	10.2	3.3	-4.2	-19.6	-29.4	-11.5	38
2014	-29.9	-29.1	-27.0	-17.2	-1.7	6.5	12.6	10.1	2.6	-3.6	-19.6	-22.8	-9.8	20
2015	-31.8	-33.6	-27.1	-15.8	-5.0	4.1	9.6	9.4	4.7	-6.2	-15.4	-23.1	-10.6	29
2016	-26.5	-30.9	-25.5	-19.4	-3.6	5.5	12.2	10.2	5.7	-3.9	-10.5	-26.0	-9.2	13
2017	-27.4	-27.8	-25.0	-17.3	-4.4	6.1	11.9	10.7	5.0	-6.3	-16.1	-25.2	-9.5	16
2018	-28.7	-33.5	-22.0	-17.3	-9.3	4.3	12.1	9.2	2.0	-6.7	-21.6	-24.3	-11.4	37
2019	-33.4	-32.4	-23.4	-16.2	-4.2	4.0	9.2	9.0	5.1	-1.7	-16.4	-24.1	-10.3	27
2020	-26.2	-30.2	-25.7	-16.4	-8.3	4.7	11.8	11.6	4.5	-3.8	-18.0	-21.7	-9.3	14
2021	-20.3	-27.0	-24.4	-15.2	-5.5	5.0	10.6	9.6	4.9	1.6	-11.7	-22.6	-6.8	3
2022	-29.1	-33.9	-24.0	-16.5	-3.2	6.9	12.9	11.6	6.2	-1.9	-18.5	-22.4	-9.4	15
2023	-26.0	-35.9	-24.7	-14.1	0.1	6.3	12.3	12.0	6.5	-0.7	-13.1	-17.1	-7.7	5
2024	-24.7	-27.9	-23.0	-12.2	-2.3	5.7	12.3	12.7	7.4	-0.5	-9.3	-20.9	-6.7	2
2025	-26.9	-28.1	-25.1	-17	-4.7	6.4	11.2	11.3	6.5	1.3	-7.7	-29	-8.3	8
Decadal averages														
1980s	-31	-29.9	-26.4	-16.6	-6.7	3.5	9.9	9.1	3.3	-5.5	-18.6	-27.5	-11.2	5
1990s	-31.9	-30.5	-24.5	-15.8	-5.2	5.0	10.9	9.6	3.5	-5.1	-16.9	-25.4	-10.4	4
2000s	-29.1	-30.4	-24.7	-15.3	-5.4	4.0	10.7	10.3	4.3	-3.7	-16.2	-24.4	-9.8	2
2010s	-29.2	-29.5	-24.4	-16.2	-5.2	4.9	11.2	10.0	4.5	-3.9	-16.0	-24.2	-9.8	2
2020s	-25.5	-30.5	-24.5	-15.2	-4.0	5.8	11.9	11.4	6.0	-0.6	-13.0	-22.3	-8.0	1

Notes
Weather data is from the station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/).
[a] Annual rank for total precipitation since 1981.
Shaded cells indicate the warmest month going back to 2013. For example, November 2025 was the warmest November since 2013.

Table 2-2. Cumulative monthly precipitation reported in Rankin Inlet from 2013 to 2025

Year	Cumulative Monthly Precipitation (mm) from 2013 to 2025												Annual Total (mm)	Rank[a]
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
2013	0.8	16.2	16.4	18	112.2	7.8	24	14	67.2	30.4	5.2	9.4	321.6	20
2014	17.2	6.8	6.2	1.8	10.2	16	16	72.4	52.2	79.4	21.4	26.8	326.4	18
2015	3.6	10.9	7.6	14.4	1.8	33.2	61.6	63.6	82	20.6	32.2	22.6	354.1	15
2016	7.2	14.6	5.8	4.4	0.6	17.6	24.4	10.1	64.7	22.8	25.2	3.2	200.6	43
2017	4.4	9.7	7.6	6.2	11.6	14.2	40.2	7.6	18.8	69.8	30.8	8	228.9	40
2018	7.9	10.6	13.2	8.8	38	28.4	15.8	52.8	19	24.6	19.4	8.4	246.9	35
2019	18.6	2.4	20.8	18.2	37.4	27.2	112.8	112.9	79.4	31.9	11.4	11.6	484.6	1
2020	7.6	13	7.4	11	19.3	4.8	7.6	32.5	66.8	21.6	46.7	135.2	373.5	11
2021	10	7.9	34.8	30.1	4.1	14.1	73	60.6	63.9	71.4	19.5	27.1	416.5	4
2022	13.6	0.8	16.4	3.5	10.6	41.6	6.4	46	42.2	30.8	0	0.7	212.6	42
2023	8	2.4	1.4	0	4.2	4.4	10.6	6.4	0	2.2	25.4	70.8	135.8	45
2024	21.1	6.1	11.1	2.3	15.2	9.3	17.8	40.8	154	24.7	42.1	32	376.5	9
2025	25.4	3	4.4	15	20.2	8.8	81	31.8	14.9	41.3	27.3	2.2	275.3	30
Decadal averages														
1980s	6.6	6.3	13.5	14.8	17.6	37.3	34.3	59.9	41.2	35.7	20.6	7.7	295.7	5
1990s	7.2	10.8	9.6	13.8	20.1	25.8	45.1	53.9	48.2	34.8	20.2	13.6	303.1	3
2000s	11.9	7.7	13	30	20.9	19.5	41.4	57.2	40.1	41.6	23.4	14.9	321.7	2
2010s	10	9.8	13.4	10.8	26	23.3	47.5	45.9	52.5	44.6	27.7	17.3	328.9	1
2020s	14.3	5.5	12.6	10.3	12.3	13.8	32.7	36.4	57	32	26.8	44.7	298.4	4

Notes
Weather data is from the station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/).
[a] Annual rank for total precipitation since 1981.
Shaded cells indicate the top 10 monthly precipitation totals since January 2013. July 2025 was the second wettest July going back to 2013.

Figure 2-1. Average monthly temperatures (°C) since 2013.

Notes: Precipitation data is from the weather station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/).
The number inside each bar indicates the temperature rank for each year since 1981 (e.g., the average temperature in January 2025 was the 12th highest since 1981).

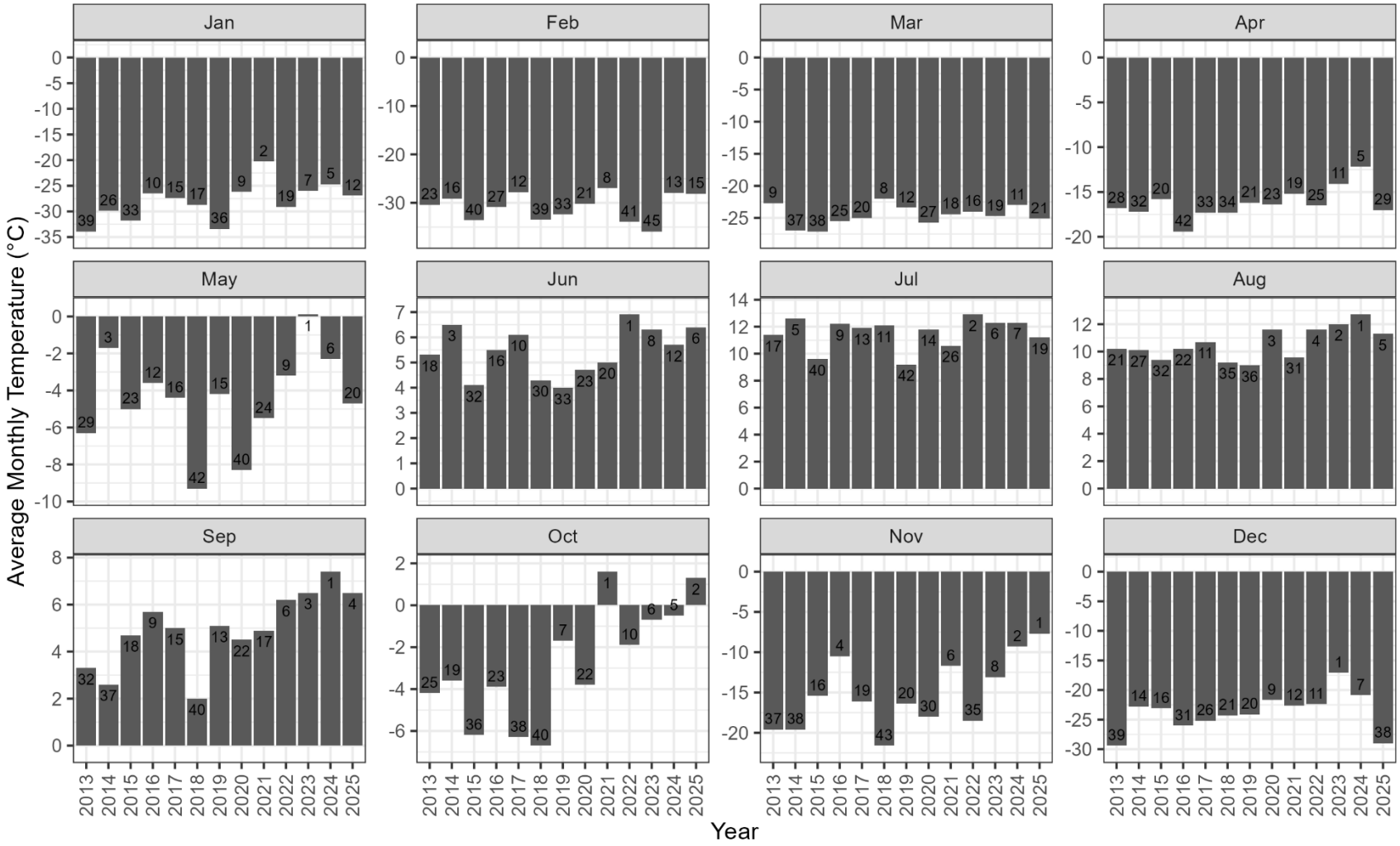


Figure 2-2. Annual precipitation (mm) from 1981-2025.

Notes: Precipitation data is from the weather station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/). The white number corresponds to the annual rank (e.g., precipitation in 2019 was the highest since 1981).

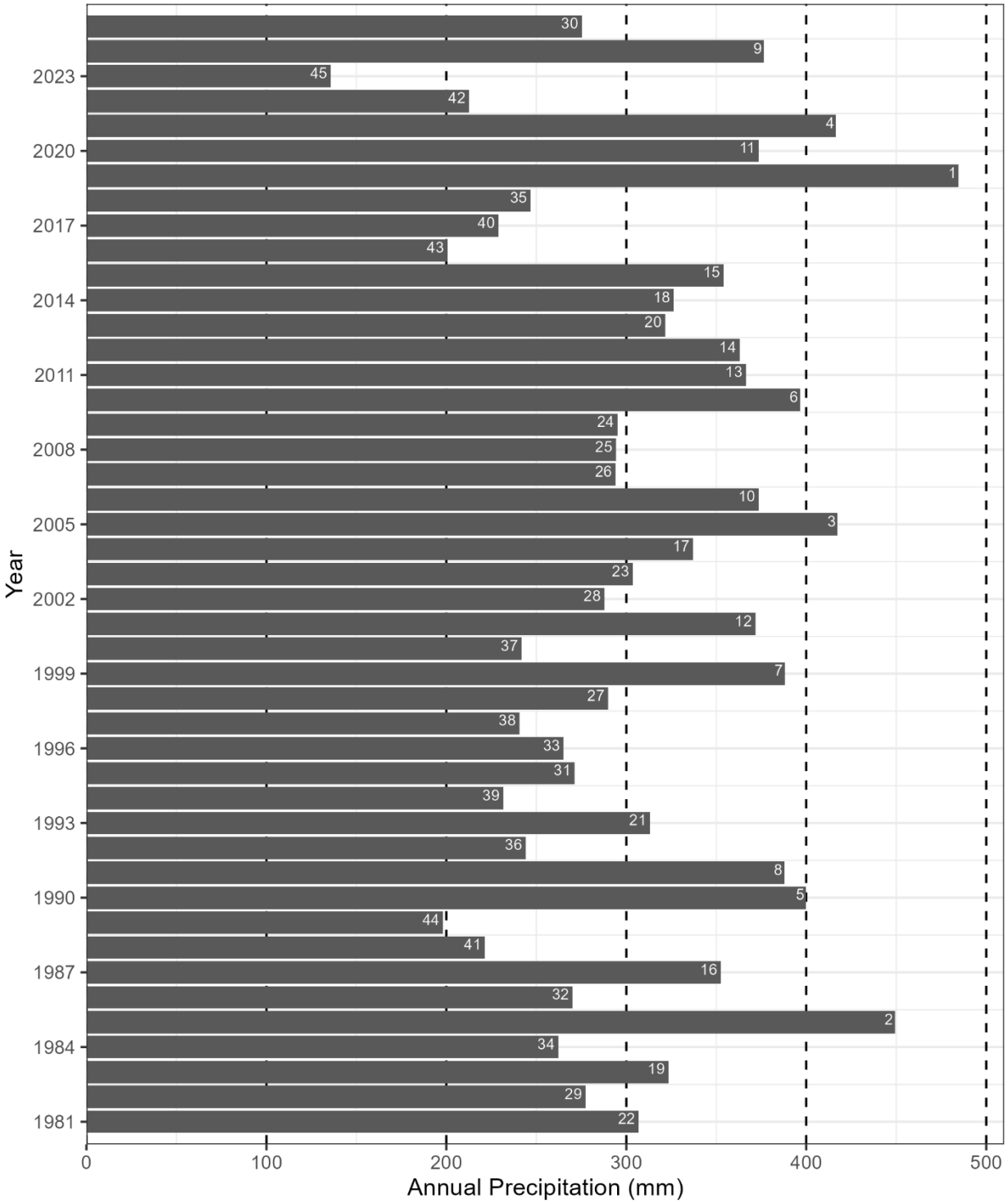


Figure 2-3. Annual rainfall (mm) from 1981-2025.

Notes: Rainfall data is from the weather station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/). The white number corresponds to the annual rank (e.g., rainfall in 2019 was the highest since 1981).

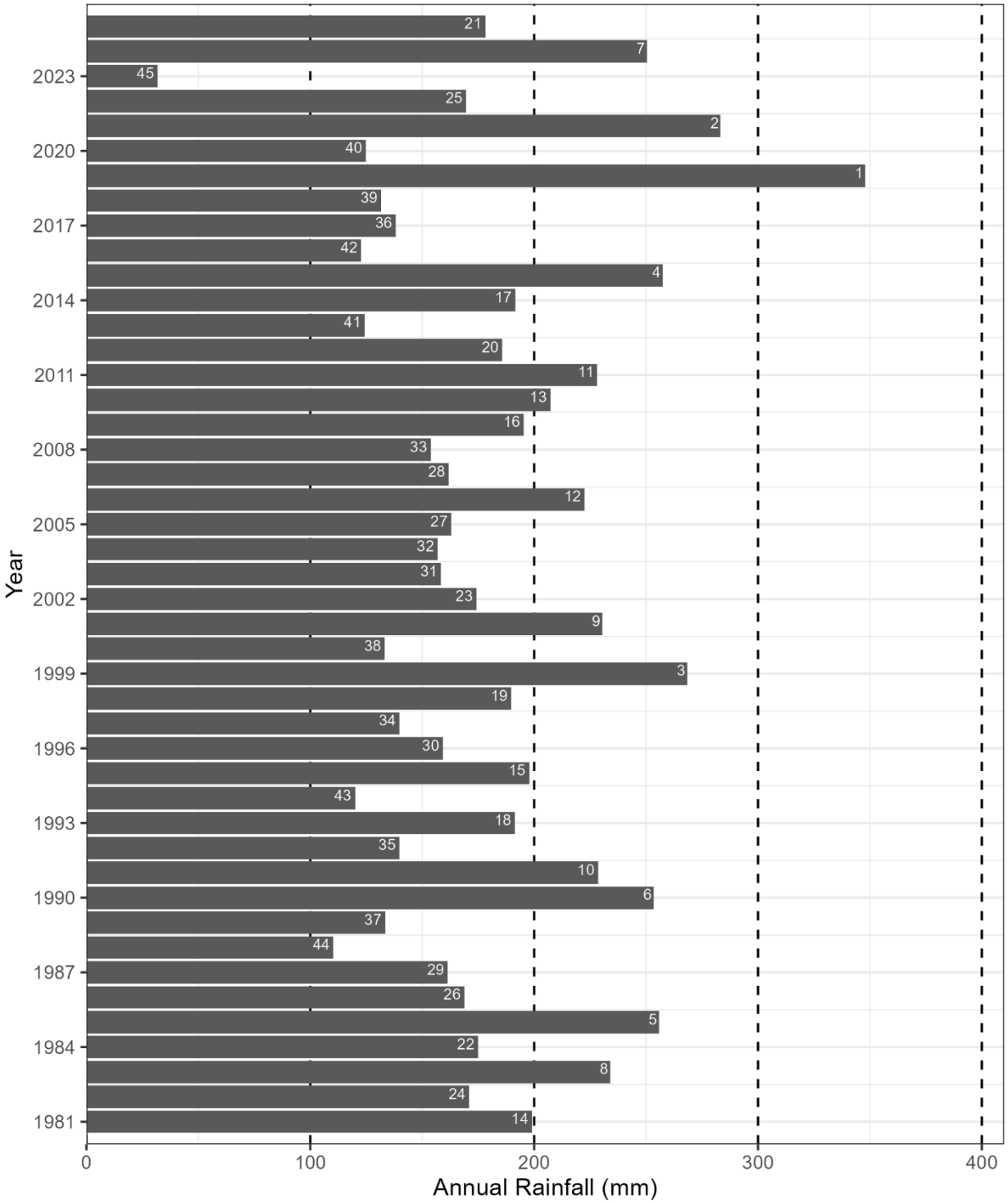
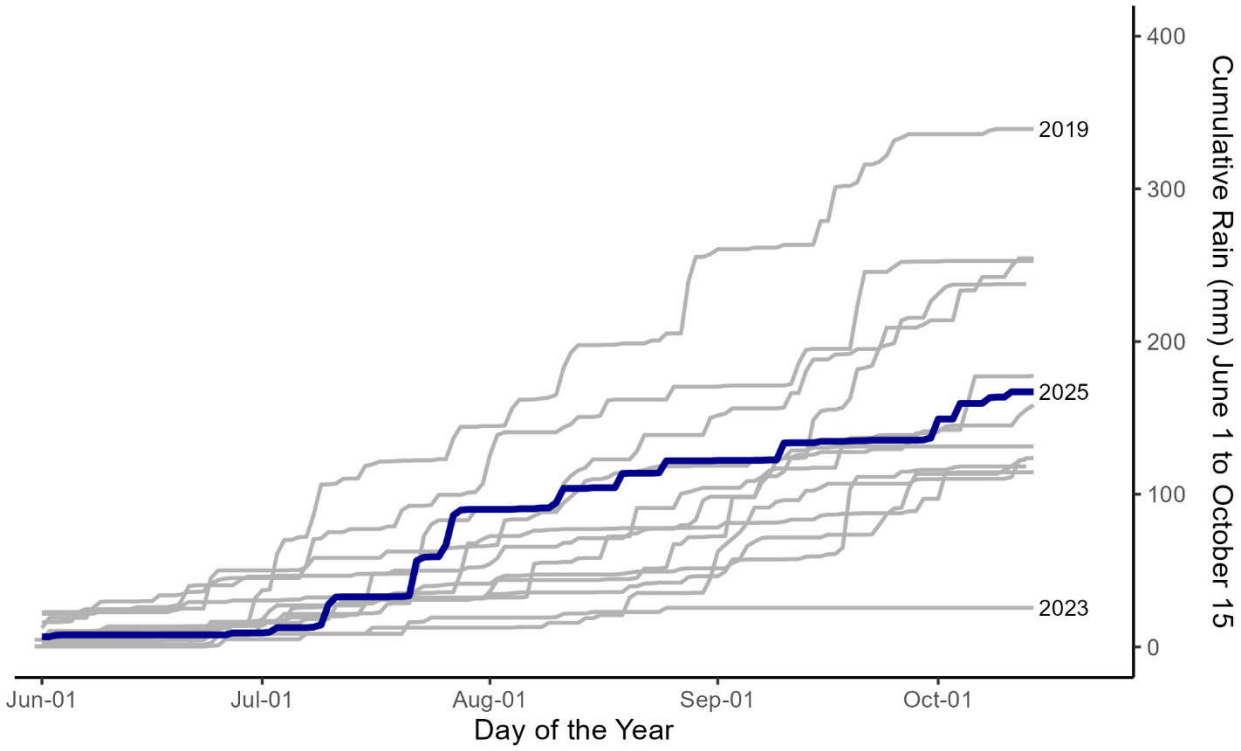


Figure 2-4. Cumulative precipitation as rain since 2013.

Notes: Rainfall data is from the weather station in Rankin Inlet (RANKIN INLET A in https://climatedata.ca/download/). 2019 and 2023 represent the maximum and minimum rainfall totals since 2013



2.3.2 Surface Water Quality at Regional Reference Lakes

As a condition of the 2024 Water Licence Amendment Application, Agnico Eagle committed to a three-year study beginning in 2025 to monitor surface water quality at reference lakes in the region[3]. Peter Lake and Atulik Lake were selected for sampling based on their prior use as reference lakes for Lake Trout health assessments in 2021 and 2024, as well as the availability of baseline data collected in the late 1990s (**Table 2-3**). To strengthen the reference dataset for Peter Lake, historical data collected in 1997 and 1998 at the outlet of Peter Lake to the Dianna River (PL-DL) were included in the assessment.

Surface water samples were collected in 2021, 2024, and 2025 according to sampling methods outlined in the AEMP Design Plan (Azimuth, 2025a). A brief description of each lake is provided below based on information that was previously reported in the 2014 FEIS.

Table 2-3. Open-water sampling events in Peter Lake and Atulik Lake

Lake	Year	Sampling Months (Stations[a])
Peter Lake	1997[a]	June (PL-DL); August (PL-DL)
	1998[a]	June (PL-DL); July (PL-DL, PL)
	2021[b]	August (PL-01);
	2024[c]	August (PL-01, PL-02)
	2025	August (PL-01, PL-02, PL-03)
Atulik Lake	1995[a]	July (DI3)
	2021[b]	August (AL-01)
	2024[c]	August (AL-01, AL-02)
	2025	August (AL-01, AL-02, AL-03)

Notes:
[a] Source: 2014 FEIS (Volume 7; Agnico Eagle 2014).
Station codes for baseline stations: PL-DL = outlet of Peter Lake to Dianna River; PL = Peter Lake; DI3 = Atulik Lake
[b] Source: Cycle 2 EEM Interpretive Report (Azimuth, 2022)
[c] Source: Cycle 3 EEM Interpretive Report (Azimuth, 2025b)

Study Areas

Peter Lake is one of the larger lakes in the region, covering an area of approximately 150 km^2 (Meliadine Lake = 107 km^2; Agnico Eagle, 2014). Peter Lake is located within the same watershed as Meliadine Lake, and there is a weak (secondary) connection between Peter Lake and Meliadine Lake (near MEL-04);

[3] Technical comments from the KivIA (TC-03; KivIA, 2024) and ECCC (TC-15; ECCC, 2024).

water flows from Meliadine Lake, through a series of small lakes, into Peter Lake. Peter Lake eventually drains into Hudson Bay via the Dianna River (**Figure 1-1**).

Atulik Lake (surface area = 17.6 km^2) is situated within a separate watershed from Meliadine Lake and Peter Lake. Surface water flows northwest to southeast through a series of small lakes before draining into Hudson Bay, approximately 40 km east of the mouth of the Meliadine River. Atulik Lake is located closer to Hudson Bay than Meliadine Lake and exhibits higher background concentrations of major ions (e.g., chloride, sodium, magnesium, and potassium) compared to Meliadine Lake and Peter Lake.

Surface Water Quality in the Reference Lakes

This section summarizes key trends observed for selected parameters of interest in the reference lakes relative to the reference areas in Meliadine Lake (MEL-03, MEL-04, and MEL-05) (**Figure 2-5**). The parameters of interest are those that have exhibited increasing temporal trends within Meliadine Lake and are constituents of the treated effluent, while also potentially serving as indicators of broader regional trends:

- Total dissolved solids and sulphate (i.e., major ions)
- Total phosphorus (i.e., nutrients)
- Arsenic and barium (metals)

This discussion is intended to provide contextual insight rather than a comprehensive evaluation of regional water quality trends. A more detailed assessment will be completed at the conclusion of the three-year monitoring program in 2028.

TDS and Sulphate

Total dissolved solids (TDS) concentrations in Peter Lake and at the outlet to the Dianna River ranged from 15 to 20 mg/L in 1997 and 1998 (**Table 2-4**). Upstream, at ML-PL, TDS concentrations ranged from 25 to 34 mg/L during the same period, indicating a natural spatial gradient of higher ionic strength water entering Peter Lake from Meliadine Lake. The dataset for Atulik Lake includes only 1 sample from 1995; TDS measured 24 mg/L in that sample.

By 2021, ionic content in Peter Lake and Atulik Lake had increased to 23 mg/L and 46 mg/L, respectively. The magnitude of increase was higher in Atulik Lake (doubled) compared to Peter Lake (roughly 50% increase).

Among the major ions, sulphate has exhibited the most pronounced increasing temporal trend, particularly between 2024 and 2025. Sulphate concentrations were consistently low across the study lakes (generally <4 mg/L), with no clear indication of systematically higher concentrations in one lake versus another. From the late 1990s to 2021, sulphate increased marginally (approximately 1–2 mg/L). In contrast, from 2021 to 2025 sulphate increased in all three lakes, rising by roughly 1.5–2 mg/L in Peter

Lake and up to ~3.5 mg/L in Atulik Lake; the reference areas in Meliadine Lake showed intermediate increases of approximately 2.5 mg/L.

Absolute sulphate concentrations remain well below the BC long-term (30-day average) freshwater aquatic life guideline for very soft waters (128 mg/L). Although the magnitude of change differs among lakes, the synchronous increase in sulphate concentrations across the reference lakes suggests that sulphate may serve as an effective indicator of regional climatic influences on water quality.

Table 2-4. Total dissolved solids (TDS) and sulphate (SO_4) concentrations in Atulik Lake, Peter Lake, and Meliadine Lake reference areas since the late 1990s

Parameter	Lake/Area	Range of Concentrations by Year			
		Baseline (95-98)	2021	2024	2025
TDS (mg/L)	Atulik	24	46	51.7–56.4	46.1–53.4
	MEL-03	NS	38–61	35.4–52.3	46.1–75.5
	MEL-04	24–28	54–59	53.4–54.7	38.1–50.1
	MEL-05	26–32	42–46	50.3–56.3	51.4–57.8
	Peter	15–19	23.2	35.1–37.7	32.4–34.1
SO_4 (mg/L)	Atulik	2.2	3.97	4.37–4.4	7.56–7.65
	MEL-03	NS	3.34–3.87	3.95–4.7	5.87–6.40
	MEL-04	1.66–3.0	3.67–3.72	4.3–4.31	6.02–6.10
	MEL-05	1.67–3.0	3.68–3.72	4.5–4.54	6.13–6.24
	Peter	1.84–4.0	4.21	4.24–4.26	5.87–5.92

Notes:
TDS = total dissolved solids; SO_4 = sulphate
NS = not sampled during the baseline period
Meliadine Lake Reference Areas = MEL-03 (sheltered bay in the north part of the lake), MEL-04 (near the secondary outlet to Peter Lake, and MEL-05 (near the primary outlet to the Meliadine River).

Total Phosphorus

Phosphorus is a parameter of interest due to its potential influence on primary productivity in Meliadine Lake. In the early years of the AEMP, questions were raised regarding whether total phosphorus in water discharged from the Exploration Camp contributed to increased primary productivity (algal biomass) in the East Basin of Meliadine Lake.

Total phosphorus concentrations in Meliadine Lake are variable but, based on samples collected in 1997 and 1998, ranged from 0.004 to 0.010 mg/L (**Figure 2-5**). Phosphorus was not analyzed in samples collected from Atulik Lake during this period; however, concentrations in Peter Lake ranged from 0.002 to 0.007 mg/L in 1997 and 1998 (**Table 2-5**). For areas where baseline data are available, phosphorus concentrations remain within baseline levels, providing little evidence that regional climatic trends are causing phosphorus concentrations to increase.

Table 2-5. Total phosphorus (TP) and dissolved organic carbon concentrations in Atulik Lake, Peter Lake, and Meliadine Lake reference areas since the late 1990s

Parameter	Lake/Area	Range of Concentrations by Year			
		Baseline (95-98)	2021	2024	2025
TP (mg/L)	Atulik	NS	0.0041	0.0039–0.004	0.0039–0.0064
	MEL-03	NS	0.0028–0.0063	0.0033–0.0055	0.0032–0.006
	MEL-04	0.008	0.0029–0.0074	0.0043–0.0053	0.0032–0.0071
	MEL-05	0.004–0.01	0.002–0.0035	0.0038–0.0041	0.0033–0.005
	Peter	0.002–0.007	0.0041	0.0029–0.0032	0.0034–0.0036

Notes:
TP = total phosphorus
NS = not sampled during the baseline period
Meliadine Lake Reference Areas = MEL-03 (sheltered bay in the north part of the lake), MEL-04 (near the secondary outlet to Peter Lake, and MEL-05 (near the primary outlet to the Meliadine River).

Arsenic

Arsenic is a naturally occurring element released into aquatic and terrestrial environments through weathering and the erosion of rocks and soils. It commonly occurs in association with gold, and the mineralized setting surrounding the Mine suggests that tundra soils may act as a natural source of arsenic to lakes in the region, with climate-driven changes potentially influencing its mobilization and transport. Some baseline samples collected from Atulik Lake, Peter Lake, and Meliadine Lake in the 1990s are of limited value for detecting long-term trends because analytical detection limits at that time were higher and, in some cases, exceeded concentrations currently measured. Despite this limitation, several detectable results from the late 1990s provide useful context for assessing broader regional patterns.

In the mid- to late-1990s, detectable arsenic concentrations ranged from 0.08 to 0.14 µg/L in Peter Lake and measured 0.1 µg/L in Atulik Lake (**Table 2-6**). In comparison, three samples from Meliadine Lake in 1998 ranged from 0.2 to 0.4 µg/L. More than two decades later, arsenic concentrations in Peter Lake have remained relatively stable based on sampling completed in August 2021, 2024, and 2025 (0.125 to 0.161 µg/L). In contrast, concentrations in Atulik Lake and Meliadine Lake have increased over time. In Atulik Lake, arsenic concentrations measured in 2025 ranged from 0.386 to 0.534 µg/L, four- to five-fold increase relative to the late 1990s. Of the two reference lakes, temporal trends in the far-field reference areas of Meliadine Lake most closely resemble those observed in Atulik Lake, with concentrations in the Meliadine Lake reference areas falling within the range measured in Atulik Lake (**Figure 2-5**).

Although the magnitude of change at Atulik Lake and Meliadine is notable, absolute concentrations remain low compared to the CCME (2001) aquatic life guideline (5 µg/L) and the Guideline for Canadian Drinking Water Quality (10 µg/L).

Table 2-6. Arsenic and barium concentrations in Atulik Lake, Peter Lake, and Meliadine Lake reference areas since the late 1990s

Parameter	Lake/Area	Range of Concentrations by Year			
		Baseline (95-98)	2021	2024	2025
As (µg/L)	Atulik	0.10	0.318	0.356–0.390	0.386–0.534
	MEL-03	NS	0.257–0.447	0.442–0.509	0.43–0.521
	MEL-04	0.2	0.307–0.321	0.424–0.562	0.424–0.466
	MEL-05	0.3-0.4	0.328–0.356	0.463–0.492	0.504–0.534
	Peter	0.08–0.14	0.125	0.139–0.140	0.145–0.161
Ba (µg/L)	Atulik	*10*	8.3	9.22–9.43	11.3–11.6
	MEL-03	NS	7.26–8.22	8.24–9.17	8.09–10.2
	MEL-04	5.8–7.1	8.08–8.26	8.59–9.8	9.34–9.73
	MEL-05	5.9–7.6	7.8–8.13	8.67–8.8	9.58–10.2
	Peter	6.3–11.2	6.61	10.2–10.2	11.9–12.1

Notes:
As = arsenic; Ba = barium
NS = not sampled during the baseline period
Italicized values are less than detection
Meliadine Lake Reference Areas = MEL-03 (sheltered bay in the north part of the lake), MEL-04 (near the secondary outlet to Peter Lake, and MEL-05 (near the primary outlet to the Meliadine River)

Barium

Barium was included in this group of parameters because it illustrates the importance of a robust regional dataset when distinguishing mining-related effects from background variability in water quality. Since the AEMP was implemented in 2015, barium concentrations in Meliadine Lake have shown a steady upward trend, initially appearing to follow an upstream-to-downstream gradient. However, the collection of water samples from Atulik Lake and Peter Lake in 2021 for the Cycle 2 EEM program provided important regional context. Those results indicated that the increasing trend observed in Meliadine Lake was consistent with broader regional patterns. Based on 2025 data, barium concentrations in both Peter Lake and Atulik Lake exceeded those measured in Meliadine Lake, and all three lakes have exhibited increasing concentrations since 2021 (**Table 2-6**). Taken together, these findings suggest that the temporal trend in barium is likely natural in origin and reflective of regional-scale influences. As such, barium appears to be a sensitive indicator of broader changes in water quality occurring across the region, rather than a parameter uniquely associated with mining activities.

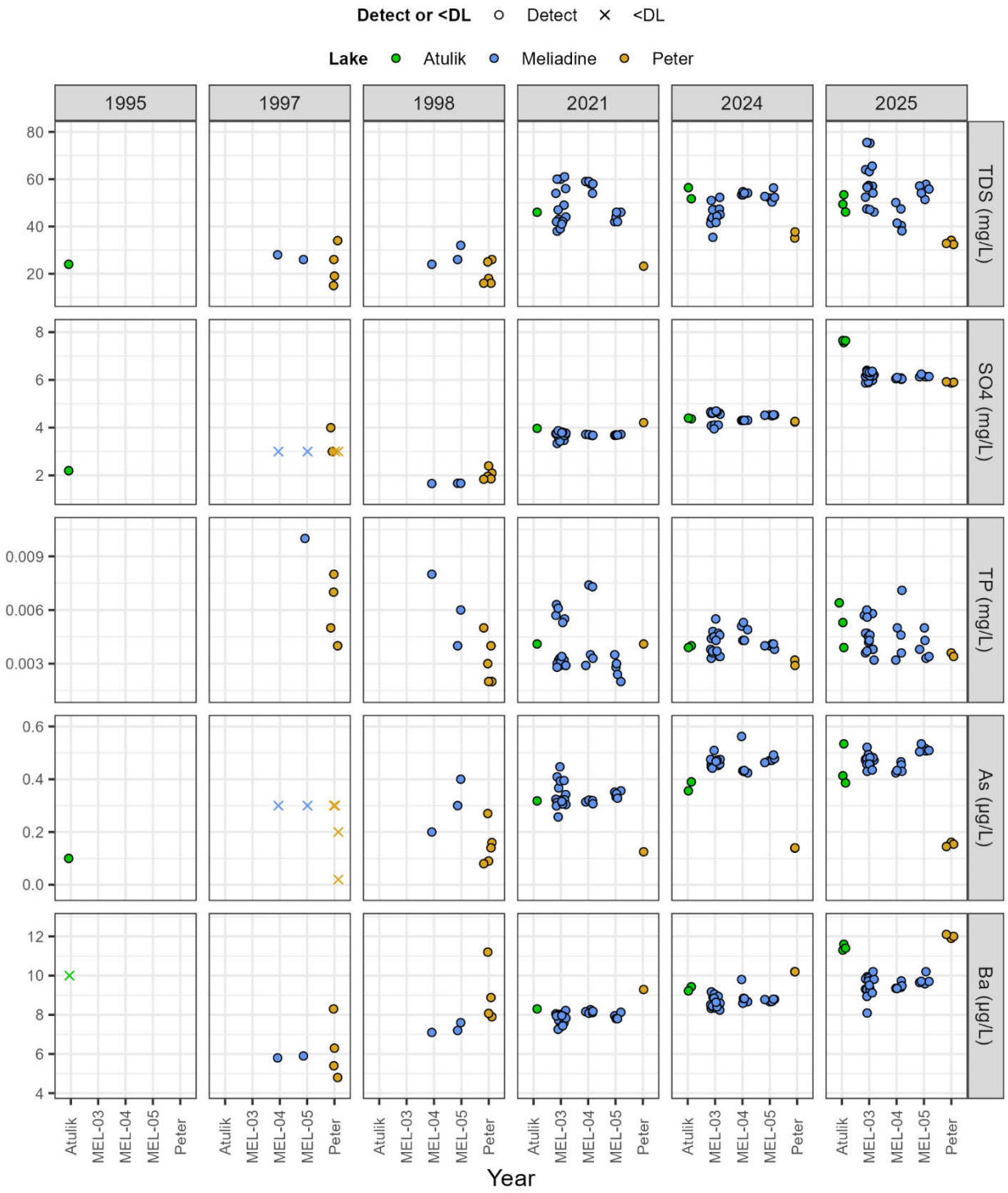
Summary

Results from Atulik Lake and Peter Lake indicate that water quality is changing at a regional scale and suggest that increasing temporal trends observed for some parameters at MEL-01 and MEL-02 are unlikely to be attributable solely to mining activities. Rates and magnitudes of change vary among lakes,

reflecting spatial differences in geology, watershed characteristics, hydrologic connectivity, and exposure to climatic influences. Atulik Lake generally exhibits a greater magnitude of change than Peter Lake, and comparable patterns observed in the East Basin of Meliadine Lake suggest that localized conditions, such as proximity to Hudson Bay and mineralized geology, may influence the rate at which regional trends manifest.

Overall, the collective evidence indicates that regional climatic variability is contributing to observed changes in water quality across lakes in the regional study area. Understanding of the relative contributions of climate and mining activities to changes in water quality in Meliadine Lake will continue to evolve as additional monitoring data from the reference lakes are incorporated into the dataset.

Figure 2-5. Concentrations of select parameters of interest in Peter Lake, Atulik Lake and the Meliadine Lake reference areas since the late 1990s



2.4 MEL-14 Effluent Monitoring Program

Meliadine Lake is the receiving environment for treated surface contact water collected at the Mine. Surface contact water refers to precipitation and runoff that occurs within the footprint of the Mine. The general strategy for managing surface contact water is to intercept water that encounters infrastructure and direct it towards Collection Ponds (CPs) through a network of dikes, channels, and culverts. Six CPs are currently used to manage surface contact water collected on Site (**Table 2-7**). CP2 through CP6 are located near major infrastructure (**Figure 1-2**). Contact water from these CPs is ultimately directed toward CP1. Water in CP1 is treated at the EWTP before being discharged to Meliadine Lake. Other sources of water to CP1 include direct runoff from the CP1 catchment and treated wastewater from the Sewage Treatment Plant (STP). Water management for the CPs involves drawing down the water levels before freeze-up to create capacity to store runoff during freshet.

Table 2-7. Surface Contact Water Management Plan (2025).

Source	Closest Collection Pond (CP)
Industrial Site Pad, Ore Storage Pad 2, Landfill	CP1
Waste rock storage facility 1 (WRSF1)	CP1, CP4, CP5
Waste rock storage facility 3 (WRSF3)	CP2 and CP6
Tiriganiaq Pit 1	Salinity based: CP4/CP5, SP1, or Tiriganiaq Pit 2
Tailings Storage Facility (TSF)	CP1 and CP3

2.4.1 Discharge from CP1 to Meliadine Lake

The volume of water (m^3) discharged from CP1 to Meliadine Lake since 2018 is shown in **Figure 2-6**. Monthly discharge volumes from CP1 to Meliadine since 2018 are presented in **Table 2-8**.

Discharge commenced on June 12 and continued through October 10, with a temporary interruption on October 8. Elevated rainfall in July and August increased runoff captured on site (**Figure 2-4**), resulting in approximately 1.0 Mm^3 of treated water being discharged by September 1. In total, approximately 1.2 Mm^3 of treated contact water was discharged to Meliadine Lake in 2025.

Table 2-8. Monthly discharge (m^3) from CP1 to Meliadine Lake, 2018-2025.

Year	June	July	August	September	October	*Annual Totals*
2018	134,270 (10)	352,550 (na*)	153,065 (26)	2,630 (3)	0 (0)	*642,520 (70)*
2019	0 (0)	30,615 (24)	107,540 (31)	157,910 (30)	10,710 (5)	*306,775 (89)*
2020	352,955 (26)	366,095 (31)	83,455 (31)	214,845 (30)	13,830 (3)	*1,031,180 (121)*
2021	0 (0)	133,440 (19)	397,400 (29)	221,210 (30)	99,080 (16)	*851,130 (94)*
2022	0 (0)	214,710 (31)	33,585 (11)	188,335 (25)	0 (0)	*436,630 (67)*
2023	209,025 (21)	81,120 (18)	54,895 (8)	184,510 (22)	0 (0)	*529,550 (67)*
2024	171,940 (14)	72,725 (14)	0 (0)	370,145 (29)	246,675 (15)	*861,485 (72)*
2025	326,050 (19)	403,235 (31)	314,575 (31)	77,025 (30)	72,960 (9)	***1,193,845 (120)***

Notes:
Values within parenthesis indicate the number of days in which discharge was occurring.
Monthly and annual discharge rounded to the nearest 5 m^3.
* No daily discharge date for July 2018 because of a malfunction with the flow meter.

2.4.2 Lake A8 Dewatering to Meliadine Lake

Lake A8 was dewatered between June 11 and August 30 to advance mining activities in the Pump and Wesmeg area. In total, just under 1.5 M m^3 of water was removed from Lake A8. Water that met the limits for total suspended solids (TSS) and pH specified in Part D, Item 12 of 2AM-MEL1631 was discharged directly to Meliadine Lake via a temporary diffuser located in the bay east of WRSF3 (**Figure 1-2**). Water that did not meet these limits was pumped to CP1 and treated at the Effluent Water Treatment Plant (EWTP) before being discharged to Meliadine Lake through the permanent diffuser. **Figure 2-7** shows the volume of water pumped from Lake A8 to CP1 and directly to Meliadine Lake, as well as the cumulative volume released to Meliadine Lake from both sources in 2025.

Approximately 1.3 Mm^3 of water from Lake A8 was discharged directly to Meliadine Lake and the remaining 214,000 m^3 was pumped to CP1. The volume of water discharged from Lake A8 through the temporary diffuser was approximately equal to the volume discharged from CP1 to Meliadine Lake through the permanent diffuser in 2025.

Figure 2-6. Daily Discharge (m^3) from CP1 to Meliadine Lake, 2018-2025.

Note: Estimated discharge volumes in July 2018 were calculated form instantaneous flow data.

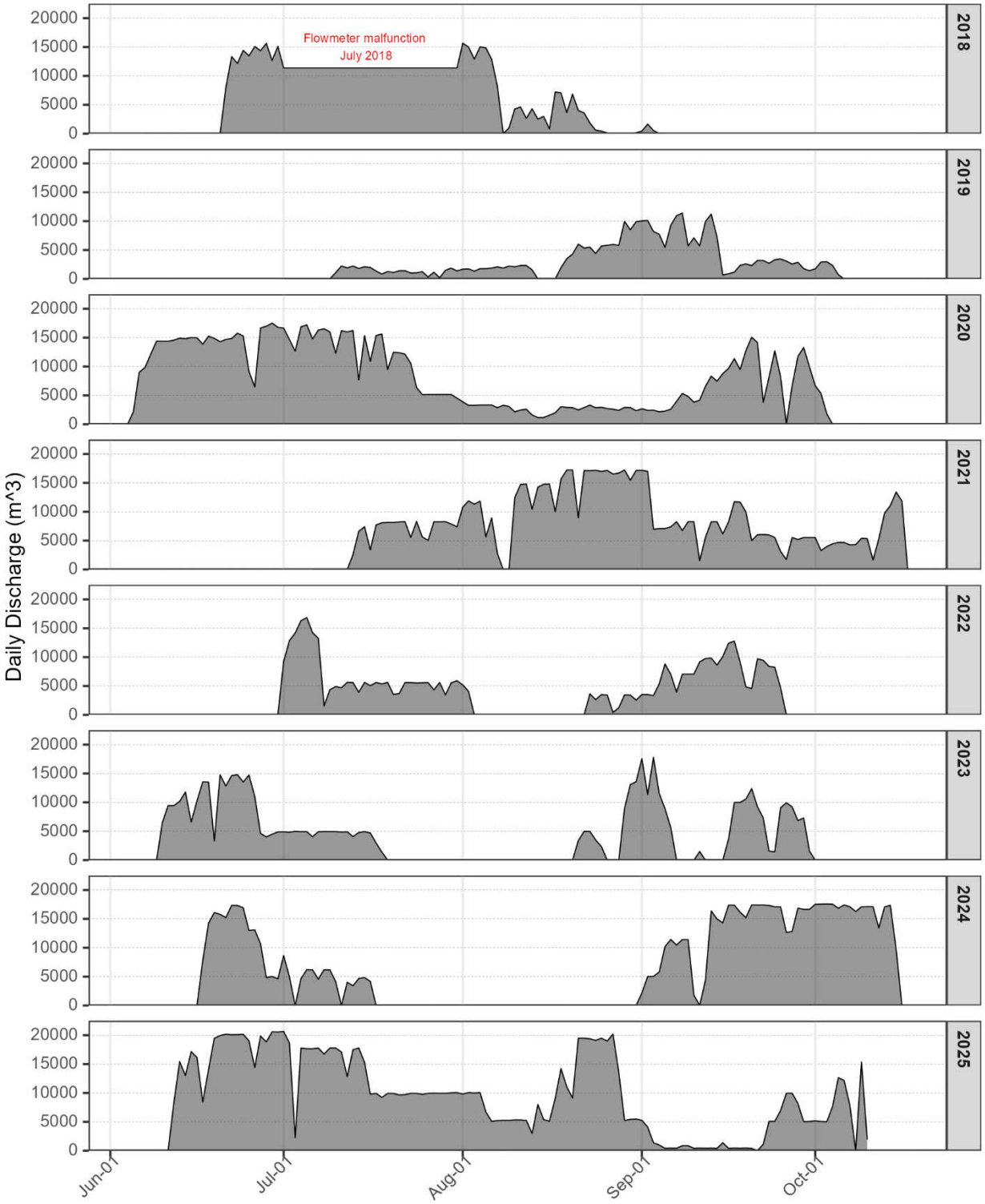
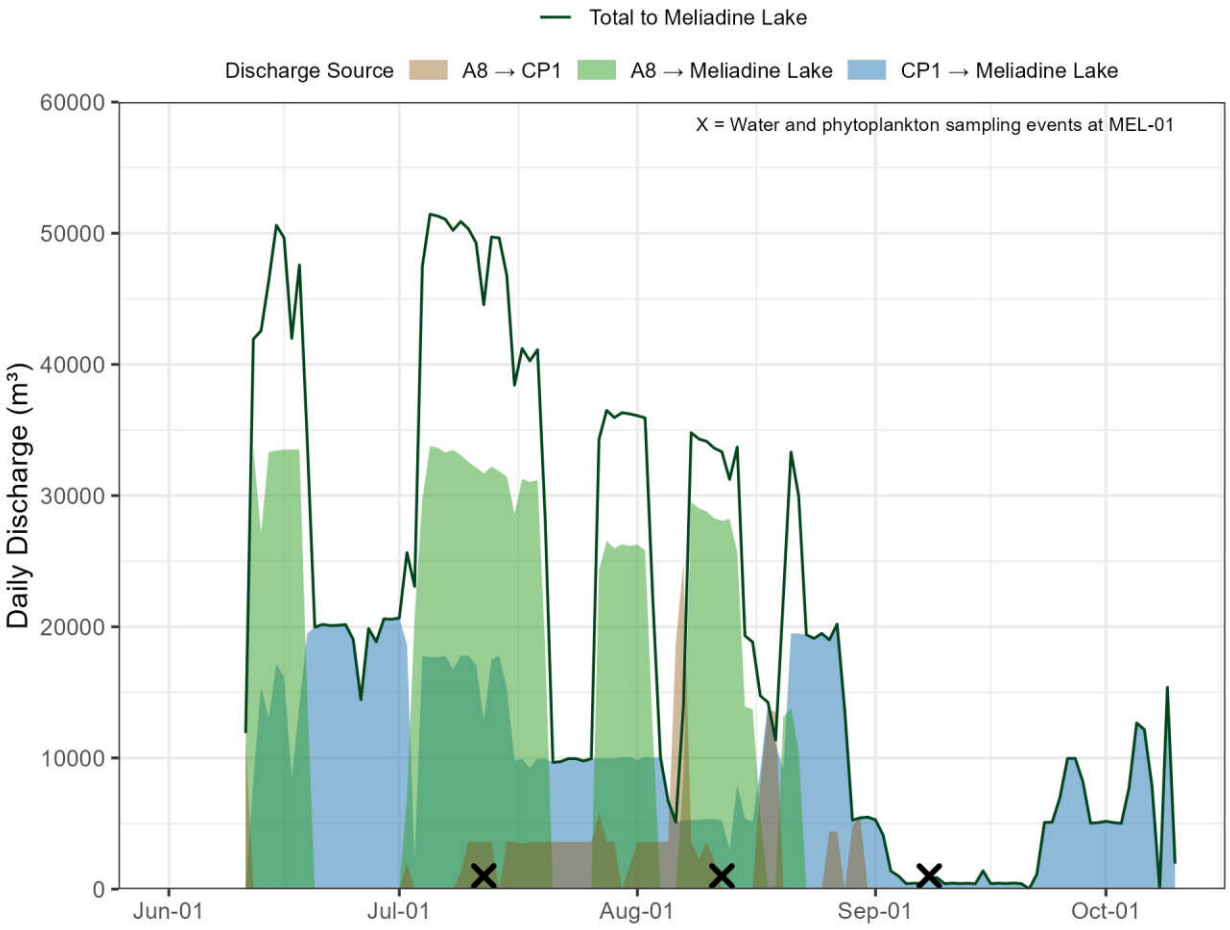


Figure 2-7. Daily discharge to Meliadine Lake in 2025 from CP1 and Lake A8 dewatering.



2.4.3 Effluent Chemistry at MEL-14

Effluent monitoring at the Final Discharge Point (MEL-14) is required under the MDMER and the Water Licence. The purpose of the effluent monitoring program is to ensure that water discharged to Meliadine Lake is safe for aquatic life. The conditions regarding disposal of contact water from CP1 to Meliadine Lake are outlined in Part F of the Water Licence:

- Effluent quality limits are not exceeded for parameters listed in **Table 2-9**, and
- Water from MEL-14 is not acutely lethal to Rainbow Trout as per the Environment Canada's Biological Test Method (EPS/1/RM/13).

Table 2-9. MEL-14 effluent limits in the Type A Amended Water Licence (2AM-MEL1631).

Parameter	Units	Maximum Average Concentration	Maximum Concentration in a Grab Sample
pH [a]	-	6.0 | 9.5	6.0 | 9.5
TDS (calculated) [b]	mg/L	3,500	4,500
Total Suspended Solids [a]	mg/L	15	30
Total Phosphorus [c]	mg/L	2	4
Total Ammonia [c]	mg/L	14	18
Aluminum [c]	mg/L	2	3
Arsenic	mg/L	0.3	0.6
Copper [d]	mg/L	0.2	0.4
Nickel [a]	mg/L	0.5	1
Lead [a]	mg/L	0.1	0.2
Zinc [d]	mg/L	0.4	0.8
Total Cyanide	mg/L	0.5	1
Total Petroleum Hydrocarbons [c]	mg/L	5	5

Notes:
All concentrations are total values (i.e., unfiltered).
[a] Adopted from Metal and Diamond Mining Effluent Regulations (Government of Canada, 2024).
[b] The limit for TDS increased in 2020 as per the Amendment of the Water Licence (NWB, 2024).
[c] Not a parameter included in MDMER Schedule 4 (authorized limits of deleterious substances).
[d] Limit for the Water Licence is lower than authorized limits in MDMER.

Eighteen (19) effluent samples were collected from MEL-14 between June 14 and October 6. Water samples were sent to Bureau Veritas laboratory (Nepean, ON) for analysis. Sampling at MEL-14 is typically completed on Monday so that samples arrive at the lab within sample hold time.

Chemistry results for individual samples are provided in **Table 2-10** (June and July) and **Table 2-11** (August, September, and October). The concentrations of key parameters are shown in **Figure 2-8** (TDS and constituent ions), **Figure 2-9** (nutrients), and **Figure 2-10** (metals). Summary statistics are provided in **Appendix B1**.

The key findings from the 2025 effluent chemistry data are summarized below:

- No exceedances of effluent limits were reported in 2025 (**Table 2-10**). The Water Management Plan has been effective at keeping TDS concentrations in surface contact water well below the maximum average concentration of 3,500 mg/L and maximum concentration in a grab sample of 4,500 mg/L.
- Total dissolved solids (TDS) concentrations were lowest in June and trended higher throughout the summer to a maximum of approximately 2,000 mg/L in September (**Figure 2-8**). The seasonal

pattern of lower TDS during freshet and higher concentrations of TDS in the fall has been observed annually since 2020.

- Chloride is the dominant major ion in surface contact water collected at the Mine. In 2025, chloride comprised roughly 40 % of TDS (**Figure 2-11**). Chloride remains below the 60% threshold that would trigger development of a site-specific water quality objective (SSWQO) under the Adaptive Management Plan for Water Management (Version 2B; Agnico Eagle, 2024).
- From 2018 to 2022, sodium was consistently the second most abundant major ion in treated surface contact water from MEL-14. Starting in 2023, sulphate concentrations were approximately equal to or slightly higher than sodium. This pattern was observed in 2025 for most of the effluent samples from MEL-14 (**Figure 2-11**).

2.4.4 Toxicity Testing

Acute Toxicity Testing

Acute toxicity testing is required under MDMER and the Type A Water Licence. Water samples were collected for acute toxicity testing with Rainbow Trout (96-hr survival) and *D. magna* (48-hr survival) on June 16, July 7, August 4, September 1, and October 6. Acute toxicity tests were conducted at AquaTox Testing & Consulting, in Puslinch (ON) according to standard test methods in the MDMER.

The 2025 test results are presented in **Table 2-10** along with the MEL-14 chemistry results. Water from MEL-14 was not acutely toxic to Rainbow Trout or *D. magna* in the four tests conducted in 2025. These findings add to the multi-year dataset that shows effluent discharged to Meliadine Lake does not pose a direct risk to the survival of fish or aquatic invertebrates.

Sublethal Toxicity Testing

Effluent samples were collected from MEL-14 on June 16, July 7 and October 6, and sent to Nautilus Environmental for sublethal toxicity testing with *L. minor* (duckweed). As a reminder, *L. minor* is the preferred sublethal toxicity test because it has historically been the most sensitive.

No effects were observed on dry-weight biomass or frond growth the three tests completed in 2025.

2.4.5 Loadings to Meliadine Lake

Loadings from CP1 to Meliadine Lake are calculated monthly (during discharge months) as per the MDMER (Government of Canada, 2024). Monthly loadings are calculated according to the following equation:

$$ML = \frac{(C \times V)}{1{,}000}$$

Where:

ML = monthly loading in kg,

C = monthly mean concentration of parameters measured in MEL-14 samples in mg/L, and

V = is the total monthly volume of water discharged to Meliadine Lake from CP1 in m^3.

Annual loadings for selected parameters of interest for the Meliadine Lake are shown in **Figure 2-12**. Monthly and cumulative loadings since 2018, the first year of discharge from CP1 to Meliadine Lake, are provided in **Appendix B2**. A high-level overview of the loadings information is provided below, but the results for individual parameters of interest are discussed in greater detail within the Meliadine Lake water quality chapter and, in the case of nutrients, the phytoplankton community chapter.

Annual loadings in 2025 were among the highest during operations due to the comparatively large volume of water discharged in 2025 and slightly higher concentrations for some parameters (e.g., sulphate, arsenic, and uranium).

Table 2-10. MEL-14 effluent chemistry results, June and July 2025.

		WL Limits		June					July					
Parameter	**Units**	**Average**	**Grab**	14-Jun	16-Jun	23-Jun	30-Jun	**Mean**	07-Jul	14-Jul	21-Jul	28-Jul	29-Jul	**Mean**
Field and Conventional Parameters														
Temperature	C	-	-	9.9	9	12.1	16.7	11.9	15.5	13.3	12.4	13.8	10.9	13.2
pH (field)	pH units	6 | 9.5	6 | 9.5	7.2	7.47	7.64	7.28	7.4	7.56	7.09	7.32	8.07	7.68	7.5
Sp. Conductivity (field)	µS/cm	-	-	1130	1180	1180	1190	1170.0	1550	1450	1450	1290	1290	1406.0
Conductivity (lab)	µS/cm	-	-	1190	1190	1200	1210	1197.5	1300	1510	1480	1280	1300	1374.0
Hardness	mg/L	-	-	249	241	244	266	250.0	285	305	283	262	280	283.0
pH (lab)	pH units	-	-	7.35	7.38	7.55	7.55	7.5	7.7	7.65	7.75	7.84	7.73	7.7
Total Suspended Solids	mg/L	15	30	3	3	3	4	3.3	4	4	5	4	4	4.2
TDS, Major Ions, Nutrients														
TDS (Measured)	mg/L	3,500	4,500	735	740	655	735	716	785	895	960	805	850	859
TDS (Calculated)	mg/L	-	-	640	640	670	660	653	740	820	820	710	720	762
Alkalinity, Total	mg/L	-	-	30	31	45	42	37	64	68	67	72	71	68.4
Chloride	mg/L	-	-	240	240	240	250	243	270	300	310	250	260	278
Sulphate	mg/L	-	-	140	140	140	140	140	150	170	160	140	140	152
Nitrate (as N)	mg/L	-	-	6.59	7.2	6.47	6.02	6.57	5.48	7.08	6.36	4.69	4.79	5.68
Ammonia (as N)	mg/L	14	18	*<0.05*	*<0.05*	0.19	0.11	0.15	0.38	0.36	0.11	0.099	0.15	0.2198
NH_3 (calculated)	mg/L	-	-	*<0.0004*	*<0.0004*	0.0018	0.0006	0.0012	0.0038	0.0011	0.0005	*<0.0004*	0.0013	0.0017
Total Phosphorus	mg/L	2	4	*<0.02*	0.023	*<0.02*	0.021	0.022	0.024	0.026	0.033	0.029	0.032	0.029
Metals														
Aluminum (T)	mg/L	2	3	0.48	0.454	0.531	0.854	0.580	0.628	0.61	0.739	0.69	0.54	0.641
Arsenic (T)	mg/L	0.3	0.6	0.00551	0.00587	0.00876	0.00793	0.0070	0.0111	0.00998	0.00721	0.0118	0.00849	0.0097
Cadmium (T)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	0.000011	0.000012	*<0.00001*	0.000016	*<0.00001*	0.000013
Chromium (T)	mg/L	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Cobalt (T)	mg/L	-	-	0.00103	0.00101	0.00106	0.00109	0.0010	0.0013	0.00118	0.00095	0.00085	0.00096	0.0010
Copper (T)	mg/L	0.2	0.4	0.00148	0.00142	0.00175	0.00197	0.0017	0.00249	0.00239	0.0021	0.0021	0.00216	0.0022
Iron (T)	mg/L	-	-	0.029	0.023	0.026	0.02	0.025	0.027	0.036	0.027	0.029	0.026	0.029
Lead (T)	mg/L	0.1	0.2	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*
Manganese (T)	mg/L	-	-	0.0586	0.0519	0.0264	0.0151	0.038	0.0535	0.0727	0.0353	0.0281	0.0403	0.046
Mercury (T)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*
Molybdenum (T)	mg/L	-	-	0.0038	0.0037	0.004	0.0046	0.0040	0.0054	0.0052	0.0052	0.0049	0.0043	0.0050
Nickel (T)	mg/L	0.5	1	0.0035	0.0033	0.0037	0.0036	0.0035	0.0046	0.0039	0.0031	0.003	0.0036	0.0036
Selenium (T)	mg/L	-	-	0.00038	0.00041	0.0004	0.00045	0.0004	0.00061	0.00069	0.00056	0.00053	0.00052	0.0006
Thallium (T)	mg/L	-	-	*<0.00001*	*<0.00001*	0.00001	0.000013	0.000012	0.000013	0.000015	0.000012	0.000013	0.000011	0.000013
Uranium (T)	mg/L	-	-	0.0002	0.00019	0.00062	0.0006	0.0004	0.00124	0.00123	0.00099	0.00161	0.00134	0.0013
Zinc (T)	mg/L	0.4	0.8	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Other Parameters														
Cyanide (Total)	mg/L	0.5	1	0.00512	0.00417	0.00241	0.00155	0.0033	0.00185	0.00141	0.001	0.00071	0.00097	0.0012
Radium-226	Bq/l	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Toxicity Tests														
Rainbow trout survival	96-hr LC50	-	-	-	>100	-	-		>100	-	-	-	-	
D. magna survival	48-hr LC50	-	-	-	>100	-	-		>100	-	-	-	-	
L. minor biomass	7-d IC25	-	-	-	>97	-	-		>97	-	-	-	-	
L. minor frond number	7-d IC25	-	-	-	>97	-	-		>97	-	-	-	-	

Notes:
Italicized values are below the limit of detection
LC50 = the concentration that causes a 50% reduction in survival.
IC25 = the concentration that causes a 25% reduction in endpoints for the *L. minor* test; 95% confidence intervals in parentheses.

Table 2-11. MEL-14 effluent chemistry results, August, September, and October 2025.

		WL Limits		August					September						October
Parameter	**Units**	**Average**	**Grab**	04-Aug	11-Aug	18-Aug	25-Aug	**Mean**	01-Sep	08-Sep	15-Sep	22-Sep	28-Sep	**Mean**	06-Oct
Field and Conventional Parameters															
Temperature	C	-	-	14.4	9.9	14.6	13.6	13.1	10.8	8.7	11.2	11.4	8.1	10.0	7.58
pH (field)	pH units	6 | 9.5	6 | 9.5	7.51	7.09	8.24	7.66	7.6	7.37	7.7	7.62	7.41	8.01	7.6	6.99
Sp. Conductivity (field)	µS/cm	-	-	1920	1460	1660	1730	1692.5	1200	2360	2370	2480	2530	2188.0	3220
Conductivity (lab)	µS/cm	-	-	1960	1430	1660	1700	1687.5	1720	2380	2390	2450	2440	2276.0	3180
Hardness	mg/L	-	-	412	345	335	346	359.5	370	450	502	573	565	492.0	696
pH (lab)	pH units	-	-	7.82	7.69	7.84	7.63	7.7	7.67	7.78	7.54	7.91	7.81	7.7	7.74
Total Suspended Solids	mg/L	15	30	4	5	8	4	5.3	3	3	5	6	4	4.2	6
TDS, Major Ions, Nutrients															
TDS (Measured)	mg/L	3,500	4,500	1250	915	955	1050	1043	1050	1390	1470	1490	1630	1406	2000
TDS (Calculated)	mg/L	-	-	1100	780	930	950	940	970	1400	1400	1400	1500	1334	1900
Alkalinity, Total	mg/L	-	-	74	69	69	67	69.75	70	87	87	87	83	82.8	100
Chloride	mg/L	-	-	430	290	360	370	363	380	520	530	570	590	518	720
Sulphate	mg/L	-	-	230	150	190	200	192.5	190	270	270	260	290	256	400
Nitrate (as N)	mg/L	-	-	8.67	4.85	5.95	5.7	6.2925	5.38	8.73	10.1	9.47	10	8.736	12.8
Ammonia (as N)	mg/L	14	18	0.48	*<0.05*	0.11	0.14	0.24333333	0.054	0.86	0.31	0.11	0.059	0.2786	1.8
NH_3 (calculated)	mg/L	-	-	0.004	*<0.0004*	0.0049	*<0.0004*	0.00445	*<0.0004*	0.0071	0.0026	0.0006	0.001	0.0028	0.0086
Total Phosphorus	mg/L	2	4	0.026	*<0.02*	0.037	0.031	0.031	0.025	*<0.02*	0.049	0.032	*<0.02*	0.035	0.032
Metals															
Aluminum (T)	mg/L	2	3	0.611	0.812	1.26	1.04	0.931	0.46	0.553	0.72	1.09	0.72	0.709	0.814
Arsenic (T)	mg/L	0.3	0.6	0.0104	0.00909	0.0135	0.0108	0.0109	0.00717	0.00775	0.00892	0.0125	0.00761	0.0088	0.00962
Cadmium (T)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	0.000013	*<0.00001*	*<0.00001*	0.000013	*<0.00002*
Chromium (T)	mg/L	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.002*
Cobalt (T)	mg/L	-	-	0.00128	0.00067	0.0007	0.00059	0.0008	0.00064	0.00082	0.0008	0.0008	0.00083	0.0008	0.00145
Copper (T)	mg/L	0.2	0.4	0.00237	0.00179	0.00223	0.00212	0.0021	0.00226	0.00219	0.00253	0.00264	0.00297	0.0025	0.0026
Iron (T)	mg/L	-	-	0.027	0.022	0.035	0.025	0.027	0.045	0.027	0.048	0.05	0.02	0.038	0.06
Lead (T)	mg/L	0.1	0.2	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0004*
Manganese (T)	mg/L	-	-	0.0288	0.0215	0.0193	0.019	0.022	0.0358	0.0547	0.0597	0.0332	0.0258	0.042	0.118
Mercury (T)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*
Molybdenum (T)	mg/L	-	-	0.006	0.0039	0.0045	0.0042	0.0047	0.005	0.0051	0.0059	0.0057	0.006	0.0055	0.006
Nickel (T)	mg/L	0.5	1	0.0059	0.004	0.0037	0.0037	0.0043	0.0038	0.0053	0.005	0.0057	0.0054	0.0050	0.0092
Selenium (T)	mg/L	-	-	0.00085	0.00056	0.00052	0.00056	0.0006	0.00049	0.00068	0.00075	0.00069	0.00074	0.0007	0.00098
Thallium (T)	mg/L	-	-	0.000019	0.000014	0.000014	0.000015	0.000016	*<0.00001*	*<0.00001*	*<0.00001*	0.000014	0.000014	0.000014	*<0.00002*
Uranium (T)	mg/L	-	-	0.00259	0.00165	0.00223	0.002	0.0021	0.00145	0.0029	0.0034	0.00463	0.00363	0.0032	0.00587
Zinc (T)	mg/L	0.4	0.8	*<0.005*	*<0.005*	*<0.005*	0.0125	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
Other Parameters															
Cyanide (Total)	mg/L	0.5	1	0.00202	0.00087	0.00109	0.00107	0.0013	0.00102	0.00124	0.00096	0.00088	0.00121	0.0011	0.00264
Radium-226	Bq/l	-	-	*<0.005*	*<0.005*	0.006	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	0.01
Toxicity Tests															
Rainbow trout survival	96-hr LC50	-	-	>100	-	-	-		>100	-	-	-	-		>100
D. magna survival	48-hr LC50	-	-	>100	-	-	-		>100	-	-	-	-		>100
L. minor biomass	7-d IC25	-	-	-	-	-	-		-	-	-	-	-		>97
L. minor frond number	7-d IC25	-	-	-	-	-	-		-	-	-	-	-		>97

Notes:
Italicized values are below the limit of detection
LC50 = the concentration that causes a 50% reduction in survival.
IC25 = the concentration that causes a 25% reduction in endpoints for the *L. minor* test; 95% confidence intervals in parentheses.

Figure 2-8. Total dissolved solids and constituent ions in end-of-pipe effluent at MEL-14, 2018-2024.

Notes: Calculated TDS was added to the Amended Water Licence in 2020. The limit for TDS applies to calculated TDS. Prior to 2020, calculated TDS was not reported by the laboratory.

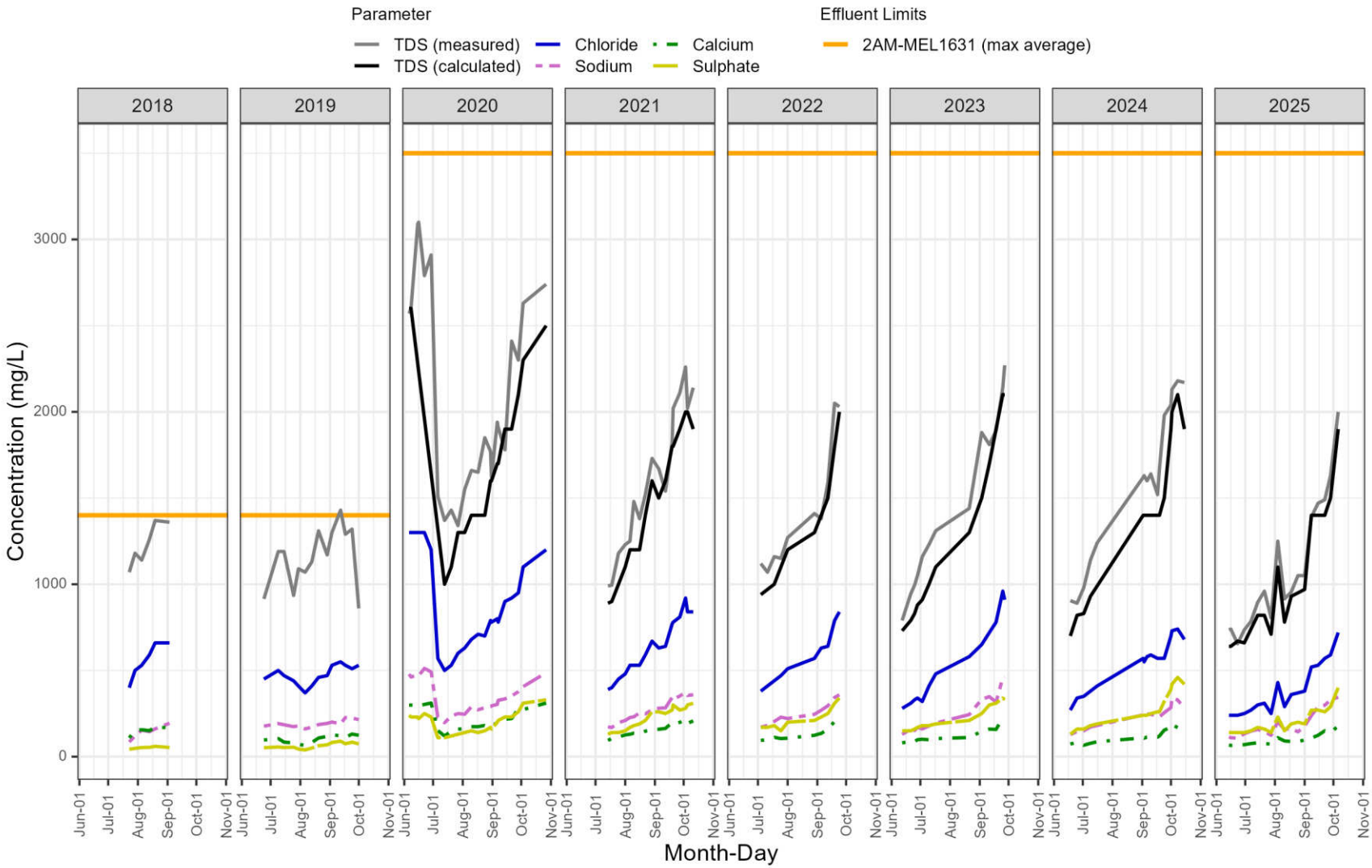


Figure 2-9. Concentrations of nutrients measured in end-of-pipe samples from MEL-14, 2018-2024.

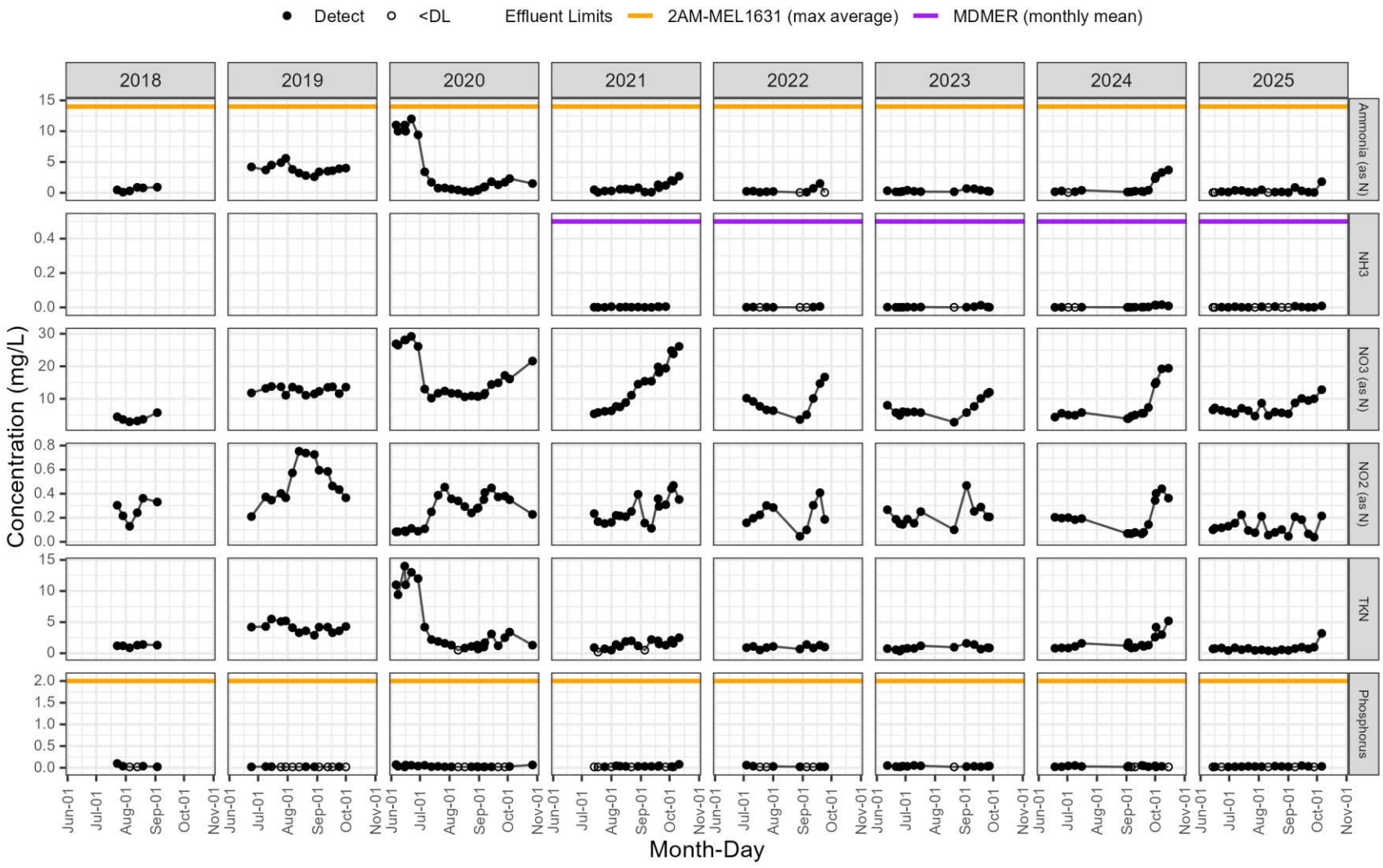


Figure 2-10. Concentrations of metals measured in end-of-pipe samples from MEL-14, 2018-2025.

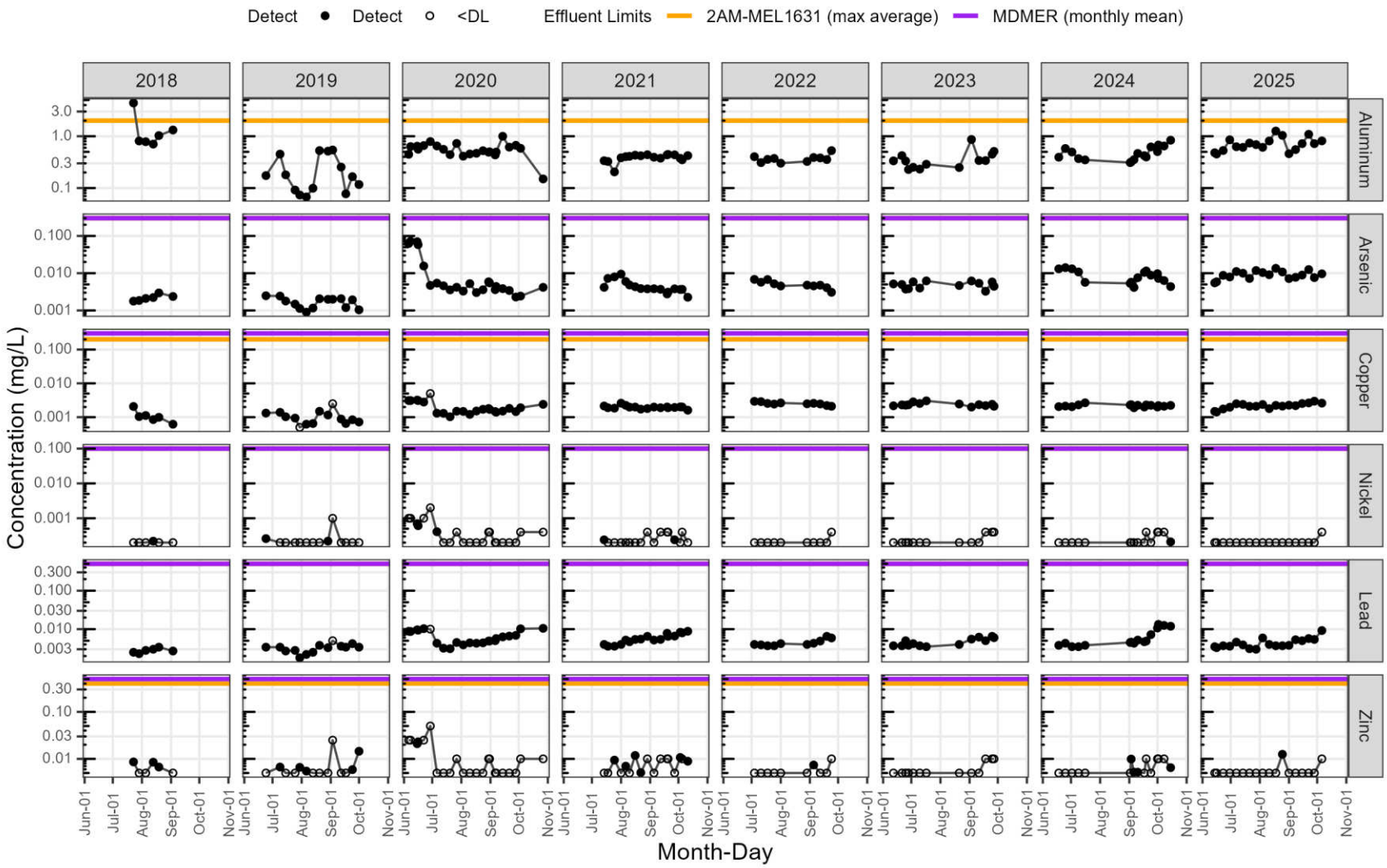


Figure 2-11. Percent composition of major ions in effluent from MEL-14.

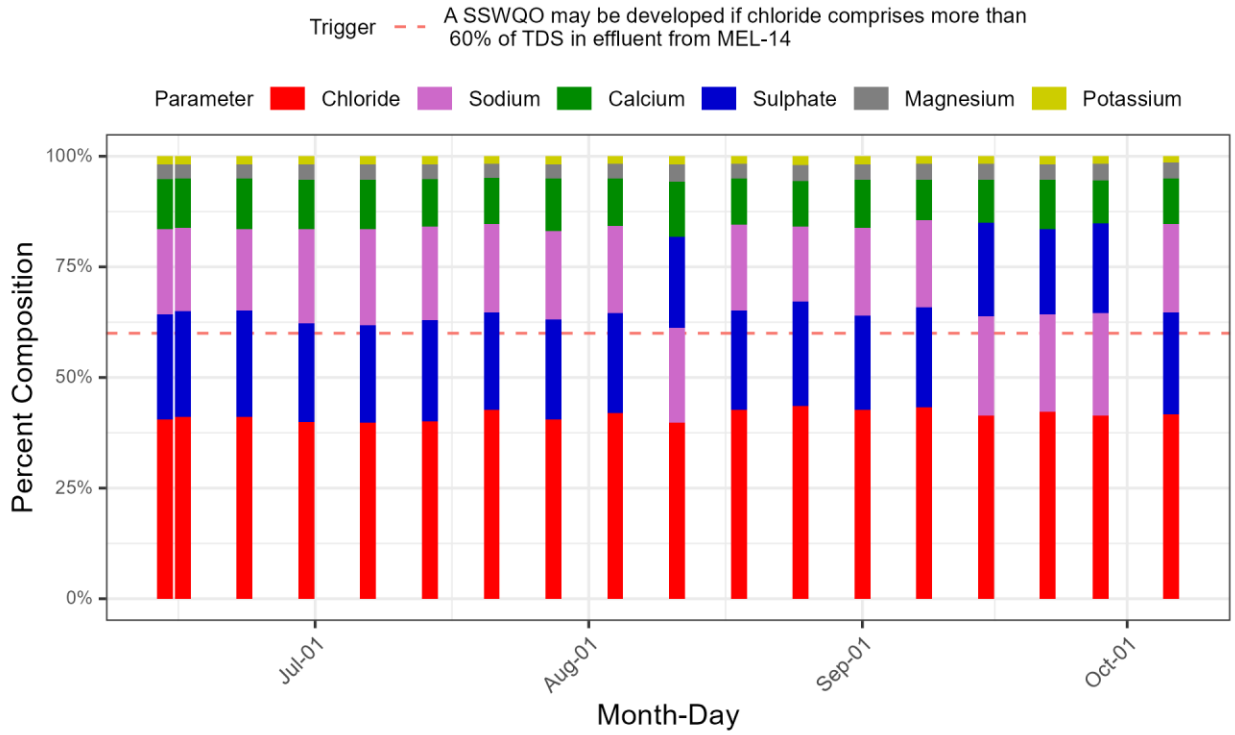
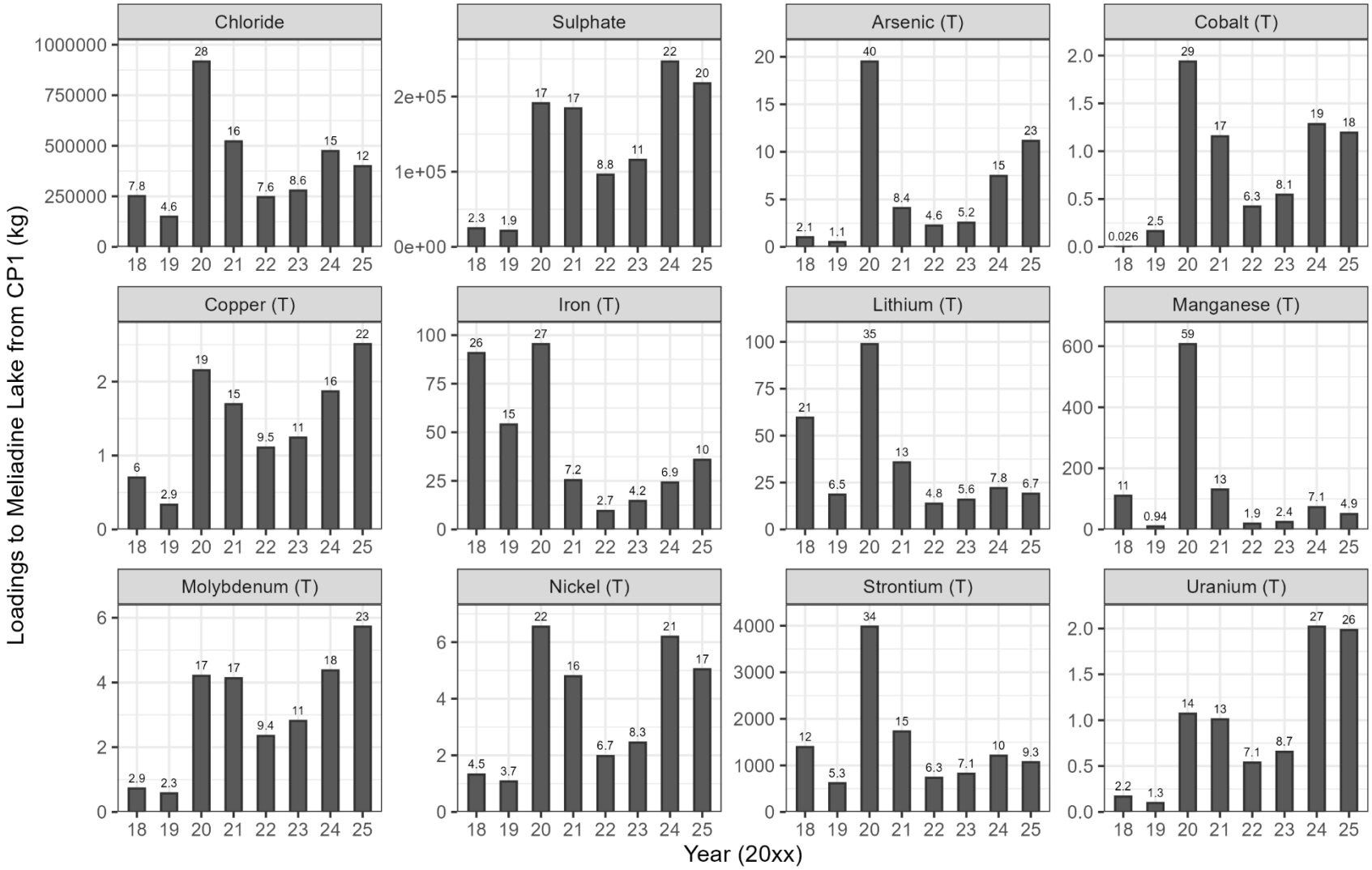


Figure 2-12. Annual loadings (kg) from CP1 to Meliadine Lake for selected parameters.

Notes: The numbers above each bar indicate the percent contribution to the cumulative load (e.g., the annual load of chloride in 2025 accounts for 12% of the cumulative loading from 2018-2025).



2.5 Snow Core Monitoring Program

The snow core monitoring program (SNOCOR) has been completed annually in late winter since 2020. The purpose of the SNOCOR program is to monitor the cumulative effects of dust deposition on the snow pack around the Mine. The 2025 sampling event was completed on April 3 at five fixed sampling locations located around the Mine (**Figure 1-2**):

- Station SNOCOR6 is located approximately 1.6 km west of WRSF1 between Lake B7 and Lake D7 (NE of Lake B5). This location is considered a reference station for characterizing background chemistry in the snow pack.
- SNOCOR7 is located east of Lake E3 and northwest of the emulsion plant. The station lies approximately 1,500 m northwest of the northern extent of the TSF.
- SNOCOR Boundary is located north of the main camp.
- SNOCOR4 is located approximately 400 m due south of Tiriganiaq Pit 1, at the north shore of former Lake A8. Snow samples from this location have shown higher concentrations of suspended solids and metals compared to other stations, consistent with its proximity to and downwind position relative to major infrastructure.
- SNOCOR5 is located south of the Exploration Camp and east of Lake J1. The nearest infrastructure is WRSF3, situated approximately 600 m to the west.

The snow samples were collected according to the standard procedure developed by the Environment Department. Snow samples were analyzed for conventional parameters, organic carbon, and total and dissolved metals at Bureau Veritas Labs (Nepean, ON).

The potential for off-site dust migration to impact water quality is qualitatively assessed by comparing the snow chemistry results from the four stations close to the Mine against the background results from SNOCOR6. The assessment focuses on parameters that are indicators of off-site migration of dust from the TSF: TSS, aluminum, arsenic, iron, manganese, and uranium. **Figure 2-13** shows the concentrations of TSS and the total and dissolved fractions for each of the metals. The tabulated snow core chemistry results are provided in **Appendix B1**.

The key findings from the 2025 snow core chemistry monitoring program are summarized below:

- TSS and metals concentrations were highest at SNOCOR4 (south of Tiriganiaq Pit 1) and lowest at SNOCOR5 (south of the Exploration Camp) and SNOCOR Boundary (north of the Main Camp) (**Figure 2-13**). The spatial pattern is consistent with previous years.
- Dissolved metal concentrations were consistently lower than total concentrations, suggesting that metals in the snowpack are primarily bound to particulates.

- Most metals of interest showed strong covariance with TSS (**Figure 2-14**).
- Efforts to mitigate off-site migration of dust resulted in a dramatic reduction in TSS in the snowpack south of Tiriganiaq Pit 1 in 2025 (**Figure 2-15**).

The 2014 FEIS predicted that aerial deposition of particulates—modelled as TSS—and associated metals would increase from background levels during pre-production, peak during open pit development, and decline as the Mine approached closure. The observed spatial patterns and temporal trends for the snowpack chemistry are consistent with this prediction.

Potential linkages between elevated snowpack chemistry and recent changes in water quality in Lake A8 and Lake B7 are explored further in the Peninsula Lakes water quality assessment (**Section 4**).

Figure 2-13. Concentrations of total suspended solids and selected metals of interest in snow core samples collected in April 2025.

Notes: Dissolved concentrations for aluminum and iron are not distinguishable on the plot because the dissolved fraction comprises a small percentage of the concentration measured in the total (unfiltered) fraction.

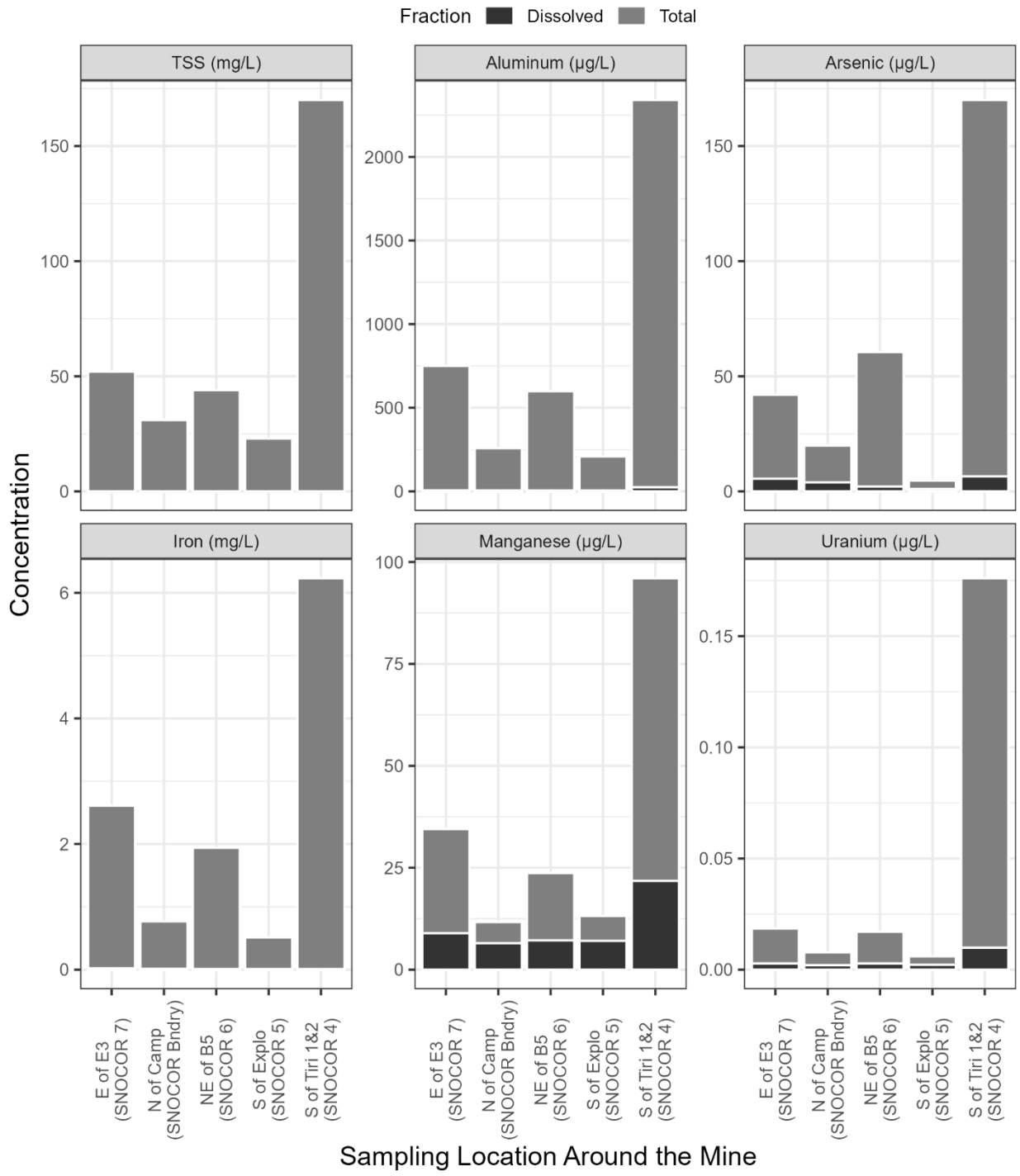


Figure 2-14. Relationship between metals concentrations and TSS at SNOCOR stations (2020–2025)

Notes: The 2025 snow chemistry samples are plotted with a thicker black line to distinguish the results from previous years.

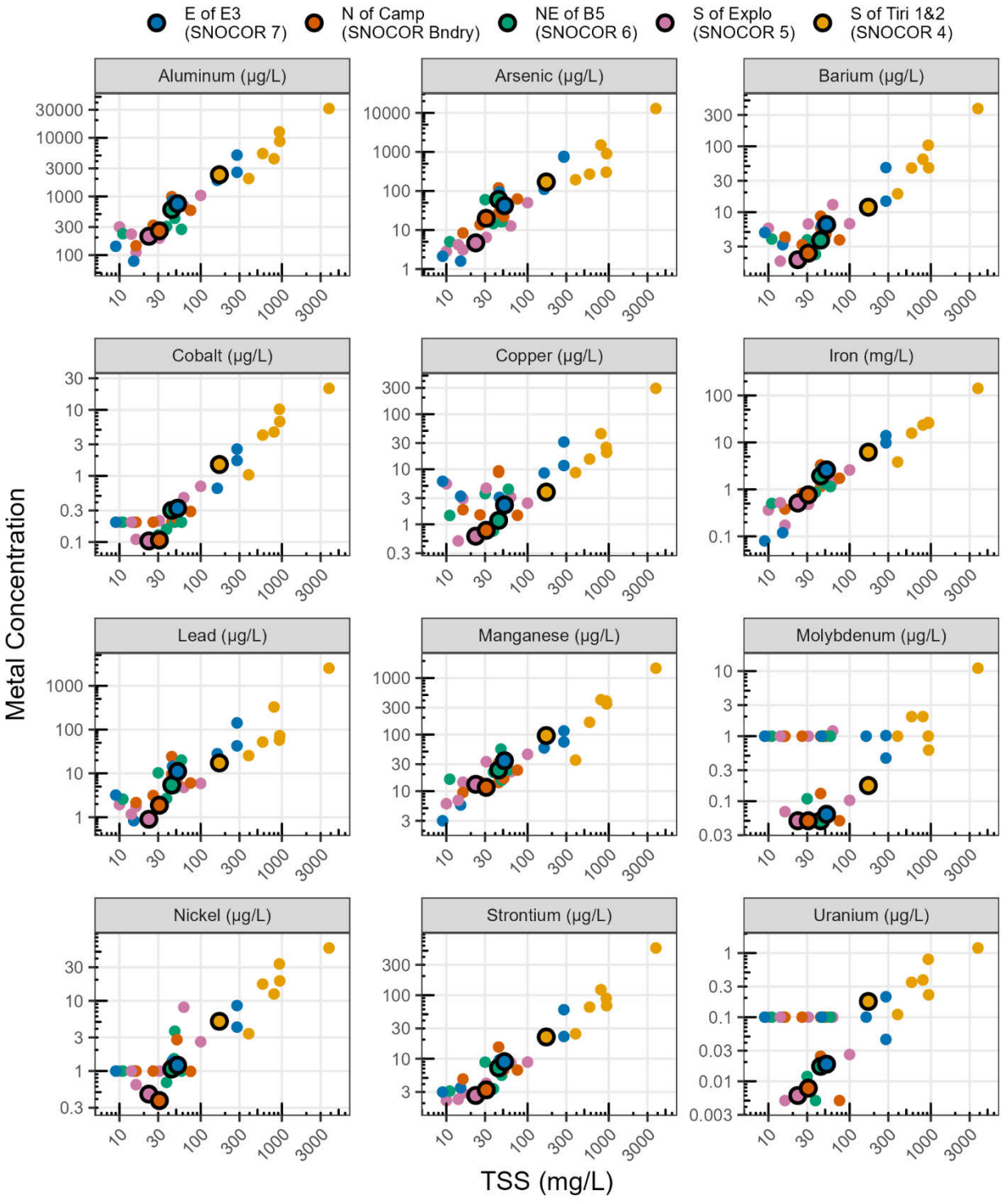
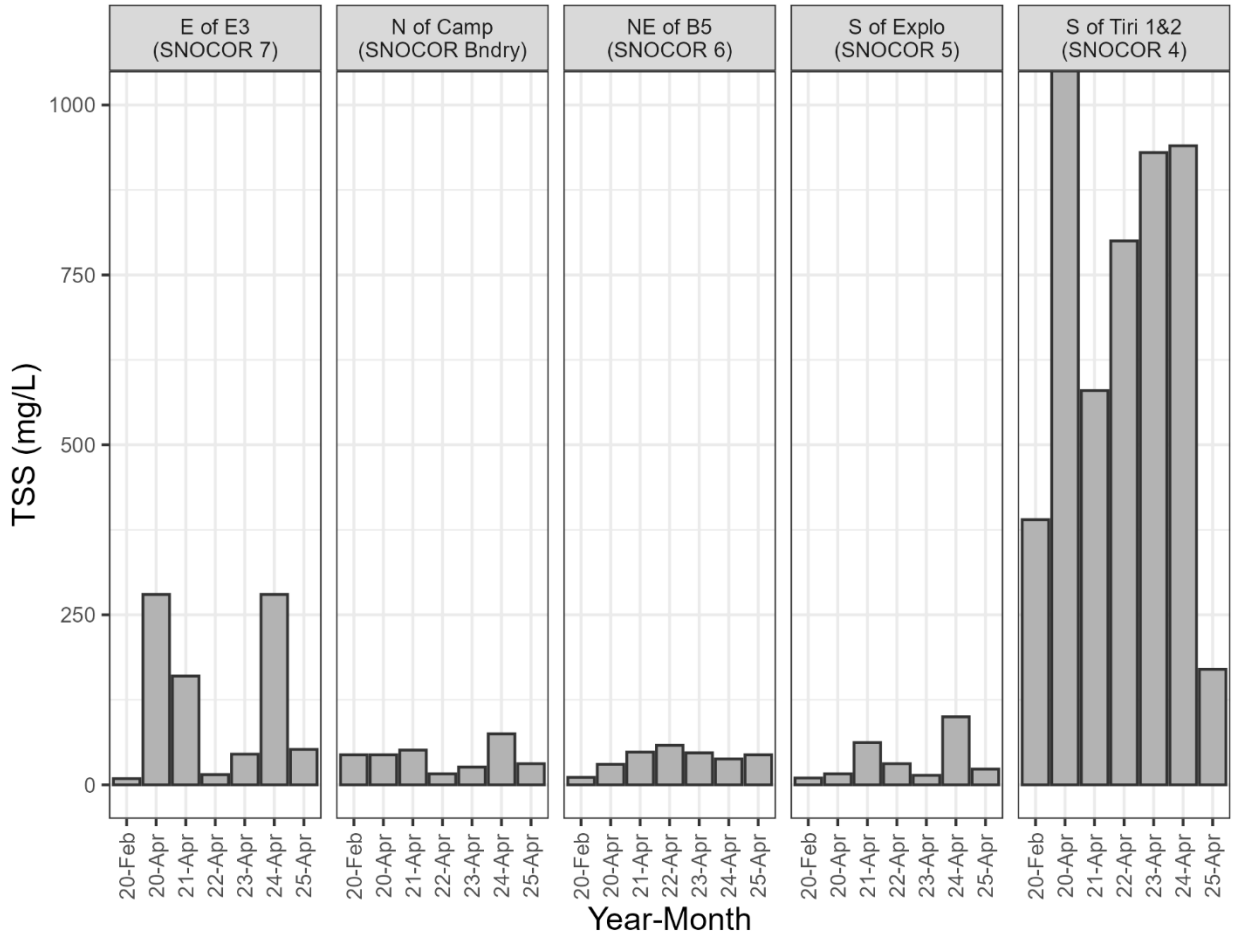


Figure 2-15. TSS concentrations at SNOCOR stations (2020–2025)

Notes: The April 2020 result from SNOCOR 4 was 3,800 mg/L. The y-axis trimmed to 1,000 mg/L to avoid obscuring the results at lower end of the concentration range.



3 WATER QUALITY – MELIADINE LAKE

3.1 Introduction

This chapter presents findings of the 2025 surface water quality monitoring program in Meliadine Lake. The Meliadine Lake water sampling program is designed to monitor changes in water quality caused by effluent discharge and other activities at the Mine. Surface water samples were collected monthly in July, August, and September from the near-field area around the diffuser (NF; MEL-01), the mid-field area (MF; MEL-02) located to the northwest, past the narrows, and Reference Area 1 (REF1; MEL-03). Reference Areas 2 and 3 (MEL-04 and MEL-05) were sampled in August to bolster the dataset for looking at lake-wide changes in water quality. Water sampling was completed in late March at MEL-01, MEL-02, and MEL-03.

Water sampling was carried out according to the schedule in the AEMP Design Plan (Azimuth, 2025a). Sampling areas and stations within each area are shown in **Figure 3-1**. Sampling dates, coordinates, and depths are provided in **Table 3-1**.

Objectives and Key Questions

The water quality monitoring program has four objectives:

- Determine if the Mine is causing changes to water quality in Meliadine Lake,
- Evaluate the accuracy of predicted changes in water quality,
- Assess whether mitigation measures are effective at reducing impacts to the aquatic environment, and
- Provide recommendations (as required) for follow-up monitoring or mitigation to lower the impact of mining-related activities on changes in water quality.

The following key questions are used to meet the objectives of the AEMP:

1. *Are concentrations of parameters in the effluent less than limits specified in the Water Licence?*
2. *Has water quality in the exposure areas changed over time, relative to reference/baseline areas?*
3. *Is water quality consistent with predictions outlined in the Final Environmental Impact Statement (FEIS) and less than AEMP Action Levels?*

3.2 Summary of the 2025 Meliadine Lake Water Quality Program

- 2025 marked the 11th consecutive year of water quality monitoring in Meliadine Lake under the AEMP. The 2025 program also incorporated results from Year 1 of the three-year reference lake study (2025–2027) designed to assess regional water quality trends. The two reference lakes included in this study are Atulik Lake and Peter Lake.
- Water quality data from the regional reference lakes and reference areas in Meliadine Lake indicate that water quality is changing across the region in response to climatic factors. The magnitude of these changes varies among lakes and areas, reflecting differences in local mineralogy and watershed characteristics upon which regional climatic processes exert similar influences.
- Effluent has contributed to higher concentrations of some major ions, nutrients, and metals in the vicinity of the diffuser. Only five parameters exceeded the predicted concentrations at the edge of the mixing zone (100 m from the diffuser) presented in the 2014 FEIS (Agnico Eagle, 2014): TDS, chloride, fluoride, sodium, and manganese. Beyond the mixing zone in the East Basin, TDS and chloride concentrations remain well below predicted concentrations in both the 2014 FEIS and the 2020 hydrodynamic model (Tetra Tech, 2020).
- Other than total phosphorus, no exceedances of the early-warning AEMP Action Levels were reported in water samples collected near the Mine in 2025. Concentrations of most parameters measured in Meliadine Lake represented a small fraction of the AEMP Action Levels, indicating that there is low risk of adverse effects to aquatic life.
- Total phosphorus concentrations at MEL-01 were near the AEMP Action Level in 2025. Phosphorus concentrations in Meliadine Lake are naturally elevated relative to the trigger value of 0.0075 mg/L used to indicate a potential change in trophic status. Total phosphorus also exceeded the Action Level at Peter Lake. Overall, there is no evidence to suggest that total phosphorus concentrations in Meliadine Lake are increasing as a result of effluent discharge. Changes in productivity in Meliadine Lake are explored in **Section 5**.

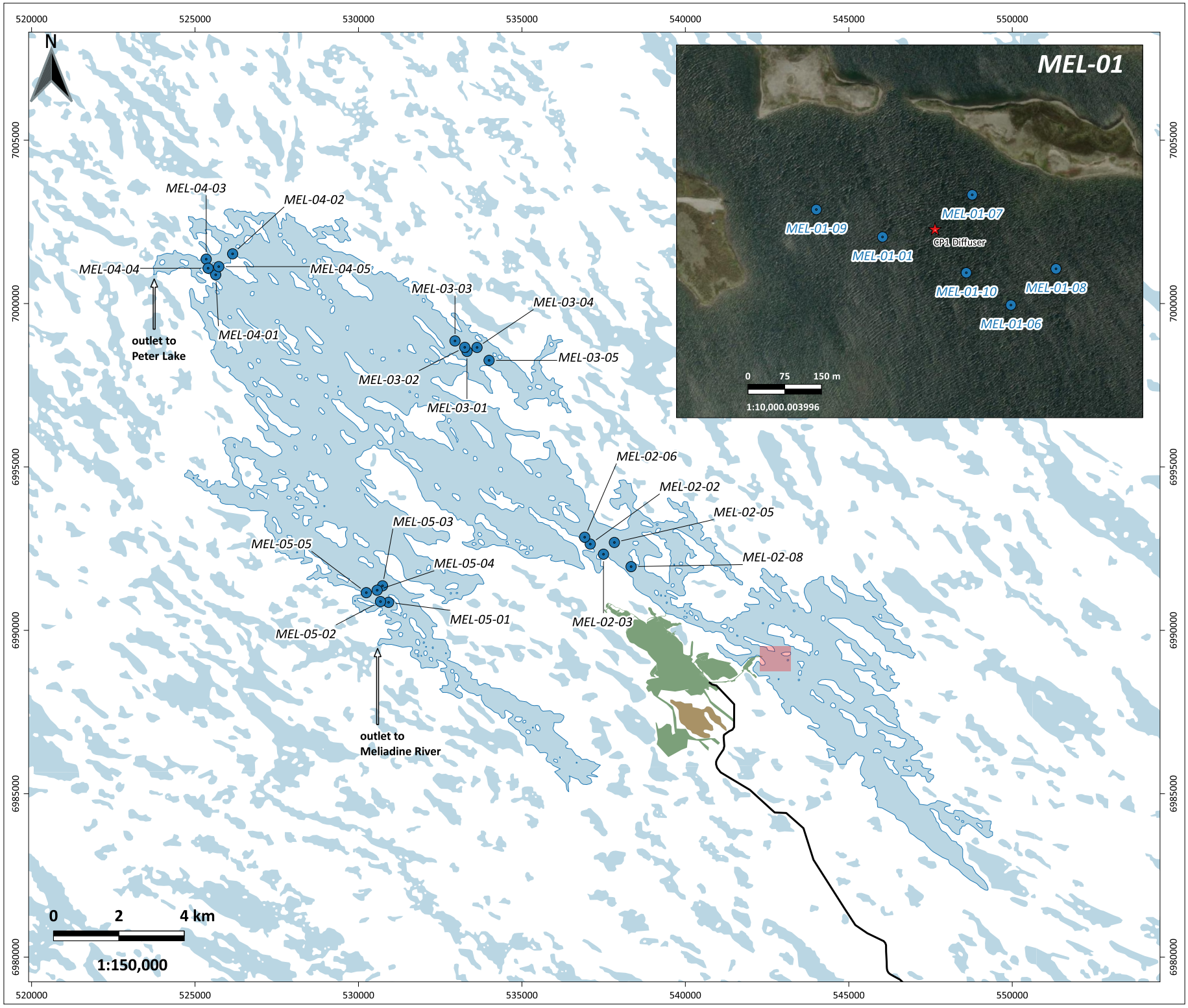


Figure 3-1
Surface water sampling stations in Meliadine Lake

Aquatic Effects Monitoring Program
2025 Annual Report

AZIMUTH

NAD83(CSRS) / UTM zone 15N
QGIS version: 3.22.11-Białowieża
Prepared by E. Franz
March 27, 2026

REFERENCES
1. The satellite image of the Meliadine Mine was taken on September 22, 2025.
2. Water features from NRCan.

LEGEND
- Extent of the Mine (2025)
- All weather access road
- Lake A8 (dewatered in 2025)
- Surface water station

Table 3-1. Meliadine Lake water sampling events in 2025

Area	Station ID	Depth[a]	Coordinates[b]		Distance to the Diffuser	Sampling Event			
			Easting	Northing		April	July	August	September
MEL-01 Near-field	MEL-01-01	9.4	542690	6989132	109 m	**March 27** LP, WQ	**July 19** LP, WQ, Phyto	**August 20** LP, WQ, Phyto	**September 9** LP, WQ, Phyto
	MEL-01-06	8.8	542952	6988993	219 m				
	MEL-01-07	7.7	542873	6989218	102 m				
	MEL-01-08	7.5	543044	6989067	259 m				
	MEL-01-09	7.1	542555	6989188	246 m				
	MEL-01-10	10.5	542861	6989059	110 m				
MEL-02 Mid-field	MEL-02-02	10.0	537093	6992642	6,689 m	**March 28** LP, WQ	**July 19** LP, WQ, Phyto	**August 15** LP, WQ, Phyto	**September 10** LP, WQ, Phyto
	MEL-02-03	9.8	537497	6992332	6,183 m				
	MEL-02-05	9.4	537831	6992692	6,101 m				
	MEL-02-06	10.2	536922	6992853	6,946 m				
	MEL-02-08	9.7	538342	6991952	5,264 m				
MEL-03 Reference Area 1	MEL-03-01	9.5	533321	6998540	16 km	**March 29** LP, WQ	**July 19** LP, WQ, Phyto	**August 20** LP, WQ, Phyto	**September 9** LP, WQ, Phyto
	MEL-03-02	10.5	533253	6998664					
	MEL-03-03	10.5	532954	6998860					
	MEL-03-04	8.0	533629	6998660					
	MEL-03-05	8.1	533997	6998265					
MEL-04 Reference Area 2	MEL-04-01	8.3	525634	7000884	21 km	Not sampled	Not sampled	**August 17** LP, WQ, Phyto	Not sampled
	MEL-04-02	9.8	526151	7001525					
	MEL-04-03	10.7	525343	7001363					
	MEL-04-04	8.9	525401	7001085					
	MEL-04-05	8.5	525727	7001134					
MEL-05 Reference Area 3	MEL-05-01	9.6	530922	6990859	19.5 km	Not sampled	Not sampled	**August20** LP, WQ, Phyto	Not sampled
	MEL-05-02	9.8	530675	6990883					
	MEL-05-03	8.6	530737	6991365					
	MEL-05-04	9.9	530573	6991231					
	MEL-05-05	10.5	530241	6991156					

Notes:
[a] Depth in meters at the fixed monitoring locations.
[b] UTM Zone 15V (NAD83); coordinates are for the fixed sampling stations
LP = limnology profile (temperature, dissolved oxygen, pH, and specific conductivity).
WQ = water chemistry; Phyto = phytoplankton community survey and chlorophyll-a (results are discussed in **Section 5**).

3.3 Methods

3.3.1 Field and Laboratory Procedures

The Meliadine Lake water quality monitoring program was conducted according to methods and procedures outlined in the proposed AEMP Design Plan (Azimuth, 2025a).

- **Limnology profiles** – Temperature, dissolved oxygen, pH, and specific conductivity readings were recorded at 1 m depth intervals from the lake surface to within approximately 1 m of the sediment at each station. Coordinates, depth, Secchi depth (open-water), and ice thickness are also recorded at each station.
- **Surface water sampling** – Surface water samples were collected from approximately mid-depth at each station (~4 to 5 m below the surface) using a Kemmerer grab sampler during the open-water sampling events or an electric submersible pump connected to a length of C-Flex (Cole Parmer) silicon tubing for the winter sampling event. Water samples were collected according to specifications provided by ALS Environmental. Dissolved analyses were filtered in the field.
- **Lab analysis** – Water samples were sent to ALS Environmental for analysis of parameters listed in **Table 3-2**. ALS is accredited by the Canadian Association for Laboratory Accreditation (CALA).
- **Data management** – Water quality data for the Meliadine project are managed within the EQuIS database administered by Agnico Eagle. The technicians entered limnology data; laboratory results are uploaded directly to EQuIS by partner laboratories.

Table 3-2. Water quality parameters collected for the AEMP.

Parameter Class	Parameters
Conventional Parameters and Major Ions	pH, alkalinity species, chloride, conductivity, hardness, calcium, potassium, magnesium, sodium, fluoride, sulphate, total dissolved solids (TDS), total suspended solids (TSS), and turbidity
Nutrients and Organic Carbon	Ammonia-nitrogen, total Kjeldahl nitrogen, nitrate-nitrogen, nitrite-nitrogen, orthophosphate, total phosphorus, total organic carbon, dissolved organic carbon, and reactive silica.
Metals (total and dissolved)[a]	Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silver, strontium, thallium, tin, titanium, uranium, vanadium, and zinc.
Cyanides	Total cyanide, free cyanide, and weak acid dissociable (WAD) cyanide.

Notes:
[a] ALS also includes several other metals that are not parameters of interest for the AEMP.

3.3.2 Quality Assurance and Quality Control

The methods and results used to evaluate the accuracy and precision of the surface water quality data are provided in **Appendix A**. The key findings from the 2025 water quality QA/QC assessment for Meliadine Lake and the Peninsula Lakes are summarized below:

***In-situ* profiles** – the following results were flagged as unreliable based on field notes provided by the Meliadine Environment Department Technicians:

- Water temperature readings at MEL-01-01, MEL-01-09, and MEL-01-10 in August were 7–8°C, compared to approximately 12°C at other stations in Meliadine Lake, which is consistent with the historical range for mid-to-late August. The temperature results at MEL-01-01, -09, and -10 were flagged as non-reportable and excluded from the analyses.
- Specific conductivity readings at the same stations were higher than those at other MEL-01 stations. Because specific conductivity is standardized to 25°C, the malfunctioning temperature sensor would have affected the conductivity values. These data were flagged as unreliable and excluded from the plots.

Sample Integrity –The lab did not report any lost or damaged bottles in 2025. Hold-times were exceeded for some parameters, and cooler temperatures occasionally exceeded 10°C, consistent with standard transit times from the Mine to laboratories in southern Canada. Long-term monitoring results from the AEMP and other programs in Nunavut indicate that these conditions are unlikely to affect data quality.

Laboratory QC Assessment –There were no data quality issues with the laboratory blanks, spikes, duplicates, and reference material that indicate potential issues with the accuracy and reliability of the results.

Field QC Blanks – Field and equipment blanks were collected in each sampling event to determine the potential for cross-contamination. The results from the field blanks did not indicate any issues related to cross-contamination that have the potential to bias interpretation of the 2025 water quality data.

Field Duplicates – One field duplicate sample was collected for approximately every 10 samples. In total, 11 field duplicates were collected in 2025: two in March, three in July, four in August, and two in September. Of the 1,386 parameter comparisons evaluated across these 11 field duplicates, 18 exceeded the data quality objectives, representing 1.3% of all comparisons. Overall, there was good agreement between field duplicates and parent samples for every sampling event, indicating that the field methods produced repeatable results.

Unreliable Results – Results that were flagged as unreliable (removed from the dataset) are listed in **Appendix A**. Unreliable data were identified using visual (plots) and statical approaches.

3.3.3 Data Analysis

The water quality assessment for Meliadine Lake includes the following components:

- Screening against aquatic life and human health drinking water guidelines (AEMP Benchmarks),
- Evaluating current water quality against predictions in the FEIS, and
- Assessing temporal and spatial trends.

Together, these approaches are used to identify parameters of interest – those approaching or exceeding early warning triggers, nearing or surpassing predicted concentrations, and exhibiting upward trends over time.

Descriptive statistics (mean, median, standard deviation, standard error, minimum, and maximum) were calculated for each sampling area and separately for the winter and open-water sampling events. Those tables are also provided in **Appendix C1**. Plots showing the temporal trends across sampling years and areas (1997 to 2025; MEL-01 to MEL-05) are provided in **Appendix C2**.

Water Quality Screening Assessment

Water quality results from individual water samples were screened against the AEMP Benchmarks and corresponding Low-Action-Levels (aka triggers); the triggers of all water quality parameters are provided in **Appendix C1**. AEMP Action Levels are set at 75% of the AEMP Benchmarks, which for most parameters are based on freshwater aquatic life guidelines. Exceptions include antimony, for which the Health Canada (2023) Guideline for Canadian Drinking Water Quality Guideline (GCDWQ) of 6 µg/L was adopted as the AEMP Benchmark instead of the BC ENV freshwater aquatic life guideline of 74 µg/L, and fluoride, arsenic, and iron, which are based on site-specific water quality objectives (SSWQOs). Arsenic concentrations are also screened against the GCDWQ of 10 µg/L as an additional check for potential human health concerns.

Total Phosphorus – Recommended Update to the AEMP Action Level

The AEMP benchmark for total phosphorus was established at 0.01 mg/L, corresponding to the upper concentration limit for oligotrophic systems as defined by CCME (2004). The early warning trigger (AEMP Action Level) was set at 75% of this benchmark (0.0075 mg/L). The Normal Range for total phosphorus in Meliadine Lake, based on baseline and reference data from Meliadine Lake[4], is 0.006 mg/L. As a result, the margin between background concentrations and the AEMP Action Level is relatively narrow.

[4] The Normal Range is equal to the upper 90th percentile concentration measured in samples collected throughout Meliadine Lake during the open water period from 1995 to 2013 and samples collected from the reference areas to the end of 2020. The methods used to calculate the Normal Range for each parameter are presented in the 2019 AEMP report (Azimuth, 2020).

Rather than relying solely on a fixed percentage of the oligotrophic benchmark to define the Action Level, it may be more appropriate to apply the framework outlined in CCME (2004) when making management decisions for Meliadine Lake. The CCME framework is goal-based and designed to be tailored to site-specific management objectives (e.g., enhance, protect, restore). Under the AEMP, the objective is to protect water quality in Meliadine Lake by ensuring that mining activities, particularly effluent discharge, do not result in nutrient enrichment or adverse effects on aquatic ecosystem health.

If applied to Meliadine Lake, the framework would involve the following steps:

- Define the management goal → minimize the risk of nutrient enrichment that could result in adverse ecological effects
- Establish baseline conditions → Normal Range = 0.006 mg/L.
- Identify the acceptable trophic status range → 0.004–0.01 mg/L (oligotrophic).
- Monitor for changes indicative of potential effects, including exceedance of the trigger range or a ≥50% increase relative to baseline.

Under this approach, CCME considers an increase in the concentration of total phosphorus of less than 50% above baseline as low risk. Accordingly, monitoring would continue at the prescribed frequency. A 50% increase above the baseline concentration of 0.006 mg/L corresponds to 0.009 mg/L, which exceeds the current AEMP Action Level of 0.0075 mg/L. Although the numerical difference between 0.0075 mg/L and 0.009 mg/L is small (0.0015 mg/L), it is consequential from a management perspective because baseline phosphorus concentrations in Meliadine Lake are already close to the Action Level. Small, naturally occurring fluctuations in total phosphorus concentrations may therefore approach or exceed the Action Level in the absence of meaningful ecological change, which would be confirmed by phytoplankton analysis.

Comparison to Model Predictions

An important aspect of the water quality assessment for Meliadine Lake is determining if the pattern, timing, and magnitude of changes in water quality generally align with the predicted changes based on the approved design plan for the Mine. Comparing current versus predicted water quality provides insight about whether the Mine is effectively managing surface contact water on Site.

Two sets of predictions are available for the East Basin of Meliadine Lake:

- **2014 FEIS** – The first set of predictions came from the effluent mixing model in the 2014 FEIS in 2014. Predicted concentrations were developed for several parameters at the edge of the mixing zone (100 m from the diffuser). Those predictions are provided in the screening tables in **Appendix C1**. Water quality model predictions were also developed for TDS, chloride, and sodium beyond the mixing zone in the East Basin of Meliadine Lake. The model was based on the extent of

the approved mine plan in the 2014 FEIS, conservative assumptions regarding effluent quality, and the preliminary diffuser design. The *far-field*[5] effluent mixing model in Volume 7 of the FEIS predicted TDS, chloride, and sodium would increase gradually over time in the East Basin to maximum concentrations of 176 mg/L for TDS, 66 mg/L for chloride, and 19 mg/L for sodium in the last year of operations.

- **2020 Hydrodynamic Model** – In 2020, Agnico Eagle commissioned Tetra Tech to complete a multi-year simulation of effluent mixing in the sub-basin of the East Basin (termed the *model domain* in Tetra Tech, 2020). The model incorporated the final diffuser design, updated bathymetry for the East Basin, and the conservative assumption that TDS concentrations in the effluent would average 3,500 mg/L, equal to the Maximum Average Concentration in the Water Licence. Two multi-year scenarios were modelled, a base case "normal" precipitation scenario, in which TDS concentrations were predicted to increase to 170 mg/L, and a wet-year scenario, in which where TDS concentrations were predicted to increase to 183 mg/L, to provide a more accurate prediction of changes in TDS within the East Basin.

TDS and chloride are used as indicator parameters for assessing whether water management and mitigation built into the mine plan are effective at keeping water quality within the predicted range. Water quality model predictions at the edge of the mixing zone were also used to identify parameters that may be increasing at MEL-01 due to effluent.

Approach for Identifying Parameters of Interest

Temporal and spatial trends in surface water quality in Meliadine Lake are evaluated using data collected during the open water season. The assessment includes the following steps:

- Comparison of current concentrations to the Normal Range of baseline/reference conditions;
- Statistical comparisons among areas and between years (analysis of variance [ANOVA]); and
- Visual evaluation of trends in Meliadine Lake compared to results from Peter Lake and Atulik Lake.

Together, these lines of evidence support identification of parameters that may be increasing in association with mining activities versus those reflecting wider regional patterns.

Normal Range Comparisons

Normal Ranges are available for 56 parameters using baseline data from Meliadine Lake (pre-2015) and reference data from MEL-03, MEL-04, and MEL-05 up to and including 2020 (**Appendix C1**). The Normal Ranges have not been updated since 2020 due to uncertainty regarding potential mining-related

[5] Far-field in this case means the broader East Basin. This is not to be confused with the reference areas in Meliadine Lake

influences on water quality at the reference areas. Observed temporal trends at far-field reference stations raised questions about whether some changes reflected mine-related effects or broader regional processes. This uncertainty led to initiation of a three-year regional reference lake monitoring program beginning in 2025.

As described in **Section 2.3.2**, several parameters that have shown increasing trends in Meliadine Lake and were initially considered potentially mine-related are also increasing at Peter Lake and Atulik Lake, which are beyond the influence of the Mine (**Figure 2-5**). Upward temporal trends observed at the reference lakes suggest that regional-scale processes – such as isostatic rebound and permafrost degradation, among others – may be influencing water quality (Prairie Scientific, 2024).

Given this broader context of increasing background concentrations, the Normal Range approach is no longer effective as a stand-alone tool for identifying parameters of interest. Moving forward, the Normal Range is applied as a coarse screening tool to filter out parameters that are clearly not increasing over time. For parameters that exceed the Normal Range, distinguishing mining-related changes from regional trends requires a weight-of-evidence assessment incorporating multiple lines of evidence, including results from the regional reference lakes study.

Of the 56 parameters for which Normal Ranges have been established, several are strongly correlated and therefore do not provide independent or incremental value for distinguishing mining-related influences from natural background conditions. To streamline the assessment and focus on the most informative indicators, the following rules were applied during the Normal Range screening to refine the list of parameters carried forward for detailed spatial and temporal trend evaluation:

- Parameters with fewer than 50% detected values during the open-water period were excluded from further consideration, as limited detection reduces confidence in trend interpretation.
- Calcium, magnesium, potassium, and sodium exhibit similar spatial and temporal patterns. Rather than evaluating each major ion individually, total dissolved solids (TDS) was used as an integrative measure of changes in ionic strength. Hardness and conductivity were not carried forward, as these composite parameters are strongly correlated with TDS.
- Normal Ranges were developed for the dissolved fraction of copper, lead, manganese, and zinc because the applicable water quality guidelines are based on filtered concentrations. While the screening assessment focused on the dissolved fraction of these metals, the unfiltered (total) fraction was used for evaluating spatial and temporal trends to provide a conservative assessment (i.e., total concentrations are typically greater than dissolved concentrations).
- Dissolved organic carbon (DOC) and total organic carbon (TOC) are well correlated. DOC was selected as the primary indicator of potential climate-related influences on water quality, including processes such as permafrost thaw.

Statistical Comparisons within Meliadine Lake

Analysis of variance (ANOVA) and Tukey's Honestly Significant Difference (HSD) test ($\alpha = 0.05$) were completed on parameters that were carried forward in the Normal Range assessment. This process identifies statistically significant differences among years and quantifies the magnitude of change within each area. Results of the statistical comparisons are provided in **Appendix C3**.

Reference Lake Comparisons

New in 2025, data from Peter Lake and Atulik Lake provide a direct regional measure of how concentrations of parameters of interest are changing over time, strengthening interpretation of trends observed in Meliadine Lake within a broader environmental context. The reference lakes study commenced in 2025 and the available dataset is currently limited. Accordingly, results are used semi-quantitatively to provide regional context for trends observed in Meliadine Lake, pending completion of the full three-year dataset.

3.4 Results and Discussion

Water quality results for Meliadine Lake are discussed in the following sections:

- *In-situ* water quality from the limnology profiles in 2024 (**Section 3.4.1**),
- Descriptive statistics and comparisons to AEMP triggers (**Section 3.4.2**),
- Comparison to water quality predictions (**Section 3.4.3**), and
- Temporal and spatial changes of water quality parameters (**Section 3.4.4**)

3.4.1 Field Measurements

Water Temperature, Dissolved Oxygen and pH

Inter-annual variability in surface water temperature is primarily driven by seasonal weather patterns. Water temperature results from the 2025 open-water profiles were within the range observed in Meliadine Lake since 2013 (**Figure 3-2**). Water temperatures typically peak in mid-August at approximately 12 to 14°C; however, compared to 2024, temperatures in 2025 were about 2–3°C cooler. By mid-September, lake-wide water temperatures were relatively uniform at approximately 9°C.

Meliadine Lake was well oxygenated during both the winter and open-water sampling events in 2025 (**Figure 3-3**). Winter dissolved oxygen concentrations were vertically stratified, with higher levels measured near the ice than near the bottom of the lake at MEL-01, MEL-02, and MEL-03, indicating that this is a lake-wide phenomenon that occurs under ice.

The pH of Meliadine Lake in 2025 was in the historical range of 7.0-7.75.

Specific Conductivity

Specific conductivity is a useful indicator for tracking effluent movement in MEL-01 and for assessing broader, lake-wide changes in water quality. Accordingly, three sets of plots were used to evaluate spatial and temporal trends in conductivity:

- Average conductivity readings by area and sampling event in 2025 are presented in **Figure 3-3**.
- Conductivity profiles taken at each station in 2025 are shown in **Figure 3-4**.
- Interannual variability in conductivity readings for each area are shown in **Figure 3-5**.

Winter conditions – Conductivity is higher under ice compared to the open water season because ice formation concentrates dissolved ions within a reduced volume of water. Under-ice conductivity measured at MEL-01 ranged from approximately 160–180 µS/cm (**Figure 3-4**).

Downstream at MEL-02, conductivity ranged from approximately 135–145 µS/cm at the four stations located in the open area of the basin. Higher conductivity (160–180 µS/cm) was observed at station MEL-02-08, particularly near the sediment. This station is located at the end of the Narrows, the channel linking MEL-01 and MEL-02, and the results suggest the effluent plume was detectable near the lake bottom. The effluent signal was not detected at MEL-02-03 and MEL-02-05, the next closest stations approximately 900 m downstream.

Open-water conditions – Throughout the open-water period, conductivity at MEL-01 increased from 135 µS/cm in July to 160 µS/cm in September. Effluent discharge was continuous in 2025, which may have contributed to the incrementally higher conductivity results reported in each sampling event at MEL-01. Another contributing factor may have been the high-rainfall amounts observed in July and early August (**Table 2-2**; **Figure 2-4**), which may also explain the monthly increases at MEL-02 and MEL-03.

Other than a slight increase in conductivity measured in the bottom profile at MEL-01-07 in August (**Figure 3-4**), conditions in MEL-01 were well-mixed throughout the open-water period.

Interannual variability – Specific conductivity has gradually increased throughout Meliadine Lake since the baseline period. In August 2013, specific conductivity at MEL-01 was approximately 60 µS/cm, compared to 150 µS/cm in August 2025 (**Figure 3-5**). The increase from 2024 to 2025 was notable at most locations in Meliadine Lake; at MEL-01, conductivity increased from 120 µS/cm in August 2024 to 150 µS/cm in August 2025. At reference area MEL-04, located near the outlet to Peter Lake, conductivity increased from 90 µS/cm in August 2024 to 106 µS/cm in August 2025.

Approximately 80 mm of rainfall was recorded at the Rankin Inlet airport in July 2025. Given the timing of this rainfall, the lake-wide increase in conductivity observed from 2024 to 2025 is likely attributable, at least in part, to the elevated precipitation in July. Temporal trends will be examined in greater detail in **Section 3.4.4**.

Figure 3-2. Surface water temperature results from limnology profiles taken during the open water season since 2013.

Notes: Each "point" represents the water temperature taken at the various discrete stations and depth in each area.

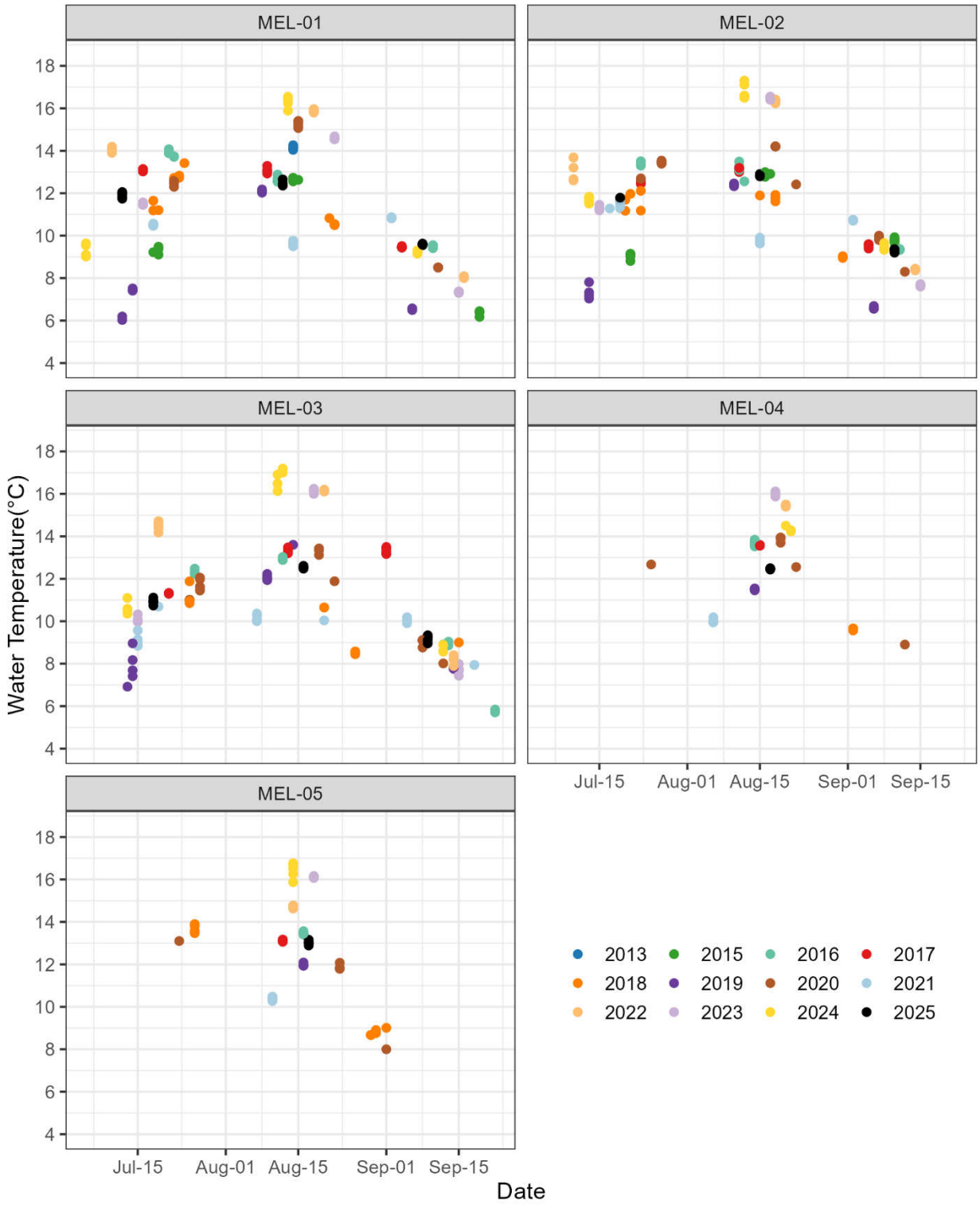


Figure 3-3. Average temperature, dissolved oxygen, pH, and specific conductivity profiles by month in 2025.

Notes: The average value was computed for each month/area/depth (n=6 profiles at MEL-01; n=5 profiles at the other areas).
The data were smoothed using Locally Estimated Scatterplot Smoothing (LOESS).

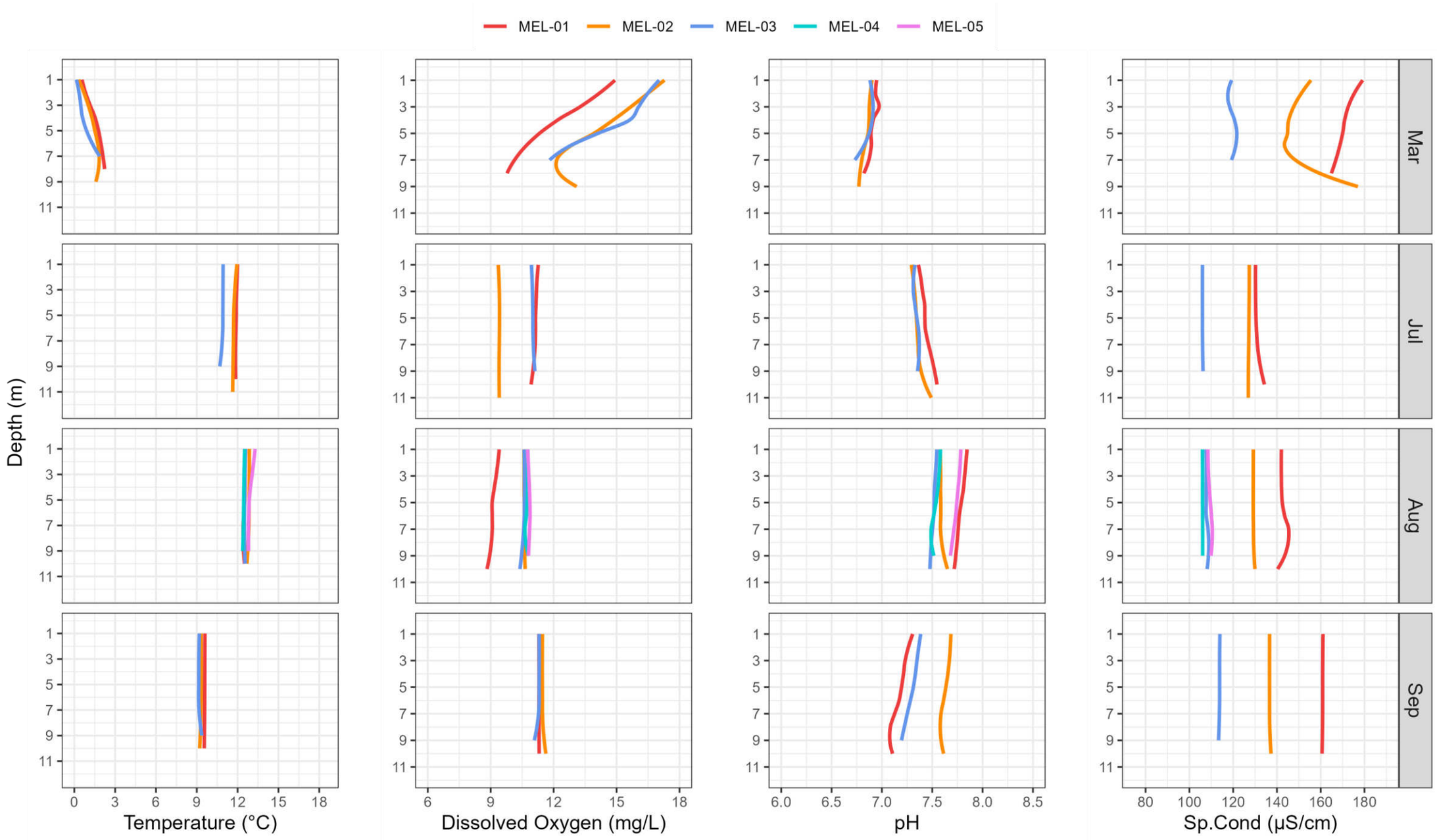


Figure 3-4. Specific conductivity (µS/cm) results from the 2025 limnology profiles.

Notes: n=6 limnology profiles at MEL-01; n=5 limnology profiles at the other areas. Three profiles from MEL-01 in August were excluded because of issues with the water quality probe. Callouts shown for MEL-01 (July) and MEL-02 (March) to show spatial differences within each area.

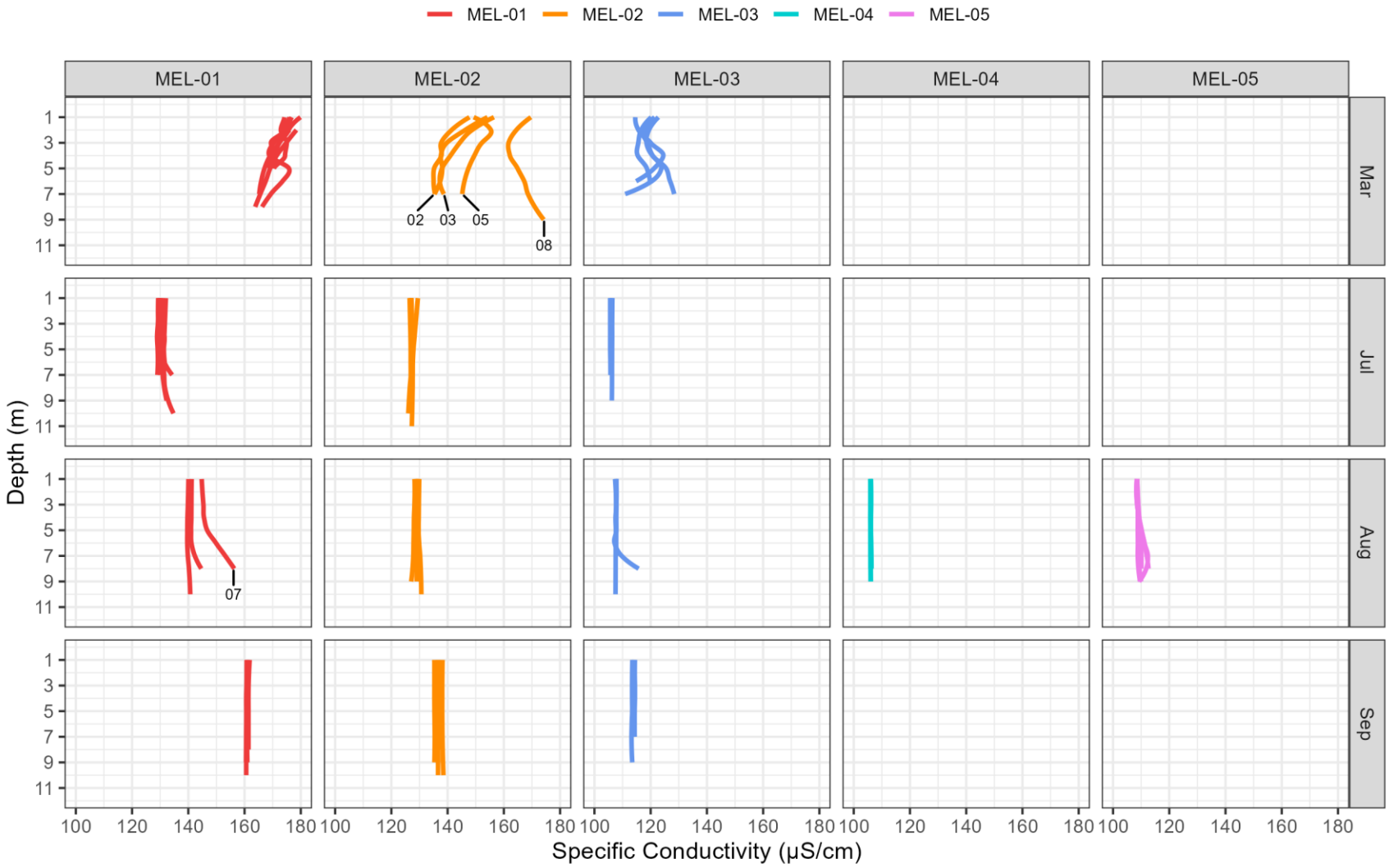
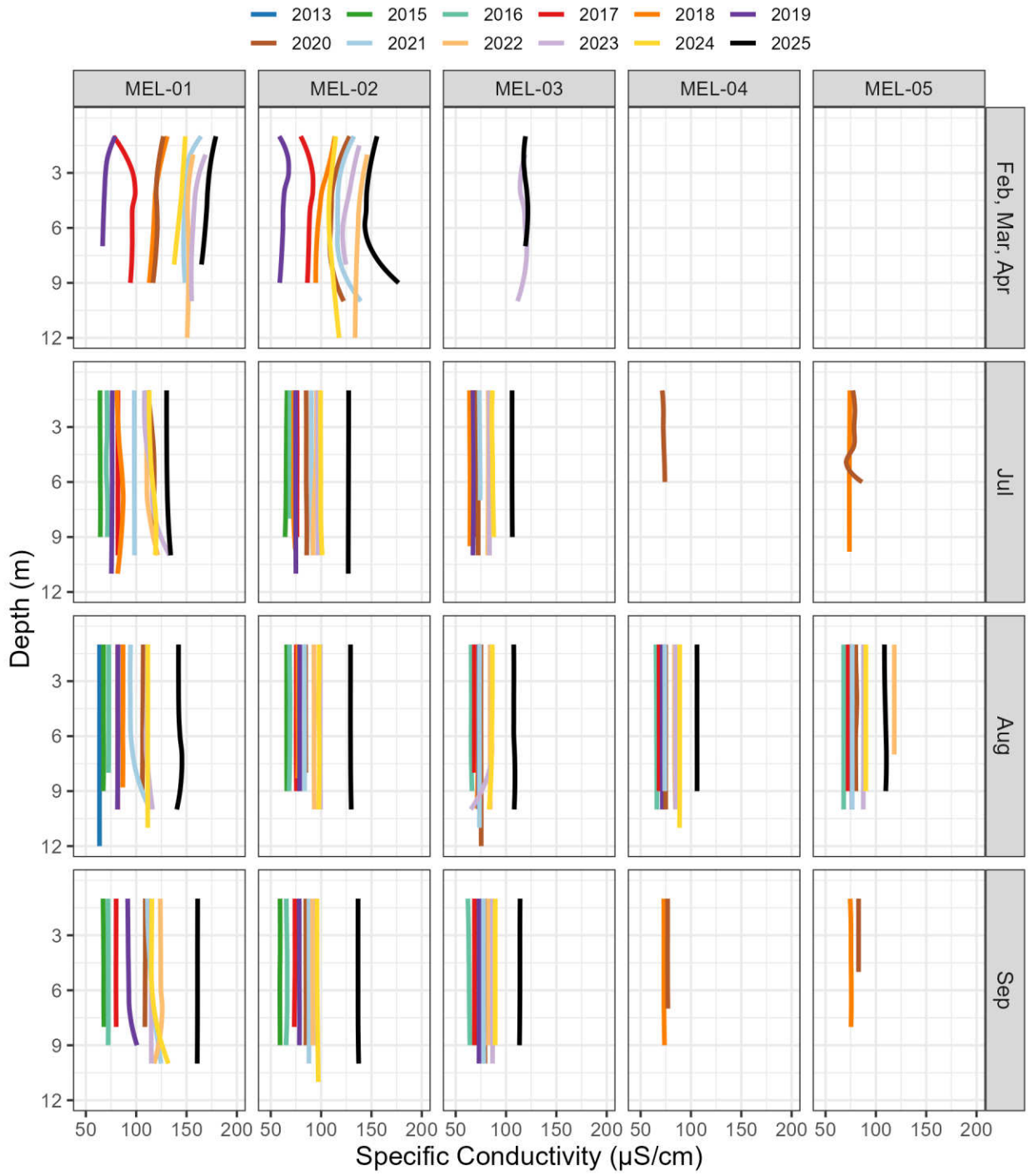


Figure 3-5. Specific conductivity (µS/cm) profiles during the open water season from 2013 to 2025.

Notes: The average value was computed for each month/area/depth (n=6 profiles at MEL-01; n=5 profiles at the other areas). The data were smoothed using Locally Estimated Scatterplot Smoothing (LOESS).



3.4.2 Water Quality Screening Assessment

Descriptive statistics and results of the 2025 screening assessment are provided **Appendix C1**. Plots showing the concentrations of each parameter by area since the baseline period are provided in **Appendix C2**. The list of parameters that exceeded the AEMP Action Level and AEMP Benchmarks for each area are presented in **Table 3-3**. A summary of the water quality screening assessment is provided below.

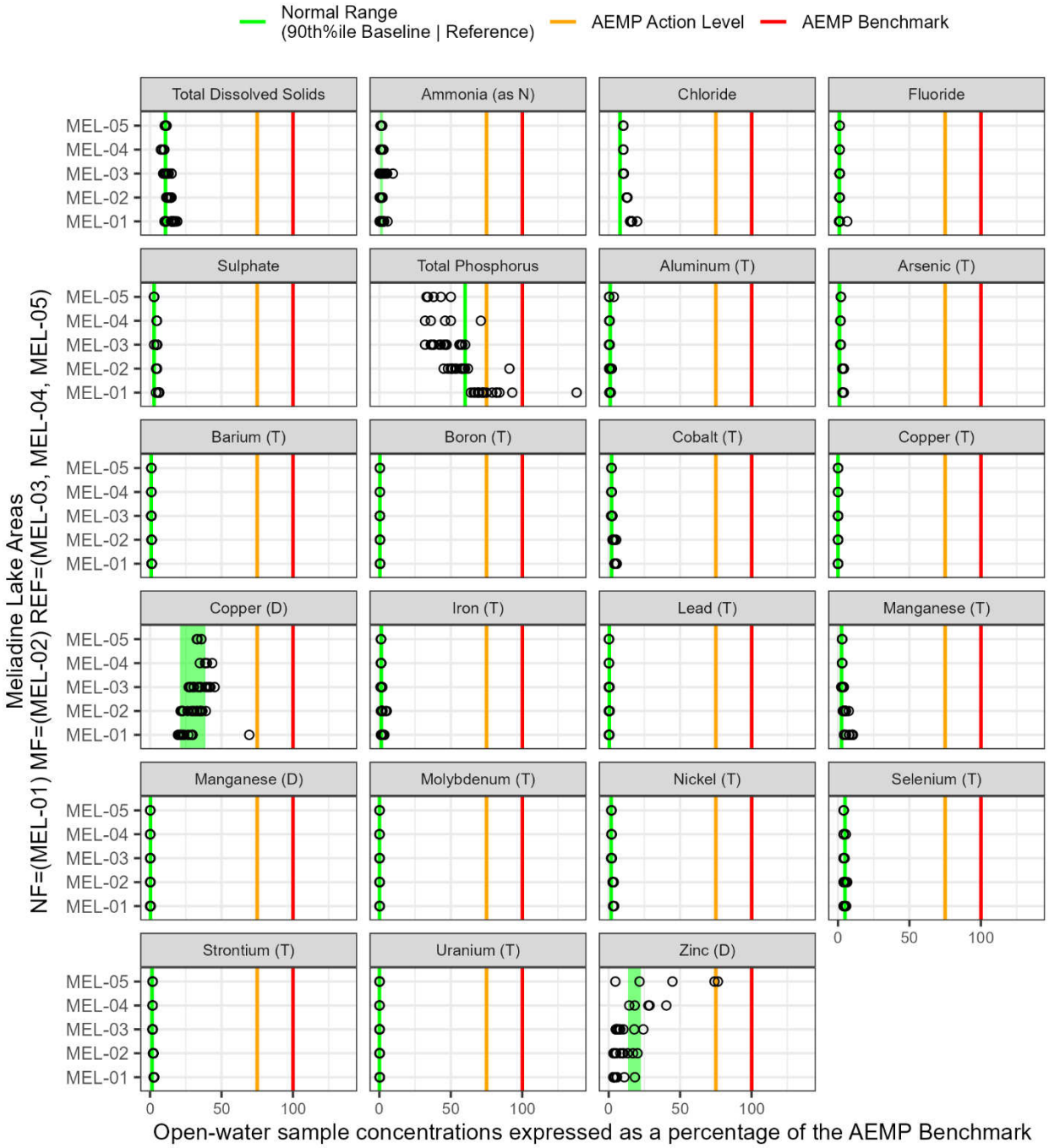
- The concentrations of most parameters of interest in 2025 were a small percentage of their respective AEMP Action Levels (triggers) and Benchmarks (**Figure 3-6**).
- Dissolved zinc exceeded the AEMP Action Level in one sample collected from MEL-05 in August 2025. No exceedances were reported at MEL-01 or MEL-02. Zinc occasionally exceeds the AEMP Action Level in Meliadine Lake; however, these exceedances are considered reflective of natural background variability.
- Phosphorus concentrations are naturally-elevated in Meliadine Lake compared to the upper trigger limit for oligotrophic systems (0.004 – 0.01 mg/L; CCME, 2004). In 2025, six of the 18 samples collected from MEL-01 during the open water sampling events exceeded the AEMP Action Level of 0.0075 mg/L. The highest concentration of total phosphorus was 0.0138 mg/L at MEL-01-10 on August 25. On average, the total phosphorus concentrations at MEL-01 in July to September was 0.0077 mg/L, slightly above the AEMP Action Level. The potential effect of total phosphorus on lake productivity and the structure of the phytoplankton community is discussed in **Section 5**.
- Arsenic concentrations were compared to the maximum acceptable concentration (MAC) for arsenic in drinking water of 10 µg/L. The maximum arsenic concentration in 2025 was 1.0 µg/L, observed in August at one station in MEL-01 and two locations in MEL-02.

Table 3-3. Exceedances of the AEMP Action Levels and Benchmarks in 2025.

Area	Parameters that Exceeded the AEMP Action Level	Parameters that Exceeded the AEMP Benchmark
MEL-01	Total phosphorus	Total phosphorus
MEL-02	Total phosphorus	None
MEL-03	None	None
MEL-04	None	None
MEL-05	Dissolved zinc	None

Figure 3-6. Meliadine Lake 2025 water chemistry results from the open-water sampling events normalized to the AEMP Benchmark, Action Level, and Normal Range.

Note: The shaded green bands for dissolved copper and dissolved zinc represent the range of normalized Normal Range values because the AEMP Benchmark is based on water quality guidelines that vary according to toxicity modifying factors (e.g., hardness, DOC, pH). For most parameters, the Normal Range collapses to a single line because the AEMP Benchmark is constant. Where the range is negligible for visual interpretation (e.g., sulphate and total aluminum), the Normal Range is shown as a single line.



3.4.3 Comparison to Model Predictions

Edge of the Mixing Zone

Parameters for which the median concentration in open-water samples collected in 2025 were above the water quality model predictions at the edge of the mixing zone (100 m from the diffuser) are listed in **Table 3-4**. The median was selected as the measure of central tendency to reduce sensitivity to outliers and skewed data. Key observations comparing the 2025 monitoring results to the model predictions are summarized below. Spatial patterns and temporal trends are discussed in **Section 3.4.4**.

Table 3-4. Parameters at MEL-01 that exceeded water quality model predictions at the edge of the mixing zone in 2025.

Parameter	DL	FEIS Prediction[a]	Median Concentration (Open Water Samples)				
			MEL-01	MEL-02	MEL-03	MEL-04	MEL-05
TDS (mg/L)	10	68	76.3	66.1	55.8	57	41.4
Chloride (mg/L)	0.1	14	19	15.3	12.3	12.4	12.3
Fluoride (mg/L)	0.02	0.0084	0.034	0.032	0.034	0.034	0.033
Sodium (T; mg/L)	0.02	5.3	9.35	7.52	6.03	6.02	6.1
Phosphorus (mg/L)	0.001	0.0049	0.0073	0.0054	0.0043	0.0045	0.0046
Manganese (T; µg/L)	0.05	5.5	6.72	5.48	3.6	4.4	3.5

Notes:
DL = 2025 detection limit; T = total (unfiltered fraction)
[a] 100 m from the diffuser; Source: 2014 FEIS (Agnico Eagle, 2014)

- **TDS and Chloride** – Predicted concentrations of TDS and chloride at the edge of the mixing zone are lower than the concentrations predicted for the broader East Basin in the hydrodynamic models presented in the 2014 FEIS and the 2020 Water Licence Amendment. Therefore, MEL-01 results are compared against model predictions beyond the mixing zone in the East Basin.
- **Fluoride** – Median fluoride concentrations throughout Meliadine Lake were above the predictions at the edge of the mixing zone in 2025. The spatial pattern is not consistent with effluent as a major source of fluoride to Meliadine Lake.
- **Sodium** – Sodium concentrations in Meliadine Lake follow a similar spatial pattern as TDS and chloride (MEL-01 > MEL-02 > reference areas). Unlike, TDS and chloride, sodium concentrations throughout Meliadine Lake in 2025 were above the predicted concentration at the edge of the mixing zone.
- **Total phosphorus** – The predicted concentration of total phosphorus at the edge of the mixing zone (0.0049 mg/L) is lower than concentrations routinely measured during the baseline period

and at reference areas. As such, this prediction has limited utility for evaluating the effectiveness of water management strategies aimed at controlling total phosphorus loading to Meliadine Lake.

- **Manganese** – The median unfiltered (total) concentration of manganese at MEL-01 in 2025 was 6.72 µg/L compared to the predicted concentration of 5.5 µg/L at the edge of the mixing zone.

Beyond the Mixing Zone

TDS and chloride concentrations compared to predictions in the 2014 FEIS (Agnico Eagle, 2014) and the 2020 hydrodynamic model are shown in **Figure 3-7** and **Figure 3-8**, respectively.

Total Dissolved Solids – Measured TDS concentrations at MEL-01 in 2025 were less than the predicted concentrations in the 2014 FEIS and 2020 hydrodynamic model developed by Tetra Tech (**Figure 3-7**). TDS concentration ranged from 85 – 94 mg/L in the 18 samples collected from MEL-01 in July, August, and September 2025. The water quality model in the 2014 FEIS included predictions for July 2025 (127 mg/L) and October (120 mg/L). The Tetra Tech model predicted TDS in 2025 would reach 164 mg/L. This prediction was based on conservative assumptions about the concentration of TDS and volume of water discharged to Meliadine Lake. As shown in **Figure 2-6**, discharge is not continuous and TDS concentrations are typically well below the maximum average concentration of 3,500 mg/L in the Water Licence that was used in the model.

Chloride – The 2025 chloride results follow a similar pattern to TDS. Chloride concentrations at MEL-01 ranged from 18.1 to 23.9 mg/L. By comparison, predicted chloride concentrations for 2025 were approximately 45 mg/L in the 2014 FEIS and approximately 40 mg/L in the 2020 hydrodynamic model (**Figure 3-8**).

Summary – TDS and chloride concentrations remain consistently below modelled predictions, indicating that the East Basin of Meliadine Lake continues to effectively assimilate major ions from CP1 discharge. These results provide strong evidence that the mitigation measures incorporated into the Mine plan are functioning as designed and are successfully controlling major ion loading to the receiving environment.

Figure 3-7. Measured TDS concentrations (mg/L) at MEL-01 compared to predicted concentrations in the East Basin of Meliadine Lake.

Notes: The FEIS (2014) predictions (purple line) were presented in Volume 7.4-A of Agnico Eagle (2014). The blue dashed line represents the model prediction for changes in TDS from 2018 to 2028 (Tetra Tech 2020). The points on the plots are the measured TDS results from samples taken during the open water sampling events (July, August, September).

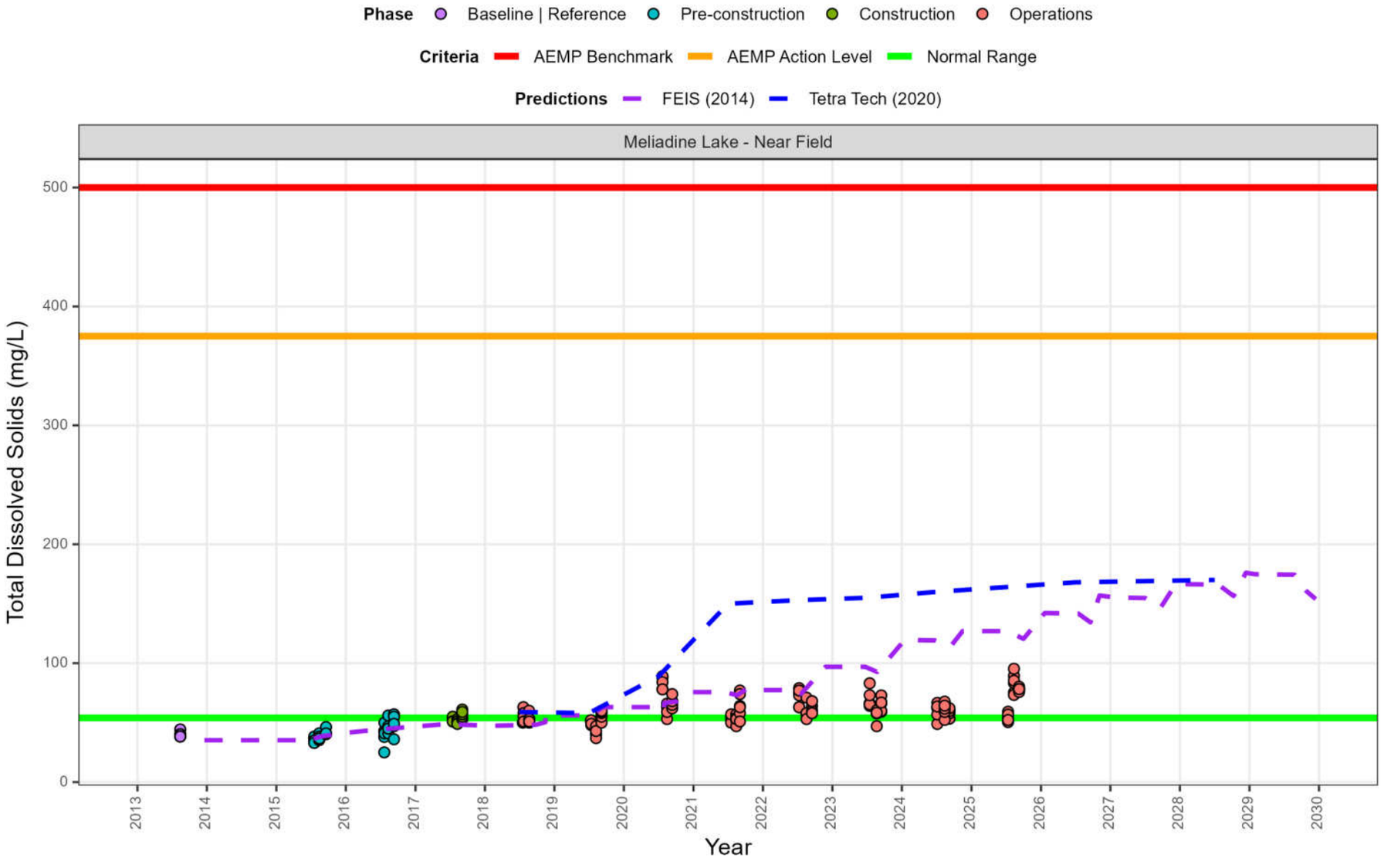
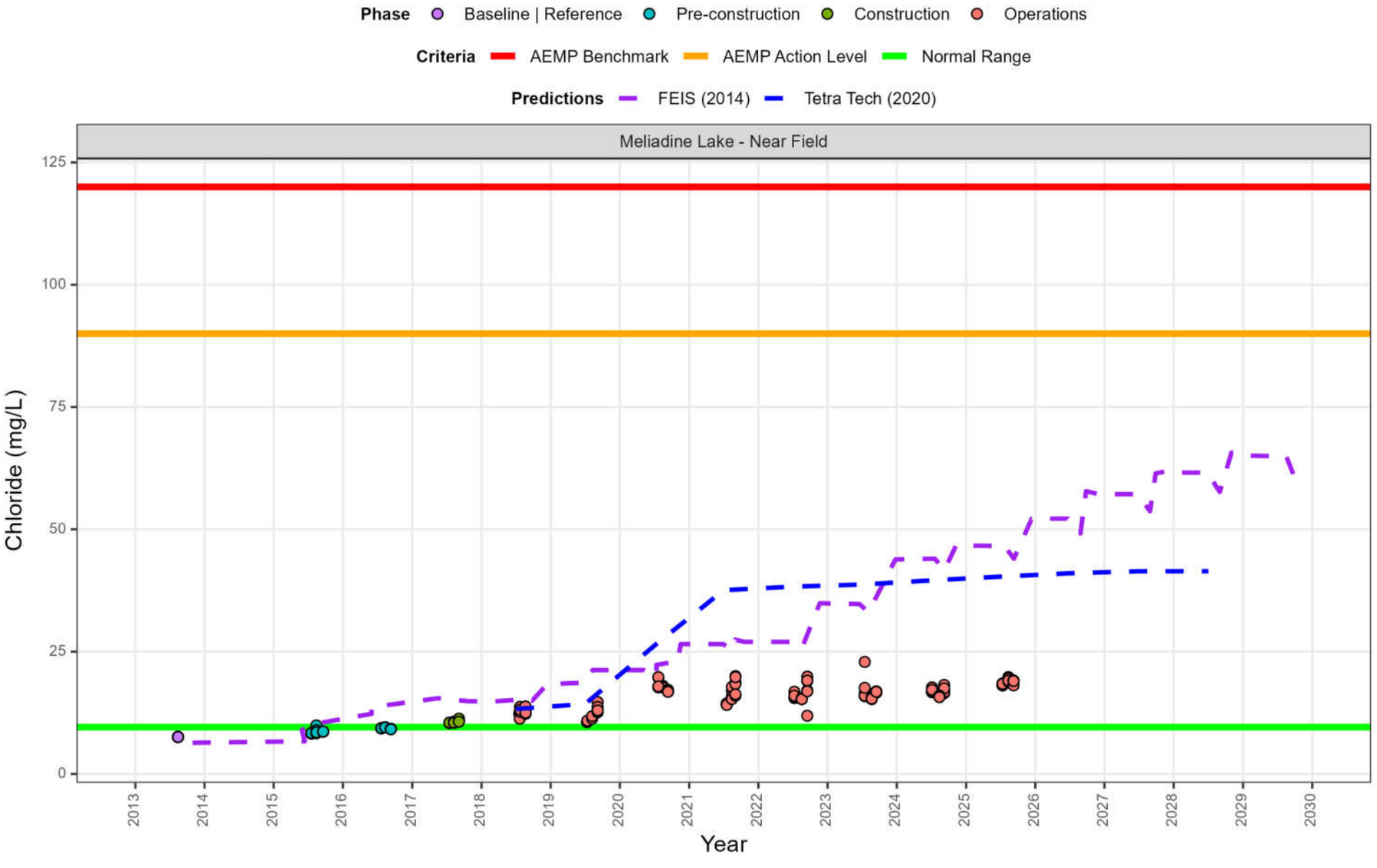


Figure 3-8. Chloride concentrations (mg/L) at MEL-01 compared to predicted concentrations in the East Basin of Meliadine Lake.

Notes: The FEIS (2014) predictions (purple line) were presented in Volume 7.4-A of Agnico Eagle (2014). The blue dashed line represents the model prediction for changes in chloride from 2018 to 2028 (Tetra Tech 2020). The points on the plots are the chloride results from samples taken during the open water sampling events (July, August, September).



3.4.4 Evaluation of Changes in Surface Water Quality in Meliadine Lake

A key objective of the AEMP is to distinguish water quality changes attributable to mining activities from those driven by natural variability. Water quality in northern latitude lakes is influenced by the timing, magnitude, and duration of runoff, as well as temperature (Wrona et al., 2016). Although the AEMP was not specifically designed to evaluate the effects of climate change on water quality in Meliadine Lake, the regional reference lake results reported in **Section** ? provide additional context for determining whether observed spatial and temporal trends are mining-related or reflect broader regional influences.

Using a combination of the Normal Range Assessment, statistical comparisons, and visual examination of plots, parameters were grouped into three categories: (1) those showing trends consistent with mining-related influences, (2) those showing trends consistent with natural regional processes, and (3) those reflecting a combination of both factors.

The following lines of evidence were used to interpret the likely drivers of observed trends in water quality in Meliadine Lake:

- **Evidence of potential mining-related change**: (1) an increasing trend at MEL-01 that is not observed at reference areas; and (2) a spatial pattern characterized by higher concentrations at MEL-01 relative to MEL-02 and downstream reference areas.
- **Evidence of regional (non-mining) change:** increasing trends that are also observed at the reference areas in Meliadine Lake, Atulik Lake, and Peter Lake.

Time series plots for each parameter in Meliadine Lake are presented in **Section 3.6** (Condensed Temporal Plots). Available data from Atulik Lake and Peter Lake (2021, 2024, and 2025) were included to characterize regional trends.

Normal Range Assessment

In 2025, the median concentration at MEL-01 and/or MEL-02 exceeded the Normal Range for the following 29 parameters:

- **Major ions**: total dissolved solids (TDS), total alkalinity, calcium, chloride, fluoride, magnesium, potassium, reactive silica (SiO_2), sodium, and sulphate
- **Nutrients and organic carbon**: total phosphorus, total dissolved phosphorus (TDP), total Kjeldahl nitrogen (TKN), and dissolved organic carbon (DOC)
- **Metals (unfiltered fraction)**: aluminum, antimony, arsenic, barium, boron, cobalt, copper, iron, lithium, manganese, mercury, molybdenum, nickel, strontium, and uranium

The Normal Range assessment for these 29 parameters is summarized in **Table 3-5**. Water quality model predictions at the edge of the mixing zone (as presented in the 2014 FEIS) are included alongside the

Normal Range assessment to help identify those parameters at MEL-01 that are increasing over time and beyond what was predicted by the 2014 water quality model.

As noted above, the Normal Ranges are intended as a coarse screening tool to generate a list of parameters for more detailed spatial and temporal assessment. Exceeding the Normal Range does not, in itself, indicate a mining-related effect; rather, it identifies parameters that warrant closer examination to determine whether observed temporal patterns are consistent with mining-related changes, regional climatic trends, or a combination of the two. Of the 29 parameters listed above, 22 exceeded at one or more of the reference areas in Meliadine Lake, Peter Lake, or Atulik Lake.

Statistical Comparisons within Meliadine Lake

ANOVA and Tukey post-hoc comparisons were conducted among years for MEL-01, MEL-02, and MEL-03 to compare the pattern, magnitude, and statistical significance of changes in concentrations for parameters that exceeded the Normal Range in 2025. The analysis focused on open-water sampling events at MEL-01, MEL-02, and MEL-03, as these stations are sampled monthly in July, August, and September. Results of the statistical tests showing the magnitude of change in 2025 relative to 2024 are presented in **Table 3-6** to understand short-term changes in water quality.

To support the discussion, plots of model estimates (mean and standard error) are presented for a subset of major ions (chloride, sodium, and sulphate; **Figure 3-9**), nutrients (total phosphorus, TKN, and DOC; **Figure 3-10**), and metals (arsenic, strontium, and uranium; **Figure 3-11**). These results are used to support the integrated water quality assessment in the following section. Plots and tabulated results of the ANOVA and Tukey post-hoc pairwise comparisons for all years are provided in **Appendix C3**.

Table 3-5. Comparison of water quality results from 2025 against the Normal Ranges and water quality model predictions in the 2014 FEIS.

Parameter	Units	DL	WQM Predictions[a]		Normal Range Assessment[b]			Range of Concentrations (Min – Max) in the 2025 Open-Water Sampling Events				
			Edge of the Mixing Zone	MEL-01 > WQM	Normal Range	MEL-01 or MEL-02 > NR?	Reference Areas > NR	MEL-01 (n=18)	MEL-02 (n=15)	MEL REF (n=25)	Atulik Lake (n=3)	Peter Lake (n=3)
Major Ions												
Total Dissolved Solids	mg/L	10	68	Yes	54	MEL01, MEL02	MEL03, MEL05	50.5 – 95.3	56.4 – 75	38.1 – 75.5	46.1 – 53.4	32.4 – 34.1
Alkalinity, Total	mg/L	1		NA	20.5	MEL01	MEL05	18.6 – 21.3	19.7 – 21.4	18.8 – 20.9	20.6 – 21	11.7 – 11.9
Calcium (T)	mg/L	0.01		NA	7.33	MEL01, MEL02	MEL03, MEL04, MEL05	11 – 12.8	9.87 – 11.3	7.77 – 10	9.23 – 9.35	5.21 – 5.56
Chloride	mg/L	0.1	14	Yes	9.56	MEL01, MEL02	MEL03, MEL04, MEL05	18.1 – 19.8	15.1 – 15.8	12.2 – 12.8	14.2 – 14.3	8.2 – 8.32
Fluoride	mg/L	0.02	0.0084	Yes	0.028	MEL01, MEL02	MEL03, MEL04, MEL05	0.022 – 0.037	0.029 – 0.037	0.031 – 0.036	0.036 – 0.04	0.057 – 0.059
Magnesium (T)	mg/L	0.004		NA	1.18	MEL01, MEL02	MEL03, MEL04, MEL05	2.04 – 2.41	1.86 – 2.06	1.27 – 1.6	1.75 – 1.78	1.19 – 1.22
Potassium (T)	mg/L	0.02		NA	0.954	MEL01, MEL02	MEL03, MEL04, MEL05	1.23 – 1.36	1.16 – 1.28	0.913 – 1.12	1.19 – 1.22	0.897 – 0.916
Reactive Silica (SiO2)	mg/L	0.01		NA	0.268	MEL01, MEL02	MEL03, MEL04, MEL05	0.342 – 0.819	0.345 – 0.548	0.278 – 0.349	0.784 – 0.818	0.248 – 0.275
Sodium (T)	mg/L	0.02	5.3	Yes	4.85	MEL01, MEL02	MEL03, MEL04, MEL05	8.33 – 9.69	7.06 – 8.19	5.54 – 6.52	6.9 – 7.16	4.41 – 4.44
Sulphate	mg/L	0.3	38	No	3.87	MEL01, MEL02	MEL03, MEL04, MEL05	8.96 – 14.1	9.19 – 10.6	5.87 – 6.4	7.56 – 7.65	5.87 – 5.92
Nutrients and Organic Carbon												
Total Diss Phosphorus	mg/L	0.001		NA	0.00314	MEL01		0.002 – 0.004	0.002 – 0.004	0.002 – 0.003	0.002 – 0.003	0.002 – 0.005
Total Kjeldahl Nitrogen	mg/L	0.05		NA	0.25	MEL01, MEL02		0.269 – 0.352	0.228 – 0.305	0.209 – 0.302	0.24 – 0.497	0.208 – 0.24
Total Phosphorus	mg/L	0.001	0.0049	Yes	0.006	MEL01		0.006 – 0.014	0.005 – 0.009	0.003 – 0.007	0.004 – 0.006	0.003 – 0.011
Dissolved Organic Carbon	mg/L	0.5		NA	2.72	MEL01, MEL02	MEL03, MEL04, MEL05	3.98 – 4.77	3.77 – 4.56	3.09 – 3.87	3.59 – 4.09	3.06 – 3.13
Metals												
Aluminum (T)	µg/L	1	9.1	No	5.32	MEL01		4.1 – 8.6	2.3 – 13.5	1.3 – 18.3	1.5 – 6.6	1.5 – 2.6
Antimony (T)	µg/L	0.02	0.51	No	0.02	MEL01		0.022 – 0.029	0.02 – 0.021	0.02	0.02	0.02
Arsenic (T)	µg/L	0.02	3.8	No	0.275	MEL01, MEL02	MEL03, MEL04, MEL05	0.814 – 1.02	0.761 – 1.03	0.424 – 0.534	0.386 – 0.534	0.145 – 0.161
Barium (T)	µg/L	0.02	77	No	8.05	MEL01, MEL02	MEL03, MEL04, MEL05	11.2 – 12.4	10.3 – 12.2	8.09 – 10.2	11.3 – 11.6	11.9 – 12.1
Boron (T)	µg/L	5	23	No	6.52	MEL01, MEL02		7.3 – 8.2	6.4 – 7.1	5.2 – 5.9	6.5 – 6.7	5
Cobalt (T)	µg/L	0.005		NA	0.016	MEL01, MEL02	MEL03	0.032 – 0.044	0.02 – 0.041	0.014 – 0.02	0.015 – 0.024	0.007 – 0.016
Copper (T)	µg/L	0.05	2	No	0.86	MEL01, MEL02	MEL04, MEL05	0.84 – 1.34	0.781 – 1.67	0.626 – 1.35	0.814 – 1.09	0.683 – 0.779
Iron (T)	µg/L	1	42	No	15	MEL01, MEL02	MEL03	12.6 – 37.3	11.7 – 55.2	8.7 – 22	9.9 – 24.8	3.1 – 10
Lithium (T)	µg/L	0.5		No	0.72	MEL01, MEL02	MEL03, MEL04, MEL05	1.1 – 1.24	0.95 – 1.04	0.76 – 0.97	0.68 – 0.7	0.56 – 0.6
Manganese (T)	µg/L	0.05	5.5	Yes	3.06	MEL01, MEL02	MEL03, MEL04, MEL05	5.01 – 12.5	4.05 – 9.05	2.73 – 4.86	2.48 – 4.14	0.373 – 2.34
Mercury (T)	µg/L	0.5	20	No	0.8	MEL01		0.5 – 1.46	0.5 – 1.06	0.5 – 1.38	0.5 – 1	0.5 – 0.59
Molybdenum (T)	µg/L	0.05	5.2	No	0.107	MEL01, MEL02		0.146 – 0.172	0.111 – 0.172	0.088 – 0.106	0.094 – 0.104	0.05 – 0.053
Nickel (T)	µg/L	0.05	2.7	No	0.441	MEL01, MEL02	MEL03, MEL04, MEL05	0.79 – 0.943	0.692 – 0.878	0.442 – 0.577	0.497 – 0.592	0.514 – 0.521
Strontium (T)	µg/L	0.02		NA	36.1	MEL01, MEL02	MEL03, MEL04, MEL05	63 – 71.1	53.6 – 60.3	40.4 – 46.9	45.5 – 46	27.4 – 28.8
Uranium (T)	µg/L	0.001	1.5	No	0.0164	MEL01, MEL02	MEL03, MEL04, MEL05	0.037 – 0.043	0.023 – 0.032	0.016 – 0.022	0.021 – 0.022	0.022 – 0.022

Notes:
[a] Water quality model (WQM) predictions are for the edge of the mixing zone in MEL-01, 100 m from the diffuser (Agnico Eagle, 2014). NA = predictions were not developed for these parameters.
[b] Meliadine Lake Normal Ranges are the 90% percentile of concentrations measured in open-water samples from the baseline period (pre-2015) and reference data from MEL-03, MEL-04 and MEL-05 from 2015 – 2019.
Shaded parameters = median concentration at MEL-01 exceeded the WQM prediction at the edge of the mixing zone.

Table 3-6. Tukey post-hoc results and percent change in concentration at MEL-01, MEL-02, and MEL-03 from 2024 to 2025.

Parameter	P value (left) | % change (right)		
	MEL-01	MEL-02	MEL-03
Major Ions			
Chloride [mg/L]	< 0.001 | +13	< 0.001 | +18	0.408 | +9
Fluoride [mg/L]	1.000 | -0.4	0.044 | +8	< 0.001 | +13
Reactive Silica (SiO_2) [mg/L]	0.953 | -7	0.999 | +3	0.002 | -13
Sulphate [mg/L]	< 0.001 | +87	< 0.001 | +86	< 0.001 | +39
Total Calcium [mg/L]	< 0.001 | +23	< 0.001 | +16	0.012 | +5
Total Magnesium [mg/L]	< 0.001 | +26	< 0.001 | +25	0.136 | +8
Total Potassium [mg/L]	< 0.001 | +10	< 0.001 | +10	0.938 | +2
Total Sodium [mg/L]	< 0.001 | +14	0.028 | +15	0.986 | +4
Nutrients and Organic Carbon			
Total Diss Phosphorus [mg/L]	0.999 | +8	1.000 | +5	0.938 | +19
Total Kjeldahl Nitrogen [mg/L]	1.000 | +3	0.731 | +16	0.996 | +6
Total Phosphorus [mg/L]	0.378 | +25	0.775 | +23	0.997 | +10
Dissolved Organic Carbon [mg/L]	< 0.001 | -9	0.377 | +6	1.000 | -2
Metals			
Total Aluminum [µg/L]	0.838 | +57	0.016 | +71	1.000 | -9
Total Antimony [µg/L]	0.839 | +22	1.000 | +0.3	1.000 | 0
Total Arsenic [µg/L]	< 0.001 | +30	0.369 | +6	1.000 | +1
Total Barium [µg/L]	< 0.001 | +29	< 0.001 | +25	< 0.001 | +10
Total Boron [µg/L]	0.445 | +8	< 0.001 | +19	0.014 | +11
Total Cobalt [µg/L]	< 0.001 | +28	< 0.001 | +34	0.465 | +12
Total Copper [µg/L]	1.000 | -4	1.000 | +4	0.763 | -21
Total Iron [µg/L]	0.998 | -10	0.814 | +19	1.000 | +3
Total Lithium [µg/L]	0.008 | +19	0.266 | +16	0.955 | +4
Total Manganese [µg/L]	1.000 | +9	1.000 | +2	1.000 | +2
Total Mercury [µg/L]	0.171 | +63	0.152 | +34	0.992 | +31
Total Molybdenum [µg/L]	0.004 | +15	0.012 | +17	1.000 | +1
Total Nickel [µg/L]	0.003 | +12	< 0.001 | +23	0.995 | +6
Total Strontium [µg/L]	< 0.001 | +18	< 0.001 | +16	0.085 | +5
Total Uranium [µg/L]	< 0.001 | +60	< 0.001 | +35	0.350 | +10

Notes:
Shaded values indicate a significant increase ($p < 0.05$) in concentration from 2024 to 2025.

Figure 3-9. Temporal trend for chloride, sodium, and sulphate at MEL-01, MEL-02, and MEL-03 since 2013.

Note: The green line is the Normal Range of baseline/reference conditions for Meliadine Lake.
Water samples were collected in the East Basin (MEL-01) in August 2013 to characterize baseline conditions. 2015 was the first full year of surface water monitoring for the AEMP at MEL-01 and MEL-02. 2016 was the first year of monitoring at MEL-03 (reference area 1).
ANOVA results (model fits ± 95% confidence intervals) are shown along with pairwise comparisons from Tukey post hoc tests; within each sampling area, different letters indicate statistically significant differences among years (α=0.05). The magnitude of the change in concentrations from year to year is presented below each letter (red = increase; blue = decrease).

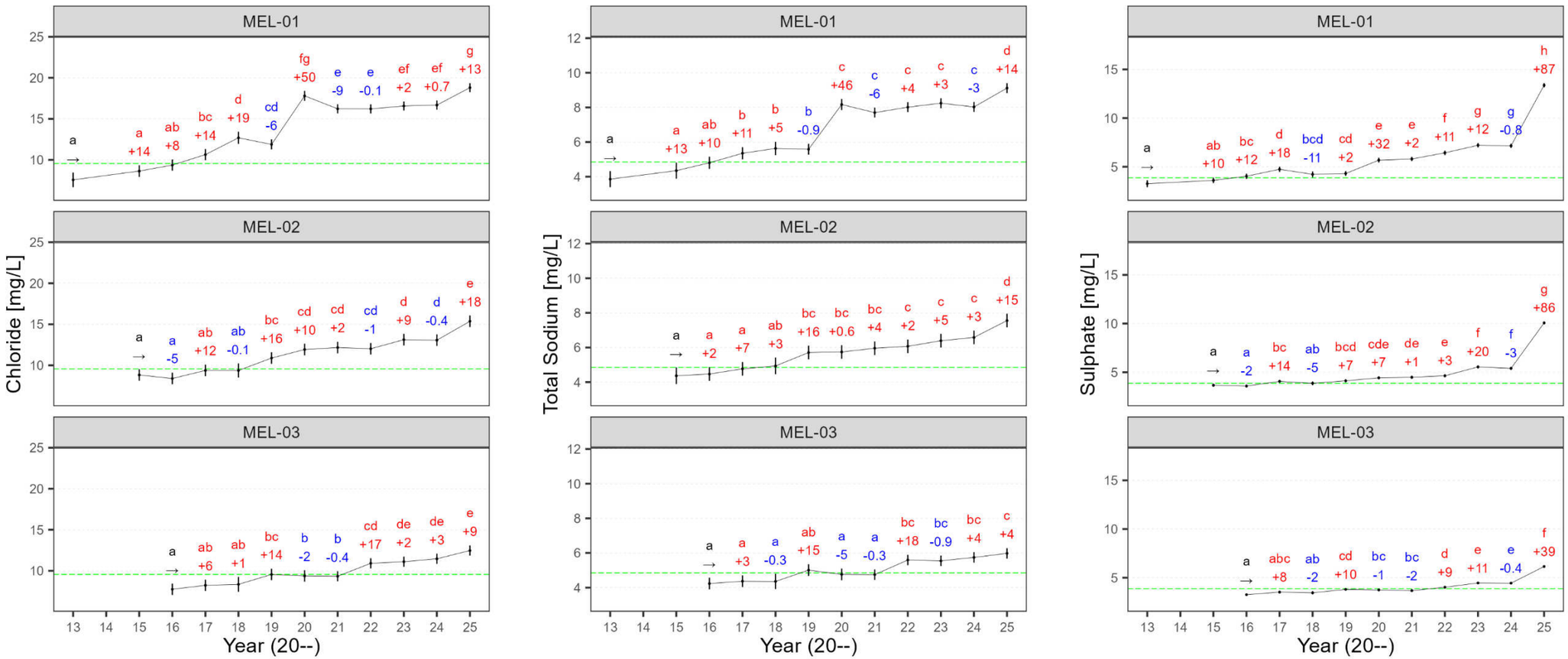


Figure 3-10. Temporal trends for total phosphorus, TKN, and DOC at MEL-01, MEL-02, and MEL-03 since 2013.

Note: The green line is the Normal Range of baseline/reference conditions for Meliadine Lake.
Water samples were collected in the East Basin (MEL-01) in August 2013 to characterize baseline conditions. 2015 was the first full year of surface water monitoring for the AEMP at MEL-01 and MEL-02. 2016 was the first year of monitoring at MEL-03 (reference area 1).
ANOVA results (model fits ± 95% confidence intervals) are shown along with pairwise comparisons from Tukey post hoc tests; within each sampling area, different letters indicate statistically significant differences among years (α=0.05). The magnitude of the change in concentrations from year to year is presented below each letter (red = increase; blue = decrease).

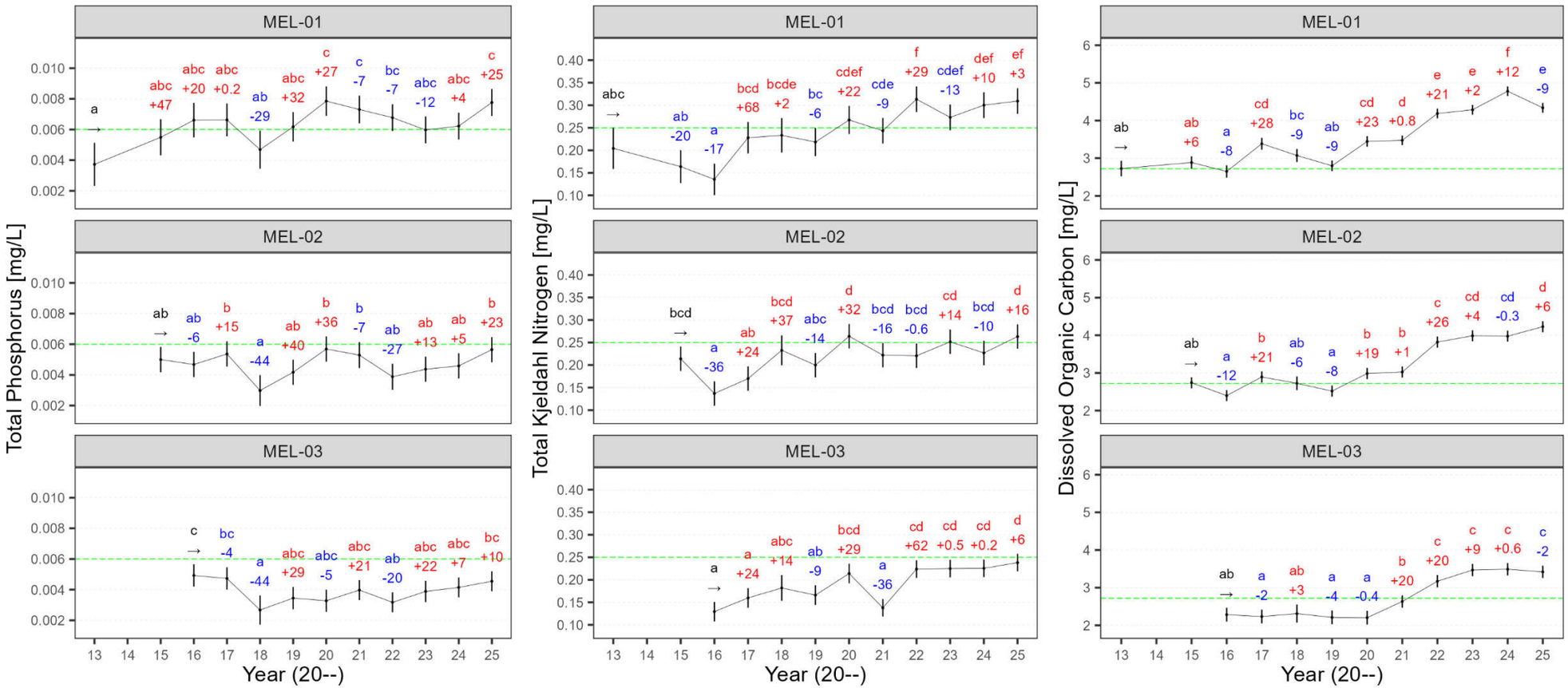
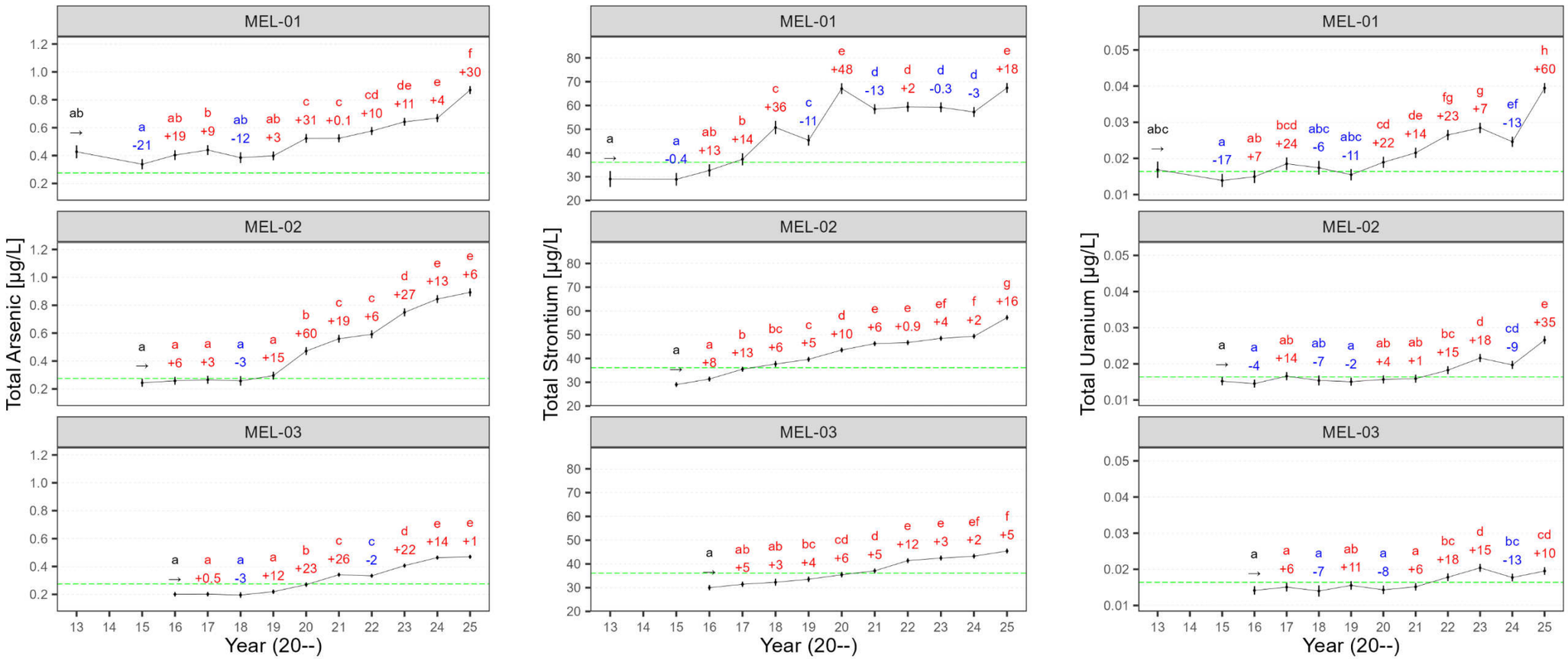


Figure 3-11. Temporal trends for arsenic, strontium, and uranium at MEL-01, MEL-02, and MEL-03 since 2013.

Note: The green line is the Normal Range of baseline/reference conditions for Meliadine Lake.
Water samples were collected in the East Basin (MEL-01) in August 2013 to characterize baseline conditions. 2015 was the first full year of surface water monitoring for the AEMP at MEL-01 and MEL-02. 2016 was the first year of monitoring at MEL-03 (reference area 1).
ANOVA results (model fits ± 95% confidence intervals) are shown along with pairwise comparisons from Tukey post hoc tests; within each sampling area, different letters indicate statistically significant differences among years (α=0.05). The magnitude of the change in concentrations from year to year is presented below each letter (red = increase; blue = decrease).



Summary of Water Quality Changes in 2025

The following discussion reflects the current understanding of how water quality in Meliadine Lake has changed in response to mining activities and broader regional trends. To streamline the analysis, parameters showing similar patterns are treated as surrogates and are not discussed in detail. For transparency, all key parameters that exceeded the Normal Range in 2025 are included in the condensed temporal plots presented in **Section 3.6**. Grouping parameters in this way allows the discussion to focus on the most informative indicators of change.

Major Ions

Major ions showed the most consistent increases across stations from 2024 to 2025, with greater magnitude of change at MEL-01 and MEL-02 compared to MEL-03. Sulphate exhibited the largest annual increase at all stations (+87% at MEL-01, +86% at MEL-02, and +39% at MEL-03 [**Figure 3-9**]). Chloride, calcium, magnesium, potassium, and sodium showed similar temporal and spatial patterns as sulphate.

Water quality data from Peter Lake and Atulik Lake collected in 2021 and 2025 suggest that some of the observed changes in major ion concentrations in Meliadine Lake are influenced by regional climatic trends. As shown in **Table 3-7**, concentrations of several major ions increased in both Atulik Lake and Peter Lake, and for some parameters the magnitude of change was greater in the reference lakes than at MEL-01 (e.g., chloride and fluoride).

Table 3-7. Percent change in the concentration of major ions from 2021 to 2025 in Atulik Lake, Meliadine Lake, and Peter Lake.

Parameter	Percent (%) Change in the Mean Concentration from 2021 – 2025 (Open-water sampling event [Jul – Sep])						
	Atulik	MEL-01	MEL-02	MEL-03	MEL-04	MEL-05	Peter
Major Ions							
Alkalinity, Total	9.5	14.7	15.8	32.4	8.1	1.4	10.6
Calcium (T)	34.5	33.7	34.4	31.0	24.5	29.9	24.4
Chloride	17.6	11.7	25.7	41.1	32.1	27.6	25.0
Fluoride	34.5	19.7	23.5	78.9	29.1	24.8	35.7
Magnesium (T)	24.2	30.1	36.4	33.7	27.9	26	23.2
Potassium (T)	2.0	12.8	15.4	18.6	15.4	13.1	6.0
Reactive Silica (SiO_2)	68.1	89.8	88.5	67	49.4	39.9	72.9
Sodium (T)	11.0	13.5	25.6	31.9	33.7	25.3	24.6
Sulphate	91.9	116.7	110.5	70.5	64	66.6	40.1

In the case of sulphate, concentrations increased by approximately 92% at Atulik Lake and 40% at Peter Lake between 2021 and 2025. These results reflect the range of reference conditions in the region, influenced by local mineralogy and watershed characteristics. Over the same period, sulphate concentrations increased 117% at MEL-01. Effluent is likely influencing some of the temporal trends observed for major ions at MEL-01; however, results from Atulik Lake and Peter Lake suggest that regional background trends are the primary driver of the increases observed in recent years.

Nutrients and Organic Carbon

Total phosphorus concentrations increased at MEL-01, MEL-02, and MEL-03 in 2025 compared to 2024; however, the change was not statistically significant (**Table 3-6**). Total dissolved phosphorus did not show a significant trend at any of the Meliadine Lake areas from 2024 to 2025.

Throughout operations, total phosphorus concentrations have generally remained between the Normal Range (0.006 mg/L) and the AEMP Action Level (0.0075 mg/L) (**Figure 3-10**). Based on data from Atulik Lake and Peter Lake, evidence for effluent-related increases in total phosphorus in Meliadine Lake is weak. In 2025, total phosphorus concentrations in the three samples collected from Peter Lake ranged from 0.003 to 0.011 mg/L (Table 3-5). These data provide important insight into the range of background phosphorus concentrations in the region and illustrate why periodic exceedances of the AEMP Action Level should be evaluated within the broader regional context.

There is some evidence of an increasing temporal trend in total Kjeldahl nitrogen (TKN) across Meliadine Lake since the mid-2010s (**Figure 3-10**). However, concentrations measured at Atulik Lake in 2025 were within the range typically reported for Meliadine Lake (**Figure 3-13**), suggesting that a broader regional pattern may be influencing TKN concentrations.

Dissolved organic carbon (DOC) concentrations have trended higher throughout Meliadine Lake since 2020 (**Figure 3-10**). The timing and magnitude of the increase in DOC throughout Meliadine Lake suggest that concentrations are increasing due to regional climatic trends impacting water quality at the local scale. The results from Atulik Lake and Peter Lake substantiate this hypothesis, with DOC increasing on average 11% at Atulik Lake and 21% at Peter Lake from 2021 to 2025.

Metals

Fifteen metals exceeded their respective Normal Ranges at MEL-01 in 2025 (**Table 3-5**). To help interpret whether observed temporal trends are related to mining activities or natural variability, metals were evaluated using the condensed temporal plots in **Section 3.6** and the statistical comparisons presented in **Appendix C3**. Additional context was provided by results from the regional reference lakes (Atulik Lake and Peter Lake) to help distinguish potential mining-related influences from broader regional trends. The results of this assessment are discussed below.

Most metals showed little to no evidence of increasing concentrations over time. For antimony, boron, and lithium, measured concentrations were within two times the detection limit for most samples in 2025 and therefore do not warrant further consideration.

Eight metals show evidence of increasing concentrations in Meliadine Lake. Five of these metals (barium, cobalt, copper, molybdenum, and nickel) also appear to be increasing regionally based on the timing and magnitude of changes observed in Atulik Lake and Peter Lake (**Table 3-8**), as well as the similarity in absolute concentrations. Barium, for example, shows a nearly identical trend at Atulik Lake, Peter Lake, and the Meliadine Lake stations (**Figure 3-14**), with peak concentrations in each lake approaching 12 µg/L.

Arsenic, strontium, and uranium were identified in the 2024 AEMP as parameters that appear to be increasing due to a combination of mining-related activities and other factors influencing water quality in the region. The addition of data from Atulik Lake and Peter Lake has helped refine the relative contribution of the Mine versus broader regional trends. The current understanding for each metal is summarized below.

Table 3-8. Percent change in the concentration of selected metals of interest from 2021 to 2025 in Atulik Lake, Meliadine Lake, and Peter Lake.

Parameter	Percent (%) Change in the Mean Concentration from 2021 – 2025 (Open-water sampling event [Jul – Sep])						
	Atulik	MEL-01	MEL-02	MEL-03	MEL-04	MEL-05	Peter
Arsenic	39.7	62.6	64.1	40.7	39.6	50.1	22.7
Barium	37.8	30.0	27.3	27.9	16.0	23.7	29.2
Cobalt	37.6	-3.3	44.4	42.3	31.0	35.3	-3.4
Copper	9.2	-5.2	8.1	-17.5	8.1	19.7	-12.8
Molybdenum	20.6	-55.3	40.9	24.6	28.7	26.6	2.0
Nickel	17.5	15.9	30.9	22.3	18.7	25.8	31.6
Strontium	14.8	6.0	18.9	28.8	25.8	20.6	17.5
Uranium	28.9	92.9	76.5	24.4	14.2	28.3	7.1

Arsenic – Arsenic concentrations were identified as potentially increasing due to mining activities as early as the 2020 AEMP (Azimuth, 2021). From 2013 to 2019, concentrations at MEL-01 were relatively stable at approximately 0.4 µg/L. Between 2019 and 2020, concentrations increased by 31% to 0.52 µg/L (Figure 3-11), and increased by a further ~30% between 2024 and 2025. The timing of these increases aligns with the highest loading periods during operations (**Figure 2-12**), suggesting that effluent may have contributed to the increase observed at MEL-01 in 2025. However, effluent alone is unlikely to fully explain the observed patterns in Meliadine Lake, as arsenic concentrations increased by 40% at Atulik Lake and 22% at Peter Lake between 2024 and 2025.

Further complicating the assessment of mining-related versus background influences is the observation that arsenic concentrations at MEL-02 have approached, and in some cases exceeded, concentrations measured at MEL-01 closer to the diffuser (**Figure 3-14**). This spatial pattern, evident since 2020, is inconsistent with effluent being the dominant source under the assumption that discharge water is fully mixed within the East Basin before flowing northwest through the Narrows. One possible explanation is that the shift to earlier discharge in June has created a more direct pathway for effluent between MEL-01 and MEL-02, resulting in less dilution and more similar concentrations between the two stations. Alternatively, the upland area surrounding MEL-02 is highly mineralized, and periods of elevated rainfall, such as those observed in July 2025 and during 2019 (**Table 2-2**), may contribute additional arsenic loadings directly to this basin of Meliadine Lake.

Overall, the available evidence suggests that recent temporal trends in arsenic may reflect a combination of effluent inputs and broader regional processes affecting lakes across the region. Notwithstanding these changes, three important points should be noted regarding arsenic concentrations measured at MEL-01 in 2025 (0.814–1.02 µg/L):

- approximately four-fold lower than the water quality model predictions for the edge of the mixing zone presented in the 2014 FEIS (3.8 µg/L; **Table 3-5**);
- ten-fold lower than the Health Canada drinking water guideline (10 µg/L); and
- below the chronic freshwater guideline for the protection of aquatic life (5 µg/L; note the SSWQO of 25 µg/L is used as the AEMP Benchmark).

While arsenic concentrations have increased relative to earlier years, measured concentrations remain well below predicted levels and established guidelines intended to protect both human health and aquatic life.

Strontium –Strontium concentrations have shown a steady increase throughout Meliadine Lake since the start of monitoring under the AEMP. There is evidence of a concentration gradient MEL-01 > MEL-02 > MEL reference areas consistent with effluent as a source. As with other parameters, the results from Atulik Lake and Peter Lake provide plausible evidence to suggest strontium is increasing at lakes throughout the region. From 2021 to 2025, strontium concentrations in Atulik Lake and Peter Lake increased 14.8 and 17.5%, respectively (**Table 3-8**). Over the same period, strontium only increased 6% at MEL-01, which broadly conforms with lower annual loadings from CP1 to the East Basin (**Figure 2-12**).

Additional years of data from Atulik Lake and Peter Lake will help decipher whether the temporal trend in Meliadine is reflective of effluent as the primary source or background. Risks to aquatic life are negligible, as current concentrations at MEL-01 (63–71.1 µg/L) are less than 3% of the aquatic life guideline (2,500 µg/L).

Uranium – Uranium has shown an increasing temporal trend at MEL-01 that is consistent with effluent as a source of the change. The estimated increase in concentration from 2024 to 2025 was approximately 60% at MEL-01, 35% at MEL-02, and 10% at MEL-03 (**Figure 3-11**). The temporal trend and magnitude of the increase at MEL-01 are consistent with higher loadings from CP1 to Meliadine Lake in 2024 and 2025 (**Figure 2-12**). From 2018 to 2023, uranium was a relatively minor constituent in effluent discharged to Meliadine Lake; however, over the past two years, the load to the lake has comprised roughly 50% of the total uranium load since 2018. The cause of this shift is unknown, but it may reflect changes in water quality interacting with overburden and waste rock, with surface contact water ultimately routed to CP1 for treatment and discharge.

The spatial extent of effluent-related changes may extend as far as MEL-02; however, evidence for far-field changes at MEL-03, MEL-04, and MEL-05 is weak when compared to the temporal trends and absolute concentrations of uranium observed at Atulik Lake and Peter Lake (**Figure 3-16**). Between 2021 and 2025, uranium concentrations at Atulik Lake increased by approximately 29%, while concentrations at the reference areas in Meliadine Lake increased by an average of 14–28% over the same period (**Table 3-8**).

3.5 Conclusions

Results of the 2025 Meliadine Lake water quality monitoring program are summarized below in the context of the key questions. The Low Action Level assessment for water quality in Meliadine Lake is presented in **Section 6.1**.

Are concentrations of parameters in the effluent less than limits specified in the Water Licence?

There were no exceedances of Water Licence limits in 2025 (**Section 2.4.3**). Effluent was also non-toxic to Rainbow Trout and *Daphnia magna* in the monthly acute toxicity tests.

Has water quality in the exposure areas changed over time, relative to reference/baseline areas?

Concentrations of several major ions and some metals have increased in Meliadine Lake relative to baseline conditions. However, results from the regional reference lakes (Atulik Lake and Peter Lake) indicate that similar changes are occurring throughout the region. These findings suggest that regional climatic factor, such as increased runoff associated with permafrost thaw and periods of elevated rainfall, are contributing to the observed changes in water quality. Effluent-related influences are most evident in the vicinity of the diffuser, with some parameters showing spatial gradients extending as far as MEL-02, while evidence for far-field changes in the lake remains limited.

Is water quality consistent with predictions outlined in the Final Environmental Impact Statement (FEIS) and less than AEMP Action Levels?

The 2014 FEIS predicted minor changes in water quality at the edge of the mixing zone (100 m from the diffuser) and no residual impacts from effluent discharge outside the mixing zone in the East Basin of Meliadine Lake. Minor changes were defined as measurable increases in parameters above the baseline range but below guidelines for the protection of aquatic life and drinking water quality. Monitoring results from 2025 are consistent with these predictions. Only a small number of parameters exceeded predicted concentrations at the edge of the mixing zone, while concentrations of key indicators such as TDS and chloride remain below predictions from both the 2014 FEIS and the 2020 hydrodynamic model.

Concentrations of all parameters with effects-based thresholds remained well below early-warning Action Levels, indicating a low risk of adverse effects to aquatic life. Average total phosphorus concentrations in Meliadine Lake in 2025 were approximately equal to the AEMP Action Level but remained with the range observed during the baseline period and at Peter Lake, one of the regional reference lakes.

Phosphorus concentrations have historically occurred at the mid- to upper end of the oligotrophic range (up to 0.01 mg/L) defined by CCME (2004). Rather than using 75% of 0.01 mg/L as an early-warning trigger, a tiered approach consistent with the CCME framework is recommended. Under this approach, the Action Level would be set at 0.009 mg/L, representing a 50% increase above the Normal Range derived from baseline and reference conditions for Meliadine Lake. This provides a more defensible indicator of potential mining-related changes in primary productivity that could warrant further assessment.

It is important to note that total phosphorus provides an indirect measure of potential changes in productivity. Accordingly, it is assigned a lower weighting as a line of evidence relative to direct measures of phytoplankton biomass and community composition when evaluating changes in primary productivity in **Section 5**.

3.6 Supplemental Water Quality Plots

The condensed temporal plots show concentrations of major ions, nutrients, and metals in surface water samples from Meliadine Lake going back to 2013. The dates on the x-axis *are* condensed to show the results for samples collected during the open water sampling events (July through September) each year. The green line indicates the normal range, which corresponds to the upper 90th percentile concentration for samples collected during baseline and from the reference areas.

Water quality data collected from Atulik Lake and Peter Lake in 2021, 2024, and 2025 were included in the condensed temporal plots to show how water quality compares at reference lakes near the Meliadine Mine.

Figure 3-12. Time series plots of TDS and major ions in Meliadine Lake, Atulik Lake, and Peter Lake since 2013.

Notes: AL = Atulik Lake; PL = Peter Lake

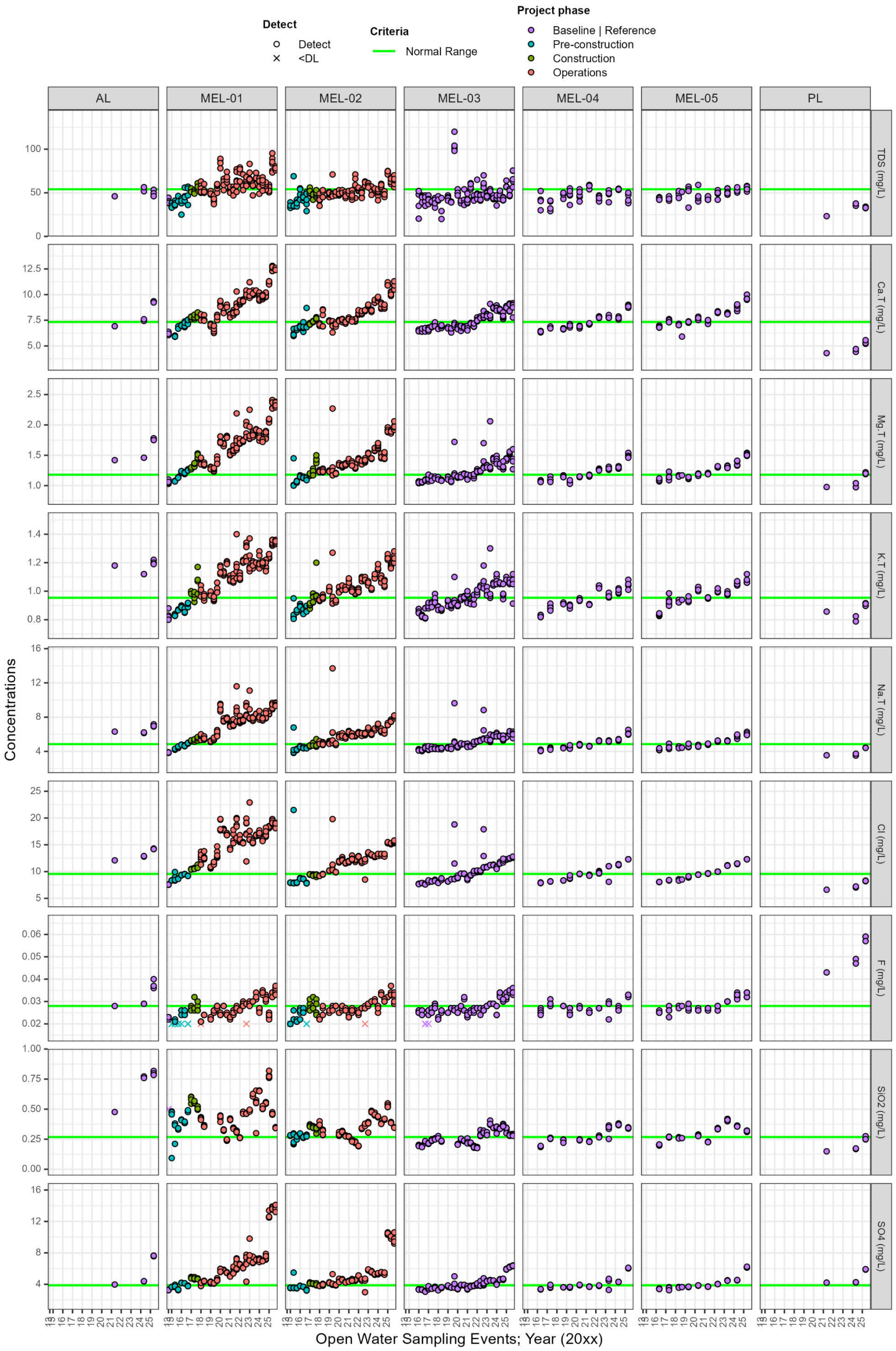


Figure 3-13. Time series plots of selected nutrients in Meliadine Lake, Atulik Lake, and Peter Lake since 2013.

Notes: Ammonia (NH3) concentrations in August and September 2021 should be interpreted with caution because of elevated detection limits at the lab during these two sampling events (see "x" symbols for non-detects in 2021).
AL = Atulik Lake; PL = Peter Lake

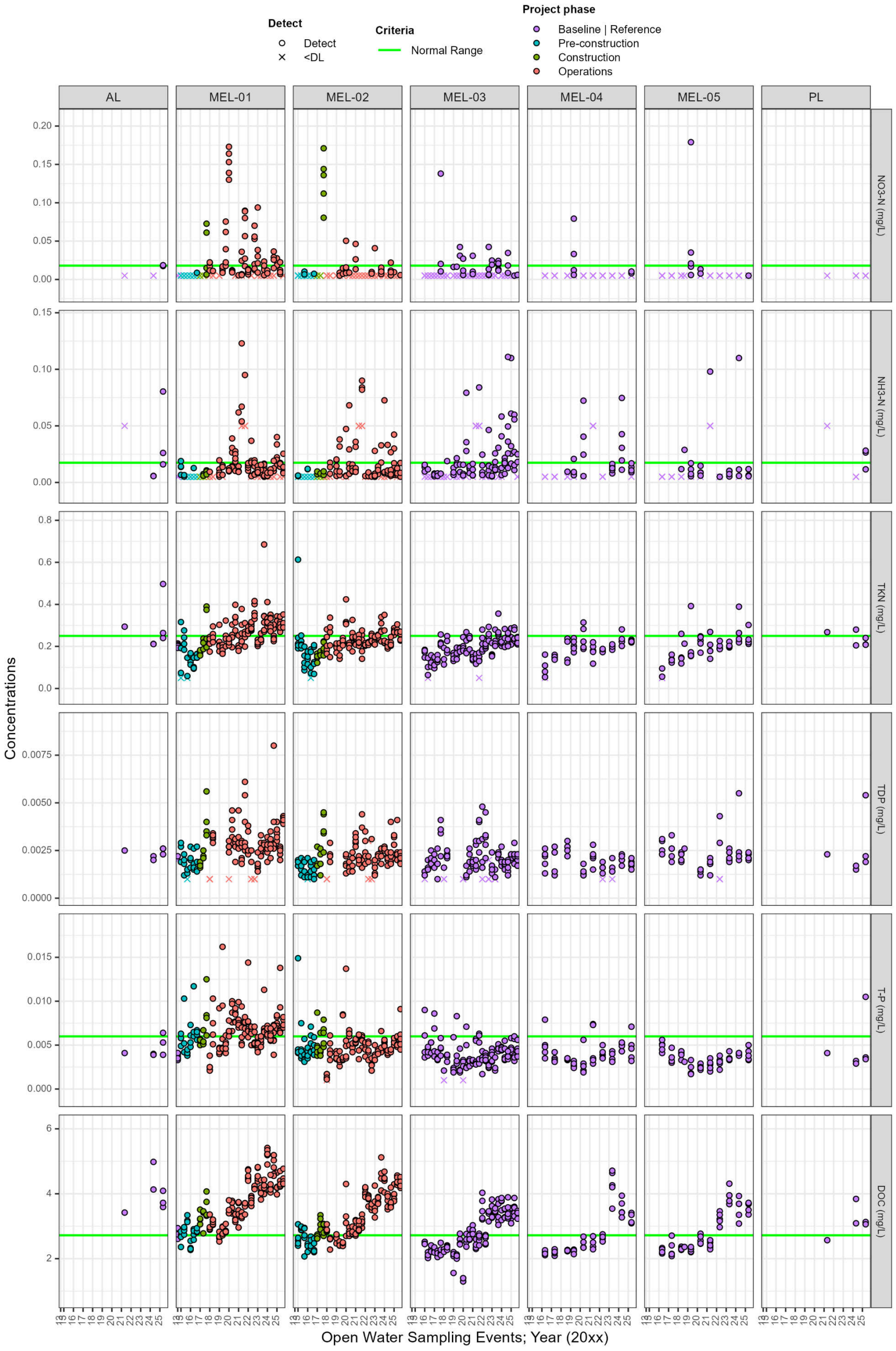


Figure 3-14. Time series plots of selected metals of interest in Meliadine Lake, Atulik Lake, and Peter Lake since 2013.

Notes: Detection limits have changed over time for some parameters.
AL = Atulik Lake; PL = Peter Lake

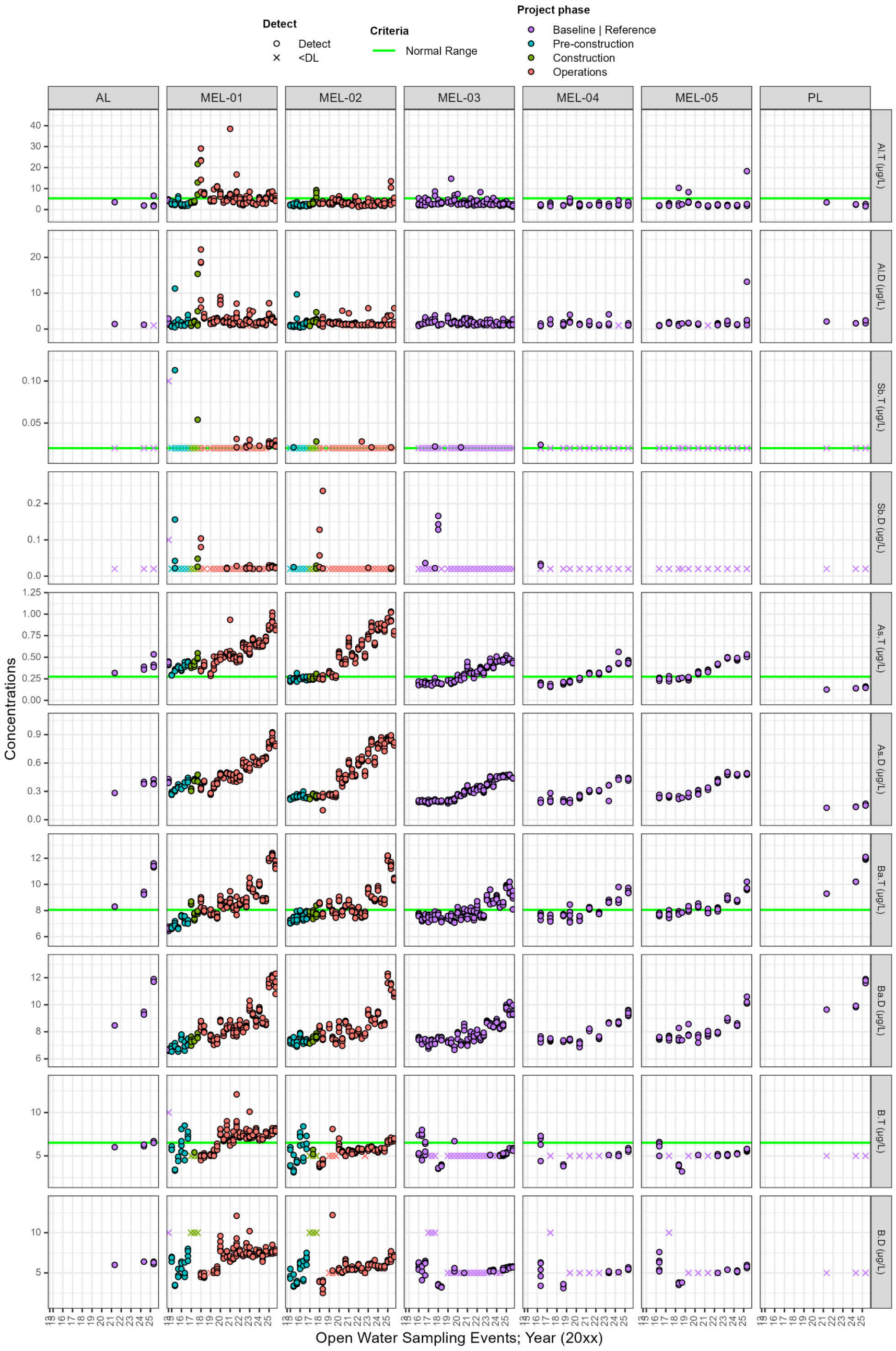


Figure 3-15. Time series plots of selected metals of interest in Meliadine Lake, Atulik Lake, and Peter Lake since 2013.

Notes: Detection limits have changed over time for some parameters.
AL = Atulik Lake; PL = Peter Lake

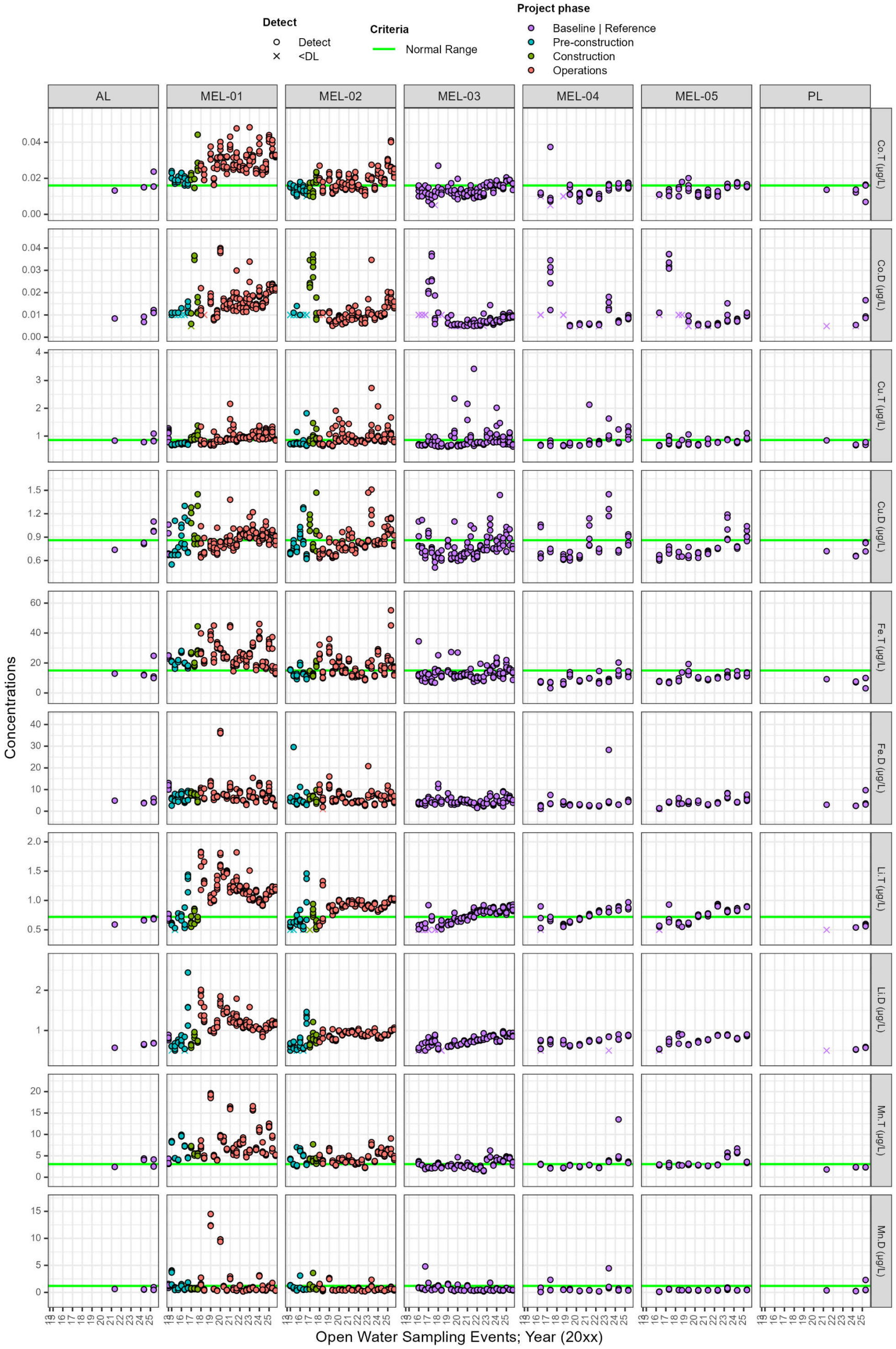
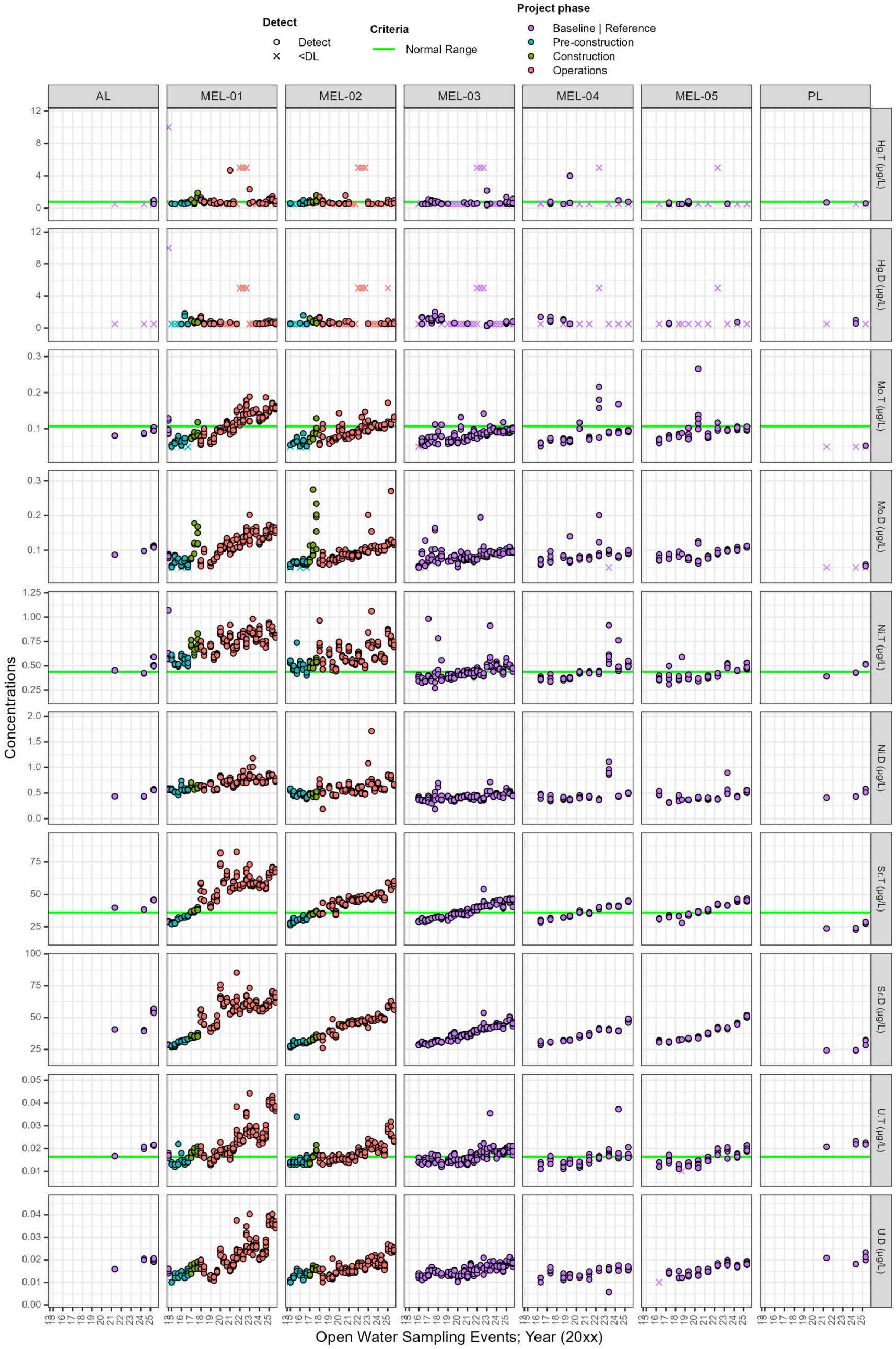


Figure 3-16. Time series plots of selected metals of interest in Meliadine Lake, Atulik Lake, and Peter Lake since 2013.

Notes: Detection limits have changed over time for some parameters.
AL = Atulik Lake; PL = Peter Lake



4 WATER QUALITY – PENINSULA LAKES

4.1 Introduction

The Peninsula Lakes water quality monitoring program assesses impacts from mining activities (aerial emissions and altered hydrology) on small lakes near the Mine. Annual monitoring specifically evaluates cumulative impacts using water quality data from three lakes:

- Lake B7: West of the Tailings Storage Facility (TSF).
- Lake E3 (MEL-15): Northwest of the TSF.
- Lake D7: Southwest of Lake B7, within a separate watershed. Lake D7 serves as a spatial control to define the geographic extent of mining impacts.

Lake E3 was added to the Peninsula Lakes study design in 2025 to replace Lake A8 which was dewatered in 2025. The sampling stations are shown in **Figure 1-2**. The sampling dates for each lake are provided in **Table 4-1**.

Objectives and Key Questions

The Peninsula Lakes water quality program has four objectives:

- Determine if water quality in lakes close to the Mine is changing,
- Evaluate the accuracy of predicted changes in water quality,
- Assess if mitigation measures are effective at reducing impacts to the aquatic environment, and
- Provide recommendations (as required) for follow-up monitoring or mitigation to lower the impact of mining-related activities on changes in water quality.

The approach to meeting these objectives is centered around answering the following key questions:

Has water quality changed over time relative to baseline conditions?

Is water quality consistent with predictions in the FEIS and below guidelines to protect aquatic life and human health?

Table 4-1. Water samples collected for the Peninsula Lakes study in 2025.

Area	Station ID	Depth at Stn (m)	UTM (zone 15V)		Sampling Dates				
			Easting	Northing	Jun	Jul	Aug	Sep	Oct
Lake B7	B7-01	1.0	538631	6989096	-	18-Jul	10-Aug 24-Aug	14-Sep	11-Oct
	B7-02	1.7	538195	6989436			10-Aug	-	-
	B7-03	1.7	537713	6989798				-	-
Lake D7	D7-01	1.7	536390	6989340	-	18-Jul	12-Aug	-	-
	D7-02	1.7	536567	6988868					
	D7-03	1.8	536852	6988689					
Lake E3	E3-01[a]	Shoreline	537019	6990676	-	19-Jul	25-Aug	-	-
	MEL-15[b]				4-Jun; 15-Jun[c]	7 Jul[c]	5-Aug	7-Sep	3-Oct

Notes:
[a] Samples analyzed at ALS Environmental
[b] Samples analyzed at BV Labs for compliance monitoring as per 2AM-MEL1631.
[c] Shoreline limnology readings only

4.2 Findings from the 2025 Peninsula Lakes Water Quality Program

- There is no evidence that mining activities have directly impacted water quality in Lake D7. While some parameters have increased compared to early years of the AEMP (2015-2017), these changes are attributed to natural variability associated with broader climate-driven processes.
- Water quality trends in Lake E3 closely mirror those observed in Lake D7, indicating that water quality in this lake reflects regional background conditions rather than mining-related influences characteristic of Lake B7.
- Mining activities have contributed to changes in water quality in Lake B7. The parameters most strongly associated with mining-related inputs include major ions (calcium, sodium, chloride, and sulphate), as well as select metals, notably arsenic.
- Arsenic exceeded the AEMP Action Level in nine samples from Lake B7 in 2025. Arsenic shows a strong seasonal pattern, with concentrations peaking in mid-August (~30 µg/L) before decreasing in the fall to concentrations similar to early summer after ice off (~20 µg/L). Year-over-year increases in arsenic suggest the TSF as the primary source, although regional climate-driven processes are likely also a factor based on temporal trends observed at the regional reference lakes.
- Targeted toxicity testing conducted in 2025 indicated minor effects on algal growth, with no effects observed for higher trophic levels, suggesting limited biological response at current concentrations.

4.3 Methods

4.3.1 Field and Laboratory Procedures

Routine surface water sampling for the Peninsula Lakes study is conducted in July and August in accordance with the AEMP Design Plan (Azimuth, 2025a). In response to arsenic concentrations approaching and exceeding the Action Level under the Response Framework, additional sampling in the summer/fall has been undertaken in recent years to better characterize seasonal trends.

At each station, i*n-situ* water quality measurements (temperature, dissolved oxygen (% and mg/L), pH, and specific conductivity) were recorded just below the surface and every 0.5 m through the water column to within 0.5 m of the lake bottom. Surface water samples were collected from mid-depth at each station using a Kemmerer grab sampler. Samples were processed and analyzed according to methods described previously for Meliadine Lake.

Lake E3

Under Water Licence 2AM-MEL1631, monthly water sampling at Lake E3 (MEL-15) has been conducted during the open-water season since 2018. The compliance sampling program at Lake E3 differs from the sampling conducted at Lake D7 and Lake B7 as part of the Peninsula Lakes study. At MEL-15, a single shoreline sample is collected rather than triplicate samples from a boat, limnological profiles are not collected, and samples are analyzed at Bureau Veritas laboratories along with other compliance samples.

To facilitate comparisons among years, the same shoreline sampling station was used for the Peninsula Lakes study. Water samples were collected from Lake E3 (MEL-15) in July and August and submitted to ALS Environmental for analysis. These samples were collected on different days than the compliance samples, which increased seasonal resolution but precluded direct comparisons between laboratories (i.e., assessment of inter-laboratory variability).

4.3.2 Toxicity Tests in Lake B7

Agnico Eagle proactively initiated toxicity testing in 2025 to evaluate whether changes in water quality in Lake B7 – namely higher concentrations of arsenic – pose risks to aquatic life. The initial plan was to conduct sublethal testing using *Ceriodaphnia dubia* (7-day survival and reproduction) and *Pseudokirchneriella subcapitata* (72-hour growth inhibition), given that algae and crustaceans are the most sensitive taxa following acute and chronic exposure to arsenic (Lepper et al., 2007). Water sampling was done on August 25; however, due miscommunication with the laboratory (Nautilus Environmental), acute toxicity tests were conducted on Rainbow Trout (96-hour LC50) and *Daphnia magna* (48-hour LC50). Follow-up sampling was completed on September 14, 2025, and the intended sublethal tests using *C. dubia* and *P. subcapitata* were subsequently carried out.

All testing was conducted by Nautilus Environmental (Puslinch, ON) following standard methods under the Metal and Diamond Mining Effluent Regulations (MDMER). The sample for sublethal testing arrived on September 18, and testing was initiated the same day. No unusual conditions were reported, and the results were considered reliable for interpretation. The lab reports for the acute and sublethal toxicity tests are provided in **Appendix D2**.

4.3.3 Quality Assurance and Quality Control

The QA/QC assessment results described for the Meliadine Lake monitoring program (**Section 3.3.2**) also apply to the Peninsula Lakes study. Below are relevant aspects of the QA/QC assessment specific to the Peninsula Lakes:

- One sample from Lake E3 collected on August 25 exhibited elevated concentrations of cyanide (total [0.046 mg/L], free [0.027 mg/L], and weak acid dissociable [0.028 mg/L]) relative to other sampling events. This sample was analyzed at ALS Environmental with a detection limit of 0.001 mg/L. No data quality issues were flagged by the laboratory. However, the results from August 25 were considered unrepresentative of conditions in Lake E3 for two reasons. First, total and free cyanide concentrations measured in compliance samples on August 5 and September 7 were 15 to 50 times lower. Second, the highest of total and free cyanide measured (detected) in samples from Lake E3 since 2018 were 0.0027 mg/L and 0.005 mg/L, respectively.
- There are variable detection limits for some parameters between BV and ALS. Some metals analyzed by BV Labs have DLs that preclude leveraging the compliance samples for looking at long-term trends (e.g., antimony, boron, cobalt, lead, titanium). Elevated DLs are shown in the plots in **Section 4.6**.

The water quality data collected for the Peninsula Lakes study in 2025 are accurate and reliable for reporting purposes.

4.3.4 Data Analysis

Water Quality Screening Assessment

The AEMP Benchmarks are effect thresholds intended to protect aquatic life and drinking water quality at the Project. These benchmarks, and their corresponding Action Levels, apply to both Meliadine Lake and the Peninsula Lakes, except for parameters with aquatic life guidelines that vary according to site-specific water quality characteristics such as pH, DOC, and hardness, referred to collectively as toxicity modifying factors (TMFs). These parameters include ammonia, sulphate, aluminum (total), cadmium (total), cobalt (total), copper (dissolved), lead (dissolved), manganese (dissolved), nickel (total), and zinc (dissolved).

Each sample is compared with its event-specific AEMP Benchmark and Action Level. For visualization of the AEMP Benchmarks and Action Levels in figures, the lowest calculated guideline across all sampling events in each lake is shown.

The phosphorus benchmark of 0.01 mg/L, which is intended to represent oligotrophic conditions, is not applied in the Peninsula Lakes study because baseline phosphorus concentrations frequently exceeded this threshold.

Temporal Trend Assessment

Normal Ranges were originally developed in 2018 for 51 laboratory-measured parameters in Lake A8, Lake B7, and Lake D7. In 2024, the Normal Ranges for some parameters were updated to better reflect analytical uncertainty near detection limits. The revised Normal Range values applicable to Lake B7 and Lake D7 are provided in **Appendix D1**.

As documented previously for Meliadine Lake, Normal Ranges have limited value for identifying parameters of interest because water quality is known to be changing throughout the region due to climate-driven processes. Nonetheless, the Normal Ranges for Lake B7 and Lake D7 were used to identify parameters that may be increasing due to mining activities. Greater emphasis was placed on figures showing temporal trends to help identify potential mining-related changes.

Normal Ranges were not calculated for Lake E3 because monitoring at this location began in 2018, after construction of the Mine had already started, and pre-construction data are therefore not available to establish baseline conditions. Instead, the assessment for Lake E3 focused on temporal trends among the Peninsula Lakes, supported by information from the regional water quality assessment presented in **Section ?**.

Comparison to FEIS Predictions

Water quality modeling was conducted as part of the 2014 FEIS submission to predict how construction and mining activities could affect water quality in small lakes located on the peninsula. Of the Peninsula Lakes included in the AEMP, numerical water quality predictions for the construction and operations phases were developed only for Lake D7 (Table 7.4-A34 in Appendix 7.4-A of the 2014 FEIS). Predictions for Lake B7 were not developed because the lake will ultimately be dewatered.

For waterbodies included in the water quality model during the construction and operations phases, changes in water quality were predicted due to several factors, including water diversion, changes in watershed size and contributing areas, natural hydrological processes, evaporation, and aerial deposition of particulate matter (modeled as total suspended solids, TSS). Additional influences included nutrients associated with blasting activities and metals, which were modeled as individual parameters.

Water quality changes were expected to be most pronounced in waterbodies closest to the mine. However, for most water quality parameters, the predicted changes were considered minor. In the context of the FEIS, “minor” changes refer to increases from baseline conditions that remain below established guidelines for the protection of aquatic life, drinking water quality, and site-specific water quality objectives (SSWQO).

4.4 Results and Discussion

4.4.1 Field-Measured Water Quality Parameters

The Peninsula Lakes are small, shallow water bodies with an average depth of approximately 1.5 m, and most areas are less than 2 m deep (Appendix SD7-2, 2014 FEIS). Due to their shallow depth, areas less than 2 m likely freeze completely to the bottom by late winter, while unfrozen areas typically experience naturally low oxygen levels.

After ice-out, which usually occurs in late May or early June, wind and wave action create well-mixed conditions throughout these lakes. No evidence of stratification has been observed during any sampling events since 2015 or in the baseline data presented in the 2014 FEIS.

Below are the key findings from field measurements recorded at the Peninsula Lakes in 2025.

Temperature – Surface water temperatures rise quickly after ice-off. By mid-July, water temperatures are typically in the range of 13 and 16 °C. Surface water temperatures in 2025 were within the range observed in previous years (see the red dots in **Figure 4-1**).

Dissolved oxygen – Wind and wave action during the open water season contributes to fully-oxygenated conditions in each of the Peninsula Lakes. During the open-water season, dissolved oxygen is typically greater than 9 mg/L. Since 2015, there has been no indication of summer anoxia in any of the profiles taken at Lake B7 and Lake D7. Dissolved oxygen at Lake E3 is more variable than the other lakes, likely due to profiles being collected along the shore rather than in the middle of the lake (**Figure 4-2**).

pH – The Peninsula Lakes are slightly alkaline, with pH typically measuring between 7.5 and 8.5 (**Figure 4-2**). pH varies seasonally and between years, but there is no indication of trends based on the plots. pH values are more variable in Lake E3, owing to the shoreline collection location. Again, no evidence of temporal trends discernable across years based on interannual variability.

Conductivity – In Lake B7, specific conductivity in 2025 was generally between approximately 275 and 350 µS/cm during profile sampling in July, August, and September (**Figure 4-2**), increasing to 390 µS/cm on October 11. A similar increase was observed in Lake E3, where conductivity reached approximately 390 µS/cm on October 3, nearly double the value measured on September 9. This increase may be related to runoff associated with precipitation in early October (**Figure 2-4**). The fact that sampling is

done along the shoreline in Lake E3 means runoff will likely have a greater influence on water chemistry than if sampling was conducted in the middle of the lake after mixing occurs.

Specific conductivity in Lake B7 has increased relative to pre-development conditions and coincides with development of the Mine. In Lake D7, conductivity has also shown a slight increase during operations (2018–2025); however, values remain within the range of approximately 150 µS/cm observed during the pre-construction and construction period (2016–2017). The pattern and magnitude of change are consistent with regional background trends (**Section ?**), suggesting that the observed increases in Lake D7 are more likely driven by natural factors than by mining-related effects extending to the D Watershed.

Figure 4-1. Average surface water temperatures at the Peninsula Lakes, 2015-2025.

Notes: Light grey lines represent individual years (2015–2024); the black line shows the smoothed mean seasonal temperature pattern. Red points indicate observations from 2025.

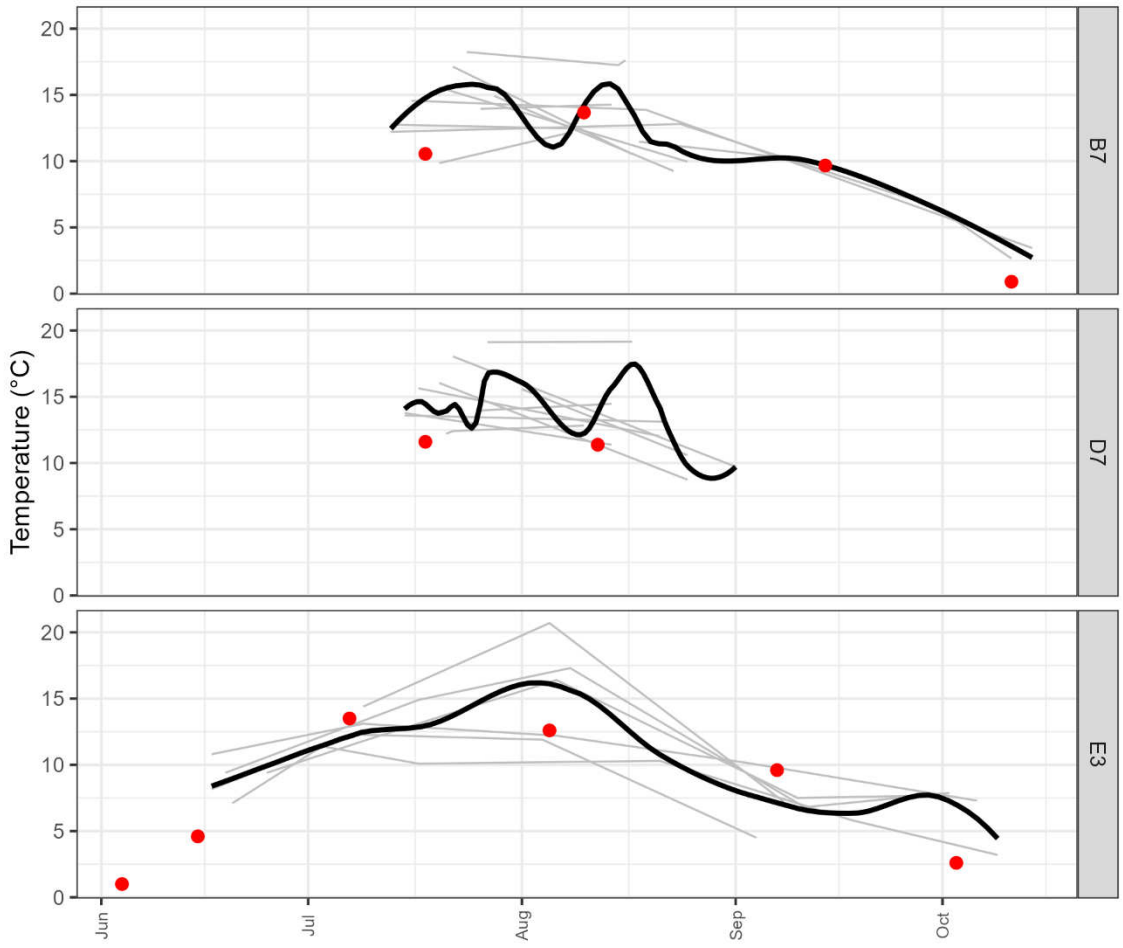
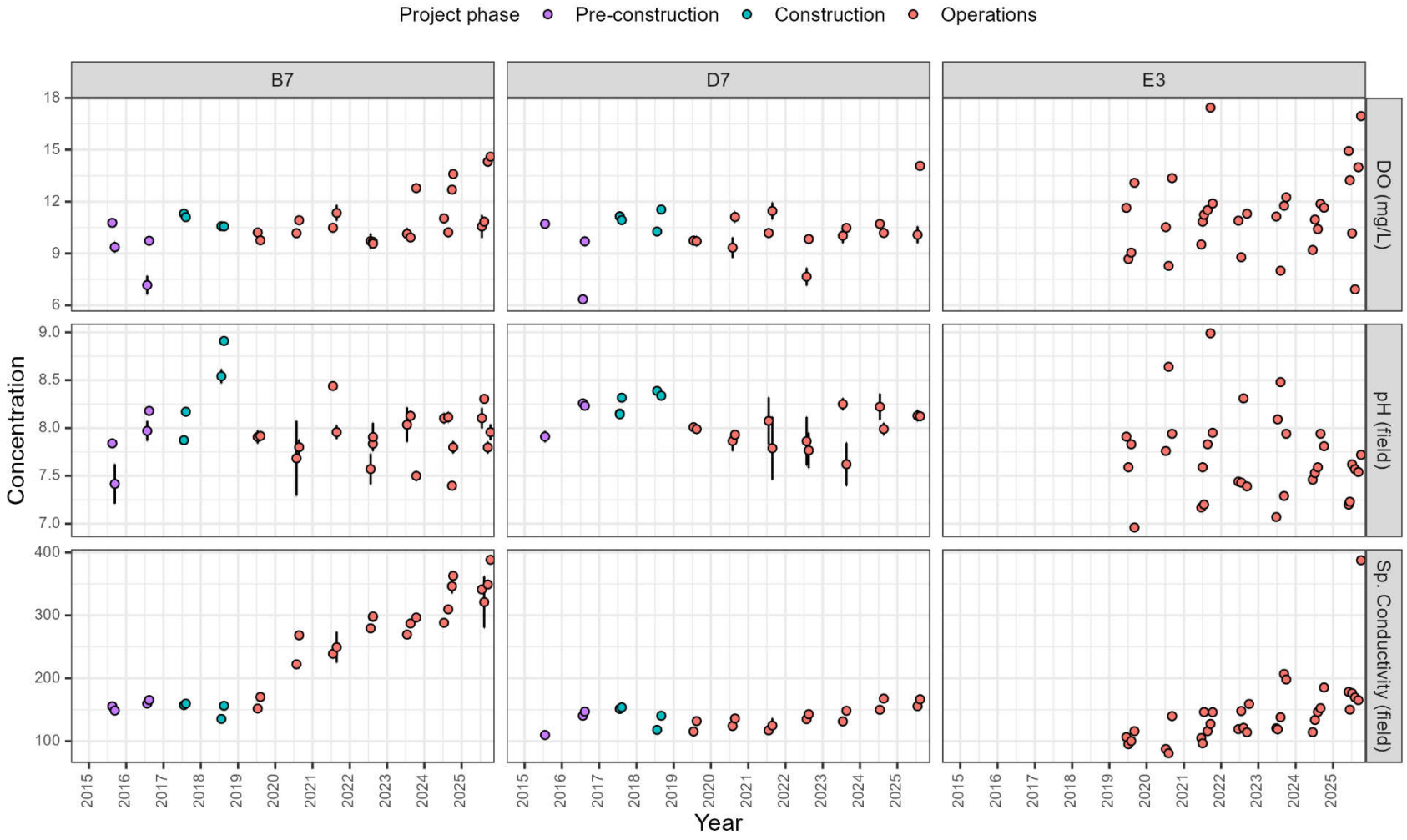


Figure 4-2. Field measurements of dissolved oxygen (mg/L), pH, and specific conductivity (µS/cm) at the Peninsula Lakes since 2015.

Notes: Monitoring data from open-water sampling events (June – October). July and August sampling at Lake B7 and Lake D7 is standard for the AEMP. Lake E3 is sampled more frequently for compliance purposes under Water Licence 2AM-MEL1631. For Lake B7 and Lake D7, each point represents the mean and standard deviation from profiles collected on the same day.



4.4.2 Water Quality Screening Assessment

Results from the 2025 Peninsula Lakes sampling program are provided in **Appendix D1**. Plots showing the concentrations of major ions, nutrients, and metals of interest are provided in **Section 4.6**. The list of parameters that exceeded the AEMP Action Level and AEMP Benchmarks for each area are presented in **Table 4-2**. A summary of the water quality screening assessment is provided below.

- No exceedances of AEMP Action Levels were reported at Lake D7 in 2025.
- Arsenic concentrations exceeded the AEMP Action Level (18.8 µg/L) in all nine samples collected from Lake B7 in 2025. Four of the samples from 2025 also exceeded the SSWQO of 25 µg/L. Arsenic concentrations in Lake D7 and Lake E3 were less than the human health drinking water guideline of 10 µg/L.

Table 4-2. Exceedances of the AEMP Action Levels and Benchmarks in Lakes D7, B7, and E3 in 2025.

Area	Parameters that Exceeded the AEMP Action Level	Parameters that Exceeded the AEMP Benchmark
Lake D7	None	None
Lake E3	None	None
Lake B7	Arsenic	Arsenic

4.4.3 Overview of Natural versus Mining-Related Changes to Water Quality in the Peninsula Lakes

The purpose of this section is to identify parameters that appear to be increasing in the Peninsula Lakes in recent years and, where possible, to assess whether these changes are related to mining activities or to natural variability and climate-related factors.

Lake D7 is located in a watershed not directly influenced by mining and provides context on background water quality changes in small peninsula lakes. Lake B7 and Lake E3, both located adjacent to the Mine near the TSF, serve as comparison lakes for evaluating whether changes observed in these lakes differ from those occurring under background conditions.

Normal Range Assessment

The temporal trend assessment begins with a short list of parameters in Lake D7 and Lake B7 that exceeded the Normal Range of baseline conditions in 2025. By comparing these exceedances and

evaluating temporal patterns across the three lakes, it is possible to distinguish changes that may be related to mining activities from those reflecting natural background variability.

The parameters exceeding the Normal Range at Lake D7 and Lake B7 are presented in **Table 4-3** and **Table 4-4**, respectively. Composite parameters (specific conductivity, hardness, and TDS) were not evaluated separately, as their temporal trends are represented by the underlying major ions. Excluding these composite parameters, 23 parameters exceeded the Normal Range in at least one sample from Lake B7 in 2025. This list is provided in **Table 4-5**, along with an assessment of whether observed changes are indicative of mining-related effects at Lake B7 and Lake E3.

Lake D7 Water Quality Assessment

In 2025, parameters in Lake D7 that were higher than baseline levels based on the Normal Range comparison remained below water quality model predictions except for fluoride, sulphate, arsenic, and boron. Fluoride and boron concentrations at Lake D7 and Lake B7 follow similar temporal patterns (**Figure 4-3**), indicating the deviation is likely an artifact of climate change exerting a more pronounced effect for these two parameters within the local study area.

Sulphate and arsenic concentrations trended higher in Lake D7 in 2025 (**Figure 4-4**), exceeding both the Normal Range and water quality model predictions (**Table 4-3**). Both of these parameters were noted as increasing regionally based on reference data from Meliadine Lake and the regional reference lakes Peter Lake and Atulik Lake, so the pattern of change observed for Lake D7 in 2025 is consistent with a wider regional trend associated with the timing and magnitude of summer rains. Fall sampling was not completed at Lake D7 as per the AEMP Design Plan (Azimuth, 2025a), but given the increase in sulphate observed at Lake B7 and Lake E3 between the September and October sampling events, rain in late September/early October will likely have resulted in higher sulphate concentrations in Lake D7 that will be detected in the first sampling event in July 2026.

Lake B7 Water Quality Assessment

The evaluation of potential mining-related influence in Lake B7 is based on temporal and spatial patterns observed across the Peninsula Lakes, with Lake D7 providing the primary line of evidence for background conditions (**Figure 4-3**). This interpretation is supported by findings from the regional water quality assessment (**Section 2.3.2**).

Changes in water quality in Lake B7 associated with mining activities have been well documented in recent AEMP reports. Parameters showing the clearest evidence of mining-related influence during operations, based on divergent and/or steeper temporal trends relative to Lake D7, include major cations (calcium, magnesium, and sodium), chloride, sulphate, antimony, arsenic, lithium, and strontium. Although some contribution from background processes cannot be ruled out, the magnitude

and direction of change, together with the proximity of Lake B7 to the TSF, indicate that mining activities are the primary driver for the observed temporal trends for these parameters.

In response to increasing arsenic concentrations observed in recent years, Agnico Eagle expanded the surface water monitoring program at Lake B7 in 2023 to include additional sampling later in the summer and early fall to better characterize seasonal patterns (**Figure 4-4**). Results from 2025 show that arsenic concentrations continued to increase in Lake B7. Across nine samples collected from mid-July to early October, arsenic concentrations ranged from 20.9 to 32.5 µg/L, remaining above the AEMP Action Level of 18.8 µg/L and meeting or exceeding the AEMP Benchmark of 25 µg/L in July, August, and September. The same seasonal pattern observed in recent years was again evident in 2025, with concentrations peaking in mid-August before declining through September and October. By the onset of ice cover, arsenic concentrations are typically similar to, or lower than, those measured earlier in summer.

The 2023 and 2024 AEMP reports postulated that the initial arsenic loading may have originated from the TSF, whereas the incremental year-over-year increases may be related to loading from sediment to surface water through complex cycling involving iron and manganese oxyhydroxides. Sediment may represent an ongoing source of arsenic to the surface water during the open-water period; however, other potential sources cannot be ruled out, including continued inputs from the TSF and localized background influences around Lake B7, such as deepening of the active layer and runoff from mineralized soils. Regardless of the source or combination of sources, the seasonal pattern has become relatively consistent as shown in **Figure 4-4**, characterized by (1) incremental annual increases and (2) peak concentrations in mid-August.

Lake B7 Toxicity Test Results

The results of the toxicity tests completed on water from August 25 and September 14 are summarized below.

- Acute Tests on August 25; arsenic concentration = 32.5 µg/L
  - Rainbow Trout LC50: >100%
  - *D. magna* LC50: >100%
- Sublethal tests on September 14; arsenic concentration = 24.8 µg/L
  - *C. dubia* survival: IC25 >100%
  - *C. dubia* reproduction: IC25 >100%
  - *P. subcapitata* growth: IC25 = 79.5% (95% CI = 52.7 to >100%)

The only toxicity endpoint that showed effects relative to the laboratory control was algal growth. Over the 72-hour test, growth of *P. subcapitata* exhibited an IC25 of 79.5%, corresponding to approximately

20% inhibition relative to the laboratory control. This level of response is consistent with a *minor effect* under FCSAP guidance (ECCC 2021).

The observed sensitivity of algae in the September 14 test is consistent with effects thresholds reported in the literature. The CCME Water Quality Guideline (WQG) for arsenic is 5 µg/L (CCME, 2001), based on a 14-day EC50 of 50 µg/L for effects on green algal growth (Vocke et al. 1980)[6].

Overall, results from the September 14 test indicate that current arsenic concentrations in Lake B7 may result in minor reductions in algal growth. Fish and other aquatic organisms are generally less sensitive to arsenic than algae, and no effects were observed in the acute toxicity tests, suggesting that risks to higher trophic levels are low under current conditions.

Lake E3 Water Quality Assessment

Water quality trends in Lake E3 follow temporal patterns similar to Lake D7, indicative of wider regional patterns of change rather than mining-related inputs. Lake E3 is located northwest of the TSF, and prevailing winds mean dust, aerial emissions from the Mine are less likely to impact this area. Results from the snow core chemistry monitoring program validate this conclusion, as chemistry data from SNOCOR7 track similar unimpacted areas rather than SNOCOR4 located south of Tiriganiaq Pit 1 (**Figure 2-13**). Arsenic data from Lake E3 demonstrate that the increasing trend observed in Lake B7 in recent years does not extend northwest of the Site (**Figure 4-3**).

Notwithstanding the general trends for Lake E3, there was evidence of localized changes in water quality coinciding with precipitation at the end of September and early October. Concentrations of major ions and metals increased noticeably between September and October. Sulphate, for example, increased from 12 mg/L on September 7 to 57 mg/L on October 3. As mentioned previously, the fact that sampling is done from the shore means erosions from the tundra during rain / freshet has a greater likelihood of influencing water quality than if samples were collected further off the shore as is done at Lake B7 and Lake D7. One recommendation for 2026 is to consider collecting surface water samples from a boat when rainfall has occurred in the days preceding the sampling event, to minimize bias associated with shoreline runoff and ensure samples are more representative of in-lake conditions.

[6] Documentation was not available to determine the basis for the Site-Specific Water Quality Objective (SSWQO) of 25 µg/L developed by Golder. However, it is plausibly derived using a two-fold safety factor relative to algal effects threshold from Vocke et al (1980).

4.5 Conclusions

Results of the 2025 water quality monitoring program for the Peninsula Lakes are summarized below in relation to the following key questions:

Has water quality in the exposure areas changed over time compared to baseline conditions?

Is water quality consistent with predictions in the FEIS and below guidelines to protect aquatic life and human health?

Based on the available data, changes in water quality have been observed in all three Peninsula Lakes. Data from Lake D7 indicate that most parameters have increased over time, reflecting the combined influence of natural variability and broader climate-related factors. Temporal patterns in Lake E3 closely mirror those observed at Lake D7, indicating that water quality changes at this location are primarily driven by regional processes rather than mining-related inputs.

At Lake B7, increases in major ions and select metals, particularly arsenic, have been observed since 2019, suggesting a contribution from mining activities alongside regional trends. Exceedances of the SSWQO in July and August 2025 prompted targeted toxicity testing to evaluate potential biological effects. Results indicate that current arsenic concentrations may be associated with minor reductions in algal growth, while no effects were observed for aquatic invertebrates. Aside from arsenic at Lake B7, no exceedances of AEMP Action Levels were reported in 2025.

The Guideline for Canadian Drinking Water Quality sets a maximum acceptable concentration of 10 µg/L (Health Canada, 2006). However, use of Lake B7 as a drinking water source is unlikely given its proximity to the Mine and the availability of alternative sources. Lake B7 is also scheduled to be dewatered to support development of deposits approved in the 2014 FEIS.

Overall, the results indicate that regional drivers are influencing water quality across all lakes, with a localized mining-related signal evident at Lake B7. The Low Action Level assessment for the Peninsula Lakes is presented in **Section 6.2**.

Table 4-3. Lake D7 water quality assessment, 2025.

		Lake D7 Summary Statistics				WQM Prediction Assessment				Normal Range Assessment		
						Operations (Yr 5-8)			2025 Median >			
Parameter	Units	N	N<DL	2025 Median	2025 Range	Median	Peak	N>FEIS Median	FEIS Median	Normal Range	N>NR	2025 Median > NR
Major Ions												
Calcium	mg/L	6	0	**18.4**	17.6–19.4	55	72	0	No	17	6	Yes
Chloride	mg/L	6	0	12.4	12–12.9	20	31	0	No	25	0	No
Fluoride	mg/L	6	0	**0.052**	0.05–0.059	0.041	0.054	6	Yes	0.05	4	Yes
Magnesium	mg/L	6	0	**3.32**	3.07–3.59	7.9	10.9	0	No	3.3	3	Yes
Reactive Silica (SiO_2)	mg/L	6	0	0.205	0.142–0.259	-	-	-	-	0.28	0	No
Sodium	mg/L	6	0	8.01	7.3–8.88	12.5	18	0	No	17	0	No
Sulphate	mg/L	6	0	**10.3**	9.82–10.8	7.2	10.3	6	Yes	10	3	Yes
Nutrients and Carbon												
Ammonia (as N)	mg/L	6	0	**0.0195**	0.0144–0.0689	0.125	0.28	0	No	0.01	6	Yes
Total Diss Phosphorus	mg/L	6	0	0.00385	0.0029–0.0102	0.0095	0.013	1	No	0.008	1	No
DOC	mg/L	6	0	**5.7**	5.22–5.98	-	-	-	-	5.1	6	Yes
TOC	mg/L	6	0	5.82	5.4–6.02	-	-	-	-	14	0	No
Metals (unfiltered)												
Aluminum	µg/L	6	0	5.15	2.2–7.4	24	40	0	No	6.7	2	No
Antimony	µg/L	6	6	0.02	0.02–0.02	0.17	0.25	0	No	0.04	0	No
Arsenic	µg/L	6	0	**1.51**	1.33–1.82	1.3	1.9	6	Yes	1.2	6	Yes
Barium	µg/L	6	0	**20**	19.6–20.2	38	69	0	No	17	6	Yes
Boron	µg/L	6	0	14.4	14–15.6	12	16	6	Yes	17	0	No
Cobalt	µg/L	6	0	**0.0651**	0.0205–0.0688	0.55	1.06	0	No	0.05	5	Yes
Copper	µg/L	6	0	0.9	0.804–1.02	2.7	4.2	0	No	1	1	No
Lead	µg/L	6	1	0.019	0.01–0.034	0.21	0.26	0	No	0.02	2	No
Lithium	µg/L	6	0	1.73	1.61–2.37	4.9	6.5	0	No	1.9	1	No
Manganese	µg/L	6	0	**14.2**	0.894–17.4	111	179	0	No	13	3	Yes
Mercury	µg/L	6	0	0.000695	0.00053–0.00112	0.0112	0.017	0	No	0.001	1	No
Molybdenum	µg/L	6	0	**0.571**	0.552–0.604	1.0	1.36	0	No	0.48	6	Yes
Nickel	µg/L	6	0	**0.816**	0.774–0.89	3.5	6	0	No	0.75	6	Yes
Strontium	µg/L	6	0	**91**	87.9–97	200	380	0	No	83	6	Yes
Titanium	µg/L	6	1	0.258	0.05–0.43	1.92	3.3	0	No	0.34	2	No
Uranium	µg/L	6	0	0.0995	0.0928–0.107	0.21	0.28	0	No	0.1	3	No
Zinc	µg/L	6	6	0.5	0.5–0.5	8.9	12.3	0	No	2	0	No

Notes:
Bold values indicate the median concentration is greater than the upper limit of the Normal Range (NR).
Gray highlighted cells indicate the median concentration exceeds the water quality model (WQM) prediction (median prediction; Appendix 7.4-A; Agnico Eagle, 2014). The FEIS Predictions are for 'Operations' year 5-8, which correspond to 2022-2025.
" - " indicates no predictions were developed.
Underlined parameters indicate those where the median concentration in 2025 was greater than the Normal Range and greater than median WQM prediction in the 2014 FEIS.

Table 4-4. Lake B7 water quality screening assessment, 2025.

Parameter	Lake B7 Summary Stats				Normal Range Assessment		
	N	N<DL	2025 Median	2025 Range	Normal Range	N>NR	2025 Median > NR
Major Ions							
Calcium	9	0	**43.6**	42.3–44.7	39	9	Yes
Chloride	9	0	**51.6**	49.4–55.4	25	9	Yes
Fluoride	9	0	**0.049**	0.045–0.052	0.04	9	Yes
Magnesium	9	0	5.07	4.92–5.38	5.3	2	No
Reactive Silica (SiO_2)	9	0	1.71	1.31–2.54	2.3	1	No
Sodium	9	0	**12**	11.2–14.4	7.5	9	Yes
Sulphate	9	0	**30.5**	29.3–35.2	6	9	Yes
Nutrients and Carbon							
Ammonia (as N)	9	1	0.008	0.005–0.142	0.025	3	No
Total Diss Phosphorus	9	0	0.0042	0.0031–0.0066	0.008	0	No
DOC	9	0	**6.58**	5.87–6.91	5.5	9	Yes
TOC	9	0	6.43	6.17–8.26	7.6	1	No
Metals (unfiltered)							
Aluminum	9	0	2.6	1.5–4.8	6.6	0	No
Antimony	9	0	**0.056**	0.052–0.057	0.04	9	Yes
Arsenic	9	0	**24.9**	20.9–32.5	1.8	9	Yes
Barium	9	0	**33.1**	32.8–34.8	20	9	Yes
Boron	9	0	**16**	15.7–17.1	10	9	Yes
Cobalt	9	0	**0.0575**	0.0526–0.0661	0.05	9	Yes
Copper	9	0	0.946	0.817–1.59	1.13	3	No
Lead	9	0	0.073	0.046–0.128	0.08	4	No
Lithium	9	0	**14.8**	13.5–17.2	7.5	9	Yes
Manganese	9	0	4.45	2.14–7.4	8.6	0	No
Mercury	9	0	0.00082	0.00057–0.00183	0.004	0	No
Molybdenum	9	0	**0.374**	0.353–0.39	0.24	9	Yes
Nickel	9	0	0.89	0.86–0.956	1.4	0	No
Strontium	9	0	**344**	319–365	155	9	Yes
Titanium	9	2	0.068	0.05–0.496	0.25	2	No
Uranium	9	0	**0.111**	0.105–0.126	0.03	9	Yes
Zinc	9	5	0.5	0.5–2.46	1.9	1	No

Notes:
Bold values indicate the median concentration is greater than the upper limit of the Normal Range.
[a] Predictions for Lake B7 were not developed because this lake was scheduled to be dewatered in the 2014 FEIS.

Figure 4-3. Temporal trends for key parameters of interest in the Peninsula Lakes since 2015.

Notes: Data are shown as the annual mean ± 1 SD (error bars). Points are jittered to avoid overplotting. Metals in µg/L; other parameters in mg/L. Detection limits for Lake E3 samples are higher than those for Lake B7 and Lake D7 for several parameters (e.g., ammonia, nickel, molybdenum, and uranium).

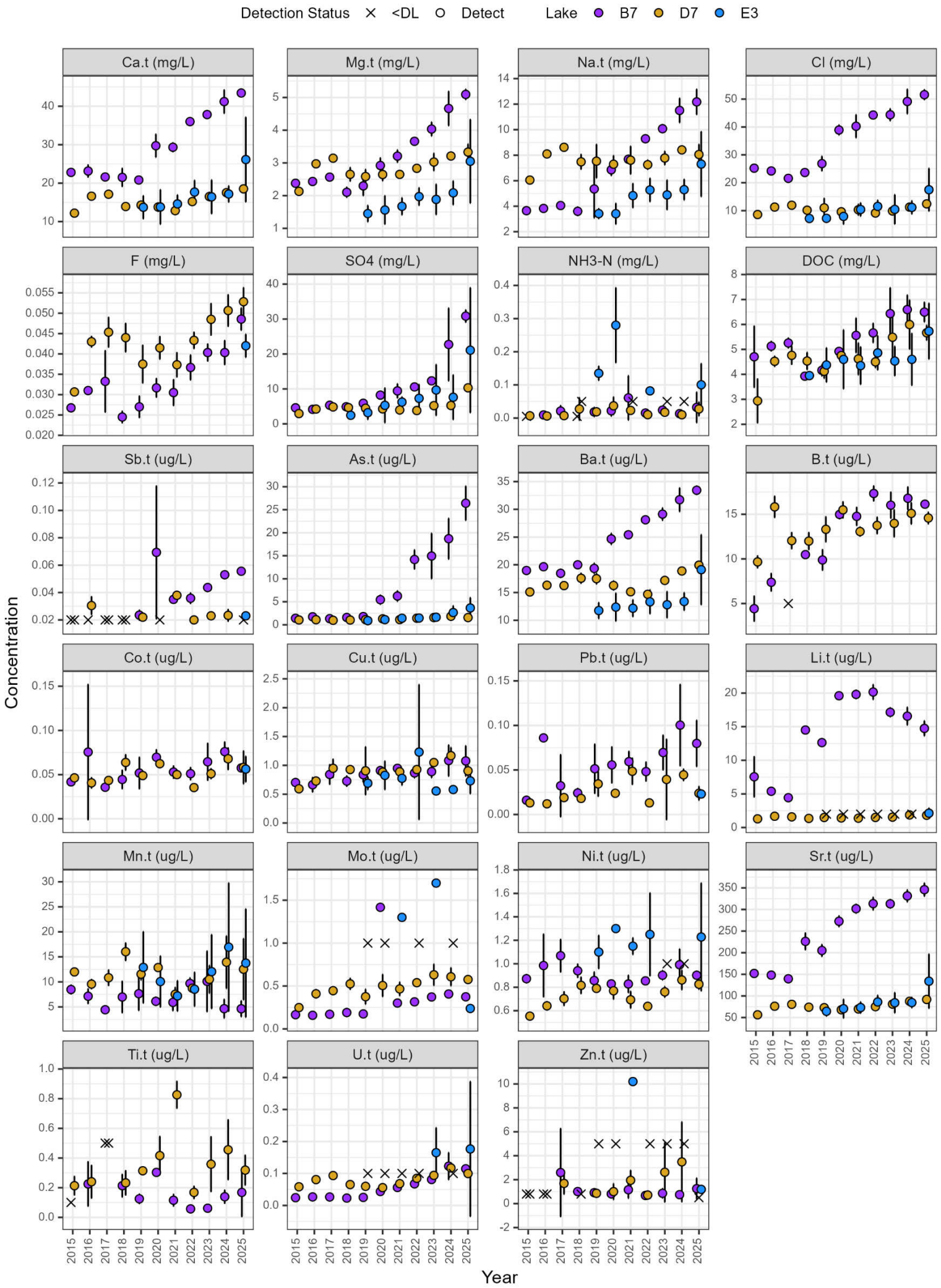


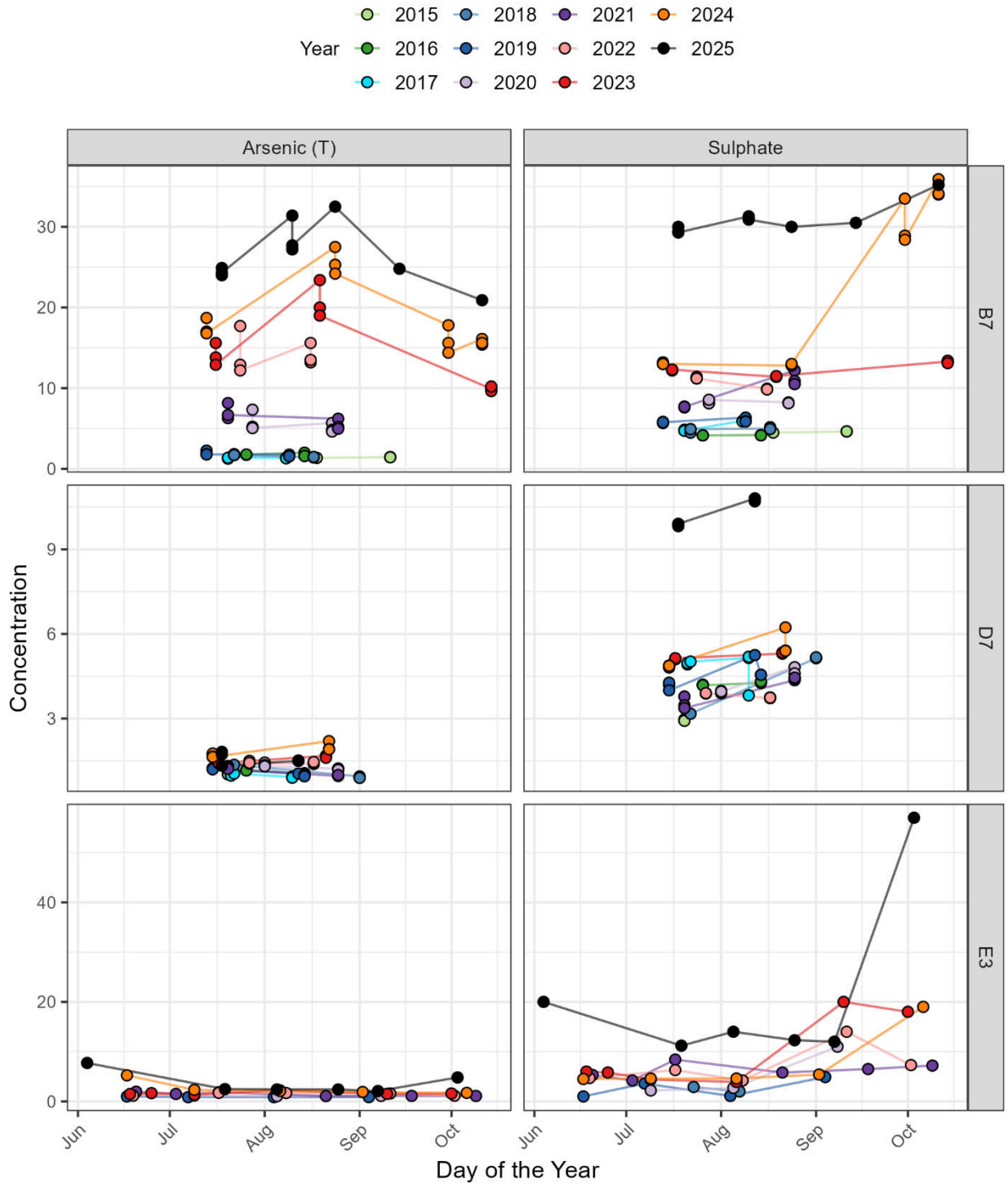
Table 4-5. Evaluation of mining-related changes in water quality among the Peninsula Lakes.

Parameter	Normal Range Assessment				Evidence of Mining-Related Changes in Water Quality Relative to Background (Lake D7)	
	Lake D7 (n=6)		Lake B7 (n=9)		Lake B7	Lake E3
	N > NR	Median > NR	N > NR	Median > NR		
Major Ions						
Calcium (T)	6	***Yes***	9	***Yes***	**Yes: Major cations show an increasing trend in Lake B7 that diverges from the pattern at Lake D7.**	No: spatial and temporal trends similar to Lake D7.
Magnesium (T)	3	***Yes***	2	No		
Sodium (T)	0	No	9	***Yes***		
Chloride	0	No	9	***Yes***	**Yes: Chloride concentrations have been steadily increasing in Lake B7 coinciding with ongoing deposition of tailings in the TSF.**	No: spatial and temporal trends similar to Lake D7; higher chloride concentrations observed in October were associated with runoff from rain.
Fluoride	4	***Yes***	9	***Yes***	No: spatial and temporal trends similar to background; fluoride concentrations are higher in Lake D7 compared to Lake B7 and Lake E3.	Uncertain: sparse dataset from the compliance samples; mining-related changes are unlikely based on the results from Lake B7 which is closer to the TSF.
Reactive Silica (SiO2)	0	No	1	No	No: only one exceedance of the Normal Range for Lake B7 in 2025.	Unlikely: sparse dataset from the compliance samples; unlikely based on the results from Lake B7.
Sulphate	3	***Yes***	9	***Yes***	Uncertain: sulphate concentrations are increasing throughout the region, and notable increases were observed in the Peninsula Lakes, Meliadine Lake and regional reference lakes in 2025 compared to 2024.	Same conclusion as Lake B7.
Nutrients and Organic Carbon						
Ammonia (as N)	6	***Yes***	3	No	No: similar concentrations as Lake D7.	Unlikely: higher DLs in the compliance samples collected prior to 2025.
Dissolved Organic Carbon	6	***Yes***	9	***Yes***	No: similar temporal trends observed at Lake D7.	Same conclusion as Lake B7.
Total Organic Carbon	0	No	1	No	See above for DOC.	See above for DOC.
Metals						
Antimony (T)	0	No	9	***Yes***	**Yes: increasing trend since 2020; current concentrations are less than 5-times the detection limit.**	Unlikely: higher DLs in the compliance samples collected prior to 2025.
Arsenic (T)	6	***Yes***	9	***Yes***	**Yes: increasing trend since 2020; current concentrations are greater than the Action Leve of 18.8 µg/L (i.e., 75% of the SSWQO of 25 µg/L).**	No: temporal trend similar to Lake D7 and consistent with gradual increases observed in the regional reference lakes.

Table 4-5. Evaluation of mining-related changes in water quality among the Peninsula Lakes.

Parameter	Normal Range Assessment				Evidence of Mining-Related Changes in Water Quality Relative to Background (Lake D7)	
	Lake D7 (n=6)		Lake B7 (n=9)			
	N > NR	Median > NR	N > NR	Median > NR	Lake B7	Lake E3
Barium (T)	6	***Yes***	9	***Yes***	Uncertain: Divergent trend from Lake D7 but similar to the pattern observed at the regional reference lakes.	No: temporal trend consistent with Lake D7 and regional reference lakes.
Boron (T)	0	No	9	***Yes***	No: temporal trend and absolute concentrations similar to Lake D7	Uncertain: higher DLs in the compliance samples collected prior to 2025 preclude a formal comparison.
Cobalt (T)	5	***Yes***	9	***Yes***	No: temporal trend and absolute concentrations similar to Lake D7	Uncertain: higher DLs in the compliance samples collected prior to 2025 preclude a formal comparison.
Copper (T)	1	No	3	No	No: temporal trend and absolute concentrations similar to Lake D7	No: temporal trend and absolute concentrations similar to Lake D7
Lead (T)	2	No	4	No	No: temporal trend and absolute concentrations similar to Lake D7	Unlikely: higher DLs in the compliance samples collected prior to 2025; concentrations in 2025 similar to Lake D7.
Lithium (T)	1	No	9	***Yes***	**Yes: evidence for mining-related changes starting in 2018; concentrations have remained stable during operations.**	Unlikely: higher DLs in the compliance samples collected prior to 2025; concentrations in 2025 similar to Lake D7.
Molybdenum (T)	6	***Yes***	9	***Yes***	No: temporal trend similar to Lake D7; absolute concentrations less than those reported at Lake B7.	Uncertain: higher DLs in the compliance samples collected prior to 2025 preclude a formal comparison.
Strontium (T)	6	***Yes***	9	***Yes***	Uncertain: Divergent trend from Lake D7 but similar to the pattern observed at the regional reference lakes.	No: temporal trend similar to Lake D7 and consistent with gradual increases observed in the regional reference lakes.
Titanium (T)	2	No	2	No	No: temporal trend similar to Lake D7; absolute concentrations less than those reported at Lake B7.	Uncertain: higher DLs in the compliance samples collected prior to 2025 preclude a formal comparison.
Uranium (T)	3	No	9	***Yes***	No: temporal trend and absolute concentrations similar to Lake B7	Unlikely: higher DLs in the compliance samples collected prior to 2025.
Zinc (T)	0	No	1	No	No: temporal trend and absolute concentrations similar to Lake B7	Uncertain: higher DLs in the compliance samples collected prior to 2025 preclude a formal comparison.

Figure 4-4. Temporal trends for arsenic (µg/L) and sulphate (mg/L) in the Peninsula Lakes since 2015.



4.6 Supplemental Water Quality Plots

The following figures show the concentrations of selected major ions, nutrients, and metals in surface water samples from the Peninsula Lakes since 2015. The green line indicates the Normal Range for Lake B7 and Lake D7, which corresponds to the upper 90th prediction interval or percentile of samples collected prior to 2018. No Normal Range estimates were made for Lake E3 because sampling was not completed before 2018.

Figure 4-5. Concentration of total dissolved solids and constituent major Ions in the Peninsula Lakes since 2015.

Notes: The yearly date range on the x-axis is from June 1 – October 30, corresponding to the open-water period.
Lake E3 compliance samples (MEL-15) were analyzed at BV labs, and for some parameters the detection limits are higher than those obtained for the AEMP samples sent to ALS Environmental.

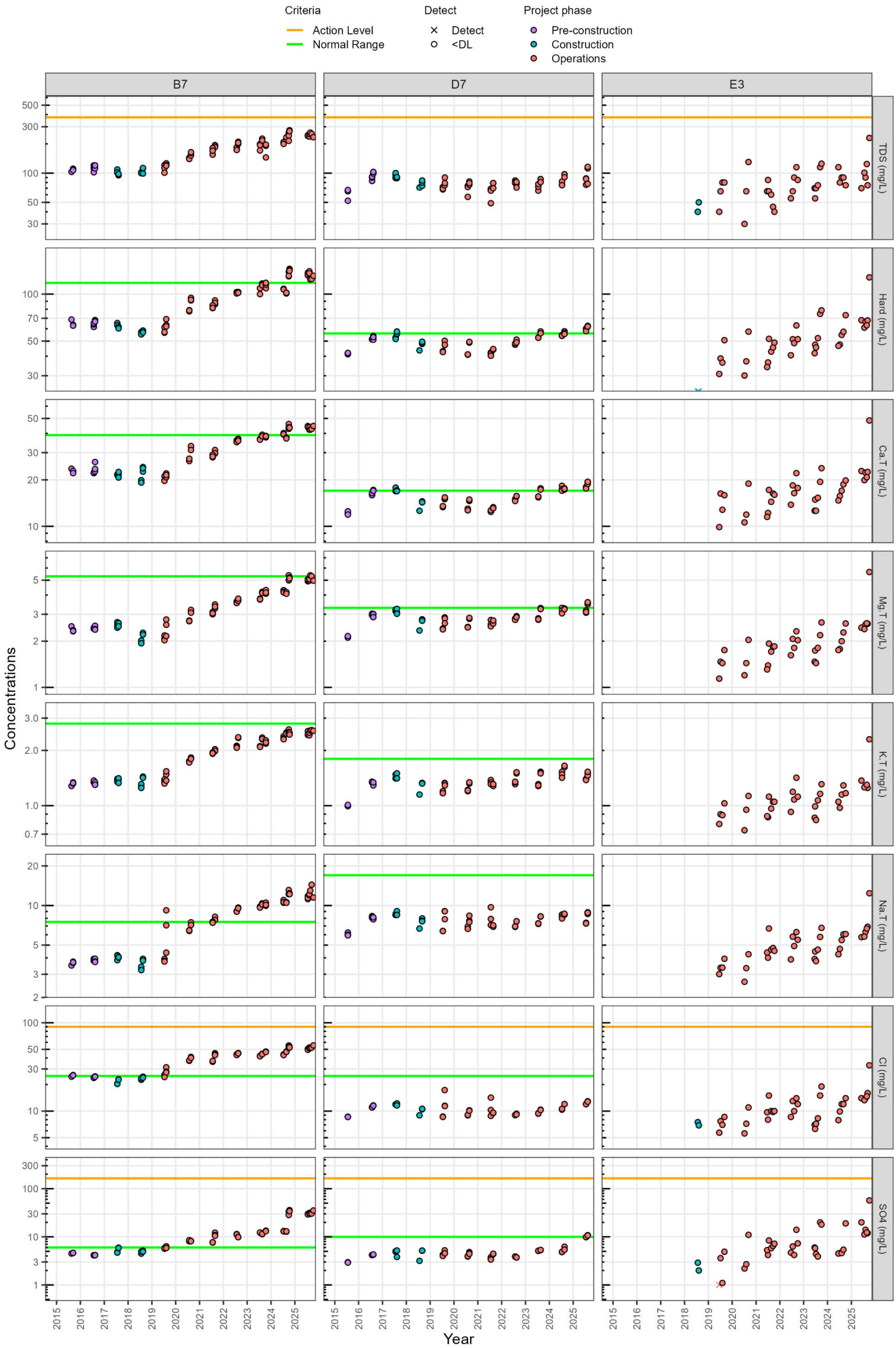


Figure 4-6. Conductivity, alkalinity, and the concentration of selected nutrients in the Peninsula Lakes since 2015.

Notes: The yearly date range on the x-axis is from June 1 – October 30, corresponding to the open-water period.
Lake E3 compliance samples (MEL-15) were analyzed at BV labs, and for some parameters the detection limits are higher than those obtained for the AEMP samples sent to ALS Environmental.

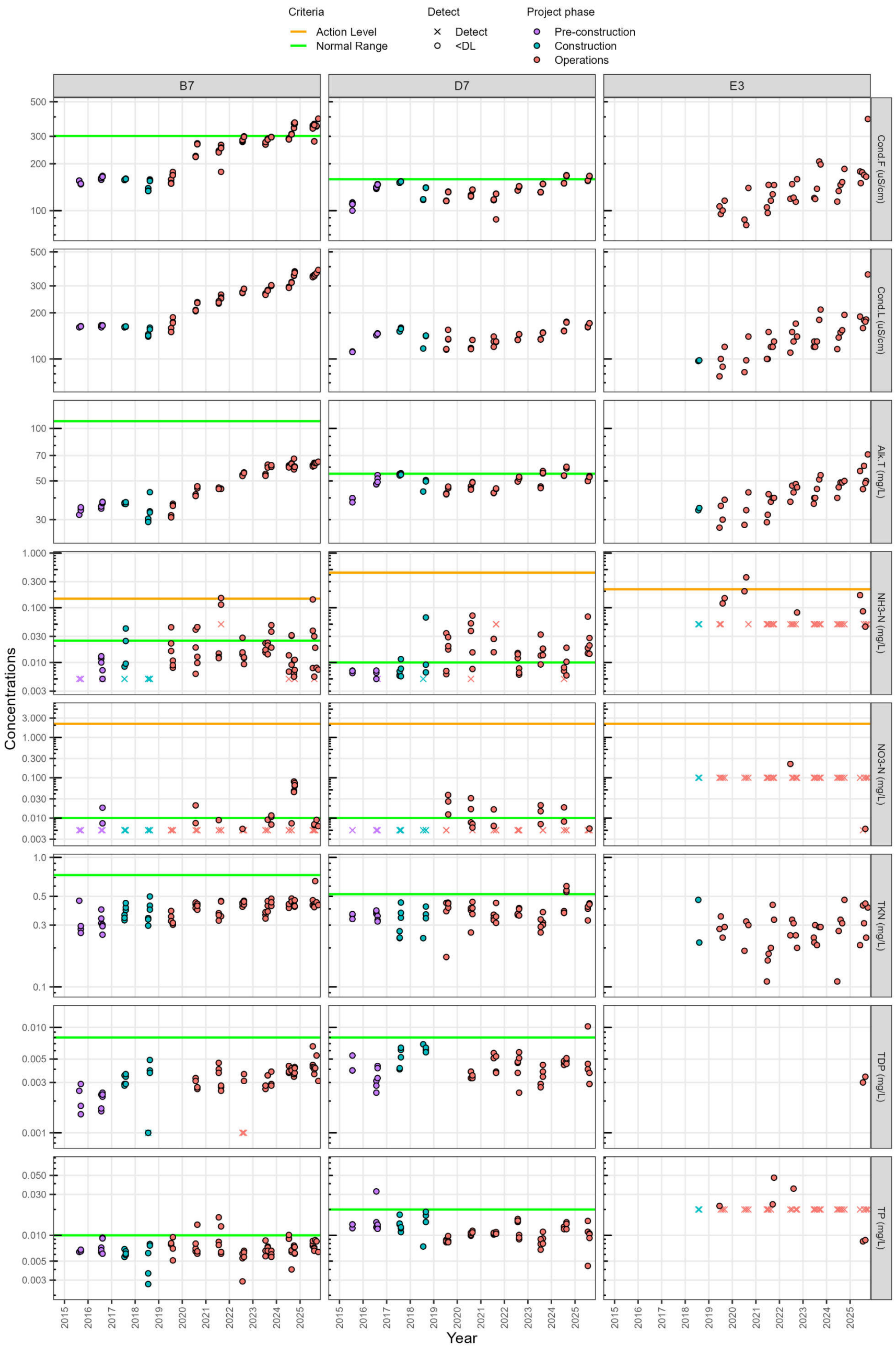


Figure 4-7. Aluminum, arsenic, barium, and boron concentrations in the Peninsula Lakes since 2015.

Notes: The yearly date range on the x-axis is from June 1 – October 30, corresponding to the open-water period.
Lake E3 compliance samples (MEL-15) were analyzed at BV labs, and for some parameters the detection limits are higher than those obtained for the AEMP samples sent to ALS Environmental.

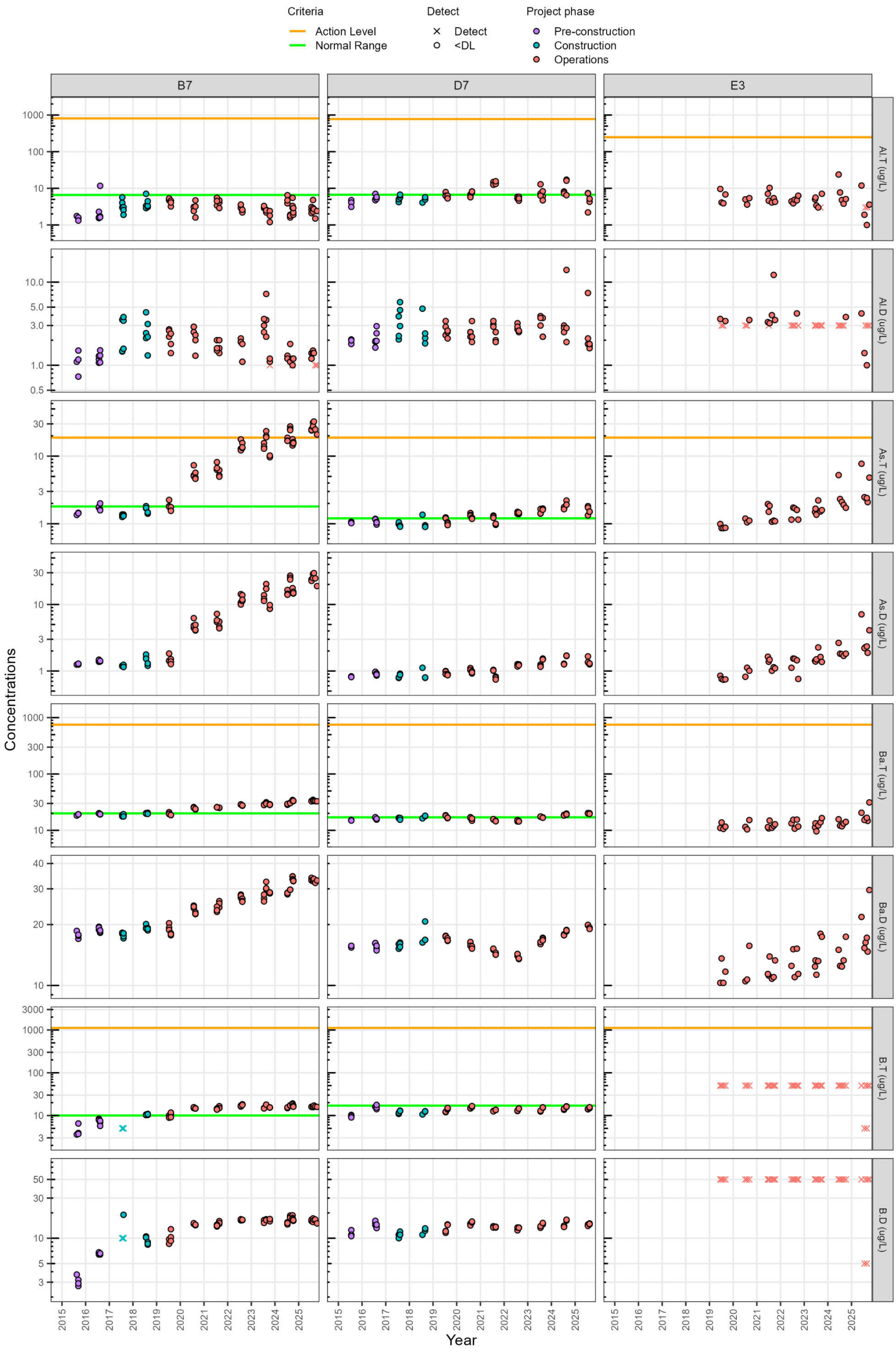


Figure 4-8. Cobalt, copper, iron, and lead concentrations in the Peninsula Lakes since 2015.

Notes: The yearly date range on the x-axis is from June 1 – October 30, corresponding to the open-water period.
Lake E3 compliance samples (MEL-15) were analyzed at BV labs, and for some parameters the detection limits are higher than those obtained for the AEMP samples sent to ALS Environmental.

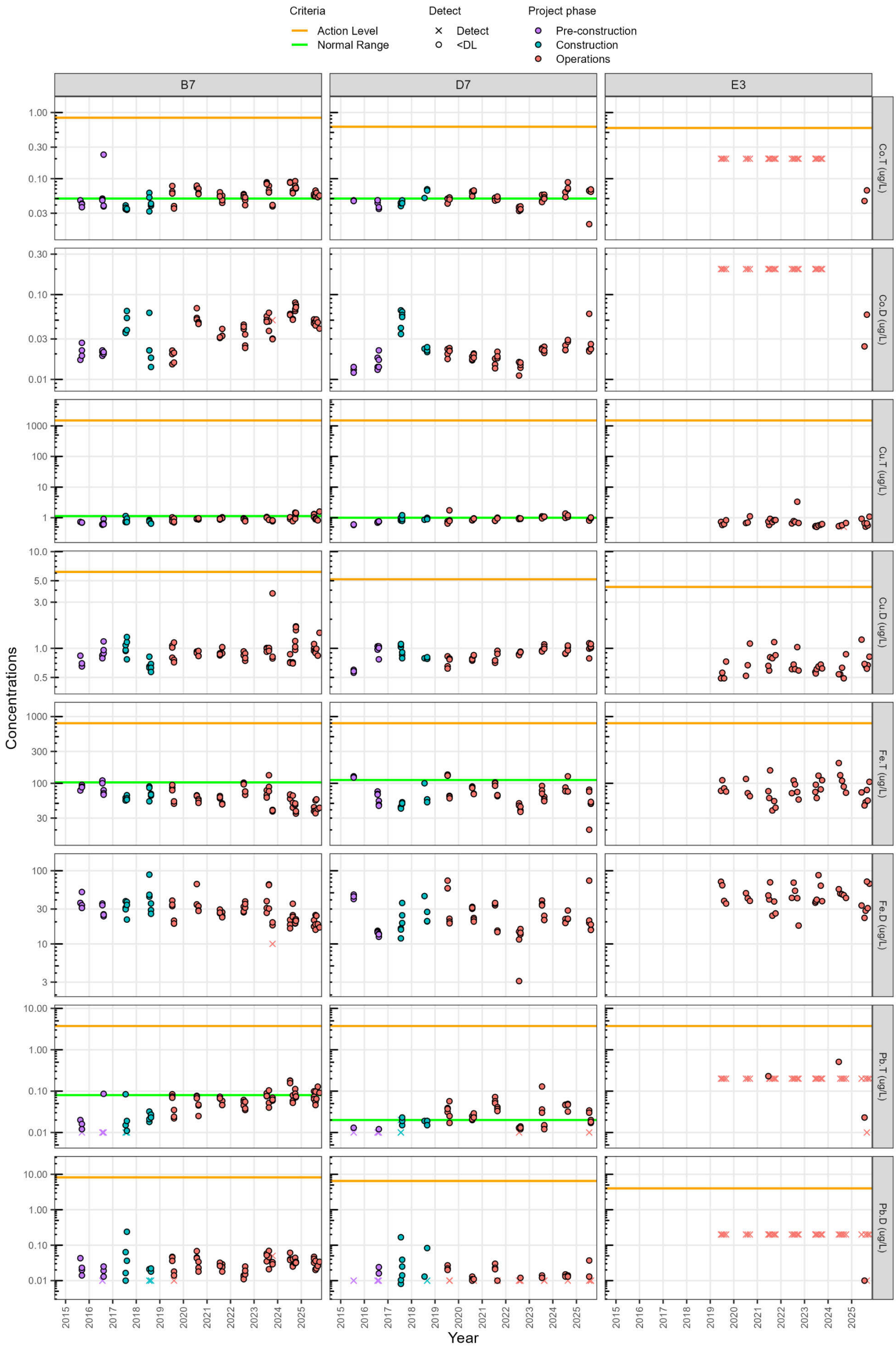


Figure 4-9. Lithium, manganese, molybdenum, and nickel concentrations in the Peninsula Lakes since 2015.

Notes: The yearly date range on the x-axis is from June 1 – October 30, corresponding to the open-water period.
Lake E3 compliance samples (MEL-15) were analyzed at BV labs, and for some parameters the detection limits are higher than those obtained for the AEMP samples sent to ALS Environmental.

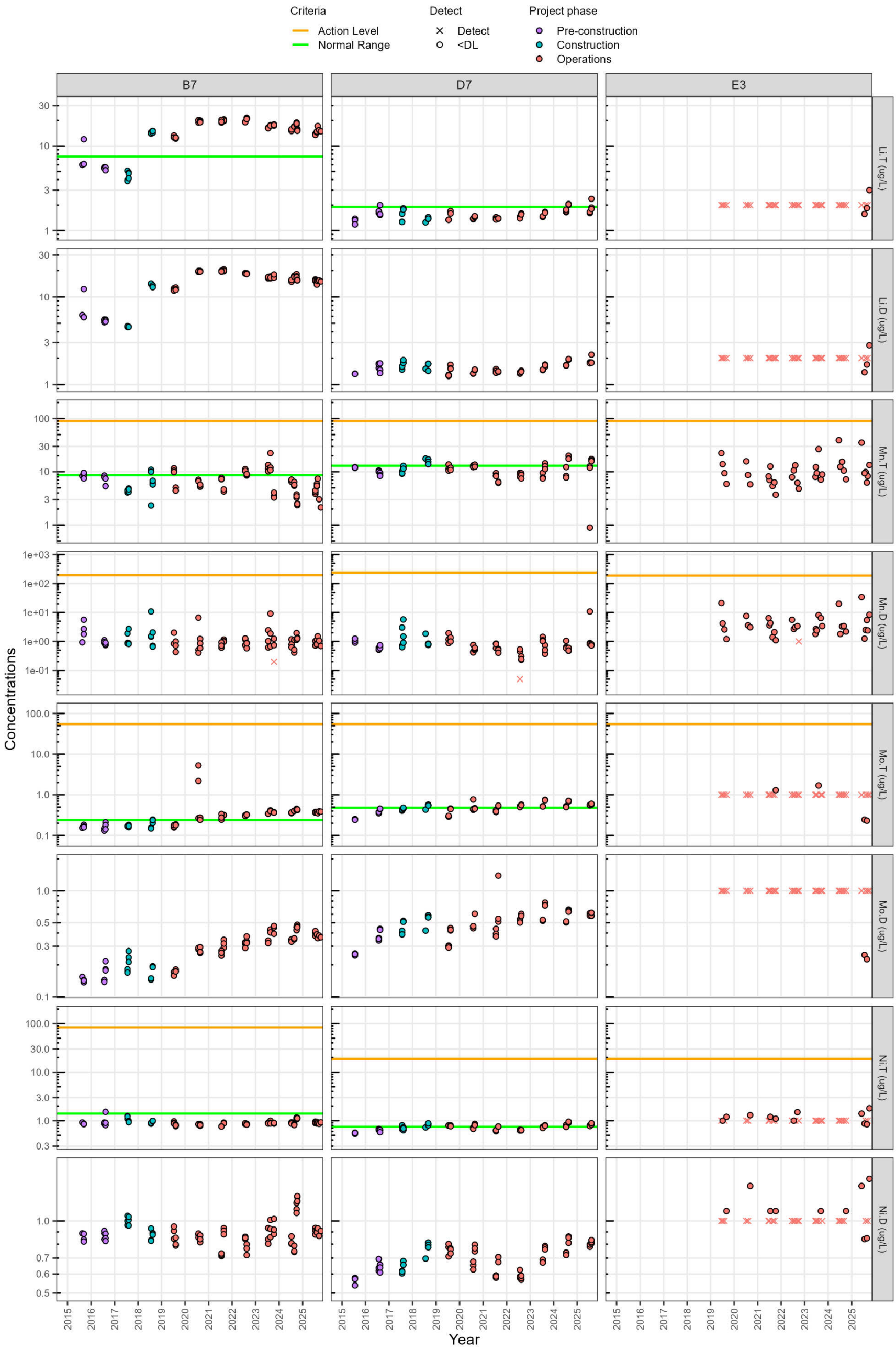
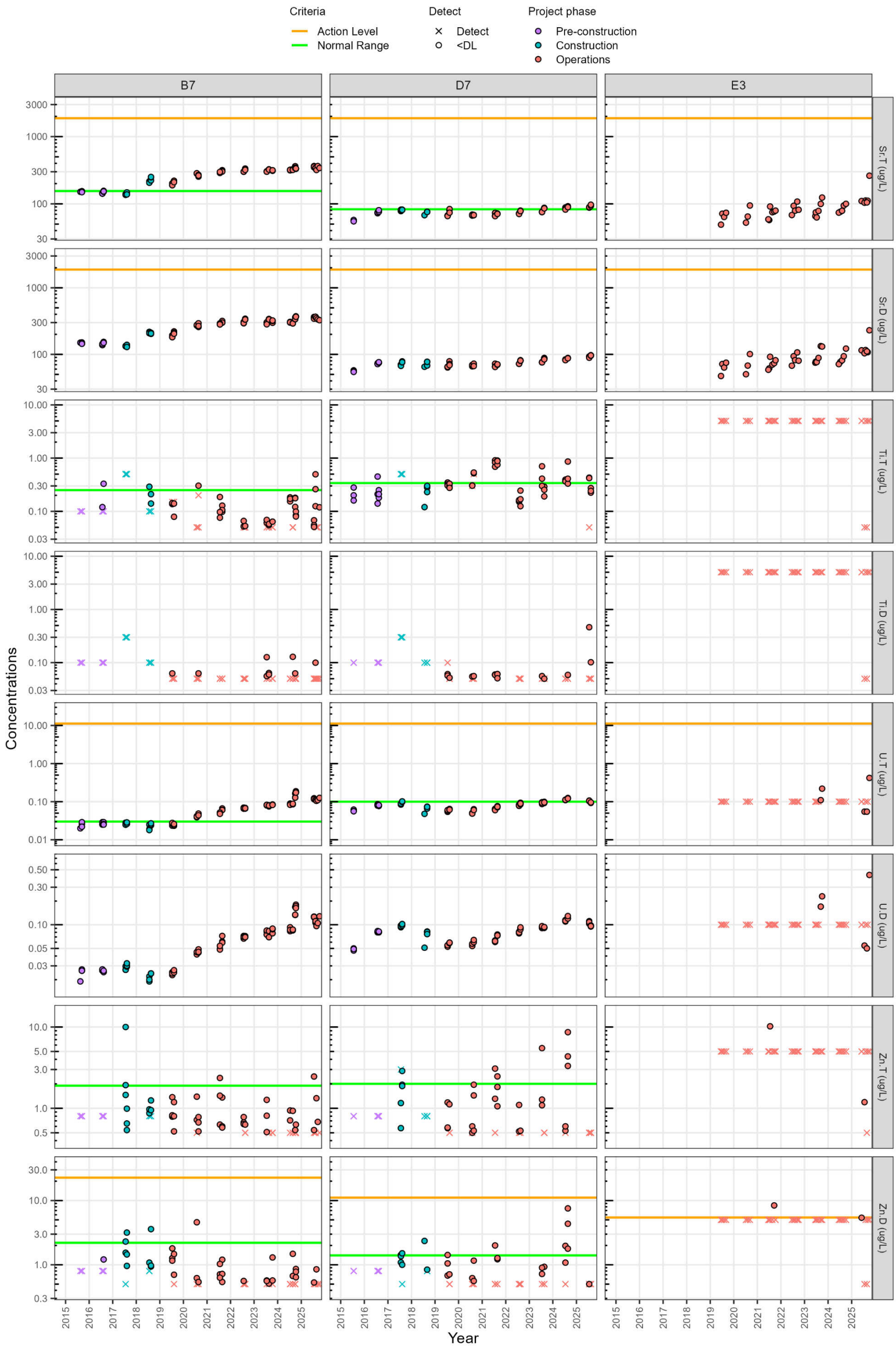


Figure 4-10. Strontium, titanium, uranium, and zinc concentrations in the Peninsula Lakes since 2015.

Notes: The yearly date range on the x-axis is from June 1 – October 30, corresponding to the open-water period.
Lake E3 compliance samples (MEL-15) were analyzed at BV labs, and for some parameters the detection limits are higher than those obtained for the AEMP samples sent to ALS Environmental.
The Action Level for dissolved zinc (5.45 µg/L) is approximately equal to the detection limit for Lake E3 compliance samples (5 µg/L).



5 PHYTOPLANKTON COMMUNITY

5.1 Introduction

This chapter presents the results of the 2025 phytoplankton study in Meliadine Lake. The objective is to determine whether effluent discharged from the Mine is influencing primary productivity in the East Basin relative to other areas of the lake.

Phytoplankton monitoring has been conducted annually since 2015. During the pre-construction and construction phases (2015–2017), sampling was conducted in July, August, and September to characterize seasonal variability in the phytoplankton community. From 2018 to 2023, sampling occurred once annually in August at established water quality monitoring locations (**Figure 3-1**), as August exhibits lower variability in key phytoplankton endpoints than other months (Golder, 2018).

Beginning in 2024, sampling returned to a July–September schedule at MEL-01, MEL-02, and MEL-03 to better characterize within-season variability. Although data from all sampling events are considered where relevant, the August dataset remains the primary basis for evaluating potential mining-related effects on phytoplankton community composition and primary productivity in Meliadine Lake.

Objectives and Key Question

The key question for the phytoplankton study is,

> *Is the phytoplankton community in Meliadine Lake adversely affected by potential mine-related changes in water quality?*

Several lines of evidence were evaluated to address this question, including:

- **Spatial and temporal patterns in nutrient concentrations**. Increased nutrient loading to Meliadine Lake could stimulate phytoplankton productivity.
- **Spatial and temporal patterns in phytoplankton metrics**. Key metrics (biomass, density, and taxa richness) were evaluated across all taxa (i.e., total) and by major taxonomic group (MTG). Changes in community structure were also assessed using diversity indices (Simpson's diversity index, Simpson's evenness index, and Bray–Curtis dissimilarity) and multivariate analyses.
- **Nutrient–productivity relationships**. Spatial and temporal patterns in phytoplankton productivity metrics were compared with corresponding nutrient concentrations to determine whether observed patterns were linked.
- **Spatial and temporal patterns in Trophic Status Index (TSI)**. TSI is used to classify lake productivity based on phosphorus, chlorophyll-a, and/or Secchi depth.

5.2 Findings from the 2025 Phytoplankton Study

- Phosphorus concentrations: Phosphorus concentrations have remained relatively stable throughout operations, mirroring reductions in loadings from CP1. Over eleven years of phytoplankton monitoring, no water quality parameters measured at MEL-01 have been identified as indicators of nutrient enrichment associated with changes in phytoplankton biomass.
- Phytoplankton biomass at MEL-01 in August 2025 was at the upper range of values observed during operations and was similar to levels measured in 2019 and 2021, two years characterized by high summer rainfall. Above-average rainfall was also observed in July 2025.
- Biomass increased at MEL-01 during late summer, whereas the opposite pattern was observed at MEL-02 and MEL-03, the mid-field and reference areas. This seasonal increase coincided with an extended period of water discharge to the East Basin, including combined releases from CP1 and dewatering of Lake A8. While these inputs may have contributed to the observed pattern, interannual variability in phytoplankton biomass is also influenced by regional climatic factors, particularly rainfall and runoff.
- Effluent discharge to the East Basin was predicted to increase nitrogen concentrations and influence phytoplankton community composition (Agnico Eagle, 2014). In 2025, phytoplankton communities were similar among exposure and reference areas, suggesting that regional climatic factors were an important influence on community patterns across Meliadine Lake.

5.3 Methods

5.3.1 Field and Laboratory Procedures

The phytoplankton study was conducted alongside the AEMP water chemistry sampling program to assess algal biomass, richness, and density, as well as chlorophyll-a concentrations. Details of the sampling method are provided in the AEMP Design Plan (Azimuth, 2025a). Water samples for phytoplankton taxonomy and chlorophyll-a analyses were collected as composite samples at each station. Composite samples were obtained by collecting grab samples at 2-m intervals throughout the water column, extending to approximately 1 m above the sediment (e.g., 2 m, 4 m, 6 m).

Secchi depth measurements were recorded at each station to evaluate water clarity and its relationship to primary productivity as part of the trophic status assessment, together with chlorophyll-a and total phosphorus (**Table 5-4**).

Water samples for taxonomic identification were collected in 50 mL plastic tubes and preserved with Lugol's iodine solution (3–4 drops) at the end of each sampling day in the Environment Lab. As in previous years, phytoplankton taxonomic identification was conducted by David Findlay at Plankton R Us Inc. (Winnipeg, MB). Phytoplankton were identified to the lowest practical taxonomic level, and

abundance estimates (cells/L) and wet weight biomass (mg/m³) were provided for each taxon per sample. Biomass was determined based on the estimated cell volume for each species, obtained by measuring up to 50 cells per species and applying the geometric formula best suited to the cell shape (Vollenweider, 1968; Rott, 1981). A specific gravity of 1 was assumed for cellular mass.

Phytoplankton taxonomy results were uploaded to the MS Access database for the Aquatic Effects Monitoring Program (AEMP), which is jointly administered by Azimuth and Biologica Environmental Services (Victoria, BC).

Water samples for chlorophyll-a analysis were collected in 1-L plastic bottles wrapped in foil to limit exposure to UV light. Bottles were stored in a cooler with ice packs while in the field. At the end of each sampling day, 500 mL of water was filtered through glass fibre type C filters (nominal pore size 1–2 µm) using a filtration apparatus configured to limit light exposure. The filters were placed in foil-wrapped petri dishes and stored in a freezer until the end of each sampling event. Frozen samples were then shipped to the Biogeochemical Analytical Service Laboratory at the University of Alberta (Edmonton, AB). Chlorophyll-a concentrations were determined using spectrophotometry following the method described by Welschmeyer (1994).

5.3.2 Quality Assurance and Quality Control

The methods and results used to evaluate the reliability of the phytoplankton and chlorophyll-a data are provided in **Appendix A**. A summary of the QA/QC results are presented below.

Chlorophyll-a – Chlorophyll-a data showed good agreement among duplicate samples. Field duplicates were collected at approximately 10% frequency across sampling events, and most results met the data quality objective (DQO) of a relative percent difference (RPD) of less than 50%. One duplicate in September slightly exceeded the DQO (RPD = 56%). Chlorophyll-a concentrations for this pair (MEL-03-05) were low (0.22–0.39 µg/L), approximately 5 to 10 times the reporting limit (0.04 µg/L). Precision is typically lower near the detection limit, and the relatively small absolute difference between duplicate samples does not affect interpretation of the results.

Phytoplankton Taxonomy – Phytoplankton biomass and density estimates showed low variability among field duplicates. Across the seven field duplicates, the average RPD was 14.5% for biomass and 29.5% for density. One field duplicate from MEL-05-02 in August showed higher variability, with the RPD exceeding the 50% DQO for both biomass and density. This exceedance was primarily driven by differences in the abundance of chrysophytes between paired samples. Laboratory duplicate results demonstrated strong analytical precision, with RPDs well below the 25% DQO (less than 14% for total biomass and less than 8% for total density).

Duplicate Summary – QA/QC results indicate that both chlorophyll-a and phytoplankton taxonomy data are of acceptable quality for interpretation. Minor exceedances of DQOs in field duplicates are

attributed to natural variability in phytoplankton communities rather than analytical uncertainty, while laboratory duplicates confirm that analytical methods are precise and repeatable.

5.3.3 Data Analysis

Data analyses were conducted using R version 4.2.2 (R Core Team, 2024). Phytoplankton metrics—including biomass, density, and taxa richness—were calculated for individual taxa, summed across all taxa (i.e., total phytoplankton community), and grouped into major taxonomic categories (dinoflagellates, diatoms, cyanophytes, cryptophytes, chrysophytes, chlorophytes, and euglenophytes). Euglenophytes comprise less than 1% of the phytoplankton community, and were therefore excluded from analysis. Summary statistics for the July, August, and September sampling events are provided in **Appendix E1**.

Nutrient data from the surface water quality monitoring program were integrated with phytoplankton and chlorophyll-a results to assess relationships between nutrient availability and primary productivity.

Temporal and Spatial Trends

Time series plots were used to evaluate spatial and temporal patterns in nutrients, chlorophyll-a, and phytoplankton metrics across years, with data organized by sampling area. Given the seasonal nature of phytoplankton populations, species richness, biomass, and density were expected to exhibit annual variation due to regional climate influences and spatial variability linked to basin-specific factors such as morphology, ice-off timing, and nutrient status.

The underlying premise of this assessment was that while natural interannual variability occurs, phytoplankton communities in the exposure areas (MEL-01 and MEL-02) and reference areas (MEL-03, MEL-04, and MEL-05) should follow similar patterns of change. However, if phytoplankton communities in MEL-01 and MEL-02 deviate from historical trends or from reference areas, it may indicate an effect of water quality on community structure.

Data from the July, August, and September 2025 sampling events were used to examine within-year variability in the phytoplankton community for select metrics.

Community Structure

Potential differences in the phytoplankton community among areas in Meliadine Lake over time were evaluated using standard diversity indices:

- **Simpson's Diversity Index** – measures the probability that two randomly selected individuals belong to different species, reflecting overall community diversity.
- **Simpson's Evenness Index** – quantifies how evenly individuals are distributed among species, with higher values indicating more uniform distribution.

- **Bray-Curtis Dissimilarity** – assesses compositional differences between two communities based on species abundance, with values ranging from 0 (identical) to 1 (completely different).

The calculations for Simpson's Diversity Index, Simpson's Evenness, and Bray-Curtis Index are provided in **Appendix E1**.

Non-metric multidimensional scaling (nMDS) analysis was used to explore potential differences in the phytoplankton community among areas and over time. This ordination technique reduces high-dimensional taxonomic data (e.g., biomass per taxon per sample) into two or three dimensions, capturing key patterns in community variability.

The nMDS approach that has been adopted for this study is based on the Reference Condition Approach (RCA) described in the EEM Technical Guidance Document (Environment Canada, 2012). The fundamental premise of RCA is that a suitably large set of baseline and/or reference data can be used to characterize biological attributes in unimpacted environments. The phytoplankton community structure in reference areas was analyzed first to establish a range of reference conditions, against which the communities at MEL-01 and MEL-02 were compared. To maintain consistency and enable comparisons over time, nMDS analysis focused on phytoplankton data from the August sampling events.

nMDS analyses were completed in R using the statistical package 'vegan' (version 2.5-6) according to the following workflow:

- **Step 1 – Data Preparation**: Biomass data were compiled for all individual samples collected in August from 2013 to 2024. To limit the influence of rarely observed taxa, individual taxa that accounted for less than 2% of any individual sample were excluded from the analysis. Raw biomass values were log(x+1) transformed to reduce the influence of dominant taxa. This data set was turned into a Bray-Curtis distance matrix.
- **Step 2 – Running the nMDS**: The nMDS was run on the Bray-Curtis matrix. Shepard plots and stress values were used to optimize results. Stress, in the context of nMDS, refers to how distorted the representation of the data are in two or three dimensions compared to the original multi-dimensionality of the data. Lower stress means a better fit of the data in the reduced dimensionality. Multiple iterations of the analysis are completed to determine which position (or ordination) of points in two or three dimensions produces the lowest stress value. The guidelines outlined in Clarke (1993) are commonly used to evaluate stress values as follows: <0.05 = excellent, <0.10 = good, <0.20 = usable, >0.20 = not acceptable.

  Stress of nMDS ordinations tends to increase with increasing sample size and decrease with an increasing number of dimensions, independent of the structure of the underlying data (Dexter et al., 2018). Given the large number of phytoplankton samples collected over the course of monitoring at Meliadine Lake, it is expected that stress of a suitable nMDS may exceed the

threshold of 0.20. Therefore, stress was considered alongside other factors such as ease of interpretation when evaluating the potential nMDS ordinations.

- **Step 3 – Visualization and Interpretation**: The nMDS results were visualized by first plotting 90th, 95th and 99th percentile probability ellipses using the reference data only. The next step involved adding nMDS scores for NF (MEL-01) and MF (MEL-02) areas for each year. The 90th, 95th and 99th percentile probability ellipses provide a concise way of visualizing whether the phytoplankton community at the NF and MF areas are within the range of baseline/reference conditions for Meliadine Lake.

Trophic Status

Trophic status estimates based on total phosphorus, chlorophyll-a, and water transparency (Secchi depth) are commonly used as a surrogate for direct measurement of phytoplankton communities in studies where such data is not available. Because the AEMP includes direct measurement of the phytoplankton community, trophic status estimates were included as a supporting line of evidence for evaluating spatial and temporal changes in primary productivity in Meliadine Lake.

The trophic status was calculated for each area based on the following frameworks/methods:

- CCME (2004) –predefined trigger ranges developed for freshwater environments in Canada (**Table 5-1**).
- Vollenweider (1968) – A general classification scheme based on ranges of total phosphorus, chlorophyll-a, and Secchi depth (**Table 5-2**).
- Carlson (1977) – Independent Trophic State Index scores for total phosphorus, chlorophyll-a and Secchi depth are calculated according to the equations in **Table 5-3**. The TSI scores correspond to general trophic classification – oligotrophic, mesotrophic, etc. – in **Table 5-4**.

Table 5-1. Trophic classification for lakes based on total phosphorus trigger ranges (CCME, 2004).

Trophic Status	Total Phosphorus (mg/L)
Ultra-oligotrophic (very nutrient-poor)	<0.004
Oligotrophic (nutrient-poor)	0.004 to 0.010
Mesotrophic (containing a moderate level of nutrients)	0.010 to 0.020
Meso-eutrophic (containing moderate to high levels of nutrients)	0.020 to 0.035
Eutrophic (nutrient-rich)	0.035 to 0.100
Hyper-eutrophic (very nutrient-rich)	>0.100

Notes:
Reference = CCME, 2004.

Table 5-2. Trophic classification for lakes based on ranges of total phosphorus, chlorophyll-a and Secchi depth (Vollenweider, 1968).

Trophic Status	Total Phosphorus (mg/L)		Chlorophyll-a (µg/L)		Secchi Depth (m)	
	Mean	Range	Mean	Range	Mean	Range
Oligotrophic	0.008	0.003 to 0.018	1.7	0.3 to 4.5	9.9	5.4 to 28.3
Mesotrophic	0.027	0.011 to 0.096	4.7	3.0 to 11.0	4.2	1.5 to 8.1
Eutrophic	0.084	0.016 to 0.386	14.3	3.0 to 78.0	2.5	0.8 to 7.0

Notes:
Reference = Vollenweider, 1968.

Table 5-3. Trophic status index calculations.

Trophic Status Index	TSI Equation
Total phosphorus	$TSI_{TP} = 10\ (6 - \left[\frac{\ln\ (^{48}/_{TP})}{\ln 2}\right])$
Chlorophyll-a	$TSI_{Chl} = 10\ (6 - \left[\frac{2.04 - 0.68(\ln Chl)}{\ln 2}\right])$
Secchi	$TSI_{Secchi} = 10\ (6 - \left[\frac{\ln\ \text{Secchi}}{\ln 2}\right])$

Table 5-4. Trophic status index and general trophic classifications for lakes (Carlson, 1977).

General Trophic Classification	Trophic State Index	Total Phosphorus (mg/L)	Chlorophyll-a (µg/L)	Secchi Depth (m)
Oligotrophic	<30 to 40	0 to 0.012	0 to 2.6	>8.0 to 4
Mesotrophic	40 to 50	0.012 to 0.024	2.6 to 20	4 to 2
Eutrophic	50 to 70	0.024 to 0.096	20 to 56	2 to 0.5
Hyper-eutrophic	70 to 100+	0.096 to 0.38+	56 to 155+	0.5 to <0.25

Notes:
Reference = Carlson, 1977.

5.4 Results and Discussion

5.4.1 Background – Historical Data

Phytoplankton data were collected in Meliadine Lake during baseline studies in the late 1990s to support the environmental assessment, and again in August 2013 as part of a program to support development of the AEMP. However, differences in sampling methods between these programs and the AEMP mean these data are not formally included in the assessment of spatial and temporal trends. Instead, the historical data are presented for qualitative comparison with phytoplankton data collected under the AEMP.

In the late 1990s, four locations across Meliadine Lake were sampled in July, August, and September of 1997 and 1998. Chrysophytes (golden-brown algae) were the dominant taxonomic group in terms of density and biomass. Community composition was similar throughout the lake, and seasonal succession followed comparable patterns during the open-water season each year (Golder, 2012). Biomass estimates in 1997 ranged from approximately 300 to 600 mg/m^{3}in July and August. In 1998, biomass was roughly two times higher, reaching values as high as 1,900 mg/m^3 in the south basin near the current monitoring area MEL-05 (**Table 5-5**).

The August 2013 field program was reconnaissance-level, that focused on collecting highly replicated samples within the East Basin (Azimuth, 2013). Sampling was completed at five locations in the general vicinity of the current MEL-01 stations. Water for phytoplankton biomass was collected at 3 m below the surface at all 5 stations and 3 m off the bottom at two stations. Total biomass ranged from 145 – 165 mg/m^3, considerably lower than biomass estimates from the East Basin in 1997 and 1998. Chrysophytes were the dominant taxa across all samples, as was the case for samples collected in 1997 and 1998.

Table 5-5. Baseline phytoplankton community data from Meliadine Lake in 1997, 1998 and 2013.

AEMP Area	Sample IDs	Date	Density (No. cells/L)	Biomass (mg/m^3)	Richness (No. taxa/site)
Late 1990s[a]					
MEL-01	ML-E	19 Jul 97	2,008,000	529	56
		17 Aug 97	3,844,000	636	65
		17 Jul 98	2,593,000	1,887	75
		4 Sep 98	4,933,000	1,362	78
MEL-05	ML-S	20 Jul 97	1,863,000	627	73
		16 Aug 97	1,871,000	437	63
		25 Jul 98	3,736,000	1,119	67
		1 Sep 98	5,713,000	1,996	80
SE of MEL-05	ML-SE	22 Jul 98	2,991,000	1,772	83
MEL-04	ML-W	20 Jul 97	2,175,000	483	46
		16 Aug 97	1,135,000	342	52
		27 Jul 98	3,026,000	828	68
August 2013[b]					
MEL-01	DP01 -P -1D	14 Aug 2013	2,063,504	165	38
	DP01 -P -1S		2,386,752	146	37
	DP01 -P -2D		1,577,560	146	34
	DP01 -P -2S		2,270,808	149	39
	DP01 -P -3S		2,379,152	157	37
	DP01 -P -4S		1,752,792	165	33
	DP01 -P -5S		2,212,936	149	34

Notes:
[a] Baseline data from 1997 and 1998 were included Volume 7 of the 2014 FEIS.
[b] Azimuth (2013). Sample IDs ending in 'S' were collected 3 m below the surface; sample IDs ending in 'D' were collected 3 m above the sediment.

5.4.2 Nutrients and Phytoplankton Biomass

Nutrient Loading to Meliadine Lake

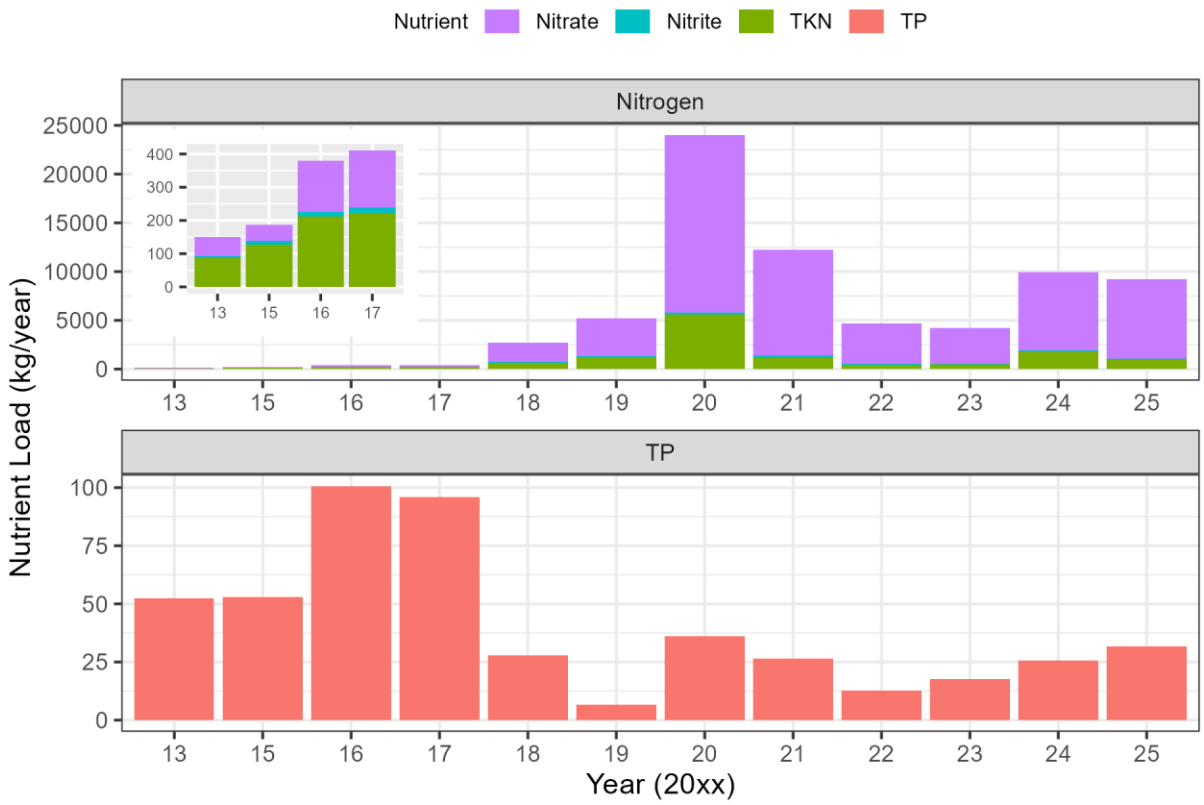
Monthly loadings for key nutrients (e.g., nitrate [NO_3], nitrite [NO_2], total Kjeldahl nitrogen [TKN], and total phosphorous) are presented to help interpret the phytoplankton taxonomy and chlorophyll-a results. Monthly and cumulative loadings for other nutrients are provided in **Appendix B2**.

The total phosphorus load to Meliadine Lake in 2025 was marginally higher compared to 2023 and 2024. However, since the main camp STP started operating in 2018, the annual phosphorus load has consistently been well-below the estimated annual load during the construction phase in 2016 and 2017 (**Figure 5-1**).

As predicted, nitrogen loadings have increased during operations due to residual nitrate-based explosives in contact water. To date, the peak load of nitrogen to Meliadine Lake occurred in 2020 during the emergency authorization. Nitrogen loadings were also comparatively high in 2021, 2024, and 2025 due to above average precipitation resulting in higher discharge volumes to CP1 (**Figure 2-6**).

Figure 5-1. Annual loadings (kg/year) of nitrogen and total phosphorus to Meliadine Lake

Notes: Annual loadings in 2013, 2015, 2016, and 2017 were presented in the 2018 AEMP/EEM (Golder, 2019). Loadings from 2018 onward are calculated based on discharge volumes and concentration data from MEL-14 (**Section 2.4.5**).



Total Biomass

The following discussion summarizes the observations and lines of evidence supporting both natural and potential mining-related influences on phytoplankton biomass.

Evidence consistent with natural drivers (climate and hydrology)

- **Historical data**: Phytoplankton biomass at MEL-01 during the AEMP period (2015 onward) is lower than results that were reported in 1997 and 1998 (500 – 1,900 mg/m^3).
- **Higher rainfall years**: Years with higher phytoplankton biomass at MEL-01 have generally coincided with above-average rainfall in July and August (e.g., 2019 and 2021; **Table 2-2**). Increased precipitation associated with interannual climate variability and runoff can elevate concentrations of major ions, organic carbon, and micronutrients, potentially alleviating constraints on phytoplankton productivity (Pokrovsky et al., 2021).
- **Lower rainfall years**: In years with comparatively low rainfall in July and August (e.g., 2020, 2022, and 2024), biomass measured at MEL-01 in mid-August was similar to MEL-02 and the reference areas (**Table 5-6**). Phytoplankton results from 2013 provide additional context. Rainfall totals in July and August 2013 were approximately 50 mm, and phytoplankton biomass measured in mid-August ranged from 145 to 165 mg/m^3 across all five locations (**Table 5-5**).
- **High CP1 discharge and loadings in 2020**: Phytoplankton biomass at MEL-01 in 2020 was comparatively low at MEL-01 (~200 mg/m^3) and similar to levels observed at MEL-02 and MEL-03 despite peak discharge in June and July (**Figure 2-6**). The observation of low biomass during the year of highest discharge and nutrient loading suggests that effluent inputs are a relatively minor factor influencing phytoplankton biomass compared to other drivers, such as regional climatic conditions.

Evidence consistent with potential mining-related influences

- **Spatial evidence**: Phytoplankton biomass during August sampling events has generally been higher at MEL-01 than at MEL-02 and the reference areas since monitoring began in 2015. This spatial gradient is consistent with a potential influence of mine-related inputs near MEL-01.
- **Exploration camp period (2015–2017)**: The strongest evidence of mine-related influence on productivity is the sustained higher phytoplankton biomass observed at MEL-01 from 2015 to 2017. During this period, the only discharge to Meliadine Lake was from the Exploration Camp. As reported previously (Golder, 2019), phosphorus loading from this source may have caused localized nutrient enrichment in areas near the camp. Loading estimates from 2015 to 2017 support this interpretation.

- **Operational conditions in 2025**: Discharge occurred from June through early October 2025 and overlapped with the timing of phytoplankton sampling at MEL-01 (**Figure 2-7**). During early July, combined releases from CP1 and dewatering of Lake A8 were above 40,000 m³/day and periodically approached 50,000 m³/day. Whether the additional water from Lake A8 contributed to the higher productivity observed at MEL-01 is unclear. However, the timing and magnitude of the combined discharges coincided with elevated biomass and the divergent seasonal pattern observed at MEL-01 relative to MEL-02 and MEL-03 during July, August, and September (**Figure 5-3**).
- **Key uncertainties**: Although a link between effluent discharge and phytoplankton biomass is plausible, the relationship is not clearly supported by the data. Biomass at MEL-01 in 2020 was at the low end of recorded values (211 mg/m³) despite relatively high discharge to Meliadine Lake. Conversely, the highest average biomass at MEL-01 occurred in August 2019, when annual discharge was comparatively low.

Table 5-6. Phytoplankton biomass (mg/m³; mean ± 1SD) in August in Meliadine Lake since 2013.

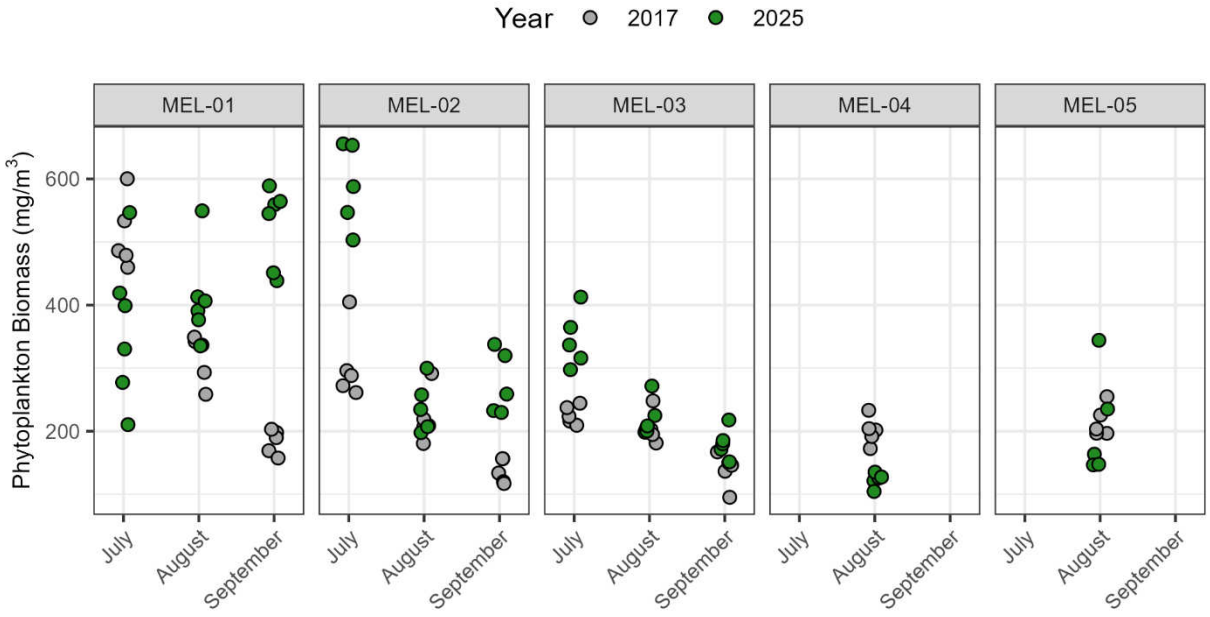
Year	MEL-01	MEL-02	MEL-03	MEL-04	MEL-05
2013[a]	153 ± 8	-	-	-	-
2015	336 ± 29	220 ± 35	-	-	-
2016	350 ± 54	252 ± 44	231 ± 17	156 ± 65	227 ± 71
2017	316 ± 39	222 ± 42	206 ± 25	201 ± 22	216 ± 25
2018	339 ± 27	207 ± 88	276 ± 26	241 ± 15	147 ± 14
2019	426 ± 24	260 ± 58	229 ± 18	214 ± 28	204 ± 36
2020	211 ± 26	170 ± 28	204 ± 39	140 ± 29	147 ± 18
2021	395 ± 46	205 ± 47	185 ± 57	157 ± 23	156 ± 19
2022	248 ± 63	192 ± 31	131 ± 18	103 ± 34	107 ± 29
2023	291 ± 46	116 ± 9	145 ± 27	147 ± 36	150 ± 9
2024	223 ± 29	255 ± 39	210 ± 54	166 ± 37	206 ± 28
2025	412 ± 73	239 ± 41	221 ± 30	123 ± 11	207 ± 85

Notes:
"-" = the phytoplankton study was not completed in these areas.
[a] = Sampling methods were different between the baseline program in 2013 and the AEMP (discrete sampling in 2013 vs depth-integrated for the AEMP since 2015). Direct comparisons between 2013 and 2015-2024 should be made with caution.

Figure 5-2 Phytoplankton Biomass (mg/m³) in Meliadine Lake during the August field sampling event since 2013.



Figure 5-3 Phytoplankton biomass (mg/m³) in Meliadine Lake in July, August and September.



Chlorophyll-a

Chlorophyll-a represents pigment concentration rather than total phytoplankton biomass, and chlorophyll content per unit carbon can vary with taxonomic composition and environmental conditions. Small, fast-growing flagellates such as chlorophytes and chrysophytes can adjust pigment allocation under changing light and nutrient regimes, contributing to a weaker correspondence between chlorophyll-a and biomass (Cullen, 1982). Differences in community composition, light availability, and water chemistry can therefore cause chlorophyll-a to vary independently of total biomass (Desortova, 1981; Felip and Catalan, 2000; Kasprzak et al., 2008).

Key findings from long-term monitoring of chlorophyll-a are provided below.

- Chlorophyll-a concentrations measured during the August sampling events at MEL-01 and MEL-02 increased steadily from 2018 through 2023, diverging from reference trends and peaking at 4 µg/L and 1.5 µg/L respectively (**Table 5-7**; **Figure 5-4**).
- In 2024, chlorophyll-a concentrations at MEL-01 and MEL-02 decreased to levels observed during the construction phase. Although earlier increases suggested a possible relationship with effluent discharge, the return to near pre-operational concentrations in 2024 and 2025 indicates that these changes are not persistent and may reflect localized and reversible variability rather than a sustained shift in primary productivity.
- Across monitoring years, phytoplankton biomass and chlorophyll-a are positively associated when all locations are combined (**Figure 5-5**), largely reflecting consistently higher values at MEL-01. However, this relationship weakens when examined at individual locations (**Figure 5-6**), and seasonal data further demonstrate variability (**Figure 5-7**).

Chlorophyll-a reflects short-term physiological responses and can vary over smaller spatial and temporal scales than phytoplankton biomass. The localized and reversible patterns observed at MEL-01 are consistent with this sensitivity, whereas biomass estimates integrate conditions over longer periods. Given the influence of regional climatic variability, additional data are needed to determine whether differences between indicators reflect natural variability or changing environmental conditions.

Within the AEMP, phytoplankton biomass and community composition provide a direct measure of primary productivity. Chlorophyll-a is therefore considered a supporting line of evidence, and conclusions regarding changes in primary productivity in Meliadine Lake are based primarily on phytoplankton biomass data.

Table 5-7. Chlorophyll-a (µg/L; mean ± 1SD) in Meliadine Lake during the August sampling event

Phase	Year	MEL-01	MEL-02	MEL-03	MEL-04	MEL-05
Construction	2015	0.86 ± 0.061	0.45 ± 0.080	-	-	-
	2016	1.9 ± 0.17	1.2 ± 0.17	0.73 ± 0.099	0.93 ± 0.086	1.1 ± 0.13
	2017	1.5 ± 0.11	0.61 ± 0.040	0.57 ± 0.061	0.61 ± 0.066	0.58 ± 0.036
Operations	2018	1.9 ± 0.076	0.88 ± 0.11	0.61 ± 0.072	0.58 ± 0.035	0.58 ± 0.059
	2020	2.0 ± 0.18	0.89 ± 0.10	0.58 ± 0.042	0.69 ± 0.038	0.68 ± 0.091
	2021	2.78 ± 0.26	1.2 ± 0.15	0.42 ± 0.024	0.47 ± 0.078	0.57 ± 0.024
	2022	3.3 ± 0.14	1.5 ± 0.073	0.88 ± 0.050	0.66 ± 0.071	0.50 ± 0.022
	2023	4.0 ± 0.22	1.5 ± 0.086	0.54 ± 0.038	0.88 ± 0.16	0.79 ± 0.12
	2024	1.98 ± 0.09	1.43 ± 0.06	1.17 ± 0.16	1.17 ± 0.03	1.53 ± 0.14
	2025	2.26 ± 0.46	0.77 ± 0.15	0.13 ± 0.05	0.08 ± 0.03	0.08 ± 0.04

Notes:
The chlorophyll-a data from 2019 were excluded from the dataset due to issues with the filter type used to collect the samples.
"-"indicates the phytoplankton study was not completed in these areas in 2015.

Figure 5-4. Chlorophyll-a concentrations (µg/L) in Meliadine Lake during the August field sampling event since 2015.

Notes: Triplicate Chlorophyll-a samples were collected at each area/station replicate up until 2023, inclusive. In 2025, intensity of sampling was reduced to one sample per area/station replicate due to low variability observed within a given area/station.



Figure 5-5. Relationship between chlorophyll-a and phytoplankton biomass for Meliadine Lake by year, August 2016 through 2025.

Notes: Chlorophyll-a data from 2019 were flagged during the QC assessment because a different filter type was used in 2019, which resulted in lower-than expected results across all stations.

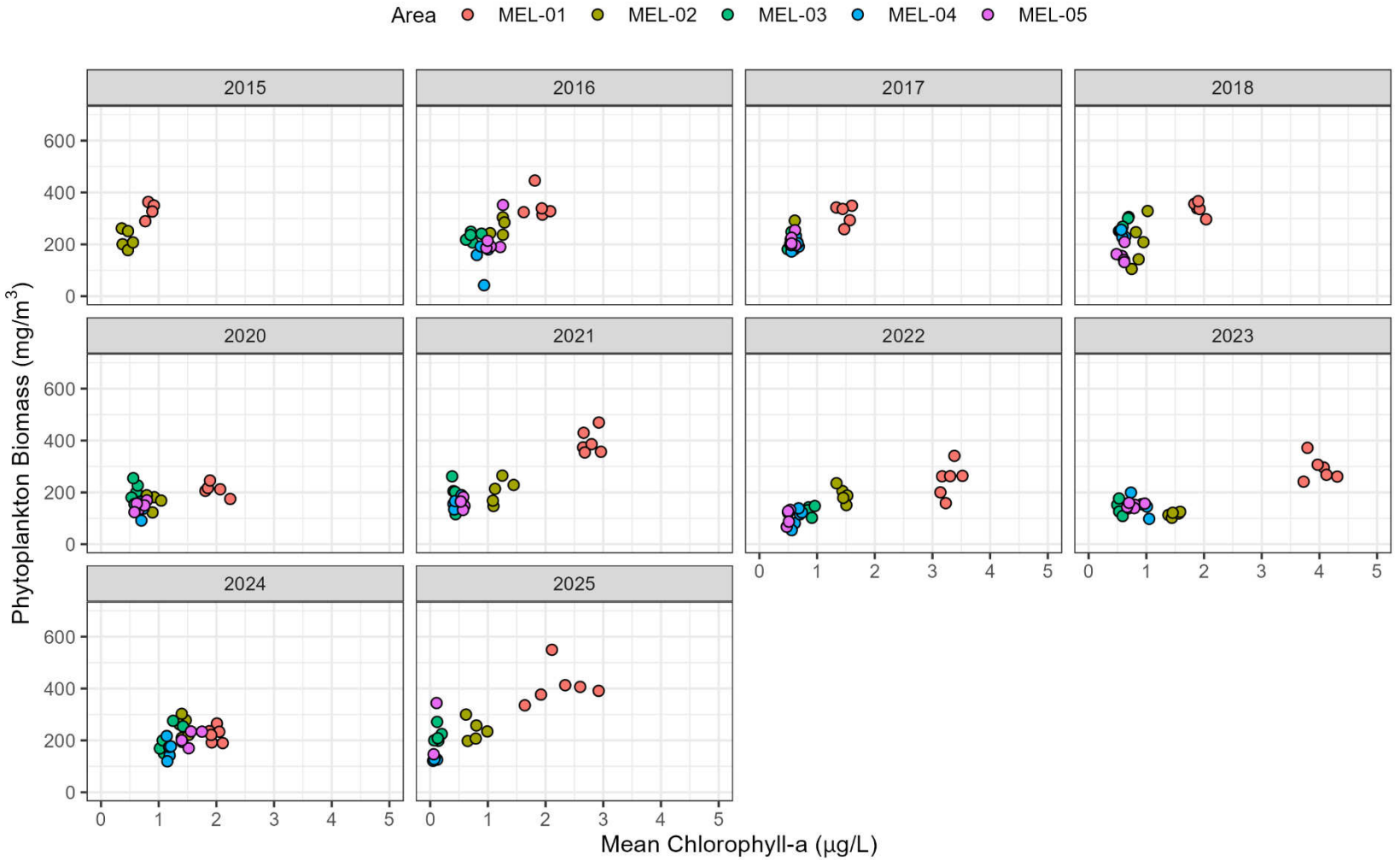


Figure 5-6. Relationship between chlorophyll-a and phytoplankton biomass for Meliadine Lake by monitoring location during the August sampling event, 2015 through 2025.

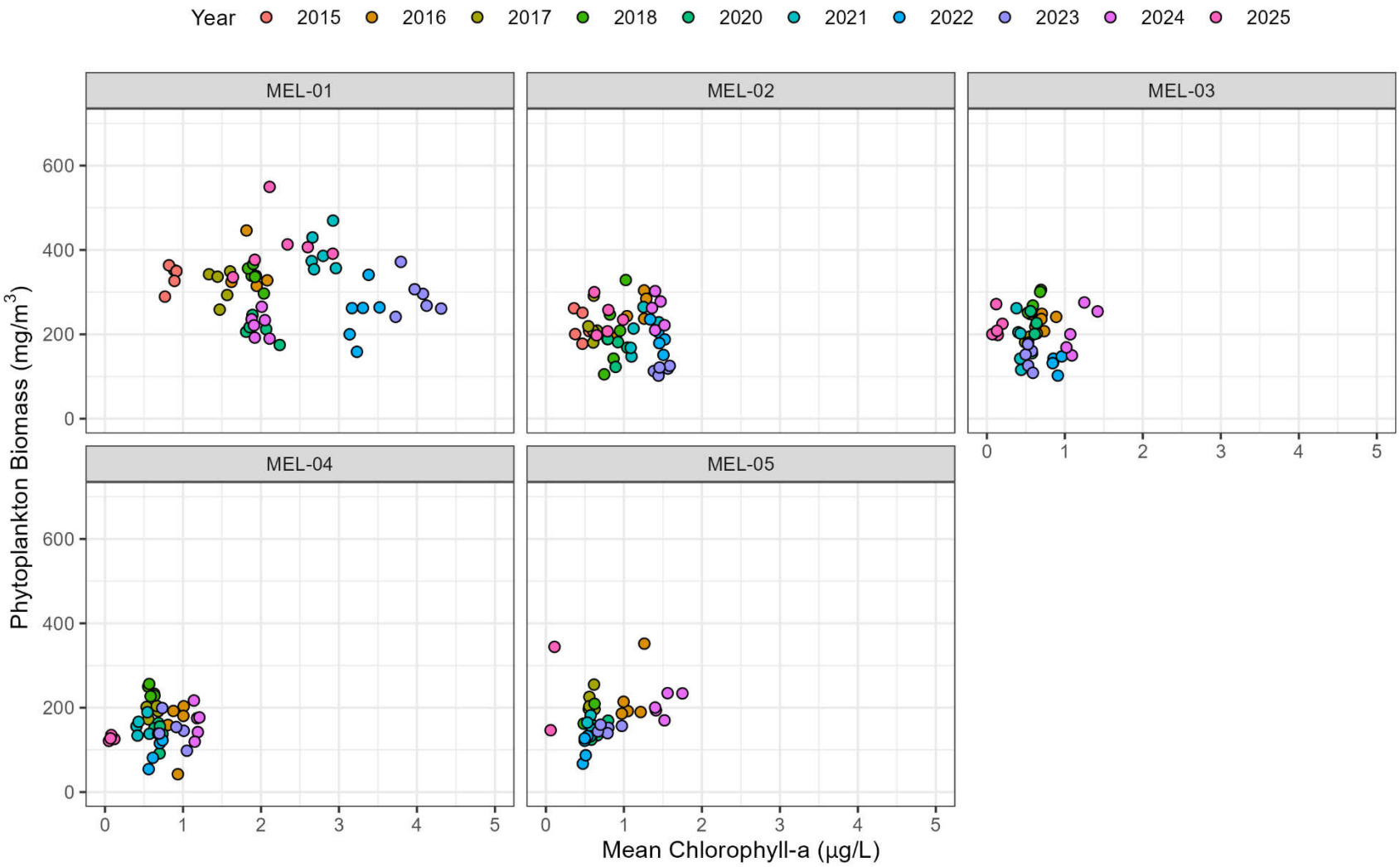
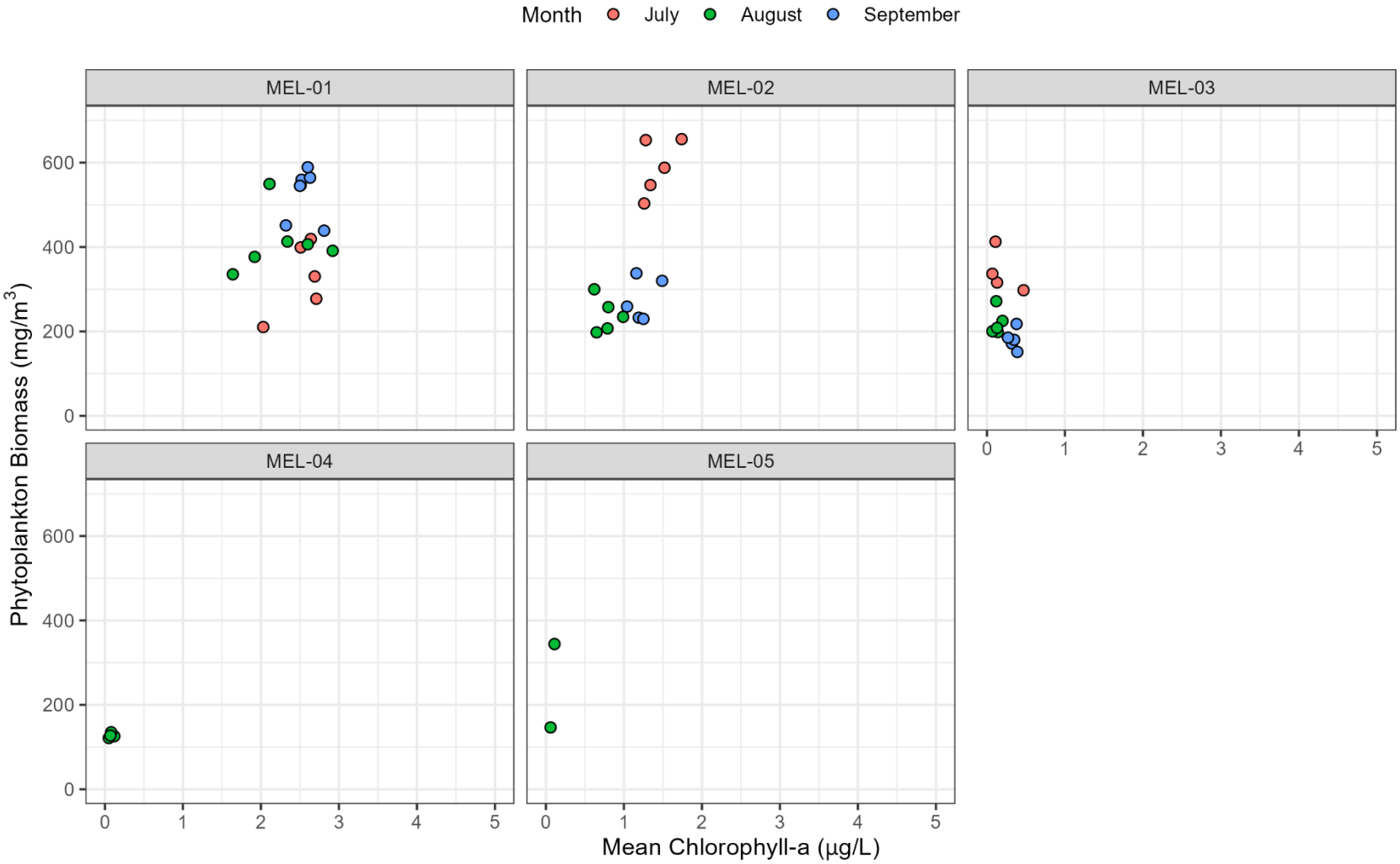


Figure 5-7. Relationship between chlorophyll-a and phytoplankton biomass for Meliadine Lake by monitoring location during seasonal sampling in 2025 (July, August, and September).



Nutrient-Productivity Relationships

Nutrient–productivity relationships were evaluated using total phytoplankton biomass as the primary indicator of productivity, with chlorophyll-a used as a supporting metric. Nitrogen, phosphorus, and dissolved organic carbon (DOC) were assessed to determine whether effluent discharge may be influencing primary productivity in Meliadine Lake. Productivity in northern lakes is commonly co-limited by nitrogen and phosphorus (Lewis and Wurtsbaugh, 2008), while DOC can influence both nutrient dynamics and the underwater light environment (Bergström and Karlsson, 2019).

Plots of biomass and chlorophyll-a against nitrogen, phosphorus, and DOC (**Figure 5-8**; **Figure 5-9**) show no consistent relationship between nutrient concentrations and total phytoplankton biomass across monitoring years. Weak positive associations between chlorophyll-a and DOC were observed at MEL-01 (**Figure 5-9**), but these patterns likely reflect indirect influences on light availability (Fee et al., 1996) or physiological pigment adjustments by taxa such as chrysophytes (Pick and Nalewajko, 1984), rather than sustained changes in productivity. The absence of corresponding relationships with biomass reinforces the need to interpret pigment-based metrics cautiously as indicators of phytoplankton standing stock.

Trophic Status Index

Trophic status index (TSI) results (mean ± 1 standard error) for total phosphorus, chlorophyll-a, and Secchi depth are presented for each sampling area in **Figure 5-10**. In contrast to previous years, Secchi depth–based TSI in 2025 was slightly lower at MEL-01 than at MEL-03 and MEL-04. Chlorophyll-a TSI values were also notably low at MEL-03, MEL-04 and MEL-05 due to the unusually low chlorophyll-a concentrations at these locations in 2025. Despite this variability among individual indicators, all areas of Meliadine Lake were classified as oligotrophic in 2025 based on chlorophyll-a, total phosphorus, and Secchi depth criteria (Carlson 1977; **Figure 5-10**).

Figure 5-8. Relationship between nutrient concentrations (DOC, nitrogen, and phosphorus) and phytoplankton biomass and chlorophyll-a in Meliadine Lake, August 2013-2025.

Notes: DOC = dissolved organic carbon; TN = total nitrogen; TP = total phosphorus

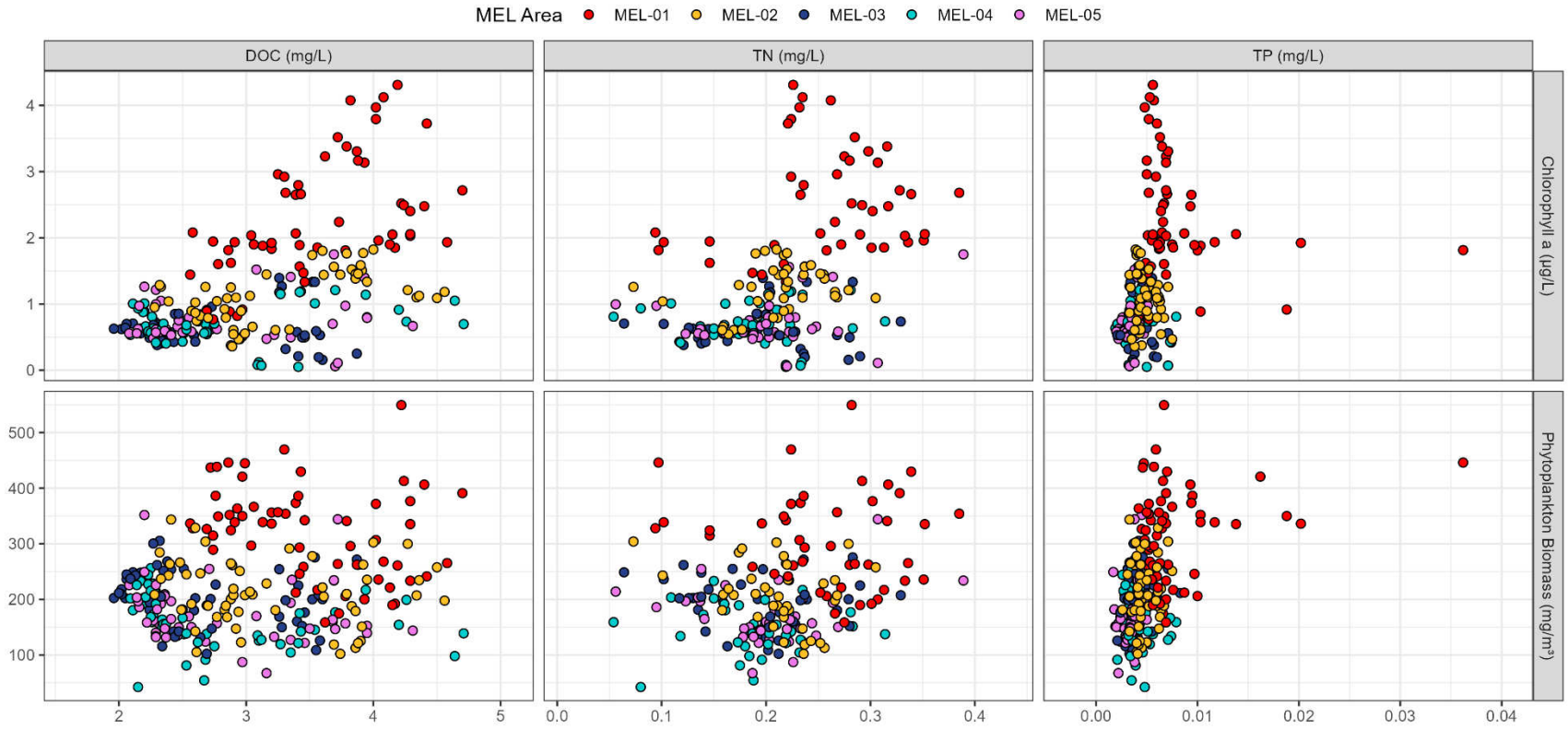


Figure 5-9. Relationship between nutrient concentrations (DOC, nitrogen, and phosphorus) and phytoplankton biomass and chlorophyll-a at the near-field area (MEL-01), August 2013-2025.

Notes: DOC = dissolved organic carbon; TN = total nitrogen; TP = total phosphorus

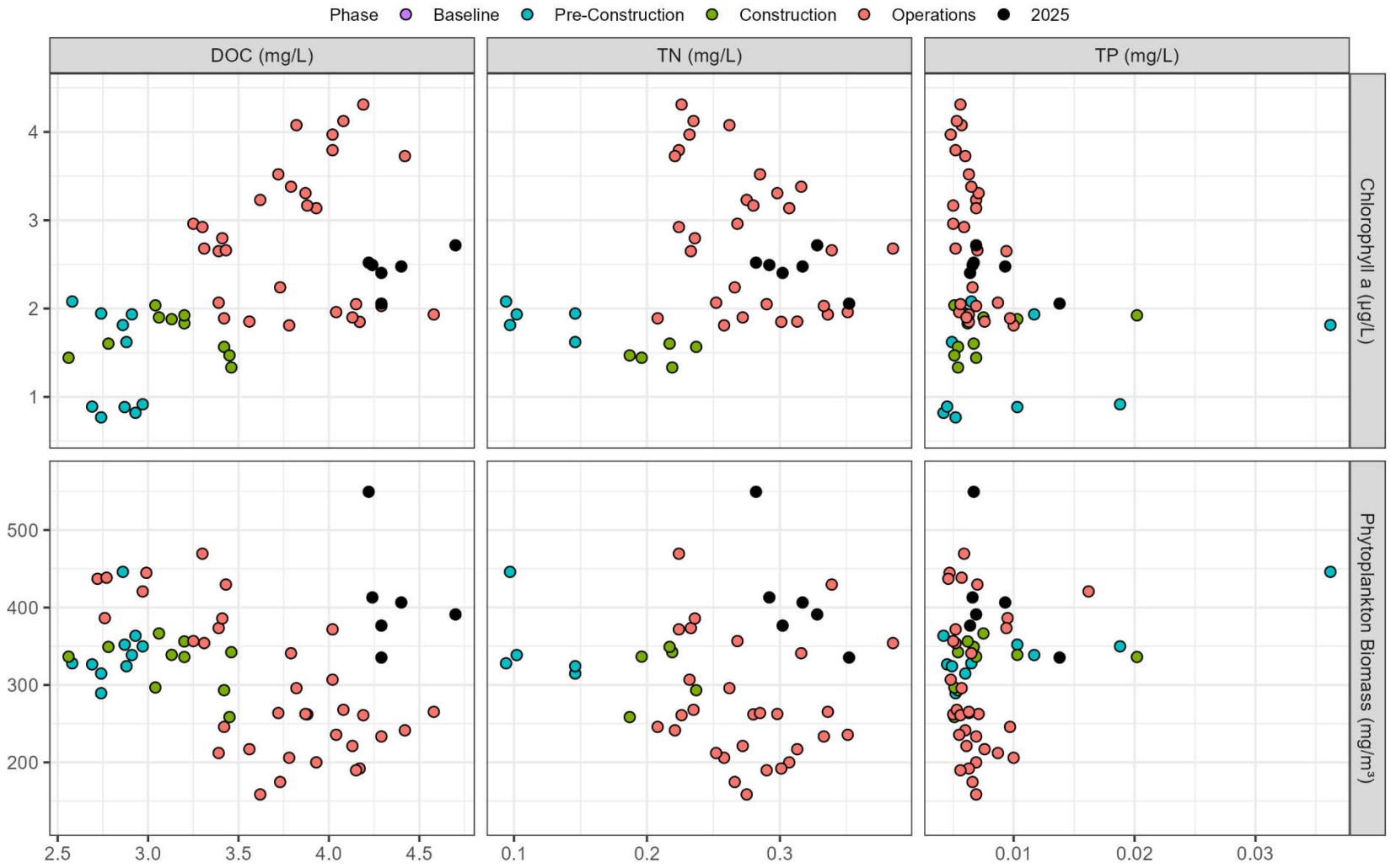
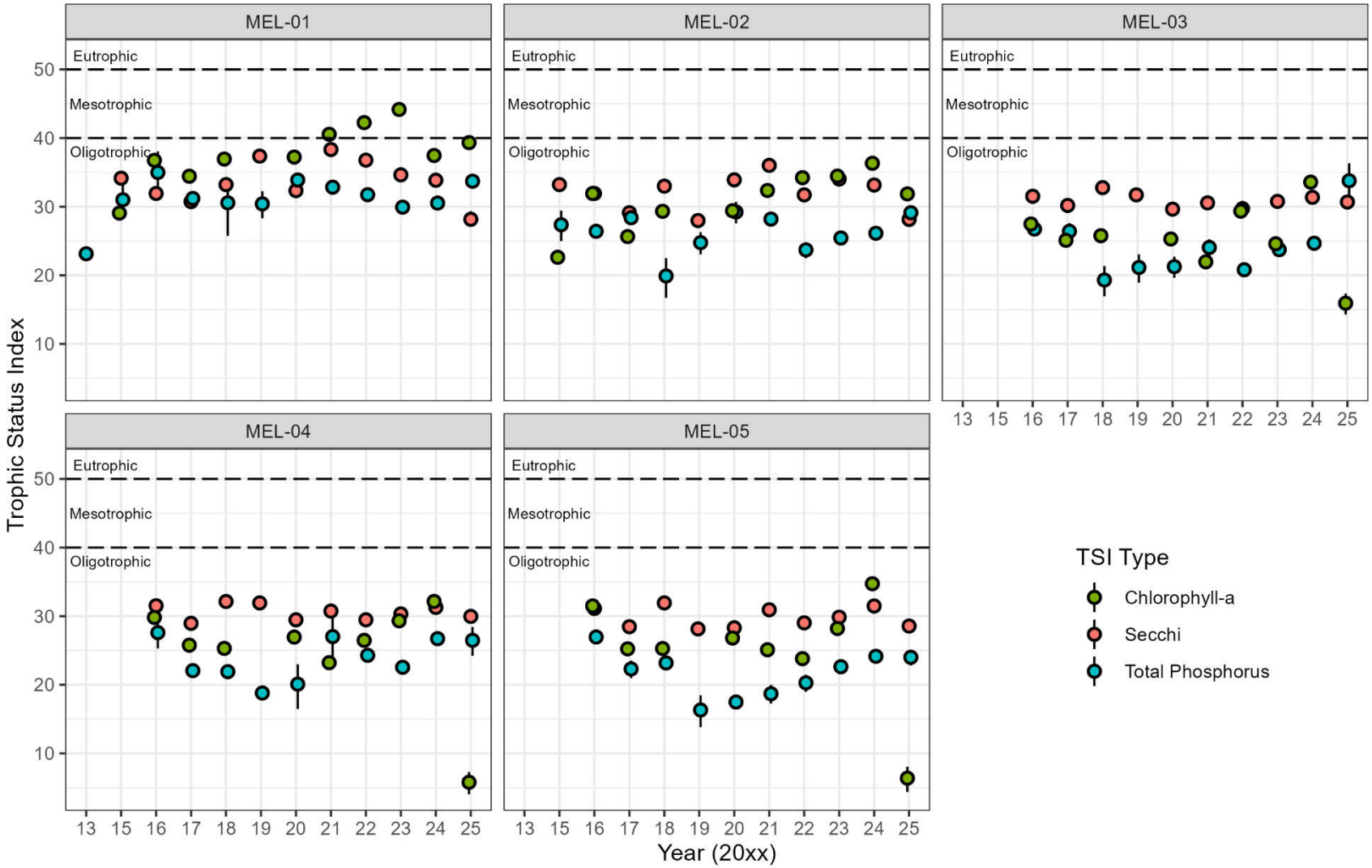


Figure 5-10. Trophic Status Index values for Meliadine Lake, 2013 through 2024.

Notes: points represent the mean; vertical bars represent 1 standard error.



5.4.3 Phytoplankton Community

Phytoplankton community structure is used as a supporting line of evidence to assess potential differences among areas within Meliadine Lake. This section focuses on interannual comparisons of results from the August sampling event with previous monitoring years, supplemented by results from the July and September 2025 sampling events where relevant.

The primary metrics used to evaluate the health of the phytoplankton community in Meliadine Lake are biomass and richness. Phytoplankton density results are tabulated and plotted to support the discussion where needed, but are less informative on their own than biomass, which integrates both cell size and density. Results for the phytoplankton community are presented as follows:

- Summary statistics for major taxa group biomass and density for samples collected in July, August, and September 2025 are included in **Appendix E1**.
- Per-sample richness, biomass, and density for the August sampling event are shown in **Figure 5-11**.
- Major taxa richness, biomass, and density are shown in **Figure 5-12** (absolute values) and **Figure 5-13** (percent) for the August sampling events.
- Seasonal patterns in major taxa richness, biomass, and density for the July, August, and September sampling events in 2025 and 2017 are provided in **Figure 5-14** and **Figure 5-15**, respectively. 2017 was a pre-operational year, where the phytoplankton study was conducted monthly during the open water season.
- Simpson's diversity index, Simpson's evenness index, and Bray-Curtis dissimilarity index for the August sampling event are shown in **Figure 5-16.**
- Results of the multivariate analyses of community structure for the August sampling event using nMDS are shown in **Figure 5-17** and **Figure 5-18.**

Major Taxa Biomass

Chrysophytes have generally been the dominant major taxa in terms of biomass throughout Meliadine Lake throughout the AEMP period (since 2015) and during baseline. In August 2025, relative to total community biomass, chrysophytes comprised between 30% (MEL-02, MEL-04) to 47% (MEL-01) (**Figure 5-13**). Diatoms represented the second most abundant group by biomass, contributing 34% at MEL-01 and 37% at MEL-02, with reference stations ranging from 21% to 39%. In 2025, diatoms comprised a greater proportion of total biomass across MEL-01, MEL-02, and the reference locations than in most previous years, in some cases exceeding chrysophytes (e.g., MEL-02 and MEL-04). In 2025, however, diatoms contributed more prominently to total biomass across all stations (**Figure 5-12**, **Figure 5-13**).

Seasonal dynamics further distinguish 2025 from previous years at MEL-01. At MEL-02 and the reference locations, total biomass declined from July through September, consistent with the typical post-freshet pattern observed during the pre-operational period. Although diatoms made up a substantial proportion of biomass at these locations in 2025, their relative contribution remained generally consistent as total biomass decreased through the season. In contrast, MEL-01 exhibited a progressive increase in total biomass from approximately 70 mg/m³ in July to 230 mg/m³ in September (**Figure 5-14**). This increase was driven primarily by diatoms, which comprised an increasing proportion of total biomass over the same period. Thus, while diatoms were more prominent lake-wide in 2025, only MEL-01 showed a late-season total biomass increase driven primarily by diatoms.

At MEL-01, the centric diatom *Cyclotella stelligera* was the dominant species in all August replicates and accounted for approximately 10% to 22% of total biomass. This taxon is commonly reported in Arctic and alpine lakes and has been associated with longer open-water seasons, increased light availability, and enhanced thermal stability (Ruhland and Smol, 2005; Saros et al., 2016). Its dominance in late summer 2025 coincided with the observed seasonal biomass increase at MEL-01. In contrast, at MEL-02 and the reference locations, chrysophytes (e.g., Dinobryon spp.) and dinoflagellates remained important contributors to biomass. These flagellated taxa are capable of vertical movement and mixotrophy, traits that confer advantages in oligotrophic systems where nutrient and light conditions can be variable.

Overall, 2025 was characterized by greater diatom representation across all stations relative to most previous years. However, the key distinction was the late-season biomass increase at MEL-01, driven by diatoms, compared to the typical July peak and subsequent decline observed at MEL-02 and the reference areas. Phytoplankton community structure is discussed in more detail in subsequent sections of this report.

Importantly, cyanobacteria comprised less than 1% of total phytoplankton biomass at all stations in 2025. Given that cyanobacterial proliferation is commonly associated with nutrient enrichment and eutrophication (Codd, 2000; Ayala-Borda et al., 2021), the low biomass of these taxa indicates that combined operational inputs and interannual climate variability have not resulted in shifts toward cyanobacteria-dominated communities.

Richness

Taxa richness and total biomass show similar patterns based on data from the August sampling events (**Figure 5-12**). For example, years with lower biomass at MEL-01 (i.e., 2020 and 2022) were also characterized by fewer taxa than years with higher biomass (e.g., 2019 and 2021). In August 2025, phytoplankton richness was lower than in August 2024 at most stations in Meliadine Lake but remained within the historical range for each station. MEL-01 was the exception, where both richness and total

biomass were higher in August 2025 relative to August 2024. This pattern was not evident at reference stations MEL-03 and MEL-05.

Unlike previous years, when chrysophytes were typically the most diverse group, taxa richness in August 2025 was more evenly distributed among chrysophytes, chlorophytes, and diatoms (**Figure 5-12**, **Figure 5-13**). Since 2015, modest fluctuations in total taxa richness have occurred at MEL-01, MEL-02, and the reference stations during August sampling. The occurrence of similar changes across exposure and reference areas suggests that regional factors may be influencing phytoplankton diversity. These fluctuations have been accompanied by subtle shifts in taxonomic composition, including a relative decrease in chrysophyte richness and a corresponding increase in diatom richness in some years.

Monthly phytoplankton sampling in July and September provided insight into seasonal patterns of change in 2025. Total richness increased slightly at MEL-01 and MEL-02 through the growing season, peaking in September, whereas richness at MEL-03 remained relatively consistent across all three months (**Figure 5-14**). This contrasts with 2017, when richness declined slightly throughout the open-water season (**Figure 5-15**). The divergent seasonal pattern observed at MEL-01 in 2025 (increasing from July to September) relative to 2017 (decreasing from July to September) may reflect differences in seasonal community dynamics, potentially influenced by natural variability or effluent-related factors. Continued monitoring will help clarify how the timing of effluent discharge may relate to changes in taxa richness and other phytoplankton endpoints.

Figure 5-11 Phytoplankton richness, biomass (mg/m^3), and density (cells/L), August sampling event 2013-2025.

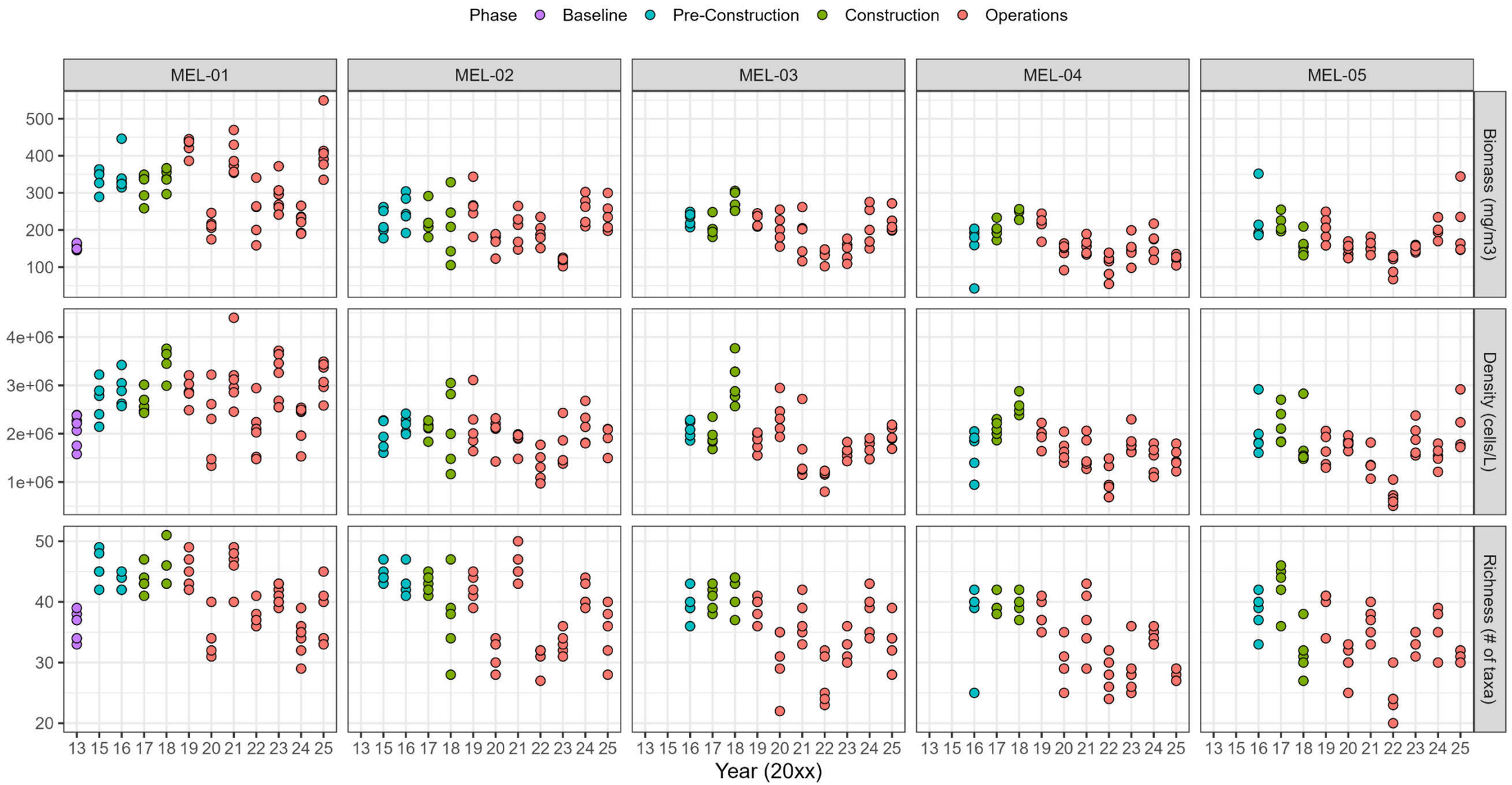


Figure 5-12. Mean phytoplankton richness, biomass (mg/m^3), and density (cells/L) by major taxa, August 2013-2025.

Notes: Major taxa group endpoints (richness, biomass, and density) for each area-year are based on the average (arithmetic mean) of the individual replicates.

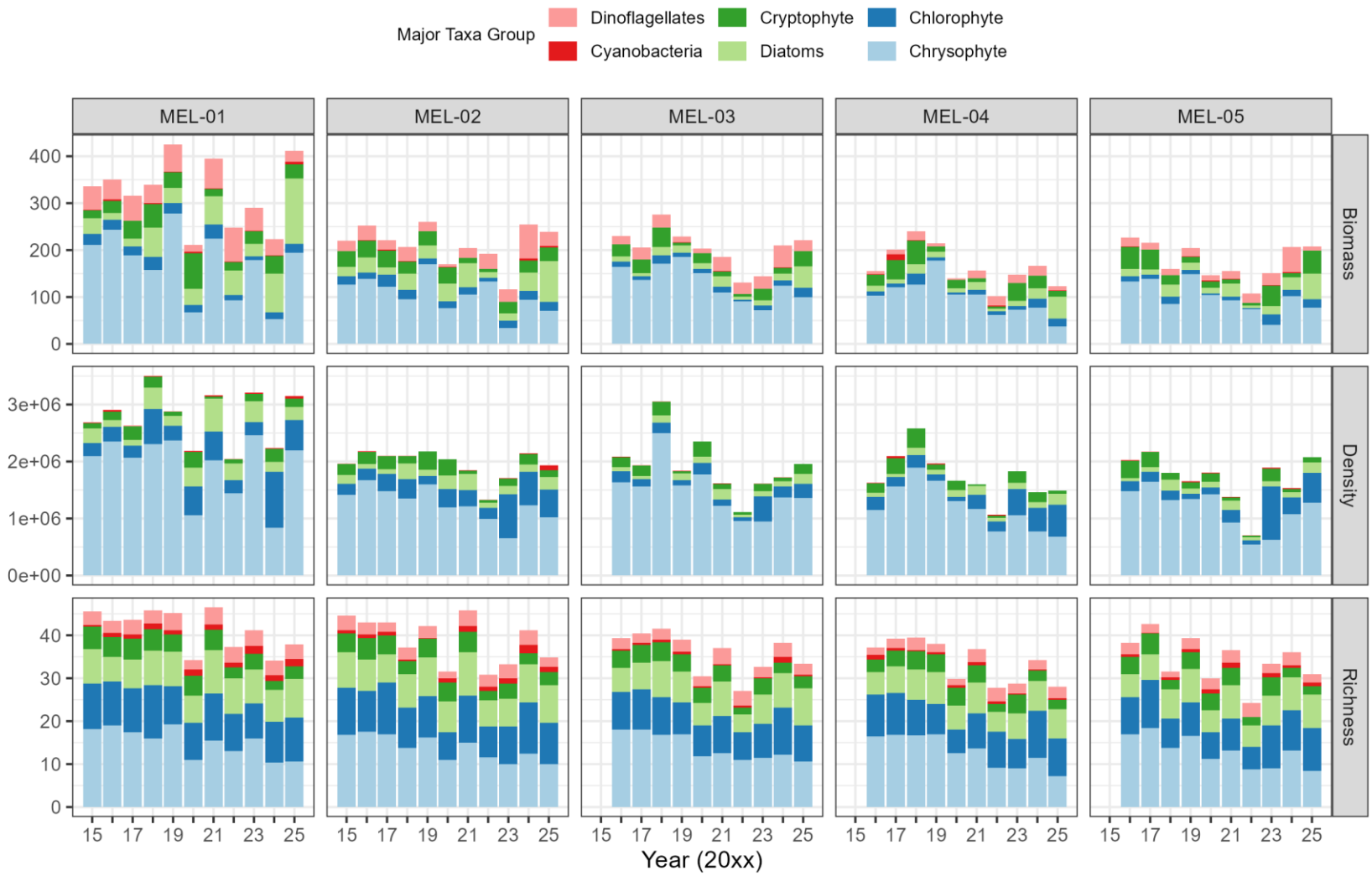


Figure 5-13. Relative richness, biomass (mg/m³), and density (cells/L) by major taxa, August 2013-2025.

Notes: Major taxa richness, biomass, and density shown as the proportion of the total based on the average for each area/year.

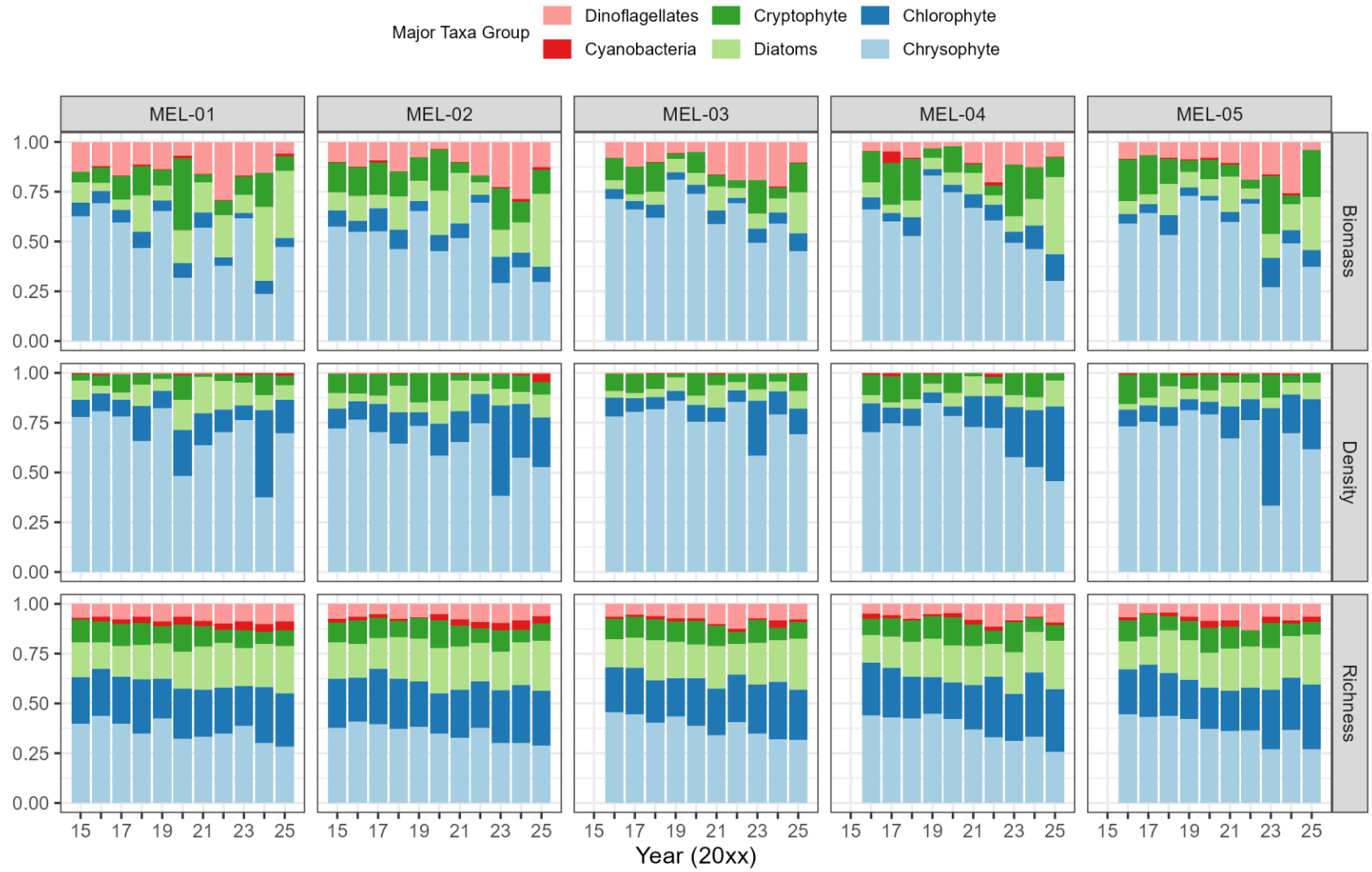


Figure 5-14. Mean phytoplankton richness, biomass (mg/m³), and density (cells/L) by major taxa, July, August and September 2025.

Notes: Major taxa group endpoints (richness, biomass, and density) for each area-year are based on the average (arithmetic mean) of the individual replicates.

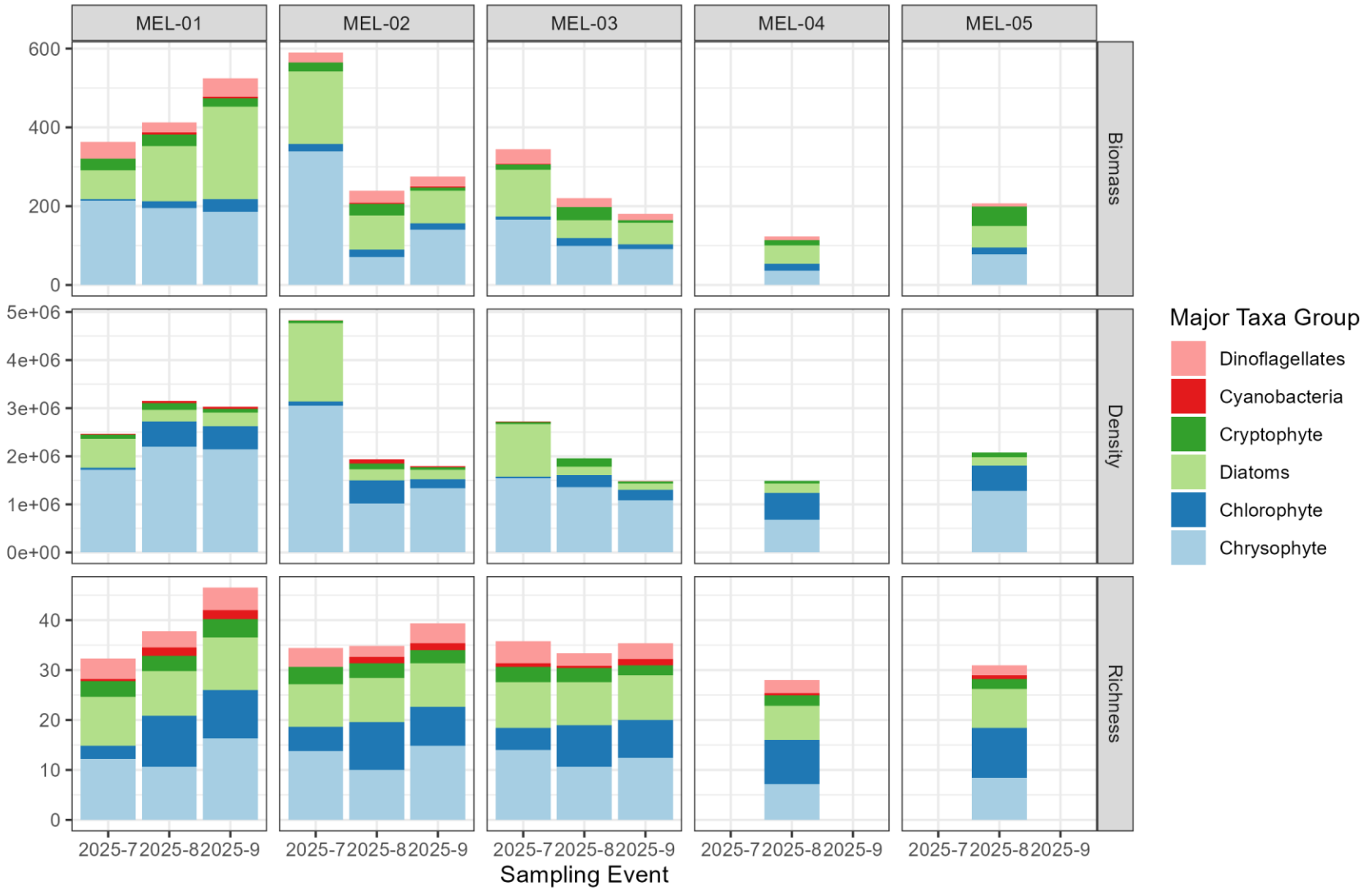
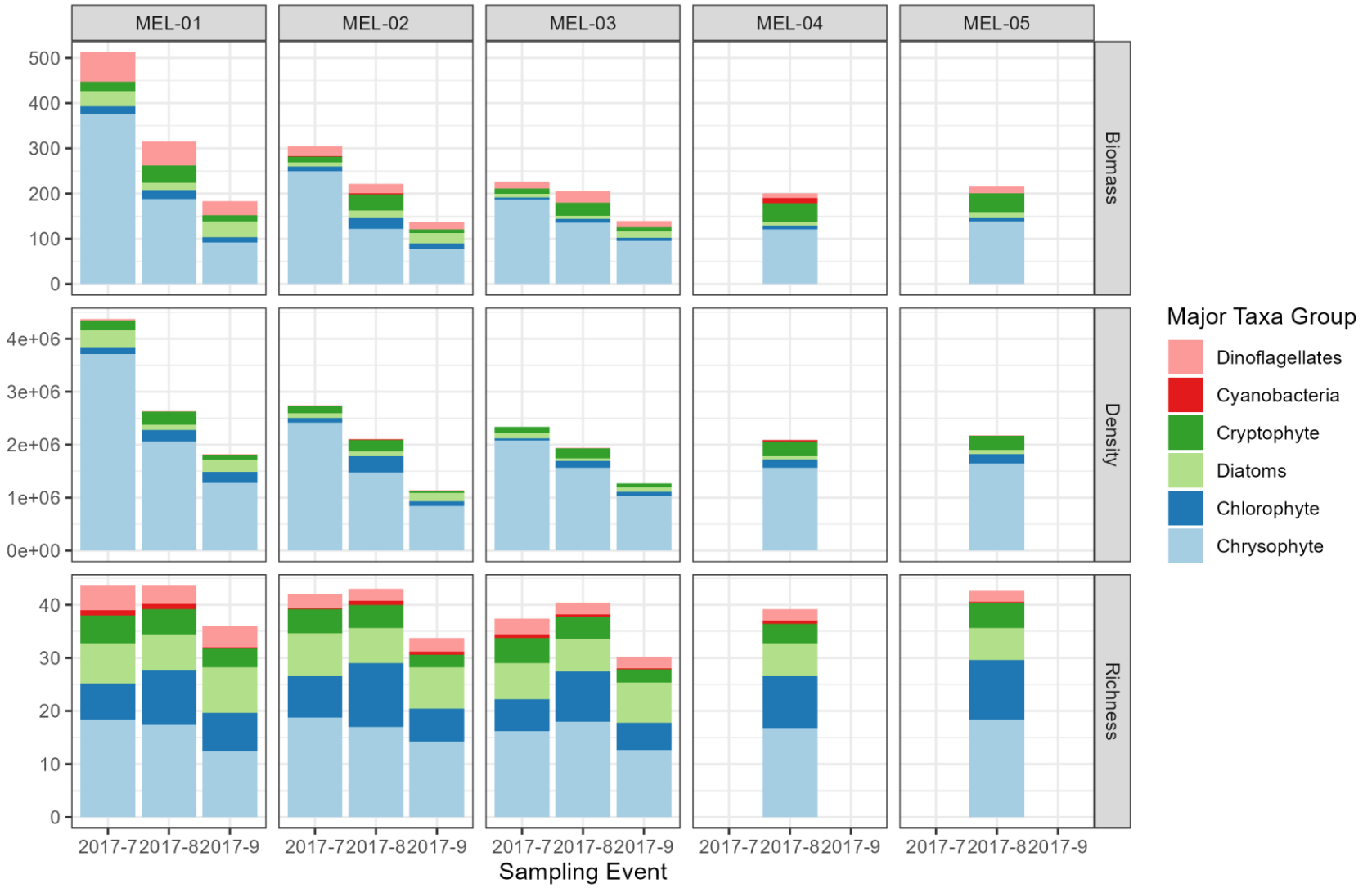


Figure 5-15. Mean phytoplankton richness, biomass (mg/m³), and density (cells/L) by major taxa, July, August and September 2017.

Notes: Major taxa richness, biomass, and density shown as the proportion of the total based on the average for each area/year.



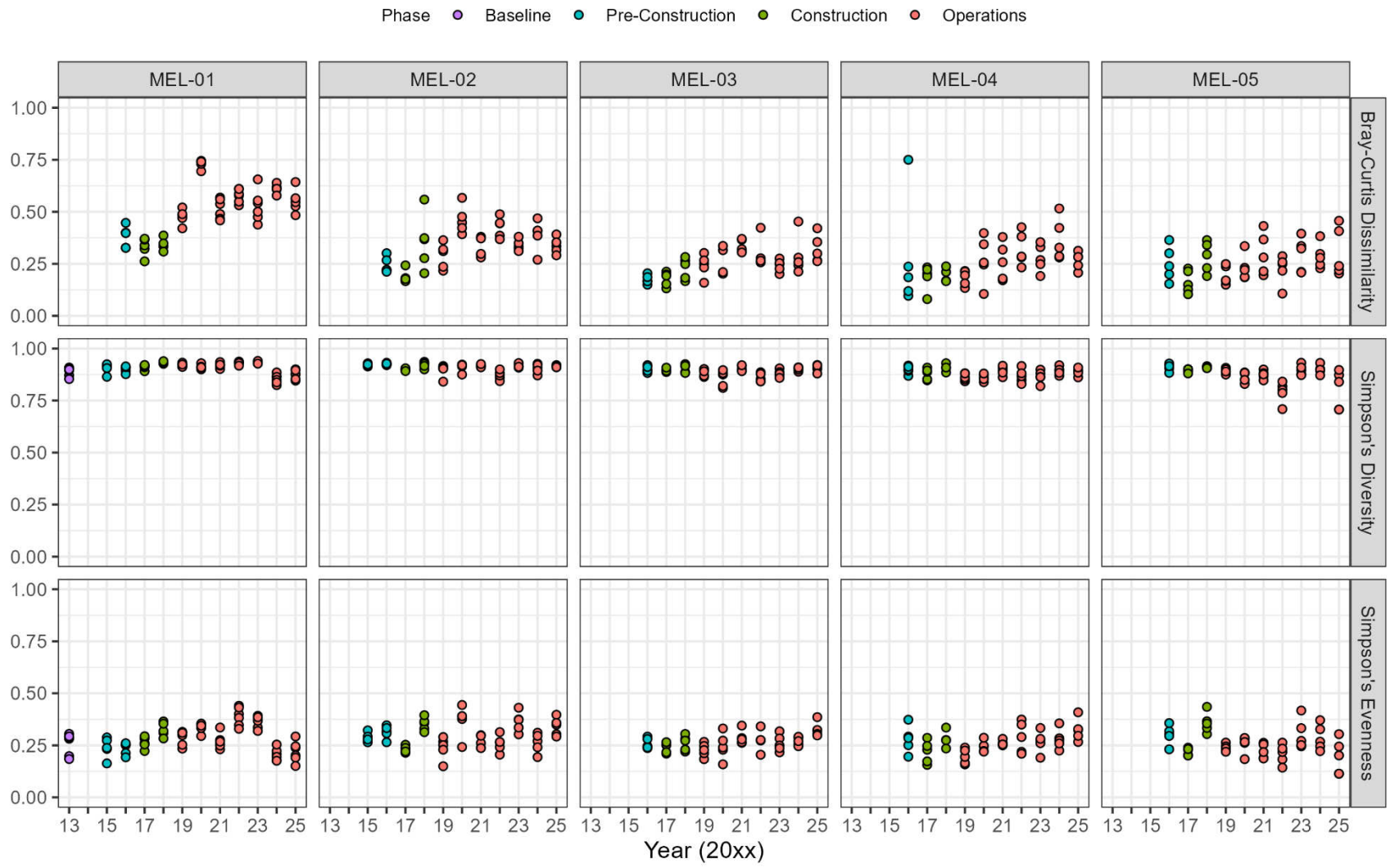
Community Structure Metrics

Simpson's Diversity, Simpson's Evenness, and Bray-Curtis dissimilarity were used to evaluate whether the phytoplankton community structure in Meliadine Lake changed in 2025 relative to historical conditions. Key findings are discussed below in the context of long-term patterns.

- **Simpson's Diversity Index (SDI)**: SDI has remained high (>0.85) and stable across monitoring areas(**Figure 5-16**) indicating that phytoplankton communities in Meliadine Lake are composed of a diverse assemblage of taxa with no single group strongly dominating. Values remain within the range observed at reference locations and do not indicate a shift toward community dominance or other pronounced changes in community structure.
- **Simpson's Evenness Index (SEI)**: Evenness at MEL-01 in August 2024 and 2025 was slightly lower than in previous operations years but remained within the range observed at reference locations (**Figure 5-16**), indicating no clear shift in community structure relative to the reference areas.
- **Bray–Curtis dissimilarity index (BCI)**: BCI values have been variable among years and locations. Since the start of operations in 2018, mean BCI has generally been highest at MEL-01. In August 2025, mean BCI ranged from 0.24 at MEL-03 to 0.52 at MEL-01 (**Figure 5-16**), indicating that phytoplankton community composition at MEL-01 differs somewhat from the reference areas. Differences in community composition among areas are discussed further in the following section.

Figure 5-16. Bray-Curtis Dissimilarity, Simpson's Diversity, and Simpson's Evenness, August 2013-2025.

Notes: Bray-Curtis Dissimilarity Index was only calculated in years where exposure and reference areas were sampled.



Community Structure (Multivariate Analyses)

Finer patterns in phytoplankton community structure across sampling areas and years were explored using non-metric multidimensional scaling (nMDS)[7] based on phytoplankton biomass data. Two nMDS dimensions were derived from the transformed biomass dataset to represent variation in phytoplankton community composition. The stress value of that configuration (0.24) was slightly higher than the guideline of 0.2 outlined by Clarke (1993), but was considered acceptable for this application based on considerations of other factors such as sample size and ease of interpretation outlined in **Section 5.3.3**.

The ordination plot showing results for samples collected from *reference* areas or during baseline monitoring and their associated 90th, 95th and 99th percentile probability ellipses is presented in the left panel of **Figure 5-17**. These probability ellipses represent the phytoplankton community at the reference areas across all sampling events. The reference area ellipse helps identify those samples or areas that diverge from the normal range of reference conditions in Meliadine Lake. This approach to comparing MEL-01 and MEL-02 areas assumes that the phytoplankton communities were similar throughout Meliadine Lake during the baseline period. This assumption cannot be fully tested because the reference areas (MEL-03, MEL-04, and MEL-05) were not sampled in 2013 or 2015. While the probability ellipses may not fully represent lake-wide conditions during the baseline period, they remain appropriate for assessing relative differences among areas and evaluating temporal trends.

Results for samples collected from *exposure* areas relative to the reference area probability ellipses are presented in the right panel of **Figure 5-17**. The ordination results are also shown by year in **Figure 5-18** to illustrate the relative change for MEL-01, MEL-02, and the reference areas within and across years. Results from MEL-01 in 2013 and MEL-01 and MEL-02 in 2015 are shown in the ordination plots for context, but should be interpreted with caution because the reference areas were not sampled concurrently.

The correlation matrix at the right of **Figure 5-18** shows the relationship between the biomass and richness of major phytoplankton taxa and the two nMDS axes. The strongest correlations between each axis and major phytoplankton groups are summarized below.

nMDS Axis 1

- During earlier years, samples from different areas generally grouped together along Axis 1. Beginning around 2020, samples from different areas began to diverge slightly, showing greater variation among locations within a given year, with MEL-01 often tending toward lower Axis 1 scores than the other stations (left-oriented).

[7] A description of the nMDS analysis using the 'Vegan' software package is presented here: (Link)

- August 2025 differed from most previous years in that samples from all areas clustered toward the left side of the plot (**Figure 5-18**), with Axis 1 scores ranging from approximately -0.25 to -0.55. MEL-01 tended toward the lowest values, but did not diverge strongly from the other areas.
- No major taxa were positively correlated with nMDS Axis 1. Diatom biomass and richness showed the strongest negative correlations with Axis 1, indicating that samples with higher diatom biomass and richness tended to plot further to the left (more negative values) along Axis 1. As discussed previously, diatom biomass and richness were higher across all areas in August 2025, which likely explains the leftward clustering of samples in that year.

nMDS Axis 2

- Prior to 2021, samples from most locations tended to fall in the upper half of nMDS Axis 2. Beginning around 2022, samples more frequently occurred in the lower half of the axis with negative Axis 2 values. This pattern was also observed in August 2025, when replicates from all areas fell primarily in the lower half of the axis, with values generally ranging from slightly above zero to approximately -0.45.
- Reference area MEL-03 tended toward higher Axis 2 values, whereas MEL-04 tended toward lower values. MEL-01 generally plotted slightly higher on Axis 2 relative to other areas but did not diverge substantially.
- Chrysophyte biomass and richness were the metrics most strongly positively correlated with nMDS Axis 2, while no major taxa showed strong negative correlations. Because chrysophytes were historically dominant in earlier years of monitoring, these correlations likely reflect patterns across the full time series rather than conditions specific to 2025.

Summary

Differences in phytoplankton community composition are evaluated using the ordination plot (**Figure 5-18**) by comparing the position of samples relative to the probability ellipses and to samples from other areas within a given year. Key findings from 2025 are summarized below, focusing on patterns at MEL-01 relative to other areas and whether these patterns are consistent with potential effluent influence.

- In August 2025, samples from all areas, including MEL-01, clustered together on the left side of the ordination and many fell outside the 99th percentile ellipse. Although MEL-01 has diverged from MEL-02 and the reference areas in some years since 2020, in 2025 samples from MEL-01 were not strongly separated from other areas and instead grouped closely with them.
- The similar clustering of exposure and reference areas in 2025 suggests that regional factors affecting the entire lake, rather than localized mine-related inputs, were likely the dominant drivers of phytoplankton community composition that year.

Figure 5-17. Ordination of the reference and exposure area phytoplankton results by phase and location for Meliadine Lake.

Notes: Left panel = results for reference and baseline samples and their associated probability ellipses.
Right panel = exposure samples shown relative to reference area probability ellipses.
Green, orange, and red ellipses = 90th, 95th, and 99th percentile of the baseline/reference phytoplankton community.

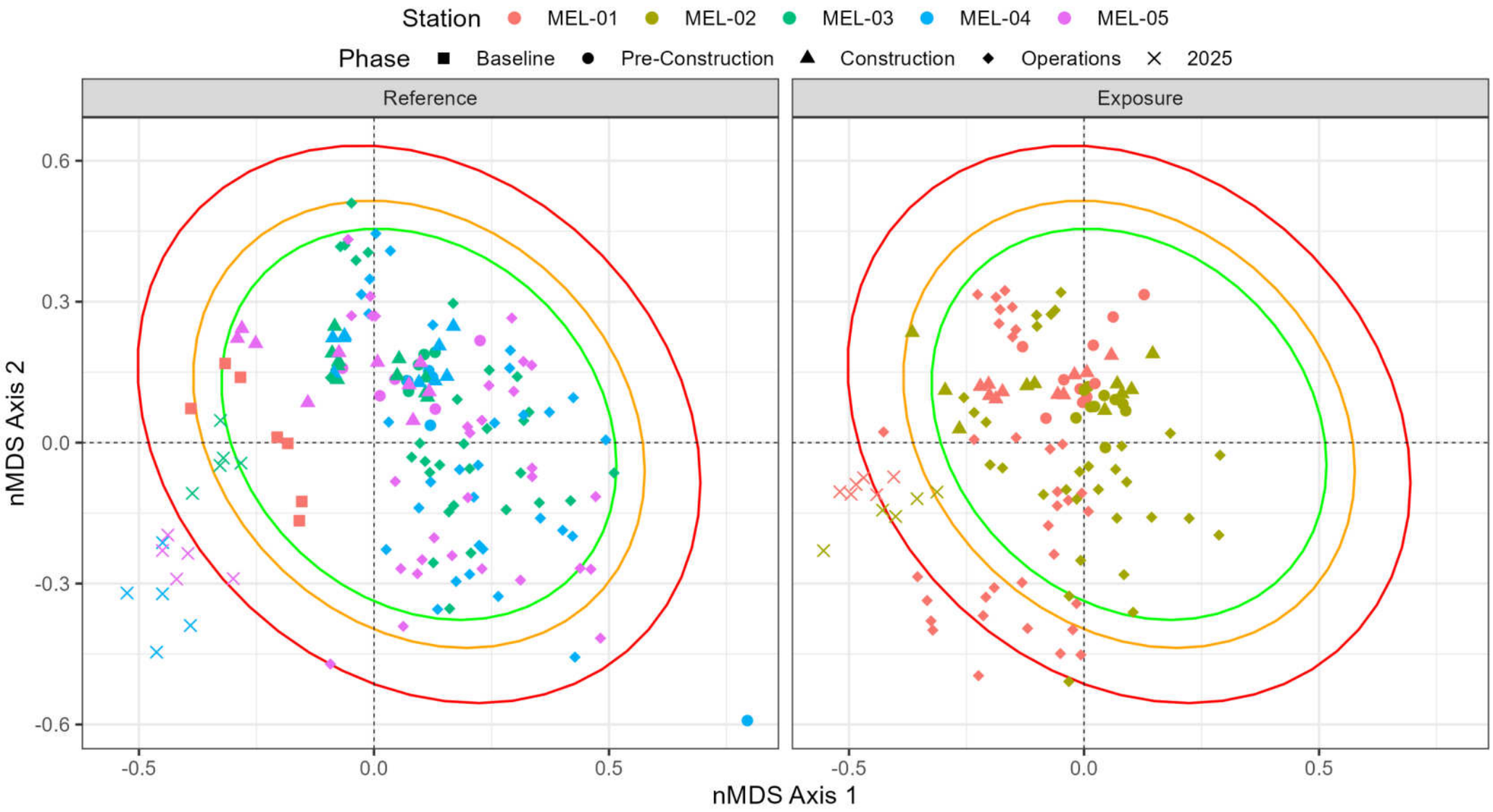
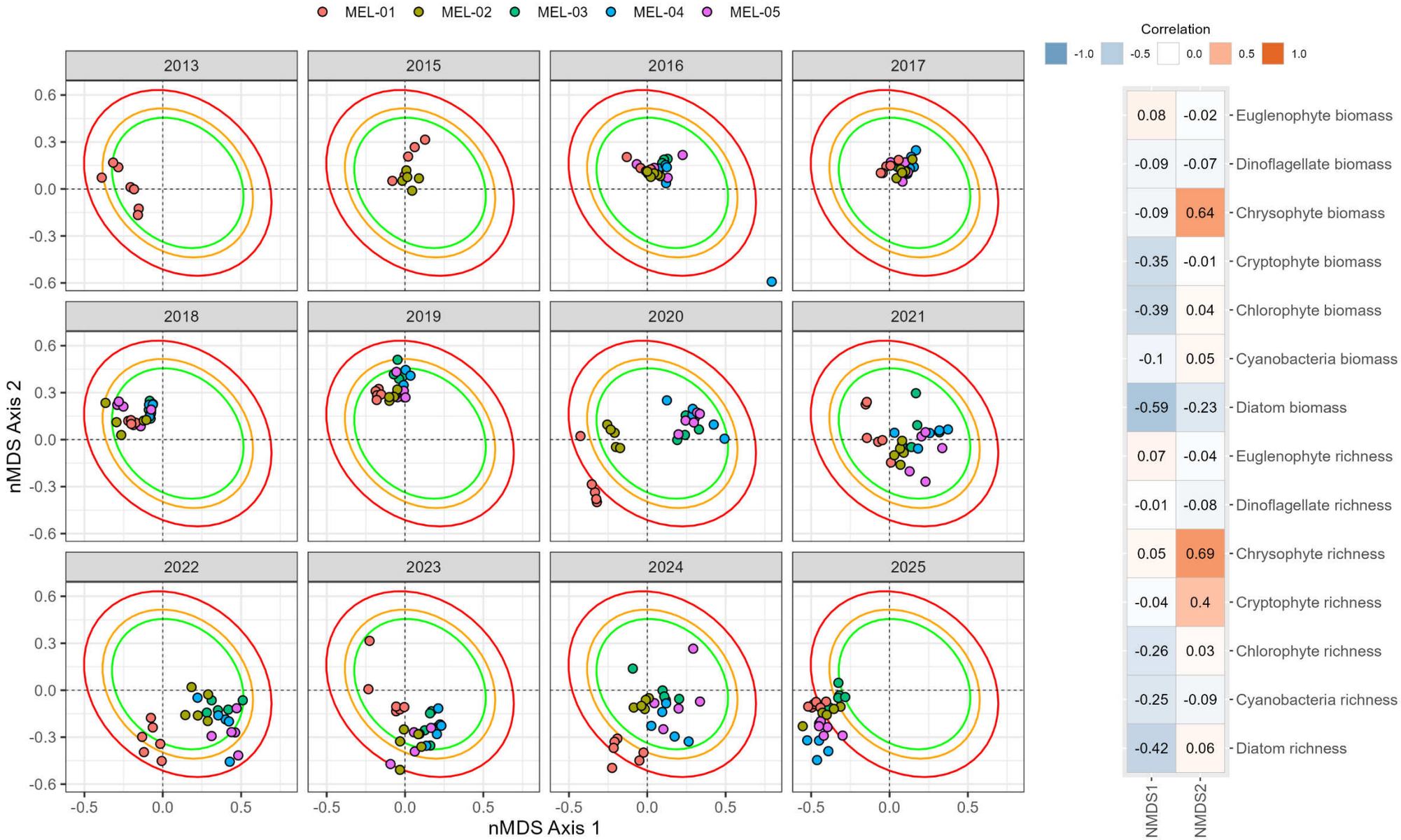


Figure 5-18. Non-metric multidimensional scaling (nMDS) results showing ordination of the phytoplankton results by year and location for Meliadine Lake.

Notes: Green, orange, and red ellipses = 90th, 95th, and 99th percentile of the baseline/reference phytoplankton community.
The correlation matrix displays correlations between the biomass and richness of each major taxa group and the nMDS scores for Axis 1 and 2. The Spearman critical value is 0.197 ($p < 0.05$).



5.5 Conclusions

Conclusions for the 2025 phytoplankton study are summarized below in the context of the key question:

Is the phytoplankton community in Meliadine Lake adversely affected by potential mine-related changes in water quality?

The structure and function of the phytoplankton community in Meliadine Lake do not appear to be adversely affected by the discharge of treated effluent. This conclusion is supported by multiple lines of evidence evaluating both phytoplankton productivity and community structure, indicating that the phytoplankton community continues to support higher trophic levels and maintain its ecological function within the lake.

Primary Productivity

Our understanding of the factors influencing phytoplankton productivity in Meliadine Lake continues to evolve. Interannual variability observed in recent years is likely influenced by regional climatic factors, particularly the timing and magnitude of summer rainfall. Effluent discharge from the Mine may also contribute to observed patterns.

Rainfall can trigger a complex interplay of factors, including changes in nutrient concentrations, water movement, and temperature conditions (Stockwell et al., 2020). Because runoff and associated nutrient inputs do not occur at the same time or place within a watershed, phytoplankton responses to rainfall events can be delayed or prolonged, a process referred to as hysteresis (Liu et al., 2024). Given the complexity of these processes, phytoplankton responses to such inputs within and among lakes can be variable and difficult to predict.

Similar processes may also apply to effluent discharge from CP1 to the East Basin of Meliadine Lake, where the timing and duration of discharge influence spatial and temporal patterns in key inputs that have the potential to affect algal growth. The extended discharge period in 2025 may have contributed to sustained higher biomass at MEL-01 in August and September, while biomass declined at MEL-02 and MEL-03 over the same period.

Overall, the available information suggests that both regional climatic conditions and effluent discharge may contribute to the variability observed in phytoplankton biomass. However, the spatial patterns observed in 2025 indicate that any nutrient-related effects on primary productivity are localized to the East Basin near MEL-01 and do not extend throughout Meliadine Lake.

Community Structure

Phytoplankton community composition in Meliadine Lake varies from year to year. Since approximately 2020, variability has generally been greater at MEL-01 than at MEL-02 and the reference areas. In

contrast, samples from all areas in 2025 clustered more closely in the ordination, indicating greater similarity in community composition across the lake. This pattern suggests that regional drivers, rather than localized basin-specific influences, may have exerted a stronger influence on phytoplankton community structure in 2025. The lake-wide taxonomic shifts observed since approximately 2021 are consistent with this interpretation.

6 RESPONSE FRAMEWORK AND LOW ACTION LEVEL ASSESSMENT

This section presents the results of the 2025 AEMP within the context of the Response Framework. The Response Framework links monitoring results to management actions to ensure that key assessment endpoints remain within acceptable ranges. It provides a systematic approach for evaluating AEMP results and responding appropriately, so that unexpected changes are identified early and mitigation can be implemented if needed.

The Response Framework is designed to protect the following key attributes of the aquatic environment identified through public consultation for the FEIS (Traditional Use Study; FEIS Volume 9):

- **Water quality** – ensuring water remains safe for people and wildlife.
- **Usability of the fishery** – supporting continued traditional and recreational fishing by local residents.
- **Aquatic ecosystem health** – maintaining ecological function so that fish have adequate food and can survive, grow, and reproduce.

The Response Framework applies a holistic, evidence-based approach to decision-making to protect the attributes described above. Appropriate responses are determined on a case-by-case basis, using relevant monitoring data and considering the source and nature of observed changes to inform management actions. Follow-up actions may include confirmation monitoring to verify the change, targeted studies to characterize potential risks to aquatic life, or mitigation to control the source.

Low Action Levels

Low Action Levels are used to determine whether follow-up actions are required in response to changes observed in the current year's monitoring data. If a Low Action Level is exceeded, the appropriate response is determined on a case-by-case basis, considering the source and nature of observed changes. Follow-up actions may range from confirmation monitoring, to additional studies to better understand the cause, to mitigation measures if a source is identified.

Low Action Levels for the Meliadine Lake study were initially developed in Version 1 of the AEMP Design Plan (Golder, 2016) and updated in the 2018 AEMP (Golder, 2019). Assessment criteria are specific to each monitoring component but generally involve comparisons to baseline or reference conditions and, for water and sediment quality, comparisons to applicable guidelines, criteria, or objectives.

Low Action Levels were not formally developed for the Peninsula Lakes study in the 2018 AEMP. However, to support adaptive management, water quality results from the Peninsula Lakes are

evaluated using a similar approach to that used for Meliadine Lake. This includes comparisons to relevant water quality guidelines, assessment of temporal trends, and comparisons to predictions from the 2014 FEIS, where applicable.

Impact Hypotheses

The FEIS identified several pathways through which Mine activities could affect the aquatic receiving environment, including effluent discharge (specific to Meliadine Lake), altered watersheds, changes in hydrological processes, evaporation, and aerial emissions (FEIS, Volume 7). For Meliadine Lake, effluent discharge is the primary pathway with the potential to influence water quality and aquatic life. Because effluent contains nutrients and metals, impact hypotheses were developed for toxicological impairment and nutrient enrichment.

Relevant conclusions from the 2014 FEIS are summarized below to help distinguish between changes that were predicted and therefore considered acceptable for the project and those that may warrant further investigation.

Toxicological Impairment

Contaminants can affect aquatic organisms through direct and indirect exposure pathways. Direct effects include immediate impacts, such as fish experiencing toxicity from elevated concentrations of ions or metals. Indirect effects may occur if lower trophic levels, such as algae or aquatic invertebrates, are affected, potentially leading to changes in food availability and cascading effects on fish populations.

Water quality in Meliadine Lake at the edge of the mixing zone (100 m from the diffuser) was predicted to remain within the range of baseline conditions and not result in adverse effects to fish or other aquatic life. In this context, baseline conditions represent the range of natural variability, recognizing that regional changes in water quality may occur over time due to climate-driven processes.

Nutrient Enrichment

Increased productivity may result from the release of nutrients (primarily phosphorus and nitrogen) in effluent. Nutrient enrichment can lead to increased algal growth, which may increase decomposition rates and reduce dissolved oxygen levels. Lower dissolved oxygen can reduce a lake's ability to support aquatic life, including invertebrates and fish.

The 2014 FEIS predicted that increased nitrogen concentrations near the diffuser could lead to a shift in phytoplankton community composition toward species that can take advantage of higher nitrogen availability. Despite the predicted increase in nitrogen, the phytoplankton community in Meliadine Lake was expected to remain within the range of baseline conditions and not result in increased overall productivity in Meliadine Lake.

6.1 Meliadine Lake Low Action Level Assessment

Potential mining-related effects consistent with toxicological impairment or nutrient enrichment were evaluated based on information from the following components of the 2025 AEMP:

- Sublethal toxicity tests with *Lemna minor* (duckweed)
- Surface water quality
- Phytoplankton community

The results of the Low Action Level Assessment are summarized in **Table 6-1**. Based on available data from the surface water quality monitoring program and phytoplankton study, findings from 2025 are consistent with predictions in the 2014 FEIS, namely (1) water quality would be protective of aquatic life at the edge of the mixing zone and (2) only minor shifts in phytoplankton community composition would occur relative to baseline.

There is some uncertainty regarding whether mining activities have contributed to higher primary productivity in the East Basin of Meliadine Lake. In 2025, phytoplankton biomass was at the upper end of the range observed during operations; however, values remained within the range observed during baseline characterization in the late 1990s. Spatial patterns observed in 2025 indicate that any mining-related changes to primary productivity are localized to the East Basin and do not extend throughout Meliadine Lake. Overall, available information indicates that both regional climatic conditions and effluent discharge may contribute to variability in phytoplankton biomass.

To address uncertainty related to mining versus background influences on primary productivity, Agnico Eagle added July and September sampling events to the phytoplankton monitoring program in 2024 and 2025. This additional sampling provides greater insight into seasonal patterns and helps identify factors influencing year-to-year variability in phytoplankton biomass. In the context of the Response Framework, this expanded monitoring demonstrates how results from the annual monitoring program are used to support informed, adaptive management decisions.

6.2 Peninsula Lakes Water Quality Summary

Water quality has changed in all three Peninsula Lakes relative to baseline conditions. In Lake D7, several parameters have increased over time, reflecting natural variability and broader climate influences. Temporal patterns in Lake E3 are similar to those observed in Lake D7, indicating that changes are primarily driven by regional processes rather than mining activities. Results for Lake D7 and Lake E3 are consistent with predictions in the 2014 FEIS, where increases from baseline conditions were expected to remain below guidelines for the protection of aquatic life and drinking water, as well as site-specific water quality objectives.

Previous AEMP cycles identified changes in major ions and selected metals in Lake B7 and, prior to dewatering, in Lake A8. These trends coincided with the development of major infrastructure, including the TSF and Tiriganiaq Pits 1 and 2. While the exact cause has not been fully confirmed, results from the snow core chemistry monitoring program indicate that dust deposition is a likely source. Mitigation measures have reduced off-site dust movement south of Tiriganiaq Pit 1 in recent years, although total suspended solids and some metals remain elevated in this area relative to background conditions.

Agnico Eagle has expanded monitoring in Lake B7 in recent years to better understand seasonal water quality patterns, particularly for arsenic. Sampling in 2025 continued to show increasing trends that began around 2019 to 2020. In response to exceedances of site-specific water quality objectives in July and August, targeted toxicity testing was conducted in August and September 2025 to assess potential risks to sensitive aquatic organisms, including algae and zooplankton. Results showed minor effects on algal growth consistent with arsenic as the likely cause, with no other exceedances of aquatic life guidelines observed. No effects were observed on aquatic invertebrate survival or reproduction. As these organisms are more sensitive to arsenic than fish, the results indicate that overall risk to aquatic life remains low, despite minor reductions of approximately 20% in primary productivity.

Water quality has changed in all three Peninsula Lakes relative to baseline conditions. In Lake D7, several parameters have increased over time, reflecting natural variability and broader climate influences rather than mining activities. Temporal patterns in Lake E3 are similar to those observed in Lake D7, indicating that changes are primarily driven by regional processes. Results for Lake D7 and Lake E3 are consistent with predictions in the 2014 FEIS, where increases from baseline conditions were expected to remain below guidelines for the protection of aquatic life and drinking water, as well as site-specific water quality objectives.

Previous AEMP cycles identified changes in major ions and selected metals in Lake B7 and, prior to dewatering, in Lake A8. These trends coincided with the development of major infrastructure, including the TSF and Tiriganiaq Pits 1 and 2. While the exact cause has not been fully confirmed, results from the snow core chemistry monitoring program indicate that dust deposition is a likely source. Mitigation measures have reduced off-site dust movement south of Tiriganiaq Pit 1 in recent years, although total suspended solids and some metals remain elevated in this area relative to background conditions.

Agnico Eagle has expanded monitoring in Lake B7 in recent years to better understand seasonal water quality patterns, particularly for arsenic. Sampling in 2025 continued to show increasing trends that began around 2019 to 2020. In response to exceedances of site-specific water quality objectives in July and August, targeted toxicity testing was conducted in August and September 2025 to assess potential risks to sensitive aquatic organisms, including algae and zooplankton. Results showed minor effects on algal growth consistent with arsenic as the likely cause, with no other exceedances of aquatic life guidelines observed. No effects were observed on aquatic invertebrate survival or reproduction. As

these organisms are more sensitive to arsenic than fish, the results indicate that overall risk to aquatic life remains low, despite minor reductions of approximately 20% in primary productivity.

Lake B7 was identified for dewatering in the Mine Plan submitted with the 2014 FEIS, and water quality predictions were not developed for this lake. As mining progresses, Lake B7 is expected to be dewatered and used as a surge storage reservoir for surface contact water from CP1. In the interim, monitoring will continue as planned, with additional seasonal sampling as needed to track trends and confirm observed changes.

Table 6-1. Meliadine Lake 2025 Low Action Level Assessment.

Component	What Was Assessed	Key Results	Conclusion
Effluent Quality	Sublethal toxicity using *Lemna minor* (duckweed) across three monthly samples in June, July, and October.	• No effects (stimulation or inhibition) were observed for the effect endpoints (frond number or biomass) compared to the control treatment.	Low Action Level **not exceeded**
Surface Water Quality	Comparison of water quality in Meliadine Lake against: • AEMP Benchmarks (thresholds for effects to aquatic life) • Baseline/reference comparisons • Water quality model predictions for the approved Mine.	• No exceedances of guidelines for the protection of aquatic life or drinking water. • Some increases in major ions and metals in the East Basin, consistent with predictions in the FEIS. • Concentrations for most parameters are below model predictions at the edge of the mixing zone. • TDS and chloride concentrations are below predictions for far-field mixing within the East Basin. • Evidence for regional, climate-driven changes for some parameters based on data from Atulik Lake and Peter Lake	Low Action Level **not exceeded**
Phytoplankton	Assessment of productivity and community structure, including: • biomass, chlorophyll-a, and taxa composition at MEL-01 relative to baseline/reference conditions. • Nutrient-productivity relationships.	• Phytoplankton biomass was at the upper remained within historical range despite year-to-year variability. • The structure of the algal community shows similar patterns of change throughout Meliadine Lake; evidence for natural (background) factors. • Observed patterns align with FEIS predictions.	Low Action Level **not exceeded**
Overall Assessment	Integration of toxicity testing, water quality, and phytoplankton indicators.	• No evidence of toxicological impairment. • Some evidence of nutrient enrichment, but the cause is uncertain. • Observed changes are within expected ranges or consistent with predicted and regional patterns.	**Routine monitoring for 2026**

7 REFERENCES

Agnico Eagle Mines Limited. 2014. Meliadine Gold Project, Nunavut: Final Environmental Impact Statement. Submitted to the Nunavut Impact Review Board, April 2014.

Agnico Eagle (Agnico Eagle mines Ltd.) 2015. Meliadine Gold Project – Type A Water Licence Main Application Document. April 2015. Version 1.

Ayala-Borda, P., Kivejoy, C., Power, M., and Rautio, M. 2021. Evidence of eutrophication in Arctic lakes. Arctic Science, 7(4): 859–871.

Azimuth Consulting Group Partnership (Azimuth) 2013. Meliadine Aquatic Effects Program Development, Phase 1. Technical memorandum prepared for Agnico Eagle Mines Limited

Azimuth Consulting Group Inc. (Azimuth). 2020. Aquatic Effects Monitoring Program – 2019 Annual Report. March 2020.

Azimuth. 2021. Aquatic Effects Monitoring Program – 2020 Annual Report. March 2021.

Azimuth. 2022. Aquatic Effects Monitoring Program Design Plan, Version 2_NWB. December 1, 2022.

Azimuth. 2025a. Aquatic Effects Monitoring Program Design Plan – Meliadine Mine. Version 3_NWB. February 7, 2025.

Azimuth. 2025b. Environmental Effects Monitoring Cycle 3 Interpretive Report – Meliadine Gold Mine. August 19, 2025.

Bergström, A.-K., and Karlsson, J. 2019. Light and nutrient control phytoplankton biomass responses to global change in northern lakes. Global Change Biology, 25(6): 2021–2029.

CCME (Canadian Council of Ministers of the Environment). 2001. Canadian Water Quality Guidelines for the Protection of Aquatic Life – Arsenic.

Canadian Council of Ministers of the Environment (CCME). 2004. Phosphorus: Canadian Guidance Framework for the Management of Freshwater Systems.

Carlson, R.E. 1977. A trophic state index for lakes. Limnology and Oceanography, 22: 361–369.

Clarke, K.R. 1993. Non-parametric multivariate analyses of changes in community structure. Australian Journal of Ecology, 18(1): 117–143.

Codd, G.A. 2000. Cyanobacterial toxins, the perception of water quality, and the prioritization of eutrophication control. Ecological Engineering, 16(1): 51–60.

Dexter, E., Rollwagen-Bollens, G., and Bollens, S. 2018. The trouble with stress: A flexible method for the evaluation of nonmetric multidimensional scaling. Limnology and Oceanography: Methods, 16: 434–443.

Environment Canada. 2012. Metal Mining Technical Guidance for Environmental Effects Monitoring.

ECCC (Environment and Climate Change Canada). 2021. Federal Contaminated Sites Action Plan (FCSAP): Framework for Addressing and Managing Aquatic Contaminated Sites, Version 2.1. Government of Canada.

ECCC. 2024. Letter to the Nunavut Water Board re: 2AM-MEL-1631 – Meliadine Mine Type A Water Licence Amendment Application – Technical Review Comments. ECCC File No. 6100 000 012/010. April 25, 2024.

Fee, E.J. 1976. The vertical and seasonal distribution of chlorophyll in lakes of the Experimental Lakes Area, northwestern Ontario: Implications for primary production estimates. Limnology and Oceanography, 21(6): 767–783.

Fee, E., Hecky, R., Kasian, S., and Cruikshank, D. 1996. Physical and chemical responses of lakes and streams. Limnology and Oceanography, 41(5): 912–920.

Felip, M., and Catalan, J. 2000. The relationship between phytoplankton biovolume and chlorophyll in a deep oligotrophic lake: Decoupling in their spatial and temporal maxima. Journal of Plankton Research, 22(1): 91–106.

Filiz, N., Iskin, U., Beklioglu, M., Oglu, B., Cao, Y., Davidson, T., Søndergaard, M., Lauridsen, T., and Jeppesen, E. 2020. Phytoplankton community response to nutrients, temperature, and a heat wave in shallow lakes: An experimental approach. Water, 12(12).

Findlay, D.L., Kasian, S.E.M., Stainton, M.P., Beaty, K., and Lyng, M. 2001. Climatic influences on algal populations of boreal forest lakes in the Experimental Lakes Area. Limnology and Oceanography, 46(7): 1784–1793.

Golder Associates Ltd. 2012. Aquatics Baseline Synthesis Report, 1994–2009: Meliadine Gold Project, Nunavut. Report No. 327-1013730076 Ver. 0. October 16, 2012.

Golder Associates Ltd. 2016. Aquatic Effects Monitoring Program (AEMP) Design Plan. Doc 485-1405283 Ver. 1. June 2016.

Golder Associates Ltd. 2018. Aquatic Effects Monitoring Program – 2017 Annual Report. Prepared for Agnico Eagle Mines Limited, March 2018.

Government of Canada. 2024. Metal and Diamond Mining Effluent Regulations (SOR/2002-222). Retrieved from https://laws-lois.justice.gc.ca/eng/regulations/sor-2002-222/

Health Canada. 2006. Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Arsenic.

Health Canada. 2023. Guidelines for Canadian Drinking Water Quality: Guideline Technical Document. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario.

Kasprzak, P., Padisák, J., Koschel, R., Krienitz, L., and Gervais, F. 2008. Chlorophyll-a concentration across a trophic gradient of lakes: An estimator of phytoplankton biomass. Limnologica, 38(3–4): 327–338.

Kivalliq Inuit Association (KivIA). 2024. Letter to the Nunavut Water Board re: Meliadine Gold Mine – NWB Licence Amendment Application NWB 2AM-MEL1631. April 25, 2024.

Lepper P, Sorokin N, Maycock D, Crane M, Atkinson C, Hope S-J, Comber S. 2007. Preconsultation report: Proposed EQS for water framework directive annex VIII substances: arsenic (total dissolved). Science report: SC040038/SR3. SNIFFER Report: WFD52(iii). (Environment Agency: Bristol, UK) p. 91.

Lewis, W.M., and Wurtsbaugh, W.A. 2008. Control of lacustrine phytoplankton by nutrients: Erosion of the phosphorus paradigm. International Review of Hydrobiology, 93(4–5): 446–465.

NIRB (Nunavut Impact Review Board). 2022. Project Certificate [No.: 006]. Amendment No. 002. March 2, 2022.

Nunavut Water Board (NWB) 2024. Amended Water Licence No: 2AM-MEL1631. Issued on October 25, 2024. Approved by the Minister of Northern Affairs on November 22, 2024.

Pick, F.R., and Nalewajko, C. 1984. The origin of a metalimnetic chrysophyte peak. Limnology and Oceanography, 29(1): 125–134.

Pokrovsky, O.S., Manasypov, R.M., Pavlova, O.A., Shirokova, L.S., and Vorobyev, S.N. 2022. Carbon, nutrient and metal controls on phytoplankton concentration and biodiversity in thermokarst lakes across a permafrost gradient. Science of the Total Environment, 806: 151250.

Prairie Scientific Inc. 2024. Aquatic State of Environment Report for Meliadine Lake. Prepared for the Kivalliq Inuit Association (KIA). March 30, 2024.

R Core Team. 2024. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. Available at: https://www.R-project.org/

Rott, E. 1981. Some results from phytoplankton counting intercalibrations. Schweizerische Zeitschrift für Hydrologie, 43: 34–62.

Ruhland, K., and Smol, J.P. 2005. Diatom shifts as evidence for recent subarctic warming in a remote tundra lake, NWT, Canada. Palaeogeography, Palaeoclimatology, Palaeoecology, 226(1): 1–16.

Saros, J.E., Northington, R.M., Anderson, D.S., and Anderson, N.J. 2016. A whole-lake experiment confirms a small centric diatom species as an indicator of changing lake thermal structure. Limnology and Oceanography Letters, 1(1): 27–35.

Schindler, D.W., Curtis, P.J., Bayley, S.E., Parker, B.R., Beaty, K.G. and Stainton, M.P., 1996. Climate-induced changes in the dissolved organic carbon budgets of boreal lakes. Biogeochemistry, 36(1), pp.9-28.

Sharma, S., Blagrave, K., Magnuson, J.J., O'Reilly, C.M., Oliver, S. and Batt, R.D., 2019. Widespread loss of lake ice around the Northern Hemisphere in a warming world. Nature Climate Change, 9(3), pp.227-231.

Smol, J.P., Wolfe, B.B., Birks, H.J.B., Douglas, M.S.V., Pienitz, R. and Michelutti, N., 2005. Climate-driven regime shifts in the biological communities of Arctic lakes. Proceedings of the National Academy of Sciences, 102(12), pp.4397-4402.

Vollenweider, R.A. 1968. Scientific Fundamentals of the Eutrophication of Lakes and Flowing Waters. OECD Technical Report OAS/DSI/68.27, Paris.

Welschmeyer, N.A. 1994. Fluorometric analysis of chlorophyll-a in the presence of chlorophyll-b and pheopigments. Limnology and Oceanography, 39(8): 1985–1992.

Wetzel, R.G. 2001. Limnology: Lake and River Ecosystems. Gulf Professional Publishing.

APPENDICES

APPENDIX A
QUALITY ASSURANCE / QUALITY CONTROL

TABLE OF CONTENTS

A.1 INTRODUCTION 1
A.2 WATER CHEMISTRY 1
A.2.1 Methods 1
A.2.1.1 Field 1
A.2.1.2 Laboratory 4
A.2.1.3 Data Reliability Checks 5
A.2.2 Results 5
A.3 PHYTOPLANKTON TAXONOMY AND CHLOROPHYLL-A 28
A.3.1 Methods 28
A.3.1.1 Field 28
A.3.1.2 Laboratory 28
A.3.2 Results 29
A.4 REFERENCES 35

LIST OF TABLES – APPENDIX A

Table A-1. Laboratory QC summary for surface water quality reports from ALS Environmental in 2025. 10
Table A-2. Laboratory detection limits and blank results (travel, de-ionized, and equipment) from the 2025 surface water quality monitoring program. 12
Table A-3. Field duplicate results from the winter 2025 sampling event. 15
Table A-4. Field duplicate results from the July 2025 sampling event. 18
Table A-5. Field duplicate results from the August 2025 sampling event. 21
Table A-6. Field duplicate results from the September 2025 sampling event. 27
Table A-7. Field duplicates and parameters that exceeded the DQOs in 2025. 30
Table A-8. Surface water data reliability checks – dissolved vs total concentrations, 2025. 31
Table A-9. Within-area heterogeneity assessment of surface water chemistry at Meliadine, Atulik, and Peter lakes. 32
Table A-10. Within-area heterogeneity assessment of surface water chemistry at Lake D7 and Lake B7. 33
Table A-11. Field duplicate results for the 2025 phytoplankton samples. 30
Table A-12. Laboratory duplicate results for the 2025 phytoplankton samples. 32
Table A-13. Field duplicate results for the 2025 chlorophyll-a samples 34

A.1 INTRODUCTION

The objective of quality assurance and quality control (QA/QC) is to verify that the chemical and biological data collected are representative of the material or populations being sampled, are of known quality, have sufficient laboratory precision to be highly repeatable, are properly documented, and are scientifically defensible. *Quality Assurance* (QA) refers to the practices employed to collect scientifically defensible samples meeting pre-defined data quality objectives (DQOs). This includes the use of experienced field staff, standard operating procedures, field data sheets, and certified laboratories. *Quality Control* (QC) refers to the measures taken to verify that the specific DQOs are met.

The QA/QC program is described in detail in the AEMP Design Plan (Azimuth, 2025a). An overview of field and laboratory QA/QC methods is provided below, followed by the results of the 2025 QA/QC assessment for each component of the AEMP.

A.2 WATER CHEMISTRY

A.2.1 Methods

A.2.1.1 Field

Field Data and Sample Collection

Standard QA procedures for the water chemistry program include rinsing the sampling equipment (Kemmerer in the winter and summer) to prevent cross-contamination between areas. QA methods used to prevent cross-contamination between locations and from the equipment itself included wearing nitrile gloves and rinsing the sample equipment with surface water prior to collecting samples.

Field collected limnology data focused primarily on measurements using a multiprobe meter. The meter is calibrated before field measures according to manufacturer instructions. The Environment Department at the Mine maintains a calibration log for each field instrument.

Careful documentation and handling of all samples and data is a key component of QA/QC in a field program. Field data were recorded on customized field data sheets. Sample bottles were labeled appropriately with the sample ID, date and project identification and sample containers were stored according to laboratory handling instructions. Field data sheets were scanned after each field program. Information that was recorded in the field (e.g., field measurements, station information, etc.) was transcribed into an EQUIS database administered by Agnico Eagle.

Sample Shipping and Handling

Samples were shipped to the analytical laboratories with a chain-of-custody (CoC) form. CoC forms not only inform the laboratory of sample details, they also help ensure that sample handling instructions are followed and that all samples are accounted for. ALS reports concerns surrounding sample submission as *sample integrity* issues in the Sample Receipt Confirmation (SRC) email after the samples are received. For ALS reports, the results are typically recorded in the sample integrity assessment for one of three reasons: (1) samples were damaged during transport, (2) the temperature inside the cooler was above 10°C when received by the laboratory, or (3) the recommend hold-time was exceeded prior to analysis. Sample integrity issues don't necessarily mean the data are unreliable.

The Meliadine Environment Department plans water sampling events to minimize the amount of time that samples are in transit between the Mine and the laboratory. ALS provides recommended hold-times for water quality parameters; hold-times range from less than one day for pH to six months for metals. Hold-times for water samples are always exceeded for pH (15 minutes) and nitrate, nitrite, orthophosphate, and turbidity (3-d). Total dissolved solids and total suspended solids often exceed the 7-d recommended hold-time. On occasion, parameters with 14-d recommended hold-times are exceeded (e.g., alkalinity, cyanides). ALS recommends using professional judgement when interpreting chemistry data for parameters that exceeded hold-times for analysis. Based on long-term monitoring programs at Meliadine and Meadowbank, exceeding the recommended hold-times does not appear to impact the reliability of the results.

Blanks

Blanks are samples that do not contain the variable to be analyzed. They are used to assess and control sample contamination (BC ENV, 2024). Blank samples are collected once per sample event, and are submitted *blind* to the laboratory. Blank sample collection, particularly equipment blank samples, requires careful planning, attention to detail, focuses on the importance of cleanliness and generally provides a good opportunity to refine sample collection skills. Three different types of *blank* samples are included in the AEMP: travel blanks, field blanks and equipment blanks.

Travel blanks (TB) – Travel blanks are provided by the analytical laboratory for the purpose of testing for contamination associated with travel (i.e., hold time, heat/cold, moisture, desiccation, leaching, etc.). Travel blanks consist of de-ionized (DI) water provided in sampling bottles by ALS and receive the same treatment as field samples during shipment, handling, storage, and laboratory analysis.

Field blanks (aka Deionized Water Blanks [DI]) – Field blanks are used to detect potential contamination during sample collection, handling, shipping and laboratory analysis. Field blanks are prepared by filling the sample bottles with DI water provided by ALS.

Equipment blanks (EB) – Equipment blanks are used to detect potential contamination from sampling equipment. To obtain an equipment blank, DI water is run through the equipment and then transferred to a sample bottle. Filtered analyses for the EB are collected in the same manner as the lake samples using the syringe and 0.45 µm filter.

Results from the field, equipment and travel blanks are examined for detectable concentrations of any of the parameters measured. If a parameter is detected in a blank, the results for the batch of samples submitted with the blank are compared with the measured concentration in the blank. Results that are less than 10-times the detected concentration in the equipment blank are flagged to examine the potential for cross-contamination to affect the results. This threshold does not apply to pH measurements, as DLs are not available for the pH scale.

Field Duplicates

Field duplicates are used to identify the precision of field sampling methods and laboratory analysis and within-station variability. Field duplicates are submitted *blind* to the laboratory and analyzed using the same methods and equipment as original samples. The target frequency of field duplicate sample collection is approximately 10% of the total number of samples collected.

The DQOs for water quality parameters are based on the magnitude of the concentrations in the samples. For parameters with concentrations > 5 time the DL, the field duplicates are assessed using the relative percent difference (RPD) between the duplicate samples:

$$RPD = \frac{(A - B)}{(\frac{A + B}{2})} x\ 100$$

where: A = analytical result; B = duplicate result.

The DQOs for these parameters are equal to 1.5 times the laboratory RPDs. The laboratory RPDs for water chemistry for most analytes is 20% and the DQOs for field duplicate water samples were ±30%. For parameters without a laboratory RPD DQO, the field duplicate DQO was set to ±40% by default. Use of a 1.5 times multiplier for field duplicates is based on guidance from the Canadian Council of Ministers for the Environment (CCME) that states that acceptance limits for field-based QC samples are broader than laboratory QC and are typically 1.5 to 2 times the laboratory QC limits (CCME, 2016).

The uncertainty in concentrations increases near to the detection limit and the acceptance criteria are relaxed for parameters measured < 5-times the DL. For parameters with concentrations measured at < 5-times the DL, the DQO is an absolute difference between duplicates < 2-times the DL (referred to in the tables as DIFF).

The RPD and DIFF values may be either positive or negative and ideally should provide a mix of the two, clustered around zero. RPDs and DIFF values are not calculated when one of the samples (i.e., either A or B above) is below detection and the other is not. If an RPD or DIFF value falls outside the field duplicate DQO it is flagged for review. The importance of reduced precision becomes more important when concentrations are near regulatory guidelines (CCME, 2016).

A.2.1.2 Laboratory

ALS is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA). Performance evaluations are conducted under CALA's accreditation program for laboratory methods, protocols, and QC samples. There are four types of QC samples components of the water chemistry laboratory QC program to assess analytical precision, bias, and completeness:

Laboratory Duplicate – The laboratory randomly chooses samples to re-run as duplicates. A new aliquot from the same sample is analyzed from the start in the same manner as the original aliquot taken from the bottle/jar. The difference between the two analyses is a measure of the variability associated with duplicate analyses of the same sample in the laboratory.

Results of the laboratory duplicates are assessed by measuring the RPD as a percentage between original and duplicate measurements which is referred to as a measure of precision by the laboratory. Laboratory duplicate DQOs are parameter-specific and depend on the concentration in the sample. The RPD DQOs for lab duplicates are lower than for field duplicates given that the same aliquot is split.

Method Blank (MB) – An analyte-free matrix (e.g., de-ionized water) is subjected to the entire analytical process to demonstrate that the analytical system itself does not introduce contamination. Blanks are examined for detectable concentrations of any of the parameters measured; no parameter in blanks should exceed laboratory method detection limits (MDLs). If an analyte is detected in a blank, the results for the batch of samples submitted with the blank are compared with the measured concentration in the blank. Results that are less than 10-times the detected analyte concentration in the blank are flagged to examine the potential for cross-contamination to affect the results.

Matrix Spike (MS) / Matrix Duplicate (MD) – A known amount of a compound chemically similar to the target analyte is added to samples to ascertain any matrix effects on recoveries and to determine the accuracy and precision of the method in this matrix.

Laboratory Control Sample (LCS) – An LCS is a well-characterized sample of known analytes and concentration. A reference material (i.e., certified reference material) containing certified amounts of target analytes, may be used as an LCS. Percent recovery of the target analytes in the LCS is compared to established control limits and assists in determining whether the methodology is in control and whether the laboratory is capable of making accurate and precise measurements at the required reporting limit.

Certified Reference Material (CRM) – These are parameters (e.g., metals, conductivity, etc.) with a known concentration against which the lab must achieve a precision of within ±10% of the CRM.

A.2.1.3 Data Reliability Checks

As part of the QA assessment, two data reliability checks were conducted to identify potentially anomalous results:

- **Dissolved vs. Total Comparison**: As part of the QA/QC assessment conducted by ALS, dissolved metal concentrations were compared to their corresponding total concentrations. Where a dissolved concentration exceeded the total concentration, the sample was re-analyzed. If, following re-analysis, the dissolved concentration remained more than 30% higher than the total concentration, and both values exceeded 10 times the DL, the result was flagged for further review.
- **Within Area Heterogeneity**: Concentrations from replicate samples collected within the same area and sampling event were compared to assess consistency. For Meliadine Lake, Peter Lake, and Atulik Lake, results were flagged for further review if the maximum or minimum concentration differed by more than a factor of two from the next closest value. For the Peninsula Lakes (D7 and B7), where triplicate samples are collected, results were flagged if any replicate differed by more than a factor of five from the others.
- **Unreliable Data (Visual Examination)**: As an additional check, data were visually examined and compared to historical results to identify values that were inconsistent with expected patterns. Suspect results were flagged for further review.

A.2.2 Results

Results of the QA/QC analysis are discussed below. Results are presented in the following tables:

- A summary for water chemistry QA/QC, including sample integrity observations (e.g., broken sample containers, mislabeled containers), cooler temperature upon delivery to the lab, and parameters that exceeded the recommended hold-times for analysis is provided in **Table A-1**.
- Detection limits and blanks (including travel, de-ionized, and equipment blanks) are provided in **Table A-2**.
- Field duplicate results for March, July, August, and September are provided in **Table A-3** to **Table A-6**. Exceedances of the DQOs for the field duplicate samples are provided in **Table A-7**.
- Metals where the dissolved concentration was greater than 30% of the total concentration are listed in **Table A-8**.
- Within area heterogeneity checks are provided for Meliadine Lake, Atulik Lake, and Peter Lake in **Table A-9**. The same checks for the Peninsula Lakes are provided in **Table A-10**.

Sample Integrity

Three sample integrity issues were identified in 2025. For each work order where integrity issues were identified, a single sample bottle was provided which was different to standard ALS laboratory bottles.

Sample temperatures received at the laboratory were variable depending on season and reflect the challenges with shipping from a remote mine site. Likewise hold time exceedances for parameters and analytes with short hold times are unavoidable but are not considered likely to impact data analysis and interpretation.

Field Blanks

Some parameters were detected in the blanks in each sampling event. The travel blanks and field blanks had the fewest number of exceedances. The majority of detected parameters in the blanks were measured at concentrations less than 5-times the DL and were unlikely to influence interpretation of the water quality results. A small number of parameters in the blanks in March were detected above 10-times the DL, and the detections were consistent with cross-contamination from the sampling equipment (i.e., detected in the equipment blank but not the field blank). Those results are discussed below.

Summary of parameters that were detected in blank samples in 2025

Event and Blank	Count	Count <DL	Count >DL	Parameters > 10*DL
March				
Field blank	125	123	2	Ammonia
Equipment blank	125	95	30	Cu (T&D), Ni (T&D), Sr (T&D)
July				
Travel blank	*Not collected*			
Field blank	125	121	4	0
Equipment blank	125	114	11	0
August				
Travel blank	125	123	2	0
Field blank	125	117	8	0
Field blank	125	122	3	0
Equipment blank	125	116	9	0
September				
Travel blank	125	123	2	0
Field blank	125	121	4	0
Equipment blank	125	115	10	0

- Copper (Cu) – Total and dissolved copper concentrations in the equipment blank collected during the March 2025 sampling event were 6.8 µg/L and 6.0 µg/L, respectively. Copper concentrations in Meliadine Lake samples were lower and within the historical range.
- Nickel (Ni) – Total and dissolved nickel concentrations in the equipment blank were 0.78 µg/L and 0.66 µg/L, respectively. Nickel concentrations in Meliadine Lake samples ranged from 0.6 to 1.2 µg/L and were within the historical range.
- Strontium (Sr) – Total and dissolved strontium concentrations in the equipment blank were 0.64 µg/L and 0.59 µg/L, respectively. Strontium concentrations in Meliadine Lake samples ranged from 56 to 92 µg/L. The potential for cross-contamination to influence the strontium results is negligible.

Overall assessment – Elevated concentrations of some metals in the equipment blank indicate the potential for minor cross-contamination from sampling equipment for copper, nickel, strontium. However, concentrations measured in Meliadine Lake are consistent with historical data and other sampling events. As such, the data are considered representative of in-lake conditions, and any potential influence of cross-contamination on interpretation is considered minor; all results were retained for analysis.

Field Duplicates

Table A-7 lists the parameters in the field duplicates that exceeded DQOs in 2025. Out of nearly 1,386 comparisons, only 18 duplicates did not meet the DQO, representing less than 1.5% of the total number of analyses. Of these 18 duplicate samples, the following results were flagged as unreliable and excluded from analysis:

- **MEL-01-08 (DUP-2) on September 8** – ammonia, chloride, fluoride, sulphate, nitrogen, nitrate, and nitrate + nitrite results were inconsistent with results reported at the other stations in MEL-01. September field duplicate (DUP-2) was collected at MEL-01-08, confirming that the results for these parameters were unreliable (**Table A-6**). The unreliable results from MEL-01-08 were replaced with the results for DUP-2.

The field duplicate results indicate high precision for most parameters. There is more uncertainty associated with concentrations measured close to the DL, however, the effect on interpretating data in the AEMP is negligible, as the AEMP Benchmarks and Action Level concentrations (i.e., water quality guidelines) are typically an order of magnitude or higher than the DLs.

Laboratory QC Samples

ALS provides a thorough account of their QC assessment in each COA that is issued[1]. Across all the surface water quality reports in 2025, there were only 33 instances where the QC results were flagged by ALS for exceeding the laboratory DQOs:

- Matrix spikes = 28 (silver and thorium); neither of these metals are parameters of interest (i.e., routinely measured at or below the detection limit)
- Laboratory control samples = 5 (n = 1 for pH and n = 4 for lithium)

None of the exceedances of the DQOs affect the reliability of the results based on the assessment (qualifiers) provided by ALS.

Laboratory Duplicates

All of the laboratory duplicate samples met the DQOs in 2025.

Data Reliability Assessment – Dissolved vs Total Concentrations

Samples that were flagged for dissolve concentrations exceeding the total concentration are provided in **Table A-8**. In total, 39 parameters were flagged with dissolved concentrations exceeding total. For 14 of the samples, the concentration reported for the total fraction was less than detection. These data were retained in the dataset, but only evaluated on a case-by-case basis, if necessary, as part of the spatial and temporal trend assessment of changes in water quality in Meliadine Lake and the Peninsula Lakes.

Data Reliability Assessment – Within Area/Lake Heterogeneity

Samples flagged for closer examination of within-area heterogeneity in Meliadine Lake are presented in **Table A-9**, with corresponding results for the Peninsula Lakes presented in **Table A-10**. All flagged results were retained for plotting and analysis unless otherwise flagged as unreliable below.

Data Reliability Assessment – Unreliable Results

In addition to the unreliable results from MEL-01-08 that were flagged in the field duplicate assessment, the following results were flagged as unreliable based on visual examination of the data compared to historical results:

[1] The COA may include data qualifiers that relate to the sample "batch". The sample batch may include samples that are from other projects and the qualifiers included in the COA may relate to those and not the AEMP samples. In general, this does not impact the assessment of laboratory QA; however, in some instances, data qualifiers in the COA related to sample heterogeneity may not relate to AEMP samples. The Microsoft Excel® report that accompanies the COA includes tabs with detailed assessments of laboratory QA that are project specific and can be reviewed in conjunction with the COAs.

- Water temperature readings at MEL-01-01, MEL-01-09, and MEL-01-10 in August were 7–8°C, compared to approximately 12°C at other stations in Meliadine Lake, which is consistent with the historical range for mid-to-late August. The temperature results at MEL-01-01, -09, and -10 were flagged as non-reportable and excluded from the analyses.
- Specific conductivity readings at the same stations listed above were higher than those at other MEL-01 stations. Because specific conductivity is standardized to 25°C, the malfunctioning temperature sensor would have affected the conductivity values. These data were flagged as unreliable and excluded from the plots.
- Cyanide results from E3-01 on August 25 – Concentrations of cyanide (total [0.046 mg/L], free [0.027 mg/L], and weak acid dissociable [0.028 mg/L]) were flagged as unreliable when compared to the long-term compliance dataset going back to 2018. The unreliable data were from a sample analyzed at ALS Environmental with a detection limit of 0.001 mg/L. No data quality issues were flagged by the laboratory. However, the results from August 25 were considered unrepresentative of conditions in Lake E3 for two reasons. First, total and free cyanide concentrations measured in compliance samples on August 5 and September 7 were 15 to 50 times lower. Second, the highest of total and free cyanide measured (detected) in samples from Lake E3 since 2018 were 0.0027 mg/L and 0.005 mg/L, respectively.

Table A-1. Laboratory QC summary for surface water quality reports from ALS Environmental in 2025.

Event	Lab Work Order Number	Samples	Date Sampled	Date Received	Sample Integrity Flags	Arrival Temperature (°C)	Hold-time Exceedances	Laboratory QC Samples								Adjusted Detection Limits (mg/L unless stated otherwise)			General Qualifiers
								Lab Duplicates		Method Blanks		Matrix Spike		Laboratory Control Samples					
								Parameter	Qualifier	Parameter	Qualifier	Parameter	Qualifier	Parameter	Qualifier	Parameter	Target DL	Actual DL	
March	WP2504348	MEL-03-01, -02, -03, -04, -05, Blanks	29-Mar-2025	03-Apr-2025	-	13.8	Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Ag(D)	MS-Ag	-	-	Ag(D) TDS	5e-06 3	1e-05 10	DLM, DTMF, RRV
	WP2504349	MEL-01-01, -06, -07, -08, -09, -10, Duplicates	27-Mar-2025	03-Apr-2025	-	Not reported	Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Ag(D)	MS-Ag	-	-	SiO2 TDS	0.01 3	0.05 10	DTC
	WP2504350	MEL-02-02, -03, -05, -06, -08, Duplicates	28-Mar-2025	03-Apr-2025	-	10.1	Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Ag(D)	MS-Ag	pH	-	TDS	3	10	DTMF
July	WP2511367	MEL-01-01, -06, -07, -08, -09, -10, Duplicates	12-Jul-2025	18-Jul-2025	-	20.3	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Ag(T), Th(T)	MES	-	-	TDS	3	10	DTC
	WP2511392	MEL-A1-01	11-Jul-2025	18-Jul-2025	-	20.3	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Ag(T), Th(T)	MES	-	-	TDS	3	15	-
	WP2511972	MEL-03-01, -02, -03, -04, -05, Blanks	18-Jul-2025	28-Jul-2025	-	24.2	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Th(T), Ag(D)	MS-Th, MS-Ag	-	-	TDS Th(T)	3 5e-06	10 1e-05	RRV, DLM, DTC
	WP2511973	MEL-02-02, -03, -05, -06, -08, E3-01, Duplicates, Blanks	19-Jul-2025	29-Jul-2025	Cont/Pres - Hg(D)	24.2	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), Hg(D)	-	-	-	-	Th(T), Th(D)	MES	-	-	TDS	3	10	DTC, SFP
	WP2511974	B7-01, -02, -03, D7-01, -02, -03, Duplicates	18-Jul-2025	28-Jul-2025	-	24.2	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Th(T), Ag(D)	MS-Th, MS-Ag	-	-	SiO2 TDS	0.01 3	0.05 15	DTMF, DTC
August	WP2513612	B7-01, -02, -03, Duplicates	10-Aug-2025	15-Aug-2025	-	22.2	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	-	-	Li(D)	MES	SiO2 TDS	0.01 3	0.05 15	HTA
	WP2513651	MEL-A1-01	10-Aug-2025	16-Aug-2025	-	22.2	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	-	-	Li(D)	MES	TDS	3	15	HTA
	WP2513718	MEL-01-01, -06, -07, -08, -09, -10, Duplicates	12-Aug-2025	18-Aug-2025	-	20.3	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	-	-	Li(D)	MES	TDS	3	10	DTC
	WP2513723	D7-01, -02, -03	12-Aug-2025	19-Aug-2025	-	20.2	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	-	-	Li(D)	MES	TDS	3	10	-
	WP2514195	MEL-02-02, -03, -05, -06, -08, PL-01, -02, -03, MEL-PL-FB, MEL-03-01, -02, Blanks	15-Aug-2025	25-Aug-2025	-	17.6	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Th(D)	MES	-	-	TDS	3	10	HTA, DTC, RRV, DTMF
	WP2514196	MEL-03-03, -04, -05, MEL-04-01, -02, -03, -04, -05, Duplicates, Blanks	16-Aug-2025	25-Aug-2025	-	17.6	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Th(T), Th(D)	MES, MS-Th	-	-	Acidity TDS	2 3	5 10	HTA, DTMF, RRV, DTC
	WP2514197	MEL-05-01, -02, -03, -04, -05, Duplicates	17-Aug-2025	25-Aug-2025	-	17.6	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Th(T), Th(D)	MES	-	-	Acidity TDS	2 3	3 10	HTA, DTC
	WP2514517	AL-01, -02, -03	20-Aug-2025	28-Aug-2025	-	18.9	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Th(T), Th(D)	MES, MS-Th	-	-	TDS	3	10	HTA
	WP2514732	B7-01, E3-01	24-Aug-2025	02-Sep-2025	-	22.9	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	Th(T), Th(D)	MES	-	-	SiO2 TDS	0.01 3	0.05 15	HTA

Table A-1. Laboratory QC summary for surface water quality reports from ALS Environmental in 2025.

Event	Lab Work Order Number	Samples	Date Sampled	Date Received	Sample Integrity Flags	Arrival Temperature (°C)	Hold-time Exceedances	Laboratory QC Samples								Adjusted Detection Limits (mg/L unless stated otherwise)			General Qualifiers
								Lab Duplicates		Method Blanks		Matrix Spike		Laboratory Control Samples					
								Parameter	Qualifier	Parameter	Qualifier	Parameter	Qualifier	Parameter	Qualifier	Parameter	Target DL	Actual DL	
September	WP2515653	MEL-01-01, -06, -07, -08, -09, -10, Duplicates	08-Sep-2025	12-Sep-2025	-	17.8	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Ag(T), Th(T)	MES, MS-Th	-	-	TDS Th(D) Th(T)	3 5e-06 5e-06	10 2.5e-05 1e-05	DLM, TKNI
	WP2515742	MEL-03-01, -02, -03, -04, -05, Duplicates, Blanks	09-Sep-2025	17-Sep-2025	Cont/Pres - Acidity	21.8	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Th(D)	MES	-	-	TDS Th(T)	3 5e-06	10 2.5e-05	HTA, DLM, RRV, DTC, RRV
	WP2515853	MEL-02-02, -03, -05, -06, -08	10-Sep-2025	17-Sep-2025	-	20.3	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D), CN-Free, CN(T), CN-WAD	-	-	-	-	Th(T), Th(D)	MES	-	-	TDS	3	10	HTA, DTC
	WP2516030	B7-01	14-Sep-2025	18-Sep-2025	Cont/Pres - TSS	20.8	Turb., pH	-	-	-	-	Th(D)	MS-Th	-	-	SiO2, TDS	0.01 3	0.05 15	-
October	WP2518159	B7-01	11-Oct-2025	18-Oct-2025	-	16.8	TDS, TSS, Turb., pH, NO3-N, NO2-N, Ortho-P(D)	-	-	-	-	-	-	-	-	SiO2 TDS	0.01 3	0.05 15	-

Laboratory QC qualifiers:
Cont/Pres = A sample was submitted to the lab in a container different from preferred, or inconsistent with standard preservation methods.
DLM = Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DTC = Dissolved concentration exceeds total. Results were confirmed by re-analysis.
DTMF = Dissolved concentration exceeds total for field-filtered metals sample. Metallic contaminants may have been introduced to dissolved sample during field filtration.
HTA = Analytical holding time was exceeded.
MES = Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
MS-Ag = Matrix Spike recovery for silver was marginally below DQO (40 to <60%) due to its instability in the sample matrix. Silver was not detected. Reported result (< LOR) is reliable
MS-Th = Matrix Spike recovery for thorium was marginally below DQO (40 to <60%) due to its instability in the sample matrix. Thorium was not detected. Reported result (< LOR) is reliable
RRV = Reported result verified by repeat analysis.
SFP = Sample was filtered and preserved at the laboratory.
TKNI = TKN result may be biased low due to Nitrate interference. Nitrate-N is > 10x TKN.

Table A-2

Laboratory detection limits and blank results (travel, de-ionized, and equipment) from the 2025 surface water quality monitoring program

Month		March			July			August					September		
Client Sample ID			FB-Winter-01	EB-Winter-01		DI-MEL-JUL-01	EB-JUL-01		TB-AUG-01	DI-AUG-01	MEL-PL-FB	EB-AUG-01		TB-SEP-01	DI-SEP-01	EB-SEP-01
Date Sampled		Mar DLs	29-Mar-2025	29-Mar-2025	Jul DLs	19-Jul-2025	18-Jul-2025	Aug DLs	8/16/2025	8/17/2025	8/15/2025	8/16/2025	Sep DLs	09-Sep-2025	09-Sep-2025	09-Sep-2025
Time Sampled			09:30	09:30		12:20	13:35		00:00	08:15	12:00	11:05		00:00	11:25	10:50
ALS Sample ID			WP2504348-006	WP2504348-007		WP2511973-006	WP2511972-006		WP2514196-011	WP2514196-006	WP2514195-009	WP2514195-012		WP2515742-009	WP2515742-008	WP2515742-007
Parameter	**Units**		Water	Water		Water	Water		Water	Water	Water	Water		Water	Water	Water
Physical Tests (Water)																
Conductivity	µS/cm	1	*<1.0*	**1.5**	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	**1.4**	**1.2**	**1.6**
Acidity (as CaCO3)	mg/L	2	*<2.0*	*<2.0*	2	**2.6**	**2.4**	2	*<3.0*	*<3.0*	*<2.0*	*<2.0*	2	*<2.0*	*<2.0*	*<2.0*
Alkalinity, bicarbonate (as CaCO3)	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*
Alkalinity, carbonate (as CaCO3)	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*
Alkalinity, hydroxide (as CaCO3)	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*
Alkalinity, phenolphthalein (as CaCO3)	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*
Alkalinity, total (as CaCO3)	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*
Hardness (as CaCO3), dissolved	mg/L	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*
Solids, total dissolved [TDS]	mg/L	3	*<3.0*	*<3.0*	3	**3.1**	*<3.0*	3	*<3.0*	*<3.0*	*<3.0*	*<3.0*	3	*<3.0*	*<3.0*	*<3.0*
Solids, total dissolved [TDS], calculated	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	**1**
Solids, total suspended [TSS]	mg/L	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	1	*<1.0*	*<1.0*	*<1.0*	*<1.0*	1	**0.18**	**0.45**	**0.65**
Turbidity	NTU	0.1	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	0.1	*<0.10*	**0.1**	*<0.10*	**0.18**	0.1	*<0.10*	**0.29**	**0.67**
Anions and Nutrients (Water)																
Ammonia, total (as N)	mg/L	0.005	0.122	**0.0117**	0.005	**0.0218**	*<0.0050*	0.005	*<0.0050*	**0.0354**	**0.0106**	*<0.0050*	0.005	*<0.0050*	**0.0114**	*<0.0050*
Bromide	mg/L	0.1	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	*<0.10*
Chloride	mg/L	0.1	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	*<0.10*	*<0.10*	0.1	*<0.10*	*<0.10*	*<0.10*
Fluoride	mg/L	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*
Kjeldahl nitrogen, dissolved [DKN]	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	**0.108**	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Kjeldahl nitrogen, total [TKN]	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Nitrate (as N)	mg/L	0.005	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	0.005	*<0.0050*	**0.0055**	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	*<0.0050*
Nitrate + Nitrite (as N)	mg/L	0.005	*<0.0051*	*<0.0051*	0.005	*<0.0051*	*<0.0051*	0.005	*<0.0051*	**0.0055**	*<0.0051*	*<0.0051*	0.005	*<0.0051*	*<0.0051*	*<0.0051*
Nitrite (as N)	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Nitrogen, total	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Nitrogen, total dissolved	mg/L	0.02	*<0.050*	*<0.050*	0.02	*<0.050*	*<0.050*	0.02	*<0.050*	**0.114**	*<0.050*	*<0.050*	0.02	*<0.050*	*<0.050*	*<0.050*
Phosphate, ortho-, dissolved (as P)	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	**0.0012**	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Phosphorus, total	mg/L	0.001	*<0.0010*	**0.0012**	0.001	*<0.0010*	**0.0012**	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Phosphorus, total dissolved	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	**0.001**	0.001	*<0.0010*	*<0.0010*	*<0.0010*	**0.0015**	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Silicate (as SiO2)	mg/L	0.01	*<0.010*	*<0.010*	0.01	*<0.010*	*<0.010*	0.01	*<0.010*	*<0.010*	*<0.010*	*<0.010*	0.01	*<0.010*	*<0.010*	*<0.010*
Sulfate (as SO4)	mg/L	0.3	*<0.30*	*<0.30*	0.3	*<0.30*	*<0.30*	0.3	*<0.30*	*<0.30*	*<0.30*	*<0.30*	0.3	*<0.30*	*<0.30*	*<0.30*
Cyanides																
Cyanide, free	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Cyanide, strong acid dissociable (Total)	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Cyanide, weak acid dissociable	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	**0.0014**	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Organic / Inorganic Carbon																
Carbon, dissolved organic [DOC]	mg/L	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	**0.7**	0.5	*<0.50*	**0.73**	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*
Carbon, total organic [TOC]	mg/L	0.5	**0.51**	**0.51**	0.5	**0.6**	**0.59**	0.5	**0.51**	*<0.50*	**0.62**	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*

Month		March			July			August					September		
Client Sample ID			FB-Winter-01	EB-Winter-01		DI-MEL-JUL-01	EB-JUL-01		TB-AUG-01	DI-AUG-01	MEL-PL-FB	EB-AUG-01		TB-SEP-01	DI-SEP-01	EB-SEP-01
Date Sampled		Mar DLs	29-Mar-2025	29-Mar-2025	Jul DLs	19-Jul-2025	18-Jul-2025	Aug DLs	8/16/2025	8/17/2025	8/15/2025	8/16/2025	Sep DLs	09-Sep-2025	09-Sep-2025	09-Sep-2025
Time Sampled			09:30	09:30		12:20	13:35		00:00	08:15	12:00	11:05		00:00	11:25	10:50
ALS Sample ID			WP2504348-006	WP2504348-007		WP2511973-006	WP2511972-006		WP2514196-011	WP2514196-006	WP2514195-009	WP2514195-012		WP2515742-009	WP2515742-008	WP2515742-007
Parameter	**Units**		Water	Water		Water	Water		Water	Water	Water	Water		Water	Water	Water
Total Mercury																
Mercury, total	ng/L	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*
Total Metals																
Aluminum, total	mg/L	0.001	*<0.0010*	**0.0013**	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Antimony, total	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Arsenic, total	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Barium, total	mg/L	0.00002	*<0.000020*	**0.000151**	0.00002	*<0.000020*	**0.000024**	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	**0.000024**	0.00002	*<0.000020*	*<0.000020*	**0.000023**
Beryllium, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Bismuth, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Boron, total	mg/L	0.005	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	*<0.0050*
Cadmium, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Calcium, total	mg/L	0.01	*<0.010*	**0.084**	0.01	*<0.010*	**0.011**	0.01	*<0.010*	*<0.010*	*<0.010*	**0.014**	0.01	*<0.010*	*<0.010*	*<0.010*
Cesium, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Chromium, total	mg/L	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*
Cobalt, total	mg/L	0.000005	*<0.0000050*	**0.0000162**	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Copper, total	mg/L	0.00005	*<0.000050*	0.00676	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Gallium, total	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Iron, total	mg/L	0.001	*<0.0010*	**0.0016**	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	**0.0014**
Lanthanum, total	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Lead, total	mg/L	0.00001	*<0.000010*	**0.000013**	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Lithium, total	mg/L	0.0005	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*
Magnesium, total	mg/L	0.004	*<0.0040*	**0.0114**	0.004	*<0.0040*	*<0.0040*	0.004	*<0.0040*	*<0.0040*	*<0.0040*	*<0.0040*	0.004	*<0.0040*	*<0.0040*	*<0.0040*
Manganese, total	mg/L	0.00005	*<0.000050*	**0.000314**	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Molybdenum, total	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Nickel, total	mg/L	0.00005	*<0.000050*	0.000778	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Niobium, total	mg/L	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*
Phosphorus, total	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Potassium, total	mg/L	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*
Rhenium, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Rubidium, total	mg/L	0.000005	*<0.0000050*	**0.0000128**	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Selenium, total	mg/L	0.00004	*<0.000040*	*<0.000040*	0.00004	*<0.000040*	*<0.000040*	0.00004	*<0.000040*	*<0.000040*	*<0.000040*	*<0.000040*	0.00004	*<0.000040*	*<0.000040*	*<0.000040*
Silicon, total	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Silver, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Sodium, total	mg/L	0.02	*<0.020*	**0.051**	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*
Strontium, total	mg/L	0.00002	*<0.000020*	0.00064	0.00002	*<0.000020*	**0.000039**	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	**0.00007**	0.00002	*<0.000020*	*<0.000020*	**0.000053**
Sulfur, total	mg/L	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*
Tantalum, total	mg/L	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*
Tellurium, total	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Thallium, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Thorium, total	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Tin, total	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Titanium, total	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Tungsten, total	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Uranium, total	mg/L	0.000001	*<0.0000010*	*<0.0000010*	0.000001	*<0.0000010*	*<0.0000010*	0.000001	*<0.0000010*	*<0.0000010*	*<0.0000010*	*<0.0000010*	0.000001	*<0.0000010*	*<0.0000010*	*<0.0000010*
Vanadium, total	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Yttrium, total	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Zinc, total	mg/L	0.0005	*<0.00050*	**0.00264**	0.0005	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*
Zirconium, total	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*

Table A-2

Laboratory detection limits and blank results (travel, de-ionized, and equipment) from the 2025 surface water quality monitoring program

Month		March			July			August					September		
Client Sample ID			FB-Winter-01	EB-Winter-01		DI-MEL-JUL-01	EB-JUL-01		TB-AUG-01	DI-AUG-01	MEL-PL-FB	EB-AUG-01		TB-SEP-01	DI-SEP-01	EB-SEP-01
Date Sampled			29-Mar-2025	29-Mar-2025		19-Jul-2025	18-Jul-2025		8/16/2025	8/17/2025	8/15/2025	8/16/2025		09-Sep-2025	09-Sep-2025	09-Sep-2025
Time Sampled		Mar DLs	09:30	09:30	Jul DLs	12:20	13:35	Aug DLs	00:00	08:15	12:00	11:05	Sep DLs	00:00	11:25	10:50
ALS Sample ID			WP2504348-006	WP2504348-007		WP2511973-006	WP2511972-006		WP2514196-011	WP2514196-006	WP2514195-009	WP2514195-012		WP2515742-009	WP2515742-008	WP2515742-007
Parameter	**Units**		Water	Water		Water	Water		Water	Water	Water	Water		Water	Water	Water
Dissolved Metals (Water)																
Aluminum, dissolved	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Antimony, dissolved	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Arsenic, dissolved	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Barium, dissolved	mg/L	0.00002	*<0.000020*	**0.000138**	0.00002	*<0.000020*	**0.000029**	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	**0.000025**	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Beryllium, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Bismuth, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Boron, dissolved	mg/L	0.005	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	0.005	*<0.0050*	*<0.0050*	*<0.0050*
Cadmium, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Calcium, dissolved	mg/L	0.01	*<0.010*	**0.09**	0.01	*<0.010*	**0.015**	0.01	*<0.010*	*<0.010*	**0.017**	**0.015**	0.01	*<0.010*	*<0.010*	**0.014**
Cesium, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Chromium, dissolved	mg/L	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*
Cobalt, dissolved	mg/L	0.000005	*<0.0000050*	**0.0000144**	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Copper, dissolved	mg/L	0.00005	*<0.000050*	0.006	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	**0.000104**
Gallium, dissolved	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Iron, dissolved	mg/L	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*	*<0.0010*	0.001	*<0.0010*	*<0.0010*	*<0.0010*
Lanthanum, dissolved	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Lead, dissolved	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Lithium, dissolved	mg/L	0.0005	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*
Magnesium, dissolved	mg/L	0.004	*<0.0040*	**0.0111**	0.004	*<0.0040*	*<0.0040*	0.004	*<0.0040*	*<0.0040*	*<0.0040*	*<0.0040*	0.004	*<0.0040*	*<0.0040*	*<0.0040*
Manganese, dissolved	mg/L	0.00005	*<0.000050*	**0.000262**	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Mercury, dissolved	ng/L	0.5	*<0.50*	**1.21**	0.5	*<0.50*	*<0.50*	0.5	**0.56**	*<0.50*	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*
Molybdenum, dissolved	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Nickel, dissolved	mg/L	0.00005	*<0.000050*	0.000657	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Niobium, dissolved	mg/L	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*
Phosphorus, dissolved	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Potassium, dissolved	mg/L	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*
Rhenium, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Rubidium, dissolved	mg/L	0.000005	*<0.0000050*	**0.000013**	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Selenium, dissolved	mg/L	0.00004	*<0.000040*	*<0.000040*	0.00004	*<0.000040*	*<0.000040*	0.00004	*<0.000040*	*<0.000040*	*<0.000040*	*<0.000040*	0.00004	*<0.000040*	*<0.000040*	*<0.000040*
Silicon, dissolved	mg/L	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*	*<0.050*	0.05	*<0.050*	*<0.050*	*<0.050*
Silver, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Sodium, dissolved	mg/L	0.02	*<0.020*	**0.053**	0.02	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*	*<0.020*	0.02	*<0.020*	*<0.020*	*<0.020*
Strontium, dissolved	mg/L	0.00002	*<0.000020*	0.00059	0.00002	*<0.000020*	**0.00005**	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	**0.000074**	0.00002	*<0.000020*	*<0.000020*	**0.000023**
Sulfur, dissolved	mg/L	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*	*<0.50*	0.5	*<0.50*	*<0.50*	*<0.50*
Tantalum, dissolved	mg/L	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*	*<0.00010*	0.0001	*<0.00010*	*<0.00010*	*<0.00010*
Tellurium, dissolved	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Thallium, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Thorium, dissolved	mg/L	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*	*<0.0000050*	0.000005	*<0.0000050*	*<0.0000050*	*<0.0000050*
Tin, dissolved	mg/L	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*	*<0.000020*	0.00002	*<0.000020*	*<0.000020*	*<0.000020*
Titanium, dissolved	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Tungsten, dissolved	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Uranium, dissolved	mg/L	0.000001	*<0.0000010*	*<0.0000010*	0.000001	*<0.0000010*	*<0.0000010*	0.000001	*<0.0000010*	*<0.0000010*	*<0.0000010*	*<0.0000010*	0.000001	*<0.0000010*	*<0.0000010*	*<0.0000010*
Vanadium, dissolved	mg/L	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*	*<0.000050*	0.00005	*<0.000050*	*<0.000050*	*<0.000050*
Yttrium, dissolved	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*
Zinc, dissolved	mg/L	0.0005	*<0.00050*	**0.0024**	0.0005	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*	*<0.00050*	0.0005	*<0.00050*	*<0.00050*	*<0.00050*
Zirconium, dissolved	mg/L	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*	*<0.000010*	0.00001	*<0.000010*	*<0.000010*	*<0.000010*

Notes

Shaded Travel, DI, or Equipment Blank concentration is > 10x DL.

Italicized numbers are below detection limits.

"-" analyte not measured

Table A-3
Field duplicate results from the winter 2025 sampling event

Month	Units	March DLs	Relative Percent Difference DQOs		Winter DUP-1 (MEL-01-07)					Winter DUP-2 (MEL-02-03)				
Station					MEL-01-07	DUP-01	Field Dup Method [a]	Result [b]	Outcome	MEL-02-03	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					27-Mar-2025	27-Mar-2025				28-Mar-2025	28-Mar-2025			
ALS Sample ID			Lab	Field	WP2504349-003	WP2504349-007				WP2504350-002	WP2504350-006			
Parameter					Water	Water				Water	Water			
Physical Tests														
Conductivity	µS/cm	1.0	10	15	179	176	RPD	1.7	Pass RPD	163	158	RPD	3.1	Pass RPD
Acidity (as CaCO3)	mg/L	2.0		40	3.6	3.8	DIFF	-0.2	Pass Diff	3.3	3.8	DIFF	-0.5	Pass Diff
Alkalinity, bicarbonate	mg/L	1.0		40	28.9	28.1	RPD	2.8	Pass RPD	28.4	27.5	RPD	3.2	Pass RPD
Alkalinity, carbonate	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, hydroxide	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, phenolphthalein	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, total (as CaCO3)	mg/L	1.0		40	28.9	28.1	RPD	2.8	Pass RPD	28.4	27.5	RPD	3.2	Pass RPD
Hardness, dissolved	mg/L	0.50		40	53.4	52.2	RPD	2.3	Pass RPD	45.3	45.7	RPD	-0.9	Pass RPD
Total dissolved solids	mg/L	3.0		40	107	93.3	RPD	13.7	Pass RPD	85.2	78.2	RPD	8.6	Pass RPD
TDS Calculated (from Cond.)	mg/L	1.0		40	116	114	RPD	1.7	Pass RPD	106	103	RPD	2.9	Pass RPD
TSS	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Turbidity	NTU	0.10		40	0.28	0.26	DIFF	0.02	Pass Diff	0.15	0.29	DIFF	-0.14	Pass Diff
pH	pH units	0.10		40	7.2	7.2	RPD	0.1	Pass RPD	7.3	7.3	RPD	-0.7	Pass RPD
Anions and Nutrients (Water)														
Ammonia, total (as N)	mg/L	0.0050	20	30	0.015	0.020	DIFF	-0.0052	Pass Diff	0.024	0.028	DIFF	-0.0041	Pass Diff
Bromide	mg/L	0.10	20	30	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*
Chloride	mg/L	0.10	20	30	25.8	25	RPD	3.1	Pass RPD	22.5	21.9	RPD	2.7	Pass RPD
Fluoride	mg/L	0.020	20	30	0.041	0.040	DIFF	0.001	Pass Diff	0.041	0.039	DIFF	0.002	Pass Diff
Kjeldahl nitrogen, dissolved	mg/L	0.050	20	30	0.34	0.39	RPD	-12.3	Pass RPD	0.39	0.39	RPD	0	Pass RPD
Kjeldahl nitrogen, total	mg/L	0.050	20	30	0.32	0.32	RPD	0.6	Pass RPD	0.35	0.29	RPD	19.7	Pass RPD
Nitrate (as N)	mg/L	0.0050	20	30	0.097	0.10	RPD	-5.1	Pass RPD	0.058	0.067	RPD	-13	Pass RPD
Nitrate + Nitrite (as N)	mg/L	0.0050	20	30	0.097	0.10	RPD	-5.1	Pass RPD	0.058	0.067	RPD	-13	Pass RPD
Nitrite (as N)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Nitrogen, total	mg/L	0.050	20	30	0.42	0.42	RPD	-0.7	Pass RPD	0.41	0.36	RPD	14.1	Pass RPD
Nitrogen, total dissolved	mg/L	0.020	20	30	0.44	0.49	RPD	-10.8	Pass RPD	0.45	0.46	RPD	-1.8	Pass RPD
Phosphate, ortho-, dissolved (as P)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Phosphorus, total	mg/L	0.0010	20	30	0.0059	0.0083	RPD	-33.8	Flag	0.0045	0.0058	DIFF	-0.0013	Pass Diff
Phosphorus, total dissolved	mg/L	0.0010	20	30	0.0032	0.0042	DIFF	-0.001	Pass Diff	0.0030	0.0040	DIFF	-0.001	Pass Diff
Silicate (as SiO2)	mg/L	0.010	20	30	1.1	1.1	RPD	-2.8	Pass RPD	0.83	0.83	RPD	1	Pass RPD
Sulfate (as SO4)	mg/L	0.30	20	30	15.8	15.5	RPD	1.9	Pass RPD	12.6	12.3	RPD	2.4	Pass RPD
Cyanides														
Cyanide, free	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, total	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, WAD	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Organic / Inorganic Carbon														
Dissolved Organic Carbon	mg/L	0.50	20	30	6.0	5.5	RPD	9	Pass RPD	4.9	6.0	RPD	-20	Pass RPD
Total Organic Carbon	mg/L	0.50	20	30	5.5	5.2	RPD	5.1	Pass RPD	4.7	5.6	RPD	-17.1	Pass RPD
Mercury, total														
Mercury, total	ng/L	0.1	20	30	*<0.50*	*<0.50*	*<DL*	*<DL*	*<DL*	0.59	0.56	RPD	5.2	Pass RPD
Total Metals														
Aluminum	mg/L	0.0010	20	30	0.0046	0.0044	DIFF	0.0002	Pass Diff	0.0016	0.0016	DIFF	0	Pass Diff
Antimony	mg/L	0.000020	20	30	0.000031	0.000030	DIFF	0.000001	Pass Diff	0.000025	0.000020	DIFF	0.000005	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00092	0.00090	RPD	2.4	Pass RPD	0.00080	0.00083	RPD	-3.7	Pass RPD
Barium	mg/L	0.000020	20	30	0.015	0.014	RPD	2.1	Pass RPD	0.014	0.015	RPD	-4.2	Pass RPD

Table A-3
Field duplicate results from the winter 2025 sampling event

Month	Units	March DLs	Relative Percent Difference DQOs		Winter DUP-1 (MEL-01-07)					Winter DUP-2 (MEL-02-03)				
Station					MEL-01-07	DUP-01	Field Dup Method [a]	Result [b]	Outcome	MEL-02-03	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					27-Mar-2025	27-Mar-2025				28-Mar-2025	28-Mar-2025			
ALS Sample ID			Lab	Field	WP2504349-003	WP2504349-007				WP2504350-002	WP2504350-006			
Parameter					Water	Water				Water	Water			
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.011	0.011	DIFF	-1E-04	Pass Diff	0.0097	0.0099	DIFF	-0.0002	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	15.2	15.2	RPD	0	Pass RPD	14.1	14.6	RPD	-3.5	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000015	0.000014	DIFF	0.0000013	Pass Diff	0.000012	0.000012	DIFF	1E-07	Pass Diff
Chromium	mg/L	0.00010	20	30	0.00014	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000032	0.000030	RPD	6.8	Pass RPD	0.000022	0.000022	DIFF	-6E-07	Pass Diff
Copper	mg/L	0.000050	20	30	0.0035	0.0034	RPD	1.2	Pass RPD	0.0014	0.0012	RPD	15.7	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.013	0.012	RPD	4.7	Pass RPD	0.0060	0.0057	RPD	5.1	Pass RPD
Lanthanum	mg/L	0.000010	20	30	0.000038	0.000038	DIFF	0	Pass Diff	0.000026	0.000026	DIFF	0	Pass Diff
Lead	mg/L	0.000010	20	30	0.000040	0.000032	DIFF	0.000008	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lithium	mg/L	0.00050	20	30	0.0014	0.0014	DIFF	-0.00001	Pass Diff	0.0013	0.0014	DIFF	-5E-05	Pass Diff
Magnesium	mg/L	0.0040	20	30	2.8	2.9	RPD	-3.1	Pass RPD	2.6	2.7	RPD	-3.5	Pass RPD
Manganese	mg/L	0.000050	20	30	0.0019	0.0019	RPD	0	Pass RPD	0.0013	0.0012	RPD	13	Pass RPD
Molybdenum	mg/L	0.000050	20	30	0.00019	0.00019	DIFF	-1E-06	Pass Diff	0.00016	0.00017	DIFF	-5E-06	Pass Diff
Niobium	mg/L	0.000050	20	30	0.0012	0.0011	RPD	4.4	Pass RPD	0.00095	0.00096	RPD	-0.9	Pass RPD
Nickel	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.7	1.7	RPD	-1.8	Pass RPD	1.6	1.7	RPD	-3.7	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0021	0.0021	RPD	-1.4	Pass RPD	0.0021	0.0022	RPD	-4.7	Pass RPD
Selenium	mg/L	0.000040	20	30	0.000055	0.000065	DIFF	-1E-05	Pass Diff	0.000064	0.000059	DIFF	0.000005	Pass Diff
Silicon	mg/L	0.050	20	30	0.52	0.52	RPD	1	Pass RPD	0.40	0.39	RPD	1.5	Pass RPD
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	11.7	12.1	RPD	-3.4	Pass RPD	10.4	10.8	RPD	-3.8	Pass RPD
Strontium	mg/L	0.000020	20	30	0.084	0.085	RPD	-1.2	Pass RPD	0.077	0.079	RPD	-2.7	Pass RPD
Sulfur	mg/L	0.50	20	30	5.3	5.4	RPD	-0.6	Pass RPD	4.3	4.3	RPD	-0.9	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	0.000008	0.000005	DIFF	0.0000033	Pass Diff	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	0.000062	0.000064	DIFF	-2E-06	Pass Diff	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	0.00029	0.00076	RPD	-88.3	Flag	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Uranium	mg/L	0.000001	20	30	0.000045	0.000050	RPD	-10.5	Pass RPD	0.000036	0.000036	RPD	-1.7	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Yttrium	mg/L	0.000010	20	30	0.000013	0.000013	DIFF	0	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	0.0023	0.0020	DIFF	0.00036	Pass Diff	0.00050	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010	20	30	0.000018	0.000015	DIFF	0.000003	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Dissolved Metals														
Aluminum	mg/L	0.0010	20	30	**0.0025**	0.0023	DIFF	0.0002	Pass Diff	0.0012	0.0012	DIFF	0	Pass Diff
Antimony	mg/L	0.000020	20	30	0.000046	0.000040	DIFF	0.000006	Pass Diff	0.000020	*<0.000020*	*<DL*	*<DL*	*<DL*
Arsenic	mg/L	0.000020	20	30	0.00093	0.00091	RPD	1.9	Pass RPD	0.00081	0.00085	RPD	-5.3	Pass RPD
Barium	mg/L	0.000020	20	30	0.015	0.015	RPD	0.7	Pass RPD	0.014	0.015	RPD	-2.1	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.012	0.011	DIFF	0.0002	Pass Diff	0.010	0.010	DIFF	0	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*

Month	Units	March DLs	Relative Percent Difference DQOs		Winter DUP-1 (MEL-01-07)					Winter DUP-2 (MEL-02-03)				
Station					MEL-01-07	DUP-01	Field Dup Method [a]	Result [b]	Outcome	MEL-02-03	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					27-Mar-2025	27-Mar-2025				28-Mar-2025	28-Mar-2025			
ALS Sample ID			Lab	Field	WP2504349-003	WP2504349-007				WP2504350-002	WP2504350-006			
Parameter					Water	Water				Water	Water			
Calcium	mg/L	0.010	20	30	16.3	15.9	RPD	2.5	Pass RPD	14	14.2	RPD	-1.4	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000012	0.000012	DIFF	0.0000005	Pass Diff	0.000012	0.000012	DIFF	0	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000030	0.000030	RPD	3	Pass RPD	0.000019	0.000019	DIFF	-1E-07	Pass Diff
Copper	mg/L	0.000050	20	30	0.0027	0.0018	RPD	38.4	Flag	0.0017	0.0015	RPD	15.7	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.0050	0.0045	DIFF	0.0005	Pass Diff	0.0032	0.0032	DIFF	0	Pass Diff
Lanthanum	mg/L	0.000010	20	30	0.000032	0.000033	DIFF	-0.000001	Pass Diff	0.000024	0.000024	DIFF	0	Pass Diff
Lead	mg/L	0.000010	20	30	0.000014	0.000010	DIFF	0.000004	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lithium	mg/L	0.00050	20	30	0.0015	0.0015	DIFF	0.00001	Pass Diff	0.0013	0.0014	DIFF	-2E-05	Pass Diff
Magnesium	mg/L	0.0040	20	30	3.1	3.0	RPD	2	Pass RPD	2.5	2.5	RPD	1.2	Pass RPD
Manganese	mg/L	0.000050	20	30	0.00051	0.00046	RPD	11.4	Pass RPD	0.00029	0.00030	RPD	-3.4	Pass RPD
Mercury	ng/L	0.50	20	30	0.84	0.98	DIFF	-0.14	Pass Diff	*<0.50*	0.53	-	-	-
Molybdenum	mg/L	0.000050	20	30	0.00021	0.00020	DIFF	0.000009	Pass Diff	0.00016	0.00016	DIFF	-1E-06	Pass Diff
Nickel	mg/L	0.000050	20	30	0.0013	0.0012	RPD	4.9	Pass RPD	0.00095	0.00096	RPD	-1.7	Pass RPD
Niobium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.8	1.8	RPD	2.2	Pass RPD	1.6	1.7	RPD	-3.1	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0023	0.0023	RPD	0.9	Pass RPD	0.0021	0.0021	RPD	-1.4	Pass RPD
Selenium	mg/L	0.000040	20	30	0.000065	0.000062	DIFF	3E-06	Pass Diff	0.000054	0.000056	DIFF	-0.000002	Pass Diff
Silicon	mg/L	0.050	20	30	0.53	0.53	RPD	1.5	Pass RPD	0.39	0.39	RPD	1	Pass RPD
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	12.9	12.8	RPD	0.8	Pass RPD	10.7	10.6	RPD	0.9	Pass RPD
Strontium	mg/L	0.000020	20	30	0.092	0.092	RPD	0	Pass RPD	0.077	0.077	RPD	-0.3	Pass RPD
Sulfur	mg/L	0.50	20	30	5.7	5.8	RPD	-1.4	Pass RPD	4.4	4.5	RPD	-0.2	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	0.000006	0.000005	DIFF	0.0000007	Pass Diff	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	0.000021	0.000045	DIFF	-0.000024	Pass Diff	0.000024	0.000040	DIFF	-0.000016	Pass Diff
Titanium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Uranium	mg/L	0.000001	20	30	0.000048	0.000052	RPD	-7.6	Pass RPD	0.000034	0.000036	RPD	-5.9	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Yttrium	mg/L	0.000010	20	30	0.000013	0.000013	DIFF	0	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	0.0032	0.0026	RPD	22.3	Pass RPD	0.00059	0.00070	DIFF	-0.00011	Pass Diff
Zirconium	mg/L	0.000010		40	0.000016	0.000017	DIFF	-0.000001	Pass Diff	0.000010	0.000011	DIFF	-1E-06	Pass Diff

Notes:

[a] Field Dup Methods are based on the concentrations:

RPD = relative percent difference is used to compare field duplicates when the measured concentration is > 5x the DL

DIFF = when concentrations < 5* DL

[b] Results refer to the RPD or absolute difference in concentration

DQO for RPDs is < Field RPD values

DQO for DIFF is < 2x the DL

Italicized numbers are below detection limits.

Table A-4
Field duplicate results from the July 2025 sampling event

Month	Units	July DLs	Relative Percent Difference DQOs		July DUP-1 (MEL-02-05)					July DUP-2 (MEL-01-06)					July DUP-3 (B7-03)				
Station					MEL-02-05	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-06	DUP-2	Field Dup Method [a]	Result [b]	Outcome	B7-03	DUP-3	Field Dup Method [a]	Result [b]	Outcome
Date Sampled						19-Jul-2025				12-Jul-2025	12-Jul-2025				18-Jul-2025	Jul/12			
ALS Sample ID			Lab	Field	WP2417778-005	WP2511973-007				WP2511367-002	WP2511367-007				WP2511974-003	WP2417773-007			
Parameter					Water	Water				Water	Water				Water	Water			
Physical Tests																			
Conductivity	µS/cm	1.0	10	15	118	118	RPD	0	Pass RPD	132	133	RPD	-0.8	Pass RPD	342	343	RPD	-0.3	Pass RPD
Acidity (as CaCO3)	mg/L	2.0		40	2.9	2.8	DIFF	0.1	Pass Diff	*<2.0*	*<2.0*	*<DL*	*<DL*	*<DL*	2.5	*<2.0*	*<DL*	*<DL*	*<DL*
Alkalinity, bicarbonate	mg/L	1.0		40	20.1	20.4	RPD	-1.5	Pass RPD	20.2	19.6	RPD	3	Pass RPD	60.6	60.7	RPD	-0.2	Pass RPD
Alkalinity, carbonate	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, hydroxide	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, phenolphthalein	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, total (as CaCO3)	mg/L	1.0		40	20.1	20.4	RPD	-1.5	Pass RPD	20.2	19.6	RPD	3	Pass RPD	60.6	60.7	RPD	-0.2	Pass RPD
Hardness, dissolved	mg/L	0.50		40	34.4	34.2	RPD	0.6	Pass RPD	35.7	36.9	RPD	-3.3	Pass RPD	132	128	RPD	3.1	Pass RPD
Total dissolved solids	mg/L	3.0		40	73	73.3	RPD	-0.4	Pass RPD	59.2	54.2	RPD	8.8	Pass RPD	242	236	RPD	2.5	Pass RPD
TDS Calculated (from Cond.)	mg/L	1.0		40	76.7	76.7	RPD	0	Pass RPD	85.8	86.4	RPD	-0.7	Pass RPD	222	223	RPD	-0.4	Pass RPD
TSS	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	1.1	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Turbidity	NTU	0.10		40	0.29	0.31	DIFF	-0.02	Pass Diff	0.49	0.54	DIFF	-0.05	Pass Diff	0.37	0.33	DIFF	0.04	Pass Diff
pH	pH units	0.10		40	7.4	7.4	RPD	0	Pass RPD	7.5	7.5	RPD	-0.1	Pass RPD	8.0	8.0	RPD	0	Pass RPD
Anions and Nutrients (Water)																			
Ammonia, total (as N)	mg/L	0.0050	20	30	0.042	0.026	RPD	47.4	Flag	0.015	0.022	DIFF	-0.0064	Pass Diff	0.0079	0.029	DIFF	-0.0214	Flag
Bromide	mg/L	0.10	20	30	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*	0.21	0.21	DIFF	0	Pass Diff
Chloride	mg/L	0.10	20	30	15.3	15.3	RPD	0	Pass RPD	18.5	18.4	RPD	0.5	Pass RPD	49.4	49.4	RPD	0	Pass RPD
Fluoride	mg/L	0.020	20	30	0.032	0.032	DIFF	0	Pass Diff	0.024	0.023	DIFF	0.001	Pass Diff	0.045	0.044	DIFF	0.001	Pass Diff
Kjeldahl nitrogen, dissolved	mg/L	0.050	20	30	0.21	0.22	DIFF	-0.005	Pass Diff	0.27	0.27	RPD	1.9	Pass RPD	0.36	0.35	RPD	0.8	Pass RPD
Kjeldahl nitrogen, total	mg/L	0.050	20	30	0.29	0.29	RPD	0.3	Pass RPD	0.31	0.33	RPD	-6.5	Pass RPD	0.43	0.43	RPD	-0.2	Pass RPD
Nitrate (as N)	mg/L	0.0050	20	30	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*	0.027	0.026	RPD	4.2	Pass RPD	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*
Nitrate + Nitrite (as N)	mg/L	0.0050	20	30	*<0.0051*	*<0.0051*	*<DL*	*<DL*	*<DL*	0.028	0.028	RPD	0.7	Pass RPD	*<0.0051*	*<0.0051*	*<DL*	*<DL*	*<DL*
Nitrite (as N)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	0.0015	0.0024	DIFF	-0.0009	Pass Diff	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Nitrogen, total	mg/L	0.050	20	30	0.29	0.29	RPD	0.3	Pass RPD	0.34	0.36	RPD	-6	Pass RPD	0.43	0.43	RPD	-0.2	Pass RPD
Nitrogen, total dissolved	mg/L	0.020	20	30	0.21	0.22	RPD	-2.3	Pass RPD	0.30	0.29	RPD	1.7	Pass RPD	0.36	0.35	RPD	0.8	Pass RPD
Phosphate, ortho-, dissolved (as P)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	0.0015	0.0012	DIFF	0.0003	Pass Diff
Phosphorus, total	mg/L	0.0010	20	30	0.0054	0.0058	RPD	-7.1	Pass RPD	0.0082	0.0083	RPD	-1.2	Pass RPD	0.0086	0.012	RPD	-29.7	Pass RPD
Phosphorus, total dissolved	mg/L	0.0010	20	30	0.0028	0.0023	DIFF	0.0005	Pass Diff	0.0040	0.0036	DIFF	0.0004	Pass Diff	0.0042	0.0042	DIFF	0	Pass Diff
Silicate (as SiO2)	mg/L	0.010	20	30	0.55	0.52	RPD	5.1	Pass RPD	0.76	0.77	RPD	-0.9	Pass RPD	1.3	1.3	RPD	0	Pass RPD
Sulfate (as SO4)	mg/L	0.30	20	30	10.3	10.4	RPD	-1	Pass RPD	12.6	12.6	RPD	0	Pass RPD	29.3	29.4	RPD	-0.3	Pass RPD
Cyanides																			
Cyanide, free	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, total	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, WAD	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Organic / Inorganic Carbon																			
Dissolved Organic Carbon	mg/L	0.50	20	30	4.0	3.7	RPD	8.4	Pass RPD	4.2	4.5	RPD	-7.6	Pass RPD	6.2	6.1	RPD	1.1	Pass RPD
Total Organic Carbon	mg/L	0.50	20	30	4.2	4.5	RPD	-7.4	Pass RPD	4.0	3.9	RPD	2.3	Pass RPD	6.4	6.9	RPD	-8.1	Pass RPD
Mercury, total																			
Mercury, total	ng/L	0.1	20	30	0.68	0.68	RPD	0	Pass RPD	0.86	0.89	RPD	-3.4	Pass RPD	0.65	0.61	RPD	6.3	Pass RPD
Total Metals																			
Aluminum	mg/L	0.0010	20	30	0.0030	0.0029	DIFF	0.0001	Pass Diff	0.0074	0.0078	RPD	-5.3	Pass RPD	0.0021	0.0021	DIFF	0	Pass Diff
Antimony	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000023	0.000022	DIFF	0.000001	Pass Diff	0.000054	0.000054	DIFF	0	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00093	0.00091	RPD	2.4	Pass RPD	0.00083	0.00082	RPD	0.8	Pass RPD	0.024	0.024	RPD	-0.4	Pass RPD
Barium	mg/L	0.000020	20	30	0.012	0.012	RPD	0	Pass RPD	0.012	0.012	RPD	-0.8	Pass RPD	0.033	0.033	RPD	-1.5	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.0067	0.0064	DIFF	0.0003	Pass Diff	0.0075	0.0077	DIFF	-0.0002	Pass Diff	0.016	0.016	DIFF	-0.0005	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	11.2	10.6	RPD	5.5	Pass RPD	11.1	11.1	RPD	0	Pass RPD	44.1	43.9	RPD	0.5	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000009	0.000010	DIFF	-3E-07	Pass Diff	0.000011	0.000011	DIFF	0	Pass Diff	0.000021	0.000022	DIFF	-6E-07	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000029	0.000028	RPD	2.4	Pass RPD	0.000042	0.000043	RPD	-1.2	Pass RPD	0.000058	0.000056	RPD	3.5	Pass RPD

Month	Units	July DLs	Relative Percent Difference DQOs		July DUP-1 (MEL-02-05)					July DUP-2 (MEL-01-06)					July DUP-3 (B7-03)				
Station					MEL-02-05	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-06	DUP-2	Field Dup Method [a]	Result [b]	Outcome	B7-03	DUP-3	Field Dup Method [a]	Result [b]	Outcome
Date Sampled						19-Jul-2025				12-Jul-2025	12-Jul-2025				18-Jul-2025	Jul/12			
ALS Sample ID			Lab	Field	WP2417778-005	WP2511973-007				WP2511367-002	WP2511367-007				WP2511974-003	WP2417773-007			
Parameter					Water	Water				Water	Water				Water	Water			
Copper	mg/L	0.000050	20	30	0.00099	0.00088	RPD	10.8	Pass RPD	0.0012	0.0012	RPD	4.1	Pass RPD	0.0010	0.00083	RPD	22.7	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.023	0.025	RPD	-8.3	Pass RPD	0.031	0.031	RPD	-1	Pass RPD	0.038	0.038	RPD	0.5	Pass RPD
Lanthanum	mg/L	0.000010	20	30	0.000040	0.000032	DIFF	0.000008	Pass Diff	0.000042	0.000042	DIFF	0	Pass Diff	0.000017	0.000017	DIFF	0	Pass Diff
Lead	mg/L	0.000010	20	30	0.000014	0.000013	DIFF	0.000001	Pass Diff	0.000016	0.000015	DIFF	1E-06	Pass Diff	0.000064	0.000062	RPD	3.2	Pass RPD
Lithium	mg/L	0.00050	20	30	0.00095	0.00094	DIFF	0.00001	Pass Diff	0.0012	0.0012	DIFF	0	Pass Diff	0.014	0.015	RPD	-8.5	Pass RPD
Magnesium	mg/L	0.0040	20	30	2.0	1.9	RPD	4.2	Pass RPD	2.1	2.1	RPD	0.5	Pass RPD	5.0	4.9	RPD	2.2	Pass RPD
Manganese	mg/L	0.000050	20	30	0.0066	0.0066	RPD	-0.2	Pass RPD	0.013	0.012	RPD	6.6	Pass RPD	0.0045	0.0043	RPD	2.5	Pass RPD
Molybdenum	mg/L	0.000050	20	30	0.00012	0.00012	DIFF	3E-06	Pass Diff	0.00015	0.00015	DIFF	-3E-06	Pass Diff	0.00037	0.00037	RPD	0.8	Pass RPD
Niobium	mg/L	0.000050	20	30	0.00087	0.00083	RPD	4.4	Pass RPD	0.00094	0.00090	RPD	4.2	Pass RPD	0.00090	0.00088	RPD	2.7	Pass RPD
Nickel	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.3	1.2	RPD	4.9	Pass RPD	1.3	1.2	RPD	1.6	Pass RPD	2.5	2.4	RPD	0.4	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0017	0.0016	RPD	3.6	Pass RPD	0.0016	0.0015	RPD	1.9	Pass RPD	0.0023	0.0023	RPD	0.4	Pass RPD
Selenium	mg/L	0.000040	20	30	0.000043	0.000046	DIFF	-0.000003	Pass Diff	0.000046	0.000051	DIFF	-0.000005	Pass Diff	0.000051	0.000050	DIFF	1E-06	Pass Diff
Silicon	mg/L	0.050	20	30	0.26	0.25	DIFF	0.014	Pass Diff	0.36	0.39	RPD	-7.5	Pass RPD	0.59	0.60	RPD	-1.8	Pass RPD
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	7.3	7.0	RPD	4.6	Pass RPD	8.7	8.4	RPD	3.9	Pass RPD	11.4	11.1	RPD	2.7	Pass RPD
Strontium	mg/L	0.000020	20	30	0.059	0.057	RPD	4	Pass RPD	0.065	0.065	RPD	0.2	Pass RPD	0.36	0.34	RPD	4.6	Pass RPD
Sulfur	mg/L	0.50	20	30	3.5	3.4	RPD	1.2	Pass RPD	4.4	4.4	RPD	0.5	Pass RPD	9.5	9.8	RPD	-2.9	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.000006	0.000006	DIFF	-0.0000003	Pass Diff
Thorium	mg/L	0.000005	20	30	0.000006	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	0.000006	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000030	0.000028	DIFF	0.000002	Pass Diff	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	0.000084	0.000077	DIFF	7E-06	Pass Diff	0.00014	0.00012	DIFF	0.000019	Pass Diff	0.000051	0.000054	DIFF	-0.000003	Pass Diff
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000051	0.000052	RPD	-1.9	Pass RPD
Uranium	mg/L	0.000001	20	30	0.000028	0.000027	RPD	2.2	Pass RPD	0.000040	0.000037	RPD	8.6	Pass RPD	0.00012	0.00012	RPD	-0.9	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	0.00010	*<DL*	*<DL*	*<DL*	0.000073	0.000071	DIFF	2E-06	Pass Diff
Yttrium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000012	0.000012	DIFF	0	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*	0.00053	*<0.00050*	*<DL*	*<DL*	*<DL*	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010	20	30	0.000010	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000014	0.000013	DIFF	0.000001	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Dissolved Metals																			
Aluminum	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	0.0043	0.0043	DIFF	0	Pass Diff	0.0014	0.0014	DIFF	0	Pass Diff
Antimony	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000022	0.000022	DIFF	0	Pass Diff	0.000057	0.000057	DIFF	0	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00085	0.00084	RPD	0.9	Pass RPD	0.00077	0.00080	RPD	-3.6	Pass RPD	0.023	0.022	RPD	0.9	Pass RPD
Barium	mg/L	0.000020	20	30	0.012	0.012	RPD	4.2	Pass RPD	0.012	0.012	RPD	0	Pass RPD	0.033	0.033	RPD	0.3	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.0066	0.0063	DIFF	0.0003	Pass Diff	0.0075	0.0077	DIFF	-0.0002	Pass Diff	0.017	0.016	DIFF	0.0004	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	10.7	10.6	RPD	0.9	Pass RPD	11	11.3	RPD	-2.7	Pass RPD	44.9	43.2	RPD	3.9	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000009	0.000009	DIFF	0.0000002	Pass Diff	0.000008	0.000008	DIFF	-5E-07	Pass Diff	0.000023	0.000024	DIFF	-3E-07	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000014	0.000014	DIFF	-4E-07	Pass Diff	0.000021	0.000021	DIFF	0	Pass Diff	0.000046	0.000046	RPD	-1.7	Pass RPD
Copper	mg/L	0.000050	20	30	0.00093	0.0010	RPD	-10.1	Pass RPD	0.00084	0.00084	RPD	-0.4	Pass RPD	0.0011	0.0015	RPD	-27.2	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.0057	0.0062	RPD	-8.4	Pass RPD	0.0091	0.0092	RPD	-1.1	Pass RPD	0.017	0.017	RPD	2.3	Pass RPD
Lanthanum	mg/L	0.000010	20	30	0.000012	0.000012	DIFF	0	Pass Diff	0.000017	0.000018	DIFF	-0.000001	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lead	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000041	0.000034	DIFF	0.000007	Pass Diff
Lithium	mg/L	0.00050	20	30	0.00089	0.00088	DIFF	1E-05	Pass Diff	0.0012	0.0012	DIFF	0	Pass Diff	0.015	0.015	RPD	0.7	Pass RPD
Magnesium	mg/L	0.0040	20	30	1.9	1.9	RPD	-0.5	Pass RPD	2.0	2.1	RPD	-4.9	Pass RPD	5.0	4.9	RPD	1.4	Pass RPD
Manganese	mg/L	0.000050	20	30	0.00048	0.00045	RPD	5.8	Pass RPD	0.00080	0.00079	RPD	0.6	Pass RPD	0.00072	0.00075	RPD	-3	Pass RPD
Mercury	ng/L	0.50	20	30	0.52	0.70	DIFF	-0.18	Pass Diff	0.76	0.69	DIFF	0.07	Pass Diff	*<0.50*	*<0.50*	*<DL*	*<DL*	*<DL*
Molybdenum	mg/L	0.000050	20	30	0.00011	0.00011	DIFF	0.000004	Pass Diff	0.00015	0.00015	DIFF	-3E-06	Pass Diff	0.00038	0.00038	RPD	-0.8	Pass RPD
Nickel	mg/L	0.000050	20	30	0.00082	0.00081	RPD	1.4	Pass RPD	0.00088	0.00091	RPD	-3.5	Pass RPD	0.00088	0.00087	RPD	0.6	Pass RPD

Table A-4
Field duplicate results from the July 2025 sampling event

Month	Units	July DLs	Relative Percent Difference DQOs		July DUP-1 (MEL-02-05)					July DUP-2 (MEL-01-06)					July DUP-3 (B7-03)				
Station					MEL-02-05	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-06	DUP-2	Field Dup Method [a]	Result [b]	Outcome	B7-03	DUP-3	Field Dup Method [a]	Result [b]	Outcome
Date Sampled						19-Jul-2025				12-Jul-2025	12-Jul-2025				18-Jul-2025	Jul/12			
ALS Sample ID			Lab	Field	WP2417778-005	WP2511973-007				WP2511367-002	WP2511367-007				WP2511974-003	WP2417773-007			
Parameter					Water	Water				Water	Water				Water	Water			
Niobium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.2	1.2	RPD	0	Pass RPD	1.2	1.3	RPD	-4	Pass RPD	2.5	2.4	RPD	2.9	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0016	0.0016	RPD	1.8	Pass RPD	0.0015	0.0016	RPD	-2.6	Pass RPD	0.0023	0.0023	RPD	0.9	Pass RPD
Selenium	mg/L	0.000040	20	30	*<0.000040*	0.000041	*<DL*	*<DL*	*<DL*	0.000046	*<0.000040*	*<DL*	*<DL*	*<DL*	0.000046	0.000047	DIFF	-1E-06	Pass Diff
Silicon	mg/L	0.050	20	30	0.24	0.24	DIFF	0	Pass Diff	0.37	0.38	RPD	-1.9	Pass RPD	0.60	0.58	RPD	4.4	Pass RPD
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	7.1	7.1	RPD	-0.8	Pass RPD	8.3	8.7	RPD	-3.9	Pass RPD	11.4	11.4	RPD	0	Pass RPD
Strontium	mg/L	0.000020	20	30	0.058	0.057	RPD	1.7	Pass RPD	0.063	0.064	RPD	-0.6	Pass RPD	0.34	0.34	RPD	0.9	Pass RPD
Sulfur	mg/L	0.50	20	30	3.4	3.4	RPD	-0.9	Pass RPD	4.4	4.4	RPD	-0.2	Pass RPD	9.7	9.7	RPD	0.3	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.000006	0.000007	DIFF	-0.0000005	Pass Diff
Thorium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.000005	0.000006	DIFF	-0.0000009	Pass Diff	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000024	0.000069	DIFF	-0.000045	Flag
Titanium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000049	0.000049	DIFF	0	Pass Diff
Uranium	mg/L	0.000001	20	30	0.000027	0.000025	RPD	5.4	Pass RPD	0.000036	0.000040	RPD	-10.4	Pass RPD	0.00013	0.00013	RPD	0.8	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.000062	0.000062	DIFF	0	Pass Diff
Yttrium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*	0.00053	0.00069	DIFF	-0.00016	Pass Diff
Zirconium	mg/L	0.000010		40	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000013	0.000014	DIFF	-0.000001	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*

Notes:

[a] Field Dup Methods are based on the concentrations:

RPD = relative percent difference is used to compare field duplicates when the measured concentration is > 5x the DL

DIFF = when concentrations < 5* DL

[b] Results refer to the RPD or absolute difference in concentration

DQO for RPDs is < Field RPD values

DQO for DIFF is < 2x the DL

Italicized numbers are below detection limits.

Table A-5
Field duplicate results from the Augsut 2025 sampling event

Month	Units	August DLs	Relative Percent Difference DQOs		August DUP-1 (MEL-03-04)					August DUP-2 (MEL-01-01)				
Station					MEL-03-04	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-01	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					8/16/2025	8/16/2025				8/12/2025	8/12/2025			
ALS Sample ID			Lab	Field	WP2420164-004	WP2514196-003				10:15	WP2513718-007			
Parameter					Water	Water				Water	Water			
Physical Tests														
Conductivity	µS/cm	1.0	10	15	99.6	100	RPD	-0.4	Pass RPD	141	143	RPD	-1.4	Pass RPD
Acidity (as CaCO3)	mg/L	2.0		40	*<2.0*	*<5.0*	*<DL*	*<DL*	*<DL*	*<2.0*	*<2.0*	*<DL*	*<DL*	*<DL*
Alkalinity, bicarbonate	mg/L	1.0		40	19.6	19.1	RPD	2.6	Pass RPD	20.2	21.1	RPD	-4.4	Pass RPD
Alkalinity, carbonate	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, hydroxide	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, phenolphthalein	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, total (as CaCO3)	mg/L	1.0		40	19.6	19.1	RPD	2.6	Pass RPD	20.2	21.1	RPD	-4.4	Pass RPD
Hardness, dissolved	mg/L	0.50		40	28.9	28.3	RPD	2.1	Pass RPD	40	40.8	RPD	-2	Pass RPD
Total dissolved solids	mg/L	3.0		40	47.4	46.8	RPD	1.3	Pass RPD	75.3	97.3	RPD	-25.5	Pass RPD
TDS Calculated (from Cond.)	mg/L	1.0		40	64.7	65	RPD	-0.5	Pass RPD	91.6	93	RPD	-1.5	Pass RPD
TSS	mg/L	1.0		40	*<1.0*	1.1	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Turbidity	NTU	0.10		40	0.21	0.26	DIFF	-0.05	Pass Diff	0.38	0.37	DIFF	0.01	Pass Diff
pH	pH units	0.10		40	7.4	7.4	RPD	0	Pass RPD	7.4	7.4	RPD	0.1	Pass RPD
Anions and Nutrients (Water)														
Ammonia, total (as N)	mg/L	0.0050	20	30	0.056	0.047	RPD	17.6	Pass RPD	0.017	0.019	DIFF	-0.0018	Pass Diff
Bromide	mg/L	0.10	20	30	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*
Chloride	mg/L	0.10	20	30	12.5	12.5	RPD	0	Pass RPD	19.3	19.3	RPD	0	Pass RPD
Fluoride	mg/L	0.020	20	30	0.034	0.036	DIFF	-0.002	Pass Diff	0.034	0.031	DIFF	0.003	Pass Diff
Kjeldahl nitrogen, dissolved	mg/L	0.050	20	30	0.19	0.18	DIFF	0.014	Pass Diff	0.25	0.23	DIFF	0.024	Pass Diff
Kjeldahl nitrogen, total	mg/L	0.050	20	30	0.28	0.24	DIFF	0.039	Pass Diff	0.32	0.35	RPD	-10.8	Pass RPD
Nitrate (as N)	mg/L	0.0050	20	30	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*	0.012	0.013	DIFF	-0.0009	Pass Diff
Nitrate + Nitrite (as N)	mg/L	0.0050	20	30	*<0.0051*	*<0.0051*	*<DL*	*<DL*	*<DL*	0.012	0.013	DIFF	-0.0009	Pass Diff
Nitrite (as N)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Nitrogen, total	mg/L	0.050	20	30	0.28	0.24	DIFF	0.039	Pass Diff	0.33	0.37	RPD	-10.7	Pass RPD
Nitrogen, total dissolved	mg/L	0.020	20	30	0.19	0.18	RPD	7.7	Pass RPD	0.26	0.24	RPD	9.1	Pass RPD
Phosphate, ortho-, dissolved (as P)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Phosphorus, total	mg/L	0.0010	20	30	0.0036	0.0047	DIFF	-0.0011	Pass Diff	0.0069	0.0072	RPD	-4.3	Pass RPD
Phosphorus, total dissolved	mg/L	0.0010	20	30	0.0023	0.0025	DIFF	-0.0002	Pass Diff	0.0026	0.0027	DIFF	-0.0001	Pass Diff
Silicate (as SiO2)	mg/L	0.010	20	30	0.28	0.28	RPD	0.4	Pass RPD	0.45	0.45	RPD	0.7	Pass RPD
Sulfate (as SO4)	mg/L	0.30	20	30	6.3	6.3	RPD	-0.2	Pass RPD	13.7	13.7	RPD	0	Pass RPD
Cyanides														
Cyanide, free	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, total	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, WAD	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	0.0011	*<0.0010*	*<DL*	*<DL*	*<DL*
Organic / Inorganic Carbon														
Dissolved Organic Carbon	mg/L	0.50	20	30	3.6	3.7	RPD	-3.8	Pass RPD	4.7	4.3	RPD	8.7	Pass RPD
Total Organic Carbon	mg/L	0.50	20	30	3.9	3.6	RPD	8.3	Pass RPD	4.6	4.8	RPD	-4.1	Pass RPD
Mercury, total														
Mercury, total	ng/L	0.5	20	30	0.51	*<0.50*	*<DL*	*<DL*	*<DL*	1.46	1.12	DIFF	0.34	Pass Diff
Total Metals														
Aluminum	mg/L	0.0010	20	30	0.0022	0.0028	DIFF	-0.0006	Pass Diff	0.0053	0.0055	RPD	-3.7	Pass RPD
Antimony	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000026	0.000025	DIFF	1E-06	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00048	0.00048	RPD	-0.2	Pass RPD	0.00093	0.00093	RPD	-0.6	Pass RPD
Barium	mg/L	0.000020	20	30	0.0093	0.0092	RPD	0.6	Pass RPD	0.012	0.013	RPD	-1.6	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.0057	0.0058	DIFF	-1E-04	Pass Diff	0.0082	0.0080	DIFF	0.0002	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	9.0	9.3	RPD	-2.7	Pass RPD	12.3	12.7	RPD	-3.2	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000010	0.000010	DIFF	3E-07	Pass Diff	0.000011	0.000013	DIFF	-0.0000019	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000019	0.000019	DIFF	-0.0000007	Pass Diff	0.000033	0.000033	RPD	1.5	Pass RPD

Table A-5
Field duplicate results from the Augsut 2025 sampling event

Month	Units	August DLs	Relative Percent Difference DQOs		August DUP-1 (MEL-03-04)					August DUP-2 (MEL-01-01)				
Station					MEL-03-04	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-01	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					8/16/2025	8/16/2025				8/12/2025	8/12/2025			
ALS Sample ID			Lab	Field	WP2420164-004	WP2514196-003				10:15	WP2513718-007			
Parameter					Water	Water				Water	Water			
Copper	mg/L	0.000050	20	30	0.00078	0.00089	RPD	-14	Pass RPD	0.0013	0.0016	RPD	-15.8	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.016	0.018	RPD	-6.5	Pass RPD	0.017	0.017	RPD	3	Pass RPD
Lanthanum	mg/L	0.000010	20	30	0.000018	0.000020	DIFF	-0.000002	Pass Diff	0.000026	0.000024	DIFF	0.000002	Pass Diff
Lead	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000011	0.000010	DIFF	1E-06	Pass Diff
Lithium	mg/L	0.00050	20	30	0.00088	0.00092	DIFF	-0.00004	Pass Diff	0.0012	0.0012	DIFF	-3E-05	Pass Diff
Magnesium	mg/L	0.0040	20	30	1.5	1.6	RPD	-5.7	Pass RPD	2.4	2.4	RPD	-2.5	Pass RPD
Manganese	mg/L	0.000050	20	30	0.0047	0.0050	RPD	-5.2	Pass RPD	0.0062	0.0065	RPD	-5	Pass RPD
Molybdenum	mg/L	0.000050	20	30	0.000097	0.000098	DIFF	-1E-06	Pass Diff	0.00017	0.00017	DIFF	-6E-06	Pass Diff
Niobium	mg/L	0.000050	20	30	0.00049	0.00051	RPD	-4.2	Pass RPD	0.00083	0.00087	RPD	-5.5	Pass RPD
Nickel	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.1	1.1	RPD	-3.6	Pass RPD	1.3	1.4	RPD	-4.4	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0015	0.0015	RPD	-0.7	Pass RPD	0.0016	0.0017	RPD	-5.4	Pass RPD
Selenium	mg/L	0.000040	20	30	*<0.000040*	*<0.000040*	*<DL*	*<DL*	*<DL*	0.000052	0.000047	DIFF	0.000005	Pass Diff
Silicon	mg/L	0.050	20	30	0.14	0.15	DIFF	-0.008	Pass Diff	0.26	0.24	DIFF	0.022	Pass Diff
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	6.0	6.6	RPD	-9.5	Pass RPD	9.4	9.6	RPD	-1.5	Pass RPD
Strontium	mg/L	0.000020	20	30	0.047	0.047	RPD	-0.2	Pass RPD	0.068	0.071	RPD	-4	Pass RPD
Sulfur	mg/L	0.50	20	30	2.2	2.3	DIFF	-0.11	Pass Diff	4.4	4.4	RPD	1.8	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000027	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	*<0.000050*	0.00012	*<DL*	*<DL*	*<DL*	0.000069	0.000058	DIFF	0.000011	Pass Diff
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Uranium	mg/L	0.000001	20	30	0.000020	0.000021	RPD	-4.3	Pass RPD	0.000039	0.000041	RPD	-5.5	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Yttrium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	*<0.00050*	0.00053	*<DL*	*<DL*	*<DL*	*<0.00050*	0.00058	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000012	0.000011	DIFF	0.000001	Pass Diff
Dissolved Metals														
Aluminum	mg/L	0.0010	20	30	0.0012	0.0011	DIFF	1E-04	Pass Diff	0.0031	0.0028	DIFF	0.0003	Pass Diff
Antimony	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000029	0.000026	DIFF	0.000003	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00048	0.00046	RPD	3.6	Pass RPD	0.00093	0.00087	RPD	6.5	Pass RPD
Barium	mg/L	0.000020	20	30	0.0094	0.0091	RPD	2.7	Pass RPD	0.012	0.012	RPD	2.5	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.0057	0.0056	DIFF	0.0001	Pass Diff	0.0085	0.0078	DIFF	0.0007	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	9.3	9.1	RPD	2.1	Pass RPD	12.4	12.6	RPD	-1.6	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000011	0.000010	DIFF	0.0000005	Pass Diff	0.000016	0.000010	DIFF	0.0000056	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000009	0.000010	DIFF	-9E-07	Pass Diff	0.000024	0.000023	DIFF	0.0000014	Pass Diff
Copper	mg/L	0.000050	20	30	0.00080	0.0011	RPD	-27.5	Pass RPD	0.0026	0.0011	RPD	82.9	Flag
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.0064	0.0061	RPD	4.8	Pass RPD	0.0060	0.0061	RPD	-1.7	Pass RPD
Lanthanum	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000011	0.000012	DIFF	-0.000001	Pass Diff
Lead	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lithium	mg/L	0.00050	20	30	0.00091	0.00090	DIFF	0.00001	Pass Diff	0.0012	0.0012	DIFF	-3E-05	Pass Diff
Magnesium	mg/L	0.0040	20	30	1.4	1.4	RPD	2.9	Pass RPD	2.2	2.3	RPD	-3.6	Pass RPD
Manganese	mg/L	0.000050	20	30	0.00053	0.00053	RPD	0.2	Pass RPD	0.00084	0.00083	RPD	0.8	Pass RPD
Mercury	ng/L	0.50	20	30	*<0.50*	0.55	*<DL*	*<DL*	*<DL*	0.78	0.63	DIFF	0.15	Pass Diff
Molybdenum	mg/L	0.000050	20	30	0.000098	0.00010	DIFF	-3E-06	Pass Diff	0.00016	0.00016	DIFF	0	Pass Diff
Nickel	mg/L	0.000050	20	30	0.00050	0.00049	RPD	1.6	Pass RPD	0.00086	0.00085	RPD	1.3	Pass RPD

Table A-5
Field duplicate results from the Augsut 2025 sampling event

Month	Units	August DLs	Relative Percent Difference DQOs		August DUP-1 (MEL-03-04)					August DUP-2 (MEL-01-01)				
Station					MEL-03-04	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-01	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					8/16/2025	8/16/2025				8/12/2025	8/12/2025			
ALS Sample ID			Lab	Field	WP2420164-004	WP2514196-003				10:15	WP2513718-007			
Parameter					Water	Water				Water	Water			
Niobium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.1	1.1	RPD	0.9	Pass RPD	1.3	1.4	RPD	-1.5	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0016	0.0016	RPD	0	Pass RPD	0.0017	0.0017	RPD	-0.6	Pass RPD
Selenium	mg/L	0.000040	20	30	*<0.000040*	*<0.000040*	*<DL*	*<DL*	*<DL*	*<0.000040*	0.000045	*<DL*	*<DL*	*<DL*
Silicon	mg/L	0.050	20	30	0.14	0.14	DIFF	0.001	Pass Diff	0.23	0.23	DIFF	-0.003	Pass Diff
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	5.8	5.8	RPD	0.3	Pass RPD	9.2	9.1	RPD	0.3	Pass RPD
Strontium	mg/L	0.000020	20	30	0.050	0.049	RPD	2.2	Pass RPD	0.070	0.071	RPD	-1.6	Pass RPD
Sulfur	mg/L	0.50	20	30	2.1	2.2	DIFF	-0.03	Pass Diff	4.6	4.7	RPD	-3.4	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	*<0.000020*	0.000041	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	*<0.000050*	0.000055	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Uranium	mg/L	0.000001	20	30	0.000020	0.000020	RPD	-4.5	Pass RPD	0.000037	0.000041	RPD	-10	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Yttrium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	*<0.00050*	0.0013	*<DL*	*<DL*	*<DL*	0.00084	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010		40	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	0.000011	*<DL*	*<DL*	*<DL*

Notes:

[a] Field Dup Methods are based on the concentrations:

RPD = relative percent difference is used to compare field duplicates when the measured concentration is > 5x the DL

DIFF = when concentrations < 5* DL

[b] Results refer to the RPD or absolute difference in concentration

DQO for RPDs is < Field RPD values

DQO for DIFF is < 2x the DL

Italicized numbers are below detection limits.

nc = not collected

Table A-5
Field duplicate results from the Augsut 2025 sampling event

Month			Relative Percent Difference DQOs		August DUP-3 (MEL-04-02)					August DUP-4 (B7-01)				
Station					MEL-05-02	DUP-3				MEL-A1-01	DUP-4			
Date Sampled	Units	August DLs			8/17/2025	8/17/2025	Field Dup Method [a]	Result [b]	Outcome	10-Aug-2025	10-Aug-2025	Field Dup Method [a]	Result [b]	Outcome
ALS Sample ID			Lab	Field	WP2514197-002	WP2514197-006				WP2513651-001	WP2513612-004			
Parameter					Water	Water				Water	Water			
Physical Tests														
Conductivity	µS/cm	1.0	10	15	102	102	RPD	0	Pass RPD	398	400	RPD	-0.5	Pass RPD
Acidity (as CaCO3)	mg/L	2.0		40	*<2.0*	*<3.0*	*<DL*	*<DL*	*<DL*	2.2	*<2.0*	*<DL*	*<DL*	*<DL*
Alkalinity, bicarbonate	mg/L	1.0		40	20.8	20.8	RPD	0	Pass RPD	80	86.7	RPD	-8	Pass RPD
Alkalinity, carbonate	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, hydroxide	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, phenolphthalein	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, total (as CaCO3)	mg/L	1.0		40	20.8	20.8	RPD	0	Pass RPD	80	86.7	RPD	-8	Pass RPD
Hardness, dissolved	mg/L	0.50		40	32.1	32.2	RPD	-0.3	Pass RPD	156	151	RPD	3.3	Pass RPD
Total dissolved solids	mg/L	3.0		40	57.8	53.8	RPD	7.2	Pass RPD	284	278	RPD	2.1	Pass RPD
TDS Calculated (from Cond.)	mg/L	1.0		40	66.3	66.3	RPD	0	Pass RPD	259	260	RPD	-0.4	Pass RPD
TSS	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	1.9	2.1	DIFF	-0.2	Pass Diff
Turbidity	NTU	0.10		40	0.18	0.18	DIFF	0	Pass Diff	2.3	2.2	RPD	2.7	Pass RPD
pH	pH units	0.10		40	7.5	7.5	RPD	-0.3	Pass RPD	8.1	8.1	RPD	-0.7	Pass RPD
Anions and Nutrients (Water)														
Ammonia, total (as N)	mg/L	0.0050	20	30	*<0.0050*	0.030	*<DL*	*<DL*	*<DL*	0.036	0.21	RPD	-141.9	Flag
Bromide	mg/L	0.10	20	30	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*	0.23	0.22	DIFF	0.01	Pass Diff
Chloride	mg/L	0.10	20	30	12.3	12.4	RPD	-0.8	Pass RPD	54.7	54.6	RPD	0.2	Pass RPD
Fluoride	mg/L	0.020	20	30	0.032	0.035	DIFF	-0.003	Pass Diff	0.039	0.046	DIFF	-0.007	Pass Diff
Kjeldahl nitrogen, dissolved	mg/L	0.050	20	30	0.20	0.21	DIFF	-0.016	Pass Diff	0.50	0.53	RPD	-4.3	Pass RPD
Kjeldahl nitrogen, total	mg/L	0.050	20	30	0.21	0.31	DIFF	-0.096	Pass Diff	0.73	0.79	RPD	-8.6	Pass RPD
Nitrate (as N)	mg/L	0.0050	20	30	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*
Nitrate + Nitrite (as N)	mg/L	0.0050	20	30	*<0.0051*	*<0.0051*	*<DL*	*<DL*	*<DL*	*<0.0051*	*<0.0051*	*<DL*	*<DL*	*<DL*
Nitrite (as N)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Nitrogen, total	mg/L	0.050	20	30	0.21	0.31	DIFF	-0.096	Pass Diff	0.73	0.79	RPD	-8.6	Pass RPD
Nitrogen, total dissolved	mg/L	0.020	20	30	0.20	0.21	RPD	-7.8	Pass RPD	0.50	0.53	RPD	-4.3	Pass RPD
Phosphate, ortho-, dissolved (as P)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Phosphorus, total	mg/L	0.0010	20	30	0.0043	0.0037	DIFF	0.0006	Pass Diff	0.012	0.021	RPD	-55.6	Flag
Phosphorus, total dissolved	mg/L	0.0010	20	30	0.0021	0.0016	DIFF	0.0005	Pass Diff	0.0046	0.0056	DIFF	-0.001	Pass Diff
Silicate (as SiO2)	mg/L	0.010	20	30	0.32	0.32	RPD	-1.6	Pass RPD	0.67	0.68	RPD	-2.4	Pass RPD
Sulfate (as SO4)	mg/L	0.30	20	30	6.1	6.3	RPD	-1.9	Pass RPD	34.7	36.7	RPD	-5.6	Pass RPD
Cyanides														
Cyanide, free	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, total	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, WAD	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Organic / Inorganic Carbon														
Dissolved Organic Carbon	mg/L	0.50	20	30	3.4	3.4	RPD	-0.6	Pass RPD	8.0	8.5	RPD	-5.1	Pass RPD
Total Organic Carbon	mg/L	0.50	20	30	4.0	3.8	RPD	5.2	Pass RPD	8.5	8.8	RPD	-3.1	Pass RPD
Mercury, total														
Mercury, total	ng/L	0.5	20	30	*<0.50*	*<0.50*	*<DL*	*<DL*	*<DL*	0.96	1.03	DIFF	-0.07	Pass Diff
Total Metals														
Aluminum	mg/L	0.0010	20	30	0.018	0.0016	DIFF	0.0167	Flag	0.0029	0.0038	DIFF	-0.0009	Pass Diff
Antimony	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000026	0.000027	DIFF	-0.000001	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00051	0.00049	RPD	3.2	Pass RPD	0.0024	0.0027	RPD	-9	Pass RPD
Barium	mg/L	0.000020	20	30	0.010	0.0097	RPD	5.3	Pass RPD	0.038	0.039	RPD	-4.4	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.0055	0.0058	DIFF	-0.0003	Pass Diff	0.0056	0.0057	DIFF	-0.0001	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	10	9.4	RPD	6.5	Pass RPD	50.7	48.6	RPD	4.2	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000010	0.000009	DIFF	0.000001	Pass Diff	0.000016	0.000016	DIFF	-5E-07	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000017	0.000015	DIFF	0.0000014	Pass Diff	0.000055	0.000056	RPD	-0.5	Pass RPD

Table A-5
Field duplicate results from the Augsut 2025 sampling event

Month	Units	August DLs	Relative Percent Difference DQOs		August DUP-3 (MEL-04-02)					August DUP-4 (B7-01)				
Station					MEL-05-02	DUP-3	Field Dup Method [a]	Result [b]	Outcome	MEL-A1-01	DUP-4	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					8/17/2025	8/17/2025				10-Aug-2025	10-Aug-2025			
ALS Sample ID			Lab	Field	WP2514197-002	WP2514197-006				WP2513651-001	WP2513612-004			
Parameter					Water	Water				Water	Water			
Copper	mg/L	0.000050	20	30	0.00089	0.00075	RPD	17	Pass RPD	0.0012	0.0013	RPD	-1.6	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.014	0.012	RPD	16.6	Pass RPD	0.067	0.073	RPD	-9.7	Pass RPD
Lanthanum	mg/L	0.000010	20	30	0.000015	0.000011	DIFF	0.000004	Pass Diff	0.000028	0.000034	DIFF	-0.000006	Pass Diff
Lead	mg/L	0.000010	20	30	0.000010	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000013	0.000015	DIFF	-0.000002	Pass Diff
Lithium	mg/L	0.00050	20	30	0.00090	0.00091	DIFF	-0.00001	Pass Diff	0.0045	0.0044	RPD	2.9	Pass RPD
Magnesium	mg/L	0.0040	20	30	1.5	1.5	RPD	2	Pass RPD	6.8	6.6	RPD	3.7	Pass RPD
Manganese	mg/L	0.000050	20	30	0.0036	0.0037	RPD	-2.7	Pass RPD	0.014	0.014	RPD	-2.9	Pass RPD
Molybdenum	mg/L	0.000050	20	30	0.00010	0.000096	DIFF	7E-06	Pass Diff	0.00038	0.00037	RPD	0.8	Pass RPD
Niobium	mg/L	0.000050	20	30	0.00053	0.00048	RPD	11.1	Pass RPD	0.00096	0.00099	RPD	-2.6	Pass RPD
Nickel	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.1	1.1	RPD	4.6	Pass RPD	2.3	2.2	RPD	4.1	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0015	0.0015	RPD	3.4	Pass RPD	0.0024	0.0024	RPD	-1.7	Pass RPD
Selenium	mg/L	0.000040	20	30	*<0.000040*	*<0.000040*	*<DL*	*<DL*	*<DL*	0.000064	0.000076	DIFF	-0.000012	Pass Diff
Silicon	mg/L	0.050	20	30	0.18	0.16	DIFF	0.017	Pass Diff	0.33	0.34	RPD	-2.4	Pass RPD
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	6.3	6.0	RPD	4.1	Pass RPD	16.5	15.5	RPD	6.3	Pass RPD
Strontium	mg/L	0.000020	20	30	0.047	0.047	RPD	0.6	Pass RPD	0.21	0.21	RPD	1.9	Pass RPD
Sulfur	mg/L	0.50	20	30	2.6	2.2	DIFF	0.4	Pass Diff	11.6	12.1	RPD	-4.2	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	0.000005	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	0.00021	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	0.000078	0.000086	DIFF	-0.000008	Pass Diff	0.00016	0.00023	DIFF	-0.000068	Pass Diff
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000045	0.000039	DIFF	0.000006	Pass Diff
Uranium	mg/L	0.000001	20	30	0.000022	0.000020	RPD	9.2	Pass RPD	0.00019	0.00020	RPD	-6.3	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.00013	0.00015	DIFF	-0.000016	Pass Diff
Yttrium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000012	0.000012	DIFF	0	Pass Diff
Zinc	mg/L	0.00050	20	30	0.0087	*<0.00050*	*<DL*	*<DL*	*<DL*	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000019	0.000017	DIFF	0.000002	Pass Diff
Dissolved Metals														
Aluminum	mg/L	0.0010	20	30	0.013	0.0033	DIFF	0.0099	Flag	0.0014	0.0013	DIFF	0.0001	Pass Diff
Antimony	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.000028	0.000028	DIFF	0	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.00049	0.00048	RPD	3.3	Pass RPD	0.0022	0.0022	RPD	0	Pass RPD
Barium	mg/L	0.000020	20	30	0.010	0.010	RPD	1	Pass RPD	0.038	0.037	RPD	2.1	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	0.0056	0.0057	DIFF	-0.0001	Pass Diff	0.0056	0.0057	DIFF	-0.0001	Pass Diff
Cadmium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	10.1	10.1	RPD	0	Pass RPD	51.9	50.2	RPD	3.3	Pass RPD
Cesium	mg/L	0.000005	20	30	0.000011	0.000011	DIFF	-0.0000002	Pass Diff	0.000016	0.000015	DIFF	5E-07	Pass Diff
Chromium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.000011	0.000009	DIFF	0.0000016	Pass Diff	0.000045	0.000042	RPD	7.8	Pass RPD
Copper	mg/L	0.000050	20	30	0.00085	0.00091	RPD	-6.9	Pass RPD	0.0013	0.0013	RPD	2.3	Pass RPD
Gallium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.0069	0.0047	DIFF	0.0022	Flag	0.032	0.033	RPD	-4.6	Pass RPD
Lanthanum	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000014	0.000014	DIFF	0	Pass Diff
Lead	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lithium	mg/L	0.00050	20	30	0.00086	0.00088	DIFF	-2E-05	Pass Diff	0.0043	0.0044	RPD	-0.9	Pass RPD
Magnesium	mg/L	0.0040	20	30	1.7	1.7	RPD	-0.6	Pass RPD	6.5	6.3	RPD	2.6	Pass RPD
Manganese	mg/L	0.000050	20	30	0.00047	0.00042	RPD	11.3	Pass RPD	0.0025	0.0024	RPD	7	Pass RPD
Mercury	ng/L	0.50	20	30	*<0.50*	*<0.50*	*<DL*	*<DL*	*<DL*	0.64	1.3	DIFF	-0.65	Pass Diff
Molybdenum	mg/L	0.000050	20	30	0.00011	0.00010	DIFF	8E-06	Pass Diff	0.00038	0.00038	RPD	2.1	Pass RPD
Nickel	mg/L	0.000050	20	30	0.00056	0.00049	RPD	13.1	Pass RPD	0.00097	0.00094	RPD	2.6	Pass RPD

Table A-5
Field duplicate results from the Augsut 2025 sampling event

Month	Units	August DLs	Relative Percent Difference DQOs		August DUP-3 (MEL-04-02)					August DUP-4 (B7-01)				
Station					MEL-05-02	DUP-3	Field Dup Method [a]	Result [b]	Outcome	MEL-A1-01	DUP-4	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					8/17/2025	8/17/2025				10-Aug-2025	10-Aug-2025			
ALS Sample ID			Lab	Field	WP2514197-002	WP2514197-006				WP2513651-001	WP2513612-004			
Parameter					Water	Water				Water	Water			
Niobium	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	1.1	1.1	RPD	-0.9	Pass RPD	2.3	2.2	RPD	4	Pass RPD
Rhenium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	0.0016	0.0016	RPD	-1.3	Pass RPD	0.0025	0.0024	RPD	3.3	Pass RPD
Selenium	mg/L	0.000040	20	30	0.000064	*<0.000040*	*<DL*	*<DL*	*<DL*	0.000062	0.000057	DIFF	0.000005	Pass Diff
Silicon	mg/L	0.050	20	30	0.16	0.13	DIFF	0.021	Pass Diff	0.33	0.32	RPD	2.5	Pass RPD
Silver	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	6.3	6.5	RPD	-3	Pass RPD	15.9	15.5	RPD	2.5	Pass RPD
Strontium	mg/L	0.000020	20	30	0.050	0.051	RPD	-1.6	Pass RPD	0.22	0.21	RPD	2.3	Pass RPD
Sulfur	mg/L	0.50	20	30	2.4	2.0	DIFF	0.43	Pass Diff	12.3	12.4	RPD	-0.8	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.000005	0.000005	DIFF	0.0000003	Pass Diff
Thorium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	0.00022	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.000054	*<0.000050*	*<DL*	*<DL*	*<DL*
Tungsten	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000040	0.000038	DIFF	0.000002	Pass Diff
Uranium	mg/L	0.000001	20	30	0.000019	0.000017	RPD	7.7	Pass RPD	0.00019	0.00019	RPD	-0.5	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.00011	0.00010	DIFF	1E-06	Pass Diff
Yttrium	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	0.0075	*<0.00050*	*<DL*	*<DL*	*<DL*	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010		40	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000018	0.000018	DIFF	0	Pass Diff

Notes:

[a] Field Dup Methods are based on the concentrations:

RPD = relative percent difference is used to compare field duplicates when the measured concentration is > 5x the DL

DIFF = when concentrations < 5* DL

[b] Results refer to the RPD or absolute difference in concentration

DQO for RPDs is < Field RPD values

DQO for DIFF is < 2x the DL

Italicized numbers are below detection limits.

nc = not collected

Table A-6
Field duplicate results from the September 2025 sampling event

Month	Units	September DLs	Relative Percent Difference DQOs		September DUP-1 (MEL-03-05)					September DUP-2 (MEL-01-08)				
Station					MEL-03-05	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-08	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					09-Sep-2025	09-Sep-2025				08-Sep-2025	08-Sep-2025			
ALS Sample ID			Lab	Field	WP2515742-005	WP2515742-006				WP2515653-004	WP2515653-007			
Parameter					Water	Water				Water	Water			
Physical Tests														
Conductivity	µS/cm	1.0	10	15	101	101	RPD	0	Pass RPD	142	142	RPD	0	Pass RPD
Acidity (as CaCO3)	mg/L	2.0		40	*<2.0*	*<2.0*	*<DL*	*<DL*	*<DL*	*<2.0*	*<2.0*	*<DL*	*<DL*	*<DL*
Alkalinity, bicarbonate	mg/L	1.0		40	20.1	20.7	RPD	-2.9	Pass RPD	21	21.2	RPD	-0.9	Pass RPD
Alkalinity, carbonate	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, hydroxide	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, phenolphthalein	mg/L	1.0		40	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*	*<1.0*	*<1.0*	*<DL*	*<DL*	*<DL*
Alkalinity, total (as CaCO3)	mg/L	1.0		40	20.1	20.7	RPD	-2.9	Pass RPD	21	21.2	RPD	-0.9	Pass RPD
Hardness, dissolved	mg/L	0.50		40	26.9	26.7	RPD	0.7	Pass RPD	37.9	38.9	RPD	-2.6	Pass RPD
Total dissolved solids	mg/L	3.0		40	65.5	48.2	RPD	30.4	Pass RPD	75.8	76.8	RPD	-1.3	Pass RPD
TDS Calculated (from Cond.)	mg/L	1.0		40	65.6	65.6	RPD	0	Pass RPD	92.3	92.3	RPD	0	Pass RPD
TSS	mg/L	1.0		40	0.32	1.1	DIFF	-0.73333333	Pass Diff	0.98	0.92	DIFF	0.067	Pass Diff
Turbidity	NTU	0.10		40	1.1	1.2	RPD	-10.5	Pass RPD	0.41	0.48	DIFF	-0.07	Pass Diff
pH	pH units	0.10		40	7.4	7.4	RPD	-0.3	Pass RPD	7.5	7.5	RPD	-0.1	Pass RPD
Anions and Nutrients														
Ammonia, total (as N)	mg/L	0.0050	20	30	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*	0.089	0.014	DIFF	0.0751	Flag
Bromide	mg/L	0.10	20	30	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*	*<0.10*	*<0.10*	*<DL*	*<DL*	*<DL*
Chloride	mg/L	0.10	20	30	12.8	12.6	RPD	1.6	Pass RPD	23.9	18.9	RPD	23.4	Pass RPD
Fluoride	mg/L	0.020	20	30	0.034	0.033	DIFF	0.001	Pass Diff	0.18	0.033	DIFF	0.149	Flag
Kjeldahl nitrogen, dissolved	mg/L	0.050	20	30	0.21	0.23	DIFF	-0.024	Pass Diff	0.27	0.27	RPD	0.4	Pass RPD
Kjeldahl nitrogen, total	mg/L	0.050	20	30	0.22	0.22	DIFF	-0.006	Pass Diff	0.35	0.31	RPD	13.3	Pass RPD
Nitrate (as N)	mg/L	0.0050	20	30	*<0.0050*	*<0.0050*	*<DL*	*<DL*	*<DL*	4.7	*<0.0050*	*<DL*	*<DL*	*<DL*
Nitrate + Nitrite (as N)	mg/L	0.0050	20	30	*<0.0051*	*<0.0051*	*<DL*	*<DL*	*<DL*	4.7	*<0.0051*	*<DL*	*<DL*	*<DL*
Nitrite (as N)	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Nitrogen, total	mg/L	0.050	20	30	0.22	0.22	DIFF	-0.006	Pass Diff	5.1	0.31	RPD	177	Flag
Nitrogen, total dissolved	mg/L	0.020	20	30	0.21	0.23	RPD	-11	Pass RPD	5.0	0.27	RPD	179.5	Flag
Orthophosphate	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Phosphorus, total	mg/L	0.0010	20	30	0.0043	0.0043	DIFF	0	Pass Diff	0.0070	0.0071	RPD	-1.4	Pass RPD
Phosphorus, total dissolved	mg/L	0.0010	20	30	0.0017	0.0015	DIFF	0.0002	Pass Diff	0.0042	0.0044	DIFF	-0.0002	Pass Diff
Silicate (as SiO2)	mg/L	0.010	20	30	0.28	0.28	RPD	0.4	Pass RPD	0.34	0.35	RPD	-2	Pass RPD
Sulfate (as SO4)	mg/L	0.30	20	30	6.4	6.3	RPD	0.5	Pass RPD	9.0	13.6	RPD	-41.1	Flag
Cyanides														
Cyanide, free	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, total	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Cyanide, WAD	mg/L	0.0010	20	30	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*	*<0.0010*	*<0.0010*	*<DL*	*<DL*	*<DL*
Organic / Inorganic Carbon														
Dissolved Organic Carbon	mg/L	0.50	20	30	3.4	3.5	RPD	-3.2	Pass RPD	4.3	4.4	RPD	-1.8	Pass RPD
Total Organic Carbon	mg/L	0.50	20	30	3.6	3.6	RPD	-0.8	Pass RPD	5.0	4.7	RPD	6.6	Pass RPD
Mercury, total														
Mercury, total	ng/L	0.1	20	30			DIFF	0	Pass Diff	0.52	0.75	RPD	-36.2	Flag
Total Metals					0.0018	0.0019								
Aluminum	mg/L	0.0010	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.0045	0.0045	DIFF	0	Pass Diff
Antimony	mg/L	0.000020	20	30	0.00044	0.00044	RPD	-2	Pass RPD	0.000023	0.000024	DIFF	-0.000001	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.0091	0.0094	RPD	-2.9	Pass RPD	0.00083	0.00085	RPD	-2.3	Pass RPD
Barium	mg/L	0.000020	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.012	0.012	RPD	-1.7	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	0.0056	0.0056	RPD	0	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.0080	0.0080	DIFF	0	Pass Diff

Table A-6
Field duplicate results from the September 2025 sampling event

Month	Units	September DLs	Relative Percent Difference DQOs		September DUP-1 (MEL-03-05)					September DUP-2 (MEL-01-08)				
Station					MEL-03-05	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-08	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					09-Sep-2025	09-Sep-2025				08-Sep-2025	08-Sep-2025			
ALS Sample ID			Lab	Field	WP2515742-005	WP2515742-006				WP2515653-004	WP2515653-007			
Parameter					Water	Water				Water	Water			
Cadmium	mg/L	0.000005	20	30	8.8	9.0	RPD	-2.8	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	0.000010	0.000011	DIFF	-0.0000007	Pass Diff	12.6	12.2	RPD	3.2	Pass RPD
Cesium	mg/L	0.000005	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	0.000009	0.000009	DIFF	-0.0000002	Pass Diff
Chromium	mg/L	0.00010	20	30	0.000017	0.000017	DIFF	-3E-07	Pass Diff	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.00069	0.00072	RPD	-3.5	Pass RPD	0.000032	0.000032	RPD	-1.2	Pass RPD
Copper	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.00087	0.00086	RPD	1	Pass RPD
Gallium	mg/L	0.000050	20	30	0.014	0.014	RPD	-5	Pass RPD	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	0.000017	0.000017	DIFF	0	Pass Diff	0.014	0.014	RPD	1.4	Pass RPD
Lanthanum	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.000020	0.000020	DIFF	0	Pass Diff
Lead	mg/L	0.000010	20	30	0.00084	0.00088	RPD	-4.7	Pass RPD	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lithium	mg/L	0.00050	20	30	1.4	1.5	RPD	-4.9	Pass RPD	0.0012	0.0012	DIFF	4E-05	Pass Diff
Magnesium	mg/L	0.0040	20	30	0.0035	0.0037	DIFF	-0.00021	Pass Diff	2.3	2.4	RPD	-0.9	Pass RPD
Manganese	mg/L	0.000050	20	30	0.00010	0.000099	DIFF	1E-06	Pass Diff	0.0052	0.0053	RPD	-1.9	Pass RPD
Molybdenum	mg/L	0.000050	20	30	0.00047	0.00049	RPD	-2.3	Pass RPD	0.00016	0.00015	DIFF	0.000009	Pass Diff
Niobium	mg/L	0.000050	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	0.00082	0.00082	RPD	-0.9	Pass RPD
Nickel	mg/L	0.00010	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	1.1	1.1	RPD	-3.7	Pass RPD	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	1.4	1.4	RPD	0	Pass RPD
Rhenium	mg/L	0.000005	20	30	0.0015	0.0016	RPD	-1.9	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	*<0.000040*	*<0.000040*	*<DL*	*<DL*	*<DL*	0.0017	0.0017	RPD	1.2	Pass RPD
Selenium	mg/L	0.000040	20	30	0.14	0.14	RPD	-3.6	Pass RPD	0.000041	0.000057	DIFF	-0.000016	Pass Diff
Silicon	mg/L	0.050	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.18	0.19	DIFF	-0.004	Pass Diff
Silver	mg/L	0.000005	20	30	6.0	6.1	RPD	-2.5	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	0.046	0.048	DIFF	-0.0012	Pass Diff	9.6	9.4	RPD	2.1	Pass RPD
Strontium	mg/L	0.000020	20	30	2.2	2.2	RPD	-1.8	Pass RPD	0.068	0.068	RPD	0.6	Pass RPD
Sulfur	mg/L	0.50	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	4.9	4.7	RPD	2.9	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	*<0.000050*	0.000050	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.00021	0.00012	DIFF	0.00009	Pass Diff
Tungsten	mg/L	0.000010	20	30	0.000019	0.000021	DIFF	-0.0000022	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Uranium	mg/L	0.000001	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.000037	0.000037	RPD	-1.9	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Yttrium	mg/L	0.000010	20	30	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010	20	30			DIFF	0	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Dissolved Metals					0.0027	0.0023								
Aluminum	mg/L	0.0010	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	0.0018	0.0020	DIFF	-0.0002	Pass Diff
Antimony	mg/L	0.000020	20	30	0.00044	0.00042	RPD	3.7	Pass RPD	0.000022	0.000022	DIFF	0	Pass Diff
Arsenic	mg/L	0.000020	20	30	0.0093	0.0093	RPD	0	Pass RPD	0.00079	0.00079	RPD	0.3	Pass RPD
Barium	mg/L	0.000020	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.012	0.012	RPD	0	Pass RPD
Beryllium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Bismuth	mg/L	0.000005	20	30	0.0057	0.0057	RPD	0	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Boron	mg/L	0.0050	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.0077	0.0077	DIFF	0	Pass Diff
Cadmium	mg/L	0.000005	20	30	8.5	8.4	RPD	1.2	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Calcium	mg/L	0.010	20	30	0.000011	0.000010	DIFF	0.0000002	Pass Diff	11.6	11.9	RPD	-2.6	Pass RPD
Cesium	mg/L	0.000005	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	0.000010	0.000009	DIFF	1E-07	Pass Diff
Chromium	mg/L	0.00010	20	30	0.000009	0.000009	DIFF	1E-07	Pass Diff	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Cobalt	mg/L	0.000005	20	30	0.00075	0.00069	RPD	7.5	Pass RPD	0.000021	0.000022	DIFF	-8E-07	Pass Diff
Copper	mg/L	0.000050	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.00080	0.00090	RPD	-11.4	Pass RPD

Month	Units	September DLs	Relative Percent Difference DQOs		September DUP-1 (MEL-03-05)					September DUP-2 (MEL-01-08)				
Station					MEL-03-05	DUP-1	Field Dup Method [a]	Result [b]	Outcome	MEL-01-08	DUP-2	Field Dup Method [a]	Result [b]	Outcome
Date Sampled					09-Sep-2025	09-Sep-2025				08-Sep-2025	08-Sep-2025			
ALS Sample ID			Lab	Field	WP2515742-005	WP2515742-006				WP2515653-004	WP2515653-007			
Parameter					Water	Water				Water	Water			
Gallium	mg/L	0.000050	20	30	0.0052	0.0051	RPD	1.9	Pass RPD	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Iron	mg/L	0.0010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	0.0023	0.0025	DIFF	-0.0002	Pass Diff
Lanthanum	mg/L	0.000010	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lead	mg/L	0.000010	20	30	0.00085	0.00086	RPD	-1.2	Pass RPD	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Lithium	mg/L	0.00050	20	30	1.4	1.4	RPD	0	Pass RPD	0.0012	0.0012	DIFF	0.00001	Pass Diff
Magnesium	mg/L	0.0040	20	30	0.00046	0.00046	DIFF	-2E-06	Pass Diff	2.2	2.2	RPD	-2.7	Pass RPD
Manganese	mg/L	0.000050	20	30	*<0.50*	*<0.50*	*<DL*	*<DL*	*<DL*	0.00033	0.00033	RPD	0	Pass RPD
Mercury	ng/L	0.50	20	30	0.000096	0.000098	DIFF	-2E-06	Pass Diff	0.50	*<0.50*	*<DL*	*<DL*	*<DL*
Molybdenum	mg/L	0.000050	20	30	0.00044	0.00046	RPD	-3.1	Pass RPD	0.00015	0.00015	DIFF	0	Pass Diff
Nickel	mg/L	0.000050	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	0.00074	0.00075	RPD	-1.6	Pass RPD
Niobium	mg/L	0.00010	20	30	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Phosphorus	mg/L	0.050	20	30	1.0	1.0	RPD	2	Pass RPD	*<0.050*	*<0.050*	*<DL*	*<DL*	*<DL*
Potassium	mg/L	0.020	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	1.3	1.3	RPD	-3.1	Pass RPD
Rhenium	mg/L	0.000005	20	30	0.0015	0.0015	RPD	0.7	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Rubidium	mg/L	0.000005	20	30	*<0.000040*	*<0.000040*	*<DL*	*<DL*	*<DL*	0.0016	0.0017	RPD	-3	Pass RPD
Selenium	mg/L	0.000040	20	30	0.14	0.13	RPD	5.1	Pass RPD	0.000041	0.000047	DIFF	-0.000006	Pass Diff
Silicon	mg/L	0.050	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	0.19	0.19	DIFF	0.001	Pass Diff
Silver	mg/L	0.000005	20	30	5.9	5.9	RPD	0.3	Pass RPD	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Sodium	mg/L	0.020	20	30	0.045	0.046	DIFF	-0.0004	Pass Diff	8.8	9.1	RPD	-3.5	Pass RPD
Strontium	mg/L	0.000020	20	30	2.2	2.2	RPD	0.9	Pass RPD	0.065	0.066	RPD	-1.8	Pass RPD
Sulfur	mg/L	0.50	20	30	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*	4.8	4.7	RPD	1.5	Pass RPD
Tantalum	mg/L	0.00010	20	30	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*	*<0.00010*	*<0.00010*	*<DL*	*<DL*	*<DL*
Tellurium	mg/L	0.000020	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Thallium	mg/L	0.000005	20	30	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Thorium	mg/L	0.000005	20	30	0.000025	0.000022	DIFF	0.000003	Pass Diff	*<0.0000050*	*<0.0000050*	*<DL*	*<DL*	*<DL*
Tin	mg/L	0.000020	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	*<0.000020*	*<0.000020*	*<DL*	*<DL*	*<DL*
Titanium	mg/L	0.000050	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Tungsten	mg/L	0.000010	20	30	0.000019	0.000020	DIFF	-0.0000017	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Uranium	mg/L	0.000001	20	30	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*	0.000036	0.000036	RPD	0.6	Pass RPD
Vanadium	mg/L	0.000050	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.000050*	*<0.000050*	*<DL*	*<DL*	*<DL*
Yttrium	mg/L	0.000010	20	30	0.00070	0.00068	RPD	2.9	Pass RPD	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*
Zinc	mg/L	0.00050	20	30	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*	*<0.00050*	*<0.00050*	*<DL*	*<DL*	*<DL*
Zirconium	mg/L	0.000010		40			DIFF	0	Pass Diff	*<0.000010*	*<0.000010*	*<DL*	*<DL*	*<DL*

Notes:

[a] Field Dup Methods are based on the concentrations:

RPD = relative percent difference is used to compare field duplicates when the measured concentration is > 5x the DL

DIFF = when concentrations < 5* DL

[b] Results refer to the RPD or absolute difference in concentration

DQO for RPDs is < Field RPD values

DQO for DIFF is < 2x the DL

Italicized numbers are below detection limits.

na = not analyzed

Table A-7. Field duplicates and parameters that exceeded the DQOs in 2025.

Event	Duplicate	Parent Sample	DQO Exceedances		DQO Exceedances	
			RPD	DIFF	RPD	DIFF
March	DUP-1	MEL-01-07	T-P, Ti-t, Cu-d	0	3	0
	DUP-2	MEL-02-03	0	0	0	0
July	DUP-1	MEL-02-05	NH3	0	1	0
	DUP-2	MEL-01-06	0	0	0	0
	DUP-3	B7-03	0	NH3, Ti-d	0	2
August	DUP-1	MEL-03-04	0	0	0	0
	DUP-2	MEL-01-01	Cu-t	0	1	0
	DUP-3	MEL-05-02	0	Al-t, Al-d, Fe-d	0	3
	DUP-4	MEL-A1-01	NH3, T-P	0	2	0
September	DUP-1	MEL-03-05	0	0	0	0
	DUP-2	MEL-01-08	NH3, F, T-N, D-N, SO4, Hg-t	0	6	0
Count "DIFF"						5
Count "RPD"						13
Total field duplicate comparisons (11 field duplicates x 126 parameters)						1386
DQO exceedance as a percentage of comparisons						1.30%

Table A-8. Surface water data reliability checks – dissolved vs total concentrations, 2025.

Event	Date	Sample ID	Parameter	Dissolved (µg/L)	Total (µg/L)	Percent Difference
March	29-Mar-25	MEL-03-04	Tin	0.321	0.085	278
	29-Mar-25	MEL-03-05	Tin	0.14	0.042	233
	27-Mar-25	MEL-01-01	Copper	2.19	1.23	78
	27-Mar-25	MEL-01-06	Copper	2.72	1.26	116
	28-Mar-25	MEL-02-02	Tin	0.089	*<0.020*	345
July	12-Jul-25	MEL-01-09	Tin	0.384	0.025	1436
	12-Jul-25	MEL-01-09	Zinc	2.14	0.67	219
	18-Jul-25	MEL-03-02	Copper	1.03	0.723	42
	18-Jul-25	MEL-03-03	Zinc	2.09	*<0.50*	318
	19-Jul-25	MEL-02-02	Tin	0.048	*<0.020*	140
	18-Jul-25	D7-02	Tungsten	0.077	*<0.010*	670
	18-Jul-25	D7-03	Aluminum	7.4	2.2	236
	18-Jul-25	D7-03	Cobalt	0.0594	0.0205	190
	18-Jul-25	D7-03	Copper	1.13	0.804	41
	18-Jul-25	D7-03	Iron	73.3	20.1	265
	18-Jul-25	D7-03	Lanthanum	0.037	0.011	236
	18-Jul-25	D7-03	Lead	0.037	*<0.010*	270
	18-Jul-25	D7-03	Manganese	10.8	0.894	1108
	18-Jul-25	D7-03	Titanium	0.464	*<0.050*	828
	18-Jul-25	DUP - MEL-JUL-03	Copper	1.46	0.828	76
	18-Jul-25	DUP - MEL-JUL-03	Tin	0.069	*<0.020*	245
August	12-Aug-25	MEL-01-01	Copper	2.61	1.34	95
	15-Aug-25	MEL-02-06	Molybdenum	0.271	0.111	144
	15-Aug-25	MEL-02-06	Tungsten	0.541	*<0.010*	5310
	15-Aug-25	MEL-02-06	Zinc	1.3	*<0.50*	160
	15-Aug-25	MEL-02-08	Molybdenum	0.27	0.113	139
	15-Aug-25	MEL-02-08	Tungsten	0.587	*<0.010*	5770
	15-Aug-25	MEL-02-08	Zinc	2.69	*<0.50*	438
	15-Aug-25	MEL-02-08	Zirconium	0.026	*<0.010*	160
	15-Aug-25	PL-01	Zinc	2.29	*<0.50*	358
	15-Aug-25	PL-03	Iron	9.7	3.1	213
	15-Aug-25	PL-03	Manganese	2.3	0.373	517
	16-Aug-25	MEL-03-02	Tin	0.071	0.022	223
	16-Aug-25	DUP-MEL-AUG-01	Tin	0.041	*<0.020*	105
	17-Aug-25	MEL-04-03	Zinc	3.66	0.56	554
	17-Aug-25	MEL-04-04	Zinc	1.65	0.63	162
	17-Aug-25	MEL-04-05	Zinc	2.65	*<0.50*	430
	17-Aug-25	MEL-05-03	Zinc	8.3	1.46	468
September	10-Sep-25	MEL-02-08	Zinc	1.97	0.95	107

Table A-9. Within-area heterogeneity assessment of surface water chemistry at Meliadine, Atulik, and Peter lakes.

Sample ID	Date	Lab sample ID	Parameter	Units	Result	DL	Detected	Lab flag	Note
MEL-03-04	2025-03-29	WP2504348-004	Tin (T)	ug/L	0.085	0.02	Y		Max is ≥2× the 2nd highest (detects only)
MEL-03-05	2025-03-29	WP2504348-005	Iron (T)	ug/L	23.9	1	Y		Max is ≥2× the 2nd highest (detects only)
MEL-03-05	2025-03-29	WP2504348-005	Manganese (D)	ug/L	0.623	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-07	2025-03-27	WP2504349-003	Tin (T)	ug/L	0.062	0.02	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-07	2025-03-27	WP2504349-003	Titanium (T)	ug/L	0.294	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-02-03	2025-03-28	WP2504350-002	Zinc (T)	ug/L	0.5	0.5	Y		Min is ≥2× lower than the 2nd lowest (detects only)
MEL-02-08	2025-03-28	WP2504350-005	Titanium (T)	ug/L	0.312	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-02-08	2025-03-28	WP2504350-005	Zinc (T)	ug/L	3.08	0.5	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-08	2025-07-12	WP2511367-004	Lead (D)	ug/L	0.014	0.01	Y		Min is ≥2× lower than the 2nd lowest (detects only)
MEL-01-09	2025-07-12	WP2511367-005	Tin (D)	ug/L	0.384	0.02	Y	DTC	Max is ≥2× the 2nd highest (detects only)
MEL-01-10	2025-07-12	WP2511367-006	Total Suspended Solids	mg/L	3.6	1	Y		Max is ≥2× the 2nd highest (detects only)
MEL-03-03	2025-07-18	WP2511972-003	Zinc (D)	ug/L	2.09	0.5	Y	DTC	Max is ≥2× the 2nd highest (detects only)
MEL-03-04	2025-07-18	WP2511972-004	Titanium (T)	ug/L	0.247	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-03-05	2025-07-18	WP2511972-005	Ion Balance	%	0.58	0.01	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-01	2025-08-12	WP2513718-001	Copper (D)	ug/L	2.61	0.05	Y	DTC	Max is ≥2× the 2nd highest (detects only)
MEL-01-10	2025-08-12	WP2513718-006	Zinc (T)	ug/L	3.91	0.5	Y		Max is ≥2× the 2nd highest (detects only)
PL-02	2025-08-15	WP2514195-007	Total Kjeldahl Nitrogen (diss)	mg/L	0.431	0.05	Y	RRV	Max is ≥2× the 2nd highest (detects only)
PL-02	2025-08-15	WP2514195-007	Total Dissolved Nitrogen	mg/L	0.431	0.05	Y		Max is ≥2× the 2nd highest (detects only)
PL-02	2025-08-15	WP2514195-007	Total Phosphorus	mg/L	0.0105	0.001	Y		Max is ≥2× the 2nd highest (detects only)
PL-03	2025-08-15	WP2514195-008	Ammonia (as N)	mg/L	0.0116	0.005	Y		Min is ≥2× lower than the 2nd lowest (detects only)
PL-03	2025-08-15	WP2514195-008	Total Diss Phosphorus	mg/L	0.0054	0.001	Y		Max is ≥2× the 2nd highest (detects only)
PL-03	2025-08-15	WP2514195-008	Ion Balance	%	0	0.01	Y		Min is ≥2× lower than the 2nd lowest (detects only)
PL-03	2025-08-15	WP2514195-008	Cobalt (T)	ug/L	0.0069	0.005	Y		Min is ≥2× lower than the 2nd lowest (detects only)
PL-03	2025-08-15	WP2514195-008	Iron (T)	ug/L	3.1	1	Y		Min is ≥2× lower than the 2nd lowest (detects only)
PL-03	2025-08-15	WP2514195-008	Manganese (T)	ug/L	0.373	0.05	Y		Min is ≥2× lower than the 2nd lowest (detects only)
PL-03	2025-08-15	WP2514195-008	Iron (D)	ug/L	9.7	1	Y	DTC	Max is ≥2× the 2nd highest (detects only)
PL-03	2025-08-15	WP2514195-008	Manganese (D)	ug/L	2.3	0.05	Y	DTC	Max is ≥2× the 2nd highest (detects only)
MEL-03-02	2025-08-16	WP2514195-011	Zinc (D)	ug/L	1.86	0.5	Y		Max is ≥2× the 2nd highest (detects only)
MEL-04-01	2025-08-17	WP2514196-005	Zinc (T)	ug/L	2.61	0.5	Y		Max is ≥2× the 2nd highest (detects only)
MEL-04-03	2025-08-17	WP2514196-008	Titanium (T)	ug/L	0.06	0.05	Y		Min is ≥2× lower than the 2nd lowest (detects only)
MEL-04-04	2025-08-17	WP2514196-009	Titanium (T)	ug/L	0.385	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-05-02	2025-08-17	WP2514197-002	Aluminum (T)	ug/L	18.3	1	Y		Max is ≥2× the 2nd highest (detects only)
MEL-05-02	2025-08-17	WP2514197-002	Tin (T)	ug/L	0.21	0.02	Y		Max is ≥2× the 2nd highest (detects only)

Table A-9. Within-area heterogeneity assessment of surface water chemistry at Meliadine, Atulik, and Peter lakes.

Sample ID	Date	Lab sample ID	Parameter	Units	Result	DL	Detected	Lab flag	Note
MEL-05-02	2025-08-17	WP2514197-002	Zinc (T)	ug/L	8.68	0.5	Y		Max is ≥2× the 2nd highest (detects only)
MEL-05-02	2025-08-17	WP2514197-002	Aluminum (D)	ug/L	13.2	1	Y		Max is ≥2× the 2nd highest (detects only)
MEL-05-04	2025-08-17	WP2514197-004	Tin (D)	ug/L	0.036	0.02	Y		Min is ≥2× lower than the 2nd lowest (detects only)
MEL-05-04	2025-08-17	WP2514197-004	Zinc (D)	ug/L	2.27	0.5	Y		Min is ≥2× lower than the 2nd lowest (detects only)
AL-01	2025-08-20	WP2514517-001	Aluminum (T)	ug/L	6.6	1	Y		Max is ≥2× the 2nd highest (detects only)
AL-01	2025-08-20	WP2514517-001	Iron (T)	ug/L	24.8	1	Y		Max is ≥2× the 2nd highest (detects only)
AL-01	2025-08-20	WP2514517-001	Titanium (T)	ug/L	0.208	0.05	Y		Max is ≥2× the 2nd highest (detects only)
AL-01	2025-08-20	WP2514517-001	Manganese (D)	ug/L	0.968	0.05	Y		Max is ≥2× the 2nd highest (detects only)
AL-03	2025-08-20	WP2514517-003	Ammonia (as N)	mg/L	0.0804	0.005	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-08	2025-09-08	WP2515653-004	Ammonia (as N)	mg/L	0.0888	0.005	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-08	2025-09-08	WP2515653-004	Fluoride	mg/L	0.182	0.02	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-08	2025-09-08	WP2515653-004	Nitrogen	mg/L	5.05	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-01-08	2025-09-08	WP2515653-004	Total Dissolved Nitrogen	mg/L	4.97	0.05	Y		Max is ≥2× the 2nd highest (detects only)
MEL-02-08	2025-09-10	WP2515853-005	Ammonia (as N)	mg/L	0.0172	0.005	Y		Max is ≥2× the 2nd highest (detects only)
MEL-02-08	2025-09-10	WP2515853-005	Aluminum (D)	ug/L	5.8	1	Y		Max is ≥2× the 2nd highest (detects only)

Notes:
DTC = Dissolved concentration exceeds total. Results were confirmed by re-analysis.
RRV = Reported result verified by repeat analysis.

Table A-10. Within-area heterogeneity assessment of surface water chemistry at Lake D7 and Lake B7.

Sample ID	Date	Lab sample ID	Parameter	Units	Result	DL	Detected	Lab flag	Note
B7-01	2025-07-18	WP2511974-001	Ammonia (as N)	mg/L	0.142	0.005	Y		Max is ≥5× the min (detects only)
B7-03	2025-07-18	WP2511974-003	Ammonia (as N)	mg/L	0.0079	0.005	Y		Max is ≥5× the min (detects only)
D7-01	2025-07-18	WP2511974-004	Manganese (T)	ug/L	12.7	0.05	Y		Max is ≥5× the min (detects only)
D7-02	2025-07-18	WP2511974-005	Manganese (D)	ug/L	0.808	0.05	Y		Max is ≥5× the min (detects only)
D7-03	2025-07-18	WP2511974-006	Manganese (T)	ug/L	0.894	0.05	Y		Max is ≥5× the min (detects only)
D7-03	2025-07-18	WP2511974-006	Manganese (D)	ug/L	10.8	0.05	Y	DTC	Max is ≥5× the min (detects only)
B7-01	2025-08-10	WP2513612-001	Ammonia (as N)	mg/L	0.03	0.005	Y		Max is ≥5× the min (detects only)
B7-02	2025-08-10	WP2513612-002	Ammonia (as N)	mg/L	0.0055	0.005	Y		Max is ≥5× the min (detects only)

Notes:
DTC = Dissolved concentration exceeds total. Results were confirmed by re-analysis.

A.3 PHYTOPLANKTON TAXONOMY AND CHLOROPHYLL-A

A.3.1 Methods

A.3.1.1 Field

Sampling Procedures

Water samples for phytoplankton taxonomy and chlorophyll-a were collected in the July, August, and September sampling events. Samples were collected as depth-integrated samples every 2 m from below the surface to within 1 m of the sediment at the same locations as the surface water samples for chemistry. Sampling gear was thoroughly rinsed between sampling areas to ensure that there was no inadvertent introduction (i.e., cross-contamination) from one area to another.

Water samples for taxonomy were collected in a 50 mL falcon tube. Water samples for chlorophyll-a were collected in 1-L plastic bottles wrapped with tinfoil to keep the samples dark and were stored in a cooler with ice packs until returning to the camp. Water samples were processed back at camp within 6 hours of sampling. Processing involved filtering the water samples for chlorophyll-a and preserving 50 mL of water with Lugol's iodine solution for taxonomy. Chlorophyll-a filters were kept in a freezer until ready to ship. The preserved phytoplankton taxonomy samples were stored in dark containers at room temperature.

Field Duplicates

Field duplicates are collected at a frequency of approximately one per 10 samples for phytoplankton taxonomy and chlorophyll-a during each sampling event. The data quality objective (DQO) for field duplicates is a relative percent difference (RPD) of less than 50% between paired samples.

A.3.1.2 Laboratory

Filtered chlorophyll-a samples were submitted to the University of Alberta Biogeochemical Analytical Service Laboratory (BASL). Samples collected for taxonomic analysis of phytoplankton were submitted to Plankton-R-Us Inc. Both of these labs are certified reputable taxonomic laboratory.

Taxonomic QC procedures include consistent sample concentration and sub-sampling techniques. Identification accuracy is monitored in-house by a second taxonomist who re-analyses at least 10% of samples.

A.3.2 Results

Sample Integrity

Chlorophyll-a – No data quality issues were flagged by the .

Phytoplankton Taxonomy – The samples arrived at Plankton R Us in good condition.

Field and Laboratory Duplicates

Results of the RPD analysis for phytoplankton field duplicates and laboratory duplicates, as well as chlorophyll-a field duplicates are presented in **Table A-11**, **Table A-12** and **Table A-13** respectively. These results are discussed below:

Phytoplankton Taxonomy – Across the seven field duplicates, the average RPD was 14.5% for biomass and 29.5% for density. One field duplicate from MEL-05-02 in August showed higher variability, with the RPD exceeding the 50% DQO for both biomass and density. This exceedance was primarily driven by differences in the abundance of chrysophytes between paired samples. Laboratory duplicate results demonstrated strong analytical precision, with RPDs well below the 25% DQO (less than 14% for total biomass and less than 8% for total density).

Chlorophyll-a – One duplicate in September slightly exceeded the DQO (RPD = 56%). Chlorophyll-a concentrations for this pair (MEL-03-05) were low (0.22–0.39 µg/L), approximately 5 to 10 times the reporting limit (0.04 µg/L). Precision is typically lower near the detection limit, and the relatively small absolute difference between duplicate samples does not affect interpretation of the results.

Table A-11. Field duplicate results for the 2025 phytoplankton samples.

Metric	Month & DUP	Station	Date	Sample	Major Taxa							TOTAL
					Cyanophytes	Chlorophytes	Euglenophytes	Chrysophytes	Diatom	Cryptophytes	Dinoflagellates	
Phytoplankton Biomass (mg/m^3)	July DUP-1	MEL-02-05	19-Jul-25	Sample	0	8	0	403	199	18	25	654
				Duplicate	0.0	8	0	297	150	33	24	512
				RPD (%)	<DL	2	<DL	30	28	-62	6	24
	July DUP-2	MEL-01-06	12-Jul-25	Sample	0	7	0	229	91	32	60	419
				Duplicate	0	2	0	196	94	22	18	332
				RPD (%)	<DL	101	<DL	15	-3	37	109	23
	Aug DUP-1	MEL-03-04	16-Aug-25	Sample	0	20	0	86	38	34	22	200
				Duplicate	0	8	0	76	37	20	19	161
				RPD (%)	<DL	85	<DL	11	2	52	15	22
	Aug DUP-2	MEL-01-01	12-Aug-25	Sample	0	27	0	174	147	23	20	391
				Duplicate	0.2	12	0	130	127	32	14	315
				RPD (%)	<DL	78	<DL	29	15	-33	33	21
	Aug DUP-3	MEL-05-02	17-Aug-25	Sample	0	11	0	161	46	10	7	235
				Duplicate	0.1	17	0	25	57	12	5	117
				RPD (%)	<DL	-44	<DL	146	-22	-19	36	**67**
	Sept DUP-1	MEL-03-05	9-Sep-25	Sample	0.1	22	0	74	50	2	4	152
				Duplicate	26	8	0	68	41	13	21	176
				RPD (%)	-198	95	<DL	9	19	-138	-135	-15
	Sept DUP-2	MEL-01-08	8-Sep-25	Sample	3	12	0	134	245	25	32	451
				Duplicate	6	21	0	136	421	34	73	692
				RPD (%)	-72	-54	<DL	-1	-53	-28	-79	-42
											Average RPD (absolute values)	**14.5**

Table A-11. Field duplicate results for the 2025 phytoplankton samples.

Metric	Month & DUP	Station	Date	Sample	Major Taxa							TOTAL
					Cyanophytes	Chlorophytes	Euglenophytes	Chrysophytes	Diatom	Cryptophytes	Dinoflagellates	
Phytoplankton Density (cells/L)	July DUP-1	MEL-02-05	19-Jul-25	Sample	0	50288	0	3842856	1913152	36936	3600	5846832
				Duplicate	0	51888	0	2672664	1143432	104192	2400	3974576
				RPD (%)	<DL	-3	<DL	36	50	-95	40	38
	July DUP-2	MEL-01-06	12-Jul-25	Sample	0	93792	0	1974616	765912	97008	6400	2937728
				Duplicate	0	28736	0	1694240	649736	58288	1800	2432800
				RPD (%)	<DL	106	<DL	15	16	50	112	19
	Aug DUP-1	MEL-03-04	16-Aug-25	Sample	0	188984	0	1351192	218952	152480	4800	1916408
				Duplicate	0	232888	0	970440	104408	91208	4400	1403344
				RPD (%)	<DL	-21	<DL	33	71	50	9	31
	Aug DUP-2	MEL-01-01	12-Aug-25	Sample	0	560952	0	2007536	297936	98992	3800	2969216
				Duplicate	400	237272	0	1226480	309936	177816	1600	1953504
				RPD (%)	<DL	81	<DL	48	-4	-57	81	41
	Aug DUP-3	MEL-05-02	17-Aug-25	Sample	0	289560	0	2471296	116992	39120	800	2917768
				Duplicate	200	346832	0	495896	159096	67056	1200	1070280
				RPD (%)	<DL	-18	<DL	133	-31	-53	-40	**93**
	Sept DUP-1	MEL-03-05	9-Sep-25	Sample	200	432440	0	1086784	112824	7984	1000	1641232
				Duplicate	201352	160248	0	929336	159712	87208	2200	1540056
				RPD (%)	-200	92	<DL	16	-34	-166	-75	6
	Sept DUP-2	MEL-01-08	8-Sep-25	Sample	59272	360200	0	1606248	197640	107576	5000	2335936
				Duplicate	2200	274592	0	1954080	486976	173432	7400	2898680
				RPD (%)	186	27	<DL	-20	-85	-47	-39	-22
											Average RPD (absolute values)	**29.5**

Notes:

RPD = Relative Percent Difference (%) = ((original - duplicate) / (original + duplicate)/2) x 100.

Bolded RPD values exceed 50%.

RPDs were not calculated for cases where one or both of the samples is "0".

Table A-12. Laboratory duplicate results for the 2025 phytoplankton samples.

Metric	Month	Lab Dup	Date	Sample	Major Taxa							TOTAL
					Cyanophytes	Chlorophytes	Euglenophytes	Chrysophytes	Diatom	Cryptophytes	Dinoflagellates	
Phytoplankton Biomass (mg/m^3)	July	MEL-01-08	12-Jul-24	Sample	0	0	0	358	96	53	40	547
				Duplicate	0.0	0.14	0.0	340	89	53	26	509
				RPD (%)	<DL	<DL	<DL	5	7	-1	42	7
	July	MEL-03-05	18-Jul-24	Sample	0.1	12	0	193	71	24	37	337
				Duplicate	0.3	9	0	198	65	28	33	334
				RPD (%)	-100	27	<DL	-2	9	-18	10	1
	August	MEL-01-09	12-Aug-24	Sample	13	20	0	188	104	28	23	377
				Duplicate	9	22	0	199	92	35	32	389
				RPD (%)	35	-9	<DL	-6	12	-20	-33	-3
	August	MEL-03-05	16-Aug-24	Sample	0	20	0	117	27	31	14	209
				Duplicate	0	19	0	125	28	33	23	227
				RPD (%)	<DL	2	<DL	-6	-4	-7	-47	-9
	August	MEL-04-03	17-Aug-24	Sample	0.10	14	0	41	49	9	14	126
				Duplicate	0.30	11	0	38	50	9	17	127
				RPD (%)	-100	18	<DL	6	-3	-8	-20	-1
	September	MEL-01-08	8-Sep-24	Sample	2.8	12	0	134	245	25	32	451
				Duplicate	0.9	12	0	150	249	30	80	521
				RPD (%)	103	4	<DL	-11	-2	-17	-86	-14
	September	MEL-02-05	10-Sep-24	Sample	0.4	14	0	119	72	6	22	233
				Duplicate	0.3	8	0	125	62	11	26	231
				RPD (%)	29	63	<DL	-5	14	-63	-17	1
											Average RPD (absolute values)	**-2.6**

Table A-12. Laboratory duplicate results for the 2025 phytoplankton samples.

Metric	Month	Lab Dup	Date	Sample	Major Taxa							TOTAL
					Cyanophytes	Chlorophytes	Euglenophytes	Chrysophytes	Diatom	Cryptophytes	Dinoflagellates	
Phytoplankton Density (cells/L)	July	MEL-01-08	12-Jul-24	Sample	0	0	0	3133640	818616	121576	4200	4078032
				Duplicate	0	7184	0	3020696	760960	102024	3400	3894264
				RPD (%)	<DL	<DL	<DL	4	7	17	21	5
	July	MEL-03-05	18-Jul-24	Sample	200	87808	0	1757296	677160	118744	3400	2644608
				Duplicate	600	101776	0	1950864	533496	169432	3600	2759768
				RPD (%)	-100	-15	<DL	-10	24	-35	-6	-4
	August	MEL-01-09	12-Aug-24	Sample	159248	762304	0	2153016	199712	155864	3400	3433544
				Duplicate	202352	791440	0	2360352	204912	144896	3600	3707552
				RPD (%)	-24	-4	<DL	-9	-3	7	-6	-8
	August	MEL-03-05	16-Aug-24	Sample	0	274992	0	1573496	175832	157464	3000	2184784
				Duplicate	0	247456	0	1544560	246272	145296	4200	2187784
				RPD (%)	<DL	11	<DL	2	-33	8	-33	0
	August	MEL-04-03	17-Aug-24	Sample	200	598472	0	639376	134144	24952	1000	1398144
				Duplicate	600	477144	0	732768	213768	38720	800	1463800
				RPD (%)	-100	23	<DL	-14	-46	-43	22	-5
	September	MEL-01-08	8-Sep-24	Sample	59272	360200	0	1606248	197640	107576	5000	2335936
				Duplicate	1800	496496	0	1580112	201824	156864	5800	2442896
				RPD (%)	188	-32	<DL	2	-2	-37	-15	-4
	September	MEL-02-05	10-Sep-24	Sample	800	145080	0	1402496	106488	9584	4000	1668448
				Duplicate	600	79624	0	1576312	93320	18968	4600	1773424
				RPD (%)	29	58	<DL	-12	13	-66	-14	-6
											Average RPD (absolute values)	**-3.2**

Notes:

RPD = Relative Percent Difference (%) = ((original - duplicate) / (original + duplicate)/2) x 100.

Bolded RPD values exceed 25%.

RPDs were not calculated for cases where one or both of the samples is "0".

Table A-13. Field duplicate results for the 2025 chlorophyll-a samples

Month & DUP	Station	Chlorophyll-a (µg/L)		RPD
		Sample	Duplicate	
July DUP-1	MEL-02-05	1.28	1.11	14.2
July DUP-2	MEL-01-06	2.64	3.25	-20.7
Aug DUP-2	MEL-01-01	2.92	2.02	36.4
Aug DUP-3	MEL-05-02	<0.04	<0.04	<DL
Sept DUP-1	MEL-03-05	0.39	0.22	**55.7**
Sept DUP-2	MEL-01-08	2.32	2.55	-9.4

Notes:

RPD = Relative Percent Difference (%) = ((original - duplicate) / (original + duplicate)/2) x 100.

Bolded RPD values exceed 50%.

RPDs were not calculated for cases where one or both of the samples is "0".

A.4 REFERENCES

Azimuth. 2025a. Aquatic Effects Monitoring Program Design Plan – Meliadine Mine. Version 3_NWB. February 7, 2025.

British Columbia Ministry of Environment and Climate Change Strategy (BC ENV). 2024. British Columbia Field Sampling Manual, Part E1: Surface Water. Province of British Columbia.

Canadian Council of Ministers of the Environment (CCME). 2016. Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health Risk Assessment. PN 1557.

Environment Canada. 2012. Laboratory methods: processing, taxonomy, and quality control of benthic macroinvertebrate samples. Canadian Aquatic Biomonitoring Network. April 2012.

APPENDIX B
SOURCE CHARACTERIZATION – SUPPORTING INFORMATION

Appendix B1
CP1 Discharge Volumes, MEL-14 Effluent Quality Results, and SNOCOR Chemistry Results from 2025

APPENDIX B1 – TABLES

Table B1-1. Daily discharge (m^3) from the Effluent Water Treatment Plant in 2025. 1
Table B1-2. Lake A8 dewatering summary, 2025. 1
Table B1-3. Effluent chemistry and toxicity test results from MEL-14 samples in 2025. 2
Table B1-4. Snow core chemistry results, April 3, 2025. 5

Table B1-1. Daily discharge (m^3) from the Effluent Water Treatment Plant in 2025.

Calendar Day	June	July	August	September	October
	Volume (m^3)	Volume (m^3)	Volume (m^3)	Volume (m^3)	Volume (m^3)
1		20,668	9,833	5,279	5,172
2		18,651	10,075	4,115	5,069
3		2,285	10,010	1,378	5,012
4		17,776	10,067	997	7,694
5		17,677	6,718	416	12,666
6		17,667	5,097	448	12,165
7		17,781	5,233	432	7,847
8		16,747	5,274	873	
9		17,796	5,278	872	15,389
10		17,793	5,340	413	1,944
11		17,102	5,345	456	
12	8,335	12,870	5,258	421	
13	15,448	17,502	3,010	447	
14	13,046	17,797	8,023	408	
15	17,176	15,309	5,392	1,393	
16	16,147	9,796	5,133	419	
17	8,478	9,942	9,087	453	
18	14,055	9,238	14,237	426	
19	19,486	9,944	11,075	461	
20	19,957	9,931	9,133	414	
21	20,178	9,662	19,491	18	
22	20,094	9,717	19,492	1,125	
23	20,107	9,944	19,388	5,082	
24	20,168	9,946	19,114	5,105	
25	19,039	9,764	19,490	6,959	
26	14,439	9,944	19,004	9,961	
27	19,868	9,972	20,205	9,962	
28	18,856	9,954	13,592	8,191	
29	20,603	9,954	5,259	5,030	
30	20,572	10,038	5,433	5,070	
31	-	10,067	5,491	-	
Total	**326,052**	**403,234**	**314,577**	**77,024**	**72,958**

Total Volume (m^3) Discharged to Meliadine Lake in 2025	**1,193,845**

Table B1-2. Lake A8 dewatering summary, 2025.

Calendar Day	June		July		August	
	A8 to CP1	A8 to MEL	A8 to CP1	A8 to MEL	A8 to CP1	A8 to MEL
	Volume (m^3)	Volume (m^3)	Volume (m^3)	Volume (m^3)	Volume (m^3)	Volume (m^3)
1			0	0	3,600	26,256
2			2,000	7,000	3,600	25,848
3			0	20,784	3,600	12,168
4			0	29,688	3,600	0
5			0	33,768	3,600	0
6			0	33,648	18,840	0
7			0	33,280	24,935	8,785
8			0	33,480	3,600	29,520
9			1,275	33,096	2,250	29,040
10	0	0	3,600	32,544	3,600	28,800
11	11,200	11,900	3,600	32,160	2,250	28,272
12	0	33,600	3,600	31,680	0	28,080
13	0	27,114	3,600	32,208	0	28,224
14	0	33,312	0	31,848	0	25,680
15	0	33,432	3,600	31,464	0	13,920
16	0	33,504	3,600	28,622	0	13,704
17	0	33,504	3,450	31,272	7,910	5,650
18	0	33,528	3,600	31,032	13,711	0
19	0	14,935	3,600	31,176	13,489	287
20	0	0	3,600	18,200	0	13,128
21	0	0	3,600	0	0	13,824
22	0	0	3,600	0	0	10,443
23	0	0	3,600	0	0	0
24	0	0	3,600	0	0	0
25	0	0	3,600	0	0	0
26	0	0	3,600	0	4,399	0
27	0	0	5,812	24,332	4,368	0
28	0	0	3,600	26,544	0	0
29	0	0	3,600	25,992	4,833	0
30	0	0	0	26,280	5,478	0
31			1,800	26,160	0	0
Total	**11,200**	**254,829**	**75,537**	**686,258**	**127,663**	**341,629**

Total Volume (m^3) pumped from Lake A8 to Meliadine Lake	**1,282,716**
Total Volume (m^3) pumped from Lake A8 to CP1 for treatment	**214,400**

Table B1-3. Effluent chemistry and toxicity test results from MEL-14 samples in 2025.

	Parameter	Units	Limits (Grab Samples)		June				July					August				September					October
			WL	MDMER	Jun-14	Jun-16	Jun-23	Jun-30	Jul-7	Jul-14	Jul-21	Jul-28	Jul-29	Aug-4	Aug-11	Aug-18	Aug-25	Sep-1	Sep-8	Sep-15	Sep-22	Sep-28	Oct-6
Field Measurements	DO (%)	%	-	-	129	114	91.7	111	80.4	79.8	95.5	97.6	112	74.1	88.9	103	111	74.9	106	134	88.4	102	126
	DO (mg/L)	mg/L	-	-	14.5	13.1	9.83	10.7	7.99	8.3	10.2	10.1	12.3	7.53	10	10.4	11.4	8.25	12.2	14.6	9.59	11.9	15.5
	pH (field)	pH units	6 | 9.5	6 | 9.5	7.2	7.47	7.64	7.28	7.56	7.09	7.32	8.07	7.68	7.51	7.09	8.24	7.66	7.37	7.7	7.62	7.41	8.01	6.99
	Sp. Conductivity (field)	uS/cm	-	-	1130	1180	1180	1190	1550	1450	1450	1290	1290	1920	1460	1660	1730	1200	2360	2370	2480	2530	3220
	Temperature	C	-	-	9.9	9	12.1	16.7	15.5	13.3	12.4	13.8	10.9	14.4	9.9	14.6	13.6	10.8	8.7	11.2	11.4	8.1	7.58
	Turbidity (field)	NTU	-	-	1.18	1.5	-	1.27	1.62	1.45	1.65	1.52	1.46	2.17	1.15	1.59	1.08	1.17	1.3	1.86	1.68	1.35	6.99
Conventional Parameters	Conductivity (lab)	uS/cm	-	-	1190	1190	1200	1210	1300	1510	1480	1280	1300	1960	1430	1660	1700	1720	2380	2390	2450	2440	3180
	Hardness (D)	mg/L	-	-	241	244	245	253	272	300	278	256	278	399	301	330	370	352	526	493	552	532	691
	Hardness (T)	mg/L	-	-	249	241	244	266	285	305	283	262	280	412	345	335	346	370	450	502	573	565	696
	pH (lab)	pH units	-	-	7.35	7.38	7.55	7.55	7.7	7.65	7.75	7.84	7.73	7.82	7.69	7.84	7.63	7.67	7.78	7.54	7.91	7.81	7.74
	Salinity	-	-	-	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*
	Total Dissolved Solids	mg/L	4500	-	735	740	655	735	785	895	960	805	850	1250	915	955	1050	1050	1390	1470	1490	1630	2000
	TDS (Calculated)	mg/L	-	-	640	640	670	660	740	820	820	710	720	1100	780	930	950	970	1400	1400	1400	1500	1900
	Total Suspended Solids	mg/L	30	30	3	3	3	4	4	4	5	4	4	4	5	8	4	3	3	5	6	4	6
	Turbidity (lab)	NTU	-	-	0.5	1	0.9	0.8	0.8	1	0.9	1.1	0.9	1	0.7	1.5	0.6	0.9	0.6	1.1	0.9	0.5	1.4
Major Ions	Alkalinity, Bicarbonate	mg/L	-	-	30	31	45	42	63	68	67	71	71	74	68	68	66	70	87	87	86	82	100
	Alkalinity, Carbonate	mg/L	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Total	mg/L	-	-	30	31	45	42	64	68	67	72	71	74	69	69	67	70	87	87	87	83	100
	Calcium (D)	mg/L	-	-	65.7	66.1	68.3	69.1	73.5	80.9	74.7	71.4	78	107	82.6	94	93.9	93	137	125	141	130	178
	Calcium (T)	mg/L	-	-	67.3	65.2	66.9	69.8	75.9	80.6	76.1	72.7	78.7	110	91	88.1	86.7	97.4	108	124	150	138	179
	Chloride	mg/L	-	-	240	240	240	250	270	300	310	250	260	430	290	360	370	380	520	530	570	590	720
	Fluoride	mg/L	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	0.11	0.1	0.1	0.1	*<0.1*
	Magnesium (D)	mg/L	-	-	18.6	19.1	18.1	19.6	21.5	23.9	22.2	18.8	20.2	32.2	23.1	29	32.8	29.1	44.6	43.7	48.3	50.3	60
	Magnesium (T)	mg/L	-	-	19.7	19	18.7	22.3	23.2	25.3	22.6	19.6	20.3	33.4	28.7	27.8	31.5	30.8	43.7	47	48.3	53.7	60.7
	Potassium (D)	mg/L	-	-	10.7	10.7	10.4	11.2	12.2	13.2	12.9	11.3	11.6	19	12.4	16	17.4	15.9	23.6	21.2	22.5	23.6	25.3
	Potassium (T)	mg/L	-	-	10.8	10.4	10.5	11.1	12.6	13.3	12.4	11.7	11.5	18	13.2	14.4	16.3	16.1	20.9	21.8	24.4	24.6	25
	Reactive Silica (SiO2)	mg/L	-	-	1.2	1.1	*<0.05*	0.053	0.43	0.54	0.36	0.31	0.45	0.65	0.25	0.26	0.3	0.41	0.53	0.2	0.14	0.4	1.7
	Sodium (D)	mg/L	-	-	112	113	104	115	136	155	151	124	123	201	132	170	156	172	278	264	296	314	337
	Sodium (T)	mg/L	-	-	114	110	107	133	148	158	145	124	123	202	157	164	144	177	238	289	298	330	345
	Sulphate	mg/L	-	-	140	140	140	140	150	170	160	140	140	230	150	190	200	190	270	270	260	290	400
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	18	-	*<0.05*	*<0.05*	0.19	0.11	0.38	0.36	0.11	0.099	0.15	0.48	*<0.05*	0.11	0.14	0.054	0.86	0.31	0.11	0.059	1.8
	Nitrate (as N)	mg/L	-	-	6.59	7.2	6.47	6.02	5.48	7.08	6.36	4.69	4.79	8.67	4.85	5.95	5.7	5.38	8.73	10.1	9.47	10	12.8
	Nitrate + Nitrite (as N)	mg/L	-	-	6.69	7.31	6.59	6.15	5.64	7.3	6.45	4.77	4.87	8.88	4.9	6.03	5.8	5.43	8.94	10.3	9.53	10.1	13.1
	Nitrite (as N)	mg/L	-	-	0.1	0.113	0.117	0.13	0.155	0.225	0.094	0.076	0.073	0.212	0.056	0.078	0.102	0.046	0.208	0.184	0.066	0.039	0.215
	Orthophosphate (PO4-P)	mg/L	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	0.012	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	0.012	0.012	*<0.01*	*<0.01*
	Total Kjeldahl Nitrogen	mg/L	-	-	0.71	0.76	0.85	0.45	0.88	0.58	0.79	0.46	0.91	0.55	0.4	0.34	0.58	0.47	0.75	0.98	0.7	0.98	3.2
	Total Phosphorus	mg/L	4	-	*<0.02*	0.023	*<0.02*	0.021	0.024	0.026	0.033	0.029	0.032	0.026	*<0.02*	0.037	0.031	0.025	*<0.02*	0.049	0.032	*<0.02*	0.032
	NH_3 (calculated)	mg/L	-	1	*<0.0004*	*<0.0004*	0.0018	0.0006	0.0038	0.0011	0.0005	*<0.0004*	0.0013	0.004	*<0.0004*	0.0049	*<0.0004*	*<0.0004*	0.0071	0.0026	0.0006	0.001	0.0086
	Dissolved Organic Carbon	mg/L	-	-	3.3	3.2	3.7	4	4.4	5	4.9	5.5	5.3	6.3	5.5	6.4	6.4	6.7	7.7	8.4	8.5	8.5	10
	Total Organic Carbon	mg/L	-	-	3.7	3.7	4.2	4.5	5	5.3	5.4	6	5.8	6.3	6.2	7.5	7.1	7.1	8.2	9	9.3	9.3	11
Total Metals	Aluminum (T)	mg/L	3	-	0.48	0.454	0.531	0.854	0.628	0.61	0.739	0.69	0.54	0.611	0.812	1.26	1.04	0.46	0.553	0.72	1.09	0.72	0.814
	Antimony (T)	mg/L	-	-	0.00076	0.00071	0.00088	0.00101	0.00118	0.00119	0.00118	0.00113	0.00094	0.00154	0.00111	0.00128	0.00118	0.00118	0.00126	0.00143	0.00134	0.00135	0.0016
	Arsenic (T)	mg/L	0.6	0.6	0.00551	0.00587	0.00876	0.00793	0.0111	0.00998	0.00721	0.0118	0.00849	0.0104	0.00909	0.0135	0.0108	0.00717	0.00775	0.00892	0.0125	0.00761	0.00962
	Barium (T)	mg/L	-	-	0.0197	0.0186	0.0224	0.0249	0.0297	0.0317	0.0291	0.0298	0.029	0.0395	0.0356	0.0369	0.0349	0.0394	0.0402	0.0474	0.0504	0.0461	0.0534
	Beryllium (T)	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*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0002*
	Boron (T)	mg/L	-	-	0.112	0.112	0.098	0.123	0.146	0.174	0.148	0.133	0.118	0.173	0.156	0.18	0.14	0.17	0.203	0.217	0.241	0.217	0.25
	Cadmium (T)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	0.000011	0.000012	*<0.00001*	0.000016	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	0.000013	*<0.00001*	*<0.00001*	*<0.00002*
	Chromium (T)	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*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.002*
	Cobalt (T)	mg/L	-	-	0.00103	0.00101	0.00106	0.00109	0.0013	0.00118	0.00095	0.00085	0.00096	0.00128	0.00067	0.0007	0.00059	0.00064	0.00082	0.0008	0.0008	0.00083	0.00145

Table B1-3. Effluent chemistry and toxicity test results from MEL-14 samples in 2025.

	Parameter	Units	Limits (Grab Samples)		June				July					August				September					October
			WL	MDMER	Jun-14	Jun-16	Jun-23	Jun-30	Jul-7	Jul-14	Jul-21	Jul-28	Jul-29	Aug-4	Aug-11	Aug-18	Aug-25	Sep-1	Sep-8	Sep-15	Sep-22	Sep-28	Oct-6
Total Metals	Copper (T)	mg/L	0.4	0.6	0.00148	0.00142	0.00175	0.00197	0.00249	0.00239	0.0021	0.0021	0.00216	0.00237	0.00179	0.00223	0.00212	0.00226	0.00219	0.00253	0.00264	0.00297	0.0026
	Iron (T)	mg/L	-	-	0.029	0.023	0.026	0.02	0.027	0.036	0.027	0.029	0.026	0.027	0.022	0.035	0.025	0.045	0.027	0.048	0.05	0.02	0.06
	Lead (T)	mg/L	0.2	2	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0004*
	Lithium (T)	mg/L	-	-	0.0123	0.0121	0.0115	0.0134	0.0145	0.0153	0.0147	0.0148	0.0129	0.0178	0.0179	0.0176	0.0162	0.0214	0.0196	0.0216	0.0242	0.0242	0.0256
	Manganese (T)	mg/L	-	-	0.0586	0.0519	0.0264	0.0151	0.0535	0.0727	0.0353	0.0281	0.0403	0.0288	0.0215	0.0193	0.019	0.0358	0.0547	0.0597	0.0332	0.0258	0.118
	Mercury (T)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*
	Molybdenum (T)	mg/L	-	-	0.0038	0.0037	0.004	0.0046	0.0054	0.0052	0.0052	0.0049	0.0043	0.006	0.0039	0.0045	0.0042	0.005	0.0051	0.0059	0.0057	0.006	0.006
	Nickel (T)	mg/L	1	1	0.0035	0.0033	0.0037	0.0036	0.0046	0.0039	0.0031	0.003	0.0036	0.0059	0.004	0.0037	0.0037	0.0038	0.0053	0.005	0.0057	0.0054	0.0092
	Selenium (T)	mg/L	-	-	0.00038	0.00041	0.0004	0.00045	0.00061	0.00069	0.00056	0.00053	0.00052	0.00085	0.00056	0.00052	0.00056	0.00049	0.00068	0.00075	0.00069	0.00074	0.00098
	Silver (T)	mg/L	-	-	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00004*
	Strontium (T)	mg/L	-	-	0.709	0.689	0.729	0.722	0.863	0.848	0.714	0.756	0.74	1.09	0.944	0.964	0.869	1.07	1.04	1.25	1.41	1.46	1.58
	Thallium (T)	mg/L	-	-	*<0.00001*	*<0.00001*	0.00001	0.000013	0.000013	0.000015	0.000012	0.000013	0.000011	0.000019	0.000014	0.000014	0.000015	*<0.00001*	*<0.00001*	*<0.00001*	0.000014	0.000014	*<0.00002*
	Tin (T)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
	Titanium (T)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
	Uranium (T)	mg/L	-	-	0.0002	0.00019	0.00062	0.0006	0.00124	0.00123	0.00099	0.00161	0.00134	0.00259	0.00165	0.00223	0.002	0.00145	0.0029	0.0034	0.00463	0.00363	0.00587
	Vanadium (T)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
	Zinc (T)	mg/L	0.8	1	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	0.0125	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
Dissolved Metals	Aluminum (D)	mg/L	-	-	0.0785	0.0911	0.202	0.24	0.199	0.162	0.0928	0.203	0.172	0.247	0.149	0.408	0.27	0.106	0.176	0.162	0.16	0.178	0.178
	Antimony (D)	mg/L	-	-	0.00075	0.00078	0.00087	0.00096	0.00111	0.00116	0.00114	0.00104	0.00104	0.00172	0.00106	0.00124	0.00121	0.00118	0.00147	0.00132	0.0012	0.00131	0.0016
	Arsenic (D)	mg/L	-	-	0.00382	0.00464	0.00705	0.00485	0.00635	0.00588	0.00357	0.00662	0.00538	0.00689	0.00506	0.00772	0.00715	0.00507	0.0317	0.00548	0.00638	0.00499	0.00547
	Barium (D)	mg/L	-	-	0.0183	0.0176	0.0213	0.0239	0.0276	0.034	0.0305	0.0291	0.0315	0.0402	0.0344	0.0355	0.0382	0.0387	0.0457	0.0442	0.0467	0.044	0.0522
	Beryllium (D)	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*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0001*	*<0.0002*
	Boron (D)	mg/L	-	-	0.111	0.118	0.106	0.109	0.139	0.145	0.162	0.133	0.139	0.188	0.134	0.156	0.136	0.162	0.205	0.22	0.237	0.2	0.24
	Cadmium (D)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	0.000013	*<0.00001*	*<0.00001*	*<0.00001*	0.000026	0.000014	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	0.000011	*<0.00001*	*<0.00001*	0.00001	0.00002
	Chromium (D)	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*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.002*
	Cobalt (D)	mg/L	-	-	0.00102	0.00106	0.00111	0.00103	0.00119	0.00126	0.00092	0.0008	0.00093	0.00126	0.00061	0.00073	0.00062	0.00057	0.00339	0.00078	0.00074	0.0008	0.00147
	Copper (D)	mg/L	-	-	0.00144	0.00149	0.00182	0.00171	0.0021	0.00235	0.00196	0.00198	0.00211	0.00234	0.00133	0.00202	0.00224	0.00215	0.00315	0.00225	0.00222	0.00284	0.00275
	Iron (D)	mg/L	-	-	0.0129	0.0094	*<0.005*	0.0073	*<0.005*	0.0072	*<0.005*	0.0073	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	0.0061	0.0087	0.0052	*<0.005*	*<0.005*	*<0.01*
	Lead (D)	mg/L	-	-	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0004*
	Lithium (D)	mg/L	-	-	0.0132	0.0131	0.0113	0.012	0.0132	0.0148	0.0152	0.0146	0.0154	0.0192	0.0152	0.0171	0.0172	0.0204	0.0213	0.0222	0.0232	0.0216	0.0243
	Manganese (D)	mg/L	-	-	0.052	0.0474	0.0176	0.0087	0.0468	0.0703	0.0332	0.0195	0.0347	0.0171	0.0154	0.0155	0.0176	0.0329	0.0621	0.0512	0.0272	0.0237	0.121
	Mercury (D)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*	*<0.00001*
	Molybdenum (D)	mg/L	-	-	0.0039	0.0039	0.0041	0.0044	0.0049	0.0053	0.0049	0.0047	0.0046	0.0059	0.0039	0.0046	0.0045	0.0045	0.0077	0.0057	0.0052	0.0058	0.0061
	Nickel (D)	mg/L	-	-	0.0036	0.0034	0.0037	0.0033	0.0042	0.004	0.0031	0.0027	0.0033	0.0057	0.0036	0.0037	0.0036	0.0037	0.0059	0.0048	0.005	0.0052	0.0094
	Selenium (D)	mg/L	-	-	0.00038	0.00039	0.00042	0.00044	0.00061	0.00075	0.00059	0.00048	0.0006	0.00091	0.0005	0.00056	0.00057	0.00046	0.00272	0.00068	0.00066	0.00072	0.001
	Silver (D)	mg/L	-	-	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00002*	0.00004	*<0.00002*	*<0.00002*	*<0.00002*	*<0.00004*
	Strontium (D)	mg/L	-	-	0.669	0.684	0.736	0.79	0.776	0.77	0.744	0.729	0.727	1.17	0.819	0.944	0.961	1.04	1.27	1.19	1.26	1.41	1.59
	Thallium (D)	mg/L	-	-	*<0.00001*	*<0.00001*	*<0.00001*	0.000012	0.000013	0.000013	0.000014	0.000013	0.000013	0.000019	*<0.00001*	0.000013	0.000015	*<0.00001*	0.000013	*<0.00001*	0.000012	0.000012	*<0.00002*
	Tin (D)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
	Titanium (D)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
	Uranium (D)	mg/L	-	-	*<0.0001*	*<0.0001*	0.00053	0.00046	0.001	0.00099	0.00067	0.0015	0.00134	0.00241	0.00134	0.00178	0.00186	0.00117	0.00344	0.00335	0.00387	0.00319	0.00556
	Vanadium (D)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*
	Zinc (D)	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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.01*

Table B1-3. Effluent chemistry and toxicity test results from MEL-14 samples in 2025.

	Parameter	Units	Limits (Grab Samples)		June				July					August				September					October
			WL	MDMER	Jun-14	Jun-16	Jun-23	Jun-30	Jul-7	Jul-14	Jul-21	Jul-28	Jul-29	Aug-4	Aug-11	Aug-18	Aug-25	Sep-1	Sep-8	Sep-15	Sep-22	Sep-28	Oct-6
Hydrocarbons	F1 (C6-C10)	mg/L	-	-	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*
	F1 (C6-C10)-BTEX	mg/L	-	-	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*	*<0.025*
	F2 (C10-C16)	mg/L	-	-	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*	*<0.09*
	F3 (C16-C34)	mg/L	-	-	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*
	F4 (C34-C50)	mg/L	-	-	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*
Volatile Organics	Benzene	mg/L	-	-	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*
	Ethylbenzene	mg/L	-	-	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*
	m,p-Xylenes	mg/L	-	-	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*
	o-Xylene	mg/L	-	-	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*
	Toluene	mg/L	-	-	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*	*<0.0002*
	Xylenes	mg/L	-	-	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*	*<0.0004*
Cyanide and Radium	Cyanide (free)	mg/L	-	-	0.00369	0.00312	0.00191	0.00137	0.00154	0.00127	0.00108	0.00072	0.0013	0.00235	0.00098	0.00099	0.00111	0.00052	0.00114	0.00098	0.00096	0.00117	0.00199
	Cyanide (Total)	mg/L	1	1	0.00512	0.00417	0.00241	0.00155	0.00185	0.00141	0.001	0.00071	0.00097	0.00202	0.00087	0.00109	0.00107	0.00102	0.00124	0.00096	0.00088	0.00121	0.00264
	Cyanide (WAD)	mg/L	-	-	0.0037	0.0029	0.0017	0.0013	0.0015	0.0012	0.00099	0.0005	0.0013	0.0017	0.00094	0.0011	0.00072	*<0.0005*	0.0011	0.00066	0.00073	0.0011	0.0019
	Radium-226	Bq/l	-	1.11	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	0.006	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	0.01
Toxicity Tests	Rainbow Trout survival	96-hr LC50	-	-	-	>100	-	-	>100	-	-	-	-	>100	-	-	-	>100	-	-	-	-	>100
	D. magna survival	48-hr LC50	-	-	-	>100	-	-	>100	-	-	-	-	>100	-	-	-	>100	-	-	-	-	>100
	L. minor biomass	IC25	-	-	-	>97	-	-	>97	-	-	-	-	-	-	-	-	-	-	-	-	-	>97
	L. minor frond number	IC25	-	-	-	>97	-	-	>97	-	-	-	-	-	-	-	-	-	-	-	-	-	>97

Notes:

Italicized numbers are less than the DL

[a] Limits in the Water Licence are equal to the Maximum Monthly Mean and Maximum Grab concentration in the Metal and Diamond Mining Effluent Regulations (Schedule 4; Table 2)

[b] LC50 = the concentration that causes a 50% reduction in survival.

[c] IC25 = the concentration that causes a 25% reduction in endpoints for the *L. minor* test; 95% confidence intervals in parentheses.

Table B1-4. Snow core chemistry results, April 3, 2025.

Parameter	Units	Background (NE of Lake B5)	South of Tiriganiaq Pits 1 and 2	South of Exploration	East of Lake E3	North of Main Camp
		SNOCOR 6	SNOCOR 4	SNOCOR 5	SNOCOR 7	SNOCOR Boundary
Conventional Parameters						
Total Dissolved Solids	mg/L	15	**35**	10	20	15
Hardness (D)	mg/L	2.52	**8.44**	1.55	3.68	1.66
pH (lab)	pH	6.68	7.45	6.43	6.55	6.32
Total Suspended Solids	mg/L	44	**170**	23	52	31
Turbidity	NTU	2.7	**12**	0.8	3.4	2.1
Alkalinity, Total	mg/L	2.9	**13**	1.9	2.5	1.5
Alkalinity, Bicarbonate	mg/L	2.9	**13**	1.9	2.5	1.5
Alkalinity, Carbonate	mg/L	*< 1*	*< 1*	*< 1*	*< 1*	*< 1*
Major Ions						
Calcium (D)	mg/L	0.816	**2.95**	0.496	0.977	0.506
Calcium (T)	mg/L	1.5	**5.94**	0.68	1.8	0.68
Magnesium (D)	mg/L	0.118	**0.26**	0.075	**0.3**	0.097
Magnesium (T)	mg/L	0.45	**1.67**	*< 0.25*	0.69	*< 0.25*
Potassium (D)	mg/L	0.052	**0.128**	*< 0.05*	**0.147**	0.063
Potassium (T)	mg/L	*< 0.25*	0.38	*< 0.25*	0.27	*< 0.25*
Sodium (D)	mg/L	0.642	**1.31**	0.397	**2.29**	0.459
Sodium (T)	mg/L	0.66	**1.35**	0.36	**2.08**	0.46
Chloride	mg/L	1.3	2.5	*< 1*	**4.5**	1
Sulphate	mg/L	*< 0.5*	0.76	*< 0.5*	0.75	*< 0.5*
Organic Carbon						
Dissolved Organic Carbon	mg/L	0.56	**1.4**	**1.5**	**1.6**	**1.2**
Total Organic Carbon	mg/L	0.49	0.72	0.81	**1.4**	**1**
Metals						
Aluminum (D)	µg/L	5.49	**24.6**	5.39	6.3	5.73
Aluminum (T)	µg/L	599	**2340**	209	750	259
Antimony (D)	µg/L	*< 0.02*	0.049	*< 0.02*	0.024	*< 0.02*
Antimony (T)	µg/L	0.046	**0.156**	0.042	0.048	0.043
Arsenic (D)	µg/L	2.1	**6.54**	1.04	**5.5**	3.93
Arsenic (T)	µg/L	60.5	**170**	4.68	42	19.9
Barium (D)	µg/L	0.58	0.762	0.748	**1.27**	0.656
Barium (T)	µg/L	3.76	**11.9**	1.89	6.49	2.38
Beryllium (D)	µg/L	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Beryllium (T)	µg/L	0.016	**0.033**	*< 0.01*	0.014	0.01
Boron (D)	µg/L	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*
Boron (T)	µg/L	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*
Cadmium (D)	µg/L	0.0059	*< 0.005*	*< 0.005*	0.0062	*< 0.005*
Cadmium (T)	µg/L	0.0138	**0.0466**	0.008	0.0234	0.0087
Chromium (D)	µg/L	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Chromium (T)	µg/L	1.63	**6.08**	0.66	1.63	0.65
Cobalt (D)	µg/L	0.0174	**0.0406**	0.0157	0.0292	0.0173
Cobalt (T)	µg/L	0.302	**1.49**	0.104	0.326	0.107
Copper (D)	µg/L	0.166	0.253	0.182	**0.467**	0.187
Copper (T)	µg/L	1.18	**3.85**	0.61	2.25	0.78
Iron (D)	mg/L	0.0097	0.009	0.0092	**0.0231**	0.0136
Iron (T)	mg/L	1.94	**6.23**	0.514	2.61	0.769
Lead (D)	µg/L	0.0524	0.0753	0.0846	**0.139**	0.0925
Lead (T)	µg/L	5.44	**17.3**	0.897	**11.1**	1.88
Lithium (D)	µg/L	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
Lithium (T)	µg/L	0.59	**2.74**	*< 0.5*	0.86	*< 0.5*
Manganese (D)	µg/L	7.2	**21.8**	7.07	8.94	6.49
Manganese (T)	µg/L	23.7	**96**	13.2	34.5	11.7
Molybdenum (D)	µg/L	*< 0.05*	0.079	*< 0.05*	*< 0.05*	*< 0.05*
Molybdenum (T)	µg/L	*< 0.05*	0.174	*< 0.05*	0.063	*< 0.05*
Nickel (D)	µg/L	0.094	**0.215**	0.087	0.086	0.056
Nickel (T)	µg/L	1.07	**5.11**	0.47	1.21	0.38
Selenium (D)	µg/L	*< 0.04*	0.04	*< 0.04*	0.054	*< 0.04*
Selenium (T)	µg/L	*< 0.04*	0.05	*< 0.04*	0.056	*< 0.04*

Table B1-4. Snow core chemistry results, April 3, 2025.

Parameter	Units	Background (NE of Lake B5)	South of Tiriganiaq Pits 1 and 2	South of Exploration	East of Lake E3	North of Main Camp
		SNOCOR 6	SNOCOR 4	SNOCOR 5	SNOCOR 7	SNOCOR Boundary
Silver (D)	µg/L	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
Silver (T)	µg/L	0.015	***0.088***	*< 0.01*	0.029	*< 0.01*
Strontium (D)	µg/L	3.46	**9.76**	1.77	4.67	2.35
Strontium (T)	µg/L	7.19	**22**	2.65	8.99	3.24
Thallium (D)	µg/L	*< 0.002*	*< 0.002*	*< 0.002*	*< 0.002*	*< 0.002*
Thallium (T)	µg/L	0.0033	***0.0139***	*< 0.002*	***0.0067***	0.0035
Tin (D)	µg/L	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Tin (T)	µg/L	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Titanium (D)	µg/L	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
Titanium (T)	µg/L	8.2	**24.6**	2.6	14	4.9
Uranium (D)	µg/L	0.0028	**0.0099**	0.0022	0.0028	*< 0.002*
Uranium (T)	µg/L	0.0171	**0.176**	0.006	0.0185	0.0078
Vanadium (D)	µg/L	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Vanadium (T)	µg/L	0.75	**4.01**	0.32	1.03	0.32
Zinc (D)	µg/L	1.78	0.67	2.47	**3.91**	2.08
Zinc (T)	µg/L	6.2	**15.9**	4.5	10.9	4.6

Notes

Italicized numbers are less than the DL

Bold italicized numbers are > 2-times background (SNOCOR6)

5 to 10-times background

10 to 20-times background

Appendix B2
Supplemental Figures – MEL-14 Effluent Chemistry and Loadings to Meliadine Lake (2018-2025)

APPENDIX B2 – FIGURES

The following notes apply to all the plots in this appendix.

1. The blue dot represents the monthly mean concentration at MEL-14. The blue vertical line represents the range of concentrations measured in each month.
2. Monthly loadings = monthly mean concentration (mg/L) x monthly discharge (m^3) /1,000.
3. Some parameters were not measured in June, July, and August 2018. Monthly loadings appear on the plot as 0 kg for those months (see cobalt, as an example).

Figure B2-1. Total suspended solids (TSS) 1
Figure B2-2. Total dissolved solids (TDS measured) 2
Figure B2-3. Chloride 3
Figure B2-4. Sodium 4
Figure B2-5. Calcium 5
Figure B2-6. Magnesium 6
Figure B2-7. Potassium 7
Figure B2-8. Sulphate 8
Figure B2-9. Alkalinity (Total) 9
Figure B2-10. Reactive Silica 10
Figure B2-11. Nitrate (as N) 11
Figure B2-12. Nitrite (as N) 12
Figure B2-13. Nitrate + Nitrite (as N) 13
Figure B2-14.Total Kjeldahl nitrogen (TKN) 14
Figure B2-15. Ammonia (as N) 15
Figure B2-16. Total Phosphorus 16
Figure B2-17. Orthophosphate 17
Figure B2-18. Total Organic Carbon (TOC) 18
Figure B2-19. Aluminum 19
Figure B2-20. Antimony 20
Figure B2-21. Arsenic 21
Figure B2-22. Barium 22
Figure B2-23. Beryllium 23
Figure B2-25. Boron 24
Figure B2-26. Cadmium 25

Figure B2-27. Chromium 26
Figure B2-28. Cobalt 27
Figure B2-29. Copper 28
Figure B2-30. Iron 29
Figure B2-31. Lead 30
Figure B2-32. Lithium 31
Figure B2-33. Manganese 32
Figure B2-34. Mercury 33
Figure B2-35. Molybdenum 34
Figure B2-36. Nickel 35
Figure B2-37. Selenium 36
Figure B2-39. Silver 37
Figure B2-40. Strontium 38
Figure B2-41. Thallium 39
Figure B2-42. Tin 40
Figure B2-43. Titanium 41
Figure B2-44. Uranium 42
Figure B2-45. Vanadium 43
Figure B2-46. Zinc 44
Figure B2-47. Cyanide (Free) 45
Figure B2-48. Cyanide (Total) 46
Figure B2-49. Radium-226 47

Figure B2-1. Total suspended solids (TSS)

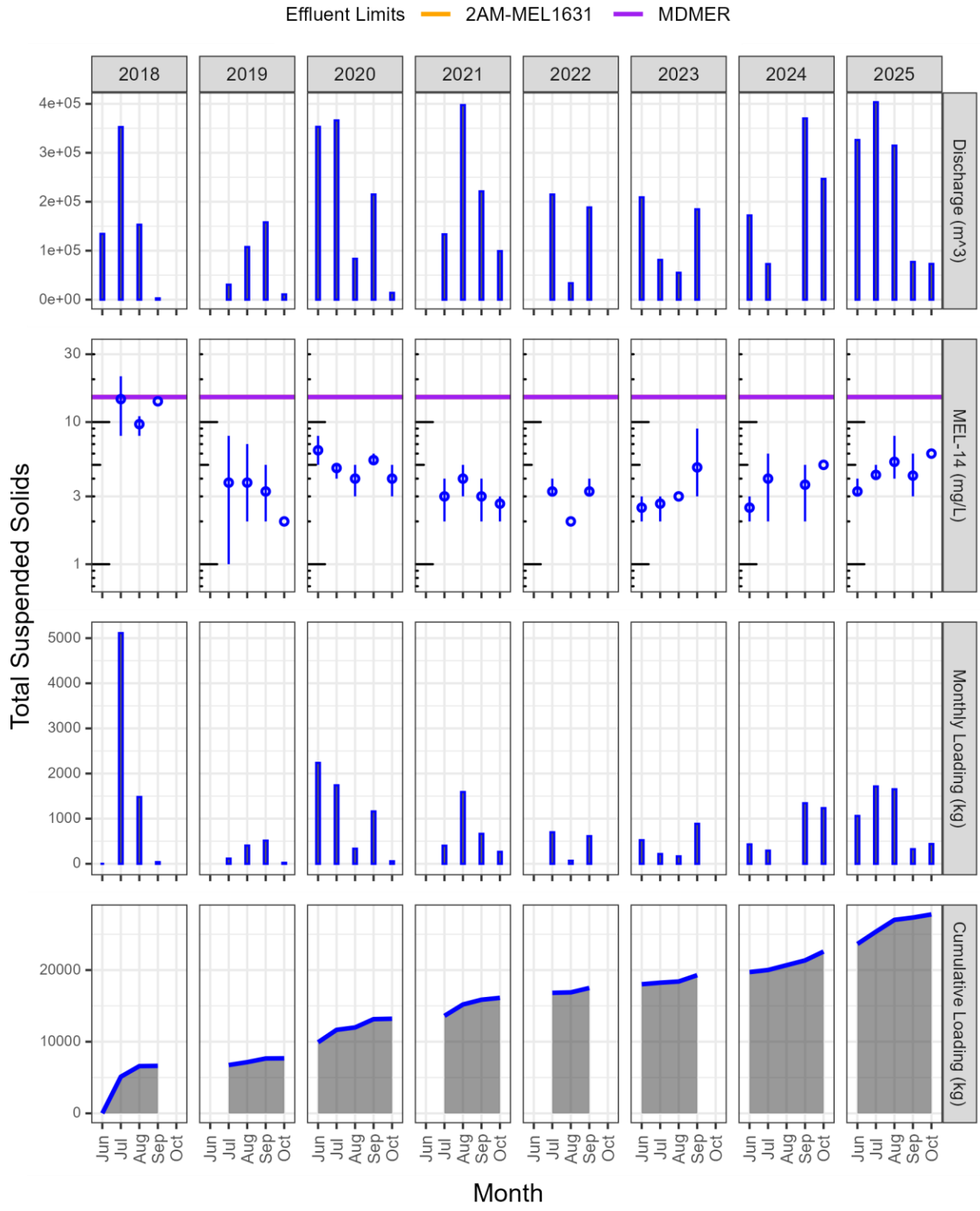


Figure B2-2. Total dissolved solids (TDS measured)

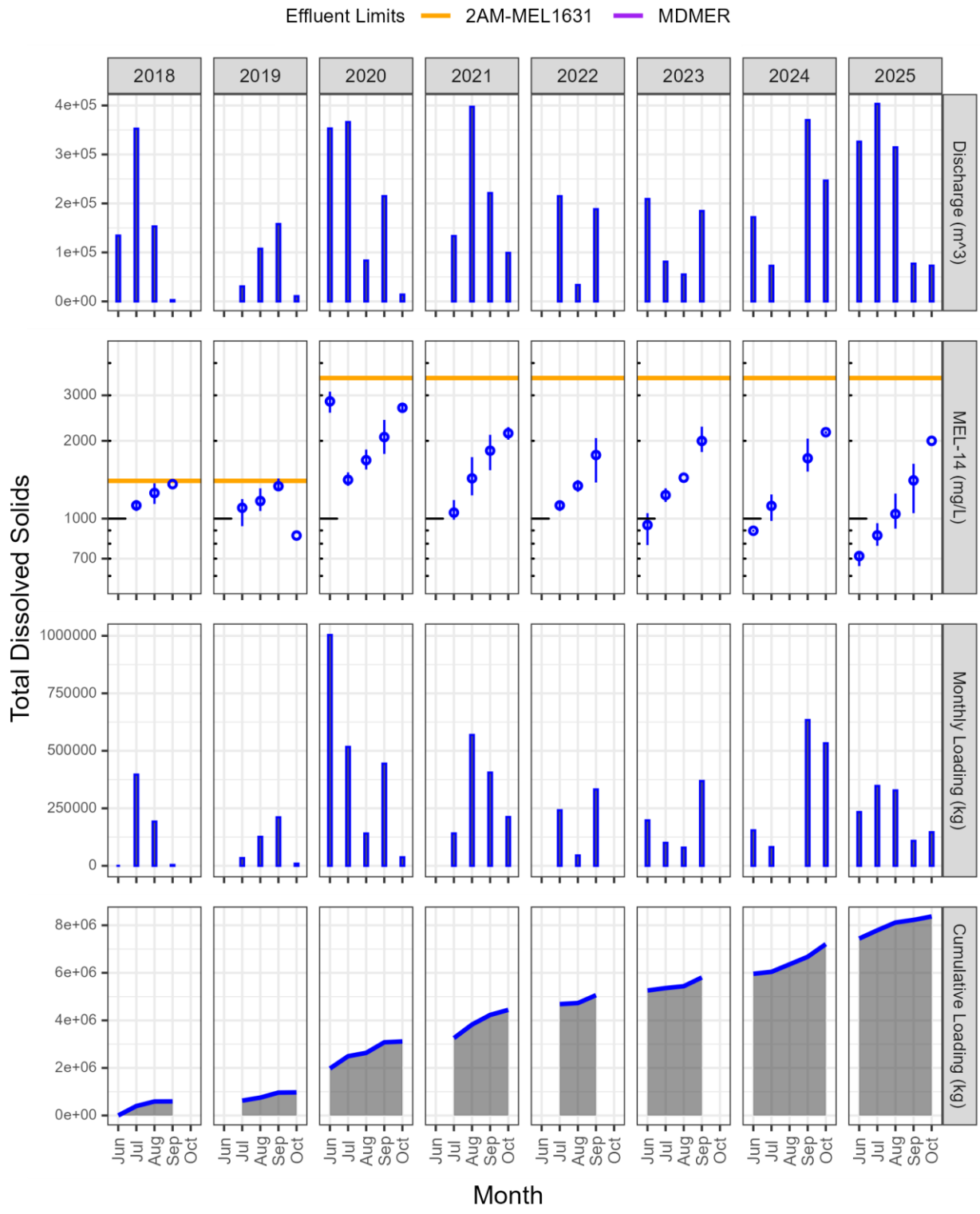


Figure B2-3. Chloride

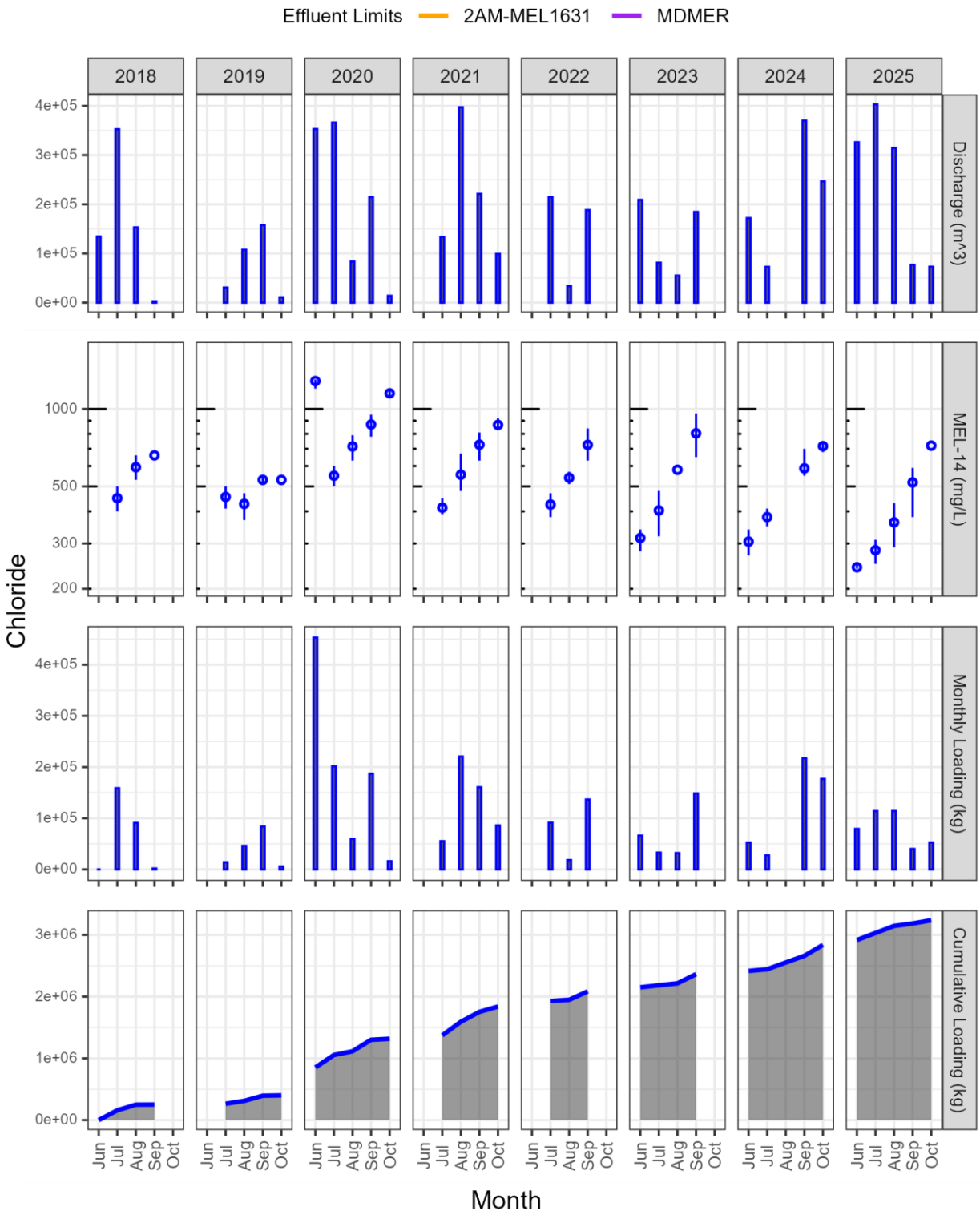


Figure B2-4. Sodium

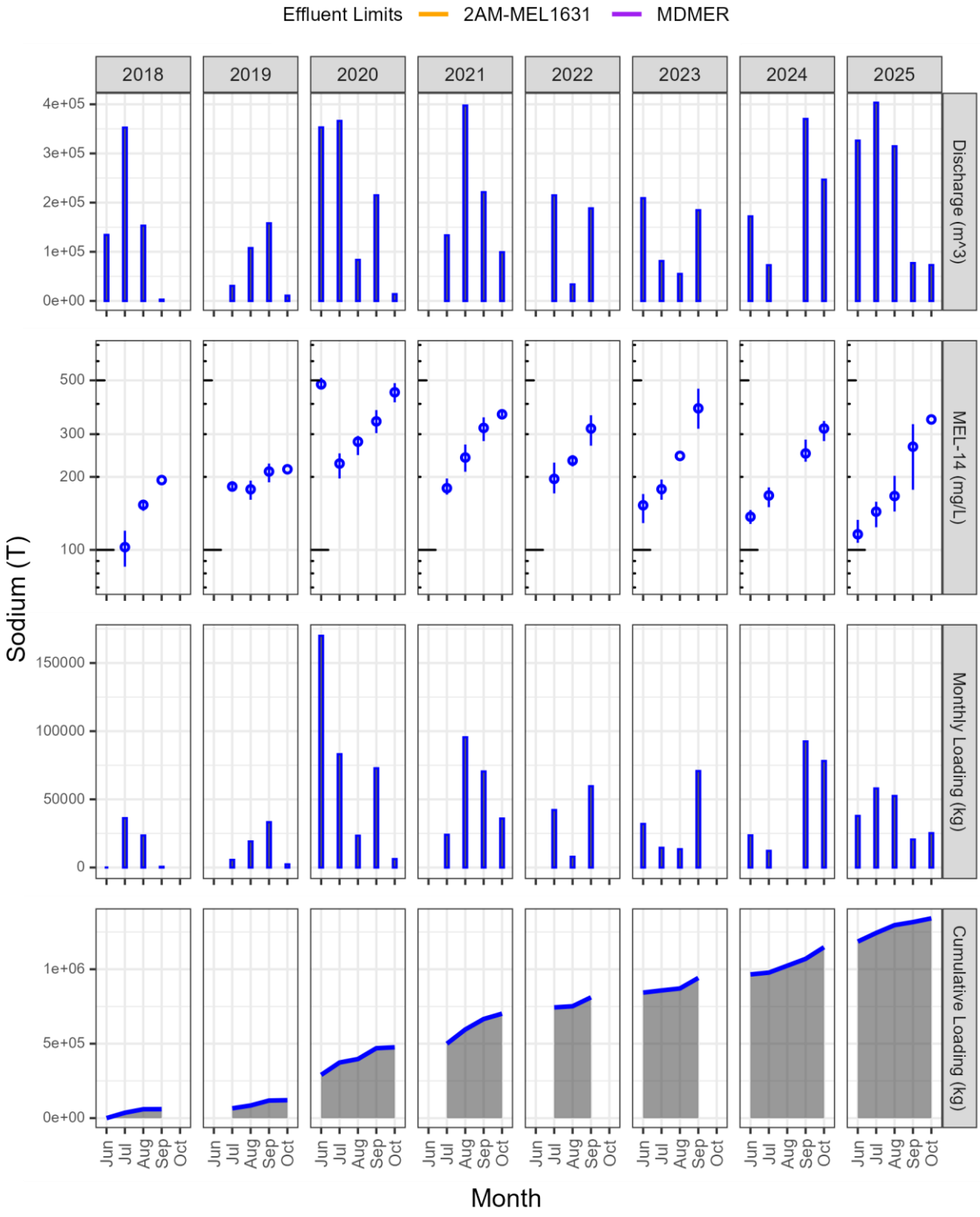


Figure B2-5. Calcium

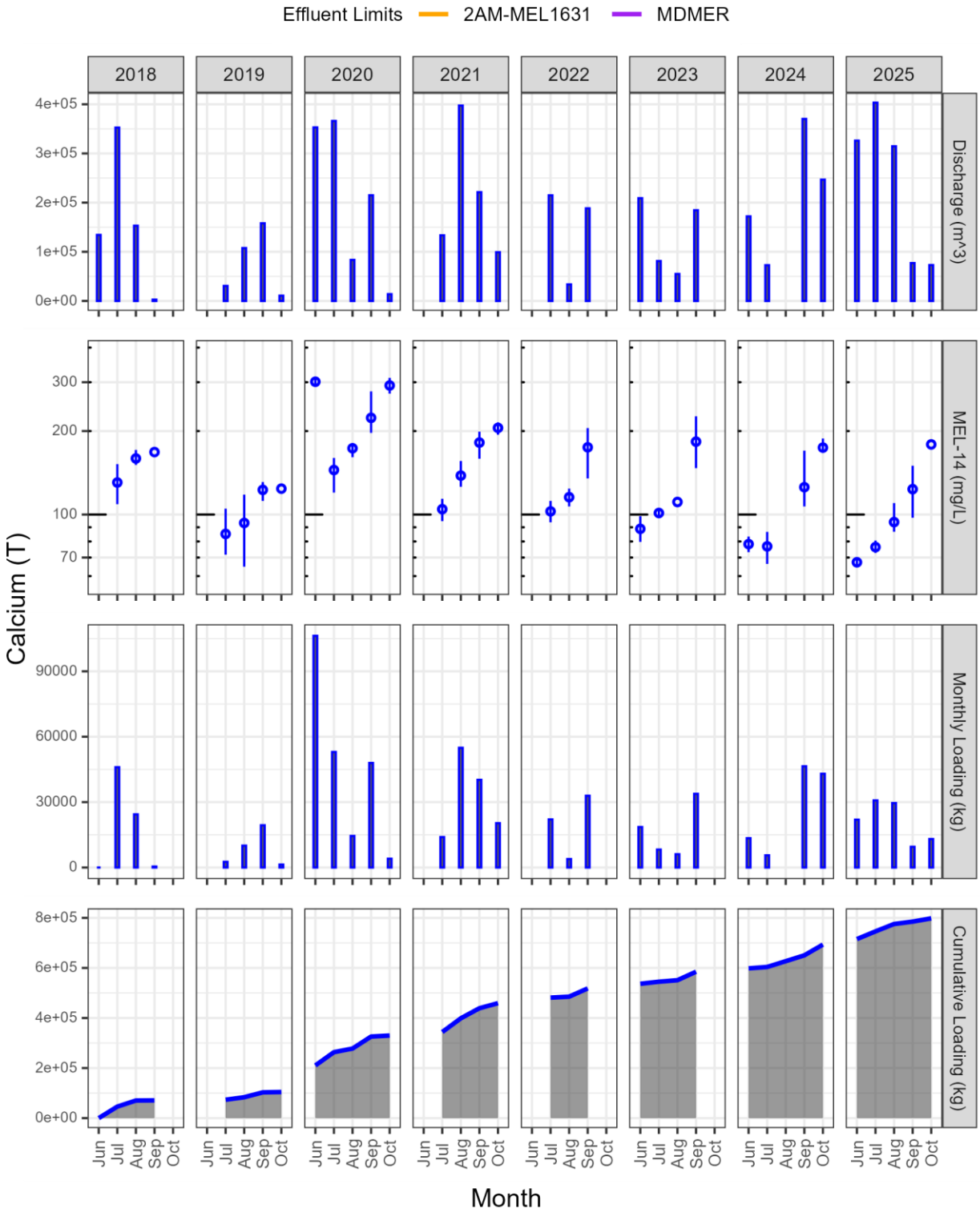


Figure B2-6. Magnesium

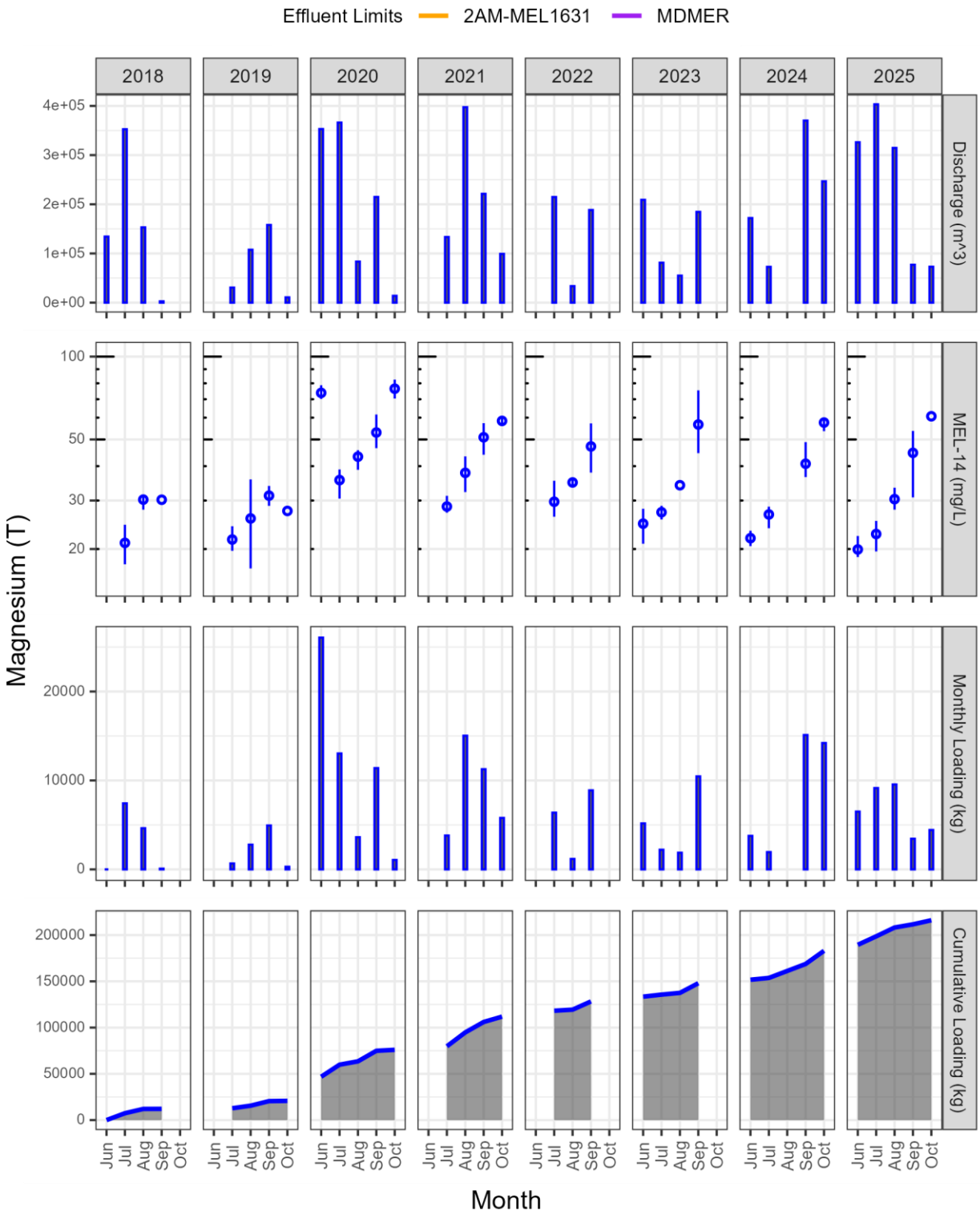


Figure B2-7. Potassium

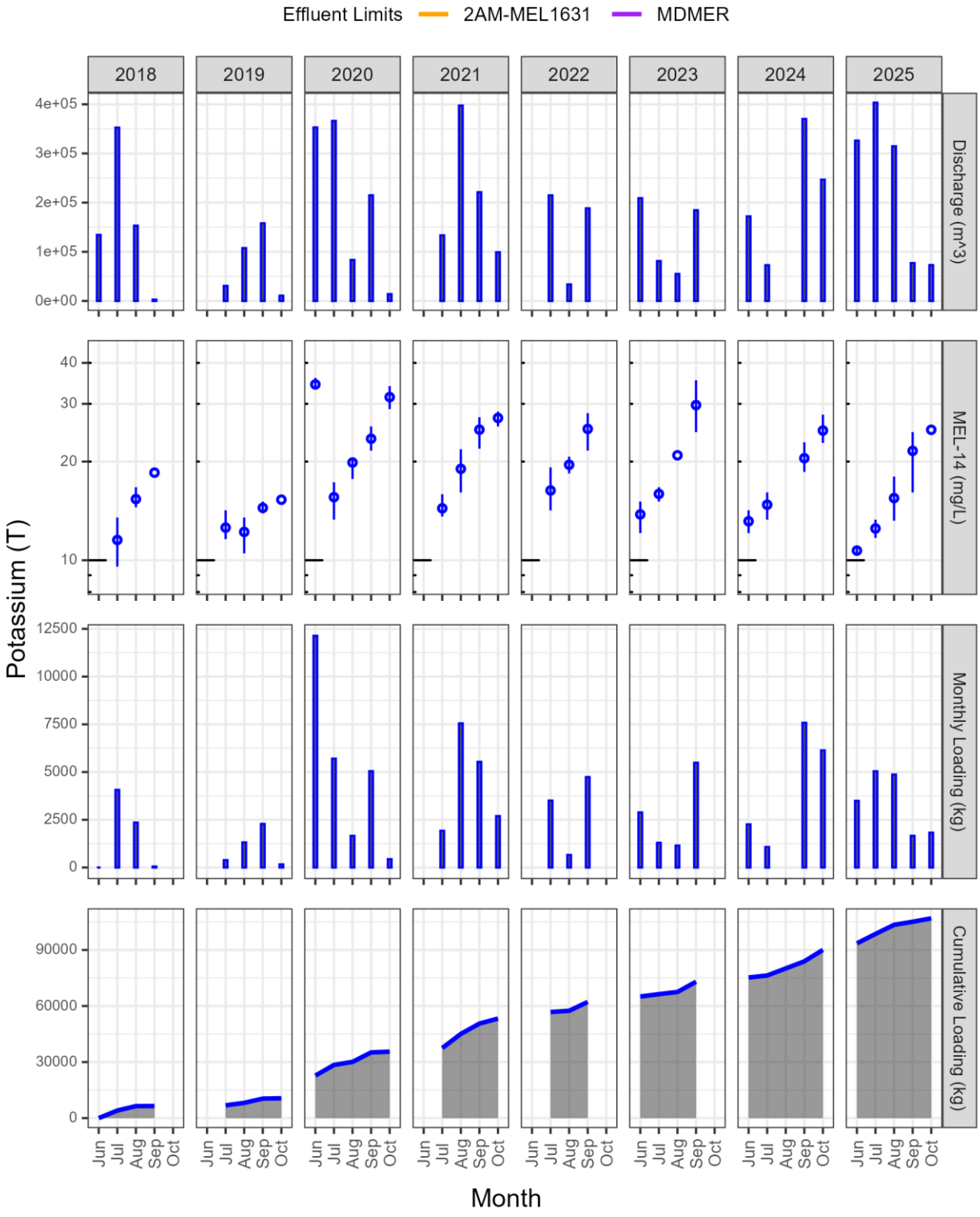


Figure B2-8. Sulphate

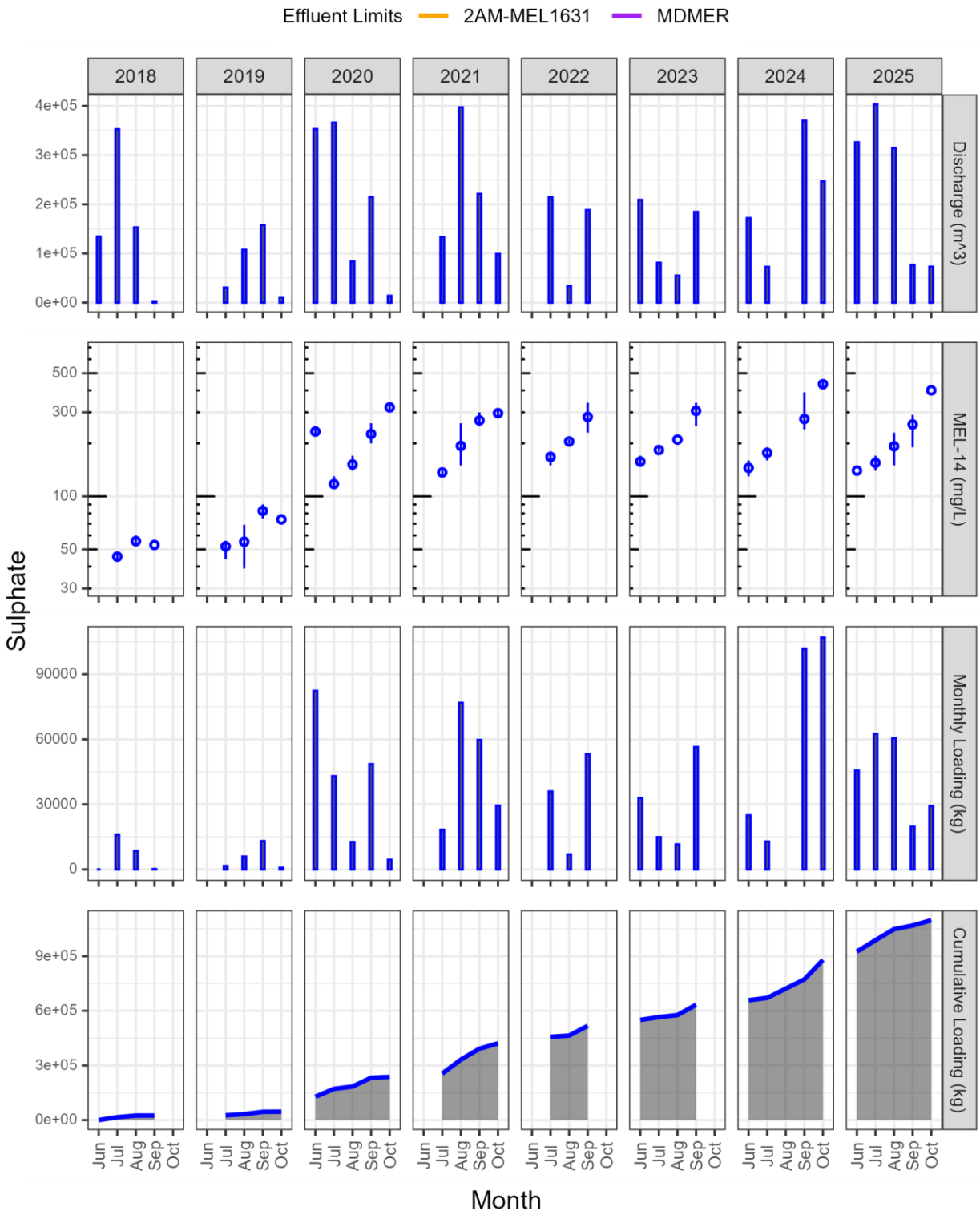


Figure B2-9. Alkalinity (Total)

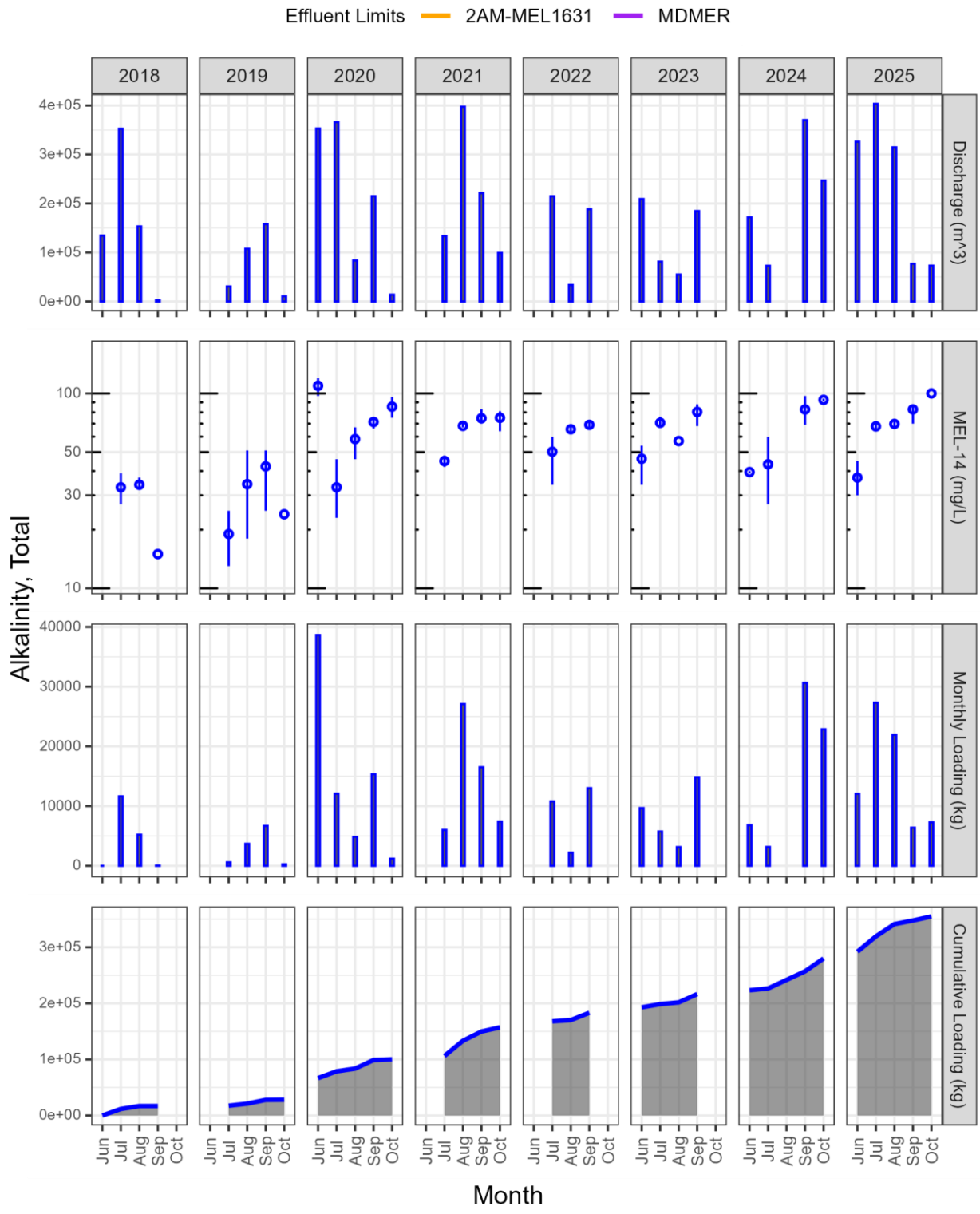


Figure B2-10. Reactive Silica

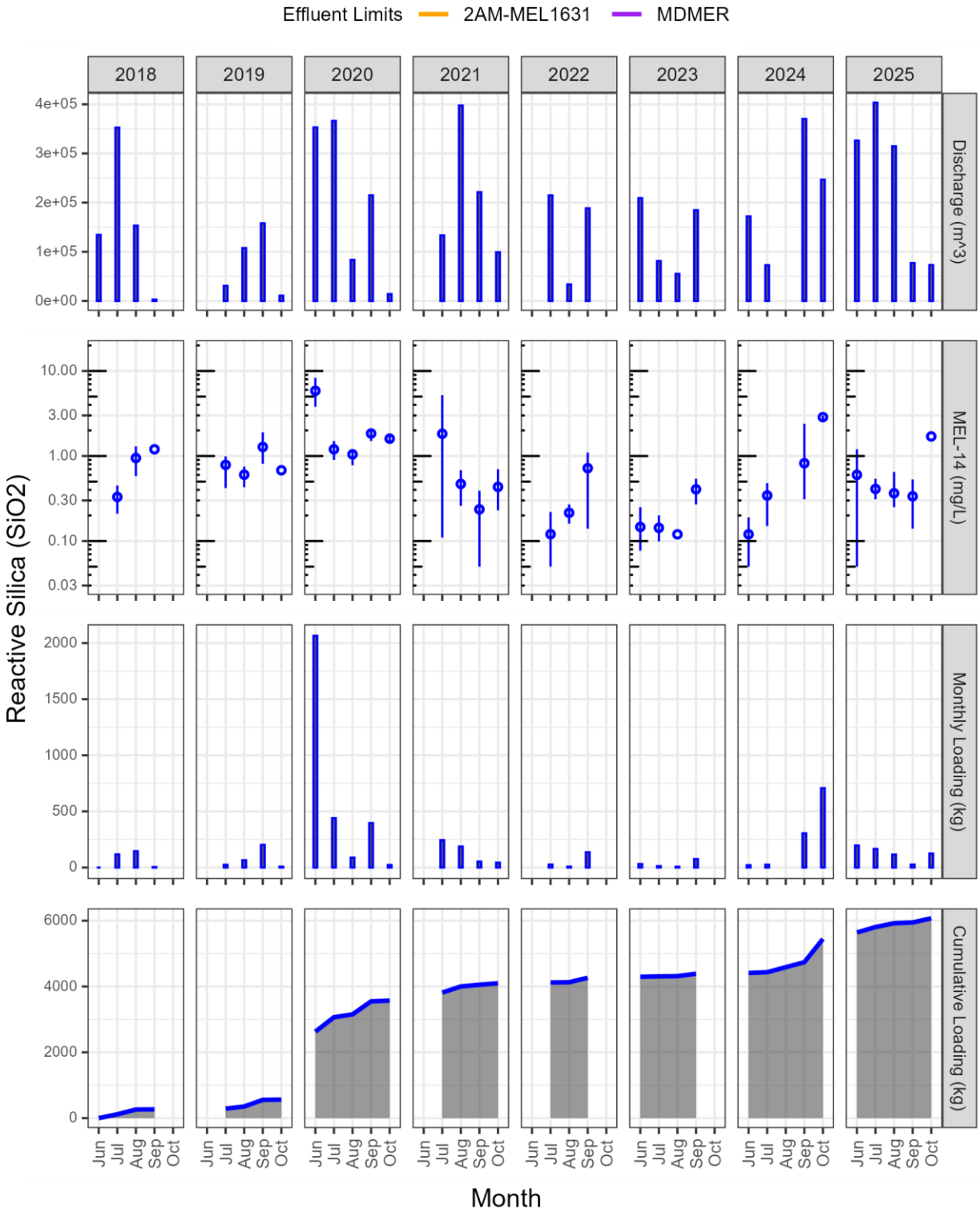


Figure B2-11. Nitrate (as N)

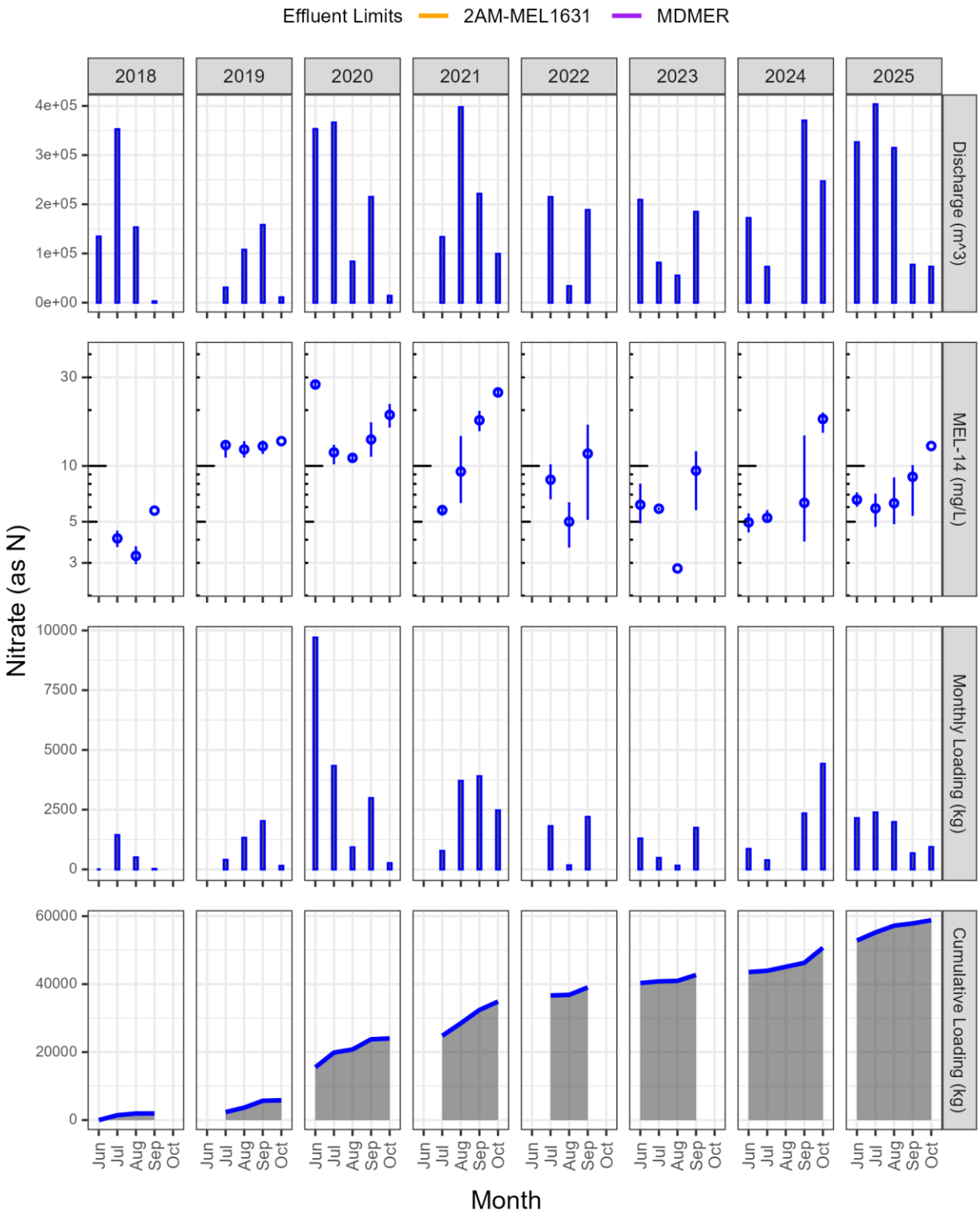


Figure B2-12. Nitrite (as N)

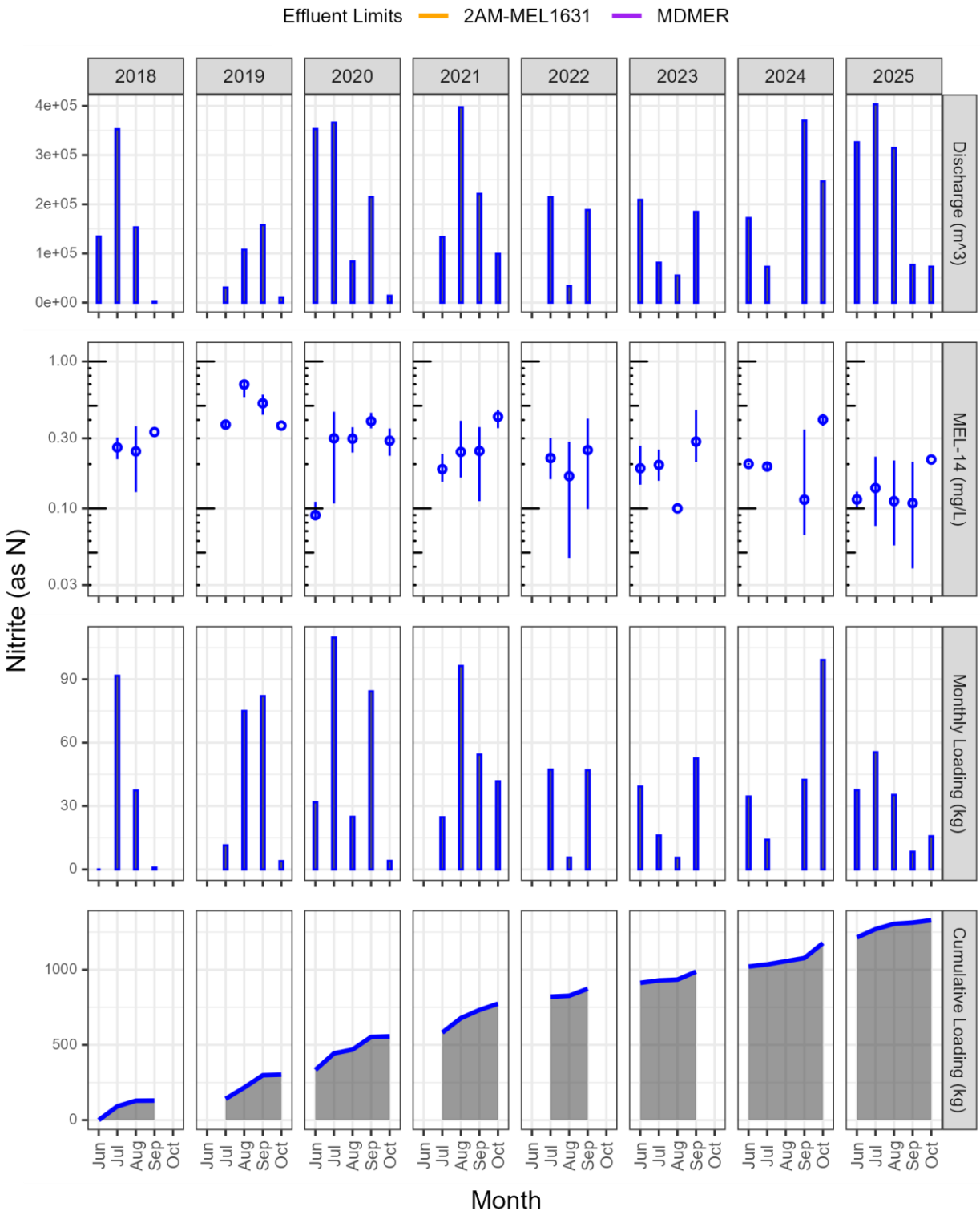


Figure B2-13. Nitrate + Nitrite (as N)

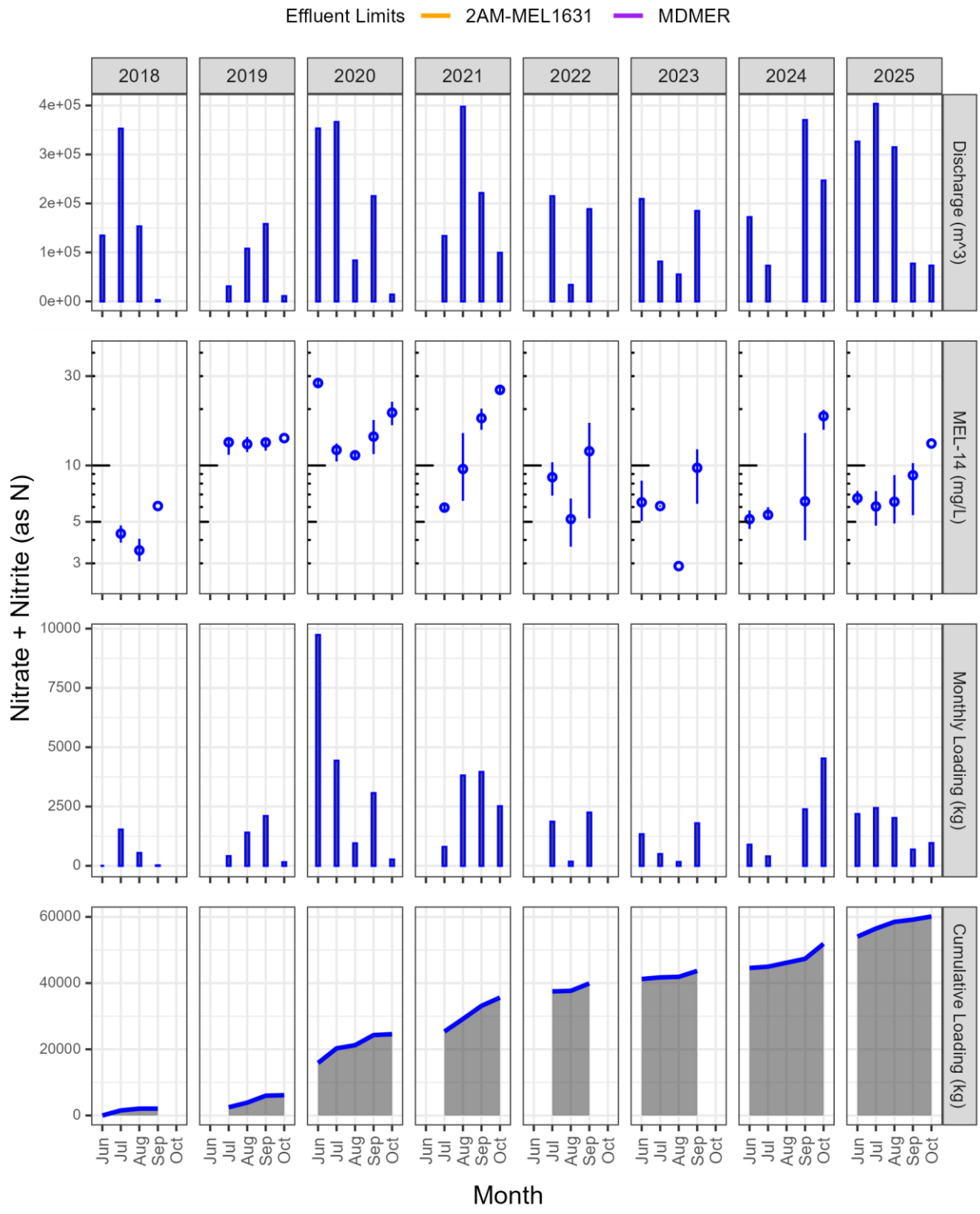


Figure B2-14.Total Kjeldahl nitrogen (TKN)

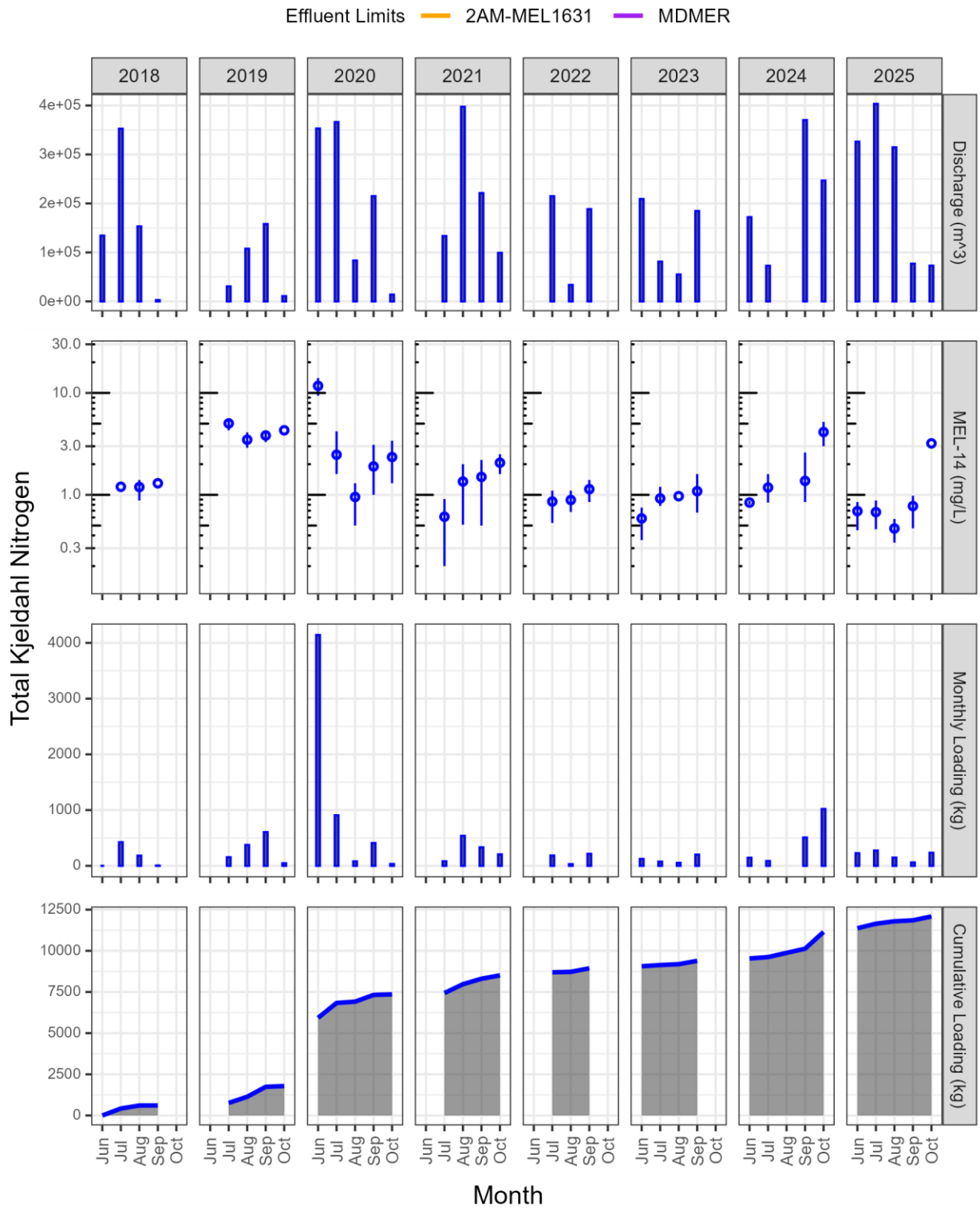


Figure B2-15. Ammonia (as N)

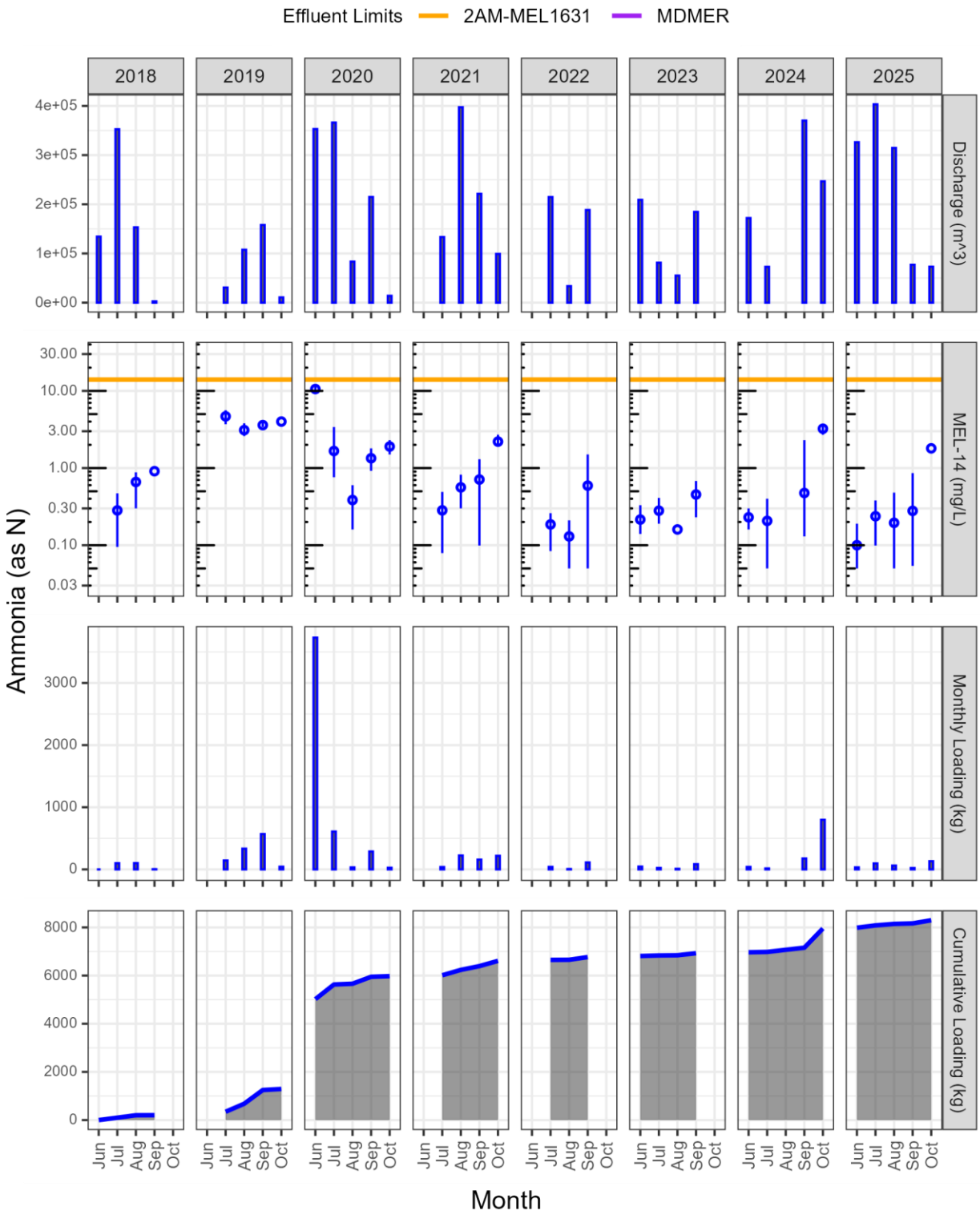


Figure B2-16. Total Phosphorus

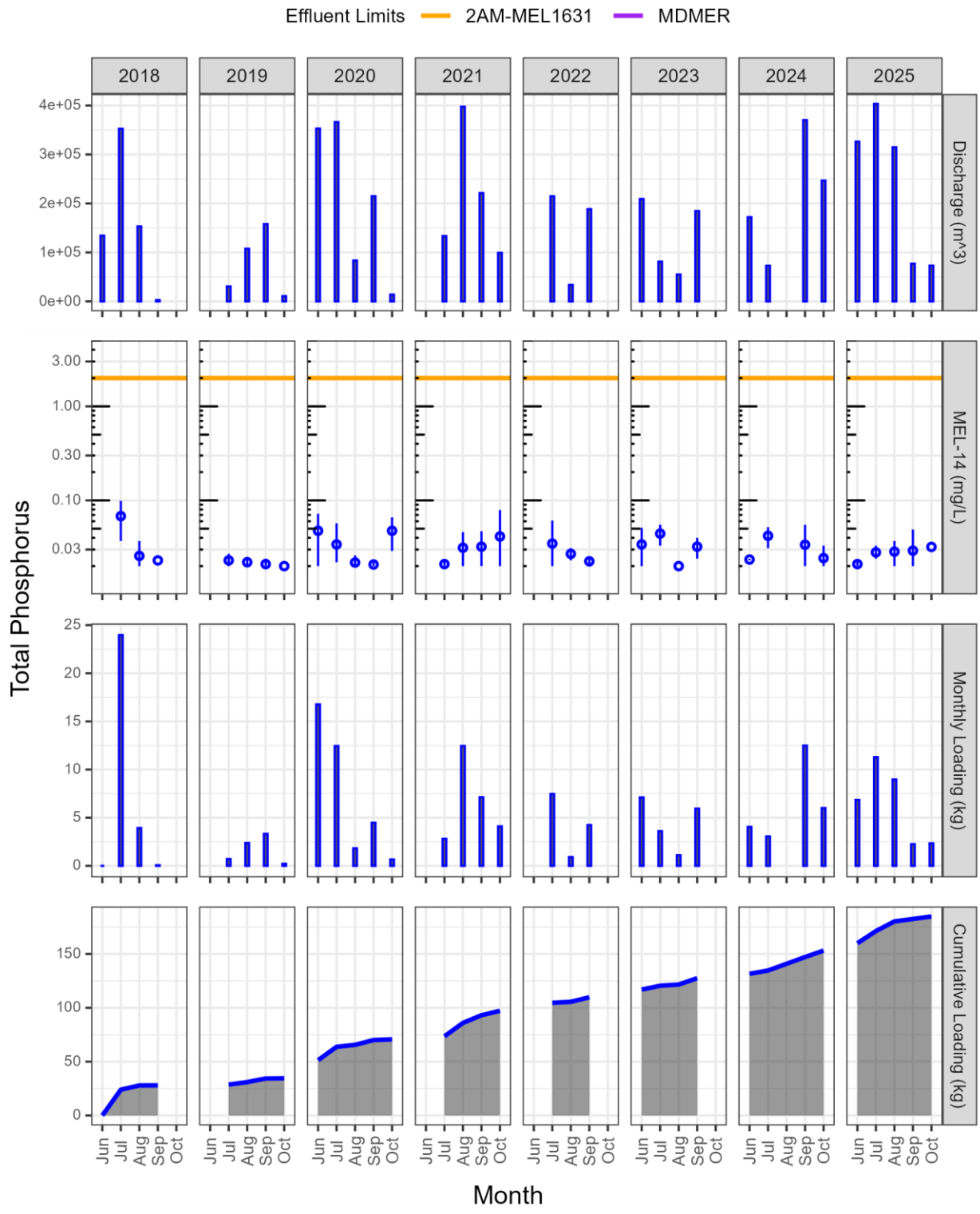


Figure B2-17. Orthophosphate

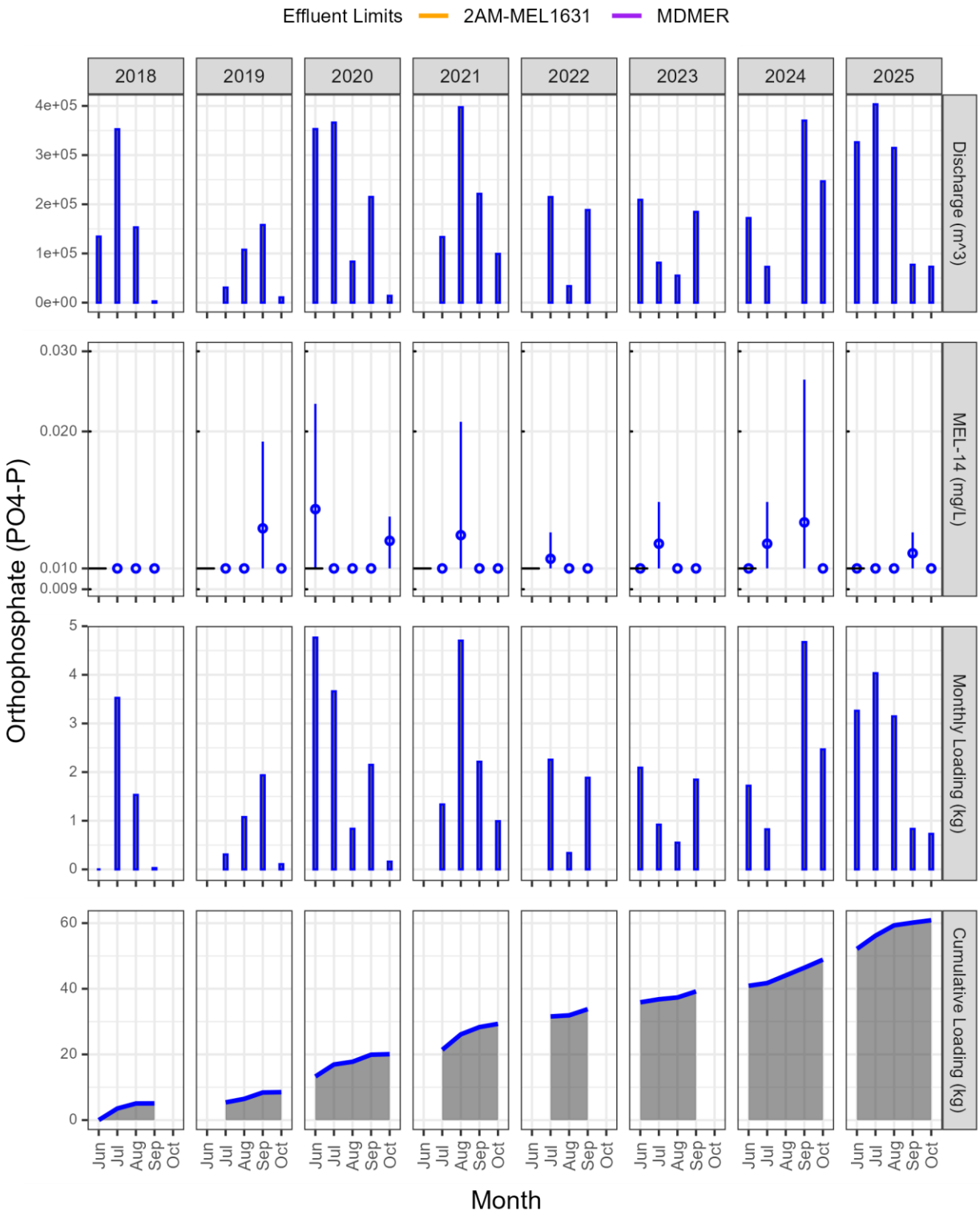


Figure B2-18. Total Organic Carbon (TOC)

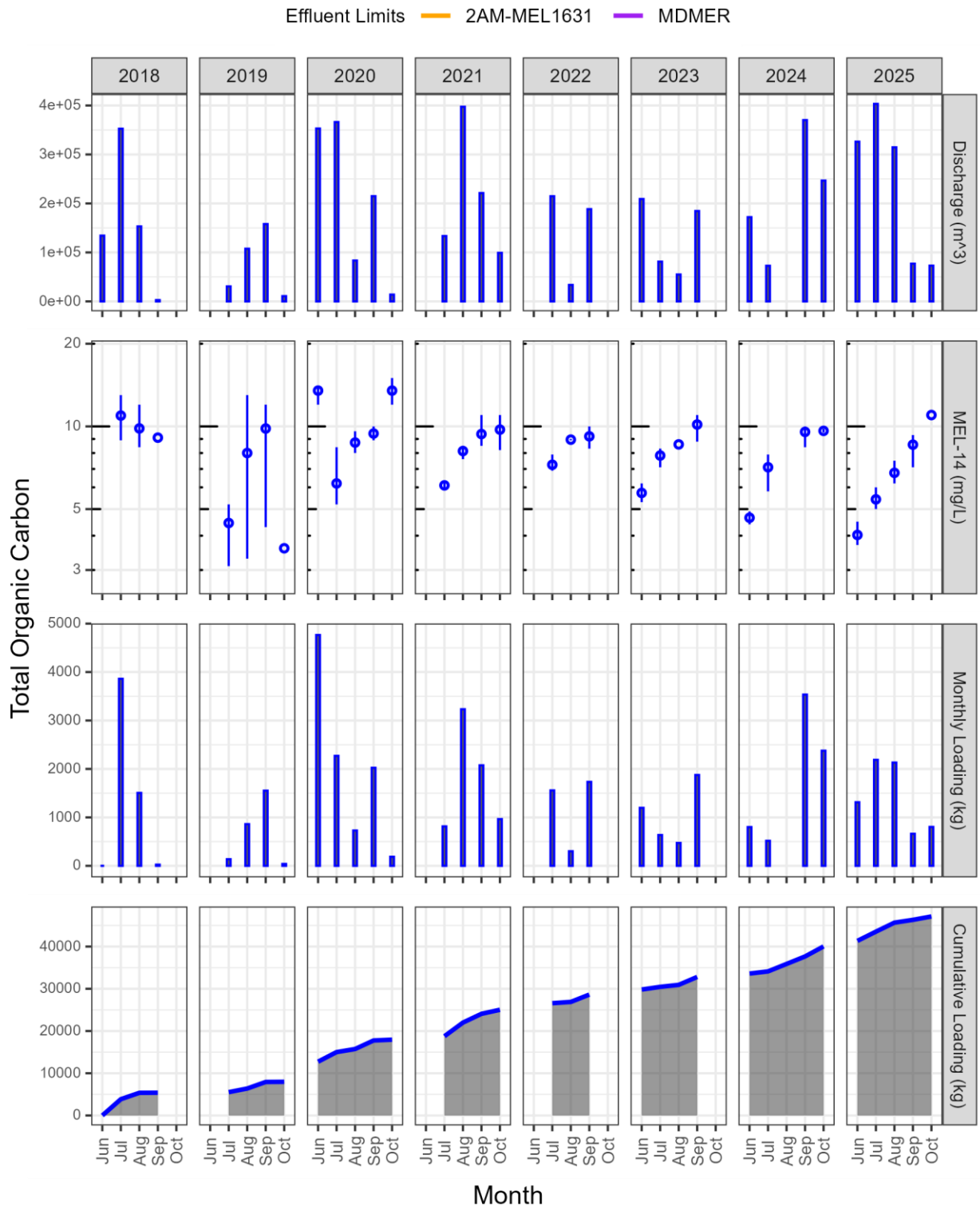


Figure B2-19. Aluminum

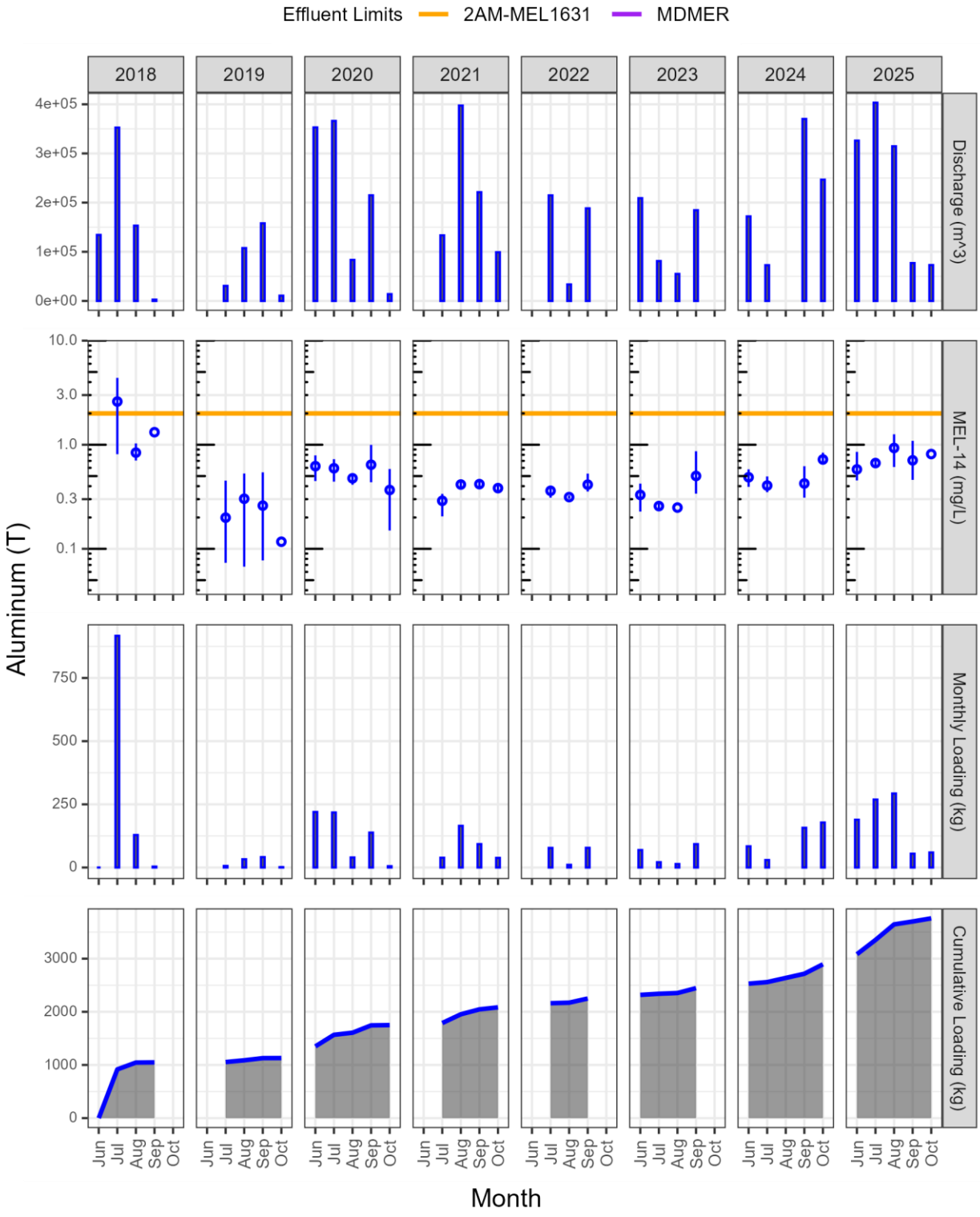


Figure B2-20. Antimony

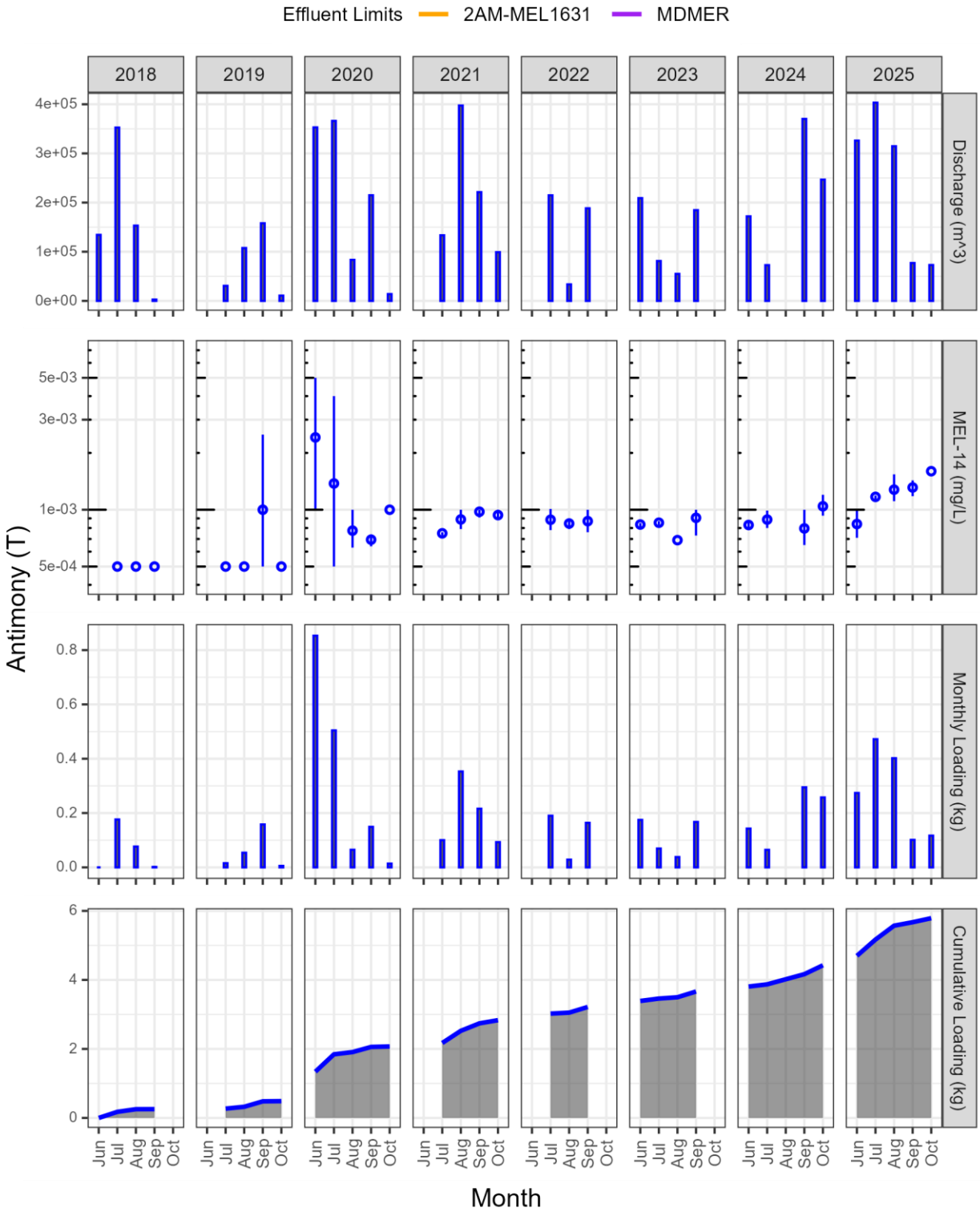


Figure B2-21. Arsenic

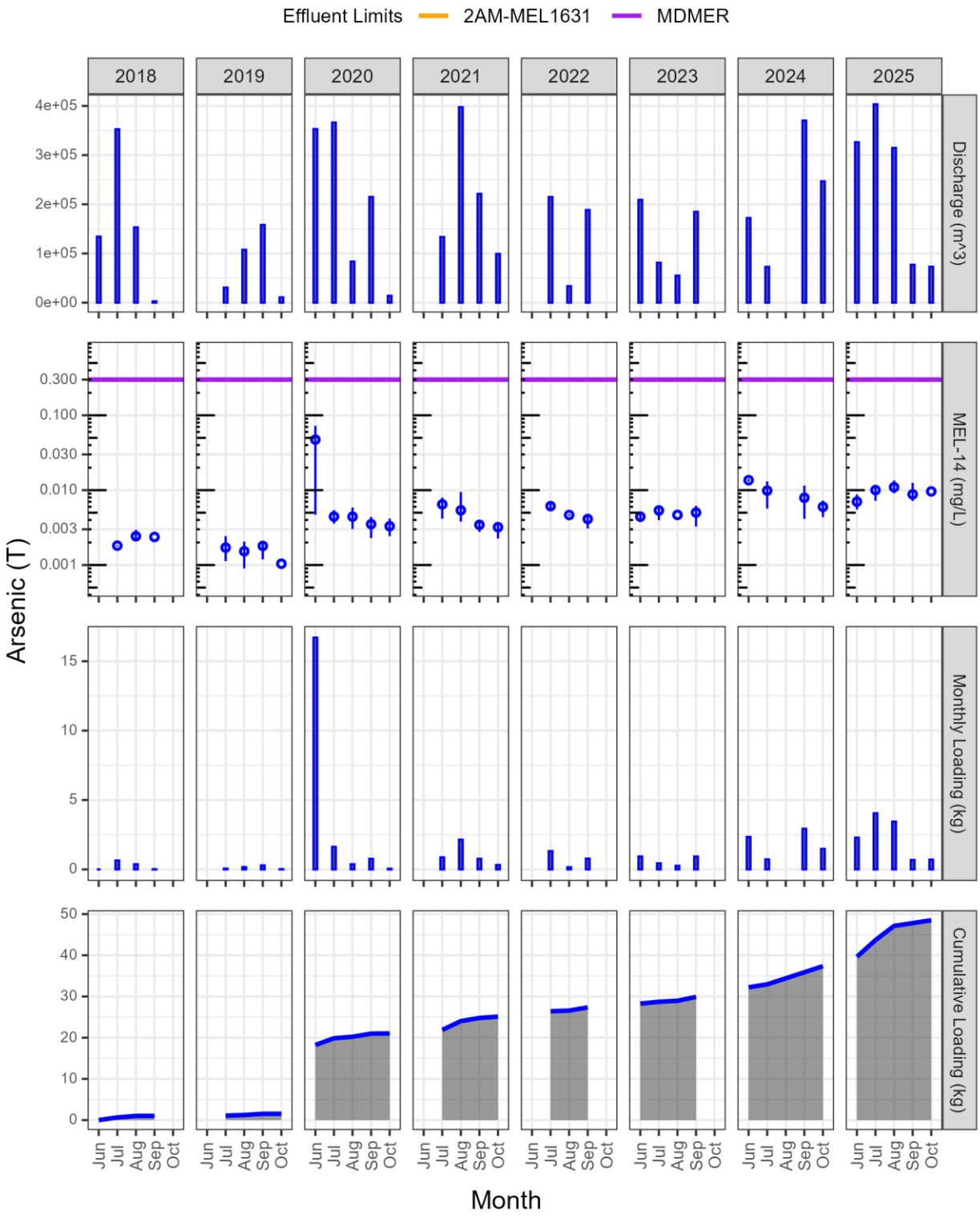


Figure B2-22. Barium

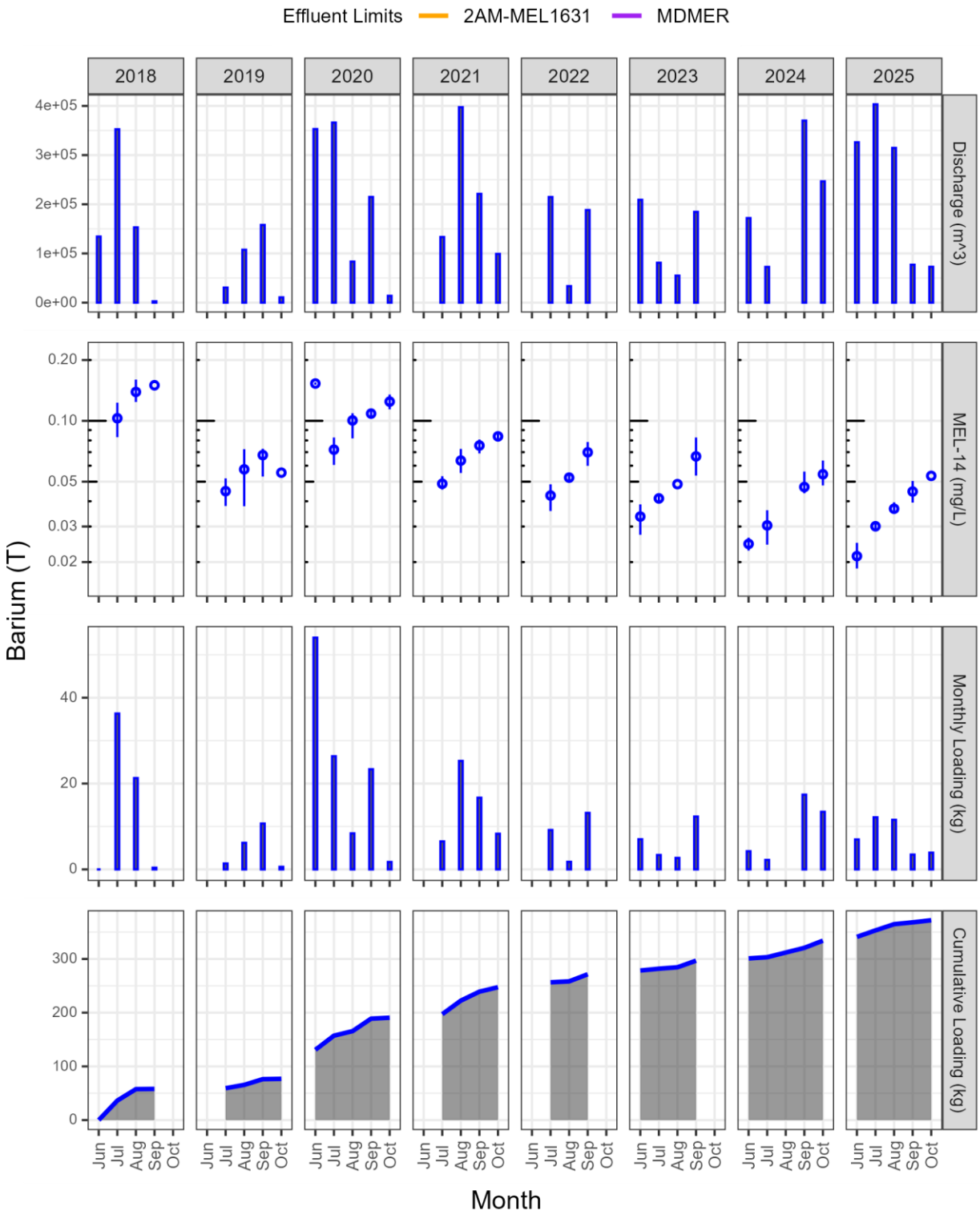


Figure B2-23. Beryllium

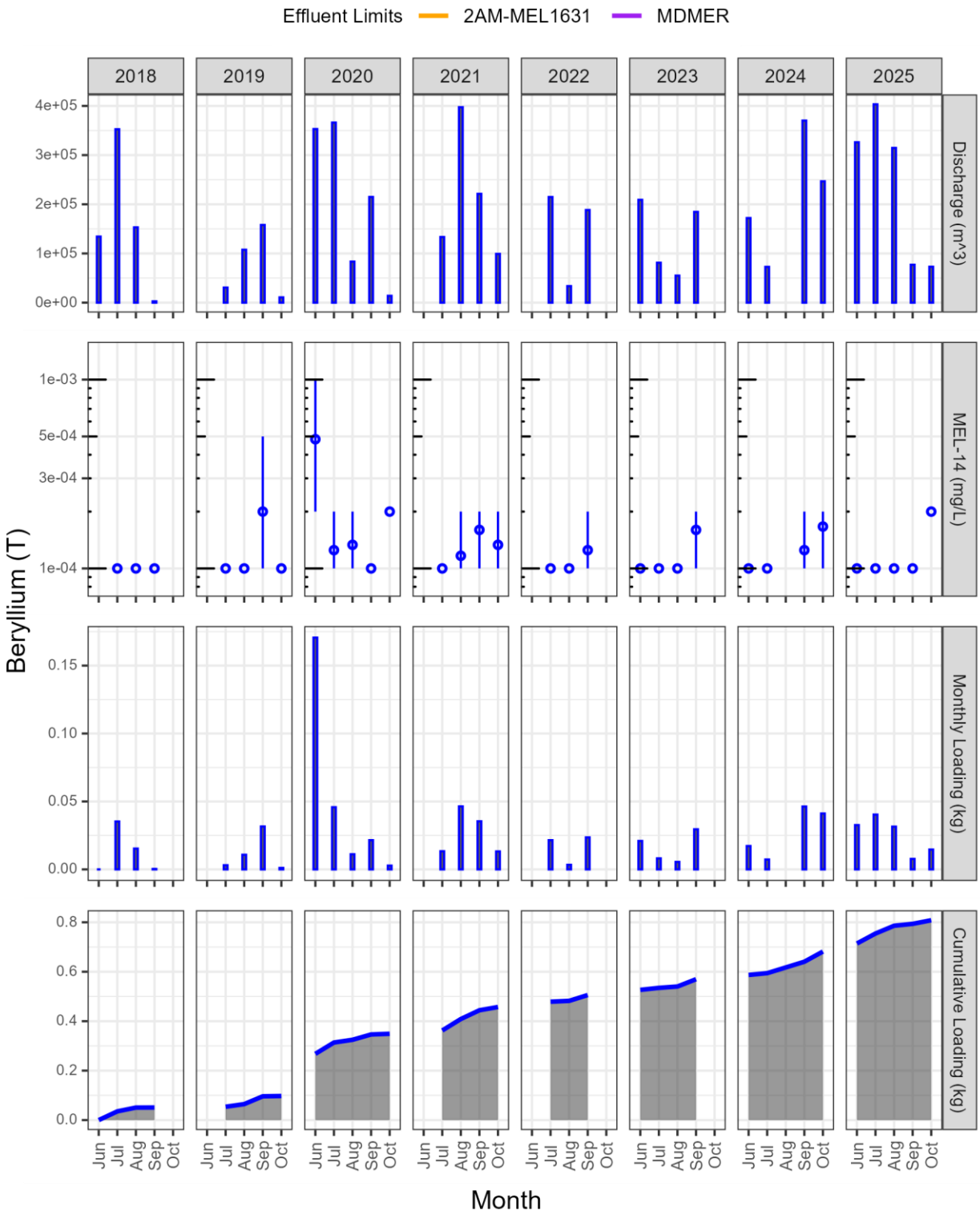


Figure B2-24. Boron

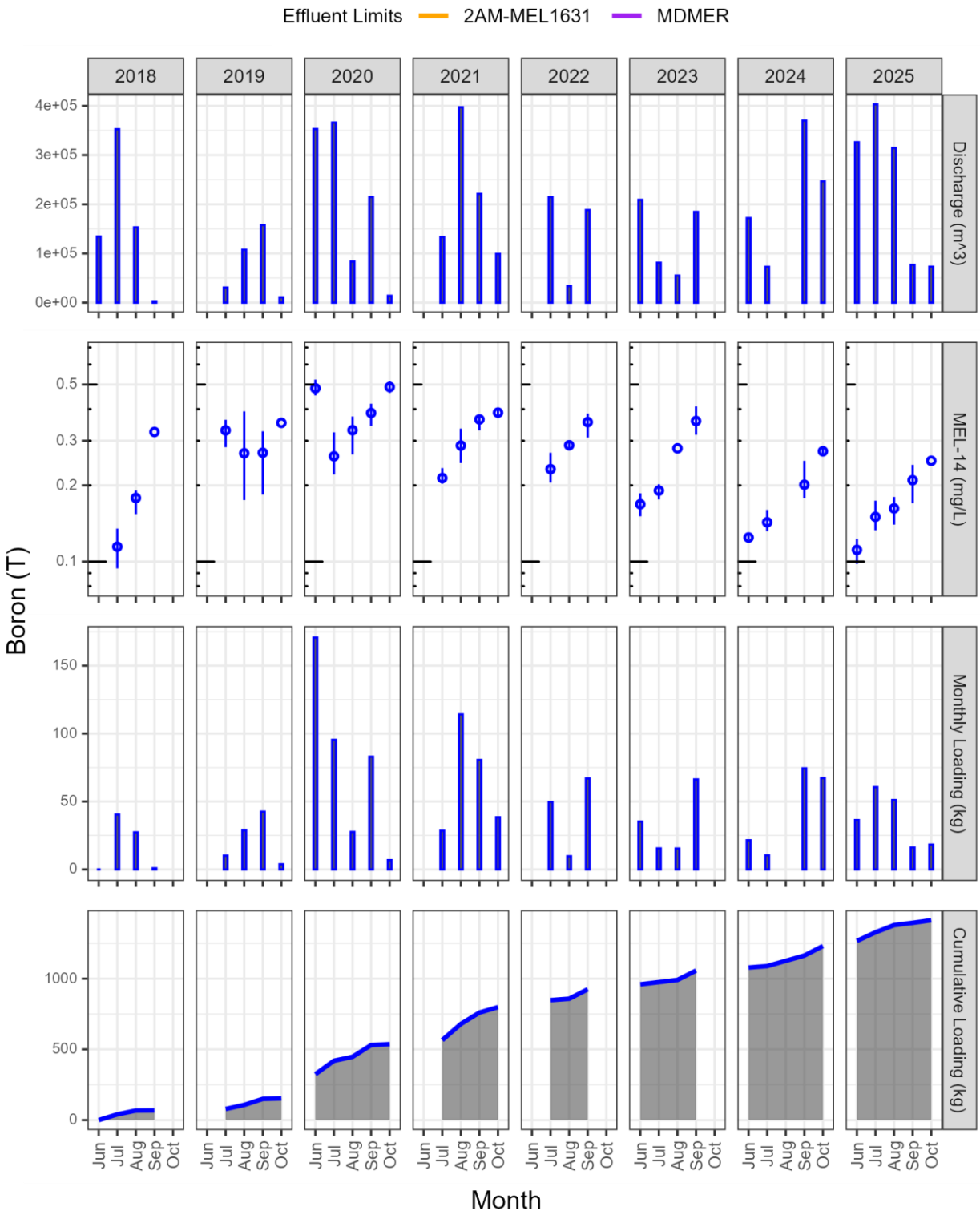


Figure B2-25. Cadmium

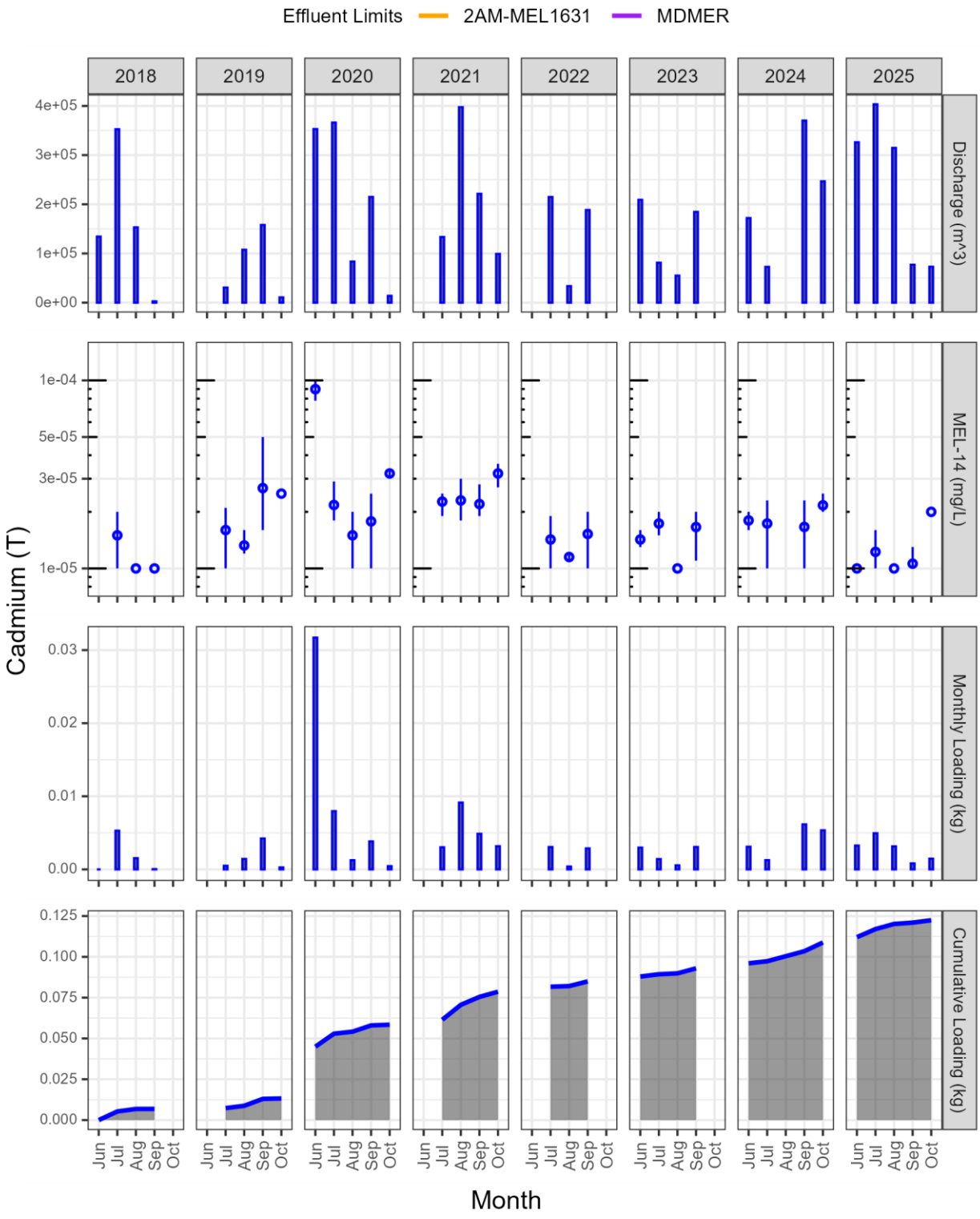


Figure B2-26. Chromium

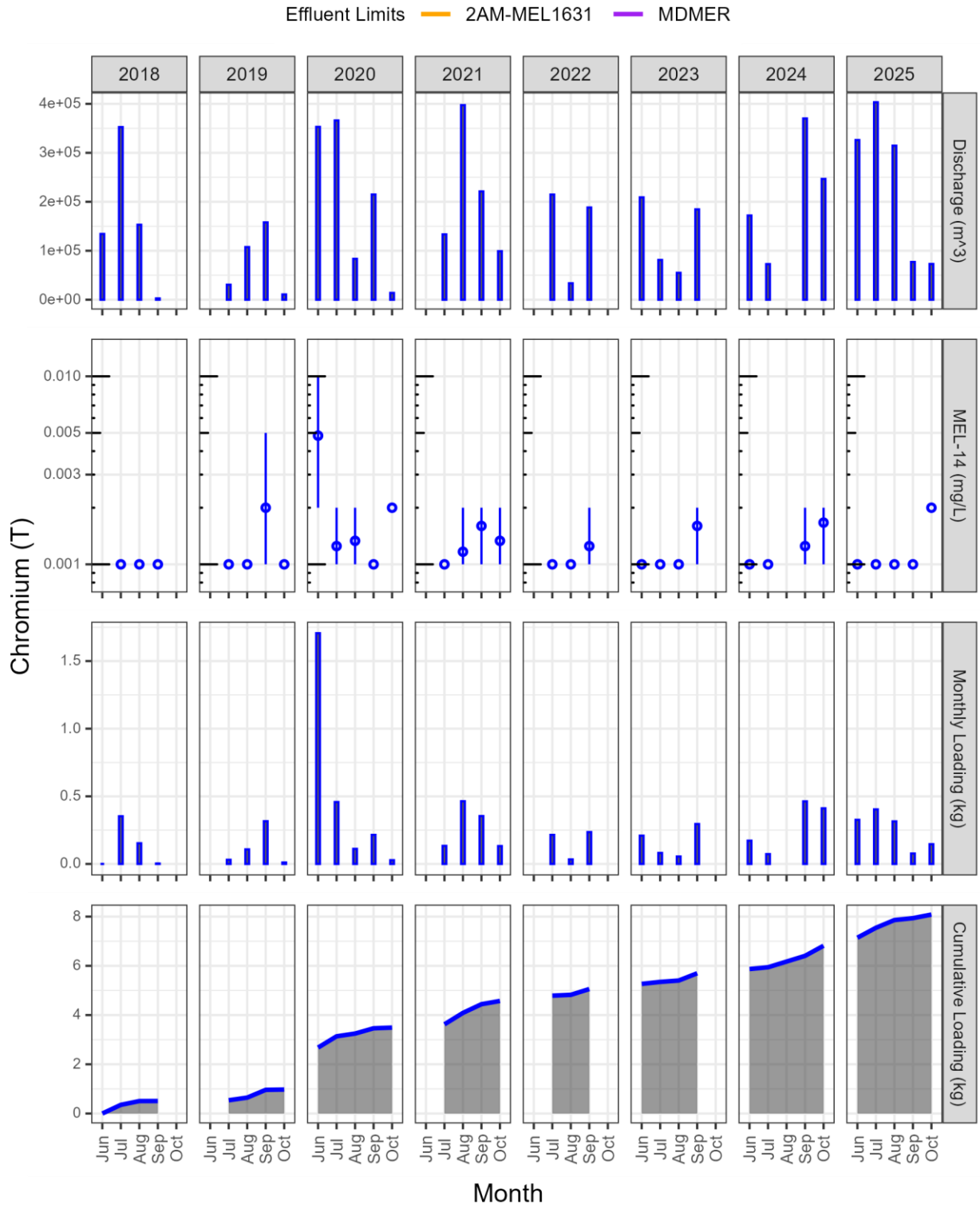


Figure B2-27. Cobalt

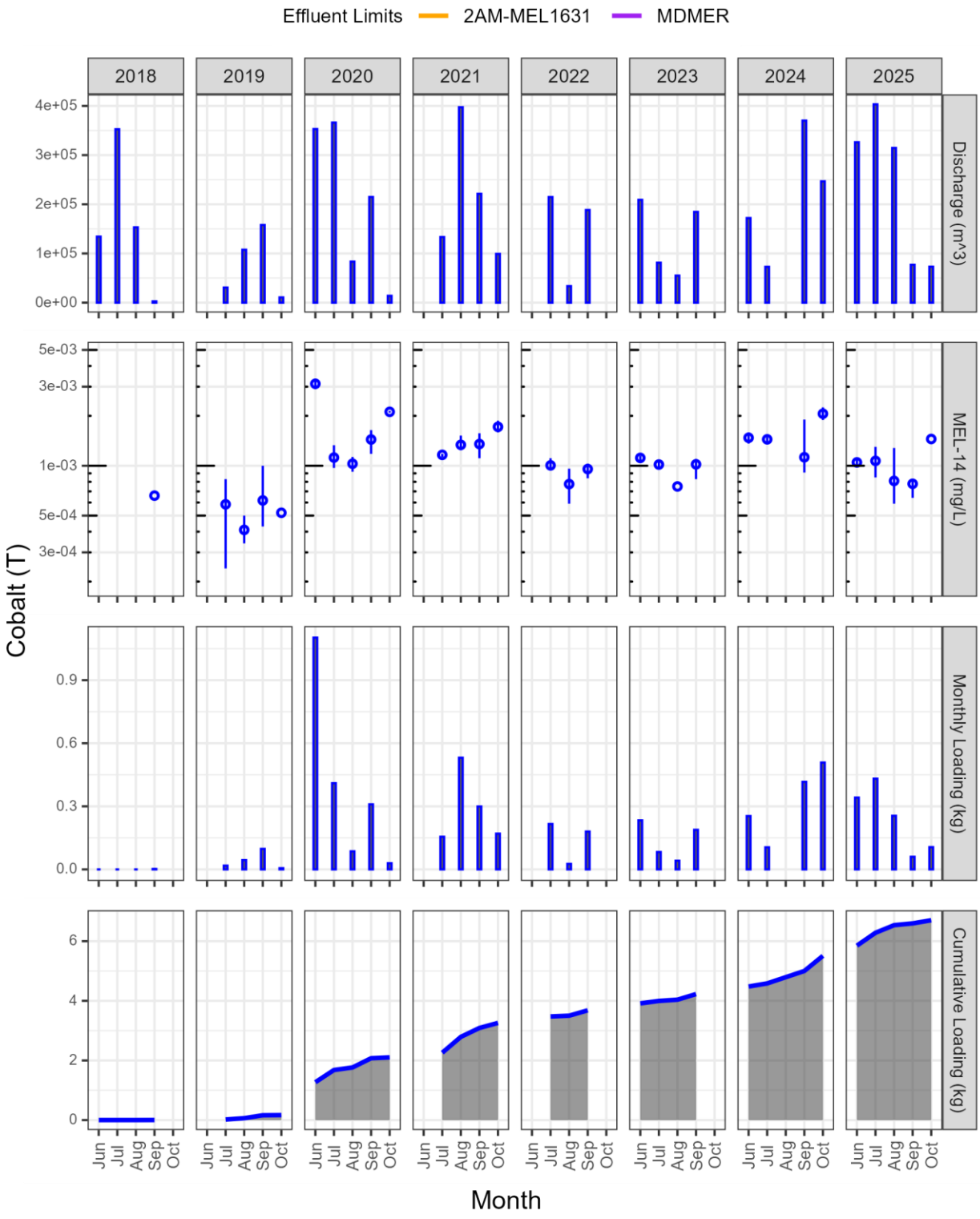


Figure B2-28. Copper

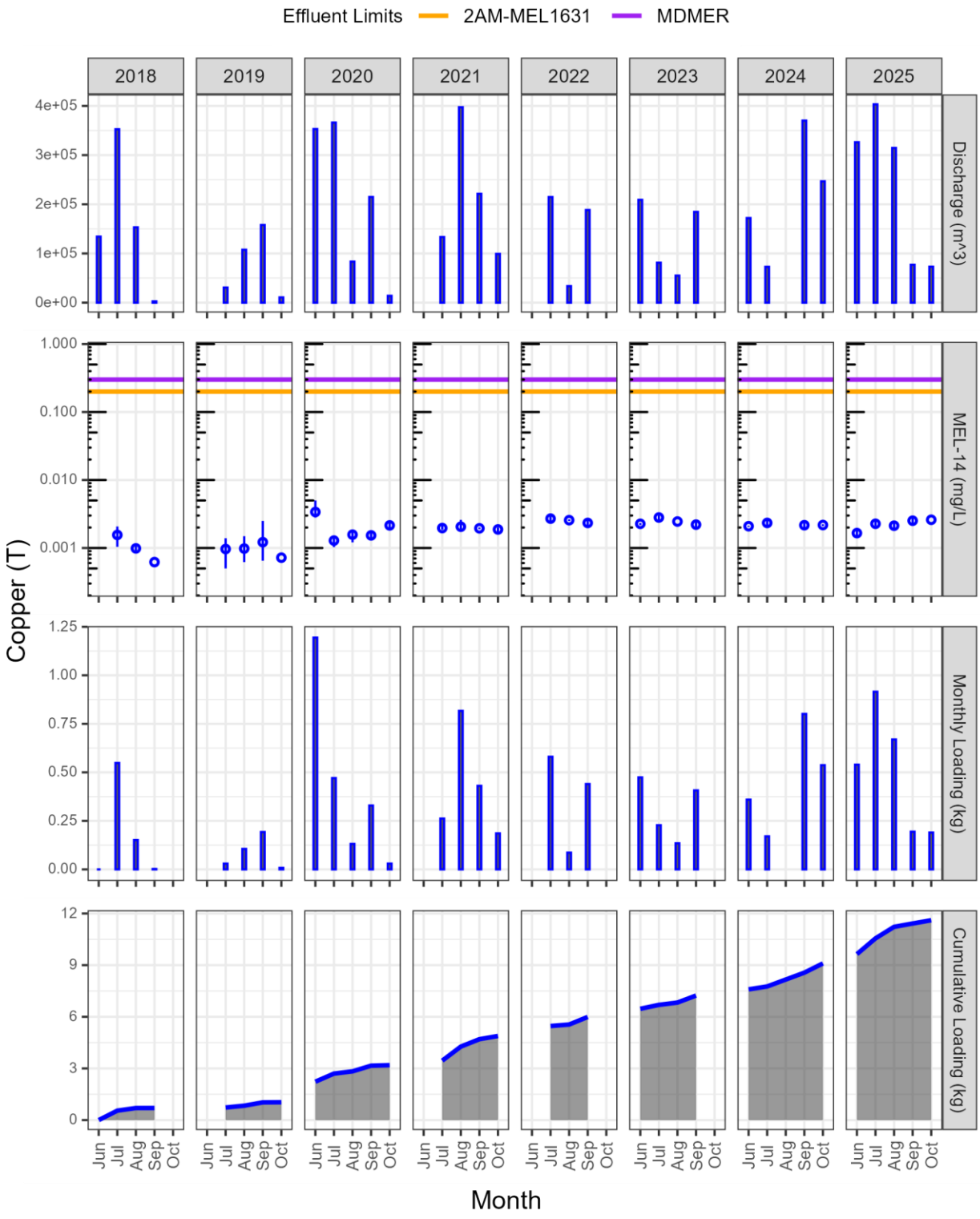


Figure B2-29. Iron

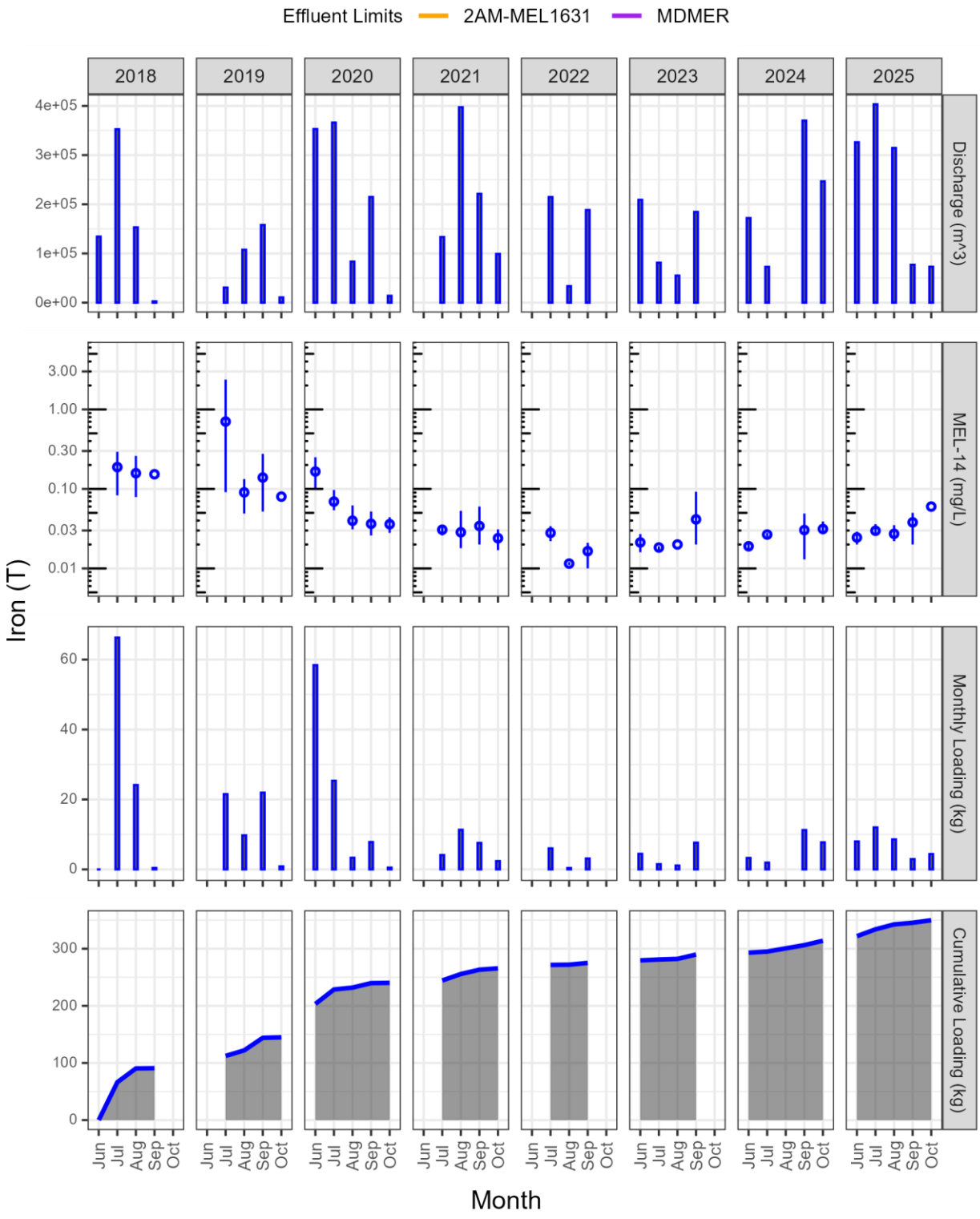


Figure B2-30. Lead

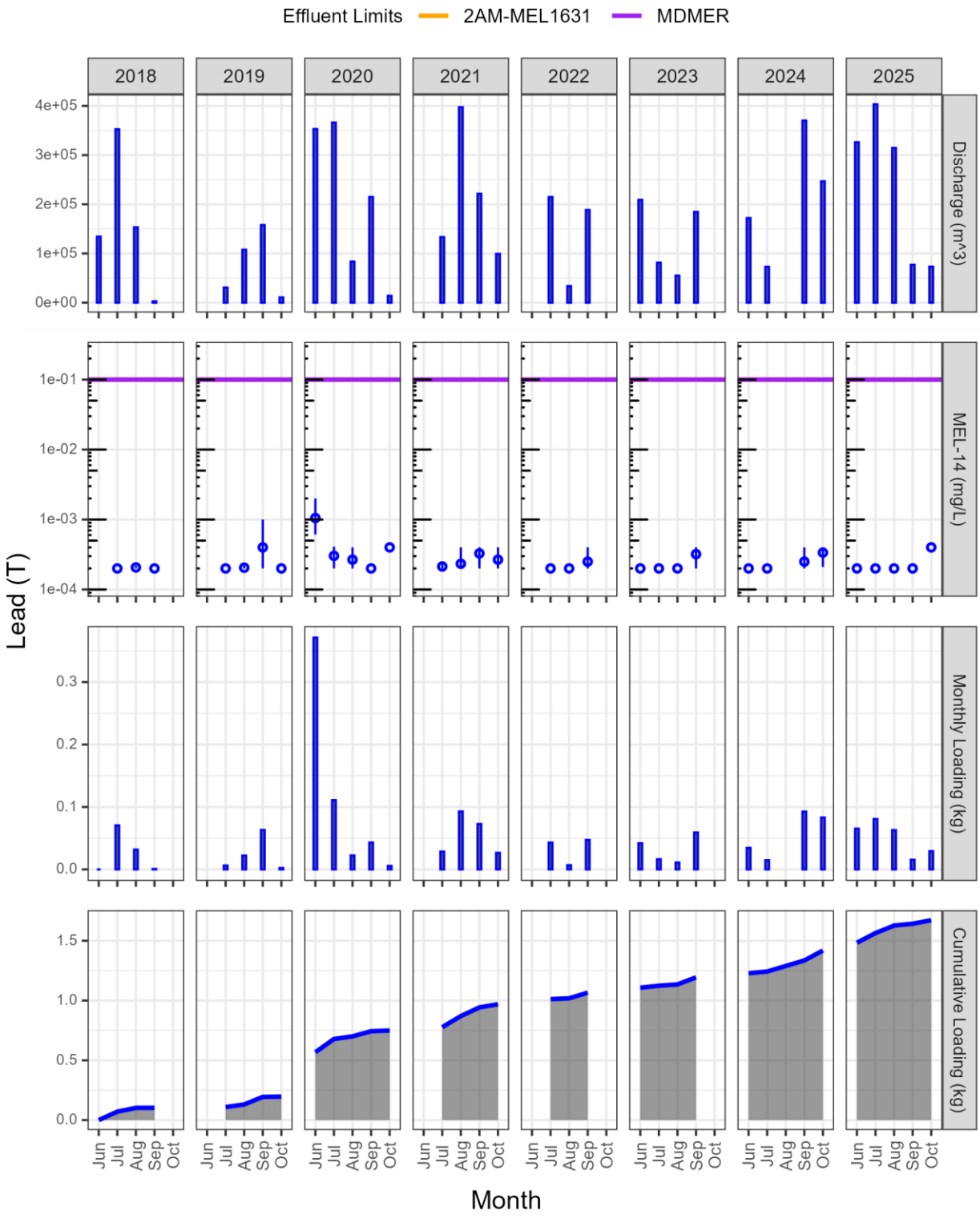


Figure B2-31. Lithium

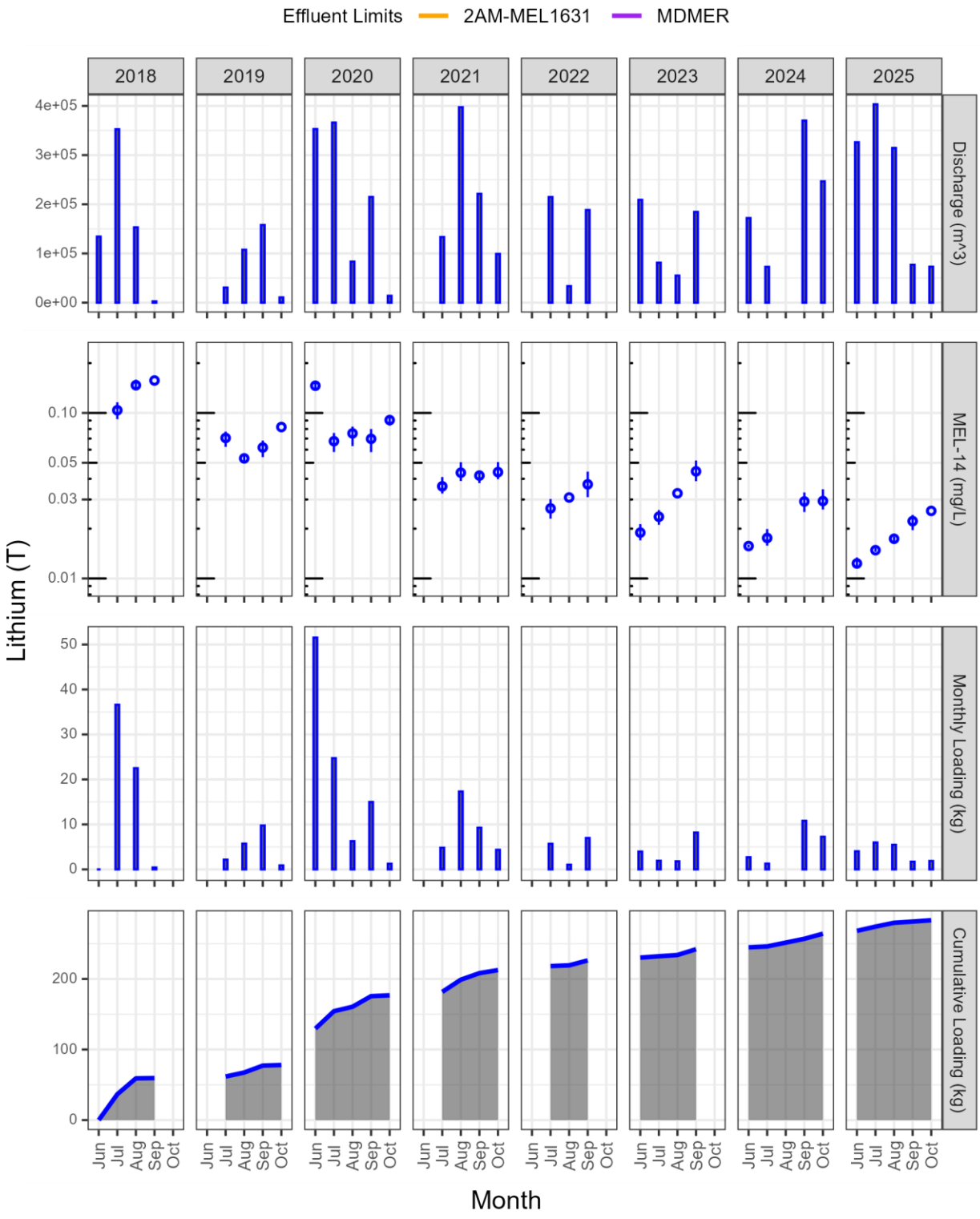


Figure B2-32. Manganese

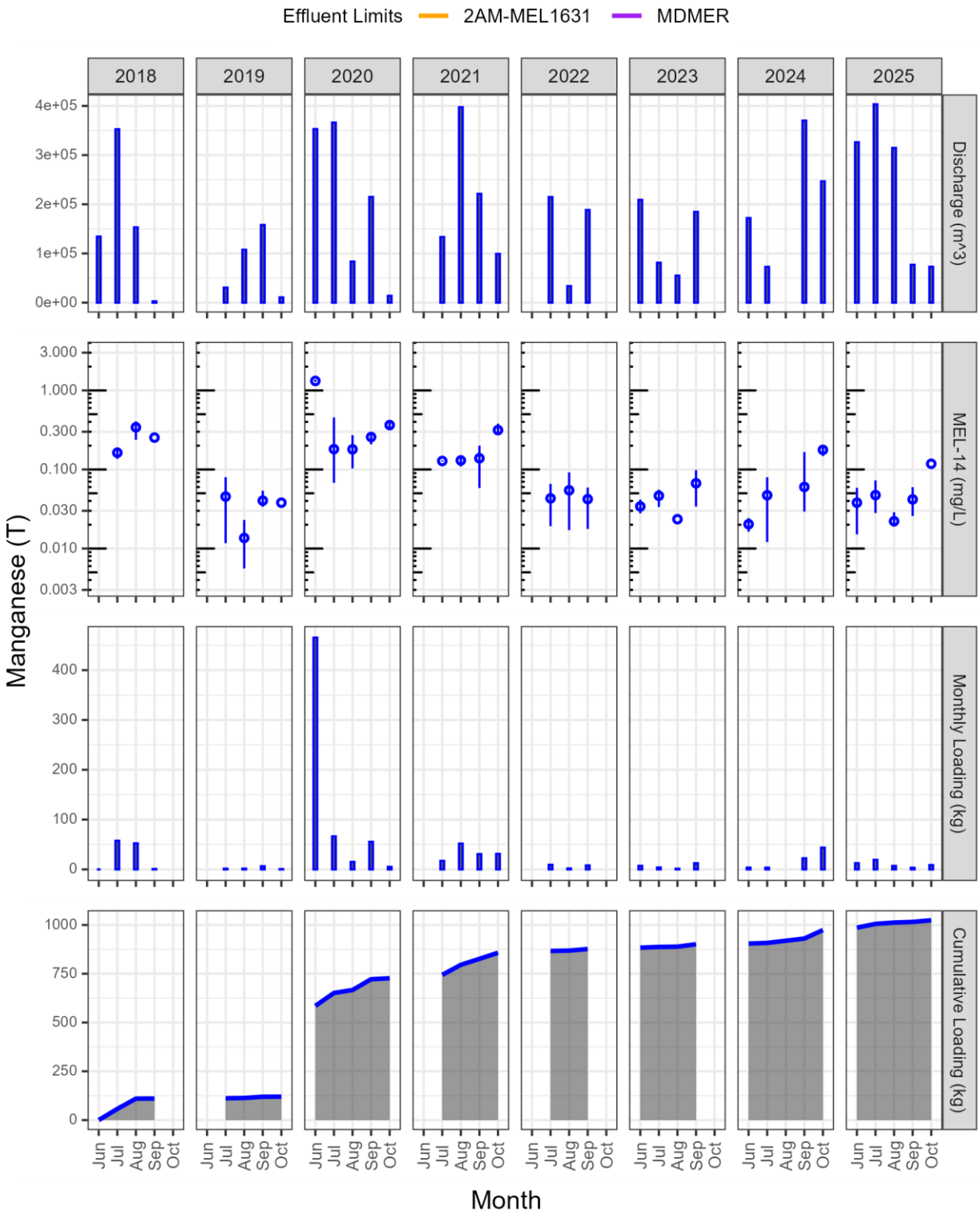


Figure B2-33. Mercury

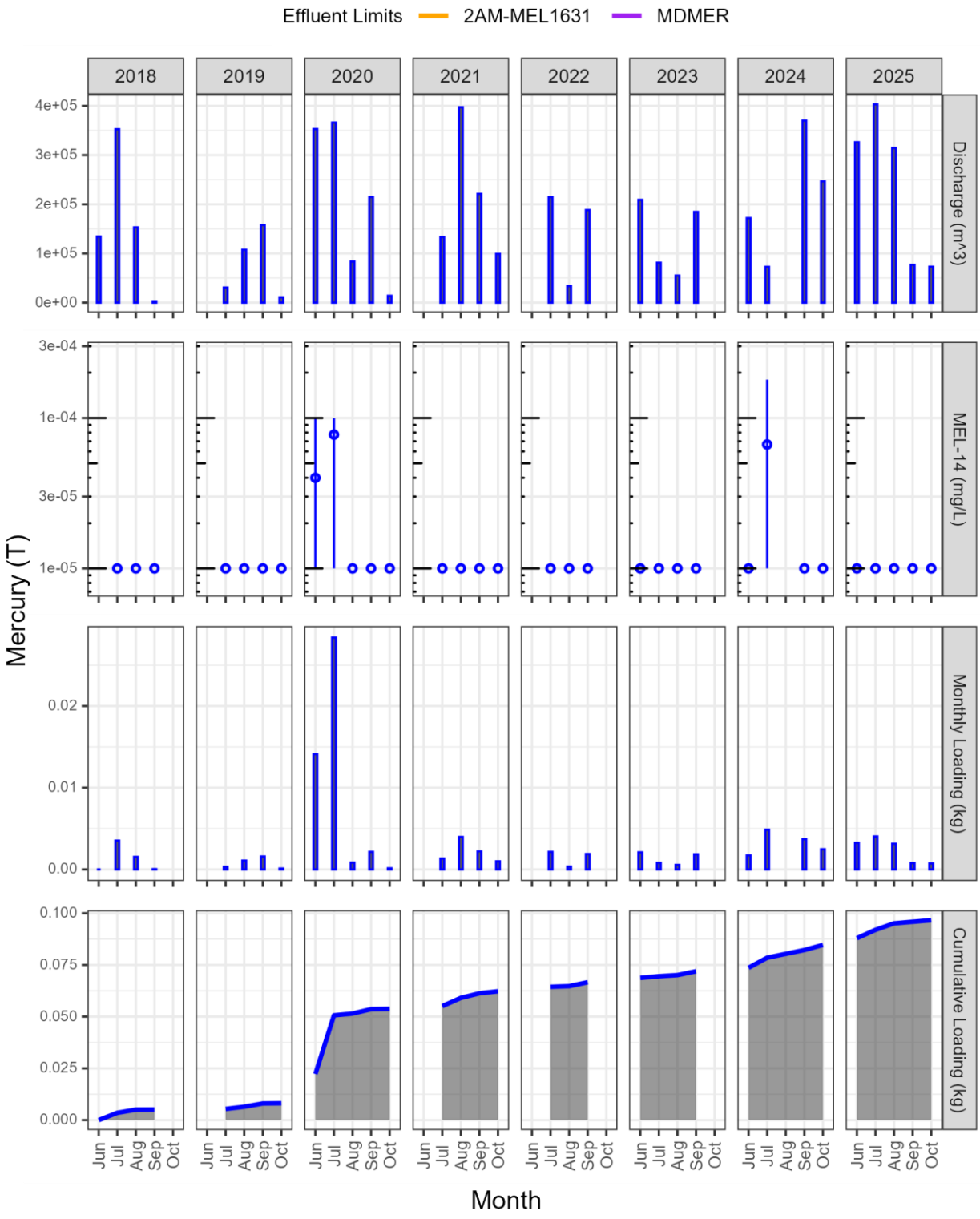


Figure B2-34. Molybdenum

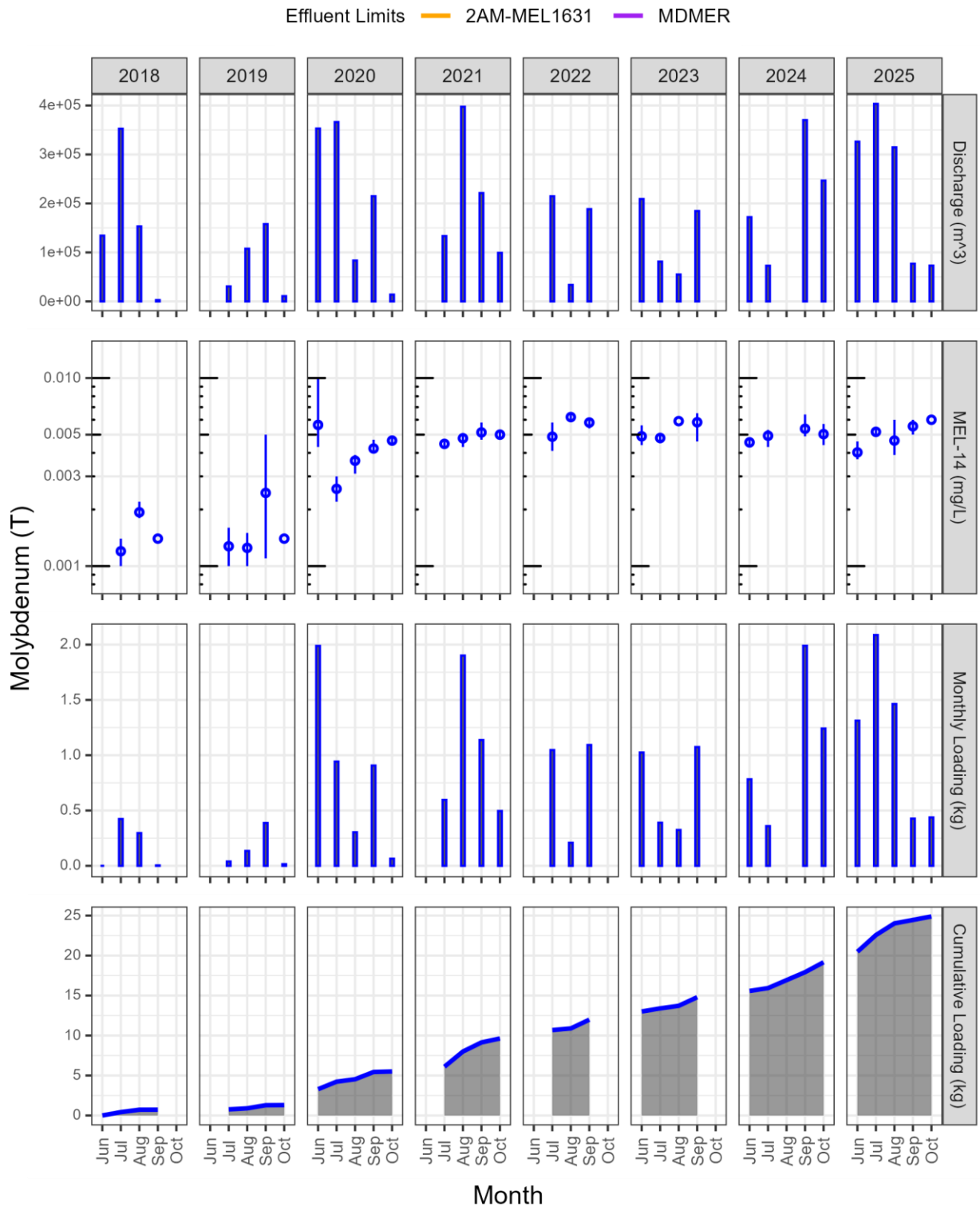


Figure B2-35. Nickel

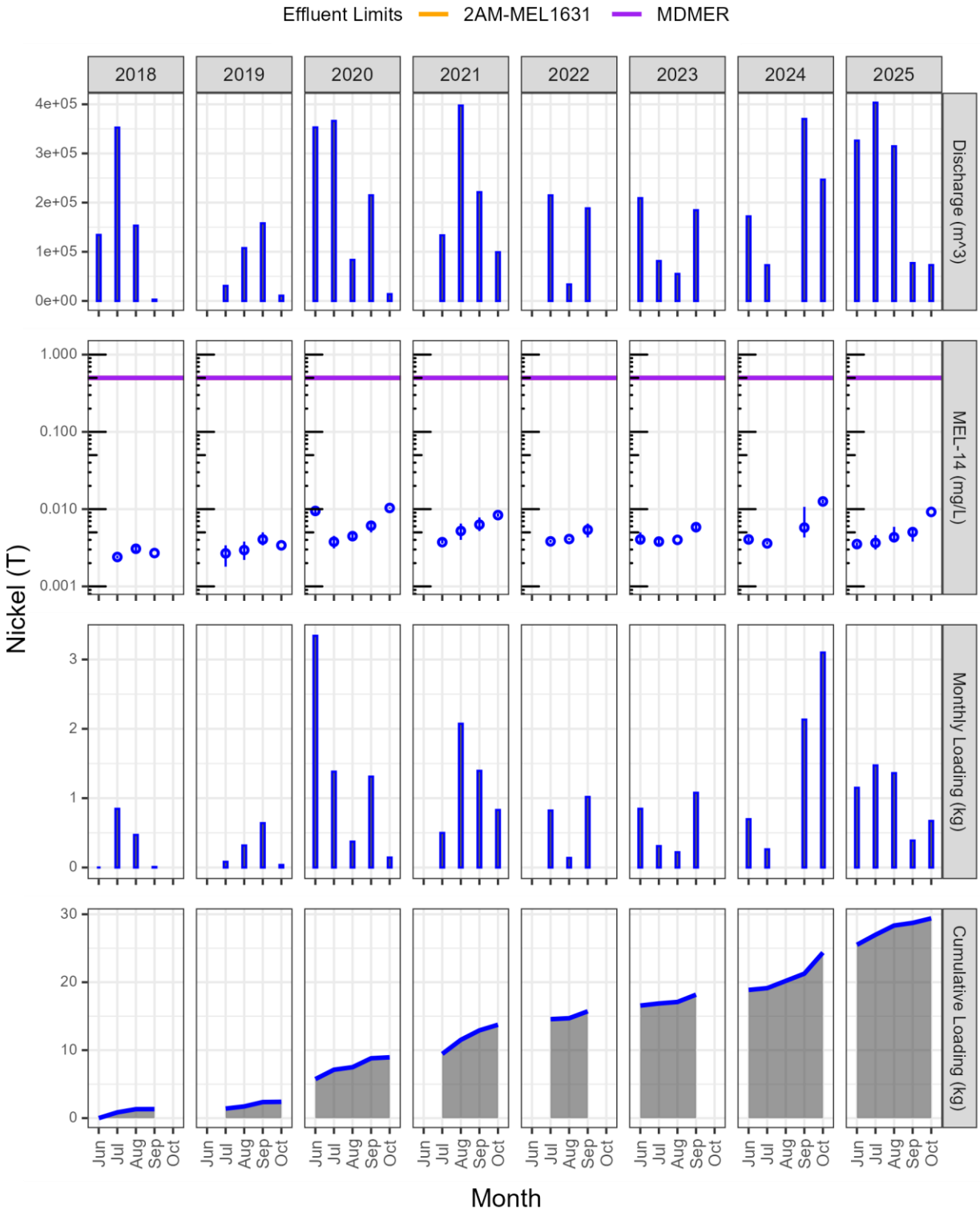


Figure B2-36. Selenium

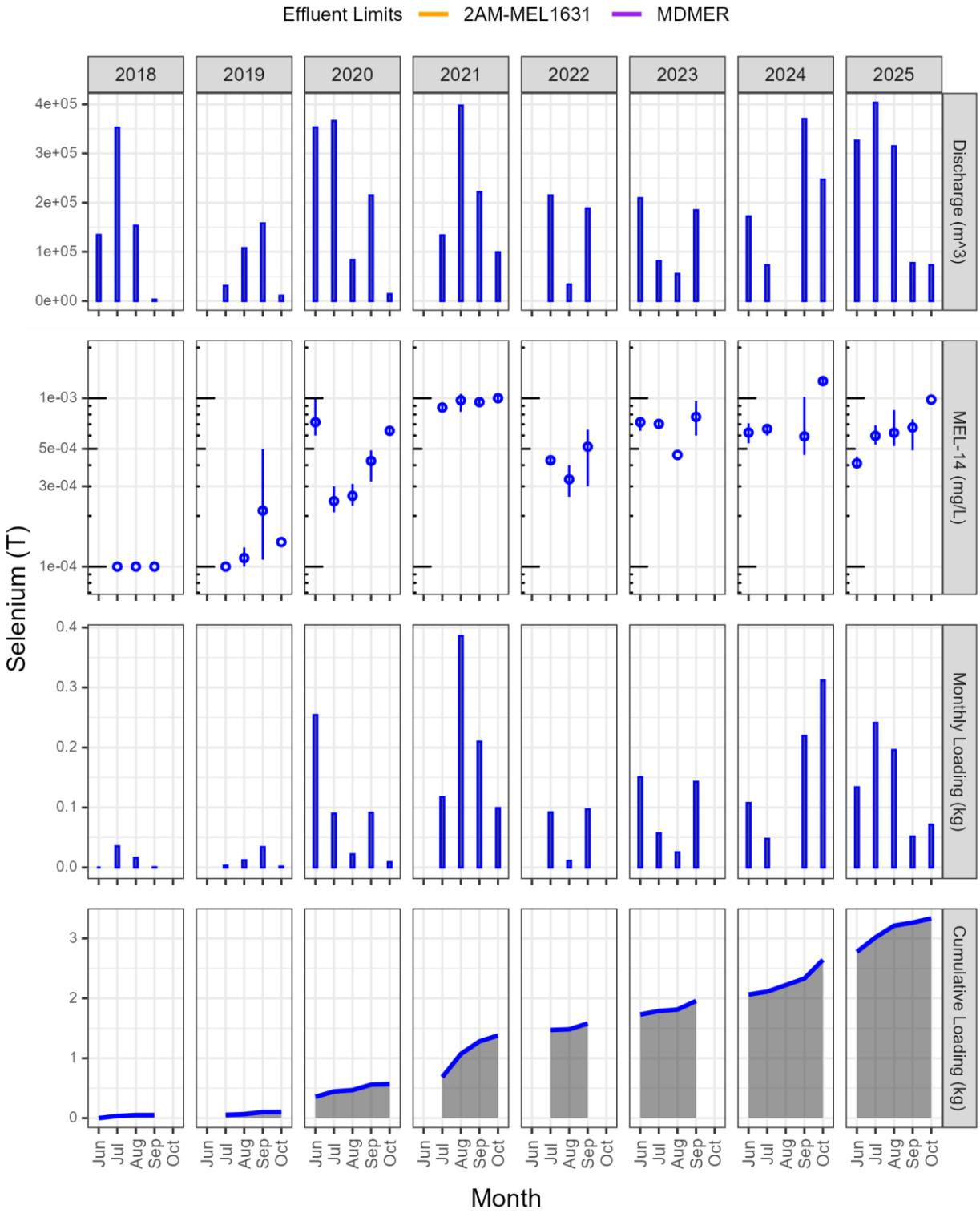


Figure B2-37. Silver

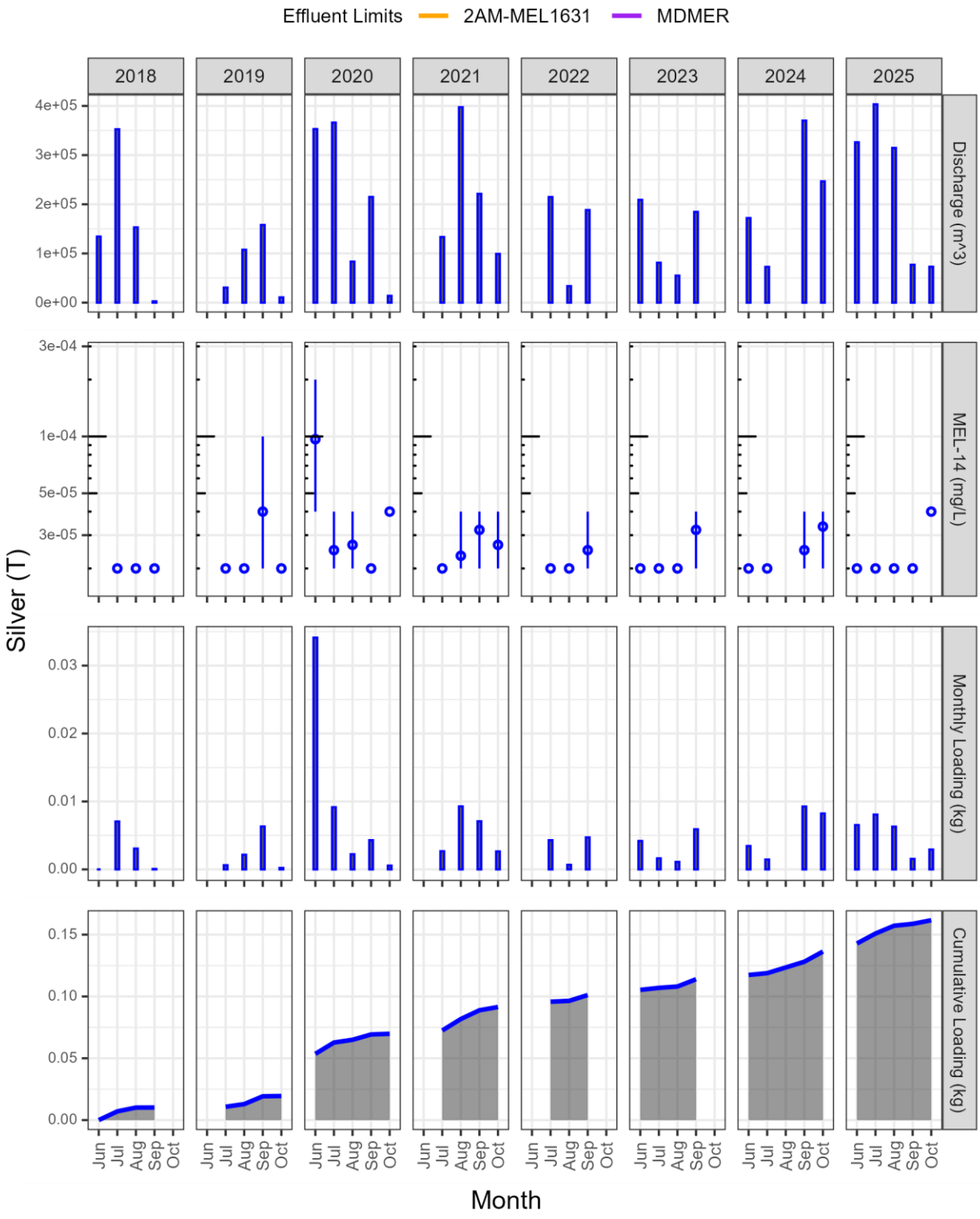


Figure B2-38. Strontium

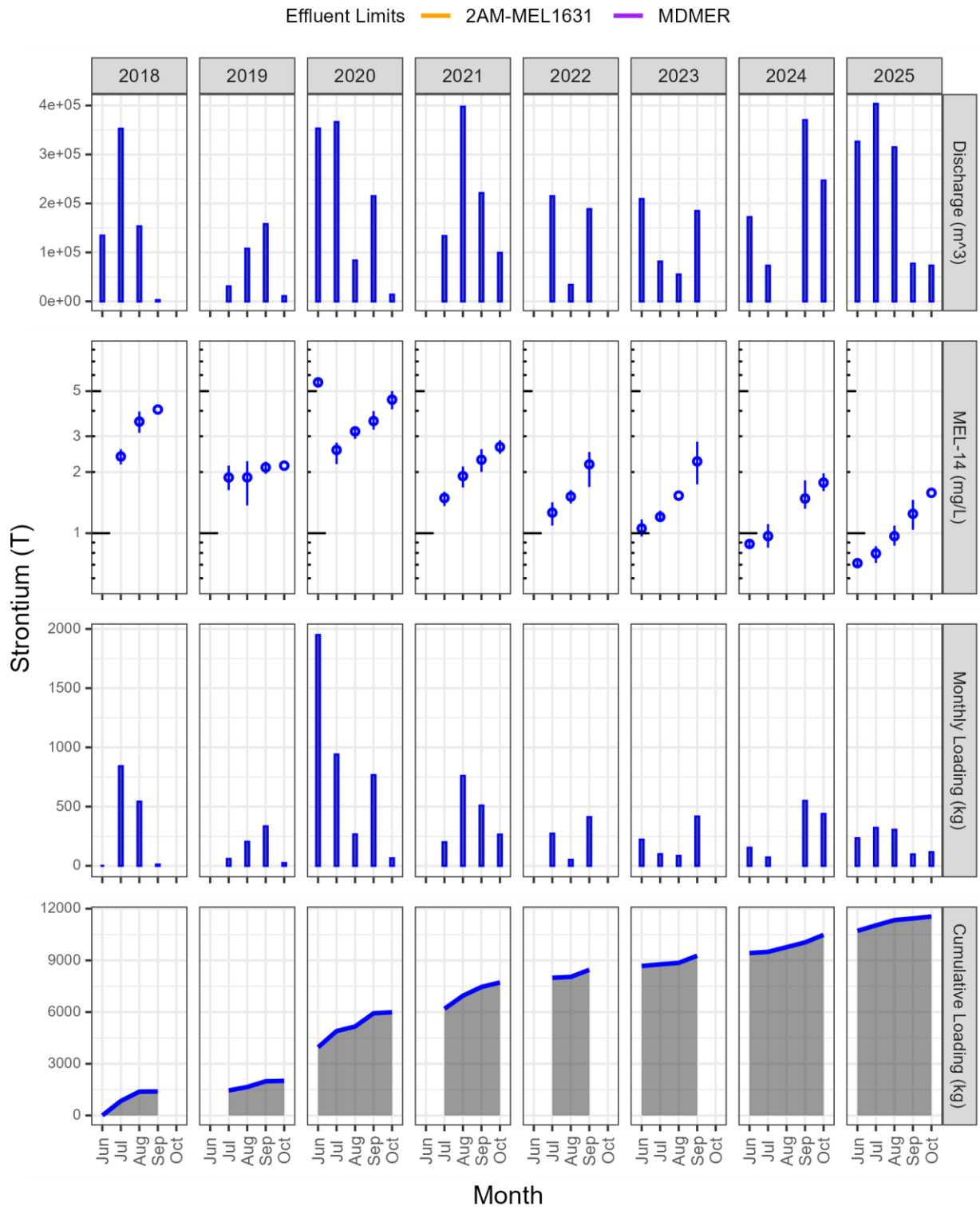


Figure B2-39. Thallium

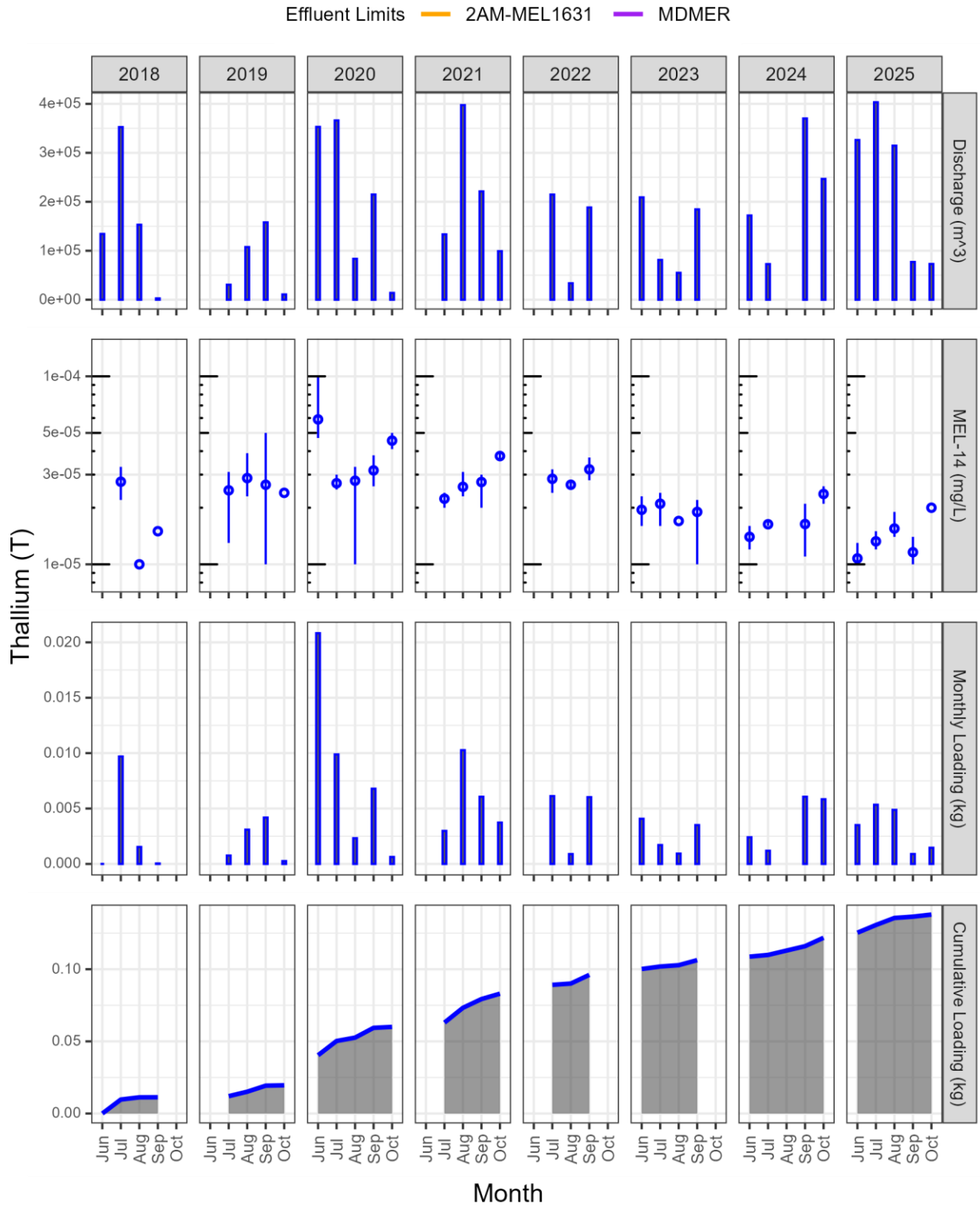


Figure B2-40. Tin

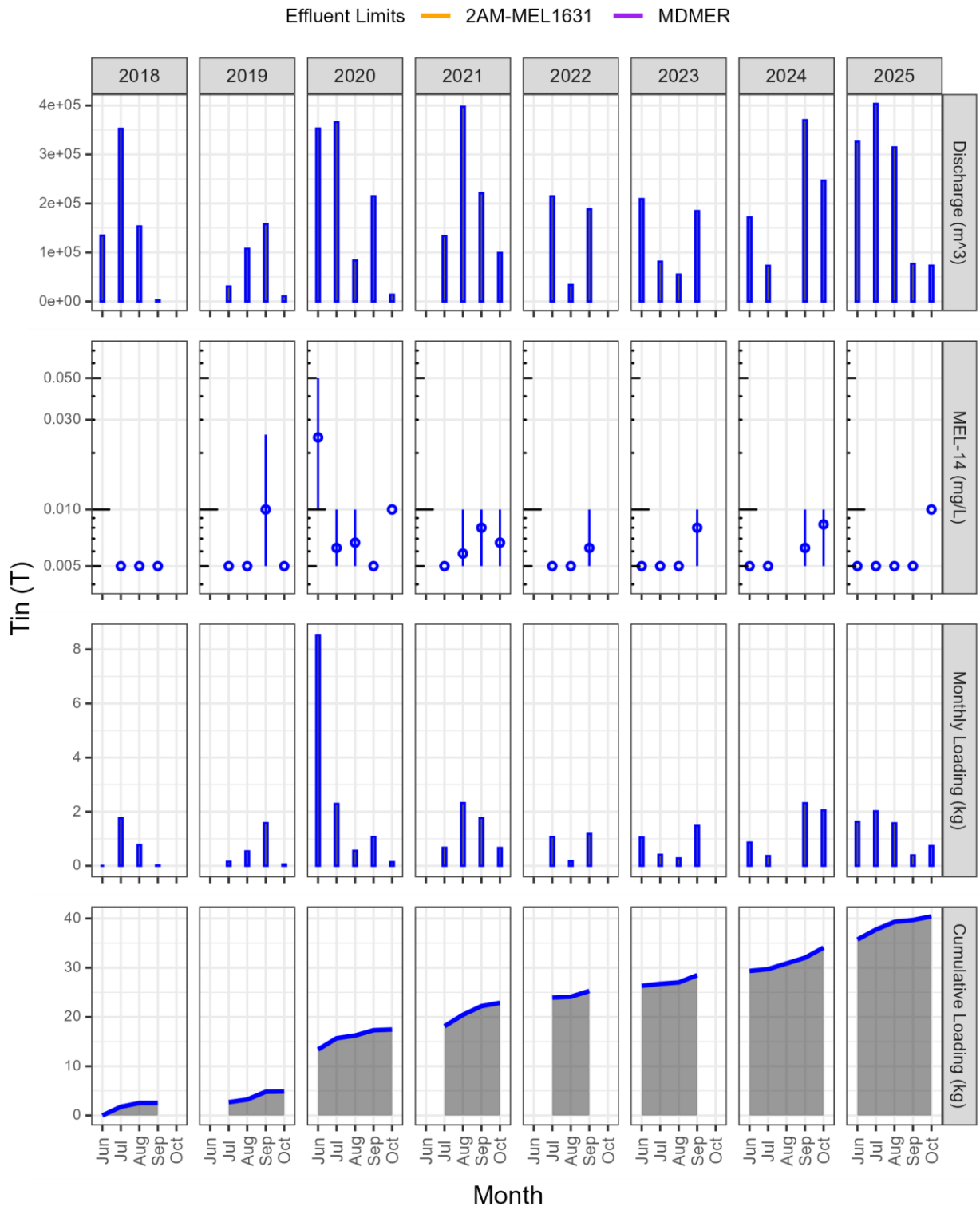


Figure B2-41. Titanium

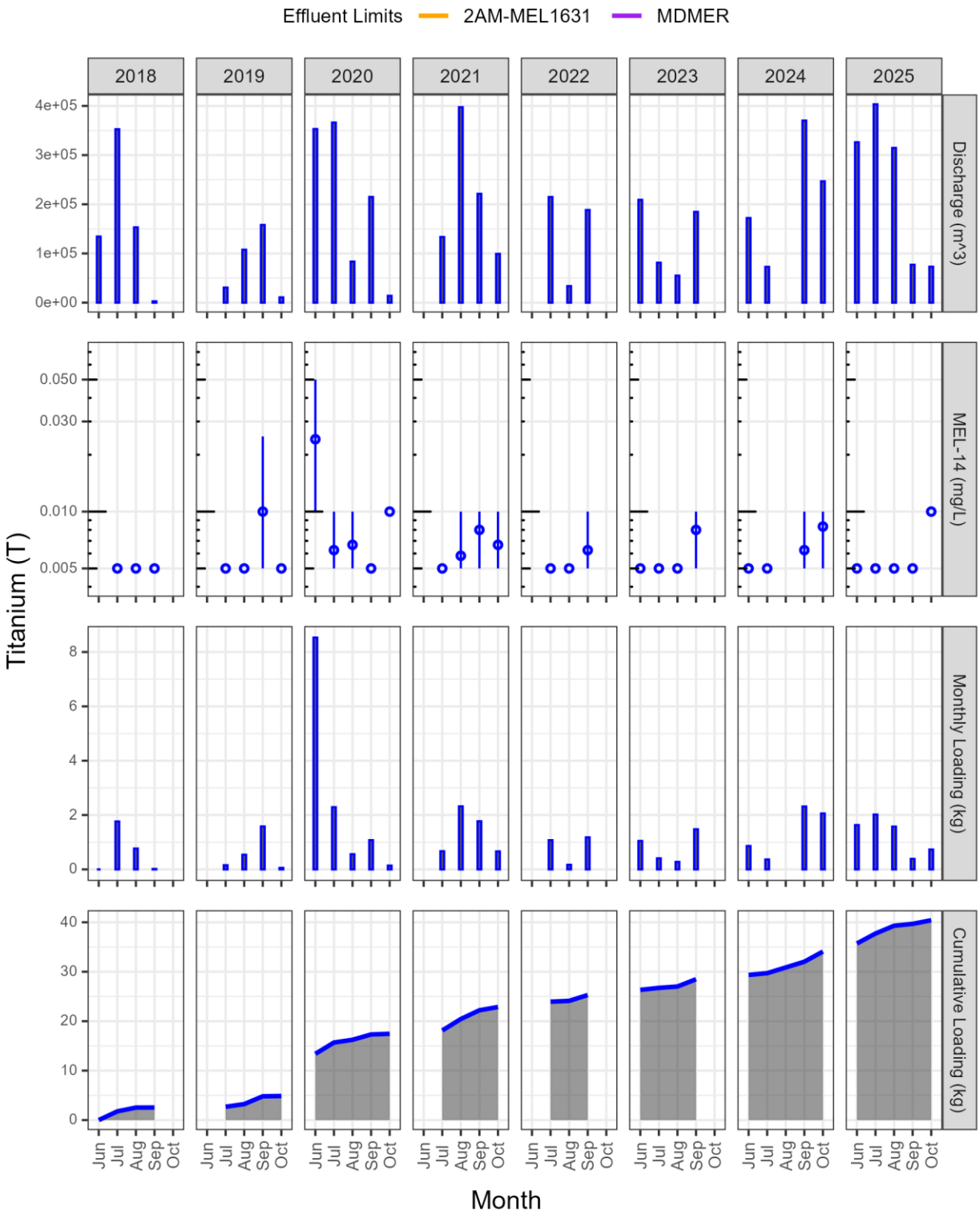


Figure B2-42. Uranium

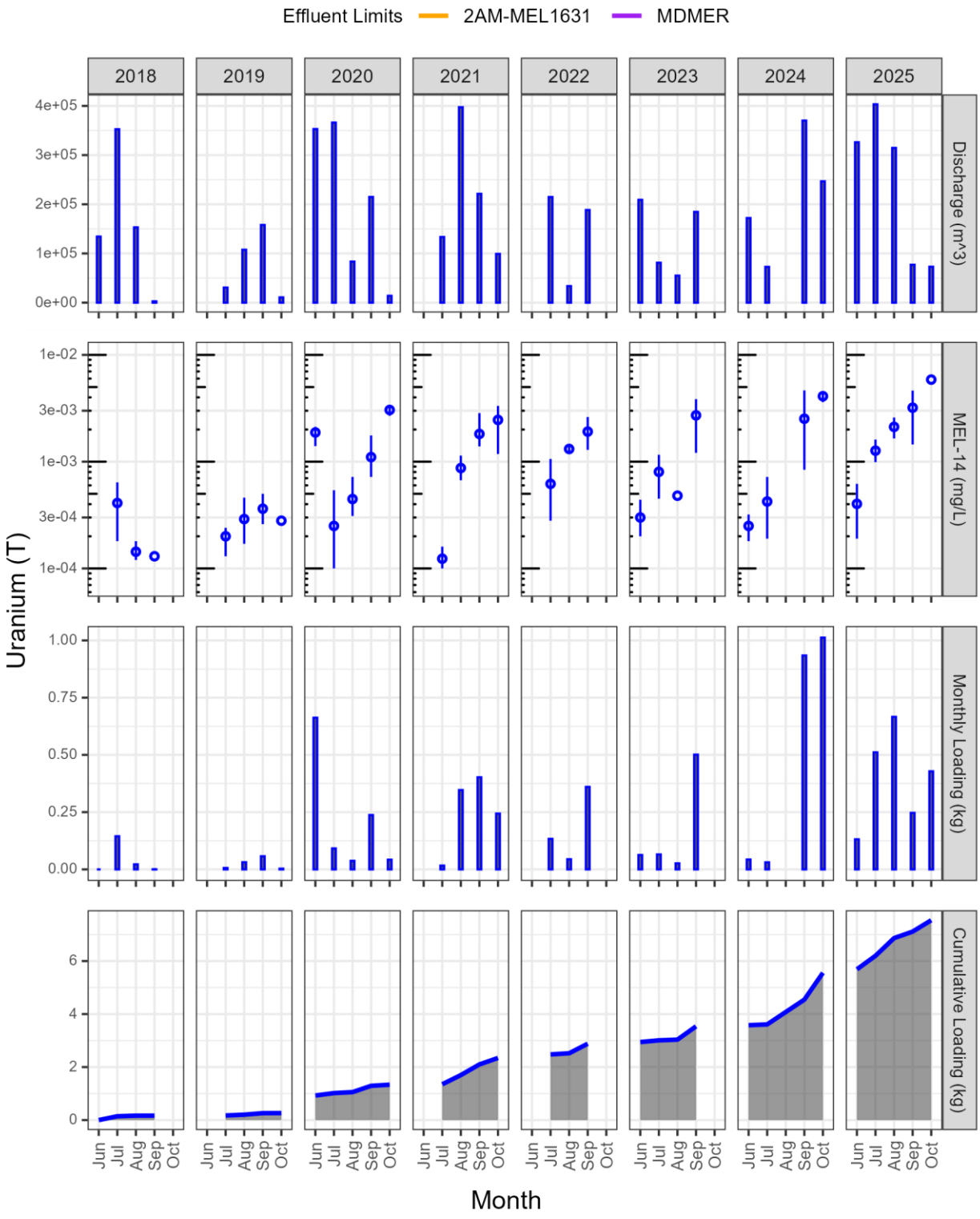


Figure B2-43. Vanadium

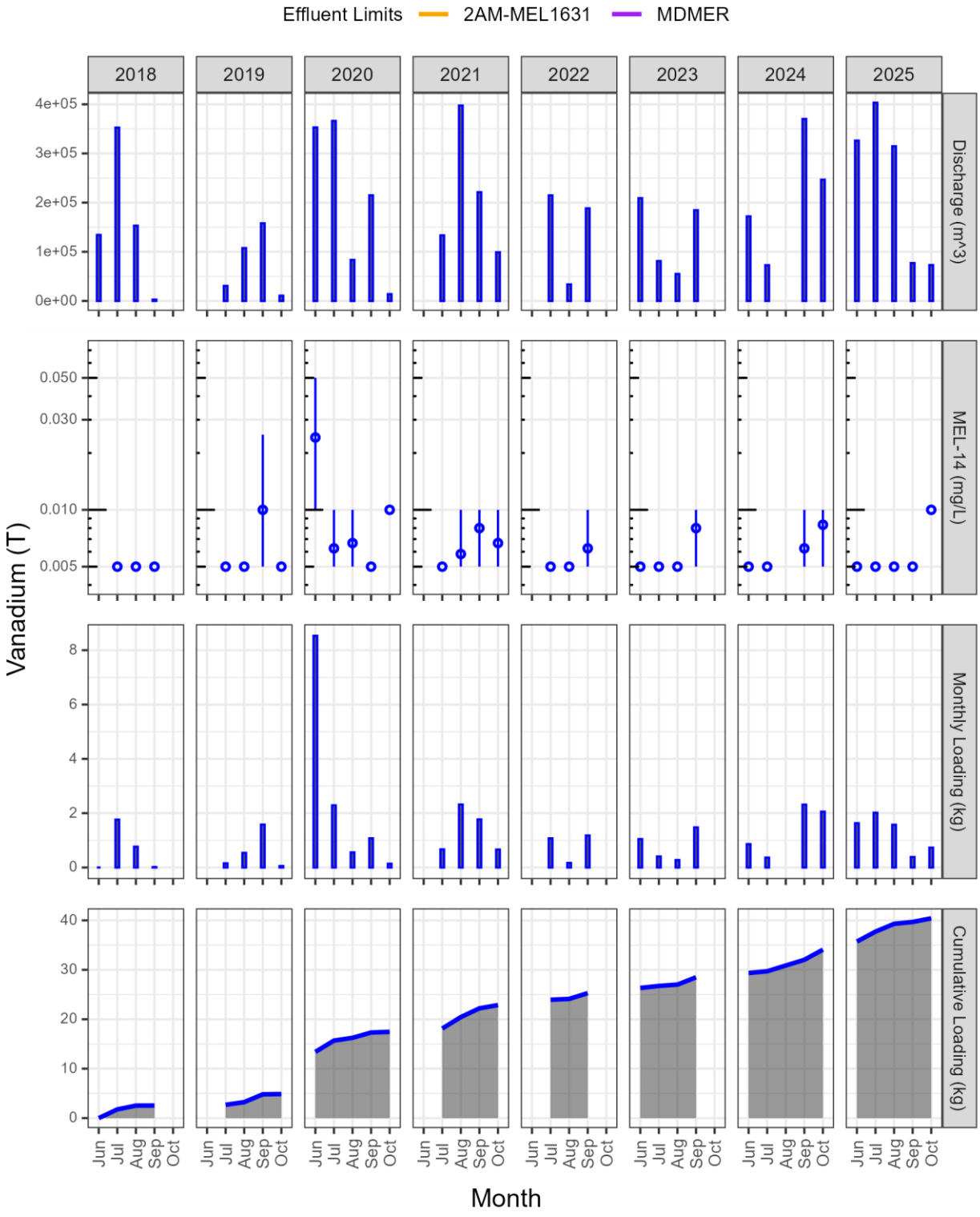


Figure B2-44. Zinc

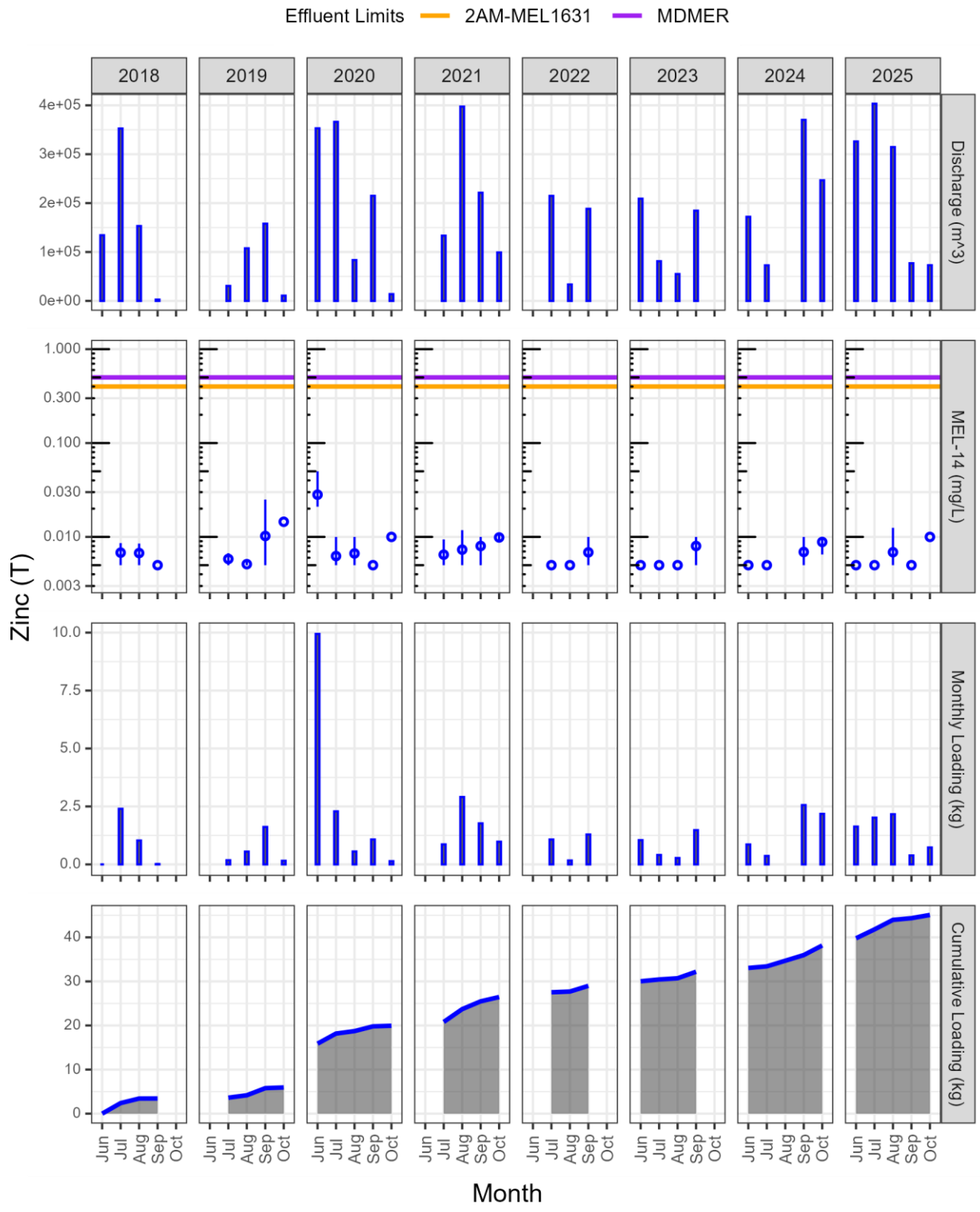


Figure B2-45. Cyanide (Free)

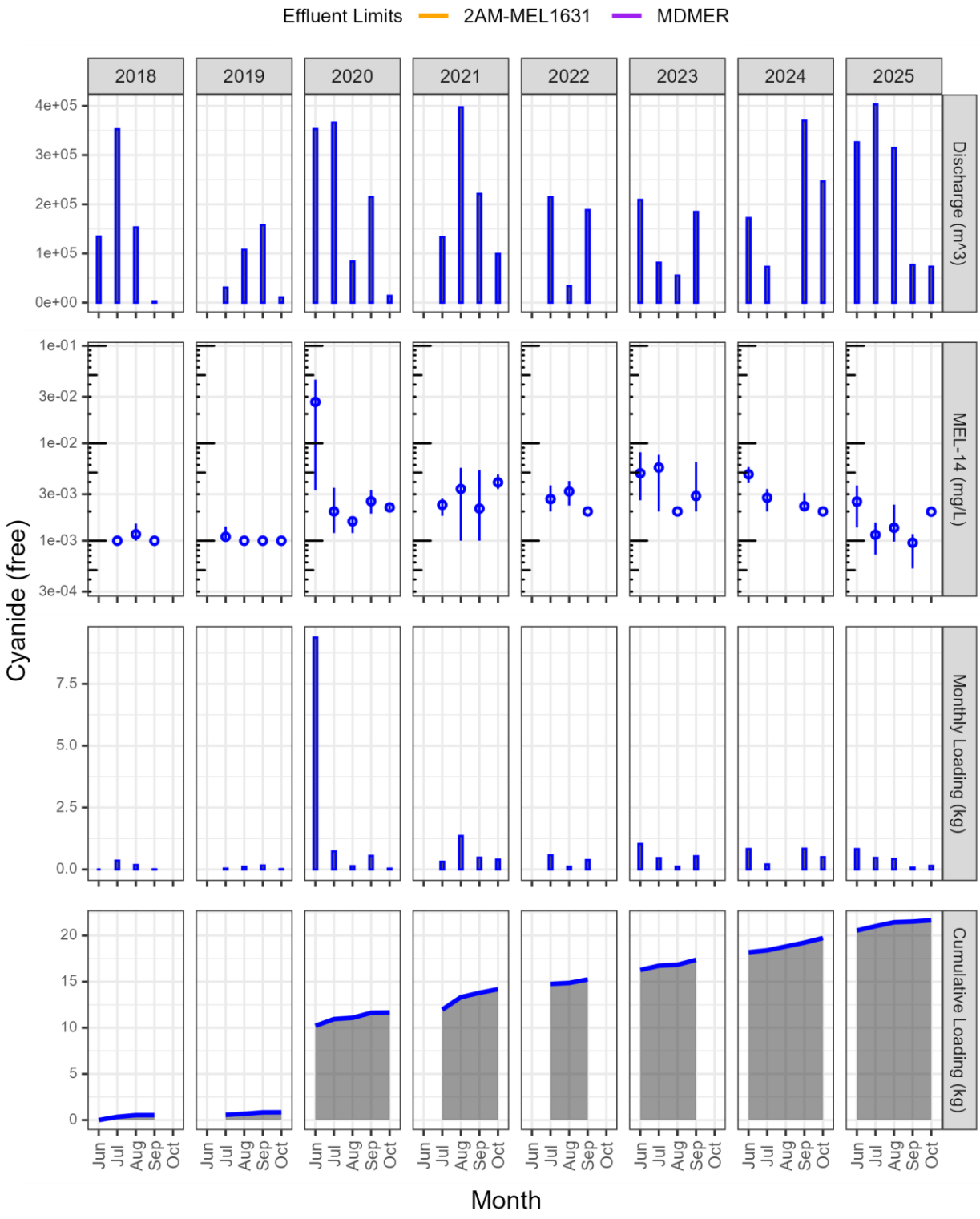


Figure B2-46. Cyanide (Total)

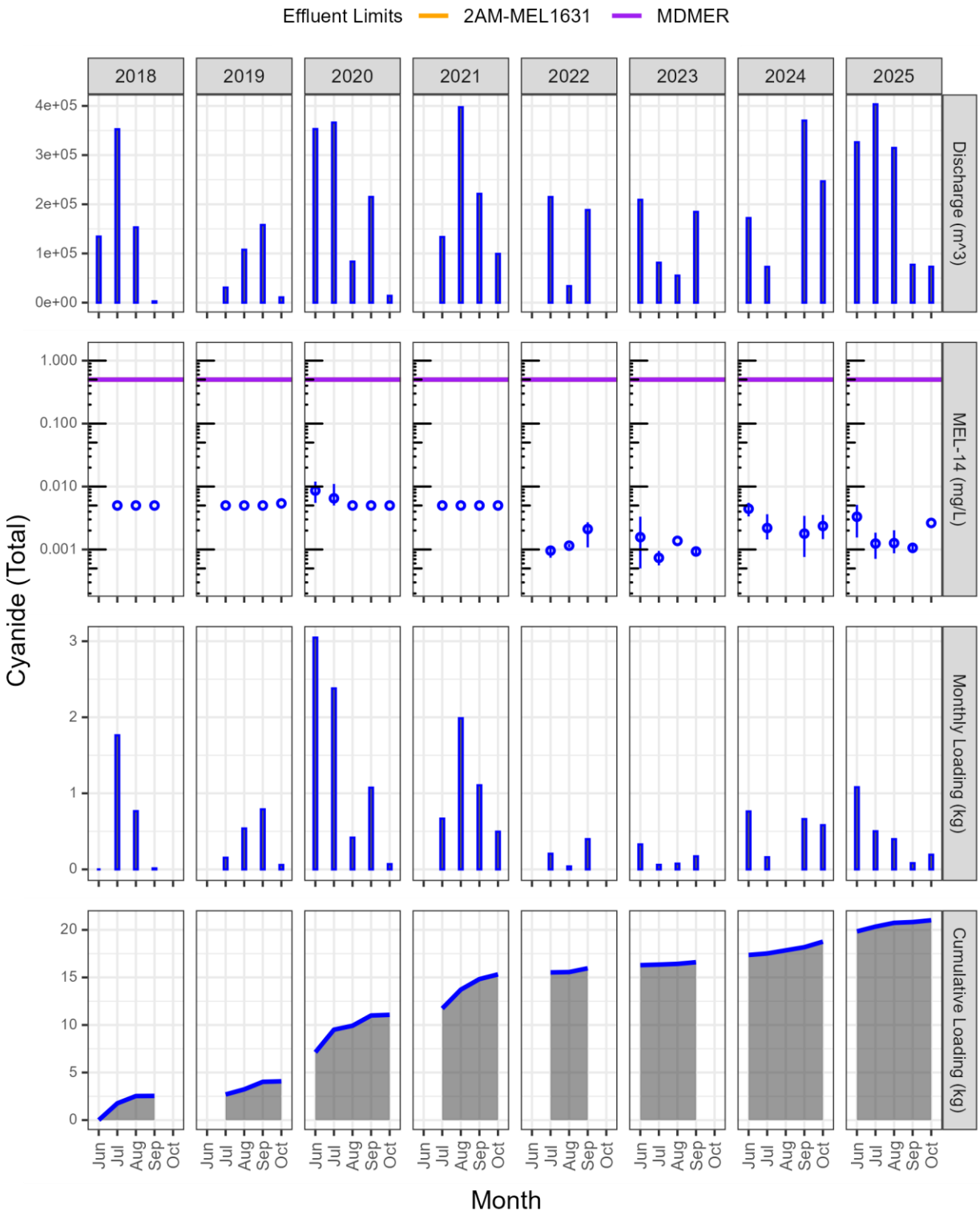
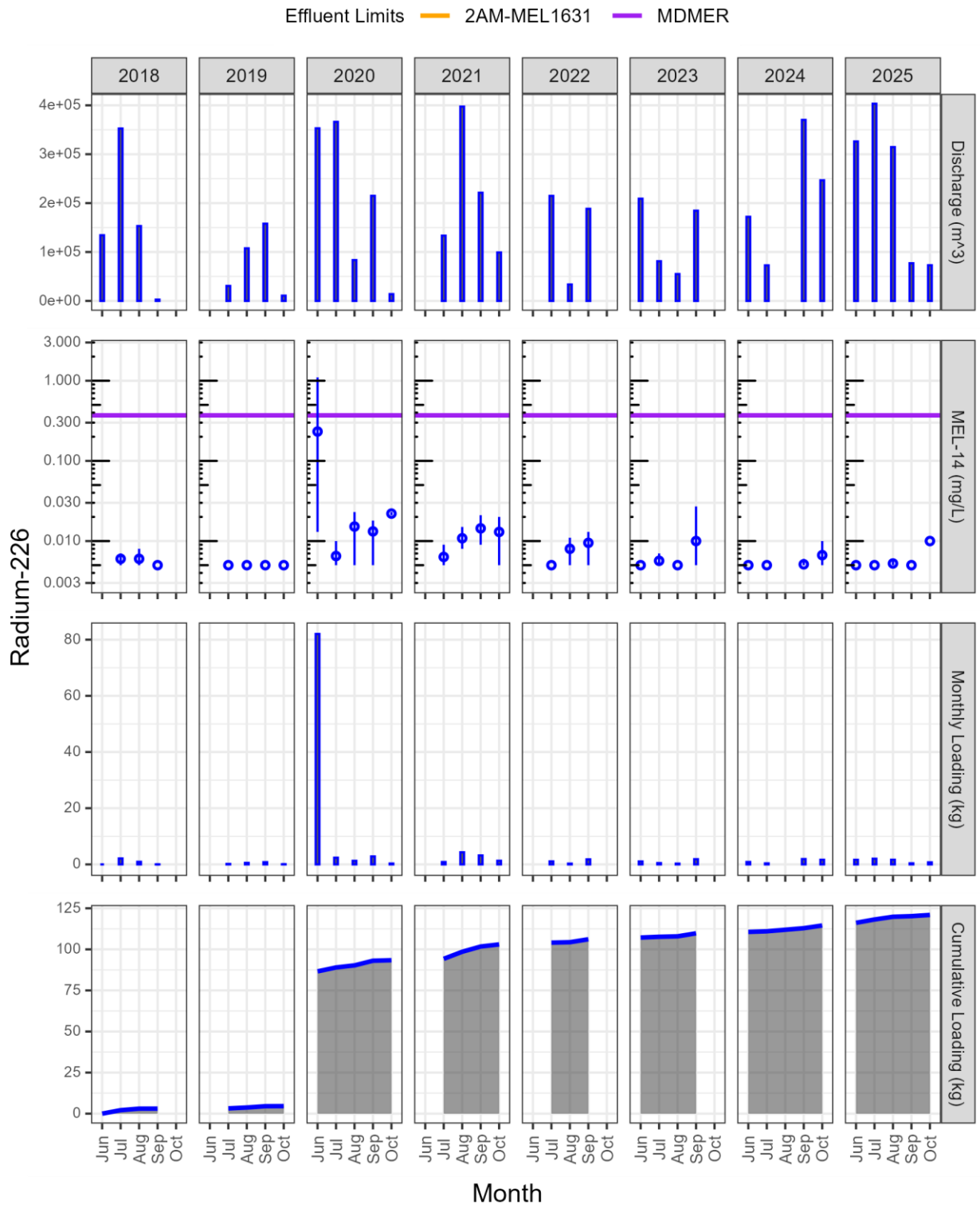


Figure B2-47. Radium-226



APPENDIX C
MELIADINE LAKE WATER QUALITY – SUPPORTING INFORMATION

Appendix C1
Meliadine Lake Water Quality – 2025 Data and Summary Statistics

APPENDIX C1 – TABLES

Table C1-1. Detection limits and screening values for the Meliadine Lake water quality program. 1
Table C1-2. MEL-01 water quality summary – March 2025 sampling event 3
Table C1-3. MEL-02 water quality summary – March 2025 sampling event 6
Table C1-4. MEL-03 water quality summary – March 2025 sampling event 9
Table C1-5. MEL-01 water quality summary – July, August, and September 2025 sampling events 12
Table C1-6. MEL-02 water quality summary – July, August, and September 2025 sampling events 15
Table C1-7. MEL-03 water quality summary – July, August, and September 2025 sampling events 18
Table C1-8. MEL-04 water quality summary – August 2025 sampling event 21
Table C1-9. MEL-05 water quality summary – August 2025 sampling event 24
Table C1-10. Atulik Lake water quality summary – August 2025 sampling event 27
Table C1-11. Peter Lake water quality summary – August 2025 sampling event 30
Table C1-12. Meliadine Lake Surface water chemistry results, 2025. 33
Table C1-13. Atulik Lake and Peter Lake Surface water chemistry results, 2025. 38

Table C1-1. Detection limits and screening values for the Meliadine Lake water quality program.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	Action Level[e] (min | max)	Benchmark[f] (min | max)
Field Measurements									
DO (mg/L)	mg/L				6.5			6.5	6.5
pH (field)	pH units		7.1 | 7.95		6.5 | 9			6.5 | 9.0	6.5 | 9.0
Conventional Parameters									
Hardness	mg/L	0.5	23.4						
Sp. Conductivity (lab)	µS/cm	1	77.5						
TDS (calculated)	mg/L	1	39.6	68	500		1000	375	500
TDS (measured)	mg/L	10	54	68	500		1000	375	500
Total Suspended Solids	mg/L	1	1	3.1					
Turbidity (lab)	NTU	0.1							
pH (lab)	pH units	0.1			6.5 | 9			6.5 | 9.0	6.5 | 9.0
Major Ions									
Acidity, Total	mg/L	2 | 3							
Alkalinity, Bicarbonate	mg/L	1	25						
Alkalinity, Carbonate	mg/L	1							
Alkalinity, Hydroxide	mg/L	1							
Alkalinity, Total	mg/L	1	20.5						
Bromide	mg/L	0.1							
Calcium (D)	mg/L	0.01							
Calcium (T)	mg/L	0.01	7.33						
Chloride	mg/L	0.1	9.56	14	120			90	120
Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8
Magnesium (D)	mg/L	0.004							
Magnesium (T)	mg/L	0.004	1.18						
Potassium (D)	mg/L	0.02							
Potassium (T)	mg/L	0.02	0.954						
Reactive Silica	mg/L	0.01	0.268						
Sodium (D)	mg/L	0.02							
Sodium (T)	mg/L	0.02	4.85	5.3					
Sulphate	mg/L	0.3	3.87	38	128 | 218			96 | 164	128 | 218
Nutrients									
Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74			0.441 | 4.31	0.588 | 5.74
Kjeldahl Nitrogen (D)	mg/L	0.05							
Kjeldahl Nitrogen (T)	mg/L	0.05	0.25						
Nitrate (as N)	mg/L	0.005	0.018	0.25	2.9	10		2.17	2.9
Nitrate + Nitrite (as N)	mg/L	0.0051							
Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1		0.045	0.06
Nitrogen (D)	mg/L	0.05							
Nitrogen (T)	mg/L	0.05							
Orthophosphate (PO4-P)	mg/L	0.001	0.001						
Total Diss Phosphorus	mg/L	0.001	0.00314						
Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01			0.0075	0.01
Organic Carbon									
Dissolved Organic Carbon	mg/L	0.5	2.72						
Total Organic Carbon	mg/L	0.5	3.00						
Cyanides									
Cyanide (Free)	mg/L	0.001		0.00035					
Cyanide (Total)	mg/L	0.001	0.001	0.009	0.005	0.2		0.00375	0.005
Cyanide (WAD)	mg/L	0.001							
Metals									
Aluminum (D)	µg/L	1							
Aluminum (T)	µg/L	1	5.32	9.1	312 | 713			234 | 535	312 | 713
Antimony (D)	µg/L	0.02							
Antimony (T)	µg/L	0.02	0.02	0.51		6		4.5	6
Arsenic (D)	µg/L	0.02							
Arsenic (T)	µg/L	0.02	0.275	3.8	5	10	25	18.8	25
Barium (D)	µg/L	0.02							
Barium (T)	µg/L	0.02	8.05	77		1000		750	1000
Beryllium (D)	µg/L	0.005							
Beryllium (T)	µg/L	0.005	0.005						
Bismuth (D)	µg/L	0.005							
Bismuth (T)	µg/L	0.005	0.005						
Boron (D)	µg/L	5							
Boron (T)	µg/L	5	6.52	23	1500	5000		1120	1500
Cadmium (D)	µg/L	0.005							
Cadmium (T)	µg/L	0.005	0.005	0.05	0.0391 | 0.0761	5		0.0293 | 0.0571	0.0391 | 0.0761
Cesium (D)	µg/L	0.005							
Cesium (T)	µg/L	0.005							

Table C1-1. Detection limits and screening values for the Meliadine Lake water quality program.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	Action Level[e] (min | max)	Benchmark[f] (min | max)
Chromium (D)	µg/L	0.1							
Chromium (T)	µg/L	0.1	0.103	1.1	5	50		3.75	5
Cobalt (D)	µg/L	0.005							
Cobalt (T)	µg/L	0.005	0.016		0.78			0.585	0.78
Copper (D)	µg/L	0.05	0.861		1.32 | 4.58			0.987 | 3.44	1.32 | 4.58
Copper (T)	µg/L	0.05	0.86	2		2000		1500	2000
Iron (D)	µg/L	1							
Iron (T)	µg/L	1	15	42	300		1060	795	1060
Lead (D)	µg/L	0.01	0.0125		5.13 | 7.57			3.85 | 5.68	5.13 | 7.57
Lead (T)	µg/L	0.01	0.0222	0.15		5		3.75	5
Lithium (D)	µg/L	0.5							
Lithium (T)	µg/L	0.5	0.72						
Manganese (D)	µg/L	0.05	1.2		210 | 330			158 | 248	210 | 330
Manganese (T)	µg/L	0.05	3.06	5.5		120		90	120
Mercury (D)	ng/L	0.5 | 5							
Mercury (T)	ng/L	0.5	0.8	20	26	1000		19.5	26
Molybdenum (D)	µg/L	0.05							
Molybdenum (T)	µg/L	0.05	0.107	5.2	73			54.8	73
Nickel (D)	µg/L	0.05							
Nickel (T)	µg/L	0.05	0.441	2.7	25			18.8	25
Selenium (D)	µg/L	0.04							
Selenium (T)	µg/L	0.04	0.049	0.16	1	50		0.75	1
Silicon (D)	µg/L	50							
Silicon (T)	µg/L	50							
Silver (D)	µg/L	0.005							
Silver (T)	µg/L	0.005	0.005	0.1	0.25			0.188	0.25
Strontium (D)	µg/L	0.02			2500			1880	2500
Strontium (T)	µg/L	0.02	36.1		2500	7000		1880	2500
Thallium (D)	µg/L	0.005							
Thallium (T)	µg/L	0.005	0.005	0.1	0.8			0.6	0.8
Thorium (D)	µg/L	0.005 | 0.025							
Thorium (T)	µg/L	0.005 | 0.025							
Tin (D)	µg/L	0.02							
Tin (T)	µg/L	0.02	0.0384						
Titanium (D)	µg/L	0.05							
Titanium (T)	µg/L	0.05	0.17						
Tungsten (D)	µg/L	0.01							
Tungsten (T)	µg/L	0.01							
Uranium (D)	µg/L	0.001							
Uranium (T)	µg/L	0.001	0.0164	1.5	15	20		11.2	15
Vanadium (D)	µg/L	0.05							
Vanadium (T)	µg/L	0.05	0.05		120			90	120
Zinc (D)	µg/L	0.5	1.9		7.43 | 15.1			5.58 | 11.4	7.43 | 15.1
Zinc (T)	µg/L	0.5	1.7	6.7	7.43 | 15.1			5.58 | 11.4	7.43 | 15.1

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The freshwater aquatic life guidelines (FWAL) for cadmium (T), copper (D), lead (D), manganese (D), and zinc (D) are variable depending on modifying factors such as pH, hardness, and DOC. Values shown represent the range of FWAL guidelines calculated for MEL-01 open-water samples in 2024.

[c] Health Canada drinking water guidelines (maximum acceptable concentrations)

[d] Site-specific water quality objectives for fluoride, arsenic, and iron.

[e] The AEMP Action Level is 75% of the AEMP Benchmark.

[f] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines.

Table C1-2. MEL-01 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-01 (Near-field Exposure Area) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Field Measurements																
Temperature	C					6	0	0	1.53	1.6	0.151	0.0615	1.3	1.7		
DO (%)	%					6	0	0	87.3	84.4	6.23	2.54	82.4	98.7		
DO (mg/L)	mg/L			6.5	6.5	6	0	0	12.2	11.6	1.01	0.414	11.5	14		0
pH (field)	pH units			6.5 | 9.0	6.5 | 9.0	6	0	0	6.92	6.96	0.239	0.0974	6.52	7.18		0
Sp. Conductivity (field)	µS/cm					6	0	0	171	171	2.02	0.824	169	174		
Conventional Parameters																
Hardness	mg/L	0.5				6	0	0	50	49.8	1.84	0.75	47.9	53.4		
Sp. Conductivity (lab)	µS/cm	1				6	0	0	175	176	2.48	1.01	172	179		
TDS (calculated)	mg/L	1	68	375	500	6	0	0	114	114	1.51	0.615	112	116	100	0
TDS (measured)	mg/L	10	68	375	500	6	0	0	99.5	104	14.3	5.83	71.7	111	100	0
Total Suspended Solids	mg/L	1	3.1			6	6	100	-	-	-	-	-	1	0	
Turbidity (lab)	NTU	0.1				6	0	0	0.222	0.21	0.0515	0.021	0.17	0.28		
pH (lab)	pH units	0.1		6.5 | 9.0	6.5 | 9.0	6	0	0	7.18	7.18	0.0442	0.018	7.13	7.25		0
Major Ions																
Alkalinity, Bicarbonate	mg/L	1				6	0	0	27.9	27.7	0.55	0.225	27.4	28.9		
Alkalinity, Carbonate	mg/L	1				6	6	100	-	-	-	-	-	1		
Alkalinity, Hydroxide	mg/L	1				6	6	100	-	-	-	-	-	1		
Alkalinity, Total	mg/L	1				6	0	0	27.9	27.7	0.55	0.225	27.4	28.9		
Bromide	mg/L	0.1				6	6	100	-	-	-	-	-	0.1		
Calcium (D)	mg/L	0.01				6	0	0	15.3	15.2	0.571	0.233	14.6	16.3		
Calcium (T)	mg/L	0.01				6	0	0	14.9	15	0.407	0.166	14.2	15.3		
Chloride	mg/L	0.1	14	90	120	6	0	0	25.1	25.1	0.372	0.152	24.7	25.8	100	0
Fluoride	mg/L	0.02	0.0084	2.1	2.8	6	0	0	0.0398	0.04	0.000753	0.000307	0.039	0.041	100	0
Magnesium (D)	mg/L	0.004				6	0	0	2.88	2.85	0.11	0.0451	2.77	3.09		
Magnesium (T)	mg/L	0.004				6	0	0	2.79	2.83	0.0745	0.0304	2.66	2.85		
Potassium (D)	mg/L	0.02				6	0	0	1.69	1.68	0.0717	0.0293	1.62	1.83		
Potassium (T)	mg/L	0.02				6	0	0	1.65	1.67	0.0621	0.0254	1.53	1.69		
Reactive Silica	mg/L	0.01				6	0	0	1.1	1.08	0.0337	0.0138	1.07	1.15		
Sodium (D)	mg/L	0.02				6	0	0	12.1	12	0.516	0.211	11.3	12.9		
Sodium (T)	mg/L	0.02	5.3			6	0	0	11.6	11.7	0.306	0.125	11	11.8	100	
Sulphate	mg/L	0.3	38	96 | 164	128 | 218	6	0	0	15.5	15.6	0.197	0.0803	15.3	15.8	0	0
Nutrients																
Ammonia (as N)	mg/L	0.005	0.54	0.441 | 4.31	0.588 | 5.74	6	0	0	0.0169	0.0162	0.00242	0.000988	0.0143	0.02	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05				6	0	0	0.324	0.326	0.0162	0.00662	0.301	0.342		
Kjeldahl Nitrogen (T)	mg/L	0.05				6	0	0	0.316	0.314	0.00866	0.00353	0.307	0.329		
Nitrate (as N)	mg/L	0.005	0.25	2.17	2.9	6	0	0	0.101	0.102	0.00276	0.00113	0.0969	0.105	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051				6	0	0	0.101	0.102	0.00276	0.00113	0.0969	0.105		
Nitrite (as N)	mg/L	0.001	0.051	0.045	0.06	6	6	100	-	-	-	-	-	0.001	0	0

Table C1-2. MEL-01 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-01 (Near-field Exposure Area) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05				6	0	0	0.425	0.427	0.0163	0.00667	0.402	0.441		
Nitrogen (T)	mg/L	0.05				6	0	0	0.417	0.414	0.0103	0.00419	0.408	0.434		
Orthophosphate (PO4-P)	mg/L	0.001				6	6	100	-	-	-	-	-	0.001		
Total Diss Phosphorus	mg/L	0.001				6	0	0	0.0035	0.00305	0.00125	0.000511	0.0027	0.006		
Total Phosphorus	mg/L	0.001	0.0049	0.0075	0.01	6	0	0	0.00633	0.00595	0.00157	0.000643	0.0048	0.0094	83	17
Organic Carbon																
Dissolved Organic Carbon	mg/L	0.5				6	0	0	5.85	5.82	0.11	0.045	5.74	6.04		
Total Organic Carbon	mg/L	0.5				6	0	0	5.5	5.48	0.229	0.0937	5.26	5.88		
Cyanides																
Cyanide (Free)	mg/L	0.001	0.00035			6	6	100	-	-	-	-	-	0.001	100	
Cyanide (Total)	mg/L	0.001	0.009	0.00375	0.005	6	6	100	-	-	-	-	-	0.001	0	0
Cyanide (WAD)	mg/L	0.001				6	6	100	-	-	-	-	-	0.001		
Metals																
Aluminum (D)	µg/L	1				6	0	0	2.35	2.15	0.399	0.163	2.1	3.1		
Aluminum (T)	µg/L	1	9.1	234 | 535	312 | 713	6	0	0	3.57	3.4	0.572	0.233	3	4.6	0	0
Antimony (D)	µg/L	0.02				6	0	0	0.0288	0.0255	0.0087	0.00355	0.023	0.046		
Antimony (T)	µg/L	0.02	0.51	4.5	6	6	0	0	0.0288	0.0295	0.00194	0.000792	0.026	0.031	0	0
Arsenic (D)	µg/L	0.02				6	0	0	0.858	0.849	0.0421	0.0172	0.801	0.926		
Arsenic (T)	µg/L	0.02	3.8	18.8	25	6	0	0	0.878	0.876	0.0285	0.0116	0.839	0.919	0	0
Barium (D)	µg/L	0.02				6	0	0	14.7	14.6	0.322	0.132	14.4	15.3		
Barium (T)	µg/L	0.02	77	750	1000	6	0	0	14.6	14.6	0.186	0.076	14.3	14.8	0	0
Beryllium (D)	µg/L	0.005				6	6	100	-	-	-	-	-	0.005		
Beryllium (T)	µg/L	0.005				6	6	100	-	-	-	-	-	0.005		
Boron (D)	µg/L	5				6	0	0	10.8	10.9	0.549	0.224	9.9	11.6		
Boron (T)	µg/L	5	23	1120	1500	6	0	0	10.7	10.8	0.36	0.147	10	11	0	0
Cadmium (D)	µg/L	0.005				6	6	100	-	-	-	-	-	0.005		
Cadmium (T)	µg/L	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	6	6	100	-	-	-	-	-	0.005	0	0
Chromium (D)	µg/L	0.1				6	6	100	-	-	-	-	-	0.1		
Chromium (T)	µg/L	0.1	1.1	3.75	5	6	5	83	-	0.1	-	-	0.1	0.14	0	0
Cobalt (D)	µg/L	0.005				6	0	0	0.0269	0.0264	0.00198	0.000809	0.025	0.0304		
Cobalt (T)	µg/L	0.005		0.585	0.78	6	0	0	0.0287	0.0283	0.00185	0.000754	0.0263	0.0318		0
Copper (D)	µg/L	0.05		0.987 | 3.44	1.32 | 4.58	6	0	0	2.22	2.28	0.472	0.193	1.57	2.72		17
Copper (T)	µg/L	0.05	2	1500	2000	6	0	0	1.82	1.48	0.85	0.347	1.23	3.46	17	0
Iron (D)	µg/L	1				6	0	0	5.03	4.65	1.59	0.647	3.6	8.1		
Iron (T)	µg/L	1	42	795	1060	6	0	0	10.6	11	1.74	0.711	8.6	13	0	0
Lead (D)	µg/L	0.01		3.85 | 5.68	5.13 | 7.57	6	4	67	-	0.01	-	-	0.01	0.021		0
Lead (T)	µg/L	0.01	0.15	3.75	5	6	0	0	0.0305	0.024	0.0117	0.00478	0.022	0.05	0	0
Lithium (D)	µg/L	0.5				6	0	0	1.46	1.45	0.0431	0.0176	1.42	1.54		
Lithium (T)	µg/L	0.5				6	0	0	1.42	1.43	0.0183	0.00749	1.39	1.44		

Table C1-2. MEL-01 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-01 (Near-field Exposure Area) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05		158 | 248	210 | 330	6	0	0	0.369	0.349	0.0925	0.0378	0.286	0.512		0
Manganese (T)	µg/L	0.05	5.5	90	120	6	0	0	1.83	1.8	0.391	0.16	1.38	2.34	0	0
Mercury (D)	ng/L	0.5 | 5				6	5	83	-	0.5	-	-	0.5	0.84		
Mercury (T)	ng/L	0.5	20	19.5	26	6	4	67	-	0.5	-	-	0.5	0.56	0	0
Molybdenum (D)	µg/L	0.05				6	0	0	0.186	0.182	0.0107	0.00436	0.176	0.206		
Molybdenum (T)	µg/L	0.05	5.2	54.8	73	6	0	0	0.179	0.178	0.00671	0.00274	0.172	0.188	0	0
Nickel (D)	µg/L	0.05				6	0	0	1.13	1.12	0.0731	0.0299	1.04	1.26		
Nickel (T)	µg/L	0.05	2.7	18.8	25	6	0	0	1.1	1.1	0.0426	0.0174	1.04	1.16	0	0
Selenium (D)	µg/L	0.04				6	0	0	0.061	0.061	0.00651	0.00266	0.052	0.07		
Selenium (T)	µg/L	0.04	0.16	0.75	1	6	0	0	0.0597	0.06	0.00423	0.00173	0.055	0.064	0	0
Silver (D)	µg/L	0.005				6	6	100	-	-	-	-	-	0.005		
Silver (T)	µg/L	0.005	0.1	0.188	0.25	6	6	100	-	-	-	-	-	0.005	0	0
Strontium (D)	µg/L	0.02		1880	2500	6	0	0	86.3	86.2	3.19	1.3	81.6	91.6		0
Strontium (T)	µg/L	0.02		1880	2500	6	0	0	82.9	83.2	1.55	0.633	80.5	84.6		0
Thallium (D)	µg/L	0.005				6	6	100	-	-	-	-	-	0.005		
Thallium (T)	µg/L	0.005	0.1	0.6	0.8	6	6	100	-	-	-	-	-	0.005	0	0
Tin (D)	µg/L	0.02				6	0	0	0.0265	0.024	0.00666	0.00272	0.021	0.037		
Tin (T)	µg/L	0.02				6	2	33	0.0292	0.024	0.0162	0.00663	0.02	0.062		
Titanium (D)	µg/L	0.05				6	4	67	-	0.05	-	-	0.05	0.066		
Titanium (T)	µg/L	0.05				6	0	0	0.119	0.0915	0.0881	0.036	0.057	0.294		
Uranium (D)	µg/L	0.001				6	0	0	0.0455	0.045	0.00139	0.000567	0.0445	0.0482		
Uranium (T)	µg/L	0.001	1.5	11.2	15	6	0	0	0.0477	0.0477	0.00176	0.00072	0.0452	0.0503	0	0
Vanadium (D)	µg/L	0.05				6	6	100	-	-	-	-	-	0.05		
Vanadium (T)	µg/L	0.05		90	120	6	6	100	-	-	-	-	-	0.05		0
Zinc (D)	µg/L	0.5		5.58 | 11.4	7.43 | 15.1	6	0	0	2	1.86	0.83	0.339	1	3.19		0
Zinc (T)	µg/L	0.5	6.7	5.58 | 11.4	7.43 | 15.1	6	0	0	1.99	1.71	0.911	0.372	1.23	3.67	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-3. MEL-02 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-02 (Mid-field Exposure Area) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Field Measurements																
Temperature	C					5	0	0	1.3	1.3	0.122	0.0548	1.1	1.4		
DO (%)	%					5	0	0	106	106	8.49	3.8	95.4	119		
DO (mg/L)	mg/L			6.5	6.5	5	0	0	14.9	14.8	1.29	0.576	13.3	16.9		0
pH (field)	pH units			6.5 | 9.0	6.5 | 9.0	5	0	0	6.89	6.84	0.073	0.0326	6.83	6.98		0
Sp. Conductivity (field)	µS/cm					5	0	0	145	141	10.1	4.53	138	161		
Conventional Parameters																
Hardness	mg/L	0.5				5	0	0	44.6	44.6	0.918	0.411	43.7	45.8		
Sp. Conductivity (lab)	µS/cm	1				5	0	0	156	154	7.3	3.26	148	165		
TDS (calculated)	mg/L	1	68	375	500	5	0	0	102	100	4.69	2.1	96.2	107	100	0
TDS (measured)	mg/L	10	68	375	500	5	0	0	84.4	83.6	2.88	1.29	81.2	88.9	100	0
Total Suspended Solids	mg/L	1	3.1			5	4	80	-	1	-	-	1	1.2	0	
Turbidity (lab)	NTU	0.1				5	0	0	0.176	0.16	0.0503	0.0225	0.13	0.26		
pH (lab)	pH units	0.1		6.5 | 9.0	6.5 | 9.0	5	0	0	7.28	7.28	0.0904	0.0404	7.17	7.39		0
Major Ions																
Alkalinity, Bicarbonate	mg/L	1				5	0	0	27.8	27.9	0.563	0.252	26.9	28.4		
Alkalinity, Carbonate	mg/L	1				5	5	100	-	-	-	-	-	1		
Alkalinity, Hydroxide	mg/L	1				5	5	100	-	-	-	-	-	1		
Alkalinity, Total	mg/L	1				5	0	0	27.8	27.9	0.563	0.252	26.9	28.4		
Bromide	mg/L	0.1				5	5	100	-	-	-	-	-	0.1		
Calcium (D)	mg/L	0.01				5	0	0	13.8	13.9	0.23	0.103	13.6	14.1		
Calcium (T)	mg/L	0.01				5	0	0	13.9	13.9	0.477	0.214	13.3	14.5		
Chloride	mg/L	0.1	14	90	120	5	0	0	21.5	21	1.2	0.535	20.3	23.1	100	0
Fluoride	mg/L	0.02	0.0084	2.1	2.8	5	0	0	0.04	0.04	0.001	0.000447	0.039	0.041	100	0
Magnesium (D)	mg/L	0.004				5	0	0	2.45	2.4	0.0873	0.039	2.37	2.57		
Magnesium (T)	mg/L	0.004				5	0	0	2.49	2.46	0.124	0.0553	2.37	2.66		
Potassium (D)	mg/L	0.02				5	0	0	1.58	1.6	0.0339	0.0152	1.53	1.61		
Potassium (T)	mg/L	0.02				5	0	0	1.58	1.6	0.0546	0.0244	1.51	1.65		
Reactive Silica	mg/L	0.01				5	0	0	0.816	0.802	0.0359	0.0161	0.784	0.871		
Sodium (D)	mg/L	0.02				5	0	0	10.3	10.1	0.407	0.182	9.96	10.8		
Sodium (T)	mg/L	0.02	5.3			5	0	0	10.2	10.1	0.489	0.219	9.73	11	100	
Sulphate	mg/L	0.3	38	96 | 164	128 | 218	5	0	0	12	11.3	1.03	0.46	11.2	13.5	0	0
Nutrients																
Ammonia (as N)	mg/L	0.005	0.54	0.441 | 4.31	0.588 | 5.74	5	0	0	0.0319	0.0248	0.0117	0.00525	0.0229	0.0498	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05				5	0	0	0.355	0.348	0.045	0.0201	0.301	0.407		
Kjeldahl Nitrogen (T)	mg/L	0.05				5	0	0	0.334	0.334	0.0708	0.0317	0.267	0.442		
Nitrate (as N)	mg/L	0.005	0.25	2.17	2.9	5	0	0	0.0611	0.0584	0.0115	0.00516	0.049	0.0797	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051				5	0	0	0.0614	0.0584	0.0121	0.00541	0.049	0.0811		
Nitrite (as N)	mg/L	0.001	0.051	0.045	0.06	5	4	80	-	0.001	-	-	0.001	0.0014	0	0

Table C1-3. MEL-02 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-02 (Mid-field Exposure Area) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05				5	0	0	0.416	0.404	0.0527	0.0235	0.364	0.488		
Nitrogen (T)	mg/L	0.05				5	0	0	0.395	0.39	0.0807	0.0361	0.323	0.523		
Orthophosphate (PO4-P)	mg/L	0.001				5	5	100	-	-	-	-	-	0.001		
Total Diss Phosphorus	mg/L	0.001				5	0	0	0.00334	0.0028	0.00139	0.000621	0.0025	0.0058		
Total Phosphorus	mg/L	0.001	0.0049	0.0075	0.01	5	0	0	0.00486	0.0049	0.000404	0.000181	0.0044	0.0053	40	0
Organic Carbon																
Dissolved Organic Carbon	mg/L	0.5				5	0	0	4.93	4.87	0.375	0.168	4.62	5.57		
Total Organic Carbon	mg/L	0.5				5	0	0	4.69	4.62	0.314	0.14	4.38	5.21		
Cyanides																
Cyanide (Free)	mg/L	0.001	0.00035			5	5	100	-	-	-	-	-	0.001	100	
Cyanide (Total)	mg/L	0.001	0.009	0.00375	0.005	5	5	100	-	-	-	-	-	0.001	0	0
Cyanide (WAD)	mg/L	0.001				5	5	100	-	-	-	-	-	0.001		
Metals																
Aluminum (D)	µg/L	1				5	1	20	1.32	1.2	0.356	0.159	1	1.9		
Aluminum (T)	µg/L	1	9.1	234 | 535	312 | 713	5	0	0	2.64	2.1	1.42	0.636	1.6	5	0	0
Antimony (D)	µg/L	0.02				5	3	60	-	0.02	-	-	0.02	0.026		
Antimony (T)	µg/L	0.02	0.51	4.5	6	5	0	0	0.028	0.025	0.00604	0.0027	0.022	0.035	0	0
Arsenic (D)	µg/L	0.02				5	0	0	0.796	0.769	0.0666	0.0298	0.743	0.906		
Arsenic (T)	µg/L	0.02	3.8	18.8	25	5	0	0	0.833	0.803	0.0925	0.0414	0.761	0.995	0	0
Barium (D)	µg/L	0.02				5	0	0	14	14.1	0.427	0.191	13.6	14.6		
Barium (T)	µg/L	0.02	77	750	1000	5	0	0	14	13.9	0.581	0.26	13.4	14.9	0	0
Beryllium (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Beryllium (T)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Boron (D)	µg/L	5				5	0	0	9.72	9.6	0.217	0.097	9.5	10		
Boron (T)	µg/L	5	23	1120	1500	5	0	0	9.7	9.6	0.436	0.195	9.2	10.4	0	0
Cadmium (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Cadmium (T)	µg/L	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	5	5	100	-	-	-	-	-	0.005	0	0
Chromium (D)	µg/L	0.1				5	5	100	-	-	-	-	-	0.1		
Chromium (T)	µg/L	0.1	1.1	3.75	5	5	5	100	-	-	-	-	-	0.1	0	0
Cobalt (D)	µg/L	0.005				5	0	0	0.0184	0.0176	0.00219	0.00098	0.0162	0.0218		
Cobalt (T)	µg/L	0.005		0.585	0.78	5	0	0	0.0219	0.0215	0.00342	0.00153	0.0186	0.0276		0
Copper (D)	µg/L	0.05		0.987 | 3.44	1.32 | 4.58	5	0	0	1.42	1.45	0.281	0.126	1.05	1.72		0
Copper (T)	µg/L	0.05	2	1500	2000	5	0	0	1.66	1.48	0.343	0.153	1.37	2.22	20	0
Iron (D)	µg/L	1				5	0	0	3.5	3.2	0.596	0.266	3.1	4.5		
Iron (T)	µg/L	1	42	795	1060	5	0	0	9.46	8.3	4.18	1.87	6	16.4	0	0
Lead (D)	µg/L	0.01		3.85 | 5.68	5.13 | 7.57	5	5	100	-	-	-	-	-	0.01		0
Lead (T)	µg/L	0.01	0.15	3.75	5	5	2	40	0.0228	0.022	0.0148	0.00662	0.01	0.046	0	0
Lithium (D)	µg/L	0.5				5	0	0	1.32	1.3	0.051	0.0228	1.28	1.4		
Lithium (T)	µg/L	0.5				5	0	0	1.29	1.3	0.0449	0.0201	1.23	1.35		

Table C1-3. MEL-02 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-02 (Mid-field Exposure Area) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05		158 | 248	210 | 330	5	0	0	0.317	0.312	0.0205	0.00918	0.29	0.345		0
Manganese (T)	µg/L	0.05	5.5	90	120	5	0	0	1.38	1.31	0.291	0.13	1.14	1.88	0	0
Mercury (D)	ng/L	0.5 | 5				5	3	60	-	0.5	-	-	0.5	0.68		
Mercury (T)	ng/L	0.5	20	19.5	26	4	1	25	0.585	0.595	0.0624	0.0312	0.5	0.65	0	0
Molybdenum (D)	µg/L	0.05				5	0	0	0.159	0.155	0.00904	0.00404	0.152	0.174		
Molybdenum (T)	µg/L	0.05	5.2	54.8	73	5	0	0	0.158	0.157	0.00867	0.00388	0.15	0.172	0	0
Nickel (D)	µg/L	0.05				5	0	0	0.934	0.905	0.0574	0.0257	0.893	1.03		
Nickel (T)	µg/L	0.05	2.7	18.8	25	5	0	0	0.932	0.923	0.0703	0.0314	0.859	1.04	0	0
Selenium (D)	µg/L	0.04				5	0	0	0.0542	0.054	0.00349	0.00156	0.051	0.06		
Selenium (T)	µg/L	0.04	0.16	0.75	1	5	0	0	0.0564	0.054	0.00451	0.00201	0.053	0.064	0	0
Silver (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Silver (T)	µg/L	0.005	0.1	0.188	0.25	5	5	100	-	-	-	-	-	0.005	0	0
Strontium (D)	µg/L	0.02		1880	2500	5	0	0	74.9	74.4	2.13	0.952	72.9	77.4		0
Strontium (T)	µg/L	0.02		1880	2500	5	0	0	74.8	75.9	3.43	1.53	70.8	79.1		0
Thallium (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Thallium (T)	µg/L	0.005	0.1	0.6	0.8	5	5	100	-	-	-	-	-	0.005	0	0
Tin (D)	µg/L	0.02				5	3	60	-	0.02	-	-	0.02	0.089		
Tin (T)	µg/L	0.02				5	2	40	0.0292	0.024	0.0143	0.00637	0.02	0.054		
Titanium (D)	µg/L	0.05				5	5	100	-	-	-	-	-	0.05		
Titanium (T)	µg/L	0.05				5	2	40	0.107	0.052	0.115	0.0514	0.05	0.312		
Uranium (D)	µg/L	0.001				5	0	0	0.0336	0.0342	0.00248	0.00111	0.0303	0.0369		
Uranium (T)	µg/L	0.001	1.5	11.2	15	5	0	0	0.0357	0.0348	0.00202	0.000902	0.034	0.0391	0	0
Vanadium (D)	µg/L	0.05				5	5	100	-	-	-	-	-	0.05		
Vanadium (T)	µg/L	0.05		90	120	5	5	100	-	-	-	-	-	0.05		0
Zinc (D)	µg/L	0.5		5.58 | 11.4	7.43 | 15.1	5	1	20	1.09	0.98	0.596	0.266	0.5	1.88		0
Zinc (T)	µg/L	0.5	6.7	5.58 | 11.4	7.43 | 15.1	5	0	0	1.44	1.17	0.971	0.434	0.5	3.08	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-4. MEL-03 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-03 (Reference Area 1) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Field Measurements																
Temperature	C					5	0	0	0.6	0.6	0.0707	0.0316	0.5	0.7		
DO (%)	%					5	0	0	110	108	4.57	2.04	106	115		
DO (mg/L)	mg/L			6.5	6.5	5	0	0	15.6	15.3	0.644	0.288	15.2	16.7		0
pH (field)	pH units			6.5 | 9.0	6.5 | 9.0	5	0	0	6.9	6.9	0.0207	0.00927	6.88	6.93		0
Sp. Conductivity (field)	µS/cm					5	0	0	118	121	6.26	2.8	108	124		
Conventional Parameters																
Hardness	mg/L	0.5				5	0	0	34.6	34.8	0.966	0.432	32.9	35.4		
Sp. Conductivity (lab)	µS/cm	1				5	0	0	119	119	2.74	1.22	116	123		
TDS (calculated)	mg/L	1	68	375	500	5	0	0	77.4	77.4	1.81	0.808	75.4	80	100	0
TDS (measured)	mg/L	10	68	375	500	5	0	0	65.2	65.2	1.02	0.457	63.9	66.6	0	0
Total Suspended Solids	mg/L	1	3.1			5	5	100	-	-	-	-	-	1	0	
Turbidity (lab)	NTU	0.1				5	0	0	0.172	0.17	0.013	0.00583	0.16	0.19		
pH (lab)	pH units	0.1		6.5 | 9.0	6.5 | 9.0	5	0	0	7.19	7.22	0.0702	0.0314	7.08	7.25		0
Major Ions																
Alkalinity, Bicarbonate	mg/L	1				5	0	0	25.3	25.3	0.594	0.266	24.7	26.2		
Alkalinity, Carbonate	mg/L	1				5	5	100	-	-	-	-	-	1		
Alkalinity, Hydroxide	mg/L	1				5	5	100	-	-	-	-	-	1		
Alkalinity, Total	mg/L	1				5	0	0	25.3	25.3	0.594	0.266	24.7	26.2		
Bromide	mg/L	0.1				5	5	100	-	-	-	-	-	0.1		
Calcium (D)	mg/L	0.01				5	0	0	10.8	10.9	0.342	0.153	10.2	11.1		
Calcium (T)	mg/L	0.01				5	0	0	10.8	10.8	0.286	0.128	10.5	11.2		
Chloride	mg/L	0.1	14	90	120	5	0	0	15.6	15.6	0.239	0.107	15.3	15.9	100	0
Fluoride	mg/L	0.02	0.0084	2.1	2.8	5	0	0	0.0368	0.037	0.000447	2.00E-04	0.036	0.037	100	0
Magnesium (D)	mg/L	0.004				5	0	0	1.85	1.87	0.0356	0.0159	1.8	1.88		
Magnesium (T)	mg/L	0.004				5	0	0	1.82	1.82	0.0451	0.0201	1.76	1.88		
Potassium (D)	mg/L	0.02				5	0	0	1.32	1.33	0.0391	0.0175	1.26	1.36		
Potassium (T)	mg/L	0.02				5	0	0	1.33	1.33	0.0327	0.0146	1.3	1.38		
Reactive Silica	mg/L	0.01				5	0	0	0.555	0.529	0.0476	0.0213	0.52	0.634		
Sodium (D)	mg/L	0.02				5	0	0	7.63	7.65	0.208	0.0928	7.31	7.85		
Sodium (T)	mg/L	0.02	5.3			5	0	0	7.49	7.53	0.188	0.0839	7.18	7.64	100	
Sulphate	mg/L	0.3	38	96 | 164	128 | 218	5	0	0	6.85	6.86	0.0975	0.0436	6.7	6.94	0	0
Nutrients																
Ammonia (as N)	mg/L	0.005	0.54	0.441 | 4.31	0.588 | 5.74	5	0	0	0.0287	0.0308	0.0042	0.00188	0.0216	0.0319	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05				5	0	0	0.281	0.27	0.0357	0.016	0.24	0.332		
Kjeldahl Nitrogen (T)	mg/L	0.05				5	0	0	0.258	0.26	0.00744	0.00333	0.248	0.268		
Nitrate (as N)	mg/L	0.005	0.25	2.17	2.9	5	0	0	0.014	0.0102	0.00987	0.00442	0.0052	0.0276	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051				5	0	0	0.014	0.0102	0.00987	0.00442	0.0052	0.0276		
Nitrite (as N)	mg/L	0.001	0.051	0.045	0.06	5	5	100	-	-	-	-	-	0.001	0	0

Table C1-4. MEL-03 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-03 (Reference Area 1) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05				5	0	0	0.295	0.298	0.0372	0.0166	0.245	0.338		
Nitrogen (T)	mg/L	0.05				5	0	0	0.272	0.265	0.0154	0.00687	0.258	0.289		
Orthophosphate (PO4-P)	mg/L	0.001				5	5	100	-	-	-	-	-	0.001		
Total Diss Phosphorus	mg/L	0.001				5	0	0	0.00266	0.0022	0.00115	0.000515	0.002	0.0047		
Total Phosphorus	mg/L	0.001	0.0049	0.0075	0.01	5	0	0	0.00336	0.0034	0.000385	0.000172	0.0029	0.0039	0	0
Organic Carbon																
Dissolved Organic Carbon	mg/L	0.5				5	0	0	3.97	4.01	0.19	0.0849	3.65	4.13		
Total Organic Carbon	mg/L	0.5				5	0	0	3.72	3.75	0.0815	0.0365	3.58	3.78		
Cyanides																
Cyanide (Free)	mg/L	0.001	0.00035			5	5	100	-	-	-	-	-	0.001	100	
Cyanide (Total)	mg/L	0.001	0.009	0.00375	0.005	5	5	100	-	-	-	-	-	0.001	0	0
Cyanide (WAD)	mg/L	0.001				5	5	100	-	-	-	-	-	0.001		
Metals																
Aluminum (D)	µg/L	1				5	5	100	-	-	-	-	-	1		
Aluminum (T)	µg/L	1	9.1	234 | 535	312 | 713	5	0	0	1.56	1.5	0.439	0.196	1	2.2	0	0
Antimony (D)	µg/L	0.02				5	5	100	-	-	-	-	-	0.02		
Antimony (T)	µg/L	0.02	0.51	4.5	6	5	1	20	0.0252	0.025	0.00396	0.00177	0.02	0.031	0	0
Arsenic (D)	µg/L	0.02				5	0	0	0.496	0.496	0.0175	0.00783	0.474	0.522		
Arsenic (T)	µg/L	0.02	3.8	18.8	25	5	0	0	0.523	0.511	0.0276	0.0123	0.497	0.553	0	0
Barium (D)	µg/L	0.02				5	0	0	12.1	12	0.548	0.245	11.4	12.7		
Barium (T)	µg/L	0.02	77	750	1000	5	0	0	12.2	12	0.594	0.266	11.7	13.2	0	0
Beryllium (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Beryllium (T)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Boron (D)	µg/L	5				5	0	0	7.48	7.5	0.286	0.128	7.1	7.8		
Boron (T)	µg/L	5	23	1120	1500	5	0	0	7.44	7.5	0.219	0.098	7.1	7.7	0	0
Cadmium (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Cadmium (T)	µg/L	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	5	5	100	-	-	-	-	-	0.005	0	0
Chromium (D)	µg/L	0.1				5	5	100	-	-	-	-	-	0.1		
Chromium (T)	µg/L	0.1	1.1	3.75	5	5	5	100	-	-	-	-	-	0.1	0	0
Cobalt (D)	µg/L	0.005				5	0	0	0.0098	0.0097	0.000381	0.00017	0.0094	0.0102		
Cobalt (T)	µg/L	0.005		0.585	0.78	5	0	0	0.0126	0.0125	0.00121	0.000539	0.0112	0.0144		0
Copper (D)	µg/L	0.05		0.987 | 3.44	1.32 | 4.58	5	0	0	1.05	1.05	0.107	0.0479	0.958	1.22		0
Copper (T)	µg/L	0.05	2	1500	2000	5	0	0	1.37	1.41	0.183	0.0817	1.11	1.58	0	0
Iron (D)	µg/L	1				5	0	0	4.82	3	4.23	1.89	2.2	12.2		
Iron (T)	µg/L	1	42	795	1060	5	0	0	10.4	7.2	7.69	3.44	5.6	23.9	0	0
Lead (D)	µg/L	0.01		3.85 | 5.68	5.13 | 7.57	5	5	100	-	-	-	-	-	0.01		0
Lead (T)	µg/L	0.01	0.15	3.75	5	5	1	20	0.0144	0.015	0.00439	0.00196	0.01	0.02	0	0
Lithium (D)	µg/L	0.5				5	0	0	1.07	1.07	0.013	0.00583	1.05	1.08		
Lithium (T)	µg/L	0.5				5	0	0	1.07	1.08	0.0217	0.0097	1.04	1.09		

Table C1-4. MEL-03 water quality summary – March 2025 sampling event

Parameter	Units	DL (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-03 (Reference Area 1) Winter Sampling Event										
						N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05		158 | 248	210 | 330	5	0	0	0.313	0.235	0.174	0.078	0.216	0.623		0
Manganese (T)	µg/L	0.05	5.5	90	120	5	0	0	1.36	0.864	0.848	0.379	0.744	2.7	0	0
Mercury (D)	ng/L	0.5 | 5				5	3	60	-	0.5	-	-	0.5	1.28		
Mercury (T)	ng/L	0.5	20	19.5	26	5	4	80	-	0.5	-	-	0.5	0.56	0	0
Molybdenum (D)	µg/L	0.05				5	0	0	0.113	0.118	0.0102	0.00458	0.098	0.122		
Molybdenum (T)	µg/L	0.05	5.2	54.8	73	5	0	0	0.113	0.114	0.005	0.00224	0.106	0.118	0	0
Nickel (D)	µg/L	0.05				5	0	0	0.627	0.631	0.0241	0.0108	0.598	0.652		
Nickel (T)	µg/L	0.05	2.7	18.8	25	5	0	0	0.621	0.614	0.0178	0.00797	0.601	0.647	0	0
Selenium (D)	µg/L	0.04				5	0	0	0.0546	0.054	0.00336	0.0015	0.051	0.059		
Selenium (T)	µg/L	0.04	0.16	0.75	1	5	0	0	0.0504	0.05	0.00297	0.00133	0.047	0.055	0	0
Silver (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.01		
Silver (T)	µg/L	0.005	0.1	0.188	0.25	5	5	100	-	-	-	-	-	0.005	0	0
Strontium (D)	µg/L	0.02		1880	2500	5	0	0	57.5	57.7	1.2	0.536	55.7	58.6		0
Strontium (T)	µg/L	0.02		1880	2500	5	0	0	55.5	55.5	1.03	0.459	54	56.7		0
Thallium (D)	µg/L	0.005				5	5	100	-	-	-	-	-	0.005		
Thallium (T)	µg/L	0.005	0.1	0.6	0.8	5	5	100	-	-	-	-	-	0.005	0	0
Tin (D)	µg/L	0.02				5	3	60	-	0.02	-	-	0.02	0.321		
Tin (T)	µg/L	0.02				5	1	20	0.0418	0.033	0.0254	0.0114	0.02	0.085		
Titanium (D)	µg/L	0.05				5	5	100	-	-	-	-	-	0.05		
Titanium (T)	µg/L	0.05				5	2	40	0.085	0.075	0.0415	0.0186	0.05	0.149		
Uranium (D)	µg/L	0.001				5	0	0	0.0167	0.0155	0.0019	0.000851	0.0152	0.0189		
Uranium (T)	µg/L	0.001	1.5	11.2	15	5	0	0	0.017	0.0171	0.00131	0.000588	0.0154	0.0189	0	0
Vanadium (D)	µg/L	0.05				5	5	100	-	-	-	-	-	0.05		
Vanadium (T)	µg/L	0.05		90	120	5	5	100	-	-	-	-	-	0.05		0
Zinc (D)	µg/L	0.5		5.58 | 11.4	7.43 | 15.1	5	2	40	0.59	0.59	0.106	0.0475	0.5	0.76		0
Zinc (T)	µg/L	0.5	6.7	5.58 | 11.4	7.43 | 15.1	5	0	0	1.01	0.99	0.21	0.0939	0.81	1.35	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-5. MEL-01 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-01 (Near-field Exposure Area) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	%>Act Lvl
Field Measurements																		
Temperature	C						18	0	0	10.4	10.7	1.92	0.452	7.1	12.7			
DO (%)	%						18	0	0	103	102	10.1	2.39	84.7	122			
DO (mg/L)	mg/L				6.5	6.5	18	0	0	11.4	11.3	1.6	0.378	9.04	14.7			0
pH (field)	pH units		7.1 | 7.95		6.5 | 9.0	6.5 | 9.0	18	0	0	7.48	7.52	0.286	0.0674	6.91	7.81	11		0
Sp. Conductivity (field)	µS/cm						18	0	0	148	153	15	3.52	129	165			
Conventional Parameters																		
Hardness	mg/L	0.5	23.4				18	0	0	37.9	39	2.64	0.622	33.4	41.3	100		
Sp. Conductivity (lab)	µS/cm	1	77.5				18	0	0	139	142	4.98	1.17	131	144	100		
TDS (calculated)	mg/L	1	39.6	68	375	500	18	0	0	90.4	92.3	3.24	0.763	85.2	93.6	100	100	0
TDS (measured)	mg/L	10	54	68	375	500	18	0	0	71.9	76.3	14	3.3	50.5	95.3	83	67	0
Total Suspended Solids	mg/L	1	1	3.1			18	7	39	1.75	1.08	2.22	0.522	1	10.3	56	11	
Turbidity (lab)	NTU	0.1					18	0	0	0.453	0.44	0.0643	0.0152	0.37	0.58			
pH (lab)	pH units	0.1			6.5 | 9.0	6.5 | 9.0	18	0	0	7.48	7.5	0.0721	0.017	7.35	7.61			0
Major Ions																		
Alkalinity, Bicarbonate	mg/L	1	25				18	0	0	20.5	20.7	0.79	0.186	18.6	21.3	0		
Alkalinity, Carbonate	mg/L	1					18	18	100	-	-	-	-	-	1			
Alkalinity, Hydroxide	mg/L	1					18	18	100	-	-	-	-	-	1			
Alkalinity, Total	mg/L	1	20.5				18	0	0	20.5	20.7	0.79	0.186	18.6	21.3	50		
Bromide	mg/L	0.1					18	18	100	-	-	-	-	-	0.1			
Calcium (D)	mg/L	0.01					18	0	0	11.7	12	0.833	0.196	10.2	12.8			
Calcium (T)	mg/L	0.01	7.33				18	0	0	12	12.4	0.664	0.157	11	12.8	100		
Chloride	mg/L	0.1	9.56	14	90	120	18	0	0	19.1	19	1.31	0.308	18.1	23.9	100	100	0
Fluoride	mg/L	0.02	0.028	0.0084	2.1	2.8	18	0	0	0.0389	0.034	0.0361	0.00851	0.022	0.182	67	100	0
Magnesium (D)	mg/L	0.004					18	0	0	2.13	2.18	0.15	0.0353	1.89	2.38			
Magnesium (T)	mg/L	0.004	1.18				18	0	0	2.26	2.3	0.137	0.0323	2.04	2.41	100		
Potassium (D)	mg/L	0.02					18	0	0	1.28	1.31	0.0744	0.0175	1.14	1.37			
Potassium (T)	mg/L	0.02	0.954				18	0	0	1.31	1.33	0.0501	0.0118	1.23	1.36	100		
Reactive Silica	mg/L	0.01	0.268				18	0	0	0.529	0.46	0.188	0.0444	0.342	0.819	100		
Sodium (D)	mg/L	0.02					18	0	0	8.64	8.84	0.584	0.138	7.56	9.38			
Sodium (T)	mg/L	0.02	4.85	5.3			18	0	0	9.12	9.35	0.497	0.117	8.33	9.69	100	100	
Sulphate	mg/L	0.3	3.87	38	96 | 164	128 | 218	18	0	0	13.1	13.6	1.18	0.277	8.96	14.1	100	0	0
Nutrients																		
Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.441 | 4.31	0.588 | 5.74	18	3	17	0.0208	0.0168	0.0194	0.00458	0.005	0.0888	39	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05					18	0	0	0.252	0.246	0.0214	0.00505	0.224	0.303			
Kjeldahl Nitrogen (T)	mg/L	0.05	0.25				18	0	0	0.309	0.308	0.0221	0.0052	0.269	0.352	100		
Nitrate (as N)	mg/L	0.005	0.018	0.25	2.17	2.9	18	5	28	0.275	0.0119	1.1	0.26	0.005	4.7	44	6	6
Nitrate + Nitrite (as N)	mg/L	0.0051					18	5	28	0.275	0.0119	1.1	0.26	0.0051	4.7			
Nitrite (as N)	mg/L	0.001	0.001	0.051	0.045	0.06	18	15	83	-	0.001	-	-	0.001	0.0027	17	0	0

Table C1-5. MEL-01 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-01 (Near-field Exposure Area) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	%>Act Lvl
Nitrogen (D)	mg/L	0.05					18	0	0	0.525	0.257	1.11	0.262	0.224	4.97			
Nitrogen (T)	mg/L	0.05					18	0	0	0.583	0.322	1.12	0.263	0.282	5.05			
Orthophosphate (PO4-P)	mg/L	0.001	0.001				18	18	100	-	-	-	-	-	0.001	0		
Total Diss Phosphorus	mg/L	0.001	0.00314				18	0	0	0.00334	0.0034	0.000753	0.000178	0.002	0.0043	61		
Total Phosphorus	mg/L	0.001	0.006	0.0049	0.0075	0.01	18	0	0	0.00776	0.00725	0.00168	0.000396	0.0064	0.0138	100	100	33
Organic Carbon																		
Dissolved Organic Carbon	mg/L	0.5	2.72				18	0	0	4.34	4.3	0.2	0.0472	3.98	4.77	100		
Total Organic Carbon	mg/L	0.5	3				18	0	0	4.44	4.5	0.346	0.0816	3.89	5.02	100		
Cyanides																		
Cyanide (Free)	mg/L	0.001		0.00035			18	18	100	-	-	-	-	-	0.001		100	
Cyanide (Total)	mg/L	0.001	0.001	0.009	0.00375	0.005	18	18	100	-	-	-	-	-	0.001	0	0	0
Cyanide (WAD)	mg/L	0.001					18	16	89	-	0.001	-	-	0.001	0.0011			
Metals																		
Aluminum (D)	µg/L	1					18	0	0	3.33	2.85	1.63	0.384	1.8	7.2			
Aluminum (T)	µg/L	1	5.32	9.1	234 | 535	312 | 713	18	0	0	6.24	6.35	1.49	0.352	4.1	8.6	61	0	0
Antimony (D)	µg/L	0.02					18	0	0	0.0244	0.024	0.00238	0.000561	0.022	0.03			
Antimony (T)	µg/L	0.02	0.02	0.51	4.5	6	18	0	0	0.0246	0.024	0.0022	0.000519	0.022	0.029	100	0	0
Arsenic (D)	µg/L	0.02					18	0	0	0.814	0.795	0.0488	0.0115	0.754	0.925			
Arsenic (T)	µg/L	0.02	0.275	3.8	18.8	25	18	0	0	0.87	0.854	0.0584	0.0138	0.814	1.02	100	0	0
Barium (D)	µg/L	0.02					18	0	0	11.7	11.7	0.366	0.0862	10.8	12.3			
Barium (T)	µg/L	0.02	8.05	77	750	1000	18	0	0	11.9	12	0.346	0.0816	11.2	12.4	100	0	0
Beryllium (D)	µg/L	0.005					18	18	100	-	-	-	-	-	0.005			
Beryllium (T)	µg/L	0.005	0.005				18	18	100	-	-	-	-	-	0.005	0		
Boron (D)	µg/L	5					18	0	0	7.64	7.6	0.268	0.0633	7.4	8.5			
Boron (T)	µg/L	5	6.52	23	1120	1500	18	0	0	7.76	7.8	0.281	0.0662	7.3	8.2	100	0	0
Cadmium (D)	µg/L	0.005					18	18	100	-	-	-	-	-	0.005			
Cadmium (T)	µg/L	0.005	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	18	18	100	-	-	-	-	-	0.005	0	0	0
Chromium (D)	µg/L	0.1					18	18	100	-	-	-	-	-	0.1			
Chromium (T)	µg/L	0.1	0.103	1.1	3.75	5	18	18	100	-	-	-	-	-	0.1	0	0	0
Cobalt (D)	µg/L	0.005					18	0	0	0.022	0.0218	0.00129	0.000304	0.0202	0.024			
Cobalt (T)	µg/L	0.005	0.016		0.585	0.78	18	0	0	0.0368	0.0348	0.00472	0.00111	0.0317	0.044	100		0
Copper (D)	µg/L	0.05	0.861		0.987 | 3.44	1.32 | 4.58	18	0	0	0.992	0.903	0.409	0.0963	0.8	2.61	67		0
Copper (T)	µg/L	0.05	0.86	2	1500	2000	18	0	0	1.01	0.994	0.149	0.0352	0.84	1.34	94	0	0
Iron (D)	µg/L	1					18	0	0	6.2	5.95	3.29	0.775	2.3	12.9			
Iron (T)	µg/L	1	15	42	795	1060	18	0	0	23	17.5	9.4	2.21	12.6	37.3	67	0	0
Lead (D)	µg/L	0.01	0.0125		3.85 | 5.68	5.13 | 7.57	18	15	83	-	0.01	-	-	0.01	0.038	17		0
Lead (T)	µg/L	0.01	0.0222	0.15	3.75	5	18	5	28	0.0149	0.0135	0.00537	0.00127	0.01	0.028	11	0	0
Lithium (D)	µg/L	0.5					18	0	0	1.15	1.15	0.0502	0.0118	1.06	1.24			
Lithium (T)	µg/L	0.5	0.72				18	0	0	1.18	1.18	0.0413	0.00973	1.1	1.24	100		

Table C1-5. MEL-01 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-01 (Near-field Exposure Area) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	%>Act Lvl
Manganese (D)	µg/L	0.05	1.2		158 | 248	210 | 330	18	0	0	0.752	0.805	0.376	0.0886	0.316	1.76	11		0
Manganese (T)	µg/L	0.05	3.06	5.5	90	120	18	0	0	8.23	6.72	3.09	0.729	5.01	12.5	100	67	0
Mercury (D)	ng/L	0.5 | 5					18	0	0	0.712	0.695	0.118	0.0278	0.5	0.92			
Mercury (T)	ng/L	0.5	0.8	20	19.5	26	18	1	6	0.95	0.975	0.232	0.0548	0.5	1.46	83	0	0
Molybdenum (D)	µg/L	0.05					18	0	0	0.154	0.156	0.0116	0.00273	0.134	0.173			
Molybdenum (T)	µg/L	0.05	0.107	5.2	54.8	73	18	0	0	0.157	0.157	0.0077	0.00181	0.146	0.172	100	0	0
Nickel (D)	µg/L	0.05					18	0	0	0.818	0.839	0.0519	0.0122	0.721	0.879			
Nickel (T)	µg/L	0.05	0.441	2.7	18.8	25	18	0	0	0.863	0.864	0.0528	0.0124	0.79	0.943	100	0	0
Selenium (D)	µg/L	0.04					18	5	28	0.0443	0.045	0.00359	0.000847	0.04	0.05			
Selenium (T)	µg/L	0.04	0.049	0.16	0.75	1	18	2	11	0.0473	0.047	0.00567	0.00134	0.04	0.057	44	0	0
Silver (D)	µg/L	0.005					18	18	100	-	-	-	-	-	0.005			
Silver (T)	µg/L	0.005	0.005	0.1	0.188	0.25	18	18	100	-	-	-	-	-	0.005	0	0	0
Strontium (D)	µg/L	0.02			1880	2500	18	0	0	65.8	65.6	3.87	0.913	59.1	70.8			0
Strontium (T)	µg/L	0.02	36.1		1880	2500	18	0	0	67.4	67.6	2.29	0.539	63	71.1	100		0
Thallium (D)	µg/L	0.005					18	18	100	-	-	-	-	-	0.005			
Thallium (T)	µg/L	0.005	0.005	0.1	0.6	0.8	18	18	100	-	-	-	-	-	0.005	0	0	0
Tin (D)	µg/L	0.02					18	14	78	-	0.02	-	-	0.02	0.384			
Tin (T)	µg/L	0.02	0.0384				18	8	44	0.0239	0.022	0.00481	0.00113	0.02	0.035	0		
Titanium (D)	µg/L	0.05					18	14	78	-	0.05	-	-	0.05	0.118			
Titanium (T)	µg/L	0.05	0.17				18	2	11	0.116	0.113	0.0518	0.0122	0.05	0.205	22		
Uranium (D)	µg/L	0.001					18	0	0	0.0367	0.0363	0.00169	0.000398	0.034	0.0403			
Uranium (T)	µg/L	0.001	0.0164	1.5	11.2	15	18	0	0	0.0394	0.0396	0.00172	0.000405	0.0366	0.043	100	0	0
Vanadium (D)	µg/L	0.05					18	18	100	-	-	-	-	-	0.05			
Vanadium (T)	µg/L	0.05	0.05		90	120	18	18	100	-	-	-	-	-	0.05	0		0
Zinc (D)	µg/L	0.5	1.9		5.58 | 11.4	7.43 | 15.1	18	13	72	-	0.5	-	-	0.5	2.14	6		0
Zinc (T)	µg/L	0.5	1.7	6.7	5.58 | 11.4	7.43 | 15.1	18	9	50	-	0.51	-	-	0.5	3.91	6	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-6. MEL-02 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-02 (Mid-field Exposure Area) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Field Measurements																		
Temperature	C						15	0	0	11.3	11.8	1.53	0.394	9.21	12.9			
DO (%)	%						15	0	0	98.3	102	6.62	1.71	88.8	104			
DO (mg/L)	mg/L				6.5	6.5	15	0	0	10.5	10.6	0.865	0.223	9.38	11.6			0
pH (field)	pH units		7.1 | 7.95		6.5 | 9.0	6.5 | 9.0	15	0	0	7.52	7.57	0.182	0.0469	7.03	7.74	7		0
Sp. Conductivity (field)	µS/cm						15	0	0	131	130	4.24	1.09	127	138			
Conventional Parameters																		
Hardness	mg/L	0.5	23.4				15	0	0	35.5	34.9	1.86	0.481	32.8	38.7	100		
Sp. Conductivity (lab)	µS/cm	1	77.5				15	0	0	120	120	1.71	0.441	118	123	100		
TDS (calculated)	mg/L	1	39.6	68	375	500	15	0	0	78	78	1.11	0.287	76.7	80	100	100	0
TDS (measured)	mg/L	10	54	68	375	500	15	0	0	67	66.1	5.87	1.52	56.4	75	100	40	0
Total Suspended Solids	mg/L	1	1	3.1			15	12	80	-	1	-	-	1	3.1	13	0	
Turbidity (lab)	NTU	0.1					15	0	0	0.458	0.33	0.296	0.0764	0.27	1.37			
pH (lab)	pH units	0.1			6.5 | 9.0	6.5 | 9.0	15	0	0	7.42	7.42	0.0445	0.0115	7.33	7.48			0
Major Ions																		
Alkalinity, Bicarbonate	mg/L	1	25				15	0	0	20.4	20.2	0.54	0.139	19.7	21.4	0		
Alkalinity, Carbonate	mg/L	1					15	15	100	-	-	-	-	-	1			
Alkalinity, Hydroxide	mg/L	1					15	15	100	-	-	-	-	-	1			
Alkalinity, Total	mg/L	1	20.5				15	0	0	20.4	20.2	0.54	0.139	19.7	21.4	27		
Bromide	mg/L	0.1					15	15	100	-	-	-	-	-	0.1			
Calcium (D)	mg/L	0.01					15	0	0	11.1	10.8	0.547	0.141	10.3	11.9			
Calcium (T)	mg/L	0.01	7.33				15	0	0	10.6	10.8	0.439	0.113	9.87	11.3	100		
Chloride	mg/L	0.1	9.56	14	90	120	15	0	0	15.4	15.3	0.172	0.0444	15.1	15.8	100	100	0
Fluoride	mg/L	0.02	0.028	0.0084	2.1	2.8	15	0	0	0.0326	0.032	0.00184	0.000476	0.029	0.037	100	100	0
Magnesium (D)	mg/L	0.004					15	0	0	1.92	1.91	0.126	0.0325	1.73	2.18			
Magnesium (T)	mg/L	0.004	1.18				15	0	0	1.93	1.91	0.0508	0.0131	1.86	2.06	100		
Potassium (D)	mg/L	0.02					15	0	0	1.23	1.22	0.0357	0.00921	1.18	1.29			
Potassium (T)	mg/L	0.02	0.954				15	0	0	1.22	1.22	0.0358	0.00925	1.16	1.28	100		
Reactive Silica	mg/L	0.01	0.268				15	0	0	0.423	0.391	0.0816	0.0211	0.345	0.548	100		
Sodium (D)	mg/L	0.02					15	0	0	7.56	7.37	0.487	0.126	7.06	8.41			
Sodium (T)	mg/L	0.02	4.85	5.3			15	0	0	7.56	7.52	0.364	0.094	7.06	8.19	100	100	
Sulphate	mg/L	0.3	3.87	38	96 | 164	128 | 218	15	0	0	10.1	10.1	0.417	0.108	9.19	10.6	100	0	0
Nutrients																		
Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.441 | 4.31	0.588 | 5.74	15	3	20	0.0128	0.0085	0.0106	0.00273	0.005	0.0423	13	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05					15	0	0	0.21	0.209	0.00865	0.00223	0.191	0.225			
Kjeldahl Nitrogen (T)	mg/L	0.05	0.25				15	0	0	0.263	0.266	0.0208	0.00537	0.228	0.305	80		
Nitrate (as N)	mg/L	0.005	0.018	0.25	2.17	2.9	15	13	87	-	0.005	-	-	0.005	0.0095	0	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051					15	13	87	-	0.0051	-	-	0.0051	0.0095			
Nitrite (as N)	mg/L	0.001	0.001	0.051	0.045	0.06	15	15	100	-	-	-	-	-	0.001	0	0	0

Table C1-6. MEL-02 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-02 (Mid-field Exposure Area) Open-Water Sampling Events (July, August, September)										
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05					15	0	0	0.211	0.214	0.00882	0.00228	0.191	0.225			
Nitrogen (T)	mg/L	0.05					15	0	0	0.264	0.268	0.0208	0.00536	0.228	0.305			
Orthophosphate (PO4-P)	mg/L	0.001	0.001				15	15	100	-	-	-	-	-	0.001	0		
Total Diss Phosphorus	mg/L	0.001	0.00314				15	0	0	0.00251	0.0023	0.000628	0.000162	0.0018	0.0041	20		
Total Phosphorus	mg/L	0.001	0.006	0.0049	0.0075	0.01	15	0	0	0.00565	0.0054	0.00107	0.000277	0.0045	0.0091	13	87	7
Organic Carbon																		
Dissolved Organic Carbon	mg/L	0.5	2.72				15	0	0	4.23	4.27	0.241	0.0621	3.77	4.56	100		
Total Organic Carbon	mg/L	0.5	3				15	0	0	4.37	4.24	0.222	0.0574	4.15	4.94	100		
Cyanides																		
Cyanide (Free)	mg/L	0.001		0.00035			15	15	100	-	-	-	-	-	0.001		100	
Cyanide (Total)	mg/L	0.001	0.001	0.009	0.00375	0.005	15	15	100	-	-	-	-	-	0.001	0	0	0
Cyanide (WAD)	mg/L	0.001					15	14	93	-	0.001	-	-	0.001	0.001			
Metals																		
Aluminum (D)	µg/L	1					15	3	20	2.19	1.3	1.51	0.39	1	5.8			
Aluminum (T)	µg/L	1	5.32	9.1	234 | 535	312 | 713	15	0	0	4.73	3.4	3.13	0.809	2.3	13.5	20	13	0
Antimony (D)	µg/L	0.02					15	13	87	-	0.02	-	-	0.02	0.023			
Antimony (T)	µg/L	0.02	0.02	0.51	4.5	6	15	14	93	-	0.02	-	-	0.02	0.021	7	0	0
Arsenic (D)	µg/L	0.02					15	0	0	0.836	0.835	0.0298	0.0077	0.786	0.893			
Arsenic (T)	µg/L	0.02	0.275	3.8	18.8	25	15	0	0	0.893	0.918	0.0861	0.0222	0.761	1.03	100	0	0
Barium (D)	µg/L	0.02					15	0	0	11.4	11.5	0.57	0.147	10.6	12.3			
Barium (T)	µg/L	0.02	8.05	77	750	1000	15	0	0	11.3	11.5	0.714	0.184	10.3	12.2	100	0	0
Beryllium (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Beryllium (T)	µg/L	0.005	0.005				15	15	100	-	-	-	-	-	0.005	0		
Boron (D)	µg/L	5					15	0	0	6.85	6.8	0.398	0.103	6.3	7.7			
Boron (T)	µg/L	5	6.52	23	1120	1500	15	0	0	6.79	6.8	0.181	0.0467	6.4	7.1	93	0	0
Cadmium (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Cadmium (T)	µg/L	0.005	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	15	15	100	-	-	-	-	-	0.005	0	0	0
Chromium (D)	µg/L	0.1					15	15	100	-	-	-	-	-	0.1			
Chromium (T)	µg/L	0.1	0.103	1.1	3.75	5	15	15	100	-	-	-	-	-	0.1	0	0	0
Cobalt (D)	µg/L	0.005					15	0	0	0.0162	0.016	0.00247	0.000637	0.013	0.0203			
Cobalt (T)	µg/L	0.005	0.016		0.585	0.78	15	0	0	0.0278	0.0264	0.00592	0.00153	0.0204	0.041	100		0
Copper (D)	µg/L	0.05	0.861		0.987 | 3.44	1.32 | 4.58	15	0	0	0.975	0.982	0.13	0.0335	0.785	1.15	73		0
Copper (T)	µg/L	0.05	0.86	2	1500	2000	15	0	0	1.04	0.989	0.25	0.0645	0.781	1.67	73	0	0
Iron (D)	µg/L	1					15	0	0	6.6	5.9	2.26	0.583	3.8	11.8			
Iron (T)	µg/L	1	15	42	795	1060	15	0	0	23.4	21.7	11.7	3.01	11.7	55.2	87	13	0
Lead (D)	µg/L	0.01	0.0125		3.85 | 5.68	5.13 | 7.57	15	11	73	-	0.01	-	-	0.01	0.029	27		0
Lead (T)	µg/L	0.01	0.0222	0.15	3.75	5	15	2	13	0.0178	0.014	0.00924	0.00238	0.01	0.038	27	0	0
Lithium (D)	µg/L	0.5					15	0	0	0.977	1	0.0682	0.0176	0.88	1.07			
Lithium (T)	µg/L	0.5	0.72				15	0	0	1	1.02	0.0315	0.00813	0.95	1.04	100		

Table C1-6. MEL-02 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-02 (Mid-field Exposure Area) Open-Water Sampling Events (July, August, September)										
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05	1.2		158 | 248	210 | 330	15	0	0	0.574	0.57	0.202	0.0521	0.353	1.05	0		0
Manganese (T)	µg/L	0.05	3.06	5.5	90	120	15	0	0	5.78	5.48	1.31	0.338	4.05	9.05	100	47	0
Mercury (D)	ng/L	0.5 | 5					15	7	47	0.885	0.55	1.15	0.296	0.5	5			
Mercury (T)	ng/L	0.5	0.8	20	19.5	26	15	3	20	0.68	0.64	0.177	0.0458	0.5	1.06	20	0	0
Molybdenum (D)	µg/L	0.05					15	0	0	0.141	0.12	0.0528	0.0136	0.114	0.271			
Molybdenum (T)	µg/L	0.05	0.107	5.2	54.8	73	15	0	0	0.123	0.119	0.0152	0.00391	0.111	0.172	100	0	0
Nickel (D)	µg/L	0.05					15	0	0	0.764	0.803	0.0824	0.0213	0.646	0.857			
Nickel (T)	µg/L	0.05	0.441	2.7	18.8	25	15	0	0	0.778	0.76	0.0681	0.0176	0.692	0.878	100	0	0
Selenium (D)	µg/L	0.04					15	10	67	-	0.04	-	-	0.04	0.071			
Selenium (T)	µg/L	0.04	0.049	0.16	0.75	1	15	5	33	0.0462	0.043	0.00766	0.00198	0.04	0.065	20	0	0
Silver (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Silver (T)	µg/L	0.005	0.005	0.1	0.188	0.25	15	15	100	-	-	-	-	-	0.005	0	0	0
Strontium (D)	µg/L	0.02			1880	2500	15	0	0	59.4	59.2	2.22	0.574	56.2	63			0
Strontium (T)	µg/L	0.02	36.1		1880	2500	15	0	0	57.2	57.5	2.13	0.549	53.6	60.3	100		0
Thallium (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Thallium (T)	µg/L	0.005	0.005	0.1	0.6	0.8	15	15	100	-	-	-	-	-	0.005	0	0	0
Tin (D)	µg/L	0.02					15	10	67	-	0.02	-	-	0.02	0.053			
Tin (T)	µg/L	0.02	0.0384				15	7	47	0.0347	0.022	0.0385	0.00993	0.02	0.171	13		
Titanium (D)	µg/L	0.05					15	13	87	-	0.05	-	-	0.05	0.135			
Titanium (T)	µg/L	0.05	0.17				15	2	13	0.202	0.095	0.237	0.0611	0.05	0.851	27		
Uranium (D)	µg/L	0.001					15	0	0	0.0248	0.0246	0.00115	0.000297	0.0231	0.0268			
Uranium (T)	µg/L	0.001	0.0164	1.5	11.2	15	15	0	0	0.0266	0.0264	0.0027	0.000697	0.023	0.0319	100	0	0
Vanadium (D)	µg/L	0.05					15	15	100	-	-	-	-	-	0.05			
Vanadium (T)	µg/L	0.05	0.05		90	120	15	13	87	-	0.05	-	-	0.05	0.08	13		0
Zinc (D)	µg/L	0.5	1.9		5.58 | 11.4	7.43 | 15.1	15	7	47	1.02	0.7	0.667	0.172	0.5	2.69	13		0
Zinc (T)	µg/L	0.5	1.7	6.7	5.58 | 11.4	7.43 | 15.1	15	5	33	0.812	0.76	0.363	0.0937	0.5	1.74	7	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-7. MEL-03 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-03 (Reference Area 1) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Field Measurements																		
Temperature	C						12	0	0	10.9	10.9	1.45	0.417	8.89	12.6			
DO (%)	%						12	0	0	102	102	0.756	0.218	101	103			
DO (mg/L)	mg/L				6.5	6.5	12	0	0	11	11	0.302	0.0873	10.6	11.4			0
pH (field)	pH units		7.1 | 7.95		6.5 | 9.0	6.5 | 9.0	12	0	0	7.39	7.41	0.135	0.039	7.12	7.55	0		0
Sp. Conductivity (field)	µS/cm						12	0	0	109	108	3.53	1.02	106	114			
Conventional Parameters																		
Hardness	mg/L	0.5	23.4				15	0	0	28.5	28.5	1.45	0.374	26.5	31.7	100		
Sp. Conductivity (lab)	µS/cm	1	77.5				15	0	0	99.1	99.6	1.85	0.478	96.4	101	100		
TDS (calculated)	mg/L	1	39.6	68	375	500	15	0	0	64.4	64.7	1.19	0.306	62.7	65.6	100	0	0
TDS (measured)	mg/L	10	54	68	375	500	15	0	0	58.3	57	9.05	2.34	46.1	75.5	73	13	0
Total Suspended Solids	mg/L	1	1	3.1			15	13	87	-	1	-	-	1	1.7	13	0	
Turbidity (lab)	NTU	0.1					15	0	0	0.589	0.37	0.482	0.125	0.21	1.65			
pH (lab)	pH units	0.1			6.5 | 9.0	6.5 | 9.0	15	0	0	7.46	7.48	0.0532	0.0137	7.37	7.53			0
Major Ions																		
Alkalinity, Bicarbonate	mg/L	1	25				15	0	0	19.4	19.4	0.314	0.0812	18.8	20.1	0		
Alkalinity, Carbonate	mg/L	1					15	15	100	-	-	-	-	-	1			
Alkalinity, Hydroxide	mg/L	1					15	15	100	-	-	-	-	-	1			
Alkalinity, Total	mg/L	1	20.5				15	0	0	19.4	19.4	0.314	0.0812	18.8	20.1	0		
Bromide	mg/L	0.1					15	15	100	-	-	-	-	-	0.1			
Calcium (D)	mg/L	0.01					15	0	0	8.97	8.9	0.439	0.113	8.38	9.91			
Calcium (T)	mg/L	0.01	7.33				15	0	0	8.77	8.86	0.367	0.0948	7.77	9.17	100		
Chloride	mg/L	0.1	9.56	14	90	120	15	0	0	12.5	12.4	0.18	0.0465	12.2	12.8	100	0	0
Fluoride	mg/L	0.02	0.028	0.0084	2.1	2.8	15	0	0	0.0336	0.034	0.00135	0.000349	0.031	0.036	100	100	0
Magnesium (D)	mg/L	0.004					15	0	0	1.47	1.45	0.104	0.0269	1.35	1.7			
Magnesium (T)	mg/L	0.004	1.18				15	0	0	1.47	1.44	0.0827	0.0214	1.27	1.6	100		
Potassium (D)	mg/L	0.02					15	0	0	1.08	1.08	0.0385	0.00995	1	1.15			
Potassium (T)	mg/L	0.02	0.954				15	0	0	1.06	1.08	0.0457	0.0118	0.913	1.12	93		
Reactive Silica	mg/L	0.01	0.268				15	0	0	0.301	0.29	0.0254	0.00656	0.278	0.346	100		
Sodium (D)	mg/L	0.02					15	0	0	5.98	5.91	0.241	0.0622	5.66	6.54			
Sodium (T)	mg/L	0.02	4.85	5.3			15	0	0	5.98	6.02	0.279	0.0721	5.54	6.36	100	100	
Sulphate	mg/L	0.3	3.87	38	96 | 164	128 | 218	15	0	0	6.15	6.17	0.192	0.0496	5.87	6.4	100	0	0
Nutrients																		
Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.441 | 4.31	0.588 | 5.74	15	3	20	0.0315	0.0249	0.0289	0.00747	0.005	0.11	60	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05					15	0	0	0.192	0.19	0.0218	0.00563	0.156	0.227			
Kjeldahl Nitrogen (T)	mg/L	0.05	0.25				15	0	0	0.238	0.236	0.0273	0.00704	0.209	0.29	20		
Nitrate (as N)	mg/L	0.005	0.018	0.25	2.17	2.9	15	13	87	-	0.005	-	-	0.005	0.006	0	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051					15	14	93	-	0.0051	-	-	0.0051	0.006			
Nitrite (as N)	mg/L	0.001	0.001	0.051	0.045	0.06	15	15	100	-	-	-	-	-	0.001	0	0	0

Table C1-7. MEL-03 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-03 (Reference Area 1) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05					15	0	0	0.193	0.19	0.0225	0.00582	0.156	0.227			
Nitrogen (T)	mg/L	0.05					15	0	0	0.239	0.236	0.027	0.00697	0.209	0.29			
Orthophosphate (PO4-P)	mg/L	0.001	0.001				15	14	93	-	0.001	-	-	0.001	0.0012	7		
Total Diss Phosphorus	mg/L	0.001	0.00314				15	0	0	0.00215	0.0022	3.00E-04	7.74E-05	0.0017	0.0029	0		
Total Phosphorus	mg/L	0.001	0.006	0.0049	0.0075	0.01	15	0	0	0.00455	0.0045	0.000882	0.000228	0.0032	0.006	0	27	0
Organic Carbon																		
Dissolved Organic Carbon	mg/L	0.5	2.72				15	0	0	3.42	3.41	0.186	0.048	3.09	3.87	100		
Total Organic Carbon	mg/L	0.5	3				15	0	0	3.57	3.58	0.264	0.0681	3.18	4.16	100		
Cyanides																		
Cyanide (Free)	mg/L	0.001		0.00035			15	15	100	-	-	-	-	-	0.001		100	
Cyanide (Total)	mg/L	0.001	0.001	0.009	0.00375	0.005	15	12	80	-	0.001	-	-	0.001	0.0016	20	0	0
Cyanide (WAD)	mg/L	0.001					15	14	93	-	0.001	-	-	0.001	0.001			
Metals																		
Aluminum (D)	µg/L	1					15	4	27	1.33	1.2	0.476	0.123	1	2.7			
Aluminum (T)	µg/L	1	5.32	9.1	234 | 535	312 | 713	15	0	0	2.46	2.5	0.679	0.175	1.3	3.9	0	0	0
Antimony (D)	µg/L	0.02					15	15	100	-	-	-	-	-	0.02			
Antimony (T)	µg/L	0.02	0.02	0.51	4.5	6	15	15	100	-	-	-	-	-	0.02	0	0	0
Arsenic (D)	µg/L	0.02					15	0	0	0.457	0.459	0.0156	0.00403	0.436	0.478			
Arsenic (T)	µg/L	0.02	0.275	3.8	18.8	25	15	0	0	0.469	0.472	0.0223	0.00575	0.43	0.521	100	0	0
Barium (D)	µg/L	0.02					15	0	0	9.61	9.52	0.315	0.0814	9.25	10.2			
Barium (T)	µg/L	0.02	8.05	77	750	1000	15	0	0	9.47	9.51	0.519	0.134	8.09	10.2	100	0	0
Beryllium (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Beryllium (T)	µg/L	0.005	0.005				15	15	100	-	-	-	-	-	0.005	0		
Boron (D)	µg/L	5					15	0	0	5.67	5.7	0.128	0.033	5.4	5.8			
Boron (T)	µg/L	5	6.52	23	1120	1500	15	0	0	5.59	5.7	0.26	0.0672	5.2	5.9	0	0	0
Cadmium (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Cadmium (T)	µg/L	0.005	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	15	15	100	-	-	-	-	-	0.005	0	0	0
Chromium (D)	µg/L	0.1					15	14	93	-	0.1	-	-	0.1	0.12			
Chromium (T)	µg/L	0.1	0.103	1.1	3.75	5	15	15	100	-	-	-	-	-	0.1	0	0	0
Cobalt (D)	µg/L	0.005					15	0	0	0.0093	0.0093	0.000632	0.000163	0.0084	0.011			
Cobalt (T)	µg/L	0.005	0.016		0.585	0.78	15	0	0	0.0181	0.0186	0.0016	0.000414	0.0135	0.0205	93		0
Copper (D)	µg/L	0.05	0.861		0.987 | 3.44	1.32 | 4.58	15	0	0	0.843	0.796	0.105	0.0272	0.711	1.03	47		0
Copper (T)	µg/L	0.05	0.86	2	1500	2000	15	0	0	0.795	0.72	0.153	0.0396	0.626	1.13	27	0	0
Iron (D)	µg/L	1					15	0	0	5.5	5.2	1.08	0.279	3.9	7.8			
Iron (T)	µg/L	1	15	42	795	1060	15	0	0	15.4	15.1	3	0.774	8.7	22	53	0	0
Lead (D)	µg/L	0.01	0.0125		3.85 | 5.68	5.13 | 7.57	15	15	100	-	-	-	-	-	0.01	0		0
Lead (T)	µg/L	0.01	0.0222	0.15	3.75	5	15	10	67	-	0.01	-	-	0.01	0.035	7	0	0
Lithium (D)	µg/L	0.5					15	0	0	0.881	0.87	0.0322	0.00831	0.85	0.94			
Lithium (T)	µg/L	0.5	0.72				15	0	0	0.848	0.86	0.0558	0.0144	0.76	0.93	100		

Table C1-7. MEL-03 water quality summary – 2025 open-water sampling events.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-03 (Reference Area 1) Open-Water Sampling Events (July, August, September)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05	1.2		158 | 248	210 | 330	15	0	0	0.57	0.508	0.167	0.0432	0.365	0.816	0		0
Manganese (T)	µg/L	0.05	3.06	5.5	90	120	15	0	0	4.14	4.4	0.61	0.158	2.73	4.86	93	0	0
Mercury (D)	ng/L	0.5 | 5					15	9	60	-	0.5	-	-	0.5	0.83			
Mercury (T)	ng/L	0.5	0.8	20	19.5	26	15	5	33	0.663	0.52	0.263	0.0679	0.5	1.38	13	0	0
Molybdenum (D)	µg/L	0.05					15	0	0	0.0987	0.098	0.00514	0.00133	0.092	0.11			
Molybdenum (T)	µg/L	0.05	0.107	5.2	54.8	73	15	0	0	0.0951	0.095	0.00436	0.00112	0.088	0.103	0	0	0
Nickel (D)	µg/L	0.05					15	0	0	0.5	0.505	0.044	0.0114	0.442	0.598			
Nickel (T)	µg/L	0.05	0.441	2.7	18.8	25	15	0	0	0.501	0.502	0.0319	0.00824	0.442	0.577	100	0	0
Selenium (D)	µg/L	0.04					15	12	80	-	0.04	-	-	0.04	0.081			
Selenium (T)	µg/L	0.04	0.049	0.16	0.75	1	15	13	87	-	0.04	-	-	0.04	0.047	0	0	0
Silver (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Silver (T)	µg/L	0.005	0.005	0.1	0.188	0.25	15	15	100	-	-	-	-	-	0.005	0	0	0
Strontium (D)	µg/L	0.02			1880	2500	15	0	0	47.1	46.7	2.14	0.552	43.2	50.7			0
Strontium (T)	µg/L	0.02	36.1		1880	2500	15	0	0	45.4	45.9	1.65	0.425	40.4	46.9	100		0
Thallium (D)	µg/L	0.005					15	15	100	-	-	-	-	-	0.005			
Thallium (T)	µg/L	0.005	0.005	0.1	0.6	0.8	15	15	100	-	-	-	-	-	0.005	0	0	0
Tin (D)	µg/L	0.02					15	10	67	-	0.02	-	-	0.02	0.071			
Tin (T)	µg/L	0.02	0.0384				15	12	80	-	0.02	-	-	0.02	0.048	13		
Titanium (D)	µg/L	0.05					15	15	100	-	-	-	-	-	0.05			
Titanium (T)	µg/L	0.05	0.17				15	5	33	0.076	0.055	0.0524	0.0135	0.05	0.247	7		
Uranium (D)	µg/L	0.001					15	0	0	0.0189	0.019	0.000988	0.000255	0.017	0.0212			
Uranium (T)	µg/L	0.001	0.0164	1.5	11.2	15	15	0	0	0.0195	0.0193	0.00113	0.000292	0.0171	0.0213	100	0	0
Vanadium (D)	µg/L	0.05					15	15	100	-	-	-	-	-	0.05			
Vanadium (T)	µg/L	0.05	0.05		90	120	15	15	100	-	-	-	-	-	0.05	0		0
Zinc (D)	µg/L	0.5	1.9		5.58 | 11.4	7.43 | 15.1	15	8	53	-	0.5	-	-	0.5	2.09	7		0
Zinc (T)	µg/L	0.5	1.7	6.7	5.58 | 11.4	7.43 | 15.1	15	11	73	-	0.5	-	-	0.5	1.63	0	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-8. MEL-04 water quality summary – August 2025 sampling event.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-04 (Reference Area 2) Open-Water Sampling Event (August)										
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Field Measurements																		
Temperature	C						5	0	0	12.5	12.5	0.0292	0.013	12.4	12.5			
DO (%)	%						5	0	0	104	104	0.596	0.266	103	105			
DO (mg/L)	mg/L				6.5	6.5	5	0	0	10.8	10.8	0.064	0.0286	10.7	10.8			0
pH (field)	pH units		7.1 | 7.95		6.5 | 9.0	6.5 | 9.0	5	0	0	7.56	7.54	0.106	0.0474	7.42	7.71	0		0
Sp. Conductivity (field)	µS/cm						5	0	0	106	106	0.0707	0.0316	106	106			
Conventional Parameters																		
Hardness	mg/L	0.5	23.4				5	0	0	27.8	27.9	0.526	0.235	27	28.4	100		
Sp. Conductivity (lab)	µS/cm	1	77.5				5	0	0	98.9	98.7	0.632	0.283	98.4	100	100		
TDS (calculated)	mg/L	1	39.6	68	375	500	5	0	0	64.3	64.2	0.4	0.179	64	65	100	0	0
TDS (measured)	mg/L	10	54	68	375	500	5	0	0	43.5	41.4	5.05	2.26	38.1	50.1	0	0	0
Total Suspended Solids	mg/L	1	1	3.1			5	2	40	1.44	1.1	0.723	0.323	1	2.7	60	0	
Turbidity (lab)	NTU	0.1					5	0	0	0.244	0.25	0.0207	0.00927	0.21	0.26			
pH (lab)	pH units	0.1			6.5 | 9.0	6.5 | 9.0	5	0	0	7.38	7.38	0.0255	0.0114	7.34	7.41			0
Major Ions																		
Alkalinity, Bicarbonate	mg/L	1	25				5	0	0	19.2	19.2	0.0837	0.0374	19.1	19.3	0		
Alkalinity, Carbonate	mg/L	1					5	5	100	-	-	-	-	-	1			
Alkalinity, Hydroxide	mg/L	1					5	5	100	-	-	-	-	-	1			
Alkalinity, Total	mg/L	1	20.5				5	0	0	19.2	19.2	0.0837	0.0374	19.1	19.3	0		
Bromide	mg/L	0.1					5	5	100	-	-	-	-	-	0.1			
Calcium (D)	mg/L	0.01					5	0	0	8.88	8.91	0.157	0.07	8.62	9.04			
Calcium (T)	mg/L	0.01	7.33				5	0	0	8.88	8.85	0.113	0.0507	8.72	9.01	100		
Chloride	mg/L	0.1	9.56	14	90	120	5	0	0	12.3	12.3	0	0	12.3	12.3	100	0	0
Fluoride	mg/L	0.02	0.028	0.0084	2.1	2.8	5	0	0	0.0328	0.033	0.000447	2.00E-04	0.032	0.033	100	100	0
Magnesium (D)	mg/L	0.004					5	0	0	1.38	1.35	0.0754	0.0337	1.33	1.51			
Magnesium (T)	mg/L	0.004	1.18				5	0	0	1.49	1.49	0.0321	0.0144	1.46	1.54	100		
Potassium (D)	mg/L	0.02					5	0	0	1.06	1.07	0.0255	0.0114	1.02	1.08			
Potassium (T)	mg/L	0.02	0.954				5	0	0	1.05	1.05	0.0251	0.0112	1.01	1.08	100		
Reactive Silica	mg/L	0.01	0.268				5	0	0	0.344	0.344	0.00406	0.00182	0.338	0.349	100		
Sodium (D)	mg/L	0.02					5	0	0	5.74	5.63	0.295	0.132	5.57	6.27			
Sodium (T)	mg/L	0.02	4.85	5.3			5	0	0	6.14	6.1	0.219	0.0978	5.96	6.52	100	100	
Sulphate	mg/L	0.3	3.87	38	96 | 164	128 | 218	5	0	0	6.06	6.05	0.0319	0.0143	6.02	6.1	100	0	0
Nutrients																		
Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.441 | 4.31	0.588 | 5.74	5	1	20	0.011	0.0107	0.00449	0.00201	0.005	0.0169	0	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05					5	0	0	0.18	0.171	0.0262	0.0117	0.163	0.226			
Kjeldahl Nitrogen (T)	mg/L	0.05	0.25				5	0	0	0.224	0.223	0.00545	0.00244	0.219	0.232	0		
Nitrate (as N)	mg/L	0.005	0.018	0.25	2.17	2.9	5	3	60	-	0.005	-	-	0.005	0.0104	0	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051					5	3	60	-	0.0051	-	-	0.0051	0.0104			
Nitrite (as N)	mg/L	0.001	0.001	0.051	0.045	0.06	5	5	100	-	-	-	-	-	0.001	0	0	0

Table C1-8. MEL-04 water quality summary – August 2025 sampling event.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-04 (Reference Area 2) Open-Water Sampling Event (August)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05					5	0	0	0.183	0.179	0.0254	0.0114	0.163	0.226			
Nitrogen (T)	mg/L	0.05					5	0	0	0.227	0.232	0.0077	0.00344	0.219	0.234			
Orthophosphate (PO4-P)	mg/L	0.001	0.001				5	4	80	-	0.001	-	-	0.001	0.0012	20		
Total Diss Phosphorus	mg/L	0.001	0.00314				5	0	0	0.0018	0.0018	0.000224	1.00E-04	0.0015	0.0021	0		
Total Phosphorus	mg/L	0.001	0.006	0.0049	0.0075	0.01	5	0	0	0.0047	0.0046	0.00153	0.000683	0.0032	0.0071	20	40	0
Organic Carbon																		
Dissolved Organic Carbon	mg/L	0.5	2.72				5	0	0	3.21	3.12	0.153	0.0686	3.09	3.41	100		
Total Organic Carbon	mg/L	0.5	3				5	0	0	3.66	3.6	0.164	0.0732	3.47	3.89	100		
Cyanides																		
Cyanide (Free)	mg/L	0.001		0.00035			5	5	100	-	-	-	-	-	0.001		100	
Cyanide (Total)	mg/L	0.001	0.001	0.009	0.00375	0.005	5	5	100	-	-	-	-	-	0.001	0	0	0
Cyanide (WAD)	mg/L	0.001					5	5	100	-	-	-	-	-	0.001			
Metals																		
Aluminum (D)	µg/L	1					5	1	20	1.14	1	0.261	0.117	1	1.6			
Aluminum (T)	µg/L	1	5.32	9.1	234 | 535	312 | 713	5	0	0	2.72	2.6	0.853	0.381	1.9	3.6	0	0	0
Antimony (D)	µg/L	0.02					5	5	100	-	-	-	-	-	0.02			
Antimony (T)	µg/L	0.02	0.02	0.51	4.5	6	5	5	100	-	-	-	-	-	0.02	0	0	0
Arsenic (D)	µg/L	0.02					5	0	0	0.427	0.425	0.0105	0.00468	0.414	0.442			
Arsenic (T)	µg/L	0.02	0.275	3.8	18.8	25	5	0	0	0.441	0.433	0.0178	0.00796	0.424	0.466	100	0	0
Barium (D)	µg/L	0.02					5	0	0	9.39	9.38	0.188	0.0839	9.17	9.62			
Barium (T)	µg/L	0.02	8.05	77	750	1000	5	0	0	9.46	9.4	0.161	0.0719	9.34	9.73	100	0	0
Beryllium (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Beryllium (T)	µg/L	0.005	0.005				5	5	100	-	-	-	-	-	0.005	0		
Boron (D)	µg/L	5					5	0	0	5.5	5.5	0.122	0.0548	5.4	5.7			
Boron (T)	µg/L	5	6.52	23	1120	1500	5	0	0	5.66	5.7	0.167	0.0748	5.5	5.9	0	0	0
Cadmium (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Cadmium (T)	µg/L	0.005	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	5	5	100	-	-	-	-	-	0.005	0	0	0
Chromium (D)	µg/L	0.1					5	5	100	-	-	-	-	-	0.1			
Chromium (T)	µg/L	0.1	0.103	1.1	3.75	5	5	5	100	-	-	-	-	-	0.1	0	0	0
Cobalt (D)	µg/L	0.005					5	0	0	0.00888	0.0089	0.000672	0.000301	0.0081	0.0099			
Cobalt (T)	µg/L	0.005	0.016		0.585	0.78	5	0	0	0.016	0.0159	0.0014	0.000627	0.0143	0.0176	40		0
Copper (D)	µg/L	0.05	0.861		0.987 | 3.44	1.32 | 4.58	5	0	0	0.857	0.827	0.0623	0.0279	0.796	0.936	40		0
Copper (T)	µg/L	0.05	0.86	2	1500	2000	5	0	0	1.11	1.15	0.183	0.0818	0.881	1.35	100	0	0
Iron (D)	µg/L	1					5	0	0	4.74	4.6	0.439	0.196	4.3	5.3			
Iron (T)	µg/L	1	15	42	795	1060	5	0	0	12.8	13.1	1.71	0.765	10.6	14.4	0	0	0
Lead (D)	µg/L	0.01	0.0125		3.85 | 5.68	5.13 | 7.57	5	5	100	-	-	-	-	-	0.01	0		0
Lead (T)	µg/L	0.01	0.0222	0.15	3.75	5	5	4	80	-	0.01	-	-	0.01	0.012	0	0	0
Lithium (D)	µg/L	0.5					5	0	0	0.876	0.88	0.0114	0.0051	0.86	0.89			
Lithium (T)	µg/L	0.5	0.72				5	0	0	0.888	0.88	0.0476	0.0213	0.85	0.97	100		

Table C1-8. MEL-04 water quality summary – August 2025 sampling event.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-04 (Reference Area 2) Open-Water Sampling Event (August)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05	1.2		158 | 248	210 | 330	5	0	0	0.395	0.391	0.0508	0.0227	0.348	0.478	0		0
Manganese (T)	µg/L	0.05	3.06	5.5	90	120	5	0	0	3.49	3.5	0.112	0.0501	3.32	3.63	100	0	0
Mercury (D)	ng/L	0.5 | 5					5	5	100	-	-	-	-	-	0.5			
Mercury (T)	ng/L	0.5	0.8	20	19.5	26	5	4	80	-	0.5	-	-	0.5	0.8	0	0	0
Molybdenum (D)	µg/L	0.05					5	0	0	0.0948	0.094	0.00432	0.00193	0.089	0.1			
Molybdenum (T)	µg/L	0.05	0.107	5.2	54.8	73	5	0	0	0.0942	0.094	0.00205	0.000917	0.091	0.096	0	0	0
Nickel (D)	µg/L	0.05					5	0	0	0.499	0.5	0.00614	0.00275	0.49	0.507			
Nickel (T)	µg/L	0.05	0.441	2.7	18.8	25	5	0	0	0.512	0.496	0.0272	0.0122	0.49	0.552	100	0	0
Selenium (D)	µg/L	0.04					5	5	100	-	-	-	-	-	0.04			
Selenium (T)	µg/L	0.04	0.049	0.16	0.75	1	5	4	80	-	0.04	-	-	0.04	0.055	20	0	0
Silver (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Silver (T)	µg/L	0.005	0.005	0.1	0.188	0.25	5	5	100	-	-	-	-	-	0.005	0	0	0
Strontium (D)	µg/L	0.02			1880	2500	5	0	0	48	48.6	1.19	0.53	46.1	49.1			0
Strontium (T)	µg/L	0.02	36.1		1880	2500	5	0	0	44.7	44.6	0.327	0.146	44.4	45.2	100		0
Thallium (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Thallium (T)	µg/L	0.005	0.005	0.1	0.6	0.8	5	5	100	-	-	-	-	-	0.005	0	0	0
Tin (D)	µg/L	0.02					5	0	0	0.0458	0.054	0.0224	0.01	0.02	0.069			
Tin (T)	µg/L	0.02	0.0384				5	0	0	0.042	0.046	0.0098	0.00438	0.028	0.052	60		
Titanium (D)	µg/L	0.05					5	5	100	-	-	-	-	-	0.05			
Titanium (T)	µg/L	0.05	0.17				5	1	20	0.151	0.121	0.136	0.061	0.05	0.385	20		
Uranium (D)	µg/L	0.001					5	0	0	0.0163	0.0163	0.000709	0.000317	0.0154	0.017			
Uranium (T)	µg/L	0.001	0.0164	1.5	11.2	15	5	0	0	0.0175	0.017	0.00182	0.000813	0.0159	0.0206	80	0	0
Vanadium (D)	µg/L	0.05					5	5	100	-	-	-	-	-	0.05			
Vanadium (T)	µg/L	0.05	0.05		90	120	5	5	100	-	-	-	-	-	0.05	0		0
Zinc (D)	µg/L	0.5	1.9		5.58 | 11.4	7.43 | 15.1	5	0	0	2.38	2.57	0.906	0.405	1.38	3.66	60		0
Zinc (T)	µg/L	0.5	1.7	6.7	5.58 | 11.4	7.43 | 15.1	5	1	20	1.11	0.63	0.89	0.398	0.5	2.61	20	0	0

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-9. MEL-05 water quality summary – August 2025 sampling event.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-05 (Reference Area 3) Open-Water Sampling Event (August)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Field Measurements																		
Temperature	C						5	0	0	12.9	12.8	0.123	0.0548	12.8	13.1			
DO (%)	%						5	0	0	106	106	0.3	0.134	105	106			
DO (mg/L)	mg/L				6.5	6.5	5	0	0	10.8	10.8	0.0152	0.00678	10.8	10.9			0
pH (field)	pH units		7.1 | 7.95		6.5 | 9.0	6.5 | 9.0	5	0	0	7.75	7.76	0.0164	0.00735	7.73	7.77	0		0
Sp. Conductivity (field)	µS/cm						5	0	0	109	109	0.217	0.097	109	109			
Conventional Parameters																		
Hardness	mg/L	0.5	23.4				5	0	0	32.7	33	0.646	0.289	32	33.5	100		
Sp. Conductivity (lab)	µS/cm	1	77.5				5	0	0	102	102	0	0	102	102	100		
TDS (calculated)	mg/L	1	39.6	68	375	500	5	0	0	66.3	66.3	0	0	66.3	66.3	100	0	0
TDS (measured)	mg/L	10	54	68	375	500	5	0	0	55.2	55.8	2.57	1.15	51.4	57.8	80	0	0
Total Suspended Solids	mg/L	1	1	3.1			5	5	100	-	-	-	-	-	1	0	0	
Turbidity (lab)	NTU	0.1					5	0	0	0.2	0.2	0.0158	0.00707	0.18	0.22			
pH (lab)	pH units	0.1			6.5 | 9.0	6.5 | 9.0	5	0	0	7.46	7.45	0.0187	0.00837	7.44	7.48			0
Major Ions																		
Alkalinity, Bicarbonate	mg/L	1	25				5	0	0	20.8	20.8	0.11	0.049	20.6	20.9	0		
Alkalinity, Carbonate	mg/L	1					5	5	100	-	-	-	-	-	1			
Alkalinity, Hydroxide	mg/L	1					5	5	100	-	-	-	-	-	1			
Alkalinity, Total	mg/L	1	20.5				5	0	0	20.8	20.8	0.11	0.049	20.6	20.9	100		
Bromide	mg/L	0.1					5	5	100	-	-	-	-	-	0.1			
Calcium (D)	mg/L	0.01					5	0	0	10.3	10.4	0.217	0.097	10.1	10.6			
Calcium (T)	mg/L	0.01	7.33				5	0	0	9.65	9.58	0.199	0.0891	9.5	10	100		
Chloride	mg/L	0.1	9.56	14	90	120	5	0	0	12.3	12.3	0	0	12.3	12.3	100	0	0
Fluoride	mg/L	0.02	0.028	0.0084	2.1	2.8	5	0	0	0.0332	0.034	0.0011	0.00049	0.032	0.034	100	100	0
Magnesium (D)	mg/L	0.004					5	0	0	1.69	1.7	0.0277	0.0124	1.65	1.72			
Magnesium (T)	mg/L	0.004	1.18				5	0	0	1.51	1.5	0.02	0.00894	1.49	1.54	100		
Potassium (D)	mg/L	0.02					5	0	0	1.14	1.15	0.0339	0.0152	1.1	1.18			
Potassium (T)	mg/L	0.02	0.954				5	0	0	1.08	1.07	0.0249	0.0111	1.06	1.12	100		
Reactive Silica	mg/L	0.01	0.268				5	0	0	0.317	0.319	0.00493	0.0022	0.31	0.322	100		
Sodium (D)	mg/L	0.02					5	0	0	6.49	6.49	0.132	0.0589	6.33	6.65			
Sodium (T)	mg/L	0.02	4.85	5.3			5	0	0	6.06	6.09	0.155	0.0693	5.9	6.28	100	100	
Sulphate	mg/L	0.3	3.87	38	96 | 164	128 | 218	5	0	0	6.16	6.14	0.0472	0.0211	6.13	6.24	100	0	0
Nutrients																		
Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.441 | 4.31	0.588 | 5.74	5	1	20	0.00806	0.0063	0.0034	0.00152	0.005	0.0118	0	0	0
Kjeldahl Nitrogen (D)	mg/L	0.05					5	0	0	0.202	0.198	0.0247	0.011	0.172	0.24			
Kjeldahl Nitrogen (T)	mg/L	0.05	0.25				5	0	0	0.238	0.223	0.0366	0.0163	0.212	0.302	20		
Nitrate (as N)	mg/L	0.005	0.018	0.25	2.17	2.9	5	4	80	-	0.005	-	-	0.005	0.005	0	0	0
Nitrate + Nitrite (as N)	mg/L	0.0051					5	5	100	-	-	-	-	-	0.0051			
Nitrite (as N)	mg/L	0.001	0.001	0.051	0.045	0.06	5	5	100	-	-	-	-	-	0.001	0	0	0

Table C1-9. MEL-05 water quality summary – August 2025 sampling event.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-05 (Reference Area 3) Open-Water Sampling Event (August)										
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Nitrogen (D)	mg/L	0.05					5	0	0	0.203	0.198	0.025	0.0112	0.172	0.24			
Nitrogen (T)	mg/L	0.05					5	0	0	0.239	0.223	0.0387	0.0173	0.212	0.307			
Orthophosphate (PO4-P)	mg/L	0.001	0.001				5	5	100	-	-	-	-	-	0.001	0		
Total Diss Phosphorus	mg/L	0.001	0.00314				5	0	0	0.00218	0.0021	0.000164	7.35E-05	0.002	0.0024	0		
Total Phosphorus	mg/L	0.001	0.006	0.0049	0.0075	0.01	5	0	0	0.00396	0.0038	0.000702	0.000314	0.0033	0.005	0	20	0
Organic Carbon																		
Dissolved Organic Carbon	mg/L	0.5	2.72				5	0	0	3.59	3.68	0.157	0.07	3.36	3.72	100		
Total Organic Carbon	mg/L	0.5	3				5	0	0	3.87	3.88	0.0841	0.0376	3.75	3.95	100		
Cyanides																		
Cyanide (Free)	mg/L	0.001		0.00035			5	5	100	-	-	-	-	-	0.001		100	
Cyanide (Total)	mg/L	0.001	0.001	0.009	0.00375	0.005	5	5	100	-	-	-	-	-	0.001	0	0	0
Cyanide (WAD)	mg/L	0.001					5	3	60	-	0.001	-	-	0.001	0.0011			
Metals																		
Aluminum (D)	µg/L	1					5	1	20	3.98	2.1	5.19	2.32	1	13.2			
Aluminum (T)	µg/L	1	5.32	9.1	234 | 535	312 | 713	5	0	0	5.44	2.4	7.2	3.22	1.8	18.3	20	20	0
Antimony (D)	µg/L	0.02					5	5	100	-	-	-	-	-	0.02			
Antimony (T)	µg/L	0.02	0.02	0.51	4.5	6	5	5	100	-	-	-	-	-	0.02	0	0	0
Arsenic (D)	µg/L	0.02					5	0	0	0.483	0.481	0.00644	0.00288	0.476	0.492			
Arsenic (T)	µg/L	0.02	0.275	3.8	18.8	25	5	0	0	0.514	0.509	0.0121	0.0054	0.504	0.534	100	0	0
Barium (D)	µg/L	0.02					5	0	0	10.2	10.1	0.217	0.097	10.1	10.6			
Barium (T)	µg/L	0.02	8.05	77	750	1000	5	0	0	9.77	9.7	0.247	0.11	9.58	10.2	100	0	0
Beryllium (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Beryllium (T)	µg/L	0.005	0.005				5	5	100	-	-	-	-	-	0.005	0		
Boron (D)	µg/L	5					5	0	0	5.8	5.8	0.141	0.0632	5.6	6			
Boron (T)	µg/L	5	6.52	23	1120	1500	5	0	0	5.68	5.7	0.13	0.0583	5.5	5.8	0	0	0
Cadmium (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Cadmium (T)	µg/L	0.005	0.005	0.05	0.0293 | 0.0571	0.0391 | 0.0761	5	5	100	-	-	-	-	-	0.005	0	0	0
Chromium (D)	µg/L	0.1					5	5	100	-	-	-	-	-	0.1			
Chromium (T)	µg/L	0.1	0.103	1.1	3.75	5	5	5	100	-	-	-	-	-	0.1	0	0	0
Cobalt (D)	µg/L	0.005					5	0	0	0.0101	0.0097	0.000699	0.000312	0.0094	0.011			
Cobalt (T)	µg/L	0.005	0.016		0.585	0.78	5	0	0	0.0157	0.0155	0.000731	0.000327	0.015	0.0167	40		0
Copper (D)	µg/L	0.05	0.861		0.987 | 3.44	1.32 | 4.58	5	0	0	0.937	0.91	0.0748	0.0335	0.849	1.04	80		0
Copper (T)	µg/L	0.05	0.86	2	1500	2000	5	0	0	0.948	0.921	0.0922	0.0412	0.886	1.11	100	0	0
Iron (D)	µg/L	1					5	0	0	6.12	6	1.19	0.534	4.8	7.7			
Iron (T)	µg/L	1	15	42	795	1060	5	0	0	12.3	11.6	1.16	0.518	11.1	13.7	0	0	0
Lead (D)	µg/L	0.01	0.0125		3.85 | 5.68	5.13 | 7.57	5	5	100	-	-	-	-	-	0.01	0		0
Lead (T)	µg/L	0.01	0.0222	0.15	3.75	5	5	4	80	-	0.01	-	-	0.01	0.01	0	0	0
Lithium (D)	µg/L	0.5					5	0	0	0.884	0.89	0.0182	0.00812	0.86	0.9			
Lithium (T)	µg/L	0.5	0.72				5	0	0	0.894	0.89	0.00548	0.00245	0.89	0.9	100		

Table C1-9. MEL-05 water quality summary – August 2025 sampling event.

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	MEL-05 (Reference Area 3) Open-Water Sampling Event (August)											
							N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max	% > NR	%> FEIS	% > Act Lvl
Manganese (D)	µg/L	0.05	1.2		158 | 248	210 | 330	5	0	0	0.465	0.464	0.0264	0.0118	0.438	0.507	0		0
Manganese (T)	µg/L	0.05	3.06	5.5	90	120	5	0	0	3.47	3.43	0.108	0.0485	3.34	3.6	100	0	0
Mercury (D)	ng/L	0.5 | 5					5	5	100	-	-	-	-	-	0.5			
Mercury (T)	ng/L	0.5	0.8	20	19.5	26	5	5	100	-	-	-	-	-	0.5	0	0	0
Molybdenum (D)	µg/L	0.05					5	0	0	0.11	0.109	0.00207	0.000927	0.108	0.113			
Molybdenum (T)	µg/L	0.05	0.107	5.2	54.8	73	5	0	0	0.0998	0.098	0.00455	0.00203	0.095	0.106	0	0	0
Nickel (D)	µg/L	0.05					5	0	0	0.53	0.517	0.026	0.0116	0.504	0.561			
Nickel (T)	µg/L	0.05	0.441	2.7	18.8	25	5	0	0	0.486	0.474	0.0264	0.0118	0.467	0.532	100	0	0
Selenium (D)	µg/L	0.04					5	2	40	0.0474	0.042	0.0103	0.00462	0.04	0.064			
Selenium (T)	µg/L	0.04	0.049	0.16	0.75	1	5	5	100	-	-	-	-	-	0.04	0	0	0
Silver (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Silver (T)	µg/L	0.005	0.005	0.1	0.188	0.25	5	5	100	-	-	-	-	-	0.005	0	0	0
Strontium (D)	µg/L	0.02			1880	2500	5	0	0	50.7	50.4	0.817	0.366	50	52			0
Strontium (T)	µg/L	0.02	36.1		1880	2500	5	0	0	45.6	45.4	0.856	0.383	44.6	46.9	100		0
Thallium (D)	µg/L	0.005					5	5	100	-	-	-	-	-	0.005			
Thallium (T)	µg/L	0.005	0.005	0.1	0.6	0.8	5	5	100	-	-	-	-	-	0.005	0	0	0
Tin (D)	µg/L	0.02					5	1	20	0.0958	0.077	0.0818	0.0366	0.02	0.224			
Tin (T)	µg/L	0.02	0.0384				5	0	0	0.097	0.087	0.0677	0.0303	0.039	0.21	100		
Titanium (D)	µg/L	0.05					5	4	80	-	0.05	-	-	0.05	0.085			
Titanium (T)	µg/L	0.05	0.17				5	2	40	0.057	0.052	0.0119	0.00533	0.05	0.078	0		
Uranium (D)	µg/L	0.001					5	0	0	0.0184	0.0182	0.000654	0.000293	0.0178	0.0194			
Uranium (T)	µg/L	0.001	0.0164	1.5	11.2	15	5	0	0	0.0197	0.0191	0.00114	0.000509	0.0187	0.0215	100	0	0
Vanadium (D)	µg/L	0.05					5	5	100	-	-	-	-	-	0.05			
Vanadium (T)	µg/L	0.05	0.05		90	120	5	5	100	-	-	-	-	-	0.05	0		0
Zinc (D)	µg/L	0.5	1.9		5.58 | 11.4	7.43 | 15.1	5	1	20	4.67	4.74	3.34	1.49	0.5	8.30	80		20
Zinc (T)	µg/L	0.5	1.7	6.7	5.58 | 11.4	7.43 | 15.1	5	0	0	3.45	1.86	3.04	1.36	1.46	8.68	60	20	20

Notes

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines except for fluoride, arsenic, and iron (AEMP Benchmark = site specific water quality objective).

Table C1-10. Atulik Lake water quality summary – August 2025 sampling event

Parameter	Units	DL (min | max)	Atulik Lake (Reference) Open-Water Sampling Event (August)								
			N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max
Field Measurements											
Temperature	C		3	0	0	12.8	12.8	0.0458	0.0265	12.8	12.8
DO (%)	%		3	0	0	98.6	98.5	0.173	0.1	98.5	98.8
DO (mg/L)	mg/L		3	0	0	10.2	10.2	0.01	0.00577	10.1	10.2
pH (field)	pH units		3	0	0	7.66	7.7	0.0839	0.0484	7.56	7.71
Sp. Conductivity (field)	µS/cm		3	0	0	120	120	0.361	0.208	120	121
Conventional Parameters											
Hardness	mg/L	0.5	3	0	0	31.4	31.6	0.529	0.306	30.8	31.8
Sp. Conductivity (lab)	µS/cm	1	3	0	0	110	110	0.577	0.333	109	110
TDS (calculated)	mg/L	1	3	0	0	71.3	71.5	0.404	0.233	70.8	71.5
TDS (measured)	mg/L	10	3	0	0	49.6	49.4	3.66	2.11	46.1	53.4
Total Suspended Solids	mg/L	1	3	1	33	1.1	1.1	0.1	0.0577	1	1.2
Turbidity (lab)	NTU	0.1	3	0	0	0.473	0.45	0.107	0.0617	0.38	0.59
pH (lab)	pH units	0.1	3	0	0	7.44	7.44	0.0252	0.0145	7.42	7.47
Major Ions											
Alkalinity, Bicarbonate	mg/L	1	3	0	0	20.8	20.8	0.2	0.115	20.6	21
Alkalinity, Carbonate	mg/L	1	3	3	100	-	-	-	-	-	1
Alkalinity, Hydroxide	mg/L	1	3	3	100	-	-	-	-	-	1
Alkalinity, Total	mg/L	1	3	0	0	20.8	20.8	0.2	0.115	20.6	21
Bromide	mg/L	0.1	3	3	100	-	-	-	-	-	0.1
Calcium (D)	mg/L	0.01	3	0	0	9.94	10	0.197	0.114	9.72	10.1
Calcium (T)	mg/L	0.01	3	0	0	9.31	9.34	0.0666	0.0384	9.23	9.35
Chloride	mg/L	0.1	3	0	0	14.2	14.2	0.0577	0.0333	14.2	14.3
Fluoride	mg/L	0.02	3	0	0	0.0377	0.037	0.00208	0.0012	0.036	0.04
Magnesium (D)	mg/L	0.004	3	0	0	1.6	1.59	0.0513	0.0296	1.56	1.66
Magnesium (T)	mg/L	0.004	3	0	0	1.76	1.76	0.0153	0.00882	1.75	1.78
Potassium (D)	mg/L	0.02	3	0	0	1.32	1.33	0.0173	0.01	1.3	1.33
Potassium (T)	mg/L	0.02	3	0	0	1.2	1.2	0.0153	0.00882	1.19	1.22
Reactive Silica	mg/L	0.01	3	0	0	0.8	0.798	0.0171	0.00987	0.784	0.818
Sodium (D)	mg/L	0.02	3	0	0	6.7	6.83	0.252	0.145	6.41	6.86
Sodium (T)	mg/L	0.02	3	0	0	7.01	6.96	0.136	0.0786	6.9	7.16
Sulphate	mg/L	0.3	3	0	0	7.62	7.64	0.0493	0.0285	7.56	7.65
Nutrients											
Ammonia (as N)	mg/L	0.005	3	0	0	0.0408	0.0261	0.0346	0.02	0.016	0.0804
Kjeldahl Nitrogen (D)	mg/L	0.05	3	0	0	0.326	0.309	0.0695	0.0401	0.266	0.402
Kjeldahl Nitrogen (T)	mg/L	0.05	3	0	0	0.334	0.264	0.142	0.082	0.24	0.497
Nitrate (as N)	mg/L	0.005	3	0	0	0.0179	0.0176	0.000577	0.000333	0.0176	0.0186
Nitrate + Nitrite (as N)	mg/L	0.0051	3	0	0	0.0179	0.0176	0.000577	0.000333	0.0176	0.0186
Nitrite (as N)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001

Table C1-10. Atulik Lake water quality summary – August 2025 sampling event

Parameter	Units	DL (min | max)	Atulik Lake (Reference) Open-Water Sampling Event (August)								
			N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max
Nitrogen (D)	mg/L	0.05	3	0	0	0.344	0.327	0.0691	0.0399	0.285	0.42
Nitrogen (T)	mg/L	0.05	3	0	0	0.352	0.283	0.142	0.0818	0.258	0.515
Orthophosphate (PO4-P)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Total Diss Phosphorus	mg/L	0.001	3	0	0	0.0025	0.0026	0.000173	1.00E-04	0.0023	0.0026
Total Phosphorus	mg/L	0.001	3	0	0	0.0052	0.0053	0.00125	0.000723	0.0039	0.0064
Organic Carbon											
Dissolved Organic Carbon	mg/L	0.5	3	0	0	3.8	3.72	0.259	0.15	3.59	4.09
Total Organic Carbon	mg/L	0.5	3	0	0	3.75	3.59	0.437	0.252	3.41	4.24
Cyanides											
Cyanide (Free)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Cyanide (Total)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Cyanide (WAD)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Metals											
Aluminum (D)	µg/L	1	3	3	100	-	-	-	-	-	1
Aluminum (T)	µg/L	1	3	0	0	3.37	2	2.81	1.62	1.5	6.6
Antimony (D)	µg/L	0.02	3	3	100	-	-	-	-	-	0.02
Antimony (T)	µg/L	0.02	3	3	100	-	-	-	-	-	0.02
Arsenic (D)	µg/L	0.02	3	0	0	0.396	0.385	0.0267	0.0154	0.376	0.426
Arsenic (T)	µg/L	0.02	3	0	0	0.444	0.413	0.0788	0.0455	0.386	0.534
Barium (D)	µg/L	0.02	3	0	0	11.8	11.7	0.115	0.0667	11.7	11.9
Barium (T)	µg/L	0.02	3	0	0	11.4	11.4	0.153	0.0882	11.3	11.6
Beryllium (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Beryllium (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Boron (D)	µg/L	5	3	0	0	6.27	6.3	0.153	0.0882	6.1	6.4
Boron (T)	µg/L	5	3	0	0	6.57	6.5	0.115	0.0667	6.5	6.7
Cadmium (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Cadmium (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Chromium (D)	µg/L	0.1	3	3	100	-	-	-	-	-	0.1
Chromium (T)	µg/L	0.1	3	3	100	-	-	-	-	-	0.1
Cobalt (D)	µg/L	0.005	3	0	0	0.0114	0.011	0.000723	0.000418	0.0109	0.0122
Cobalt (T)	µg/L	0.005	3	0	0	0.0182	0.0154	0.00479	0.00277	0.0154	0.0237
Copper (D)	µg/L	0.05	3	0	0	1.02	0.981	0.0718	0.0414	0.971	1.1
Copper (T)	µg/L	0.05	3	0	0	0.914	0.837	0.153	0.0884	0.814	1.09
Iron (D)	µg/L	1	3	0	0	4.73	4.2	1.01	0.584	4.1	5.9
Iron (T)	µg/L	1	3	0	0	15.2	11	8.3	4.79	9.9	24.8
Lead (D)	µg/L	0.01	3	3	100	-	-	-	-	-	0.01
Lead (T)	µg/L	0.01	3	2	67	-	0.01	-	-	0.01	0.042
Lithium (D)	µg/L	0.5	3	0	0	0.683	0.68	0.00577	0.00333	0.68	0.69
Lithium (T)	µg/L	0.5	3	0	0	0.69	0.69	0.01	0.00577	0.68	0.7

Table C1-10. Atulik Lake water quality summary – August 2025 sampling event

Parameter	Units	DL (min | max)	Atulik Lake (Reference) Open-Water Sampling Event (August)								
			N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max
Manganese (D)	µg/L	0.05	3	0	0	0.636	0.481	0.288	0.166	0.458	0.968
Manganese (T)	µg/L	0.05	3	0	0	3.05	2.53	0.944	0.545	2.48	4.14
Mercury (D)	ng/L	0.5 | 5	3	3	100	-	-	-	-	-	0.5
Mercury (T)	ng/L	0.5	3	1	33	0.673	0.52	0.283	0.163	0.5	1
Molybdenum (D)	µg/L	0.05	3	0	0	0.111	0.111	0.003	0.00173	0.108	0.114
Molybdenum (T)	µg/L	0.05	3	0	0	0.0977	0.095	0.00551	0.00318	0.094	0.104
Nickel (D)	µg/L	0.05	3	0	0	0.563	0.562	0.0101	0.00581	0.554	0.574
Nickel (T)	µg/L	0.05	3	0	0	0.532	0.508	0.052	0.03	0.497	0.592
Selenium (D)	µg/L	0.04	3	2	67	-	0.04	-	-	0.04	0.045
Selenium (T)	µg/L	0.04	3	3	100	-	-	-	-	-	0.04
Silver (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Silver (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Strontium (D)	µg/L	0.02	3	0	0	55.4	55.4	1.75	1.01	53.6	57.1
Strontium (T)	µg/L	0.02	3	0	0	45.7	45.6	0.265	0.153	45.5	46
Thallium (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Thallium (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Tin (D)	µg/L	0.02	3	2	67	-	0.02	-	-	0.02	0.024
Tin (T)	µg/L	0.02	3	3	100	-	-	-	-	-	0.02
Titanium (D)	µg/L	0.05	3	3	100	-	-	-	-	-	0.05
Titanium (T)	µg/L	0.05	3	0	0	0.112	0.07	0.0834	0.0481	0.058	0.208
Uranium (D)	µg/L	0.001	3	0	0	0.0198	0.0198	0.0008	0.000462	0.019	0.0206
Uranium (T)	µg/L	0.001	3	0	0	0.0215	0.0216	0.000208	0.00012	0.0213	0.0217
Vanadium (D)	µg/L	0.05	3	3	100	-	-	-	-	-	0.05
Vanadium (T)	µg/L	0.05	3	3	100	-	-	-	-	-	0.05
Zinc (D)	µg/L	0.5	3	1	33	0.93	0.74	0.55	0.318	0.5	1.55
Zinc (T)	µg/L	0.5	3	2	67	-	0.5	-	-	0.5	4.62[a]

Notes:
[a] Flagged as unreliable compared to other samples in Atulik Lake.

Table C1-11. Peter Lake water quality summary – August 2025 sampling event

Parameter	Units	DL (min | max)	Peter Lake (Reference) Open-Water Sampling Event (August)								
			N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max
Field Measurements											
Temperature	C		3	0	0	12.7	12.8	0.085	0.0491	12.6	12.8
DO (%)	%		3	0	0	102	102	0.173	0.1	101	102
DO (mg/L)	mg/L		3	0	0	10.5	10.5	0.0451	0.026	10.4	10.5
pH (field)	pH units		3	0	0	7.1	7.13	0.0833	0.0481	7.01	7.17
Sp. Conductivity (field)	µS/cm		3	0	0	75.5	75.2	0.52	0.3	75.2	76.1
Conventional Parameters											
Hardness	mg/L	0.5	3	0	0	20	20.7	1.33	0.769	18.5	20.9
Sp. Conductivity (lab)	µS/cm	1	3	0	0	69.7	69.6	0.513	0.296	69.3	70.3
TDS (calculated)	mg/L	1	3	0	0	45.3	45.2	0.361	0.208	45	45.7
TDS (measured)	mg/L	10	3	0	0	33.1	32.8	0.889	0.513	32.4	34.1
Total Suspended Solids	mg/L	1	3	3	100	-	-	-	-	-	1
Turbidity (lab)	NTU	0.1	3	0	0	0.19	0.18	0.0265	0.0153	0.17	0.22
pH (lab)	pH units	0.1	3	0	0	7.17	7.17	0.0153	0.00882	7.15	7.18
Major Ions											
Alkalinity, Bicarbonate	mg/L	1	3	0	0	11.8	11.9	0.115	0.0667	11.7	11.9
Alkalinity, Carbonate	mg/L	1	3	3	100	-	-	-	-	-	1
Alkalinity, Hydroxide	mg/L	1	3	3	100	-	-	-	-	-	1
Alkalinity, Total	mg/L	1	3	0	0	11.8	11.9	0.115	0.0667	11.7	11.9
Bromide	mg/L	0.1	3	3	100	-	-	-	-	-	0.1
Calcium (D)	mg/L	0.01	3	0	0	5.89	6.11	0.402	0.232	5.43	6.14
Calcium (T)	mg/L	0.01	3	0	0	5.35	5.28	0.185	0.107	5.21	5.56
Chloride	mg/L	0.1	3	0	0	8.26	8.26	0.06	0.0346	8.2	8.32
Fluoride	mg/L	0.02	3	0	0	0.0583	0.059	0.00115	0.000667	0.057	0.059
Magnesium (D)	mg/L	0.004	3	0	0	1.3	1.33	0.0757	0.0437	1.21	1.35
Magnesium (T)	mg/L	0.004	3	0	0	1.2	1.2	0.0153	0.00882	1.19	1.22
Potassium (D)	mg/L	0.02	3	0	0	0.96	0.974	0.0583	0.0336	0.896	1.01
Potassium (T)	mg/L	0.02	3	0	0	0.908	0.912	0.01	0.00578	0.897	0.916
Reactive Silica	mg/L	0.01	3	0	0	0.258	0.25	0.015	0.00869	0.248	0.275
Sodium (D)	mg/L	0.02	3	0	0	4.67	4.77	0.215	0.124	4.42	4.81
Sodium (T)	mg/L	0.02	3	0	0	4.42	4.42	0.0153	0.00882	4.41	4.44
Sulphate	mg/L	0.3	3	0	0	5.9	5.9	0.0252	0.0145	5.87	5.92
Nutrients											
Ammonia (as N)	mg/L	0.005	3	0	0	0.0221	0.0265	0.0091	0.00525	0.0116	0.0281
Kjeldahl Nitrogen (D)	mg/L	0.05	3	0	0	0.282	0.211	0.129	0.0747	0.203	0.431
Kjeldahl Nitrogen (T)	mg/L	0.05	3	0	0	0.219	0.209	0.0182	0.0105	0.208	0.24
Nitrate (as N)	mg/L	0.005	3	3	100	-	-	-	-	-	0.005
Nitrate + Nitrite (as N)	mg/L	0.0051	3	3	100	-	-	-	-	-	0.0051
Nitrite (as N)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001

Table C1-11. Peter Lake water quality summary – August 2025 sampling event

Parameter	Units	DL (min | max)	Peter Lake (Reference) Open-Water Sampling Event (August)								
			N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max
Nitrogen (D)	mg/L	0.05	3	0	0	0.282	0.211	0.129	0.0747	0.203	0.431
Nitrogen (T)	mg/L	0.05	3	0	0	0.219	0.209	0.0182	0.0105	0.208	0.24
Orthophosphate (PO4-P)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Total Diss Phosphorus	mg/L	0.001	3	0	0	0.00317	0.0022	0.00194	0.00112	0.0019	0.0054
Total Phosphorus	mg/L	0.001	3	0	0	0.00583	0.0036	0.00404	0.00233	0.0034	0.0105
Organic Carbon											
Dissolved Organic Carbon	mg/L	0.5	3	0	0	3.1	3.12	0.0379	0.0219	3.06	3.13
Total Organic Carbon	mg/L	0.5	3	0	0	3.45	3.44	0.1	0.0578	3.35	3.55
Cyanides											
Cyanide (Free)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Cyanide (Total)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Cyanide (WAD)	mg/L	0.001	3	3	100	-	-	-	-	-	0.001
Metals											
Aluminum (D)	µg/L	1	3	0	0	2.13	2.4	0.462	0.267	1.6	2.4
Aluminum (T)	µg/L	1	3	0	0	2.2	2.5	0.608	0.351	1.5	2.6
Antimony (D)	µg/L	0.02	3	3	100	-	-	-	-	-	0.02
Antimony (T)	µg/L	0.02	3	3	100	-	-	-	-	-	0.02
Arsenic (D)	µg/L	0.02	3	0	0	0.157	0.151	0.0107	0.00617	0.15	0.169
Arsenic (T)	µg/L	0.02	3	0	0	0.153	0.154	0.00802	0.00463	0.145	0.161
Barium (D)	µg/L	0.02	3	0	0	11.8	11.8	0.153	0.0882	11.6	11.9
Barium (T)	µg/L	0.02	3	0	0	12	12	0.1	0.0577	11.9	12.1
Beryllium (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Beryllium (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Boron (D)	µg/L	5	3	3	100	-	-	-	-	-	5
Boron (T)	µg/L	5	3	3	100	-	-	-	-	-	5
Cadmium (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Cadmium (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Chromium (D)	µg/L	0.1	3	3	100	-	-	-	-	-	0.1
Chromium (T)	µg/L	0.1	3	3	100	-	-	-	-	-	0.1
Cobalt (D)	µg/L	0.005	3	0	0	0.0115	0.0093	0.00443	0.00256	0.0086	0.0166
Cobalt (T)	µg/L	0.005	3	0	0	0.0131	0.016	0.0054	0.00312	0.0069	0.0165
Copper (D)	µg/L	0.05	3	0	0	0.792	0.824	0.0655	0.0378	0.717	0.836
Copper (T)	µg/L	0.05	3	0	0	0.738	0.751	0.0494	0.0285	0.683	0.779
Iron (D)	µg/L	1	3	0	0	5.47	3.6	3.67	2.12	3.1	9.7
Iron (T)	µg/L	1	3	0	0	7.67	9.9	3.96	2.28	3.1	10
Lead (D)	µg/L	0.01	3	3	100	-	-	-	-	-	0.01
Lead (T)	µg/L	0.01	3	3	100	-	-	-	-	-	0.01
Lithium (D)	µg/L	0.5	3	0	0	0.58	0.58	0.01	0.00577	0.57	0.59
Lithium (T)	µg/L	0.5	3	0	0	0.58	0.58	0.02	0.0115	0.56	0.6

Table C1-11. Peter Lake water quality summary – August 2025 sampling event

Parameter	Units	DL (min | max)	Peter Lake (Reference) Open-Water Sampling Event (August)								
			N	N<MDL	% <MDL	Mean	Median	SD	SE	Min	Max
Manganese (D)	µg/L	0.05	3	0	0	1.06	0.467	1.07	0.62	0.415	2.3
Manganese (T)	µg/L	0.05	3	0	0	1.67	2.3	1.12	0.649	0.373	2.34
Mercury (D)	ng/L	0.5 | 5	3	3	100	-	-	-	-	-	0.5
Mercury (T)	ng/L	0.5	3	2	67	-	0.5	-	-	0.5	0.59
Molybdenum (D)	µg/L	0.05	3	1	33	0.0543	0.054	0.00451	0.0026	0.05	0.059
Molybdenum (T)	µg/L	0.05	3	2	67	-	0.05	-	-	0.05	0.053
Nickel (D)	µg/L	0.05	3	0	0	0.556	0.576	0.0396	0.0229	0.51	0.581
Nickel (T)	µg/L	0.05	3	0	0	0.517	0.517	0.00351	0.00203	0.514	0.521
Selenium (D)	µg/L	0.04	3	2	67	-	0.04	-	-	0.04	0.049
Selenium (T)	µg/L	0.04	3	2	67	-	0.04	-	-	0.04	0.049
Silver (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Silver (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Strontium (D)	µg/L	0.02	3	0	0	30.9	32	2.26	1.31	28.3	32.4
Strontium (T)	µg/L	0.02	3	0	0	28	27.7	0.737	0.426	27.4	28.8
Thallium (D)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Thallium (T)	µg/L	0.005	3	3	100	-	-	-	-	-	0.005
Tin (D)	µg/L	0.02	3	2	67	-	0.02	-	-	0.02	0.032
Tin (T)	µg/L	0.02	3	3	100	-	-	-	-	-	0.02
Titanium (D)	µg/L	0.05	3	2	67	-	0.05	-	-	0.05	0.057
Titanium (T)	µg/L	0.05	3	2	67	-	0.05	-	-	0.05	0.054
Uranium (D)	µg/L	0.001	3	0	0	0.0214	0.0213	0.0017	0.000984	0.0198	0.0232
Uranium (T)	µg/L	0.001	3	0	0	0.0223	0.0225	0.000404	0.000233	0.0218	0.0225
Vanadium (D)	µg/L	0.05	3	3	100	-	-	-	-	-	0.05
Vanadium (T)	µg/L	0.05	3	3	100	-	-	-	-	-	0.05
Zinc (D)	µg/L	0.5	3	2	67	-	0.5	-	-	0.5	2.29
Zinc (T)	µg/L	0.5	3	3	100	-	-	-	-	-	0.5

Table C1-12.
Meliadine Lake Surface water chemistry results, 2025.

	Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	AEMP Action Level[e] (min | max)	AEMP Benchmark[f] (min | max)	March											March				
											MEL-01						MEL-02						MEL-03				
											MEL-01-01	MEL-01-06	MEL-01-07	MEL-01-08	MEL-01-09	MEL-01-10	MEL-02-02	MEL-02-03	MEL-02-05	MEL-02-06	MEL-02-08	MEL-03-01	MEL-03-02	MEL-03-03	MEL-03-04	MEL-03-05
											03/27	03/27	03/27	03/27	03/27	03/27	03/28	03/28	03/28	03/28	03/28	03/29	03/29	03/29	03/29	03/29
Field Measurements	Temperature	C	-	-	-	-	-	-	-	-	1.6	1.3	1.7	1.6	1.6	1.4	1.4	1.4	1.3	1.3	1.1	0.6	0.6	0.6	0.5	0.7
	Sp. Conductivity (field)	uS/cm	-	-	-	-	-	-	-	-	169.1	168.8	170.8	174.4	170.4	171.4	137.6	141	149.5	137.8	161.4	117.7	115.4	120.6	120.6	124.5
	pH (field)	pH units	-	7.1 | 7.95	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.18	6.98	6.79	6.94	6.52	7.11	6.98	6.83	6.84	6.83	6.95	6.90	6.89	6.93	6.92	6.88
	DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	11.63	12.84	11.54	11.57	11.66	14.01	14.77	13.34	14.59	14.84	16.92	15.6	15.3	15.2	16.72	15.21
	DO (%)	%	-	-	-	-	-	-	-	-	84.5	90.4	84.3	83.6	82.4	98.7	105.9	95.4	105.5	106.3	119.3	108.3	115.4	105.7	115	107.1
Conventional Parameters	Conductivity (lab)	uS/cm	1	77.5	-	-	-	-	-	-	175	173	179	172	176	176	148	163	154	152	165	116	117	120	119	123
	Hardness	mg/L	0.5	23.37	-	-	-	-	-	-	49.2	47.9	53.4	49.5	50	50.1	43.8	45.3	44.6	43.7	45.8	32.9	35.4	34.7	34.8	35
	pH (lab)	pH units	0.1	-	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.13	7.18	7.22	7.15	7.18	7.25	7.17	7.28	7.21	7.34	7.39	7.22	7.23	7.15	7.25	7.08
	Total Dissolved Solids	mg/L	10	54	68	500	-	1000	375	500	111	107	107	99.3	101	71.7	83.2	85.2	83.6	81.2	88.9	63.9	64.6	65.6	65.2	66.6
	TDS (Calculated)	mg/L	1	39.61	68	500	-	1000	375	500	114	112	116	112	114	114	96.2	106	100	98.8	107	75.4	76	78	77.4	80
	Total Suspended Solids	mg/L	1	1	3.1	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	1.2	*<1*	*<1*	*<1*	*<1*	*<1*
	Turbidity (lab)	NTU	0.1	-	-	-	-	-	-	-	0.18	0.28	0.28	0.18	0.17	0.24	0.16	0.15	0.13	0.18	0.26	0.19	0.17	0.16	0.16	0.18
Major Ions	Acidity, Total	mg/L	2	-	-	-	-	-	-	-	4	3.9	3.6	4.1	3.3	3.7	2.7	3.3	3.5	3.5	3.7	2.9	2.7	3.5	2.9	4.5
	Alkalinity, Bicarbonate	mg/L	1	25	-	-	-	-	-	-	28	27.5	28.9	27.4	27.6	27.8	26.9	28.4	27.8	27.9	28.1	24.8	24.7	25.3	25.3	26.2
	Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Phenolphthalein	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Total	mg/L	1	20.5	-	-	-	-	-	-	28	27.5	28.9	27.4	27.6	27.8	26.9	28.4	27.8	27.9	28.1	24.8	24.7	25.3	25.3	26.2
	Bromide	mg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	15	14.6	16.3	15.1	15.3	15.4	13.6	14	13.9	13.6	14.1	10.2	11.1	10.8	10.9	10.9
	Calcium (T)	mg/L	0.01	7.334	-	-	-	-	-	-	15.3	14.2	15.2	14.7	15.1	15	13.3	14.1	13.9	13.5	14.5	10.5	10.8	11	10.6	11.2
	Chloride	mg/L	0.1	9.564	14	120	-	-	90	120	25.1	24.9	25.8	24.7	25.1	25.2	20.3	22.5	21	20.8	23.1	15.3	15.6	15.8	15.5	15.9
	Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8	0.04	0.039	0.041	0.039	0.04	0.04	0.039	0.041	0.04	0.039	0.041	0.037	0.036	0.037	0.037	0.037
	Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	2.84	2.77	3.09	2.86	2.86	2.83	2.39	2.51	2.4	2.37	2.57	1.8	1.87	1.88	1.83	1.88
	Magnesium (T)	mg/L	0.004	1.18	-	-	-	-	-	-	2.83	2.66	2.83	2.75	2.84	2.85	2.37	2.56	2.46	2.38	2.66	1.76	1.85	1.82	1.81	1.88
	Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.67	1.62	1.83	1.66	1.69	1.69	1.53	1.6	1.6	1.56	1.61	1.26	1.36	1.35	1.32	1.33
	Potassium (T)	mg/L	0.02	0.954	-	-	-	-	-	-	1.69	1.53	1.68	1.63	1.69	1.67	1.51	1.6	1.61	1.55	1.65	1.3	1.33	1.33	1.3	1.38
	Reactive Silica (SiO2)	mg/L	0.01	0.2684	-	-	-	-	-	-	1.15	1.08	1.07	1.07	1.13	1.09	0.80	0.83	0.78	0.79	0.87	0.53	0.52	0.56	0.53	0.63
	Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	11.9	11.3	12.9	12.1	12	12.2	10.1	10.7	9.96	9.99	10.8	7.31	7.85	7.77	7.59	7.65
	Sodium (T)	mg/L	0.02	4.85	5.3	-	-	-	-	-	11.8	11	11.7	11.5	11.7	11.8	9.73	10.4	10.1	9.97	11	7.18	7.64	7.53	7.46	7.63
	Sulphate	mg/L	0.3	3.87	38	128 | 218	-	-	96 | 164	128 | 218	15.6	15.3	15.8	15.3	15.6	15.6	11.2	12.6	11.3	11.3	13.5	6.7	6.86	6.93	6.82	6.94
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74	-	-	0.441 | 4.31	0.588 | 5.74	0.0167	0.0143	0.015	0.0157	0.0197	0.02	0.0381	0.0241	0.0248	0.0229	0.0498	0.0284	0.0308	0.0216	0.031	0.0319
	Nitrate (as N)	mg/L	0.005	0.0180	0.25	2.9	10	-	2.17	2.9	0.105	0.103	0.0969	0.101	0.102	0.1	0.0628	0.0584	0.049	0.0557	0.0797	0.0059	0.0276	0.0102	0.0052	0.0209
	Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	0.105	0.103	0.0969	0.101	0.102	0.1	0.0628	0.0584	0.049	0.0557	0.0811	0.0059	0.0276	0.0102	0.0052	0.0209
	Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1	-	0.045	0.06	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	0.0014	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.434	0.425	0.415	0.408	0.412	0.409	0.33	0.41	0.323	0.39	0.523	0.261	0.289	0.258	0.265	0.289
	Orthophosphate (PO4-P)	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*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Total Diss Phosphorus	mg/L	0.001	0.00314	-	-	-	-	-	-	0.006	0.0034	0.0032	0.0028	0.0027	0.0029	0.0025	0.003	0.0026	0.0028	0.0058	0.0024	0.0022	0.0047	0.002	0.002
	Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.441	0.437	0.439	0.402	0.413	0.417	0.364	0.452	0.374	0.404	0.488	0.338	0.298	0.274	0.245	0.322
	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	-	-	-	-	-	-	0.329	0.322	0.318	0.307	0.31	0.309	0.267	0.352	0.274	0.334	0.442	0.255	0.261	0.248	0.26	0.268
	Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.336	0.334	0.342	0.301	0.311	0.317	0.301	0.394	0.325	0.348	0.407	0.332	0.27	0.264	0.24	0.301
	Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01	-	-	0.0075	0.01	0.0094	0.0061	0.0059	0.006	0.0048	0.0058	0.0049	0.0045	0.0044	0.0052	0.0053	0.0031	0.0034	0.0029	0.0035	0.0039
	Dissolved Organic Carbon	mg/L	0.5	2.72	-	-	-	-	-	-	5.9	5.76	6.04	5.83	5.81	5.74	4.87	4.87	4.62	4.71	5.57	3.99	4.01	4.13	3.65	4.09
	Total Organic Carbon	mg/L	0.5	3	-	-	-	-	-	-	5.48	5.28	5.48	5.61	5.26	5.88	4.38	4.72	4.62	4.54	5.21	3.75	3.78	3.72	3.77	3.58
Total Metals	Aluminum	ug/L	1	5.32	9.1	312 | 713	-	-	234 | 535	312 | 713	3	3.4	4.6	3.8	3.2	3.4	2.1	1.6	2.9	1.6	5	1.4	2.2	1	1.5	1.7
	Antimony	ug/L	0.02	0.02	0.51	-	6	-	4.5	6	0.03	0.03	0.031	0.027	0.026	0.029	0.024	0.025	0.035	0.022	0.034	0.024	0.031	*<0.02*	0.026	0.025
	Arsenic	ug/L	0.02	0.275	3.8	5	10	25	18.8	25	0.868	0.839	0.919	0.883	0.897	0.859	0.761	0.803	0.793	0.815	0.995	0.501	0.553	0.497	0.511	0.552
	Barium	ug/L	0.02	8.05	77	-	1000	-	750	1000	14.8	14.8	14.7	14.3	14.6	14.6	13.4	13.9	14.3	13.7	14.9	11.7	11.9	12.4	12	13.2
	Beryllium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Bismuth	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Boron	ug/L	5	6.52	23	1500	5000	-	1120	1500	11	10	10.8	10.6	10.9	10.8	9.2	9.7	9.6	9.6	10.4	7.1	7.4	7.5	7.5	7.7
	Cadmium	ug/L	0.005	0.005	0.05	0.0391 | 0.0761	5	-	0.0293 | 0.0571	0.0391 | 0.0761	*<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*	*<0.005*	*<0.005*	*<0.005*
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.014	0.0107	0.0152	0.0109	0.014	0.0116	0.0116	0.0116	0.0123	0.0124	0.0122	0.0119	0.013	0.0126	0.0122	0.0126
	Chromium	ug/L	0.1	0.10	1.1	5	50	-	3.75	5	*<0.1*	*<0.1*	0.14	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Cobalt	ug/L	0.005	0.016	-	0.78	-	-	0.585	0.78	0.0296	0.0263	0.0318	0.028	0.0281	0.0285	0.0186	0.0215	0.0219	0.0201	0.0276	0.0112	0.0125	0.0131	0.012	0.0144
	Copper	ug/L	0.05	0.86	2	-	2000	-	1500	2000	1.23	1.26	3.46	1.54	1.43	2	1.48	1.37	1.48	1.75	2.22	1.48	1.28	1.11	1.41	1.58
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Iron	ug/L	1	15	42	300	-	1060	795	1060	11	8.6	13	11.6	11.1	8.6	8.3	6	10	6.6	16.4	6	7.2	9.2	5.6	23.9
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.036	0.036	0.038	0.037	0.038	0.036	0.026	0.026	0.026	0.024	0.034	0.018	0.019	0.02	0.018	0.023
	Lead	ug/L	0.01	0.0222	0.15	-	5	-	3.75	5	0.022	0.023	0.04	0.05	0.025	0.023	0.022	*<0.01*	0.026	*<0.01*	0.046	0.01	0.017	*<0.01*	0.015	0.02
	Lithium	ug/L	0.5	0.72	-	-	-	-	-	-	1.44	1.43	1.43	1.39	1.43	1.41	1.23	1.31	1.3	1.27	1.35	1.04	1.08	1.05	1.08	1.09
	Manganese	ug/L	0.05	3.06	5.5	-	120	-	90	120	2.21	1.38	1.88	1.72	2.34	1.45	1.22	1.31	1.37	1.14	1.88	0.864	0.744	1.72	0.79	2.7
	Mercury	ug/L	0.0005	0.0008	0.02	0.026	1	-	0.0195	0.026	0.00052	*<5e-04*	*<5e-04*	*<5e-04*	0.00056	*<5e-04*	-	0.00059	*<5e-04*	0.00065	0.0006	*<5e-04*	0.00056	*<5e-04*	*<5e-04*	*<5e-04*
	Molybdenum	ug/L	0.05	0.107	5.2	73	-	-	54.8	73	0.172	0.176	0.186	0.18	0.173	0.188	0.15	0.16	0.157	0.152	0.172	0.114	0.118	0.11	0.117	0.106
	Nickel	ug/L	0.05	0.441	2.7	25	-	-	18.8	25	1.13	1.04	1.16	1.1	1.07	1.09	0.859	0.952	0.923	0.884	1.04	0.601	0.612	0.629	0.614	0.647
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*
	Rhenium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	2.11	1.98	2.11	2.08	2.1	2.1	1.98	2.09	2.13	2.05	2.15	1.81	1.87	1.87	1.83	1.92
	Selenium	ug/L	0.04	0.049	0.16	1	50	-	0.75	1	0.055	0.064	0.055	0.064	0.062	0.058	0.054	0.064	0.054	0.057	0.053	0.047	0.051	0.05	0.055	0.049
	Silicon	ug/L	50	-	-	-	-	-	-	-	544	495	524	514	544	503	374	397	370	380	415	246	246	265	247	297
	Silver	ug/L	0.005	0.005	0.1	0.25	-	-	0.188	0.25	*<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*	*<0.005*	*<0.005*	*<0.005*
	Strontium	ug/L	0.02	36.1	-	2500	7000	-	1880	2500	83.6	80.5	84.2	81.8	84.6	82.9	70.8	76.5	75.9	71.9	79.1	54	55.5	56.2	55.3	56.7
	Sulfur	ug/L	500	-	-	-	-	-	-	-	5410	5070	5340	5330	5350	5380	3980	4300	3990	4010	4690	2420	2380	2490	2480	2480
	Tantalum	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Tellurium	ug/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Thallium	ug/L	0.005	0.005	0.1	0.8	-	-	0.6	0.8	*<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*	*<0.005*	*<0.005*	*<0.005*
	Thorium	ug/L	0.005 | 0.025	-	-	-	-	-	-	-	*<0.005*	0.0065	0.0083	*<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*
	Tin	ug/L	0.02	0.038	-	-	-	-	-	-	*<0.02*	*<0.02*	0.062	0.024	0.024	0.025	*<0.02*	*<0.02*	0.028	0.024	0.054	0.029	0.033	*<0.02*	0.085	0.042
	Titanium	ug/L	0.05	0.170	-	-	-	-	-	-	0.067	0.057	0.294	0.112	0.084	0.099	0.052	*<0.05*	0.072	*<0.05*	0.312	*<0.05*	0.149	*<0.05*	0.101	0.075
	Tungsten	ug/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Uranium	ug/L	0.001	0.0164	1.5	15	20	-	11.2	15	0.0487	0.0473	0.0452	0.0466	0.0481	0.0503	0.0348	0.0358	0.034	0.0347	0.0391	0.0171	0.0189	0.0154	0.0175	0.0163
	Vanadium	ug/L	0.05	0.05	-	120	-	-	90	120	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Yttrium	ug/L	0.01	-	-	-	-	-	-	-	0.015	0.013	0.013	0.013	0.014	0.012	*<0.01*	*<0.01*	*<0.01*	*<0.01*	0.011	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Zinc	ug/L	0.5	1.7	6.7	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	1.64	1.23	2.31	1.3	1.78	3.67	1.09	0.5	1.37	1.17	3.08	0.81	1.35	0.87	1.04	0.99
	Zirconium	ug/L	0.01	-	-	-	-	-	-	-	0.014	0.012	0.018	0.014	0.014	0.015	*<0.01*	*<0.01*	*<0.01*	*<0.01*	0.014	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
Dissolved Metals	Aluminum	ug/L	1	-	-	-	-	-	-	-	3.1	2.1	2.5	2.2	2.1	2.1	1.4	1.2	*<1*	1.1	1.9	*<1*	*<1*	*<1*	*<1*	*<1*
	Antimony	ug/L	0.02	-	-	-	-	-	-	-	0.027	0.029	0.046	0.023	0.024	0.024	*<0.02*	0.02	*<0.02*	*<0.02*	0.026	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Arsenic	ug/L	0.02	-	-	-	-	-	-	-	0.882	0.801	0.926	0.842	0.852	0.847	0.769	0.808	0.743	0.752	0.906	0.488	0.522	0.474	0.496	0.498
	Barium	ug/L	0.02	-	-	-	-	-	-	-	14.6	14.4	15.3	14.5	14.8	14.6	13.6	14.2	14.1	13.6	14.6	11.4	12	12.6	11.8	12.7
	Beryllium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Bismuth	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Boron	ug/L	5	-	-	-	-	-	-	-	10.6	9.9	11.6	10.9	10.9	10.8	9.5	10	9.6	9.6	9.9	7.1	7.8	7.5	7.3	7.7
	Cadmium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0157	0.0117	0.0123	0.0115	0.015	0.0122	0.0121	0.0118	0.011	0.0116	0.011	0.0111	0.0122	0.0119	0.0121	0.0123
	Chromium	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Cobalt	ug/L	0.005	-	-	-	-	-	-	-	0.0279	0.025	0.0304	0.0254	0.0263	0.0265	0.0171	0.0191	0.0162	0.0176	0.0218	0.0097	0.0094	0.0102	0.0095	0.0102
	Copper	ug/L	0.05	0.861	-	1.32 | 4.58	-	-	0.987 | 3.44	1.32 | 4.58	2.19	2.72	2.67	1.76	1.57	2.38	1.64	1.72	1.22	1.05	1.45	1.07	1.05	0.96	0.958	1.22
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Iron	ug/L	1	-	-	-	-	-	-	-	8.1	4.2	5	4.4	4.9	3.6	3.6	3.2	3.1	3.1	4.5	3	2.2	4.5	2.2	12.2
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.032	0.029	0.032	0.03	0.031	0.031	0.024	0.024	0.022	0.02	0.027	0.015	0.015	0.017	0.015	0.019
	Lead	ug/L	0.01	0.013	-	5.13 | 7.57	-	-	3.85 | 5.68	5.13 | 7.57	0.021	*<0.01*	0.014	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Lithium	ug/L	0.5	-	-	-	-	-	-	-	1.46	1.46	1.54	1.44	1.42	1.43	1.28	1.34	1.3	1.28	1.4	1.05	1.08	1.07	1.06	1.08
	Manganese	ug/L	0.05	1.2	-	210 | 330	-	-	158 | 248	210 | 330	0.428	0.288	0.512	0.286	0.397	0.301	0.31	0.29	0.327	0.312	0.345	0.216	0.235	0.27	0.222	0.623
	Mercury	ug/L	5e-04 | 0.005	-	-	-	-	-	-	-	*<5e-04*	*<5e-04*	0.00084	*<5e-04*	*<5e-04*	*<5e-04*	*<5e-04*	*<5e-04*	*<5e-04*	0.00068	0.00053	*<5e-04*	0.00128	0.00053	*<5e-04*	*<5e-04*
	Molybdenum	ug/L	0.05	-	-	-	-	-	-	-	0.18	0.176	0.206	0.182	0.182	0.188	0.153	0.16	0.155	0.152	0.174	0.118	0.121	0.108	0.122	0.098
	Nickel	ug/L	0.05	-	-	-	-	-	-	-	1.13	1.04	1.26	1.1	1.13	1.1	0.898	0.946	0.905	0.893	1.03	0.598	0.631	0.648	0.607	0.652
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1

Table C1-12.
Meliadine Lake Surface water chemistry results, 2025.

	Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	AEMP Action Level[e] (min | max)	AEMP Benchmark[f] (min | max)	July																
											MEL-01						MEL-02						MEL-03				
											MEL-01-01	MEL-01-06	MEL-01-07	MEL-01-08	MEL-01-09	MEL-01-10	MEL-02-02	MEL-02-03	MEL-02-05	MEL-02-06	MEL-02-08	MEL-03-01	MEL-03-02	MEL-03-03	MEL-03-04	MEL-03-05
											07/12	07/12	07/12	07/12	07/12	07/12	07/19	07/19	07/19	07/19	07/19	07/18	07/18	07/18	07/18	07/18
Field Measurements	Temperature	C	-	-	-	-	-	-	-	-	11.7	11.8	11.8	12	12.1	12	11.76	11.7	11.69	11.76	11.78	10.97	10.91	10.75	10.89	11.13
	Sp. Conductivity (field)	uS/cm	-	-	-	-	-	-	-	-	129.4	131.6	131.5	128.9	130.2	130.4	127	127.1	126.9	127.2	128.2	106	105.8	106.3	106.2	105.6
	pH (field)	pH units	-	7.1 | 7.95	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.05	7.52	7.33	7.52	7.56	7.53	7.31	7.35	7.44	7.03	7.55	7.45	7.48	7.3	7.4	7.12
	DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	11.22	11.17	11.37	11.11	11.12	11.06	9.41	9.38	9.42	9.44	9.46	11.05	11.02	11.08	10.99	10.9
	DO (%)	%	-	-	-	-	-	-	-	-	103.8	103.6	105	102.8	103.2	103.4	89.2	88.8	89.2	89.5	89.8	103.3	102.5	102.7	102.2	101.9
Conventional Parameters	Conductivity (lab)	uS/cm	1	77.5	-	-	-	-	-	-	133	132	134	131	132	132	118	118	118	118	119	97	96.7	97.1	96.4	96.4
	Hardness	mg/L	0.5	23.37	-	-	-	-	-	-	34.8	35.7	34	33.4	34.6	35	35.2	34.8	34.4	34.9	35.1	27.7	27.8	28.5	28.2	28.6
	pH (lab)	pH units	0.1	-	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.51	7.5	7.61	7.5	7.48	7.5	7.36	7.39	7.41	7.42	7.44	7.5	7.51	7.51	7.53	7.5
	Total Dissolved Solids	mg/L	10	54	68	500	-	1000	375	500	54.5	59.2	56.8	52.2	50.5	52.2	74.3	75	73	71	74.7	56.7	64	57.3	57	57
	TDS (Calculated)	mg/L	1	39.61	68	500	-	1000	375	500	86.4	85.8	87.1	85.2	85.8	85.8	76.7	76.7	76.7	76.7	77.4	63	62.8	63.1	62.7	62.7
	Total Suspended Solids	mg/L	1	1	3.1	-	-	-	-	-	1.1	1.1	1	1.2	1.2	3.6	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Turbidity (lab)	NTU	0.1	-	-	-	-	-	-	-	0.56	0.49	0.52	0.58	0.44	0.49	0.38	0.3	0.29	0.31	0.27	0.45	0.38	0.28	0.28	0.32
Major Ions	Acidity, Total	mg/L	2	-	-	-	-	-	-	-	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*	2.5	2.5	2.9	2.3	2.7	2.1	2.7	2.5	2.2	2.3
	Alkalinity, Bicarbonate	mg/L	1	25	-	-	-	-	-	-	20	20.2	20.5	19.5	18.6	19.2	20.3	19.7	20.1	20.4	20.2	19.4	19.6	19.4	19.5	19
	Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Phenolphthalein	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Total	mg/L	1	20.5	-	-	-	-	-	-	20	20.2	20.5	19.5	18.6	19.2	20.3	19.7	20.1	20.4	20.2	19.4	19.6	19.4	19.5	19
	Bromide	mg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	10.8	11	10.5	10.2	10.7	10.7	10.9	10.8	10.7	10.8	10.9	8.69	8.73	8.98	8.84	8.96
	Calcium (T)	mg/L	0.01	7.334	-	-	-	-	-	-	11.2	11.1	11	11	11.3	11.3	11	10.9	11.2	10.9	10.9	8.72	8.89	8.78	8.86	8.72
	Chloride	mg/L	0.1	9.564	14	120	-	-	90	120	18.3	18.5	18.1	18.1	18.2	18.4	15.4	15.3	15.3	15.4	15.5	12.3	12.2	12.3	12.3	12.3
	Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8	0.025	0.024	0.024	0.023	0.022	0.024	0.032	0.032	0.032	0.032	0.032	0.034	0.032	0.031	0.032	0.032
	Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	1.89	2.01	1.89	1.92	1.92	2	1.93	1.91	1.88	1.93	1.91	1.46	1.45	1.47	1.48	1.51
	Magnesium (T)	mg/L	0.004	1.18	-	-	-	-	-	-	2.08	2.08	2.08	2.04	2.09	2.1	1.88	1.91	1.96	1.92	1.89	1.44	1.41	1.45	1.44	1.44
	Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.22	1.21	1.19	1.14	1.2	1.18	1.22	1.26	1.2	1.21	1.22	1.08	1.06	1.1	1.08	1.11
	Potassium (T)	mg/L	0.02	0.954	-	-	-	-	-	-	1.23	1.26	1.23	1.24	1.24	1.26	1.24	1.23	1.26	1.22	1.23	1.1	1.08	1.08	1.07	1.08
	Reactive Silica (SiO2)	mg/L	0.01	0.2684	-	-	-	-	-	-	0.76	0.76	0.78	0.78	0.82	0.77	0.52	0.54	0.55	0.53	0.52	0.33	0.34	0.35	0.35	0.30
	Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	7.77	8.32	7.77	7.56	7.93	8.08	7.06	7.14	7.07	7.17	7.27	5.81	5.84	5.82	5.84	5.91
	Sodium (T)	mg/L	0.02	4.85	5.3	-	-	-	-	-	8.51	8.71	8.33	8.37	8.36	8.71	7.2	7.1	7.32	7.06	7.09	5.81	5.79	5.66	5.65	5.65
	Sulphate	mg/L	0.3	3.87	38	128 | 218	-	-	96 | 164	128 | 218	12.6	12.6	12.5	12.5	13.4	12.6	10.6	10.4	10.3	10.4	10.5	5.88	5.87	5.89	5.98	5.92
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74	-	-	0.441 | 4.31	0.588 | 5.74	0.0401	0.0151	0.0222	0.0192	0.0336	0.02	0.03	0.0067	0.0423	0.017	0.0127	0.0167	0.0255	0.0609	0.0321	0.11
	Nitrate (as N)	mg/L	0.005	0.0180	0.25	2.9	10	-	2.17	2.9	0.026	0.0268	0.023	0.0239	0.0276	0.0184	0.0095	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	0.026	0.0283	0.0257	0.0239	0.0299	0.0184	0.0095	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*
	Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1	-	0.045	0.06	*<0.001*	0.0015	0.0027	*<0.001*	0.0023	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.369	0.34	0.331	0.33	0.353	0.338	0.268	0.254	0.287	0.275	0.268	0.286	0.217	0.21	0.209	0.244
	Orthophosphate (PO4-P)	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*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Total Diss Phosphorus	mg/L	0.001	0.00314	-	-	-	-	-	-	0.0034	0.004	0.0034	0.0036	0.003	0.0032	0.0032	0.0028	0.0028	0.0021	0.0033	0.002	0.0023	0.0022	0.0021	0.0023
	Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.329	0.299	0.278	0.267	0.316	0.295	0.216	0.209	0.211	0.198	0.191	0.216	0.167	0.158	0.156	0.189
	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	-	-	-	-	-	-	0.343	0.312	0.305	0.306	0.323	0.32	0.259	0.254	0.287	0.275	0.268	0.286	0.217	0.21	0.209	0.244
	Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.303	0.271	0.252	0.243	0.286	0.277	0.207	0.209	0.211	0.198	0.191	0.216	0.167	0.158	0.156	0.189
	Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01	-	-	0.0075	0.01	0.0075	0.0082	0.0069	0.0072	0.0069	0.0084	0.005	0.0058	0.0054	0.0053	0.0058	0.0047	0.0047	0.0042	0.0058	0.0045
	Dissolved Organic Carbon	mg/L	0.5	2.72	-	-	-	-	-	-	4.65	4.19	4.18	3.98	4.21	4.19	4.29	3.96	3.99	3.84	3.77	3.56	3.24	3.32	3.09	3.37
	Total Organic Carbon	mg/L	0.5	3	-	-	-	-	-	-	4.44	4	3.97	3.9	3.89	4.05	4.2	4.22	4.15	4.19	4.53	3.18	3.43	3.37	3.32	3.51
Total Metals	Aluminum	ug/L	1	5.32	9.1	312 | 713	-	-	234 | 535	312 | 713	7.4	7.4	7.3	8.3	7.7	7.6	2.7	3.4	3	3.4	2.8	3.8	2.5	3.9	2.6	2.7
	Antimony	ug/L	0.02	0.02	0.51	-	6	-	4.5	6	0.022	0.023	0.028	0.028	0.026	0.025	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Arsenic	ug/L	0.02	0.275	3.8	5	10	25	18.8	25	0.872	0.831	0.818	0.832	0.866	0.868	0.914	0.94	0.929	0.953	0.905	0.521	0.476	0.463	0.47	0.493
	Barium	ug/L	0.02	8.05	77	-	1000	-	750	1000	12	11.8	11.9	11.8	12	12	12.1	12.2	12.2	11.8	11.8	9.94	9.83	9.87	9.79	9.72
	Beryllium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Bismuth	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Boron	ug/L	5	6.52	23	1500	5000	-	1120	1500	7.7	7.5	7.5	7.3	7.3	7.5	6.4	6.7	6.7	6.8	6.6	5.2	5.4	5.2	5.2	5.3
	Cadmium	ug/L	0.005	0.005	0.05	0.0391 | 0.0761	5	-	0.0293 | 0.0571	0.0391 | 0.0761	*<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*	*<0.005*	*<0.005*	*<0.005*
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0173	0.0108	0.0123	0.009	0.0094	0.0085	0.0092	0.0095	0.0092	0.0097	0.0094	0.0093	0.0096	0.0092	0.0093	0.0093
	Chromium	ug/L	0.1	0.10	1.1	5	50	-	3.75	5	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Cobalt	ug/L	0.005	0.016	-	0.78	-	-	0.585	0.78	0.0421	0.0423	0.0403	0.044	0.0428	0.0418	0.0273	0.0307	0.029	0.03	0.0268	0.0205	0.0188	0.0183	0.0186	0.0183
	Copper	ug/L	0.05	0.86	2	-	2000	-	1500	2000	0.967	1.23	1.05	0.912	1.02	0.958	0.989	1.25	0.985	1.38	1.08	0.893	0.723	0.708	0.72	0.782
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Iron	ug/L	1	15	42	300	-	1060	795	1060	32.7	31	29.6	35.8	34	32.9	21.7	24.6	23	23.3	21.7	19.7	14.2	22	16	17.1
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.045	0.042	0.044	0.043	0.046	0.042	0.033	0.034	0.04	0.032	0.031	0.023	0.021	0.022	0.021	0.022
	Lead	ug/L	0.01	0.0222	0.15	-	5	-	3.75	5	0.02	0.016	0.024	0.018	0.019	0.018	0.014	0.019	0.014	0.026	0.015	0.035	0.011	0.01	0.012	0.013
	Lithium	ug/L	0.5	0.72	-	-	-	-	-	-	1.19	1.15	1.11	1.1	1.15	1.17	0.96	0.97	0.95	0.96	0.97	0.79	0.79	0.78	0.76	0.79
	Manganese	ug/L	0.05	3.06	5.5	-	120	-	90	120	12.2	12.5	11.6	12.5	11.9	11.8	6.59	6.62	6.59	6.48	6.36	4.86	4.52	4.5	4.68	4.4
	Mercury	ug/L	0.0005	0.0008	0.02	0.026	1	-	0.0195	0.026	0.00108	0.00086	0.00101	0.00115	0.00097	0.00104	0.00064	0.00077	0.00068	0.00106	0.00072	0.00138	*<5e-04*	0.00052	0.00068	0.00078
	Molybdenum	ug/L	0.05	0.107	5.2	73	-	-	54.8	73	0.146	0.148	0.15	0.147	0.151	0.149	0.172	0.117	0.118	0.12	0.115	0.095	0.089	0.09	0.091	0.099
	Nickel	ug/L	0.05	0.441	2.7	25	-	-	18.8	25	0.886	0.943	0.926	0.925	0.928	0.921	0.861	0.878	0.866	0.859	0.828	0.577	0.506	0.517	0.516	0.538
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*
	Rhenium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.52	1.57	1.54	1.54	1.56	1.57	1.69	1.69	1.7	1.67	1.67	1.47	1.47	1.45	1.46	1.47
	Selenium	ug/L	0.04	0.049	0.16	1	50	-	0.75	1	0.052	0.046	0.055	*<0.04*	0.047	0.04	0.042	0.042	0.043	0.045	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.04*	*<0.04*
	Silicon	ug/L	50	-	-	-	-	-	-	-	390	361	360	374	353	372	255	254	262	251	252	153	154	173	170	146
	Silver	ug/L	0.005	0.005	0.1	0.25	-	-	0.188	0.25	*<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*	*<0.005*	*<0.005*	*<0.005*
	Strontium	ug/L	0.02	36.1	-	2500	7000	-	1880	2500	64.2	65.3	64.6	63	65.4	66.6	59.2	59.1	59.2	58.8	58.9	45.9	46.2	45.6	46	46.5
	Sulfur	ug/L	500	-	-	-	-	-	-	-	4450	4370	4280	4270	4250	4300	3460	3590	3450	3470	3450	2030	1970	1960	2000	1980
	Tantalum	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Tellurium	ug/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Thallium	ug/L	0.005	0.005	0.1	0.8	-	-	0.6	0.8	*<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*	*<0.005*	*<0.005*	*<0.005*
	Thorium	ug/L	0.005 | 0.025	-	-	-	-	-	-	-	0.0055	*<0.005*	0.0073	0.0062	0.007	0.0059	*<0.005*	*<0.005*	0.0057	*<0.005*	0.0056	*<0.005*	*<0.01*	*<0.005*	*<0.005*	*<0.005*
	Tin	ug/L	0.02	0.038	-	-	-	-	-	-	0.035	0.03	0.031	*<0.02*	0.025	*<0.02*	*<0.02*	0.023	*<0.02*	0.037	0.025	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Titanium	ug/L	0.05	0.170	-	-	-	-	-	-	0.19	0.14	0.106	0.138	0.143	0.155	0.095	0.093	0.084	0.149	0.069	0.123	0.055	0.055	0.247	0.072
	Tungsten	ug/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Uranium	ug/L	0.001	0.0164	1.5	15	20	-	11.2	15	0.0404	0.0399	0.0407	0.0392	0.0415	0.0407	0.0273	0.0301	0.0276	0.0273	0.0287	0.0193	0.0204	0.0197	0.0184	0.0192
	Vanadium	ug/L	0.05	0.05	-	120	-	-	90	120	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Yttrium	ug/L	0.01	-	-	-	-	-	-	-	0.013	0.012	0.012	0.013	0.013	0.012	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Zinc	ug/L	0.5	1.7	6.7	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	0.84	0.53	0.73	0.69	0.67	*<0.5*	*<0.5*	0.55	*<0.5*	1.01	*<0.5*	1.63	*<0.5*	*<0.5*	*<0.5*	1.03
	Zirconium	ug/L	0.01	-	-	-	-	-	-	-	0.014	0.014	0.012	0.015	0.014	0.014	*<0.01*	0.012	0.01	0.012	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
Dissolved Metals	Aluminum	ug/L	1	-	-	-	-	-	-	-	3.8	4.3	7.2	4.1	7.2	4.2	3.8	3.4	*<1*	1.2	1.2	*<1*	2	1.4	*<1*	*<1*
	Antimony	ug/L	0.02	-	-	-	-	-	-	-	0.022	0.022	0.03	0.023	0.025	0.022	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Arsenic	ug/L	0.02	-	-	-	-	-	-	-	0.787	0.769	0.774	0.754	0.825	0.821	0.873	0.859	0.848	0.844	0.831	0.459	0.451	0.462	0.45	0.473
	Barium	ug/L	0.02	-	-	-	-	-	-	-	11.5	11.6	11.7	11.3	11.6	11.9	12.3	12.3	12.1	11.6	11.6	9.9	9.65	10	9.85	9.78
	Beryllium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Bismuth	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Boron	ug/L	5	-	-	-	-	-	-	-	7.4	7.5	7.4	7.4	7.5	7.5	6.6	6.3	6.6	6.5	6.4	5.7	5.5	5.5	5.6	5.4
	Cadmium	ug/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*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0211	0.0077	0.0119	0.0082	0.0086	0.0082	0.0092	0.009	0.009	0.009	0.0088	0.0095	0.0095	0.0096	0.0097	0.0093
	Chromium	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	0.12	*<0.1*	*<0.1*	*<0.1*
	Cobalt	ug/L	0.005	-	-	-	-	-	-	-	0.0204	0.0214	0.0235	0.0202	0.0237	0.0202	0.0167	0.0176	0.0135	0.0203	0.0157	0.0084	0.0092	0.0087	0.0097	0.0094
	Copper	ug/L	0.05	0.861	-	1.32 | 4.58	-	-	0.987 | 3.44	1.32 | 4.58	0.88	0.84	0.964	0.815	0.864	0.803	0.978	1.01	0.93	1.13	1.04	0.97	1.03	0.711	0.716	0.932
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Iron	ug/L	1	-	-	-	-	-	-	-	8.5	9.1	12.9	9.6	11.2	9.4	10.1	11.8	5.7	5.8	6.2	4.7	7.8	4.6	4.5	6.2
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.017	0.017	0.022	0.019	0.02	0.017	0.017	0.017	0.012	0.013	0.015	*<0.01*	*<0.01*	*<0.01*	*<0.01*	0.01
	Lead	ug/L	0.01	0.013	-	5.13 | 7.57	-	-	3.85 | 5.68	5.13 | 7.57	*<0.01*	*<0.01*	0.038	0.014	0.028	*<0.01*	0.027	0.029	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Lithium	ug/L	0.5	-	-	-	-	-	-	-	1.06	1.15	1.06	1.06	1.15	1.19	0.89	0.9	0.89	0.88	0.89	0.86	0.87	0.85	0.89	0.87
	Manganese	ug/L	0.05	1.2	-	210 | 330	-	-	158 | 248	210 | 330	0.848	0.796	0.916	1.24	0.889	0.958	0.6	0.592	0.477	0.455	0.48	0.79	0.793	0.766	0.816	0.781
	Mercury	ug/L	5e-04 | 0.005	-	-	-	-	-	-	-	0.00081	0.00076	0.00083	0.00088	0.00092	0.00065	0.00062	*<0.005*	0.00052	0.00077	0.00092	0.0006	0.00054	0.00059	0.00072	0.00083
	Molybdenum	ug/L	0.05	-	-	-	-	-	-	-	0.135	0.146	0.173	0.134	0.141	0.139	0.124	0.12	0.114	0.118	0.118	0.103	0.101	0.094	0.101	0.105
	Nickel	ug/L	0.05	-	-	-	-	-	-	-	0.834	0.877	0.879	0.823	0.874	0.842	0.819	0.857	0.819	0.817	0.848	0.537	0.598	0.508	0.513	0.529
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*

Table C1-12.
Meliadine Lake Surface water chemistry results, 2025.

	Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	AEMP Action Level[e] (min | max)	AEMP Benchmark[f] (min | max)	August																
											MEL-01						MEL-02						MEL-03				
											MEL-01-01	MEL-01-06	MEL-01-07	MEL-01-08	MEL-01-09	MEL-01-10	MEL-02-02	MEL-02-03	MEL-02-05	MEL-02-06	MEL-02-08	MEL-03-01	MEL-03-02	MEL-03-03	MEL-03-04	MEL-03-05
											08/12	08/12	08/12	08/12	08/12	08/12	08/15	08/15	08/15	08/15	08/15	08/16	08/16	08/16	08/16	08/16
Field Measurements	Temperature	C	-	-	-	-	-	-	-	-	7.1	12.7	12.4	12.5	7.2	7.2	12.81	12.91	12.9	12.84	12.81	12.53	12.53	12.57	12.47	12.51
	Sp. Conductivity (field)	uS/cm	-	-	-	-	-	-	-	-	164.2	139.7	145.7	141.1	165.3	163.6	128.9	129.5	129.6	128	129.7	107.7	107.7	107.6	107.7	107.7
	pH (field)	pH units	-	7.1 | 7.95	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.79	7.78	7.81	7.81	7.76	7.78	7.51	7.57	7.61	7.58	7.63	7.18	7.47	7.55	7.52	7.53
	DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	14.69	9.04	9.05	9.47	14.63	14.07	10.6	10.54	10.58	10.57	10.68	10.59	10.66	10.57	10.63	10.6
	DO (%)	%	-	-	-	-	-	-	-	-	121.9	85.3	84.7	88.8	121.3	116.7	103	102.6	103	102.8	103.8	107.6	102.7	102.1	102.4	102.2
Conventional Parameters	Conductivity (lab)	uS/cm	1	77.5	-	-	-	-	-	-	141	140	144	142	144	142	122	121	121	120	122	99.5	99.7	99.3	99.6	99.7
	Hardness	mg/L	0.5	23.37	-	-	-	-	-	-	40	39.2	39.7	39.8	40.6	41.2	38.7	37.6	38.2	37.2	37.9	31.7	31.3	28.8	28.9	28.7
	pH (lab)	pH units	0.1	-	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.4	7.38	7.43	7.35	7.4	7.38	7.33	7.41	7.42	7.41	7.44	7.39	7.39	7.44	7.42	7.39
	Total Dissolved Solids	mg/L	10	54	68	500	-	1000	375	500	75.3	73.3	89.3	83.3	85.3	95.3	60.1	64.4	67.4	62.4	66.1	46.1	54.1	52.4	47.4	47.1
	TDS (Calculated)	mg/L	1	39.61	68	500	-	1000	375	500	91.6	91	93.6	92.3	93.6	92.3	79.3	78.6	78.6	78	79.3	64.7	64.8	64.5	64.7	64.8
	Total Suspended Solids	mg/L	1	1	3.1	-	-	-	-	-	<1	<1	<1	10.3	<1	<1	<1	1	1.9	3.1	<1	<1	<1	1.2	<1	1.7
	Turbidity (lab)	NTU	0.1	-	-	-	-	-	-	-	0.38	0.44	0.42	0.51	0.37	0.37	0.34	0.32	0.28	0.33	0.36	0.24	0.3	0.39	0.21	0.29
Major Ions	Acidity, Total	mg/L	2	-	-	-	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<3
	Alkalinity, Bicarbonate	mg/L	1	25	-	-	-	-	-	-	20.2	20.1	20.4	20.9	21.3	21.1	20.4	20	20	20.1	19.9	19.2	19.7	19.1	19.6	18.8
	Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Phenolphthalein	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Total	mg/L	1	20.5	-	-	-	-	-	-	20.2	20.1	20.4	20.9	21.3	21.1	20.4	20	20	20.1	19.9	19.2	19.7	19.1	19.6	18.8
	Bromide	mg/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	12.4	12.2	12.3	12.3	12.6	12.8	11.9	11.7	11.9	11.6	11.8	9.91	9.82	9.18	9.26	9.13
	Calcium (T)	mg/L	0.01	7.334	-	-	-	-	-	-	12.3	12.3	12.3	12.6	12.8	12.7	9.87	10.3	10.2	10.2	10	8.35	8.4	9.14	9.03	9.05
	Chloride	mg/L	0.1	9.564	14	120	-	-	90	120	19.3	18.9	19.8	19	19.5	19.1	15.2	15.2	15.3	15.1	15.3	12.4	12.4	12.4	12.5	12.5
	Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8	0.034	0.034	0.034	0.032	0.034	0.032	0.037	0.033	0.034	0.034	0.033	0.034	0.034	0.035	0.034	0.035
	Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	2.19	2.11	2.19	2.2	2.22	2.25	2.18	2.05	2.06	2	2.05	1.7	1.65	1.42	1.41	1.43
	Magnesium (T)	mg/L	0.004	1.18	-	-	-	-	-	-	2.37	2.28	2.4	2.27	2.41	2.37	1.86	1.9	1.9	1.91	1.89	1.52	1.53	1.55	1.54	1.56
	Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.34	1.32	1.34	1.33	1.35	1.36	1.28	1.26	1.28	1.24	1.29	1.15	1.13	1.1	1.1	1.08
	Potassium (T)	mg/L	0.02	0.954	-	-	-	-	-	-	1.32	1.32	1.33	1.34	1.36	1.36	1.17	1.19	1.18	1.17	1.16	1.05	1.06	1.08	1.08	1.06
	Reactive Silica (SiO2)	mg/L	0.01	0.2684	-	-	-	-	-	-	0.45	0.46	0.46	0.47	0.46	0.46	0.39	0.39	0.39	0.39	0.39	0.28	0.28	0.29	0.28	0.28
	Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	9.16	8.81	9.21	8.91	8.98	9.19	8.28	8.04	8.05	8.17	8.41	6.54	6.44	5.99	5.83	6.15
	Sodium (T)	mg/L	0.02	4.85	5.3	-	-	-	-	-	9.43	8.91	9.57	9.05	9.66	9.48	7.44	7.72	7.52	7.55	7.48	6.26	6.16	6.36	6.02	6.35
	Sulphate	mg/L	0.3	3.87	38	128 | 218	-	-	96 | 164	128 | 218	13.7	13.9	13.9	13.5	13.8	13.6	10	10	10.1	9.8	10.1	6.21	6.17	6.15	6.25	6.17
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74	-	-	0.441 | 4.31	0.588 | 5.74	0.017	0.0138	<0.005	0.0173	<0.005	0.0165	0.0111	0.0125	0.0065	0.008	<0.005	0.0599	0.0109	0.027	0.0557	0.0153
	Nitrate (as N)	mg/L	0.005	0.0180	0.25	2.9	10	-	2.17	2.9	0.0118	0.0071	0.0225	0.0111	0.0121	0.0095	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005
	Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	0.0118	0.0071	0.0225	0.0111	0.0121	0.0095	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051
	Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1	-	0.045	0.06	<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	<0.001	<0.001
	Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.328	0.282	0.292	0.317	0.302	0.352	0.266	0.279	0.305	0.268	0.266	0.29	0.233	0.236	0.279	0.237
	Orthophosphate (PO4-P)	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	<0.001	0.0012	<0.001	<0.001
	Total Diss Phosphorus	mg/L	0.001	0.00314	-	-	-	-	-	-	0.0026	0.0023	0.002	0.0027	0.0026	0.0025	0.0022	0.002	0.0024	0.0023	0.0041	0.0022	0.0018	0.0023	0.0023	0.0029
	Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.263	0.235	0.26	0.25	0.25	0.24	0.22	0.20	0.21	0.22	0.21	0.20	0.21	0.18	0.19	0.21
	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	-	-	-	-	-	-	0.316	0.275	0.27	0.31	0.29	0.34	0.27	0.28	0.31	0.27	0.27	0.29	0.23	0.24	0.28	0.24
	Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.251	0.228	0.24	0.24	0.23	0.23	0.22	0.20	0.21	0.22	0.21	0.20	0.21	0.18	0.19	0.21
	Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01	-	-	0.0075	0.01	0.0069	0.0067	0.0066	0.0093	0.0064	0.0138	0.0059	0.0048	0.006	0.0051	0.005	0.0057	0.0032	0.0038	0.0036	0.006
	Dissolved Organic Carbon	mg/L	0.5	2.72	-	-	-	-	-	-	4.7	4.22	4.24	4.4	4.29	4.29	4.56	4.27	4.5	4.34	4.36	3.41	3.31	3.87	3.6	3.57
	Total Organic Carbon	mg/L	0.5	3	-	-	-	-	-	-	4.57	4.4	4.52	4.64	4.67	4.57	4.54	4.18	4.36	4.94	4.45	4.16	3.87	3.19	3.87	3.71
Total Metals	Aluminum	ug/L	1	5.32	9.1	312 | 713	-	-	234 | 535	312 | 713	5.3	5	7.2	6.2	5.5	8.6	4.1	3.8	10.5	13.5	2.3	2.1	2.5	2.2	2.2	2.6
	Antimony	ug/L	0.02	0.02	0.51	-	6	-	4.5	6	0.026	0.024	0.026	0.024	0.024	0.025	0.021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Arsenic	ug/L	0.02	0.275	3.8	5	10	25	18.8	25	0.925	0.844	1.02	0.914	0.978	0.908	0.931	0.92	1.03	1.02	0.918	0.472	0.482	0.472	0.477	0.482
	Barium	ug/L	0.02	8.05	77	-	1000	-	750	1000	12.4	12.3	12	12.2	12.2	12.2	11.2	11.6	11.7	11.5	11.4	9.81	10.2	9.31	9.29	9.34
	Beryllium	ug/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	<0.005	<0.005	<0.005	<0.005	<0.005
	Bismuth	ug/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	<0.005	<0.005	<0.005	<0.005	<0.005
	Boron	ug/L	5	6.52	23	1500	5000	-	1120	1500	8.2	7.8	7.9	7.7	7.5	7.9	7.1	6.8	6.6	6.8	6.8	5.7	5.7	5.8	5.7	5.9
	Cadmium	ug/L	0.005	0.005	0.05	0.0391 | 0.0761	5	-	0.0293 | 0.0571	0.0391 | 0.0761	<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	<0.005	<0.005	<0.005
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0114	0.0096	0.0096	0.0097	0.0101	0.01	0.011	0.0105	0.0123	0.0128	0.0101	0.0099	0.0101	0.0096	0.0101	0.0099
	Chromium	ug/L	0.1	0.10	1.1	5	50	-	3.75	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cobalt	ug/L	0.005	0.016	-	0.78	-	-	0.585	0.78	0.0334	0.0327	0.0393	0.0412	0.0324	0.0363	0.0264	0.026	0.041	0.0401	0.024	0.0192	0.0191	0.0188	0.0186	0.0191
	Copper	ug/L	0.05	0.86	2	-	2000	-	1500	2000	1.34	1.04	1.09	1.04	1.24	1.15	1.67	1.12	1.08	1.06	0.875	0.699	0.952	1.1	0.777	1.13
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Iron	ug/L	1	15	42	300	-	1060	795	1060	17.1	14.8	37.3	29.6	16.9	17.9	21.3	22.1	45.1	55.2	17	15.1	16.4	14.7	16.4	15.5
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.026	0.023	0.062	0.04	0.025	0.025	0.026	0.027	0.078	0.124	0.024	0.019	0.018	0.021	0.018	0.019
	Lead	ug/L	0.01	0.0222	0.15	-	5	-	3.75	5	0.011	0.01	0.014	0.015	<0.01	0.013	0.023	0.014	0.037	0.038	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Lithium	ug/L	0.5	0.72	-	-	-	-	-	-	1.18	1.15	1.22	1.16	1.24	1.23	1.04	1.03	1.01	1.03	1.02	0.88	0.89	0.92	0.88	0.9
	Manganese	ug/L	0.05	3.06	5.5	-	120	-	90	120	6.22	6.02	9.24	9.68	6.72	6.73	5.32	5.48	9.05	6.59	5.45	4.4	4.38	4.35	4.7	4.43
	Mercury	ug/L	0.0005	0.0008	0.02	0.026	1	-	0.0195	0.026	0.00146	0.00108	0.00092	9.80E-04	0.00115	0.0011	0.00066	0.00061	0.00055	0.00088	0.00052	<5e-04	<5e-04	<5e-04	0.00051	0.00071
	Molybdenum	ug/L	0.05	0.107	5.2	73	-	-	54.8	73	0.165	0.163	0.156	0.158	0.172	0.17	0.112	0.112	0.119	0.111	0.113	0.088	0.092	0.097	0.097	0.098
	Nickel	ug/L	0.05	0.441	2.7	25	-	-	18.8	25	0.826	0.855	0.862	0.867	0.866	0.904	0.726	0.76	0.798	0.807	0.735	0.501	0.507	0.502	0.491	0.514
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Rhenium	ug/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	<0.005	<0.005	<0.005	<0.005
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.63	1.66	1.67	1.65	1.69	1.72	1.55	1.58	1.6	1.61	1.54	1.44	1.45	1.48	1.49	1.49
	Selenium	ug/L	0.04	0.049	0.16	1	50	-	0.75	1	0.052	0.055	0.05	0.057	0.047	0.04	0.057	0.056	0.049	0.049	0.065	0.047	0.042	<0.04	<0.04	<0.04
	Silicon	ug/L	50	-	-	-	-	-	-	-	263	237	241	243	249	235	205	205	217	228	209	149	146	158	143	150
	Silver	ug/L	0.005	0.005	0.1	0.25	-	-	0.188	0.25	<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	<0.005	<0.005	<0.005
	Strontium	ug/L	0.02	36.1	-	2500	7000	-	1880	2500	68	66.7	69.8	68.5	71.1	70.8	54.6	54.5	54.8	55.6	53.6	43.7	44	45.6	46.9	45.9
	Sulfur	ug/L	500	-	-	-	-	-	-	-	4430	4360	4420	4300	4340	4360	3470	3610	3640	3480	3670	2180	2190	2230	2190	2280
	Tantalum	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tellurium	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Thallium	ug/L	0.005	0.005	0.1	0.8	-	-	0.6	0.8	<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	<0.005	<0.005	<0.005
	Thorium	ug/L	0.005 | 0.025	-	-	-	-	-	-	-	<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	<0.005	<0.005	<0.005
	Tin	ug/L	0.02	0.038	-	-	-	-	-	-	0.027	<0.02	0.03	0.023	0.022	0.026	0.046	0.028	0.028	0.022	<0.02	<0.02	0.022	0.042	<0.02	0.048
	Titanium	ug/L	0.05	0.170	-	-	-	-	-	-	0.069	0.068	0.121	0.182	0.076	0.094	0.087	0.156	0.651	0.851	<0.05	<0.05	0.052	0.056	<0.05	0.069
	Tungsten	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Uranium	ug/L	0.001	0.0164	1.5	15	20	-	11.2	15	0.0391	0.0376	0.043	0.0414	0.0401	0.0403	0.0254	0.0261	0.0296	0.0319	0.0264	0.0209	0.0191	0.0186	0.0203	0.0213
	Vanadium	ug/L	0.05	0.05	-	120	-	-	90	120	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.055	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Yttrium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	0.012	0.011	<0.01	<0.01	<0.01	<0.01	0.016	0.021	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Zinc	ug/L	0.5	1.7	6.7	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	<0.5	0.52	<0.5	0.55	<0.5	3.91	1.36	0.61	0.88	<0.5	<0.5	<0.5	1.17	<0.5	<0.5	0.75
	Zirconium	ug/L	0.01	-	-	-	-	-	-	-	0.012	0.012	0.012	0.012	0.013	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Metals	Aluminum	ug/L	1	-	-	-	-	-	-	-	3.1	2.4	3.4	2.4	3	2.7	1.3	<1	1.3	3.7	3.8	1.7	1.4	1	1.2	1.1
	Antimony	ug/L	0.02	-	-	-	-	-	-	-	0.029	0.024	0.027	0.024	0.026	0.025	<0.02	<0.02	<0.02	0.02	0.023	<0.02	<0.02	<0.02	<0.02	<0.02
	Arsenic	ug/L	0.02	-	-	-	-	-	-	-	0.925	0.822	0.875	0.835	0.915	0.839	0.832	0.835	0.863	0.847	0.893	0.476	0.461	0.473	0.478	0.474
	Barium	ug/L	0.02	-	-	-	-	-	-	-	12.2	12	12.1	11.8	12	12	11.1	11.1	11.6	11.5	11.5	10.2	9.52	9.32	9.35	9.25
	Beryllium	ug/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	<0.005	<0.005	<0.005	<0.005
	Bismuth	ug/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	<0.005	<0.005	<0.005	<0.005
	Boron	ug/L	5	-	-	-	-	-	-	-	8.5	7.4	7.8	7.6	7.6	7.6	6.8	6.4	6.7	7.3	7.7	5.8	5.7	5.7	5.7	5.6
	Cadmium	ug/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	<0.005	<0.005	<0.005	<0.005
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0158	0.0094	0.0095	0.0094	0.0098	0.0096	0.0111	0.0105	0.0106	0.0106	0.0116	0.0113	0.011	0.0105	0.0106	0.0103
	Chromium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cobalt	ug/L	0.005	-	-	-	-	-	-	-	0.024	0.0209	0.024	0.0235	0.0226	0.0215	0.0156	0.0165	0.0174	0.0194	0.0201	0.011	0.0098	0.0086	0.0091	0.0089
	Copper	ug/L	0.05	0.861	-	1.32 | 4.58	-	-	0.987 | 3.44	1.32 | 4.58	2.61	0.961	0.953	0.963	0.988	0.99	1.13	0.982	1	1.15	1.14	0.882	0.886	1	0.796	0.886
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Iron	ug/L	1	-	-	-	-	-	-	-	6	5.9	5.4	6.2	6	5.7	5.8	5.9	6.3	8.2	8.9	7.1	6	5.6	6.4	6
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.011	0.012	0.011	0.012	0.011	0.011	<0.01	0.01	0.011	0.013	0.013	<0.01	<0.01	<0.01	<0.01	<0.01
	Lead	ug/L	0.01	0.013	-	5.13 | 7.57	-	-	3.85 | 5.68	5.13 | 7.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	0.018	<0.01	<0.01	<0.01	<0.01	<0.01
	Lithium	ug/L	0.5	-	-	-	-	-	-	-	1.17	1.12	1.19	1.12	1.24	1.15	0.99	0.98	1	1.01	1.01	0.88	0.85	0.92	0.91	0.94
	Manganese	ug/L	0.05	1.2	-	210 | 330	-	-	158 | 248	210 | 330	0.836	0.73	0.908	1.76	0.813	0.797	0.608	0.678	1.05	0.935	0.662	0.517	0.477	0.508	0.528	0.508
	Mercury	ug/L	5e-04 | 0.005	-	-	-	-	-	-	-	0.00078	0.00064	0.00071	0.00078	0.00068	0.00068	0.00055	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04
	Molybdenum	ug/L	0.05	-	-	-	-	-	-	-	0.162	0.154	0.168	0.161	0.167	0.162	0.13	0.125	0.13	0.271	0.27	0.103	0.11	0.093	0.098	0.094
	Nickel	ug/L	0.05	-	-	-	-	-	-	-	0.858	0.842	0.849	0.844	0.837	0.855	0.818	0.775	0.783	0.803	0.845	0.546	0.523	0.505	0.496	0.488
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Rhenium	ug/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	<0.005	<0.005	<0.005	<0.005
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.69	1.67	1.69	1.7	1.7	1.71	1.8	1.74	1.75	1.73	1.76	1.62	1.61	1.55	1.56	1.52
	Selenium	ug/L	0.04	-	-	-	-	-	-	-	<0.04	0.045	0.048	0.048	0.046	0.045	<0.04	0.066	<0.04

Table C1-12.
Meliadine Lake Surface water chemistry results, 2025.

	Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	AEMP Action Level[e] (min | max)	AEMP Benchmark[f] (min | max)	August										September					
											MEL-04					MEL-05					MEL-01			MEL-01		
											MEL-04-01	MEL-04-02	MEL-04-03	MEL-04-04	MEL-04-05	MEL-05-01	MEL-05-02	MEL-05-03	MEL-05-04	MEL-05-05	MEL-01-01	MEL-01-06	MEL-01-07	MEL-01-08	MEL-01-09	MEL-01-10
											08/17	08/17	08/17	08/17	08/17	08/17	08/17	08/17	08/17	08/17	09/08	09/08	09/08	09/08	09/08	09/08
Field Measurements	Temperature	C	-	-	-	-	-	-	-	-	12.49	12.47	12.42	12.44	12.48	13.09	12.84	12.84	13	12.81	9.6	9.56	9.6	9.56	9.63	9.57
	Sp. Conductivity (field)	uS/cm	-	-	-	-	-	-	-	-	106.1	106	106	105.9	106	108.8	109.3	109.3	109	109.2	161	160.7	161.4	160.7	160.9	160.6
	pH (field)	pH units	-	7.1 | 7.95	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.42	7.71	7.54	7.52	7.59	7.77	7.76	7.76	7.73	7.74	6.91	7.1	7.29	7.19	7.43	7.39
	DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	10.68	10.85	10.75	10.79	10.73	10.86	10.85	10.85	10.82	10.84	11.26	11.32	11.3	11.29	11.31	11.33
	DO (%)	%	-	-	-	-	-	-	-	-	103	104.6	103.5	103.9	103.5	106.1	105.5	105.5	105.6	105.3	101.6	102	101.9	101.8	102	102.1
Conventional Parameters	Conductivity (lab)	uS/cm	1	77.5	-	-	-	-	-	-	98.8	98.4	98.7	98.6	100	102	102	102	102	102	144	142	143	142	142	142
	Hardness	mg/L	0.5	23.37	-	-	-	-	-	-	27	28.4	27.9	27.7	28.1	32	32.1	33	33.5	33	39.4	39.5	36.9	37.9	41.3	38.8
	pH (lab)	pH units	0.1	-	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.41	7.38	7.39	7.38	7.34	7.44	7.45	7.45	7.48	7.48	7.54	7.53	7.54	7.53	7.53	7.53
	Total Dissolved Solids	mg/L	10	54	68	500	-	1000	375	500	47.4	40.4	50.1	38.1	41.4	51.4	57.8	55.8	57.1	54.1	80.2	76.8	78.2	75.8	78.2	78.2
	TDS (Calculated)	mg/L	1	39.61	68	500	-	1000	375	500	64.2	64	64.2	64.1	65	66.3	66.3	66.3	66.3	66.3	93.6	92.3	93	92.3	92.3	92.3
	Total Suspended Solids	mg/L	1	1	3.1	-	-	-	-	-	2.7	1.4	<1	1.1	<1	<1	<1	<1	<1	<1	1.25	1.45	<1	<1	1.32	1.05
	Turbidity (lab)	NTU	0.1	-	-	-	-	-	-	-	0.25	0.21	0.24	0.26	0.26	0.19	0.18	0.22	0.2	0.21	0.51	0.44	0.4	0.41	0.41	0.41
Major Ions	Acidity, Total	mg/L	2	-	-	-	-	-	-	-	<3	<3	<3	<3	<3	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Alkalinity, Bicarbonate	mg/L	1	25	-	-	-	-	-	-	19.1	19.3	19.2	19.3	19.2	20.8	20.8	20.9	20.8	20.6	21.2	20.9	21.1	21	21.3	21.3
	Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Phenolphthalein	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Total	mg/L	1	20.5	-	-	-	-	-	-	19.1	19.3	19.2	19.3	19.2	20.8	20.8	20.9	20.8	20.6	21.2	20.9	21.1	21	21.3	21.3
	Bromide	mg/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	8.62	8.9	8.94	8.91	9.04	10.1	10.1	10.4	10.6	10.4	12	12.1	11.2	11.6	12.6	11.9
	Calcium (T)	mg/L	0.01	7.334	-	-	-	-	-	-	8.85	9.01	8.96	8.72	8.84	9.57	10	9.5	9.6	9.58	12.5	12.5	12.4	12.6	12.4	12.4
	Chloride	mg/L	0.1	9.564	14	120	-	-	90	120	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	19.1	19	19.1	23.9	18.1	19
	Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8	0.033	0.033	0.033	0.032	0.033	0.034	0.032	0.032	0.034	0.034	0.034	0.035	0.034	0.182	0.036	0.037
	Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	1.34	1.51	1.35	1.33	1.35	1.65	1.68	1.7	1.71	1.72	2.28	2.26	2.16	2.18	2.38	2.21
	Magnesium (T)	mg/L	0.004	1.18	-	-	-	-	-	-	1.51	1.54	1.49	1.47	1.46	1.5	1.54	1.49	1.52	1.5	2.29	2.38	2.38	2.34	2.37	2.32
	Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.02	1.08	1.07	1.05	1.08	1.11	1.1	1.18	1.15	1.16	1.32	1.33	1.2	1.27	1.37	1.3
	Potassium (T)	mg/L	0.02	0.954	-	-	-	-	-	-	1.05	1.08	1.04	1.01	1.05	1.07	1.12	1.06	1.06	1.08	1.33	1.35	1.36	1.35	1.34	1.35
	Reactive Silica (SiO2)	mg/L	0.01	0.2684	-	-	-	-	-	-	0.34	0.35	0.35	0.34	0.34	0.31	0.32	0.32	0.32	0.32	0.34	0.35	0.35	0.34	0.35	0.34
	Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	5.63	6.27	5.62	5.63	5.57	6.4	6.33	6.49	6.59	6.65	9.16	9.05	8.52	8.81	9.38	8.87
	Sodium (T)	mg/L	0.02	4.85	5.3	-	-	-	-	-	6.11	6.52	6.1	5.96	6.03	6.09	6.28	5.92	6.1	5.9	9.55	9.39	9.69	9.62	9.43	9.31
	Sulphate	mg/L	0.3	3.87	38	128 | 218	-	-	96 | 164	128 | 218	6.08	6.02	6.05	6.04	6.1	6.14	6.13	6.14	6.13	6.24	13.9	13.6	13.7	8.96	13.2	14.1
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74	-	-	0.441 | 4.31	0.588 | 5.74	0.0135	0.0169	<0.005	0.0091	0.0107	0.0117	<0.005	0.0063	0.0118	0.0055	0.0136	0.0091	0.0082	0.0888	0.0254	<0.005
	Nitrate (as N)	mg/L	0.005	0.0180	0.25	2.9	10	-	2.17	2.9	<0.005	<0.005	0.0081	<0.005	0.0104	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	4.7	<0.005	<0.005
	Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	<0.0051	<0.0051	0.0081	<0.0051	0.0104	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	4.7	<0.0051	<0.0051
	Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1	-	0.045	0.06	<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	<0.001	<0.001
	Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.219	0.232	0.234	0.219	0.233	0.223	0.212	0.22	0.233	0.307	0.308	0.308	0.292	5.05	0.311	0.29
	Orthophosphate (PO4-P)	mg/L	0.001	0.001	-	-	-	-	-	-	<0.001	0.0012	<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 Diss Phosphorus	mg/L	0.001	0.00314	-	-	-	-	-	-	0.0019	0.0021	0.0017	0.0018	0.0015	0.0023	0.0021	0.002	0.0024	0.0021	0.0043	0.004	0.0043	0.0042	0.0039	0.0041
	Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.23	0.17	0.18	0.16	0.18	0.17	0.20	0.20	0.24	0.21	0.24	0.22	0.25	4.97	0.25	0.24
	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	-	-	-	-	-	-	0.22	0.23	0.23	0.22	0.22	0.22	0.21	0.22	0.233	0.302	0.308	0.308	0.292	0.352	0.311	0.29
	Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.23	0.17	0.17	0.16	0.17	0.17	0.20	0.20	0.24	0.21	0.24	0.22	0.25	0.27	0.25	0.24
	Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01	-	-	0.0075	0.01	0.005	0.0046	0.0036	0.0032	0.0071	0.005	0.0043	0.0033	0.0034	0.0038	0.0079	0.0073	0.0072	0.007	0.0073	0.0082
	Dissolved Organic Carbon	mg/L	0.5	2.72	-	-	-	-	-	-	3.41	3.35	3.1	3.09	3.12	3.68	3.36	3.7	3.5	3.72	4.77	4.47	4.31	4.3	4.38	4.31
	Total Organic Carbon	mg/L	0.5	3	-	-	-	-	-	-	3.47	3.75	3.89	3.6	3.58	3.75	3.95	3.82	3.88	3.94	4.8	4.72	4.39	5.02	4.48	4.88
Total Metals	Aluminum	ug/L	1	5.32	9.1	312 | 713	-	-	234 | 535	312 | 713	3.6	2.6	1.9	3.6	1.9	2.4	18.3	2.1	1.8	2.6	6.5	5.3	4.3	4.5	4.2	4.1
	Antimony	ug/L	0.02	0.02	0.51	-	6	-	4.5	6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.029	0.024	0.022	0.023	0.022	0.022
	Arsenic	ug/L	0.02	0.275	3.8	5	10	25	18.8	25	0.466	0.454	0.424	0.43	0.433	0.517	0.507	0.509	0.504	0.534	0.864	0.818	0.826	0.826	0.834	0.814
	Barium	ug/L	0.02	8.05	77	-	1000	-	750	1000	9.4	9.73	9.35	9.48	9.34	9.58	10.2	9.7	9.65	9.71	11.8	11.4	11.5	11.5	11.4	11.2
	Beryllium	ug/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	<0.005	<0.005	<0.005	<0.005	<0.005
	Bismuth	ug/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	<0.005	<0.005	<0.005	<0.005	<0.005
	Boron	ug/L	5	6.52	23	1500	5000	-	1120	1500	5.7	5.9	5.5	5.5	5.7	5.8	5.5	5.6	5.7	5.8	8.2	7.8	7.9	8	8.1	7.9
	Cadmium	ug/L	0.005	0.005	0.05	0.0391 | 0.0761	5	-	0.0293 | 0.0571	0.0391 | 0.0761	<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	<0.005	<0.005	<0.005
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0097	0.0103	0.0102	0.0104	0.0096	0.0095	0.0104	0.0097	0.0097	0.0096	0.0091	0.0089	0.0095	0.0092	0.0093	0.0092
	Chromium	ug/L	0.1	0.10	1.1	5	50	-	3.75	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cobalt	ug/L	0.005	0.016	-	0.78	-	-	0.585	0.78	0.0176	0.0171	0.0143	0.0159	0.0149	0.0162	0.0167	0.0151	0.015	0.0155	0.032	0.0317	0.033	0.032	0.0324	0.0329
	Copper	ug/L	0.05	0.86	2	-	2000	-	1500	2000	1.35	1.2	0.991	1.15	0.881	0.921	0.894	0.886	0.931	1.11	0.882	0.866	0.866	0.873	0.87	0.84
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Iron	ug/L	1	15	42	300	-	1060	795	1060	14.4	13.1	11.4	14.3	10.6	11.6	13.7	11.6	11.1	13.3	17.1	13.5	12.6	14.4	13	13.2
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.018	0.016	0.015	0.016	0.014	0.012	0.015	0.012	0.012	0.014	0.021	0.019	0.019	0.02	0.018	0.02
	Lead	ug/L	0.01	0.0222	0.15	-	5	-	3.75	5	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.028	0.012	<0.01	<0.01	<0.01	<0.01
	Lithium	ug/L	0.5	0.72	-	-	-	-	-	-	0.88	0.97	0.86	0.85	0.88	0.89	0.9	0.9	0.89	0.89	1.22	1.17	1.21	1.22	1.23	1.19
	Manganese	ug/L	0.05	3.06	5.5	-	120	-	90	120	3.63	3.53	3.5	3.49	3.32	3.34	3.6	3.43	3.41	3.56	5.15	5.01	5.24	5.22	5.12	5.24
	Mercury	ug/L	0.0005	0.0008	0.02	0.026	1	-	0.0195	0.026	<5e-04	0.0008	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	0.0009	0.00064	0.00085	0.00052	<5e-04	0.00089
	Molybdenum	ug/L	0.05	0.107	5.2	73	-	-	54.8	73	0.094	0.096	0.091	0.096	0.094	0.097	0.103	0.095	0.098	0.106	0.16	0.154	0.156	0.162	0.161	0.158
	Nickel	ug/L	0.05	0.441	2.7	25	-	-	18.8	25	0.528	0.552	0.49	0.496	0.493	0.474	0.532	0.467	0.473	0.485	0.815	0.793	0.798	0.816	0.809	0.79
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Rhenium	ug/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	<0.005	<0.005	<0.005	<0.005
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.45	1.5	1.45	1.45	1.45	1.44	1.5	1.41	1.43	1.45	1.68	1.71	1.72	1.73	1.73	1.68
	Selenium	ug/L	0.04	0.049	0.16	1	50	-	0.75	1	<0.04	0.055	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	0.044	0.046	0.041	0.05	<0.04
	Silicon	ug/L	50	-	-	-	-	-	-	-	183	190	176	179	176	162	180	167	161	166	206	188	180	183	186	178
	Silver	ug/L	0.005	0.005	0.1	0.25	-	-	0.188	0.25	<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	<0.005	<0.005	<0.005
	Strontium	ug/L	0.02	36.1	-	2500	7000	-	1880	2500	44.5	44.4	45.2	44.6	44.9	45.8	46.9	44.6	45.2	45.4	67.2	68	69.6	68.2	69.2	66.9
	Sulfur	ug/L	500	-	-	-	-	-	-	-	2140	2190	2080	2150	2160	2260	2580	2210	2220	2320	4750	4800	4840	4850	4850	4760
	Tantalum	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tellurium	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Thallium	ug/L	0.005	0.005	0.1	0.8	-	-	0.6	0.8	<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	<0.005	<0.005	<0.005
	Thorium	ug/L	0.005 | 0.025	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005
	Tin	ug/L	0.02	0.038	-	-	-	-	-	-	0.052	0.048	0.036	0.046	0.028	0.087	0.21	0.051	0.039	0.098	0.022	<0.02	<0.02	<0.02	<0.02	<0.02
	Titanium	ug/L	0.05	0.170	-	-	-	-	-	-	0.121	0.138	0.06	0.385	<0.05	0.052	0.078	<0.05	<0.05	0.055	<0.05	0.171	<0.05	0.205	0.055	0.068
	Tungsten	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01
	Uranium	ug/L	0.001	0.0164	1.5	15	20	-	11.2	15	0.0166	0.0206	0.017	0.0175	0.0159	0.019	0.0215	0.02	0.0187	0.0191	0.0374	0.038	0.038	0.0366	0.0377	0.0385
	Vanadium	ug/L	0.05	0.05	-	120	-	-	90	120	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Yttrium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Zinc	ug/L	0.5	1.7	6.7	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	2.61	1.23	0.56	0.63	<0.5	1.68	8.68	1.46	1.86	3.58	1.12	<0.5	<0.5	<0.5	<0.5	<0.5
	Zirconium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Metals	Aluminum	ug/L	1	-	-	-	-	-	-	-	1	1.6	1	1.1	<1	<1	13.2	2.1	1.1	2.5	2.2	2	1.9	1.8	2.2	2
	Antimony	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.024	0.023	0.025	0.022	0.024	0.022
	Arsenic	ug/L	0.02	-	-	-	-	-	-	-	0.423	0.425	0.414	0.442	0.432	0.476	0.492	0.481	0.479	0.487	0.787	0.782	0.78	0.787	0.803	0.78
	Barium	ug/L	0.02	-	-	-	-	-	-	-	9.17	9.62	9.52	9.24	9.38	10.1	10.1	10.1	10.6	10.2	11.6	11.7	10.8	11.7	12.3	11.3
	Beryllium	ug/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	<0.005	<0.005	<0.005	<0.005
	Bismuth	ug/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	<0.005	<0.005	<0.005	<0.005
	Boron	ug/L	5	-	-	-	-	-	-	-	5.4	5.4	5.5	5.7	5.5	5.8	5.6	5.8	6	5.8	7.7	7.5	7.9	7.7	7.9	7.7
	Cadmium	ug/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	<0.005	<0.005	<0.005	<0.005
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0097	0.0098	0.0105	0.0103	0.01	0.0108	0.011	0.011	0.011	0.0107	0.0093	0.0089	0.0087	0.0095	0.0102	0.0089
	Chromium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cobalt	ug/L	0.005	-	-	-	-	-	-	-	0.0099	0.0081	0.0089	0.009	0.0085	0.0094	0.0106	0.0096	0.0097	0.011	0.0214	0.0219	0.0224	0.021	0.0222	0.0218
	Copper	ug/L	0.05	0.861	-	1.32 | 4.58	-	-	0.987 | 3.44	1.32 | 4.58	0.936	0.814	0.827	0.91	0.796	0.91	0.849	0.904	0.984	1.04	0.917	0.896	0.852	0.8	0.909	0.852
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Iron	ug/L	1	-	-	-	-	-	-	-	4.3	5.3	4.6	5.1	4.4	4.8	6.9	6	5.2	7.7	2.7	2.4	2.6	2.3	3	2.7
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Lead	ug/L	0.01	0.013	-	5.13 | 7.57	-	-	3.85 | 5.68	5.13 | 7.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Lithium	ug/L	0.5	-	-	-	-	-	-	-	0.88	0.86	0.87	0.89	0.88	0.89	0.86	0.87	0.9	0.9	1.21	1.14	1.15	1.17	1.18	1.16
	Manganese	ug/L	0.05	1.2	-	210 | 330	-	-	158 | 248	210 | 330	0.391	0.478	0.348	0.397	0.36	0.448	0.467	0.507	0.464	0.438	0.342	0.316	0.335	0.326	0.388	0.346
	Mercury	ug/L	5e-04 | 0.005	-	-	-	-	-	-	-	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	<5e-04	0.00052	0.00065	0.00067	0.0005	0.0008	0.00056
	Molybdenum	ug/L	0.05	-	-	-	-	-	-	-	0.094	0.089	0.098	0.093	0.1	0.109	0.108	0.11	0.108	0.113	0.156	0.157	0.152	0.15	0.165	0.157
	Nickel	ug/L	0.05	-	-	-	-	-	-	-	0.498	0.507	0.501	0.49	0.5	0.504	0.561	0.512	0.517	0.554	0.763	0.766	0.721	0.738	0.784	0.738
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Rhenium	ug/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	<0.005	<0.005	<0.005	<0.005
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.48	1.49	1.55	1.55	1.57	1.56	1.56	1.6	1.61	1.62	1.66	1.68	1.52	1.63	1.74	1.66
	Selenium	ug/L	0.04	-	-	-	-	-	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	0.051	0.064	<0.04	0.042	<0.04	0.045

Table C1-12.
Meliadine Lake Surface water chemistry results, 2025.

	Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	AEMP Action Level[e] (min | max)	AEMP Benchmark[f] (min | max)	September									
											MEL-02					MEL-03				
											MEL-02-02	MEL-02-03	MEL-02-05	MEL-02-06	MEL-02-08	MEL-03-01	MEL-03-02	MEL-03-03	MEL-03-04	MEL-03-05
											09/10	09/10	09/10	09/10	09/10	09/09	09/09	09/09	09/09	09/09
Field Measurements	Temperature	C	-	-	-	-	-	-	-	-	9.39	9.32	9.31	9.37	9.21	9.24	9.24	9.34	9.11	8.89
	Sp. Conductivity (field)	uS/cm	-	-	-	-	-	-	-	-	136.6	136.6	136.5	135.3	138.1	113.7	113.6	113.4	113.9	114.4
	pH (field)	pH units	-	7.1 | 7.95	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.52	7.68	7.69	7.63	7.74	6.81	7.19	7.34	7.41	7.41
	DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	11.42	11.47	11.43	11.42	11.55	11.26	11.29	11.22	11.37	11.36
	DO (%)	%	-	-	-	-	-	-	-	-	102.5	102.7	102.4	102.4	103.2	100.7	101	100.6	101.4	100.7
Conventional Parameters	Conductivity (lab)	uS/cm	1	77.5	-	-	-	-	-	-	123	120	120	119	122	101	101	101	101	101
	Hardness	mg/L	0.5	23.37	-	-	-	-	-	-	34.2	34.3	33.6	32.8	34.2	28.8	27.4	27.1	26.5	26.9
	pH (lab)	pH units	0.1	-	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.42	7.48	7.48	7.48	7.48	7.47	7.49	7.48	7.48	7.37
	Total Dissolved Solids	mg/L	10	54	68	500	-	1000	375	500	56.4	60.1	64.4	70.1	65.8	75.2	75.5	56.5	63.2	65.5
	TDS (Calculated)	mg/L	1	39.61	68	500	-	1000	375	500	80	78	78	77.4	79.3	65.6	65.6	65.6	65.6	65.6
	Total Suspended Solids	mg/L	1	1	3.1	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Turbidity (lab)	NTU	0.1	-	-	-	-	-	-	-	1.37	0.73	0.76	0.51	0.32	1.65	1.44	1.15	0.37	1.08
Major Ions	Acidity, Total	mg/L	2	-	-	-	-	-	-	-	2.4	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Alkalinity, Bicarbonate	mg/L	1	25	-	-	-	-	-	-	19.9	21.4	21.1	20.9	21.3	19.3	19.3	19.2	19.5	20.1
	Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Phenolphthalein	mg/L	1	-	-	-	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Alkalinity, Total	mg/L	1	20.5	-	-	-	-	-	-	19.9	21.4	21.1	20.9	21.3	19.3	19.3	19.2	19.5	20.1
	Bromide	mg/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	10.7	10.8	10.5	10.3	10.7	8.9	8.68	8.6	8.38	8.51
	Calcium (T)	mg/L	0.01	7.334	-	-	-	-	-	-	10.6	10.8	10.5	10.9	11.3	9.17	9.02	7.77	8.97	8.75
	Chloride	mg/L	0.1	9.564	14	120	-	-	90	120	15.4	15.3	15.4	15.6	15.8	12.6	12.7	12.6	12.7	12.8
	Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8	0.032	0.034	0.033	0.029	0.03	0.034	0.036	0.034	0.033	0.034
	Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	1.82	1.79	1.79	1.73	1.81	1.59	1.38	1.36	1.35	1.38
	Magnesium (T)	mg/L	0.004	1.18	-	-	-	-	-	-	1.98	1.92	1.96	1.97	2.06	1.6	1.44	1.27	1.44	1.4
	Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.21	1.19	1.18	1.2	1.21	1.08	1.06	1.04	1	1.03
	Potassium (T)	mg/L	0.02	0.954	-	-	-	-	-	-	1.22	1.25	1.2	1.23	1.28	1.12	1.07	0.913	1.08	1.05
	Reactive Silica (SiO2)	mg/L	0.01	0.2684	-	-	-	-	-	-	0.35	0.35	0.35	0.35	0.35	0.29	0.29	0.29	0.28	0.28
	Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	7.42	7.37	7.34	7.09	7.49	6.13	5.95	5.93	5.66	5.88
	Sodium (T)	mg/L	0.02	4.85	5.3	-	-	-	-	-	7.89	7.88	7.86	8.05	8.19	6.3	6.1	5.54	6.02	5.98
	Sulphate	mg/L	0.3	3.87	38	128 | 218	-	-	96 | 164	128 | 218	10.6	9.81	9.79	9.19	9.43	6.3	6.4	6.35	6.33	6.36
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74	-	-	0.441 | 4.31	0.588 | 5.74	<0.005	0.0051	0.0085	<0.005	0.0172	0.0249	0.0181	<0.005	<0.005	<0.005
	Nitrate (as N)	mg/L	0.005	0.0180	0.25	2.9	10	-	2.17	2.9	0.0057	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005
	Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	0.0057	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	0.006	<0.0051	<0.0051	<0.0051
	Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1	-	0.045	0.06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.265	0.233	0.228	0.27	0.232	0.245	0.23	0.21	0.241	0.216
	Orthophosphate (PO4-P)	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
	Total Diss Phosphorus	mg/L	0.001	0.00314	-	-	-	-	-	-	0.0019	0.0024	0.0022	0.0018	0.0021	0.002	0.0022	0.0023	0.0017	0.0017
	Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.22	0.21	0.21	0.23	0.22	0.18	0.22	0.19	0.23	0.21
	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	-	-	-	-	-	-	0.259	0.233	0.228	0.27	0.232	0.245	0.224	0.21	0.241	0.216
	Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.21	0.21	0.21	0.23	0.22	0.18	0.21	0.19	0.23	0.21
	Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01	-	-	0.0075	0.01	0.0045	0.0062	0.0091	0.0051	0.0057	0.0038	0.0046	0.0037	0.0056	0.0043
	Dissolved Organic Carbon	mg/L	0.5	2.72	-	-	-	-	-	-	4.51	4.37	4.23	4.18	4.24	3.45	3.23	3.4	3.47	3.41
	Total Organic Carbon	mg/L	0.5	3	-	-	-	-	-	-	4.61	4.24	4.48	4.22	4.2	3.58	3.61	3.61	3.55	3.59
Total Metals	Aluminum	ug/L	1	5.32	9.1	312 | 713	-	-	234 | 535	312 | 713	4.1	5.2	3.4	3.1	5.6	2.4	2.5	1.3	1.8	1.8
	Antimony	ug/L	0.02	0.02	0.51	-	6	-	4.5	6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Arsenic	ug/L	0.02	0.275	3.8	5	10	25	18.8	25	0.796	0.782	0.787	0.761	0.803	0.456	0.456	0.43	0.457	0.435
	Barium	ug/L	0.02	8.05	77	-	1000	-	750	1000	10.4	10.4	10.5	10.3	10.4	9.22	8.94	8.09	9.51	9.12
	Beryllium	ug/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
	Bismuth	ug/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
	Boron	ug/L	5	6.52	23	1500	5000	-	1120	1500	6.7	6.9	6.9	7	7	5.9	5.7	5.8	5.8	5.6
	Cadmium	ug/L	0.005	0.005	0.05	0.0391 | 0.0761	5	-	0.0293 | 0.0571	0.0391 | 0.0761	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0089	0.0102	0.0095	0.0093	0.0099	0.0106	0.0103	0.0087	0.0108	0.0101
	Chromium	ug/L	0.1	0.10	1.1	5	50	-	3.75	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cobalt	ug/L	0.005	0.016	-	0.78	-	-	0.585	0.78	0.0213	0.0254	0.0233	0.0204	0.0251	0.017	0.0169	0.0135	0.0173	0.0171
	Copper	ug/L	0.05	0.86	2	-	2000	-	1500	2000	0.881	0.781	0.8	0.788	0.795	0.705	0.706	0.626	0.711	0.692
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Iron	ug/L	1	15	42	300	-	1060	795	1060	12.6	17.7	17.1	11.7	16.8	14.9	13.2	8.7	13.5	13.7
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	0.02	0.02	0.022	0.017	0.02	0.017	0.016	0.013	0.017	0.017
	Lead	ug/L	0.01	0.0222	0.15	-	5	-	3.75	5	0.011	0.013	0.011	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01
	Lithium	ug/L	0.5	0.72	-	-	-	-	-	-	1	1.03	1.02	1.02	1.03	0.93	0.86	0.82	0.89	0.84
	Manganese	ug/L	0.05	3.06	5.5	-	120	-	90	120	4.42	4.34	4.94	4.05	4.44	3.57	3.44	2.73	3.62	3.49
	Mercury	ug/L	0.0005	0.0008	0.02	0.026	1	-	0.0195	0.026	0.00099	<5e-04	<5e-04	0.00062	<5e-04	0.00114	0.00055	0.00052	0.00065	<5e-04
	Molybdenum	ug/L	0.05	0.107	5.2	73	-	-	54.8	73	0.128	0.128	0.128	0.125	0.133	0.095	0.098	0.095	0.103	0.1
	Nickel	ug/L	0.05	0.441	2.7	25	-	-	18.8	25	0.699	0.696	0.749	0.692	0.715	0.469	0.476	0.442	0.48	0.474
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Rhenium	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.62	1.62	1.6	1.65	1.7	1.53	1.52	1.33	1.57	1.54
	Selenium	ug/L	0.04	0.049	0.16	1	50	-	0.75	1	<0.04	0.045	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
	Silicon	ug/L	50	-	-	-	-	-	-	-	177	181	178	176	175	150	146	144	146	137
	Silver	ug/L	0.005	0.005	0.1	0.25	-	-	0.188	0.25	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Strontium	ug/L	0.02	36.1	-	2500	7000	-	1880	2500	57.2	57.5	56.4	58	60.3	45.5	45.9	40.4	46.8	46.3
	Sulfur	ug/L	500	-	-	-	-	-	-	-	3720	3440	3420	3480	3620	2250	2260	2470	2310	2190
	Tantalum	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tellurium	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Thallium	ug/L	0.005	0.005	0.1	0.8	-	-	0.6	0.8	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Thorium	ug/L	0.005 | 0.025	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005
	Tin	ug/L	0.02	0.038	-	-	-	-	-	-	0.171	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Titanium	ug/L	0.05	0.170	-	-	-	-	-	-	0.068	0.325	0.106	<0.05	0.202	0.052	0.109	<0.05	<0.05	<0.05
	Tungsten	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Uranium	ug/L	0.001	0.0164	1.5	15	20	-	11.2	15	0.0238	0.023	0.0248	0.0234	0.0234	0.0192	0.0194	0.0171	0.0211	0.0188
	Vanadium	ug/L	0.05	0.05	-	120	-	-	90	120	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Yttrium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Zinc	ug/L	0.5	1.7	6.7	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	1.74	0.95	0.87	0.76	0.95	<0.5	<0.5	<0.5	<0.5	<0.5
	Zirconium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dissolved Metals	Aluminum	ug/L	1	-	-	-	-	-	-	-	<1	1.1	2	1.2	5.8	1.1	1.2	<1	1.2	2.7
	Antimony	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Arsenic	ug/L	0.02	-	-	-	-	-	-	-	0.802	0.805	0.801	0.786	0.817	0.439	0.436	0.437	0.443	0.439
	Barium	ug/L	0.02	-	-	-	-	-	-	-	10.6	10.6	10.9	10.8	10.9	9.26	9.49	9.97	9.35	9.3
	Beryllium	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Bismuth	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Boron	ug/L	5	-	-	-	-	-	-	-	7	7.2	7.2	7	7	5.8	5.8	5.8	5.8	5.7
	Cadmium	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Cesium	ug/L	0.005	-	-	-	-	-	-	-	0.0098	0.0103	0.0102	0.0099	0.0102	0.0102	0.0102	0.0105	0.01	0.0105
	Chromium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Cobalt	ug/L	0.005	-	-	-	-	-	-	-	0.013	0.0137	0.0131	0.0139	0.016	0.0093	0.0094	0.0089	0.0098	0.0093
	Copper	ug/L	0.05	0.861	-	1.32 | 4.58	-	-	0.987 | 3.44	1.32 | 4.58	0.922	0.785	0.828	0.803	0.796	0.781	0.773	0.785	0.748	0.748
	Gallium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Iron	ug/L	1	-	-	-	-	-	-	-	3.8	4.3	4.8	4.4	7	4.5	4.8	3.9	5.2	5.2
	Lanthanum	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01
	Lead	ug/L	0.01	0.013	-	5.13 | 7.57	-	-	3.85 | 5.68	5.13 | 7.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Lithium	ug/L	0.5	-	-	-	-	-	-	-	1.04	1.06	1.07	1.03	1.02	0.94	0.85	0.86	0.87	0.85
	Manganese	ug/L	0.05	1.2	-	210 | 330	-	-	158 | 248	210 | 330	0.372	0.37	0.353	0.407	0.57	0.388	0.421	0.365	0.426	0.461
	Mercury	ug/L	5e-04 | 0.005	-	-	-	-	-	-	-	<5e-04	0.00079	0.00055	0.00055	<5e-04	0.00082	<5e-04	<5e-04	<5e-04	<5e-04
	Molybdenum	ug/L	0.05	-	-	-	-	-	-	-	0.119	0.118	0.115	0.12	0.123	0.092	0.099	0.097	0.094	0.096
	Nickel	ug/L	0.05	-	-	-	-	-	-	-	0.664	0.646	0.649	0.652	0.668	0.465	0.458	0.448	0.442	0.444
	Niobium	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phosphorus	ug/L	50	-	-	-	-	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Rhenium	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Rubidium	ug/L	0.005	-	-	-	-	-	-	-	1.66	1.65	1.67	1.65	1.67	1.52	1.52	1.49	1.46	1.5
	Selenium	ug/L	0.04	-	-	-	-	-	-	-	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
	Silicon	ug/L	50	-	-	-	-	-	-	-	173	174	174	174	165	145	139	146	139	140
	Silver	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Strontium	ug/L	0.02	-	-	2500	-	-	1880	2500	57.5	56.7	57.3	56.2	59.7	44.3	46.7	45.4	43.2	45.3
	Sulfur	ug/L	500	-	-	-	-	-	-	-	3490	3520	3470	3420	3430	2180	2150	2240	2220	2210
	Tantalum	ug/L	0.1	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Tellurium	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Thallium	ug/L	0.005	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Thorium	ug/L	0.005 | 0.025	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Tin	ug/L	0.02	-	-	-	-	-	-	-	<0.02	<0.02	<0.02	<0.02	0.023	<0.02	0.038	<0.02	<0.02	0.025
	Titanium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Tungsten	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Uranium	ug/L	0.001	-	-	-	-	-	-	-	0.0254	0.0234	0.0245	0.0239	0.0243	0.0197	0.017	0.019	0.0182	0.0186
	Vanadium	ug/L	0.05	-	-	-	-	-	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Yttrium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Zinc	ug/L	0.5	1.9	-	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	<0.5	1.56	<0.5	1.07	1.97	<0.5	0.62	<0.5	<0.5	0.7
	Zirconium	ug/L	0.01	-	-	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cyanides	Cyanide (free)	mg/L	0.001	-	0.00035	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Cyanide (Total)	mg/L	0.001	0.001	0.009	0.005	0.2	-	0.00375	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	Cyanide (WAD)	mg/L	0.001	-	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Notes

DL = current detection limits

Red values were flagged as unreliable and excluded from analysis.

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The freshwater aquatic life guidelines (FWAL) for cadmium , copper , lead , manganese , and zinc are variable depending on modifying factors such as pH, hardness, and DOC.
Values shown represent the range of FWAL guidelines calculated for MEL-01 open-water samples.

[c] Health Canada drinking water guidelines (maximum acceptable concentrations)

[d] Site-specific water quality objectives for fluoride, arsenic, and iron.

[e] The AEMP Action Level is 75% of the AEMP Benchmark.

[f] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines.

Table C1-13.
Atulik Lake and Peter Lake Surface water chemistry results, 2025.

	Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	FWAL[b] (min | max)	HH DW[c]	SSWQO[d]	AEMP Action Level[e] (min | max)	AEMP Benchmark[f] (min | max)	August					
											Atulik Lake			Peter Lake		
											AL-01	AL-02	AL-03	PL-01	PL-02	PL-03
											08/20	08/20	08/20	08/15	08/15	08/15
Field Measurements	Temperature	C	-	-	-	-	-	-	-	-	12.75	12.84	12.78	12.64	12.77	12.8
	Sp. Conductivity (field)	µS/cm	-	-	-	-	-	-	-	-	120.8	120.3	120.1	75.2	76.1	75.2
	pH (field)	pH units	-	7.1 | 7.95	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.71	7.7	7.56	7.01	7.13	7.17
	DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	10.15	10.16	10.14	10.52	10.43	10.47
	DO (%)	%	-	-	-	-	-	-	-	-	98.5	98.8	98.5	101.7	101.4	101.7
Conventional Parameters	Conductivity (lab)	µS/cm	1	77.5	-	-	-	-	-	-	110	109	110	69.6	70.3	69.3
	Hardness	mg/L	0.5	23.37	-	-	-	-	-	-	31.8	31.6	30.8	20.7	20.9	18.5
	pH (lab)	pH units	0.1	-	-	6.5 | 9	-	-	6.5 | 9.0	6.5 | 9.0	7.42	7.47	7.44	7.17	7.18	7.15
	Total Dissolved Solids	mg/L	10	54	68	500	-	1000	375	500	53.4	49.4	46.1	34.1	32.4	32.8
	Total Dissolved Solids (Calculated	mg/L	1	39.61	68	500	-	1000	375	500	71.5	70.8	71.5	45.2	45.7	45
	Total Suspended Solids	mg/L	1	1	3.1	-	-	-	-	-	1.2	*<1*	1.1	*<1*	*<1*	*<1*
	Turbidity (lab)	NTU	0.1	-	-	-	-	-	-	-	0.59	0.38	0.45	0.22	0.17	0.18
Major Ions	Acidity, Total	mg/L	2	-	-	-	-	-	-	-	*<2*	*<2*	*<2*	*<2*	*<2*	*<2*
	Alkalinity, Bicarbonate	mg/L	1	25	-	-	-	-	-	-	21	20.6	20.8	11.9	11.9	11.7
	Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Phenolphthalein	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
	Alkalinity, Total	mg/L	1	20.5	-	-	-	-	-	-	21	20.6	20.8	11.9	11.9	11.7
	Bromide	mg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	10	10.1	9.72	6.11	6.14	5.43
	Calcium (T)	mg/L	0.01	7.334	-	-	-	-	-	-	9.34	9.35	9.23	5.21	5.28	5.56
	Chloride	mg/L	0.1	9.564	14	120	-	-	90	120	14.3	14.2	14.2	8.2	8.32	8.26
	Fluoride	mg/L	0.02	0.028	0.0084	0.12	1.5	2.8	2.1	2.8	0.04	0.036	0.037	0.059	0.059	0.057
	Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	1.66	1.56	1.59	1.33	1.35	1.21
	Magnesium (T)	mg/L	0.004	1.18	-	-	-	-	-	-	1.76	1.78	1.75	1.19	1.22	1.2
	Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.33	1.33	1.3	1.01	0.974	0.896
	Potassium (T)	mg/L	0.02	0.954	-	-	-	-	-	-	1.22	1.2	1.19	0.92	0.90	0.91
	Reactive Silica (SiO2)	mg/L	0.01	0.2684	-	-	-	-	-	-	0.82	0.80	0.78	0.28	0.25	0.25
	Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	6.86	6.83	6.41	4.81	4.77	4.42
	Sodium (T)	mg/L	0.02	4.85	5.3	-	-	-	-	-	7.16	6.9	6.96	4.42	4.44	4.41
	Sulphate	mg/L	0.3	3.87	38	128 | 218	-	-	96 | 164	128 | 218	7.56	7.65	7.64	5.87	5.9	5.92
Nutrients and Organic Carbon	Ammonia (as N)	mg/L	0.005	0.0174	0.54	0.588 | 5.74	-	-	0.441 | 4.31	0.588 | 5.74	0.0160	0.0261	0.0804	0.0265	0.0281	0.0116
	Nitrate (as N)	mg/L	0.005	0.0180	0.25	2.9	10	-	2.17	2.9	0.0176	0.0176	0.0186	*<0.005*	*<0.005*	*<0.005*
	Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	0.0176	0.0176	0.0186	*<0.0051*	*<0.0051*	*<0.0051*
	Nitrite (as N)	mg/L	0.001	0.001	0.051	0.06	1	-	0.045	0.06	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.515	0.258	0.283	0.209	0.24	0.208
	Orthophosphate (PO4-P)	mg/L	0.001	0.001	-	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Total Diss Phosphorus	mg/L	0.001	0.00314	-	-	-	-	-	-	0.0026	0.0023	0.0026	0.0022	0.0019	0.0054
	Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.42	0.33	0.29	0.20	0.43	0.21
	Total Kjeldahl Nitrogen	mg/L	0.05	0.25	-	-	-	-	-	-	0.497	0.24	0.264	0.209	0.24	0.208
	Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.40	0.31	0.27	0.20	0.43	0.21
	Total Phosphorus	mg/L	0.001	0.006	0.0049	0.01	-	-	0.0075	0.01	0.0064	0.0039	0.0053	0.0036	0.0105	0.0034
	Dissolved Organic Carbon	mg/L	0.5	2.72	-	-	-	-	-	-	4.09	3.59	3.72	3.12	3.13	3.06
	Total Organic Carbon	mg/L	0.5	3	-	-	-	-	-	-	4.24	3.59	3.41	3.35	3.55	3.44
Total Metals	Aluminum	µg/L	1	5.32	9.1	312 | 713	-	-	234 | 535	312 | 713	6.6	2	1.5	2.6	2.5	1.5
	Antimony	µg/L	0.02	0.02	0.51	-	6	-	4.5	6	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Arsenic	µg/L	0.02	0.275	3.8	5	10	25	18.8	25	0.534	0.413	0.386	0.161	0.154	0.145
	Barium	µg/L	0.02	8.05	77	-	1000	-	750	1000	11.6	11.3	11.4	11.9	12	12.1
	Beryllium	µg/L	0.005	0.005	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Bismuth	µg/L	0.005	0.005	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Boron	µg/L	5	6.52	23	1500	5000	-	1120	1500	6.7	6.5	6.5	*<5*	*<5*	*<5*
	Cadmium	µg/L	0.005	0.005	0.05	0.0391 | 0.0761	5	-	0.0293 | 0.0571	0.0391 | 0.0761	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Cesium	µg/L	0.005	-	-	-	-	-	-	-	0.006	0.0055	0.0057	0.0127	0.0128	0.012
	Chromium	µg/L	0.1	0.10	1.1	5	50	-	3.75	5	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Cobalt	µg/L	0.005	0.016	-	0.78	-	-	0.585	0.78	0.0237	0.0154	0.0154	0.0165	0.016	0.0069
	Copper	µg/L	0.05	0.86	2	-	2000	-	1500	2000	1.09	0.837	0.814	0.751	0.683	0.779
	Gallium	µg/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Iron	µg/L	1	15	42	300	-	1060	795	1060	24.8	11	9.9	9.9	10	3.1
	Lanthanum	µg/L	0.01	-	-	-	-	-	-	-	0.027	0.021	0.019	0.041	0.038	0.022
	Lead	µg/L	0.01	0.0222	0.15	-	5	-	3.75	5	0.042	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Lithium	µg/L	0.5	0.72	-	-	-	-	-	-	0.7	0.69	0.68	0.6	0.58	0.56
	Manganese	µg/L	0.05	3.06	5.5	-	120	-	90	120	4.14	2.53	2.48	2.3	2.34	0.373
	Mercury	µg/L	0.0005	0.0008	0.02	0.026	1	-	0.0195	0.026	0.001	*<5e-04*	0.00052	*<5e-04*	0.00059	*<5e-04*
	Molybdenum	µg/L	0.05	0.107	5.2	73	-	-	54.8	73	0.104	0.094	0.095	*<0.05*	*<0.05*	0.053
	Nickel	µg/L	0.05	0.441	2.7	25	-	-	18.8	25	0.592	0.508	0.497	0.517	0.521	0.514
	Niobium	µg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Phosphorus	µg/L	50	-	-	-	-	-	-	-	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*
	Rhenium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Rubidium	µg/L	0.005	-	-	-	-	-	-	-	1.43	1.43	1.45	1.61	1.63	1.65
	Selenium	µg/L	0.04	0.049	0.16	1	50	-	0.75	1	*<0.04*	*<0.04*	*<0.04*	*<0.04*	0.049	*<0.04*
	Silicon	µg/L	50	-	-	-	-	-	-	-	425	418	392	123	131	114
	Silver	µg/L	0.005	0.005	0.1	0.25	-	-	0.188	0.25	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Strontium	µg/L	0.02	36.1	-	2500	7000	-	1880	2500	46	45.5	45.6	27.4	27.7	28.8
	Sulfur	µg/L	500	-	-	-	-	-	-	-	2670	2720	2510	2050	2080	2010
	Tantalum	µg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Tellurium	µg/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Thallium	µg/L	0.005	0.005	0.1	0.8	-	-	0.6	0.8	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Thorium	µg/L	0.005 | 0.025	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Tin	µg/L	0.02	0.038	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Titanium	µg/L	0.05	0.170	-	-	-	-	-	-	0.208	0.058	0.07	*<0.05*	0.054	*<0.05*
	Tungsten	µg/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Uranium	µg/L	0.001	0.0164	1.5	15	20	-	11.2	15	0.0213	0.0216	0.0217	0.0225	0.0225	0.0218
	Vanadium	µg/L	0.05	0.05	-	120	-	-	90	120	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Yttrium	µg/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Zinc	µg/L	0.5	1.7	6.7	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	4.62	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
	Zirconium	µg/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
Dissolved Metals	Aluminum	µg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	2.4	1.6	2.4
	Antimony	µg/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Arsenic	µg/L	0.02	-	-	-	-	-	-	-	0.426	0.385	0.376	0.169	0.15	0.151
	Barium	µg/L	0.02	-	-	-	-	-	-	-	11.7	11.9	11.7	11.9	11.6	11.8
	Beryllium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Bismuth	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Boron	µg/L	5	-	-	-	-	-	-	-	6.1	6.4	6.3	*<5*	*<5*	*<5*
	Cadmium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Cesium	µg/L	0.005	-	-	-	-	-	-	-	0.0057	0.0057	0.0059	0.0138	0.0129	0.012
	Chromium	µg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Cobalt	µg/L	0.005	-	-	-	-	-	-	-	0.0122	0.011	0.0109	0.0093	0.0086	0.0166
	Copper	µg/L	0.05	0.861	-	1.32 | 4.58	-	-	0.987 | 3.44	1.32 | 4.58	0.981	1.1	0.971	0.836	0.824	0.717
	Gallium	µg/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Iron	µg/L	1	-	-	-	-	-	-	-	5.9	4.1	4.2	3.6	3.1	9.7
	Lanthanum	µg/L	0.01	-	-	-	-	-	-	-	0.011	0.01	0.01	0.023	0.019	0.038
	Lead	µg/L	0.01	0.013	-	5.13 | 7.57	-	-	3.85 | 5.68	5.13 | 7.57	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Lithium	µg/L	0.5	-	-	-	-	-	-	-	0.69	0.68	0.68	0.59	0.58	0.57
	Manganese	µg/L	0.05	1.2	-	210 | 330	-	-	158 | 248	210 | 330	0.968	0.481	0.458	0.415	0.467	2.3
	Mercury	µg/L	5e-04 | 0.005	-	-	-	-	-	-	-	*<5e-04*	*<5e-04*	*<5e-04*	*<5e-04*	*<5e-04*	*<5e-04*
	Molybdenum	µg/L	0.05	-	-	-	-	-	-	-	0.114	0.111	0.108	0.059	0.054	*<0.05*
	Nickel	µg/L	0.05	-	-	-	-	-	-	-	0.574	0.562	0.554	0.576	0.581	0.51
	Niobium	µg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Phosphorus	µg/L	50	-	-	-	-	-	-	-	*<50*	*<50*	*<50*	*<50*	*<50*	*<50*
	Rhenium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Rubidium	µg/L	0.005	-	-	-	-	-	-	-	1.68	1.69	1.66	1.84	1.8	1.61
	Selenium	µg/L	0.04	-	-	-	-	-	-	-	*<0.04*	0.045	*<0.04*	0.049	*<0.04*	*<0.04*
	Silicon	µg/L	50	-	-	-	-	-	-	-	375	361	351	105	108	126
	Silver	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Strontium	µg/L	0.02	-	-	2500	-	-	1880	2500	55.4	57.1	53.6	32.4	32	28.3
	Sulfur	µg/L	500	-	-	-	-	-	-	-	2490	2470	2520	2080	1980	2100
	Tantalum	µg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
	Tellurium	µg/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
	Thallium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Thorium	µg/L	0.005 | 0.025	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
	Tin	µg/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	0.024	0.032	*<0.02*	*<0.02*
	Titanium	µg/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	0.057	*<0.05*	*<0.05*
	Tungsten	µg/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Uranium	µg/L	0.001	-	-	-	-	-	-	-	0.019	0.0198	0.0206	0.0232	0.0198	0.0213
	Vanadium	µg/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*	*<0.05*
	Yttrium	µg/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
	Zinc	µg/L	0.5	1.9	-	7.43 | 15.1	-	-	5.58 | 11.4	7.43 | 15.1	1.55	0.74	*<0.5*	2.29	*<0.5*	*<0.5*
	Zirconium	µg/L	0.01	-	-	-	-	-	-	-	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
Cyanides	Cyanide (free)	mg/L	0.001	-	0.00035	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Cyanide (Total)	mg/L	0.001	0.001	0.009	0.005	0.2	-	0.00375	0.005	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
	Cyanide (WAD)	mg/L	0.001	-	-	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*

Notes

DL = current detection limits

Red values were flagged as unreliable when compared to other samples collected from the same sampling event.

[a] FEIS predictions for the edge of the mixing zone as presented in Agnico Eagle (2014).

[b] The freshwater aquatic life guidelines (FWAL) for cadmium , copper , lead , manganese , and zinc are variable depending on modifying factors such as pH, hardness, and DOC. Values shown represent the range of FWAL guidelines calculated for MEL-01 open-water samples.

[c] Health Canada drinking water guidelines (maximum acceptable concentrations)

[d] Site-specific water quality objectives for fluoride, arsenic, and iron.

[e] The AEMP Action Level is 75% of the AEMP Benchmark.

[f] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines.

Appendix C2
Meliadine Lake Water Quality – Temporal Plots

APPENDIX C2 – FIGURES

Figure C2-1. Field-measured specific conductivity (µS/cm) 1
Figure C2-2. Lab-measured conductivity (µS/cm) 2
Figure C2-3. Field pH 3
Figure C2-4. Lab measured pH 4
Figure C2-5. Hardness (mg/L) 5
Figure C2-6. Total dissolved solids (measured; mg/L) 6
Figure C2-7. Total dissolved solids (calculated; mg/L) 7
Figure C2-8. Total suspended solids (mg/L) 8
Figure C2-9. Lab measured turbidity (NTU) 9
Figure C2-10. Bicarbonate alkalinity (mg/L) 10
Figure C2-11. Total alkalinity (mg/L) 11
Figure C2-12. Total calcium (mg/L) 12
Figure C2-13. Total magnesium (mg/L) 13
Figure C2-14. Total potassium (mg/L) 14
Figure C2-15. Total sodium (mg/L) 15
Figure C2-16. Chloride (mg/L) 16
Figure C2-17. Fluoride (mg/L) 17
Figure C2-18. Ammonia (as nitrogen) (mg/L) 18
Figure C2-19. Nitrate (as N) (mg/L) 19
Figure C2-20. Nitrate and nitrite (as N) (mg/L) 20
Figure C2-21. Total Kjeldahl nitrogen (TKN; mg/L) 21
Figure C2-22. Sulphate (mg/L) 22
Figure C2-23. Total phosphorus (mg/L) 23
Figure C2-24. Dissolved organic carbon (mg/L) 24
Figure C2-25. Total organic carbon (mg/L) 25
Figure C2-26. Total aluminum (µg/L) 26
Figure C2-27. Total antimony (µg/L) 27
Figure C2-28. Total arsenic (µg/L) 28
Figure C2-29. Total barium (µg/L) 29

Figure C2-30. Total beryllium (µg/L) 30
Figure C2-31. Total bismuth (µg/L) 31
Figure C2-32. Total boron (µg/L) 32
Figure C2-33. Total cadmium (µg/L) 33
Figure C2-34. Total chromium (µg/L) 34
Figure C2-35. Total cobalt (µg/L) 35
Figure C2-36. Total copper (µg/L) 36
Figure C2-37. Dissolved copper (µg/L) 37
Figure C2-38. Total iron (µg/L) 38
Figure C2-39. Total lead (µg/L) 39
Figure C2-40. Dissolved lead (µg/L) 40
Figure C2-41. Total lithium (µg/L) 41
Figure C2-42. Total manganese (µg/L) 42
Figure C2-43. Dissolved manganese (µg/L) 43
Figure C2-44. Total mercury (µg/L) 44
Figure C2-45. Total molybdenum (µg/L) 45
Figure C2-46. Total nickel (µg/L) 46
Figure C2-47. Total selenium (µg/L) 47
Figure C2-48. Total silver (µg/L) 48
Figure C2-49. Total strontium (µg/L) 49
Figure C2-50. Total thallium (µg/L) 50
Figure C2-51. Total tin (µg/L) 51
Figure C2-52. Total titanium (µg/L) 52
Figure C2-53. Total uranium (µg/L) 53
Figure C2-54. Total vanadium (µg/L) 54
Figure C2-55. Total zinc (µg/L) 55
Figure C2-56. Dissolved zinc (µg/L) 56

Figure C2-1. Field-measured specific conductivity (µS/cm)

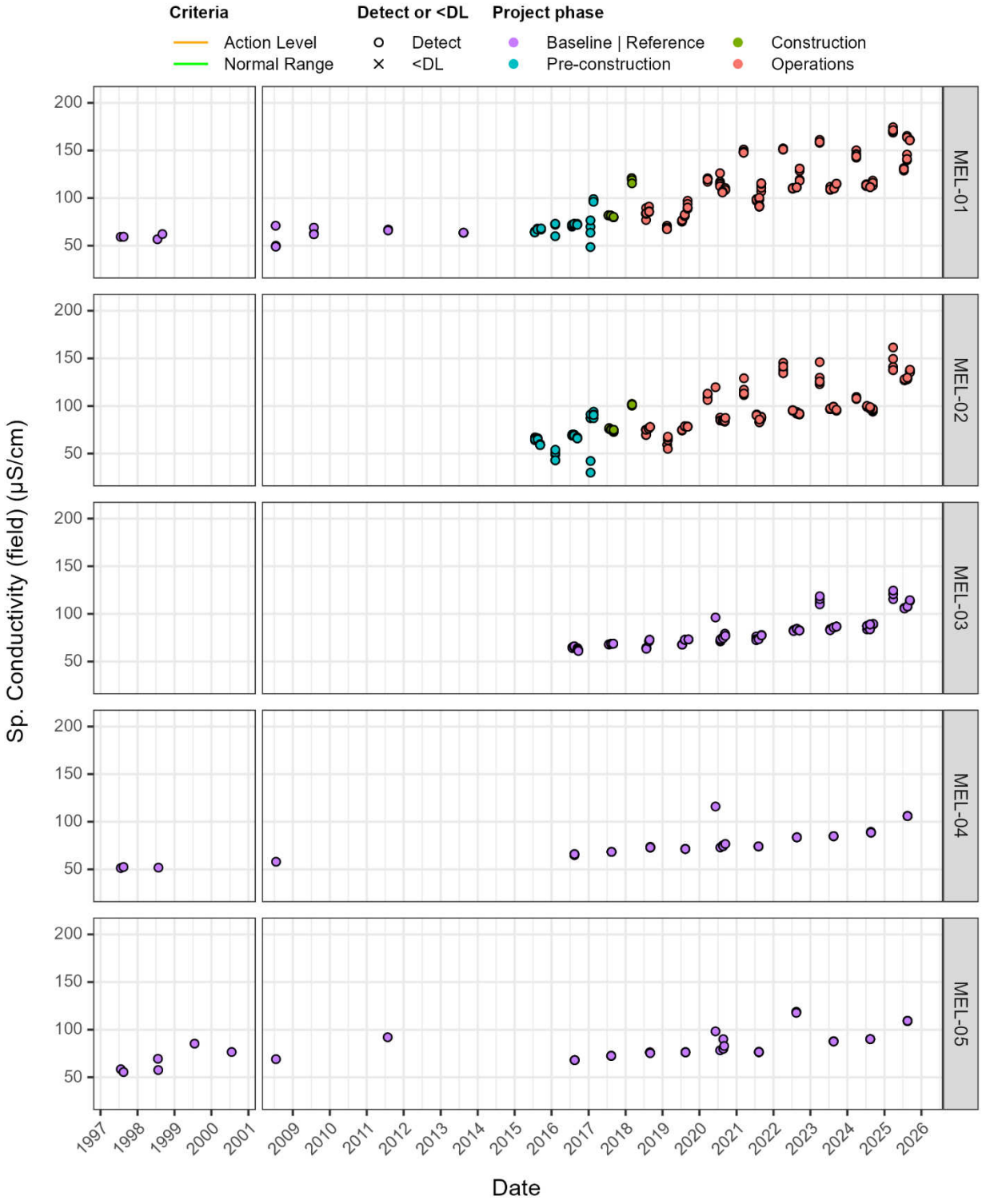


Figure C2-2. Lab-measured conductivity (µS/cm)

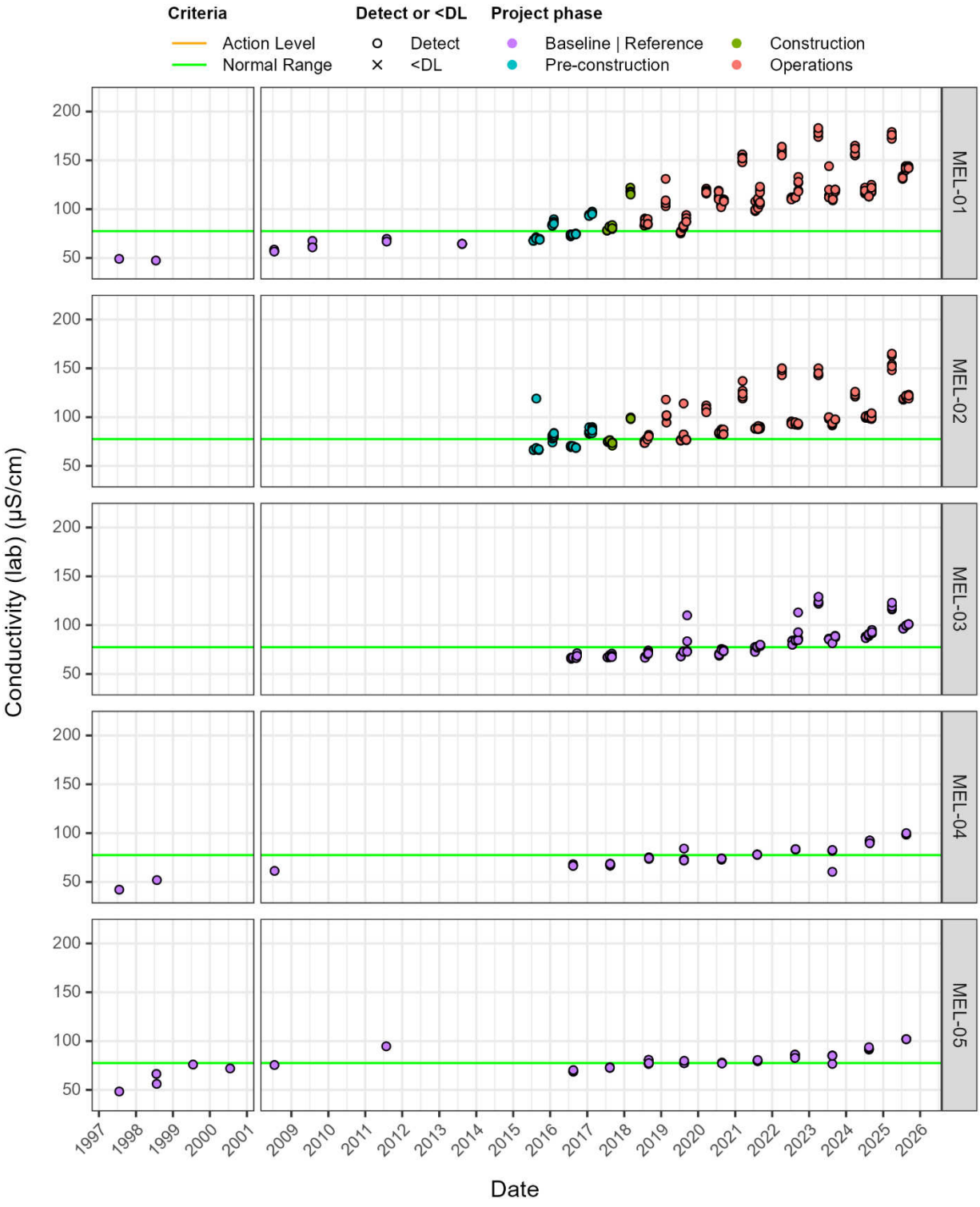


Figure C2-3. Field pH

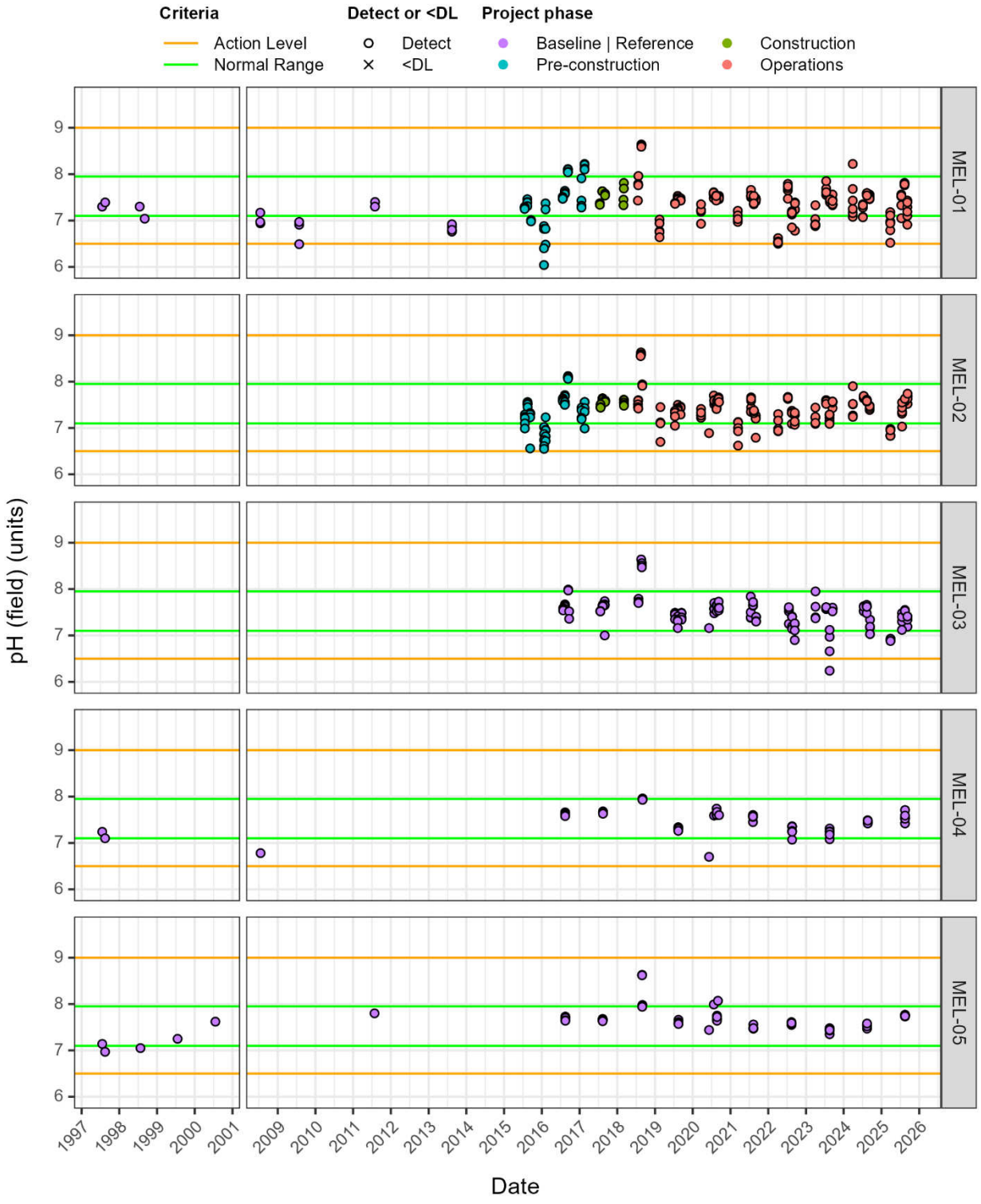


Figure C2-4. Lab measured pH

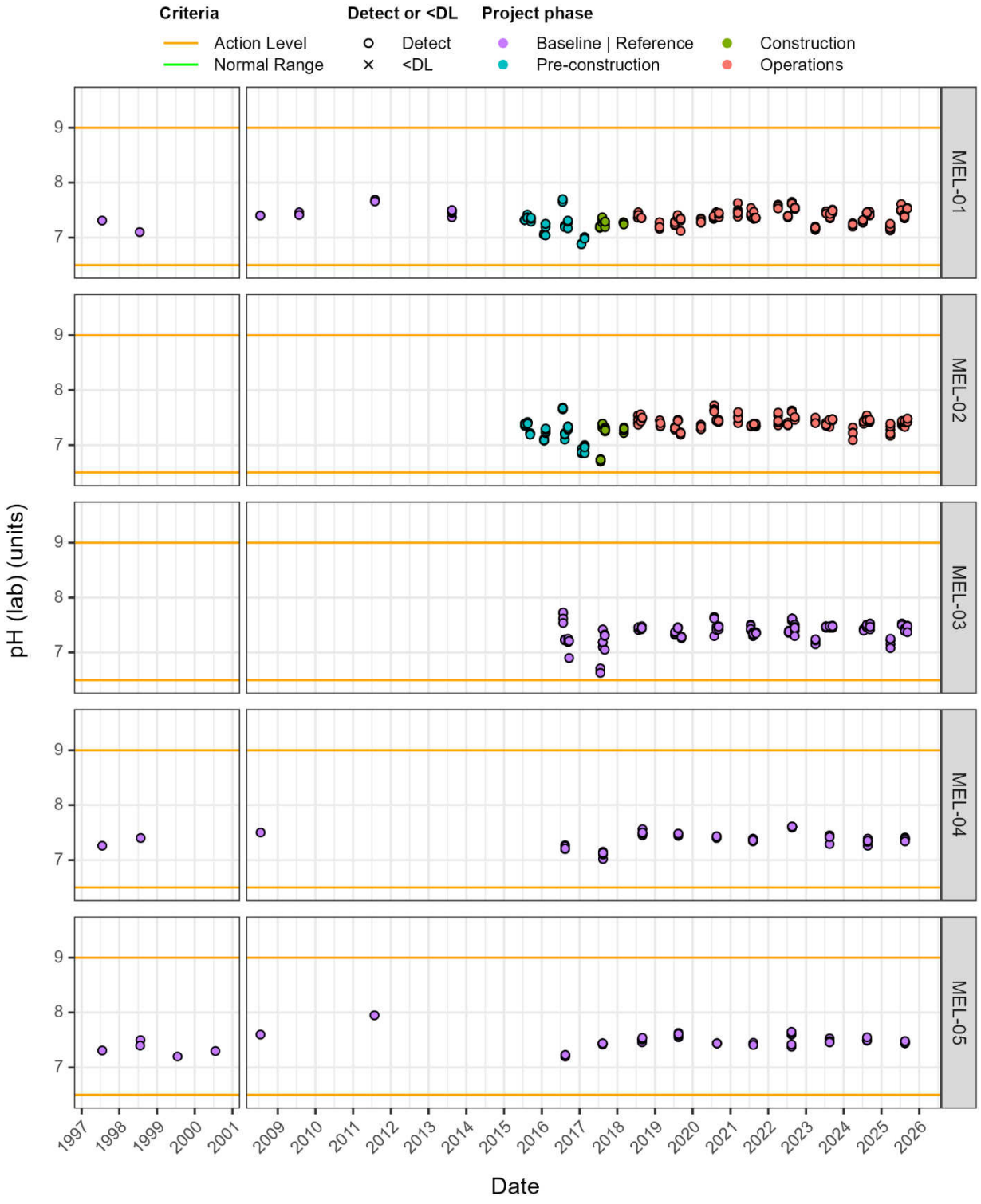


Figure C2-5. Hardness (mg/L)

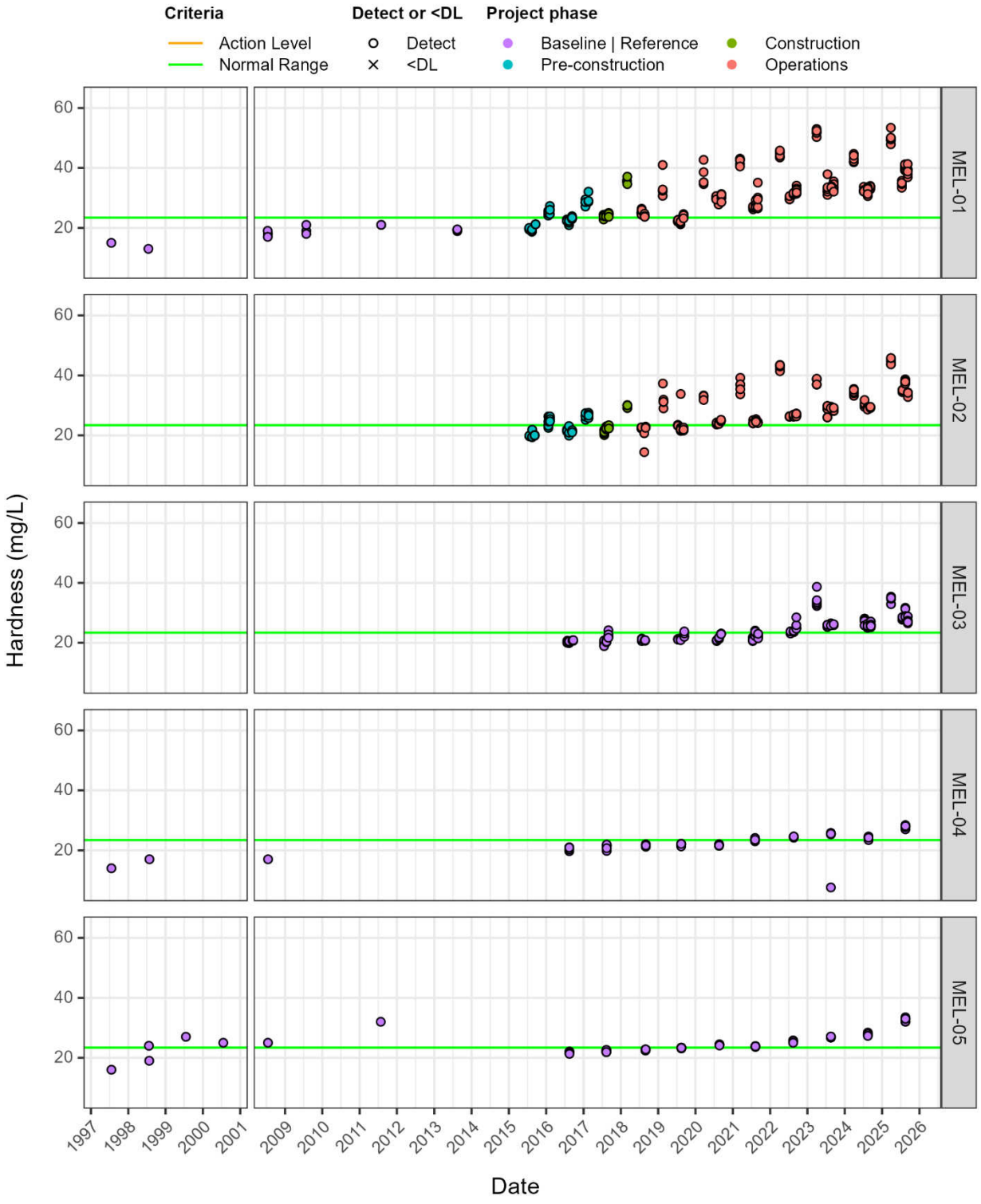


Figure C2-6. Total dissolved solids (measured; mg/L)

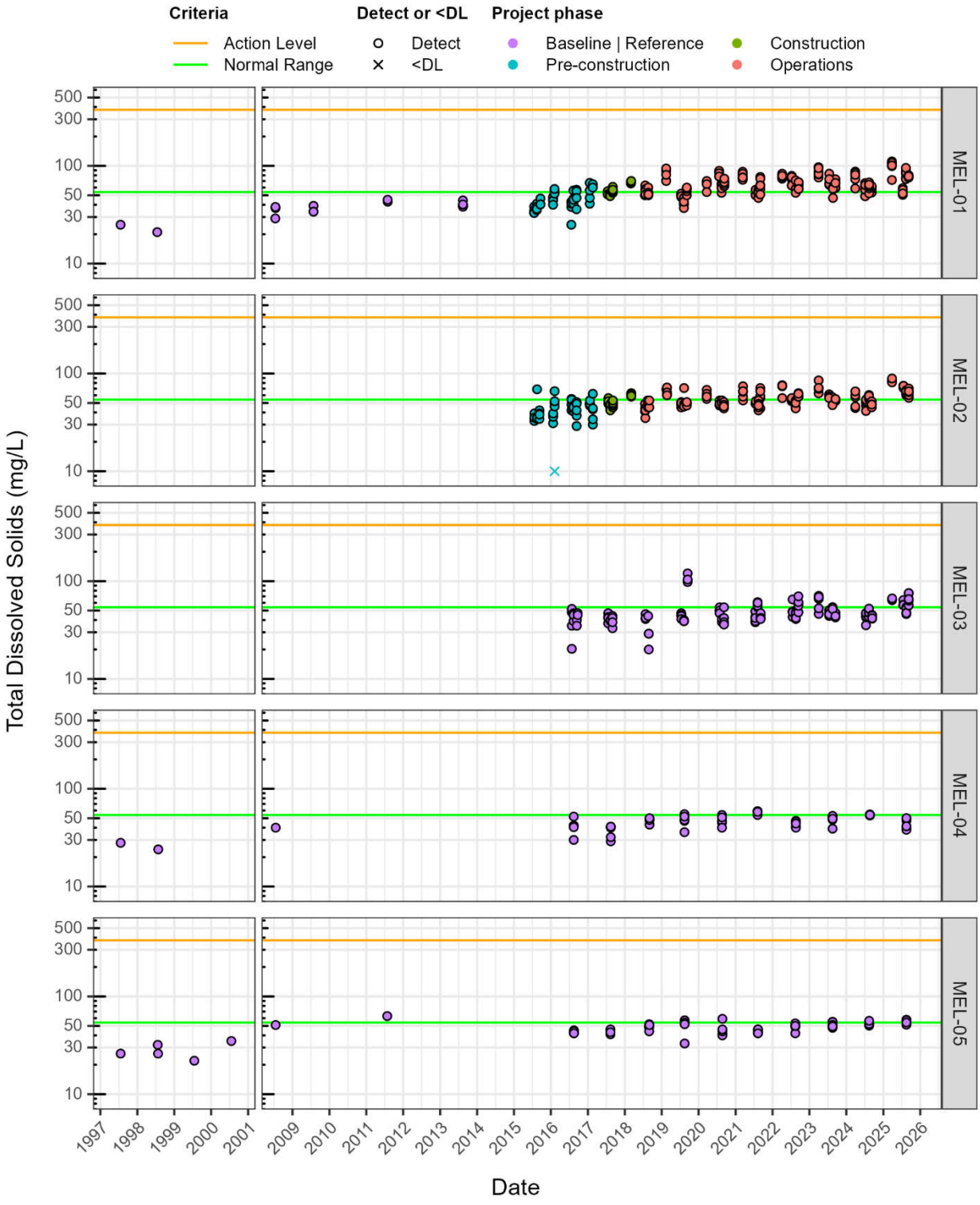


Figure C2-7. Total dissolved solids (calculated; mg/L)

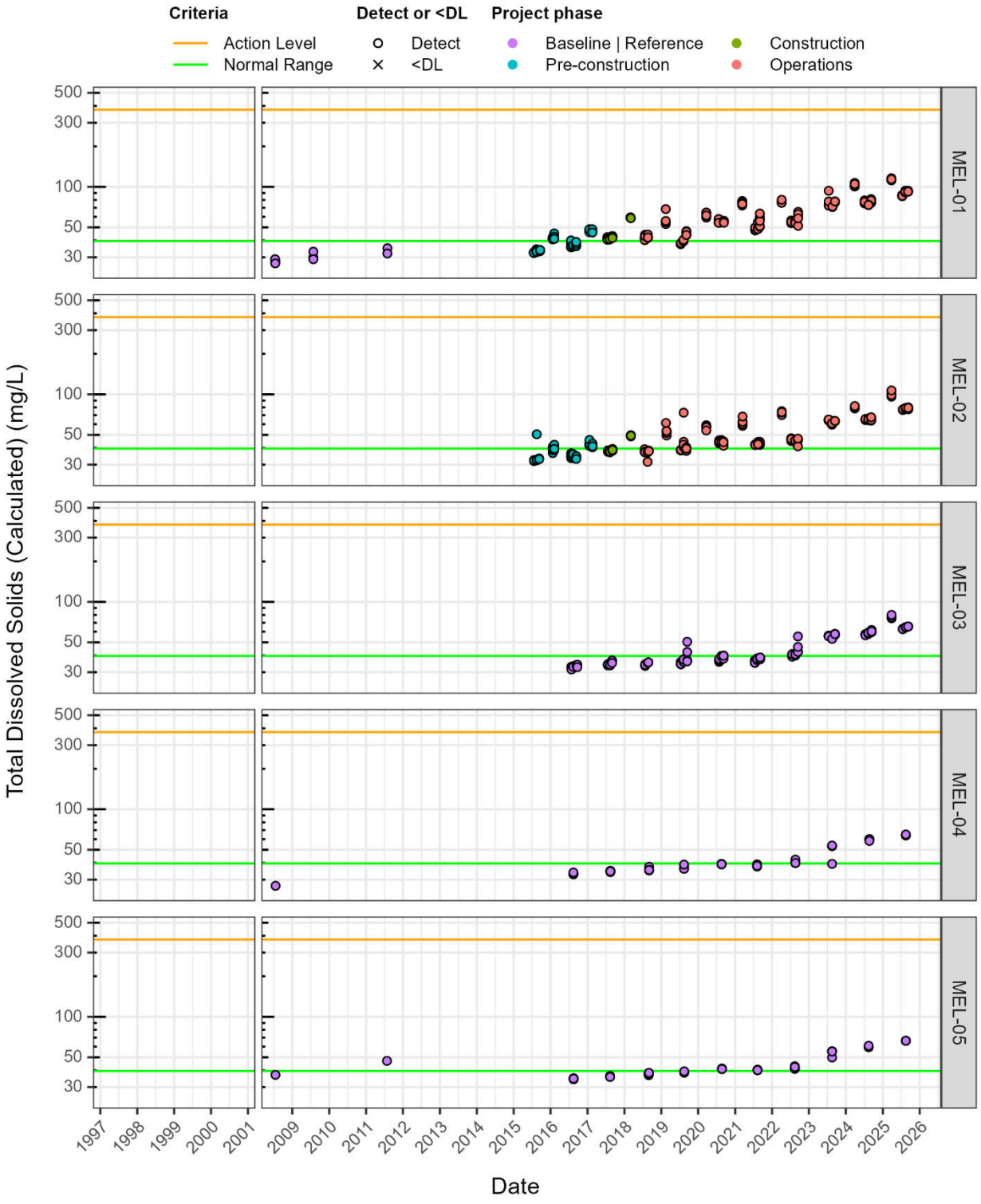


Figure C2-8. Total suspended solids (mg/L)

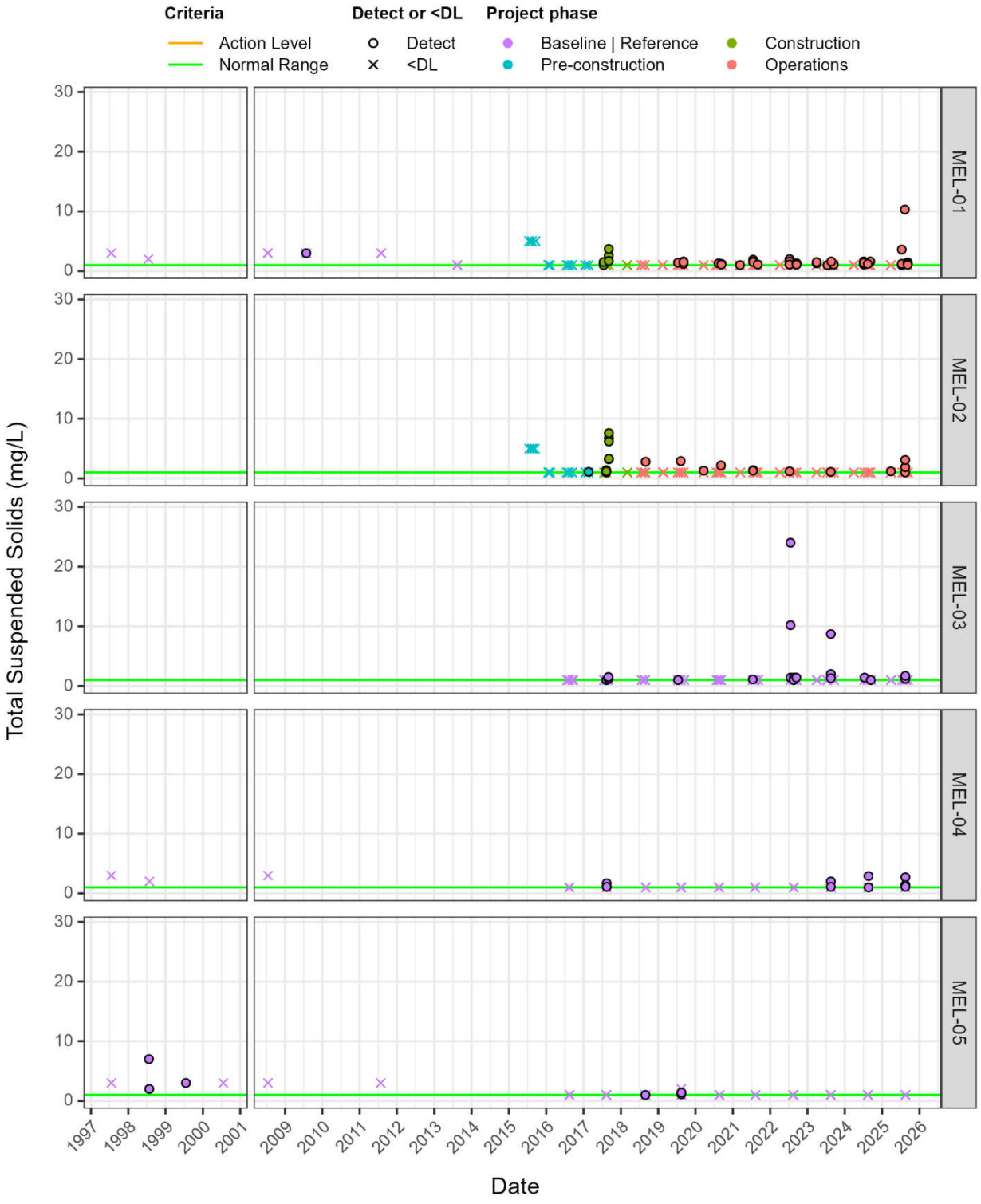


Figure C2-9. Lab measured turbidity (NTU)

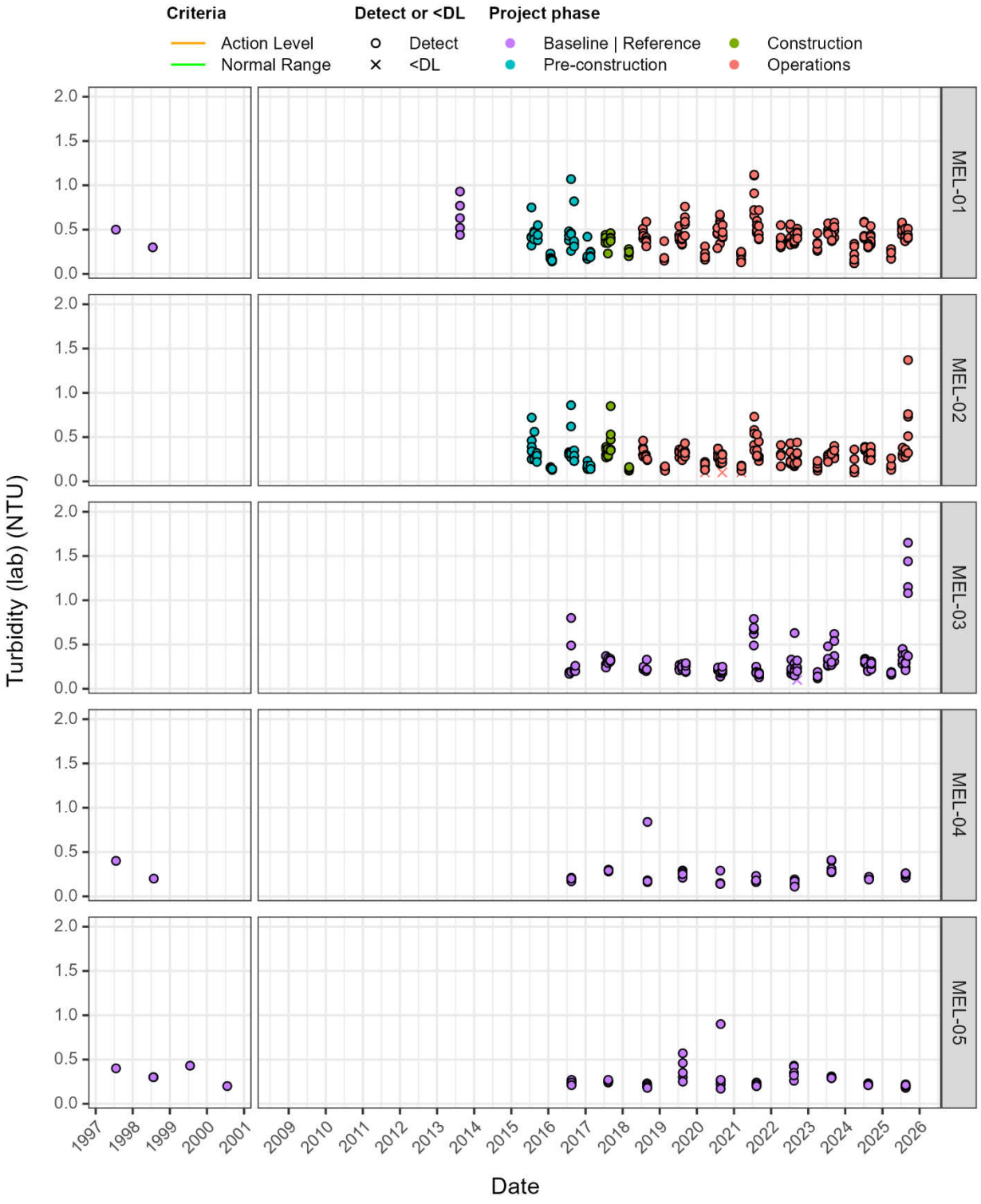


Figure C2-10. Bicarbonate alkalinity (mg/L)

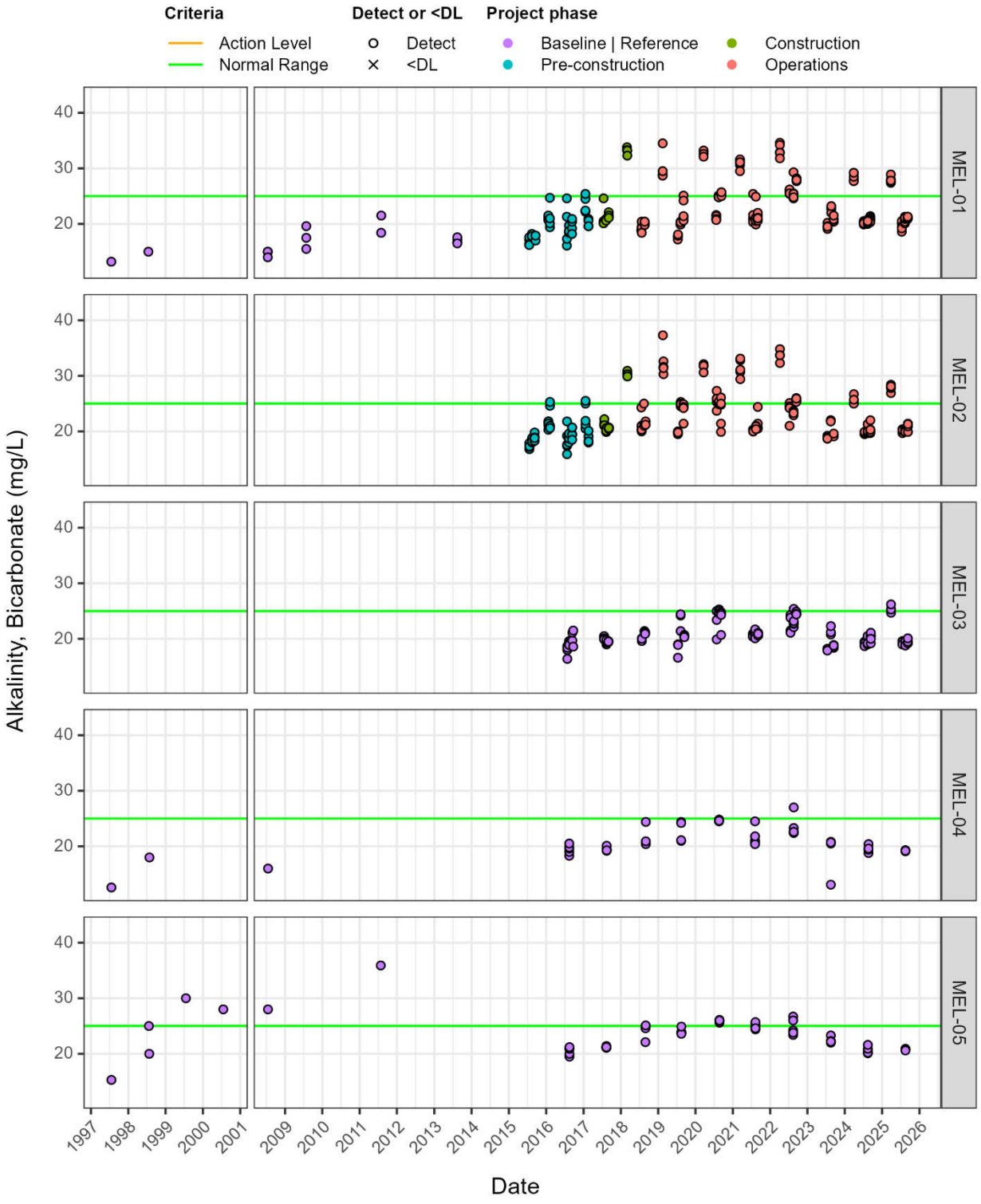


Figure C2-11. Total alkalinity (mg/L)

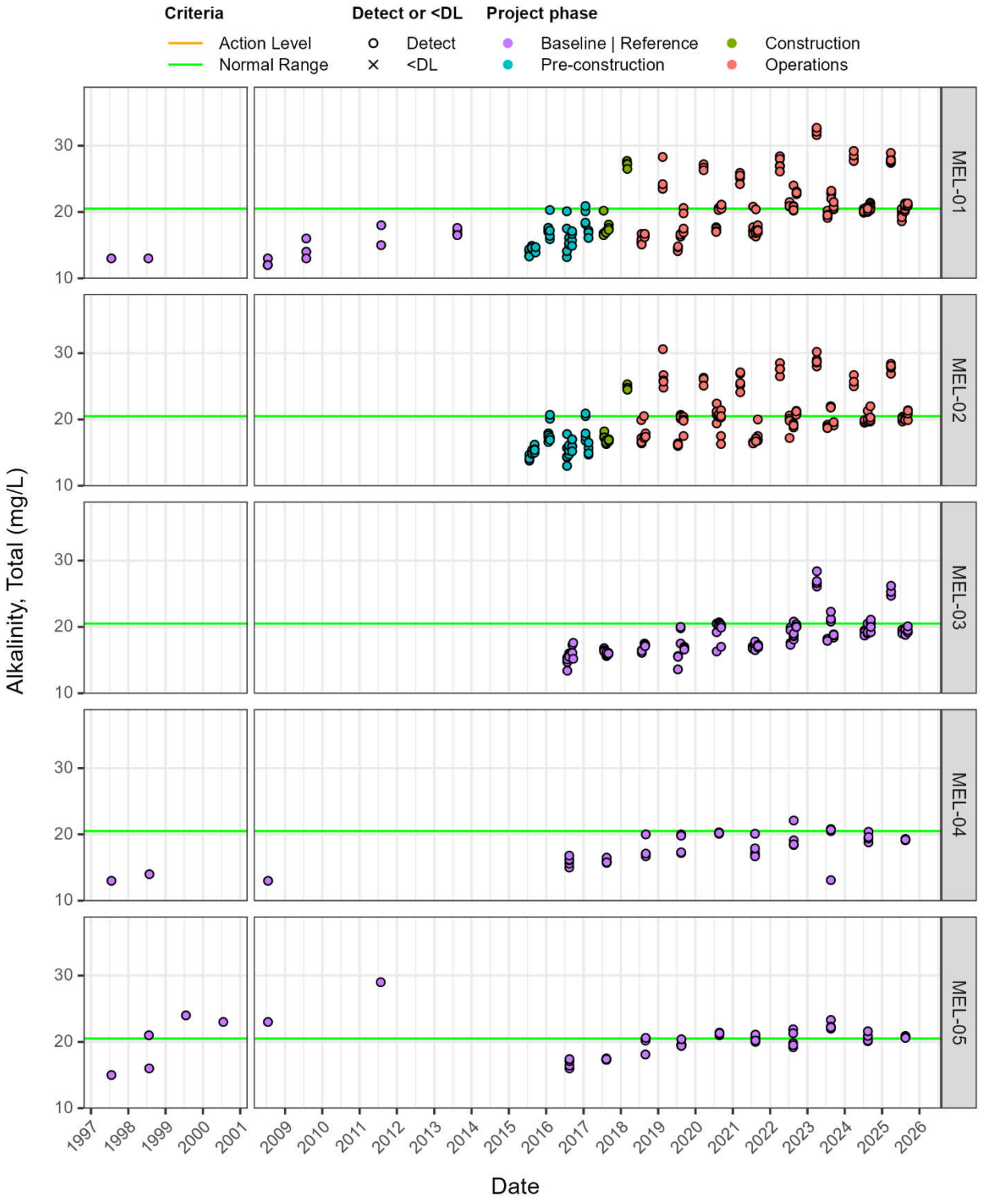


Figure C2-12. Total calcium (mg/L)

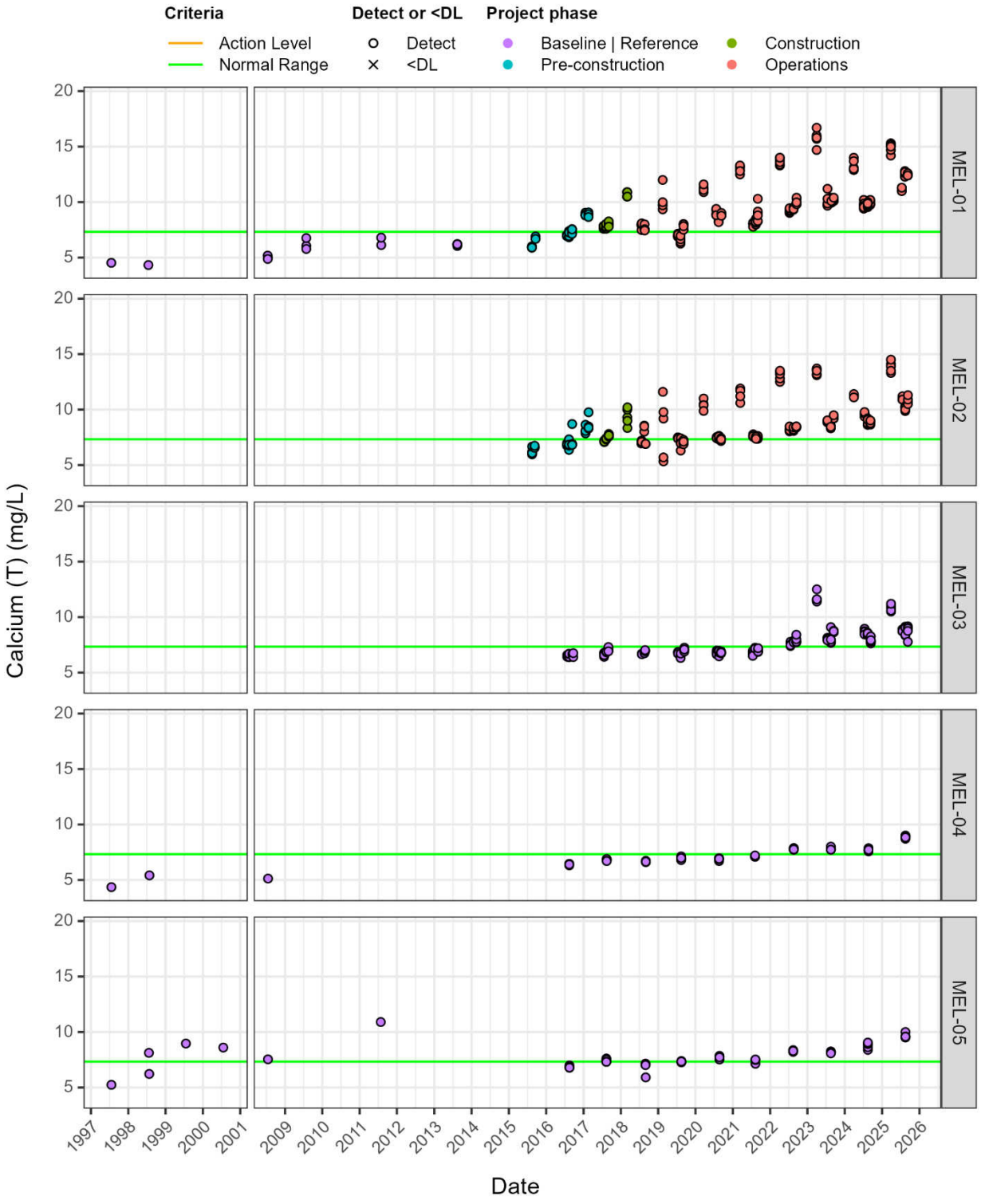


Figure C2-13. Total magnesium (mg/L)

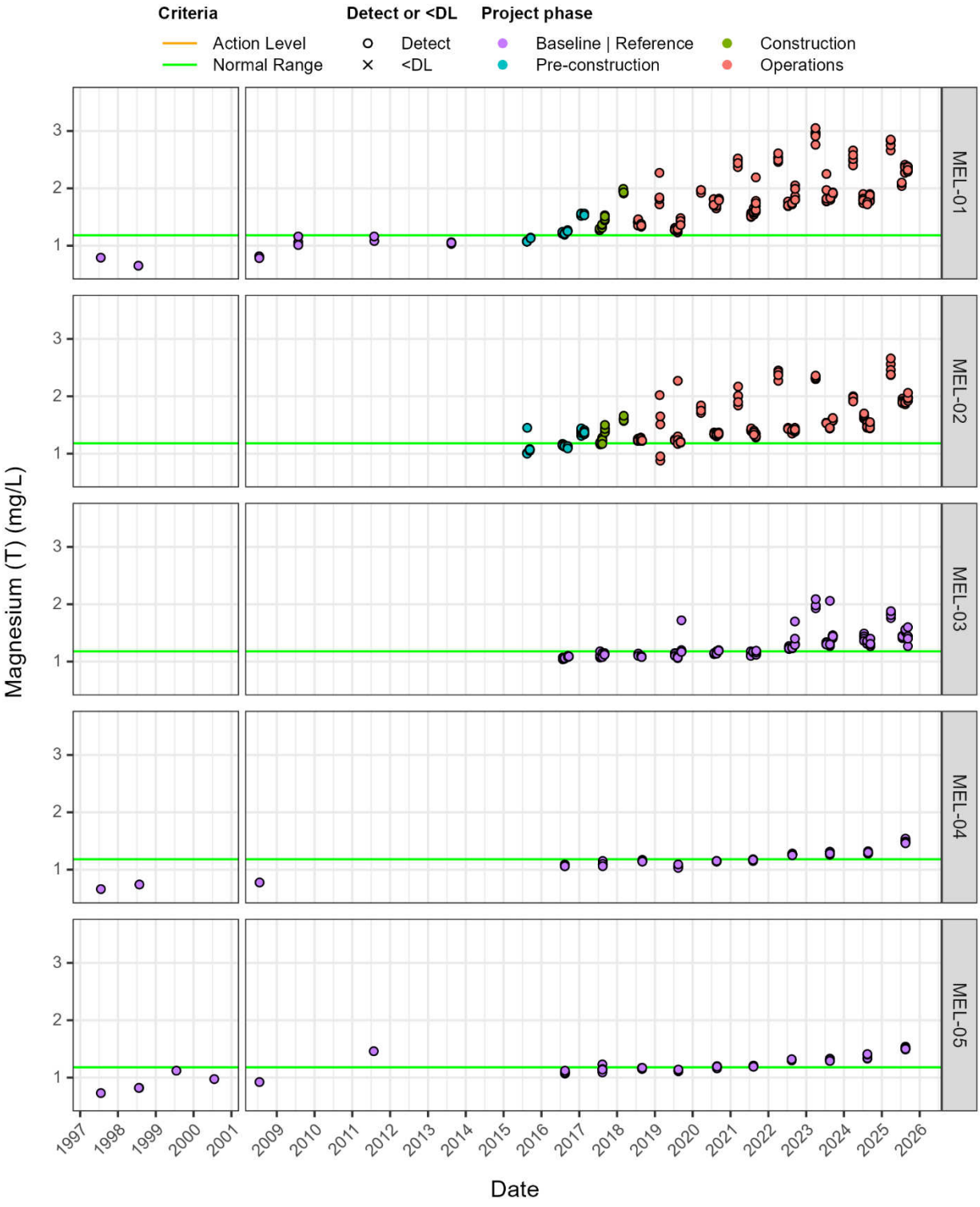


Figure C2-14. Total potassium (mg/L)

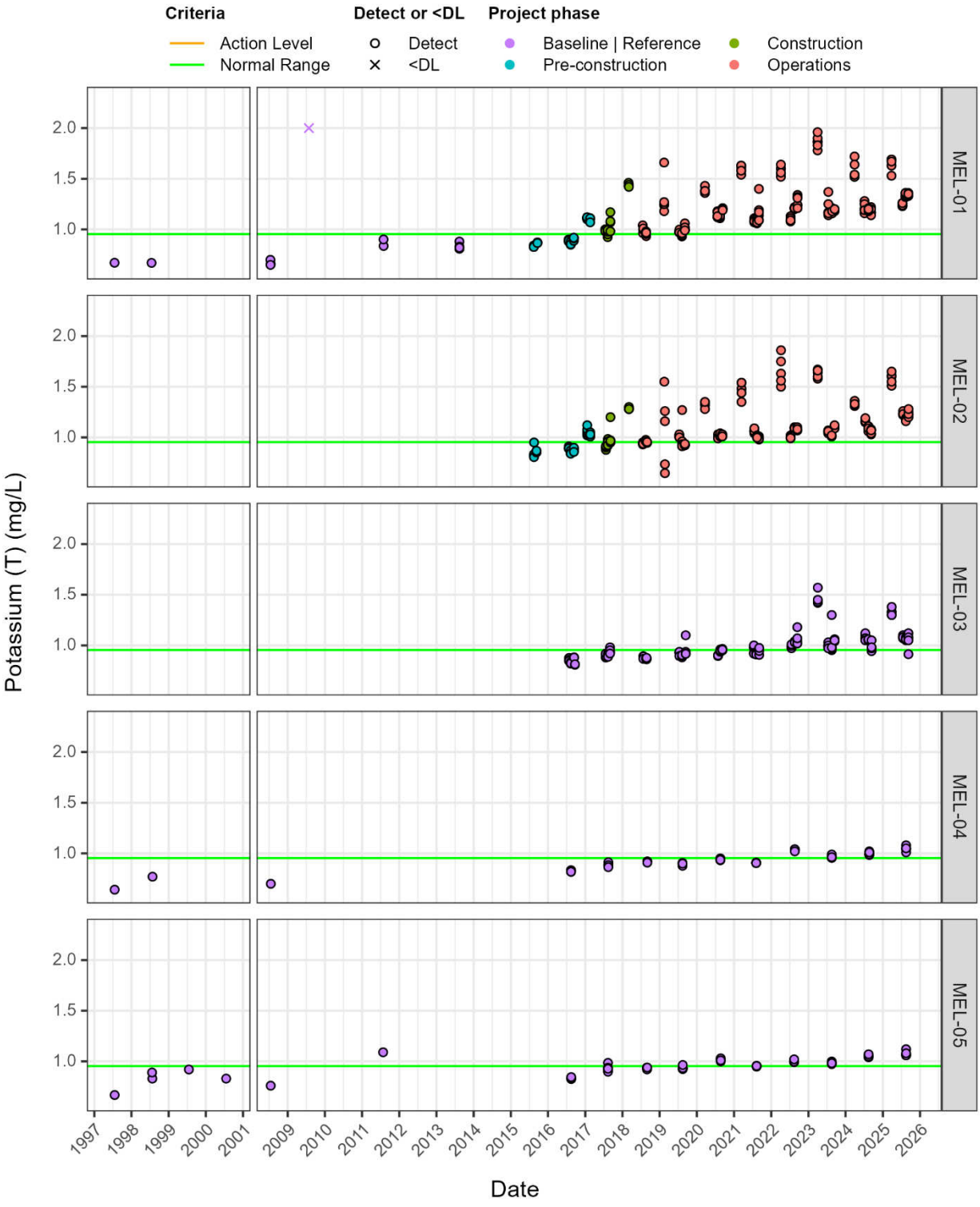


Figure C2-15. Total sodium (mg/L)

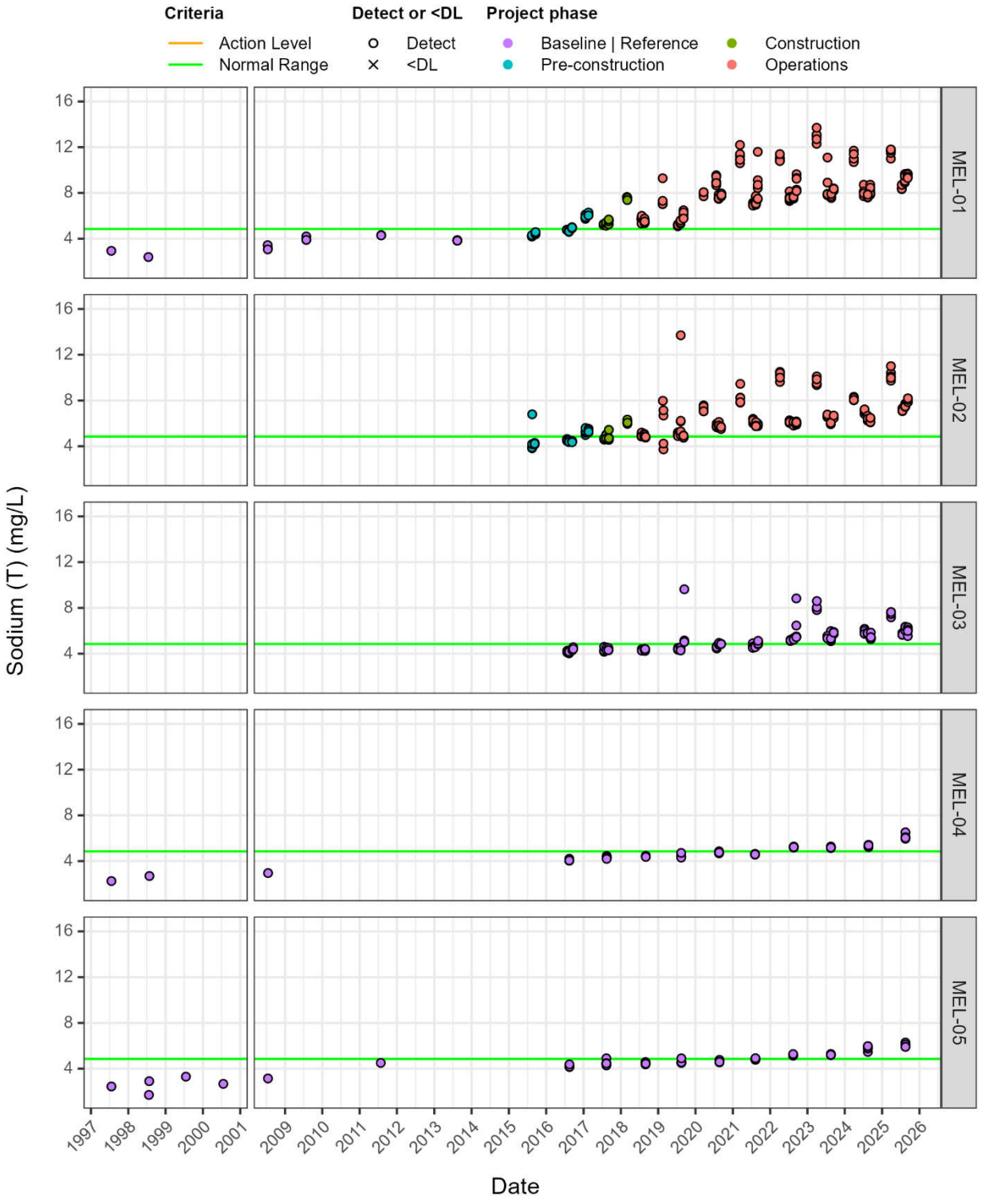


Figure C2-16. Chloride (mg/L)

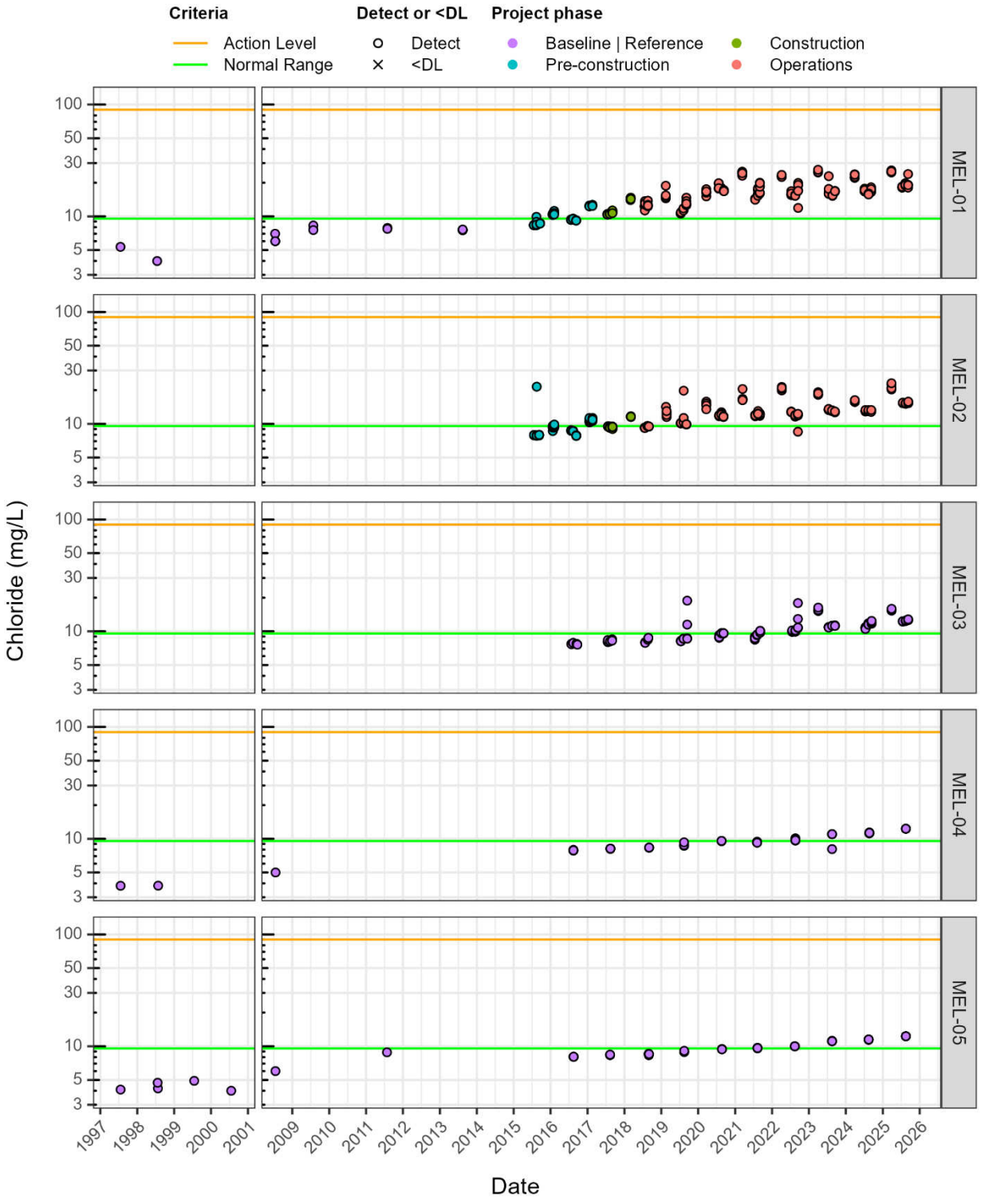


Figure C2-17. Fluoride (mg/L)

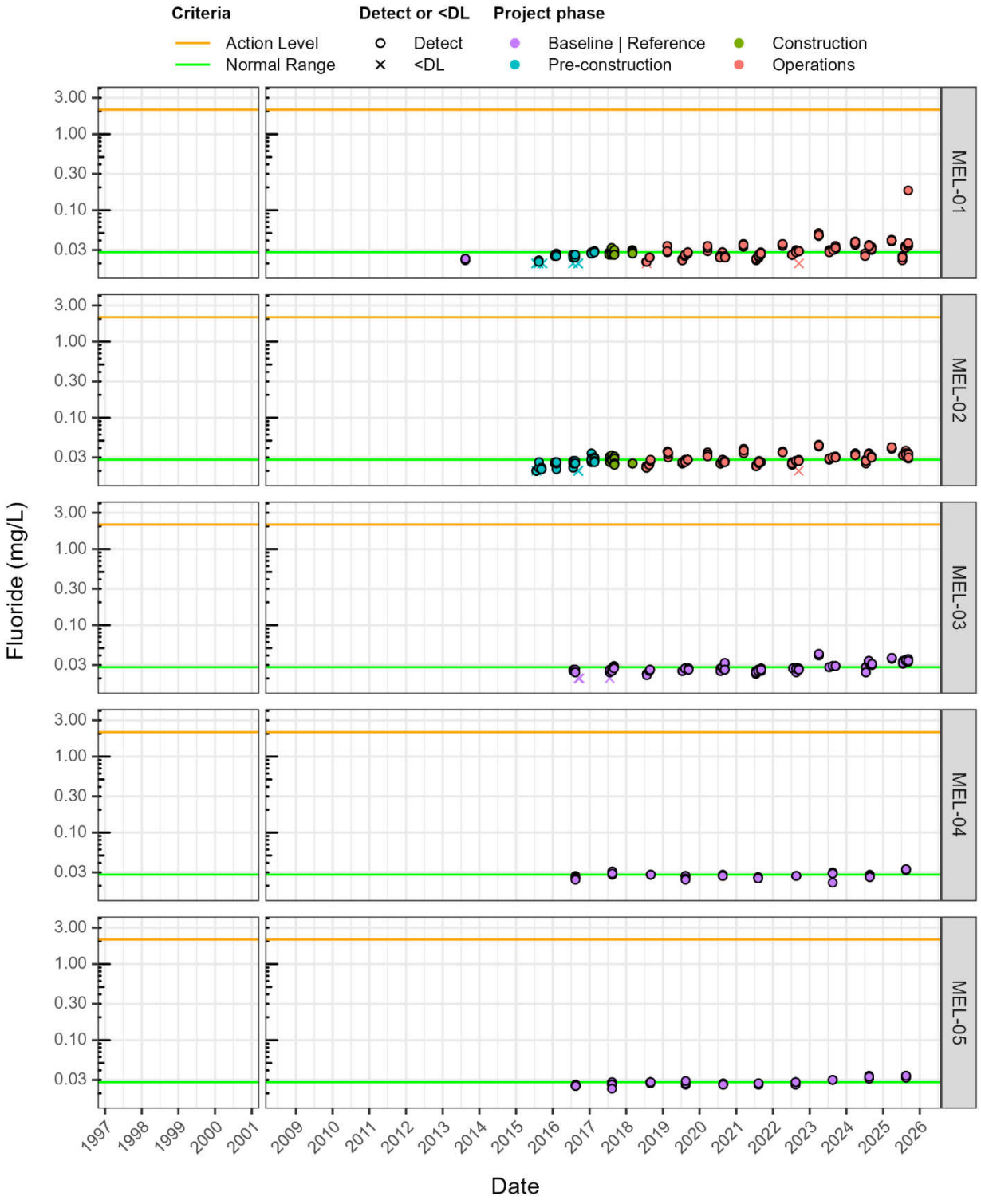


Figure C2-18. Ammonia (as nitrogen) (mg/L)

Notes: Ammonia data from August and September 2021 should be interpreted with caution because of higher detection limits reported by the laboratory.

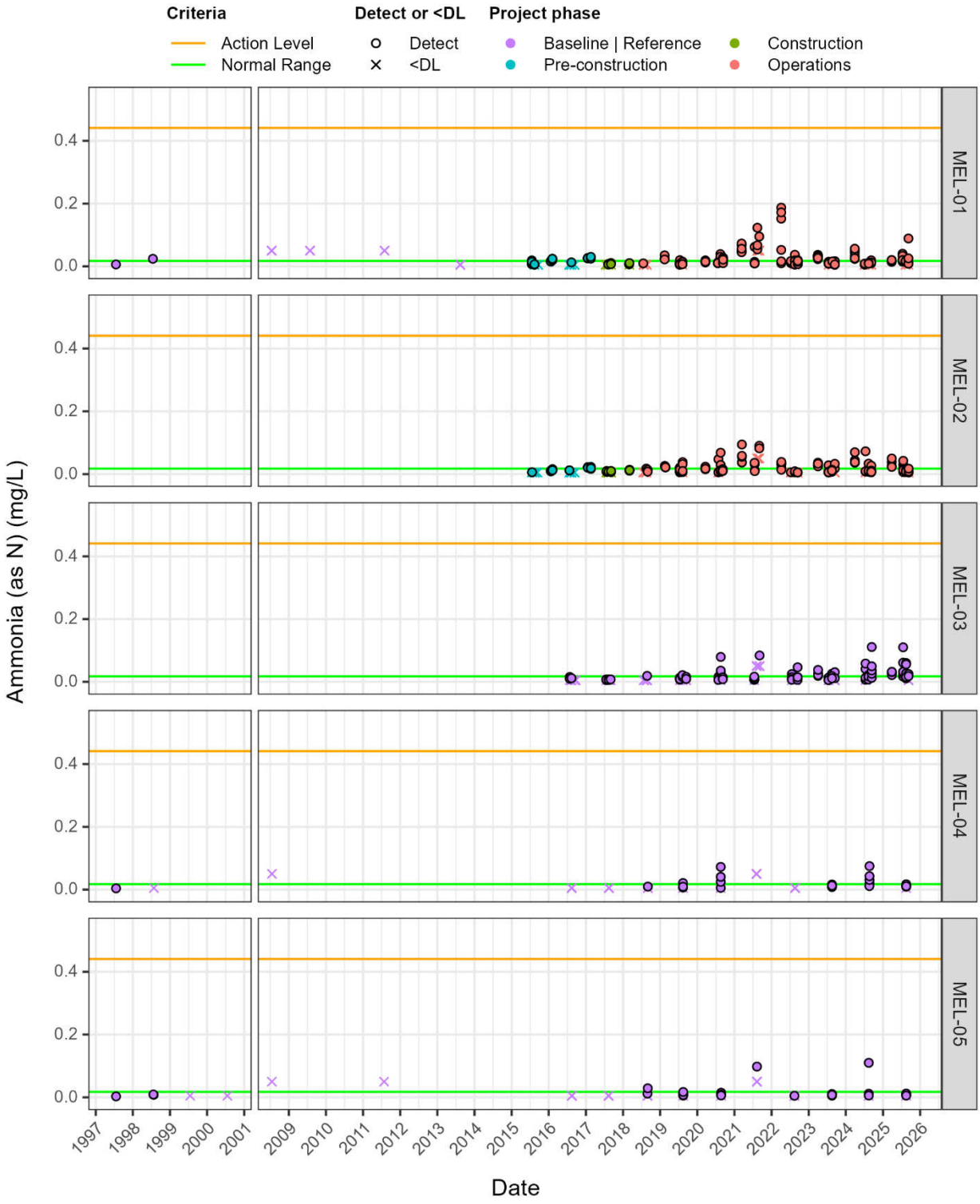


Figure C2-19. Nitrate (as N) (mg/L)

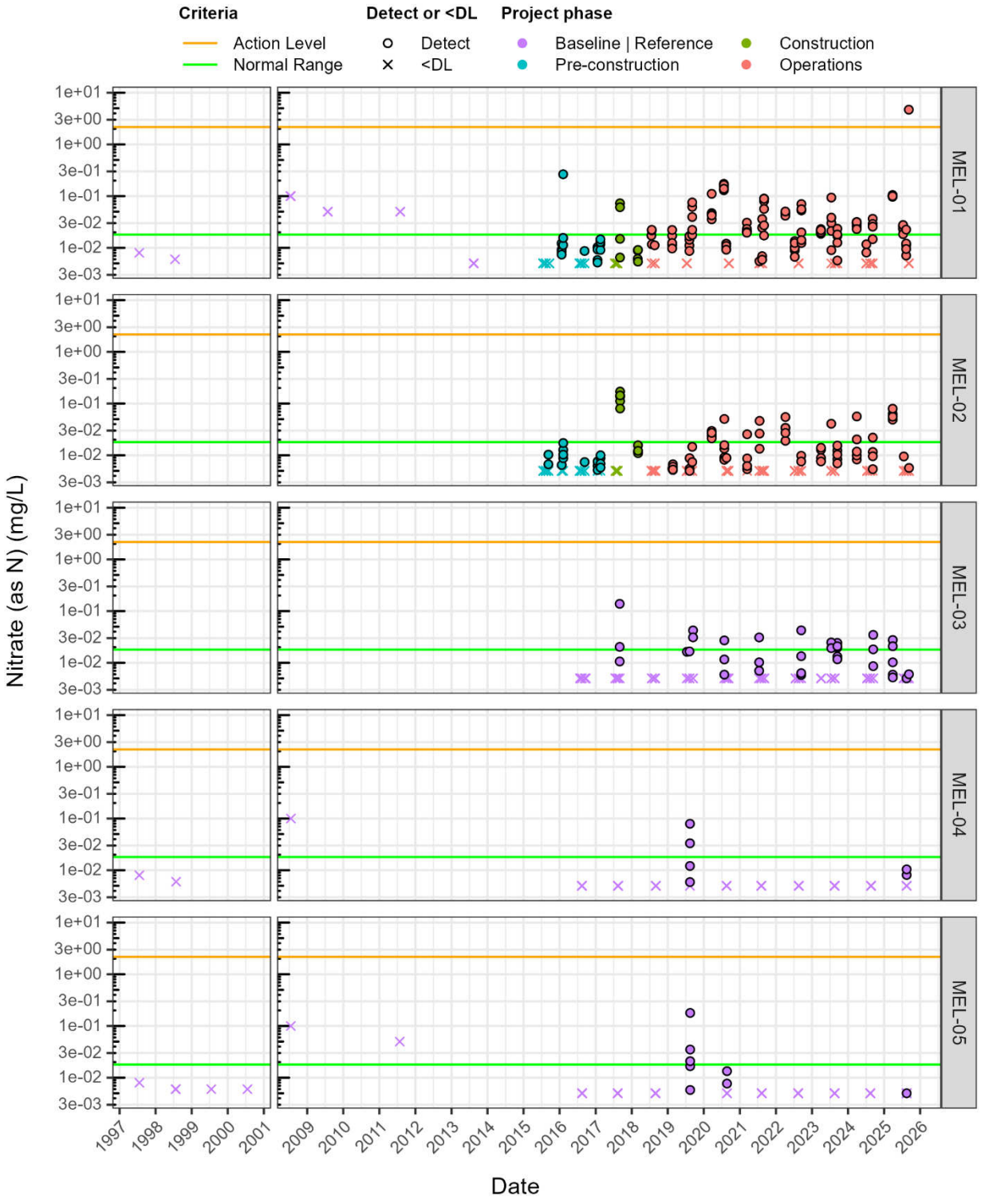


Figure C2-20. Nitrate and nitrite (as N) (mg/L)

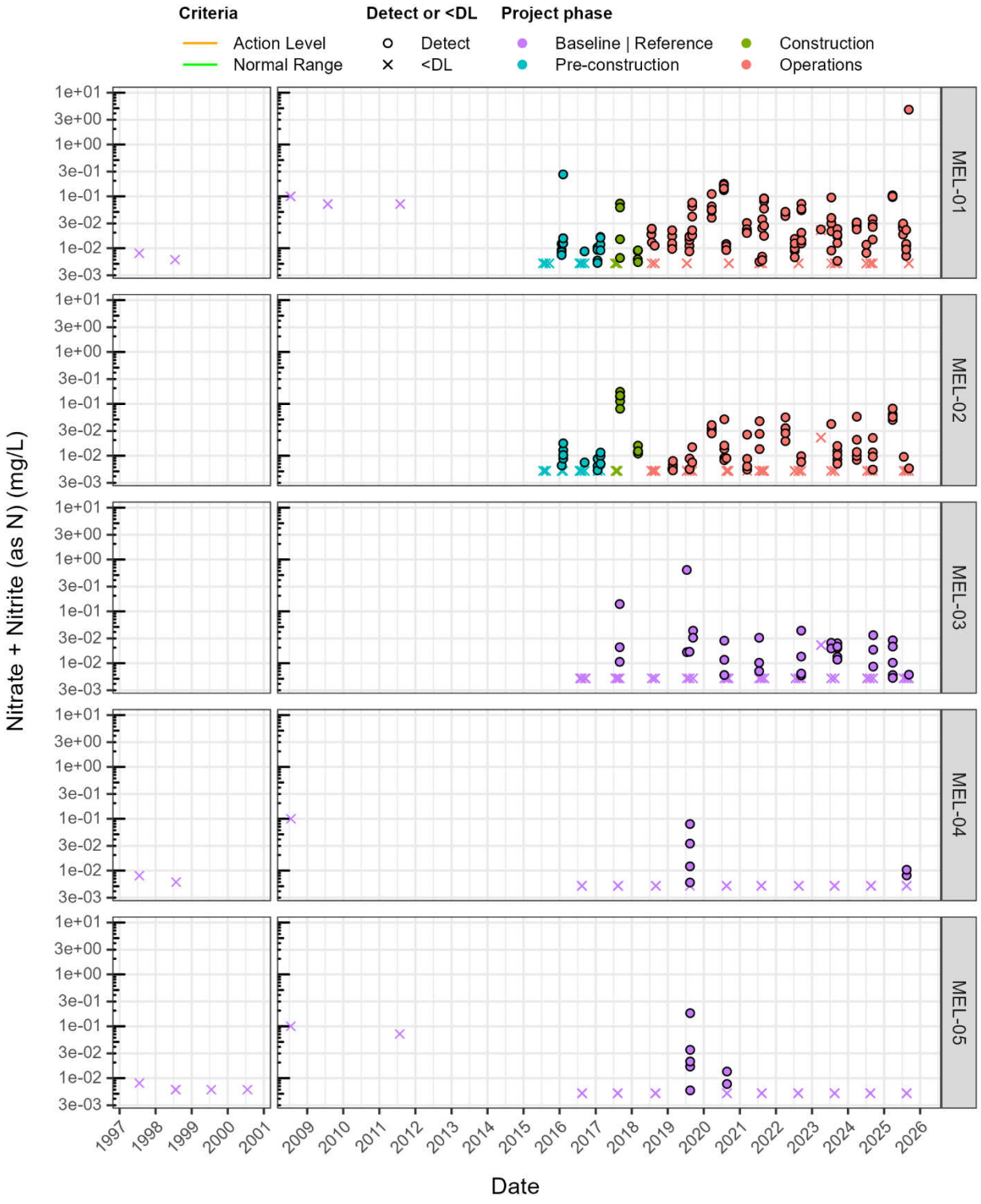


Figure C2-21. Total Kjeldahl nitrogen (TKN; mg/L)

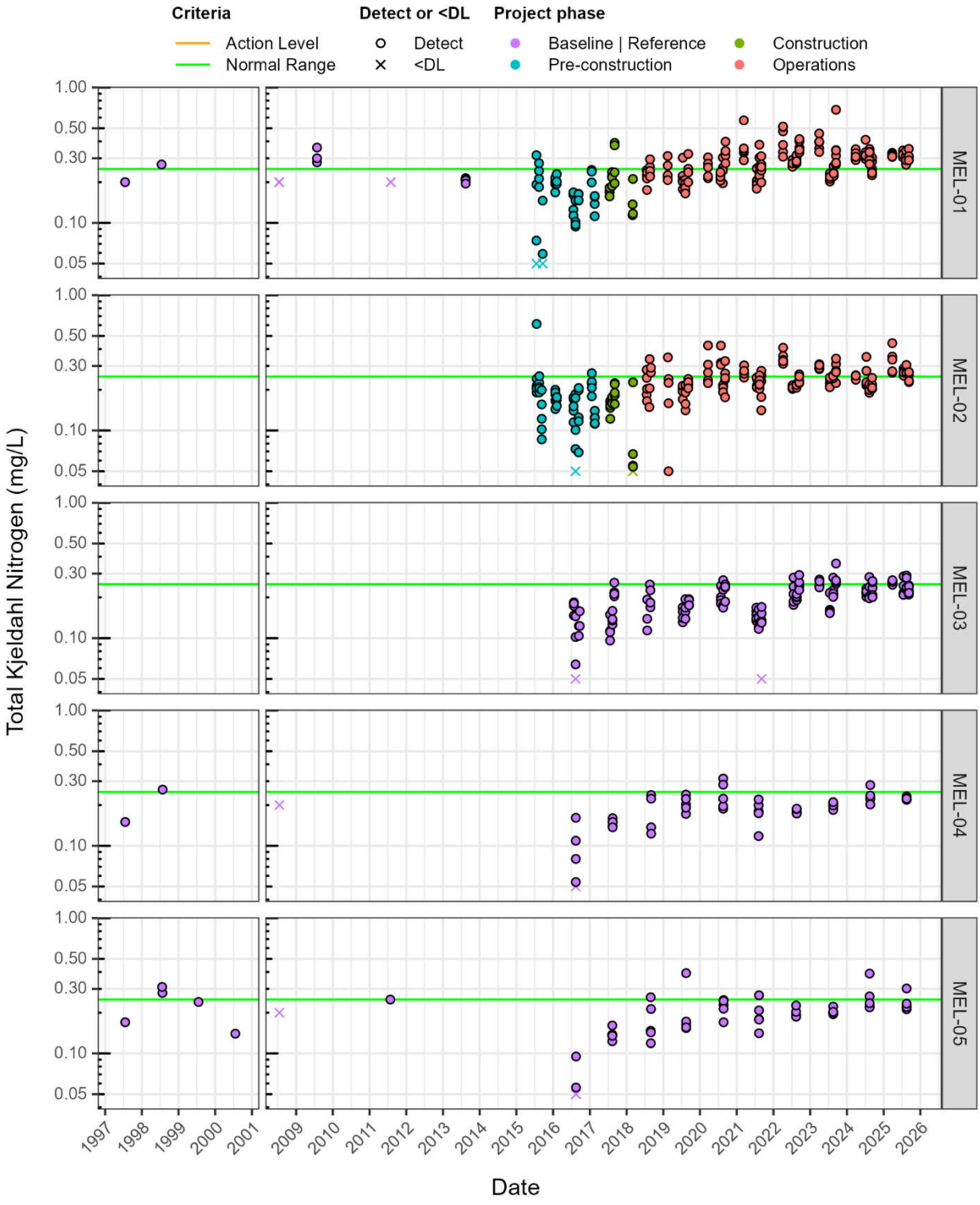


Figure C2-22. Sulphate (mg/L)

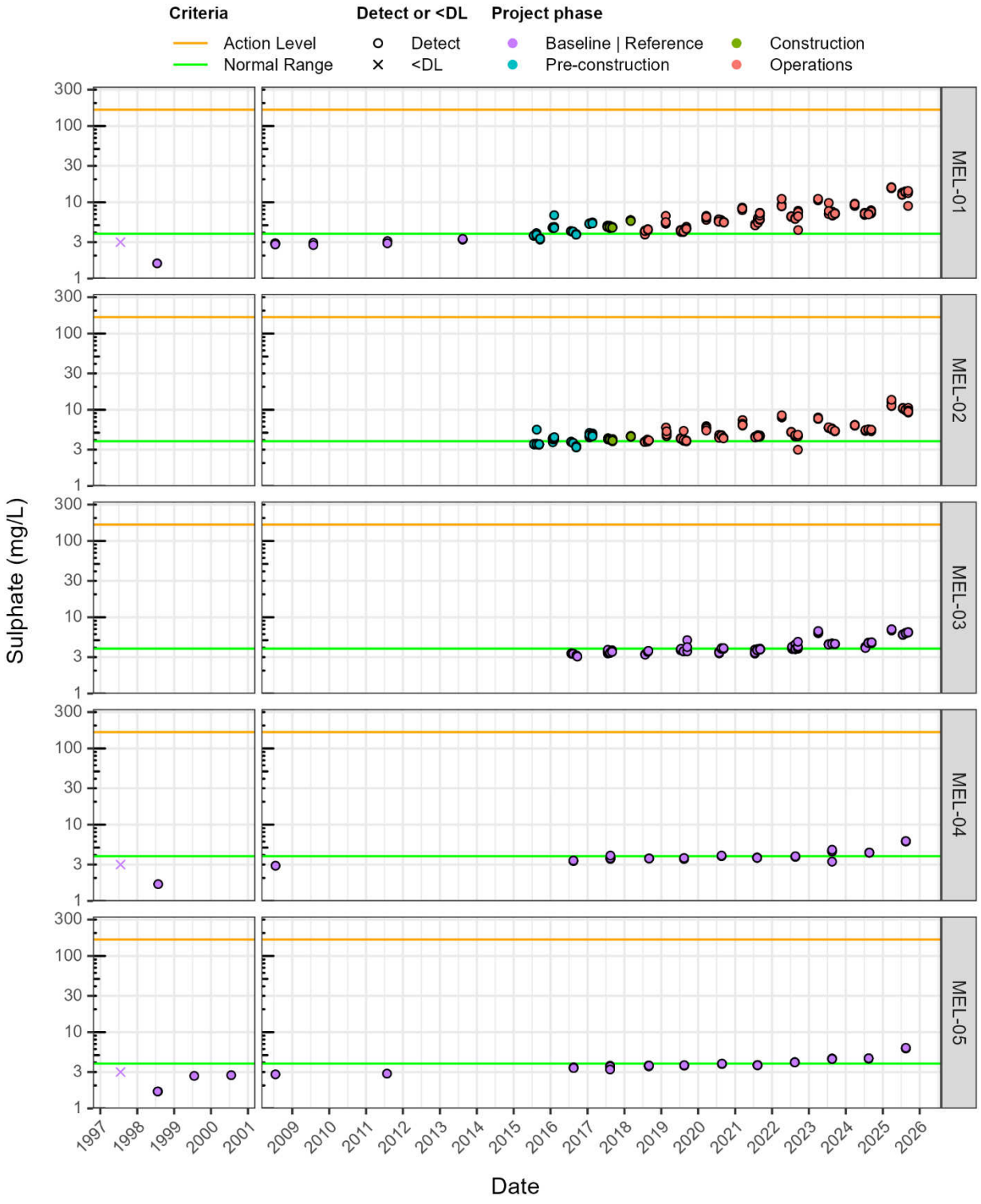


Figure C2-23. Total phosphorus (mg/L)

Notes: The AEMP Benchmark for total phosphorus of 0.01 mg/L is questionable given that baseline concentrations of total phosphorus exceeded this value on occasion. The Action Level (0.0075 mg/L) is not shown.

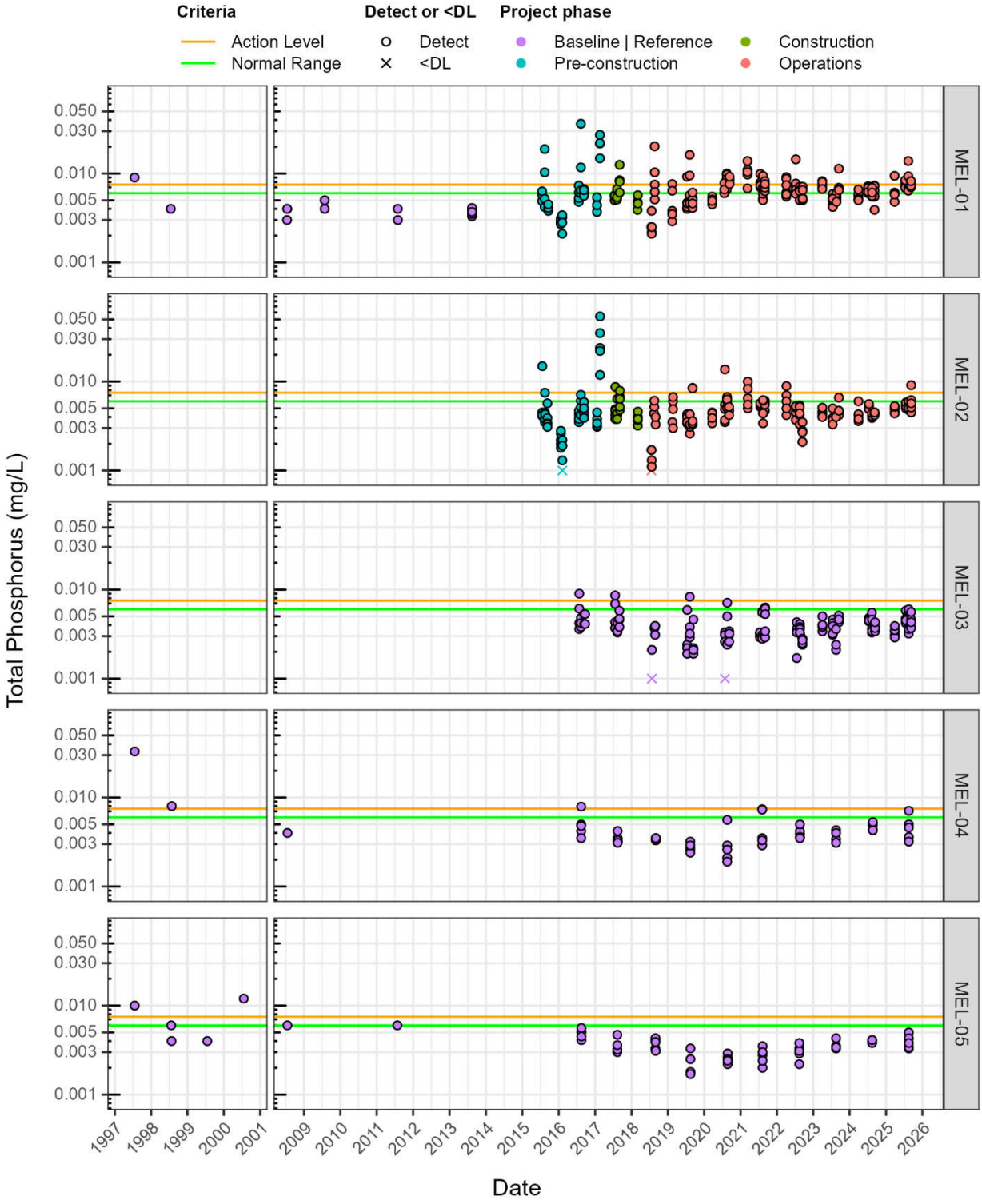


Figure C2-24. Dissolved organic carbon (mg/L)

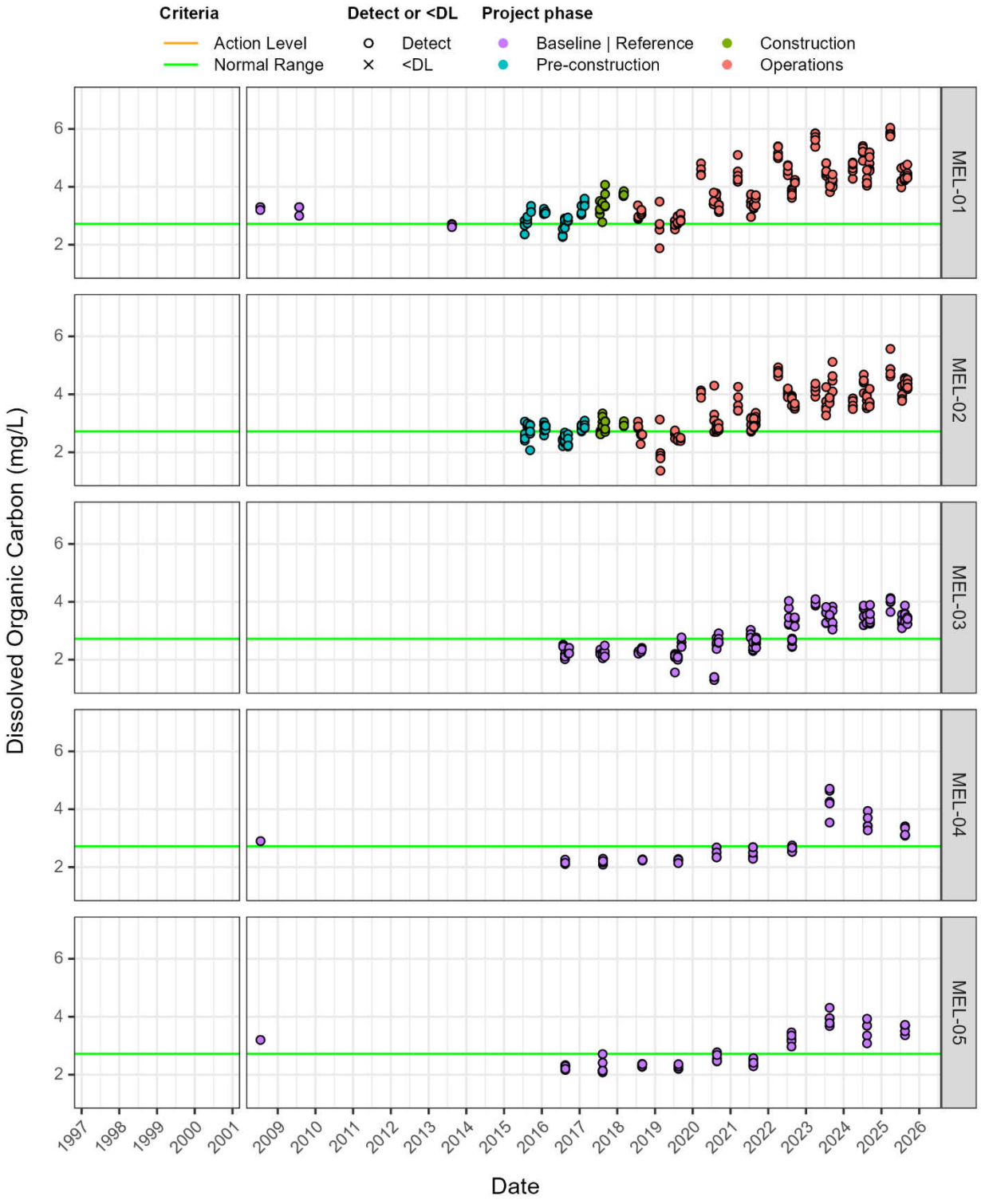


Figure C2-25. Total organic carbon (mg/L)

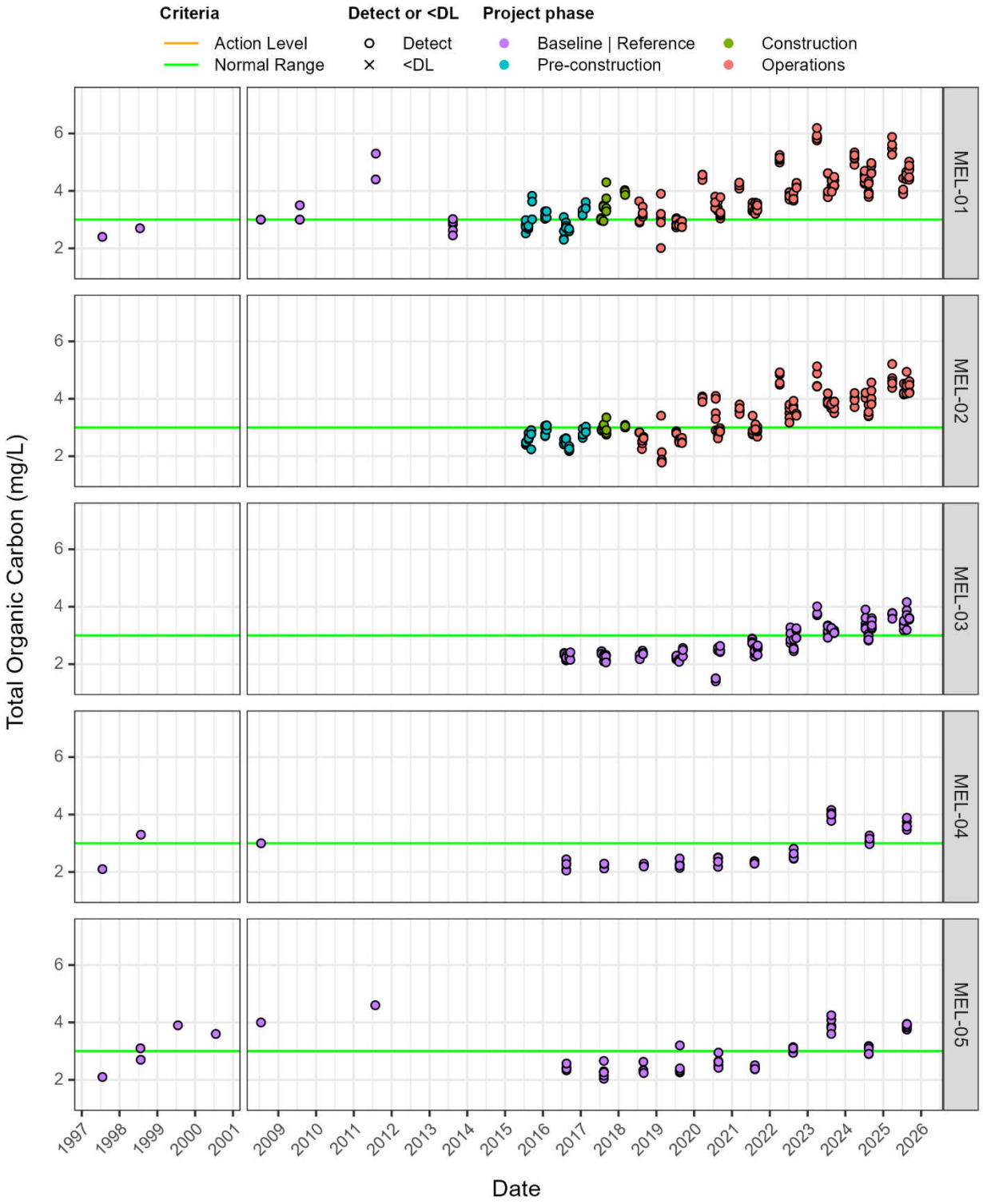


Figure C2-26. Total aluminum (µg/L)

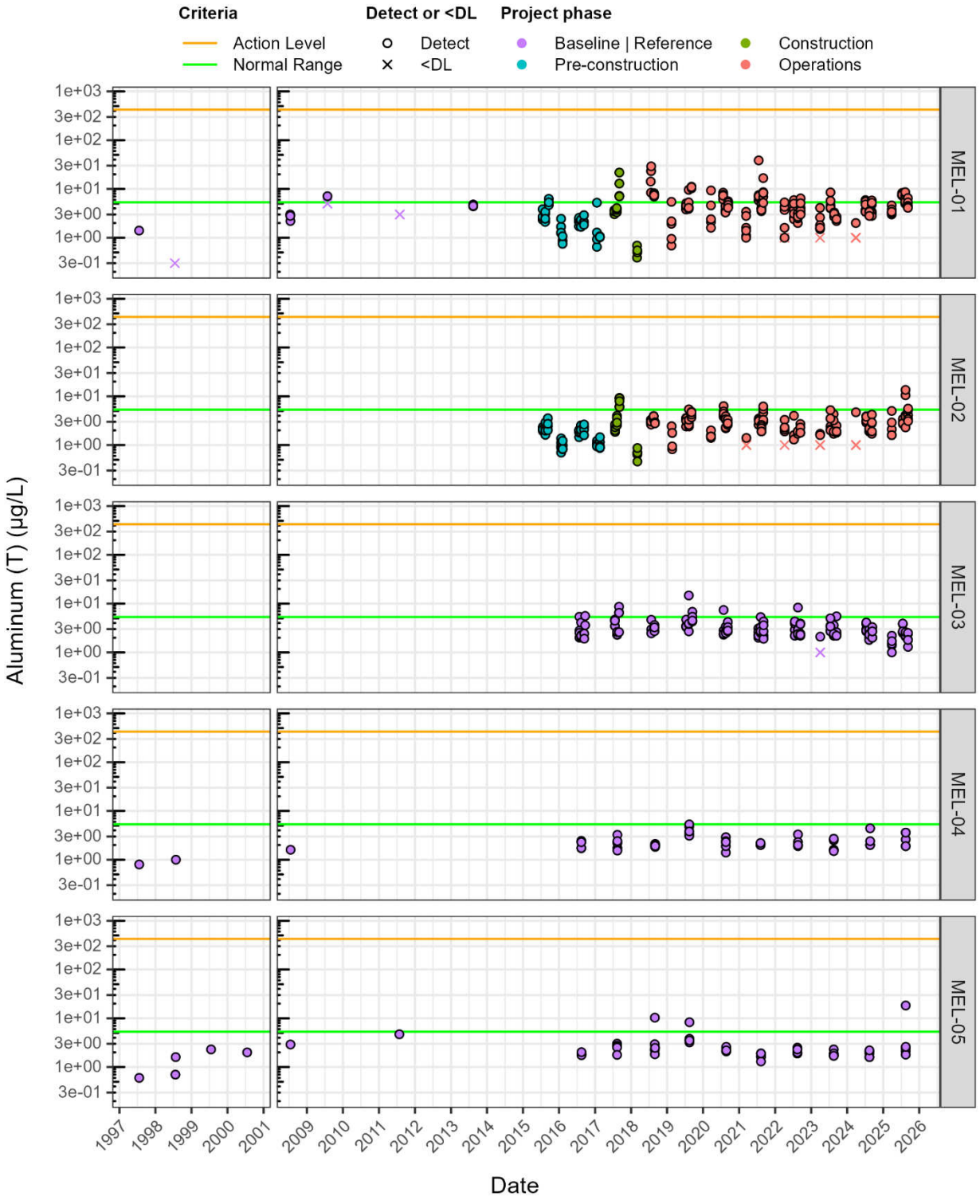


Figure C2-27. Total antimony (µg/L)

Notes: The normal range for antimony is equal to the current detection limit.

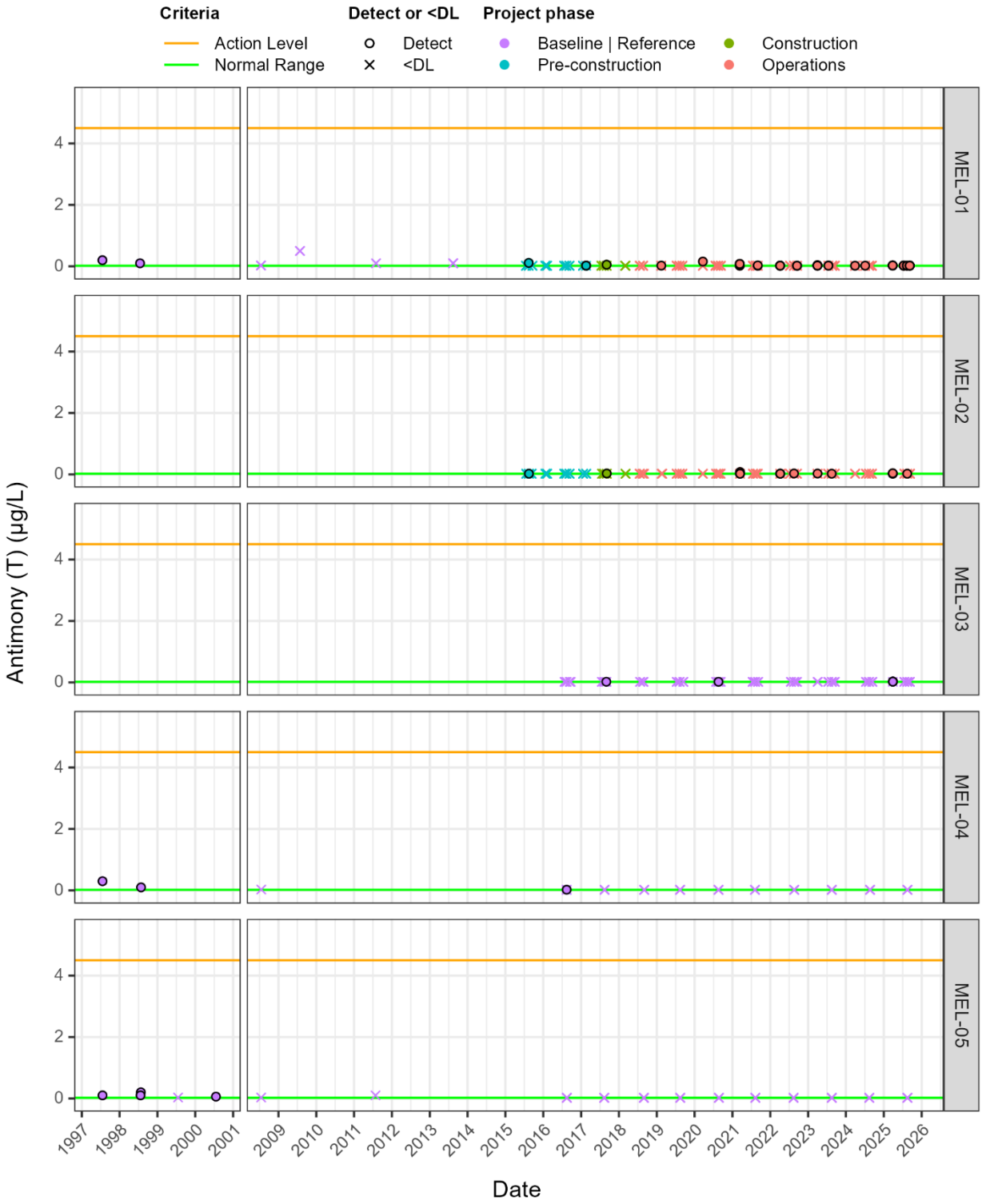


Figure C2-28. Total arsenic (µg/L)

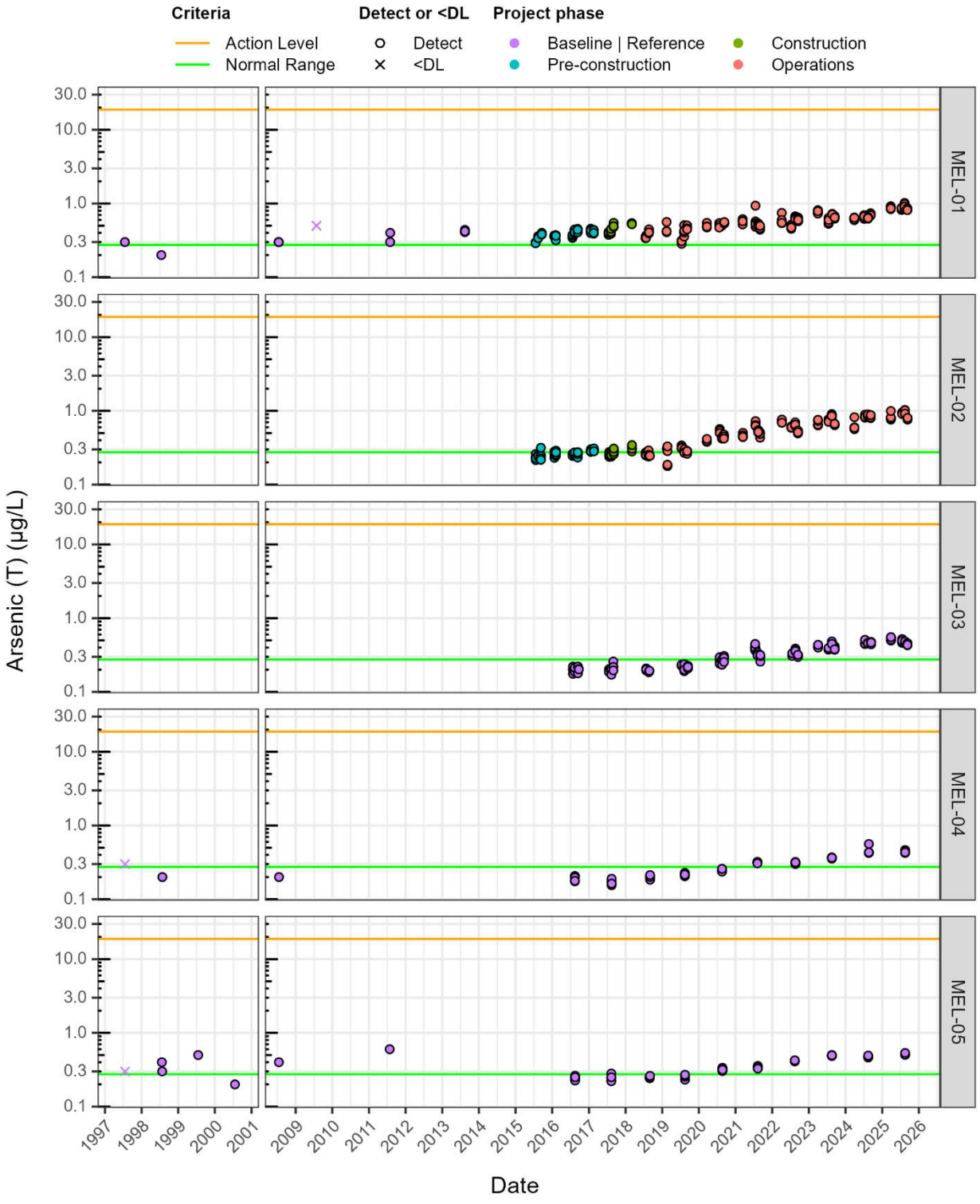


Figure C2-29. Total barium (µg/L)

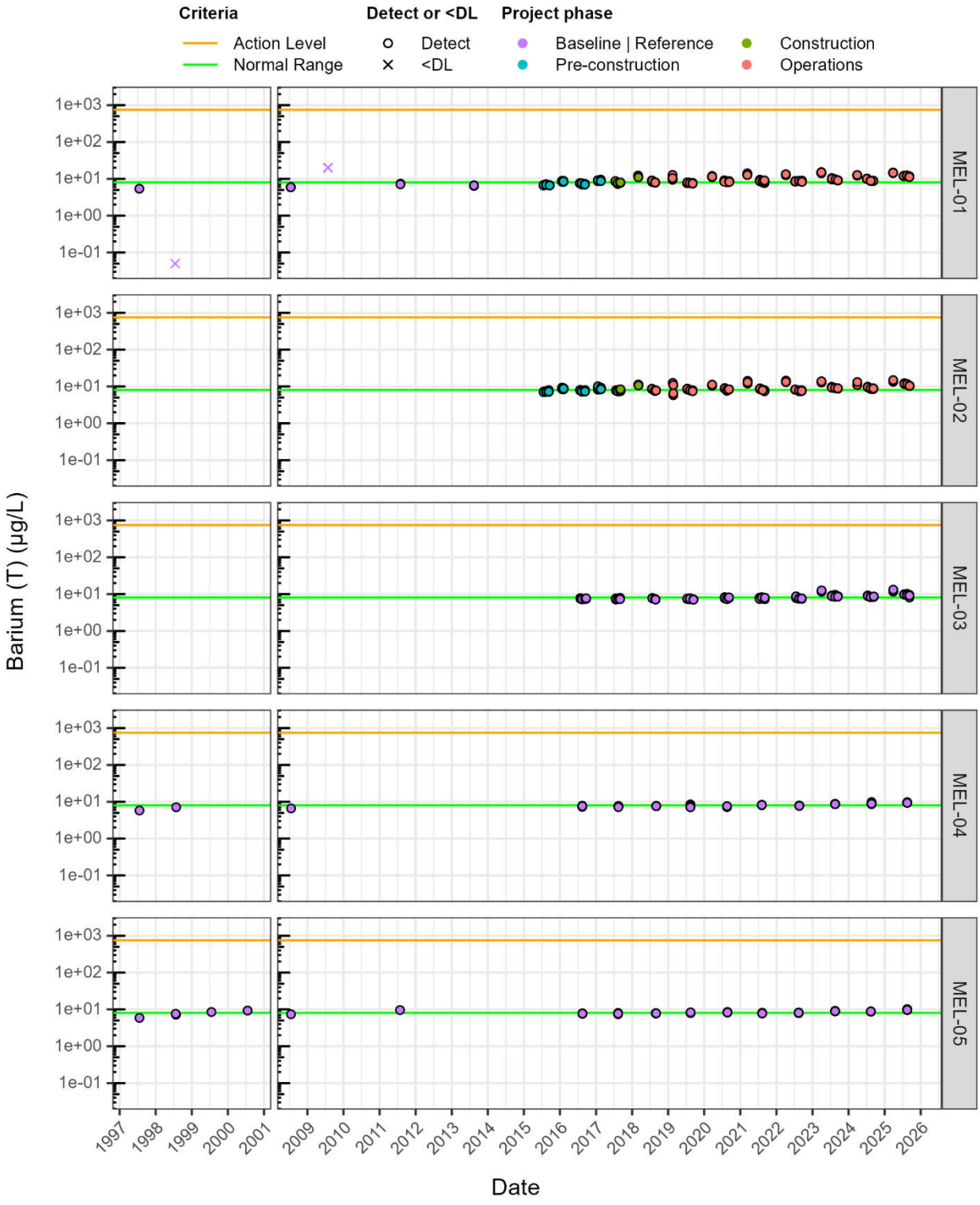


Figure C2-30. Total beryllium (µg/L)

Notes: The normal range for beryllium is equal to the current detection limit.

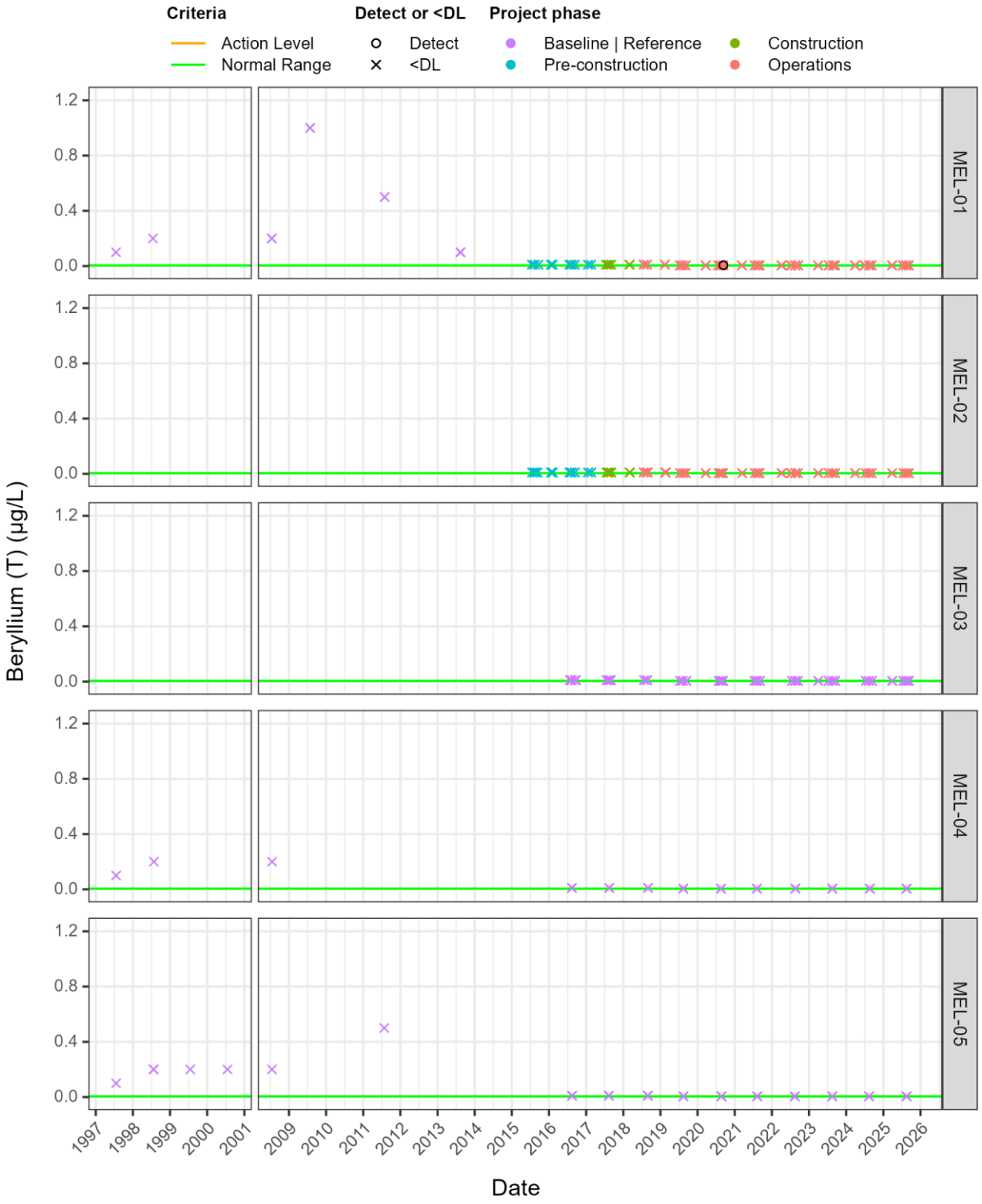


Figure C2-31. Total bismuth (µg/L)

Notes: The normal range for bismuth is equal to the current detection limit.

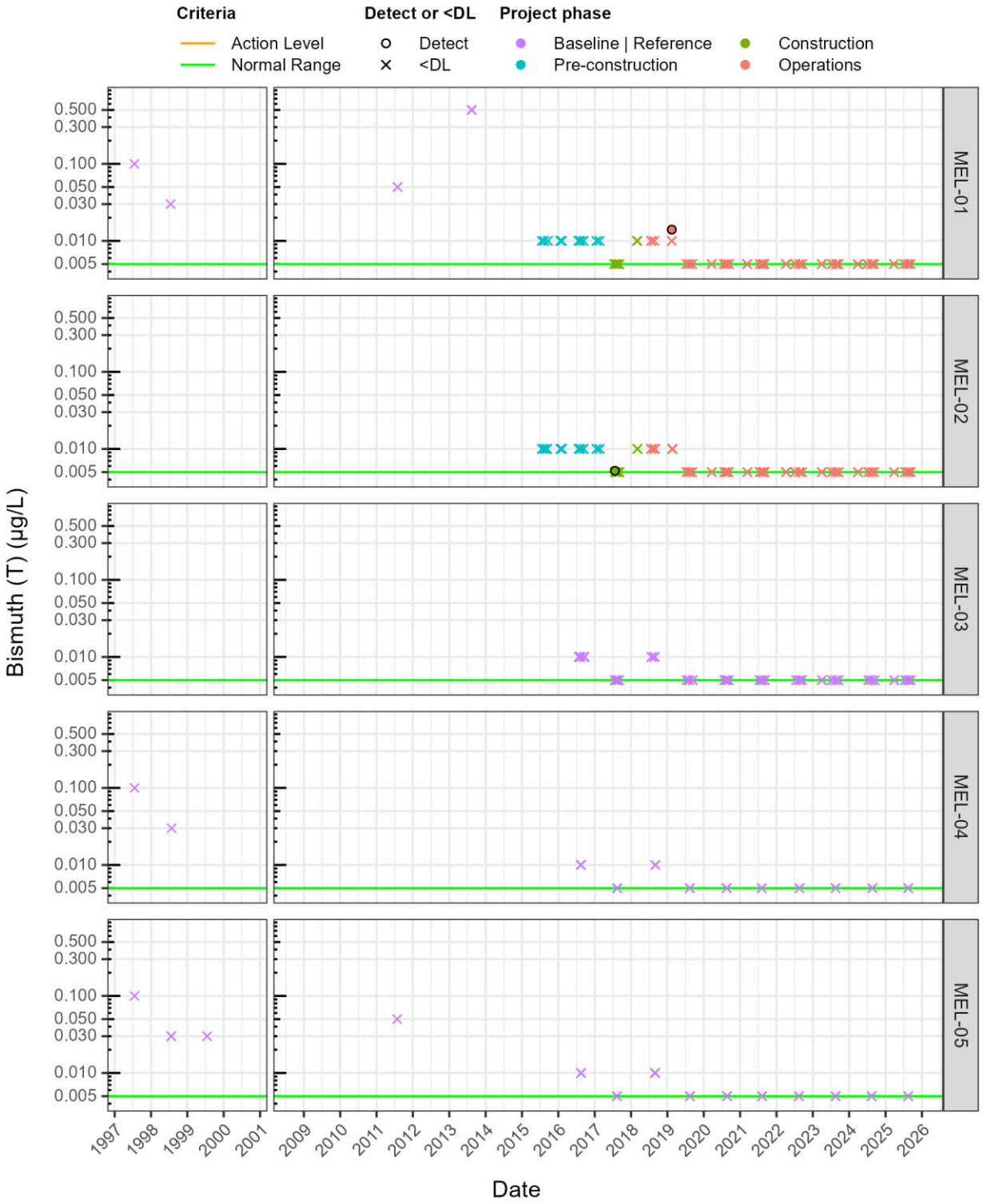


Figure C2-32. Total boron (µg/L)

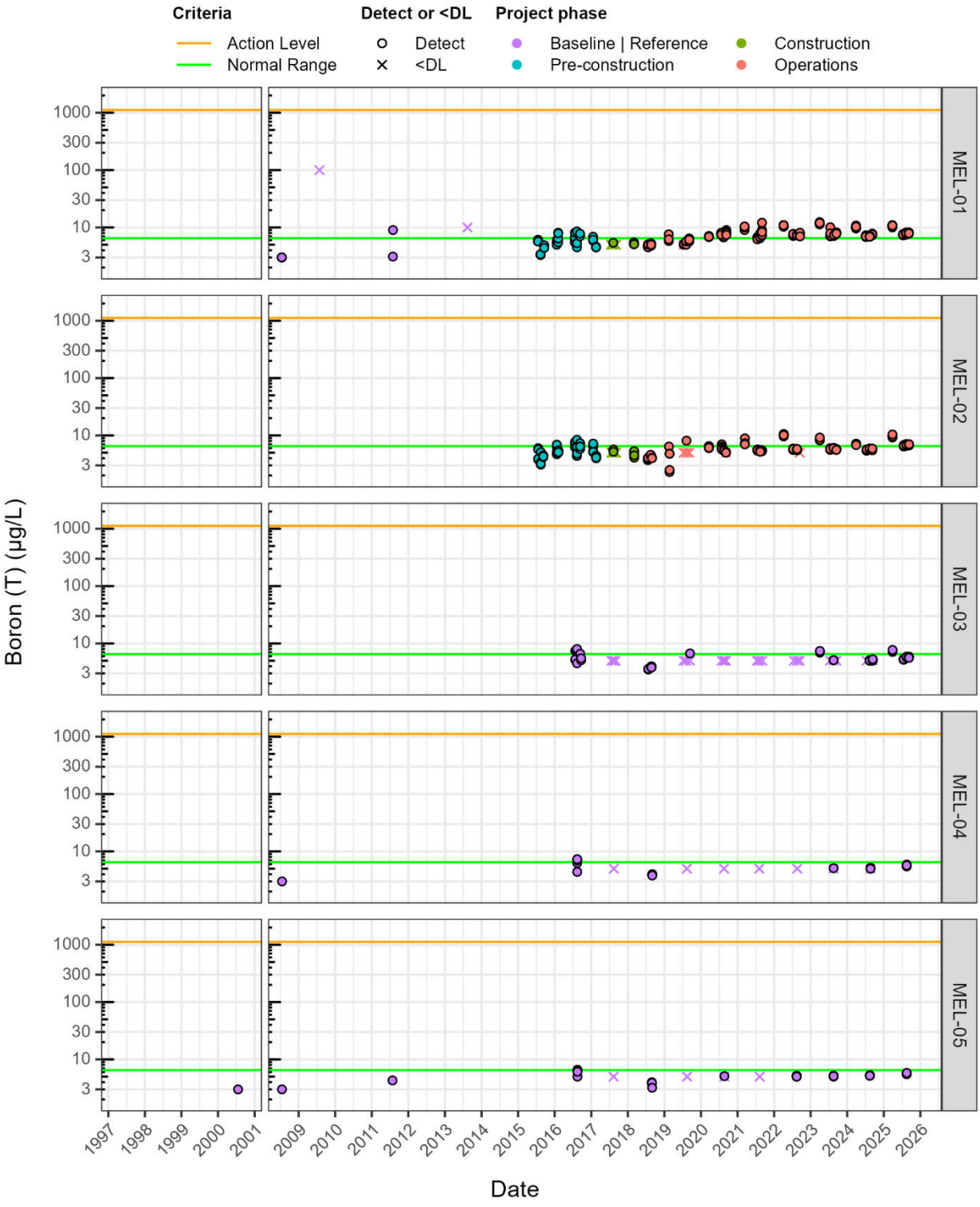


Figure C2-33. Total cadmium (µg/L)

Notes: The normal range for cadmium is equal to the current detection limit. The two lines for the Action Level represent the range in site-specific guidelines for protection of aquatic life for MEL-01 samples in 2024.

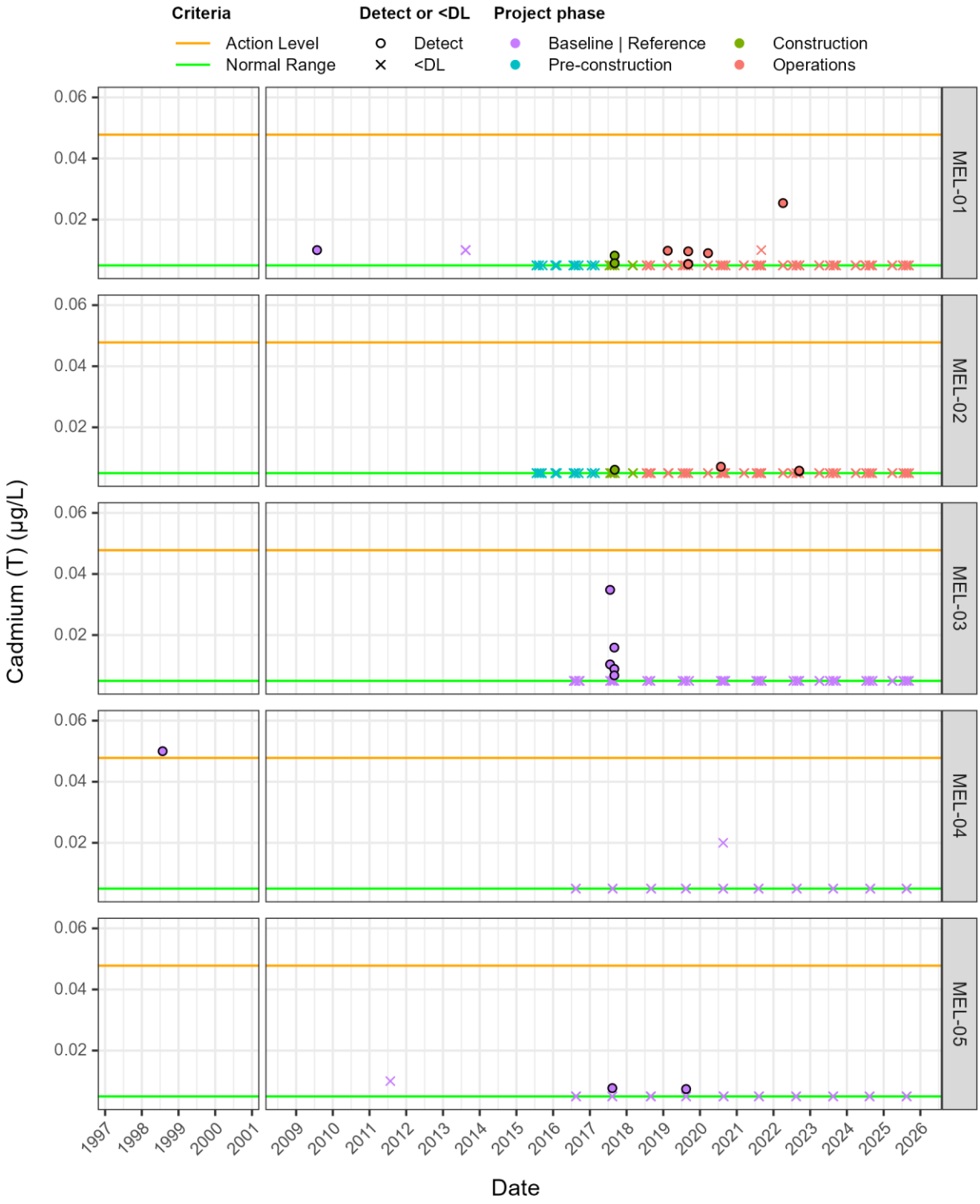


Figure C2-34. Total chromium (µg/L)

Notes: The normal range for chromium is equal to the current detection limit.

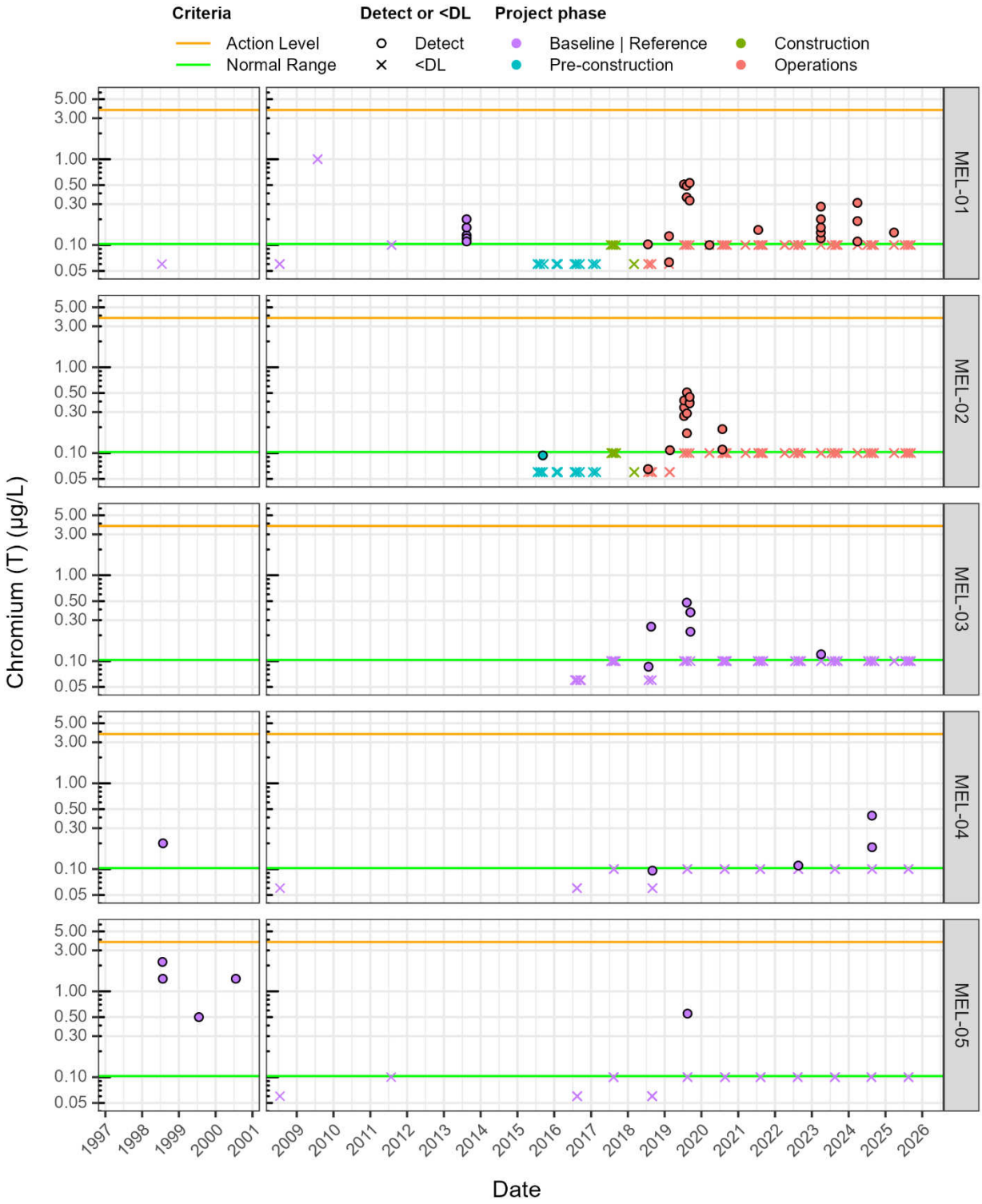


Figure C2-35. Total cobalt (µg/L)

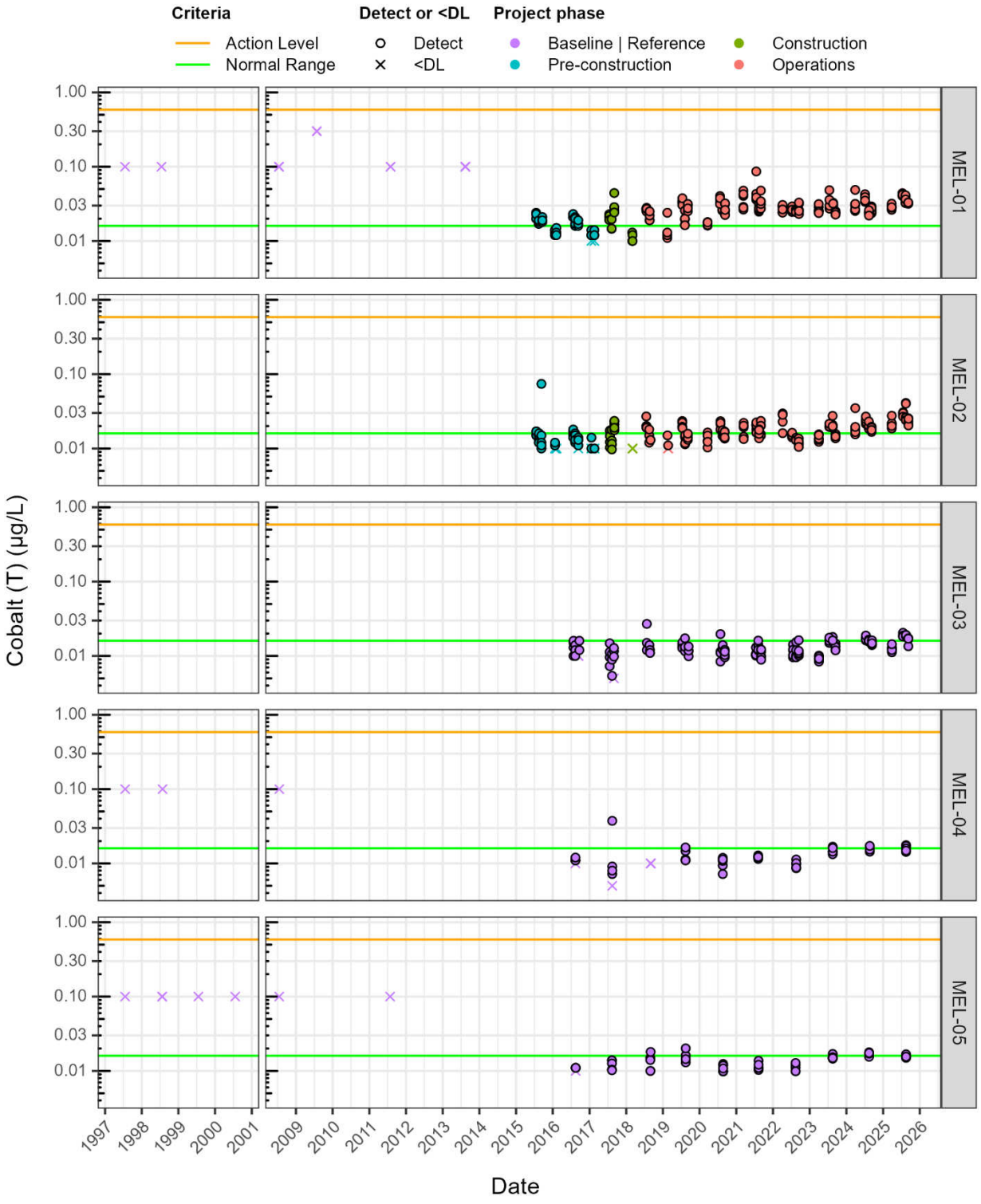


Figure C2-36. Total copper (µg/L)

Notes: The AEMP Benchmark for total copper is equal to 2 µg/L (CCME, 1987). As of 2021, the AEMP Action Level assessment for copper is based on the dissolved concentration. The new FEQG for dissolved copper is based on the biotic ligand model (ECCC, 2021).

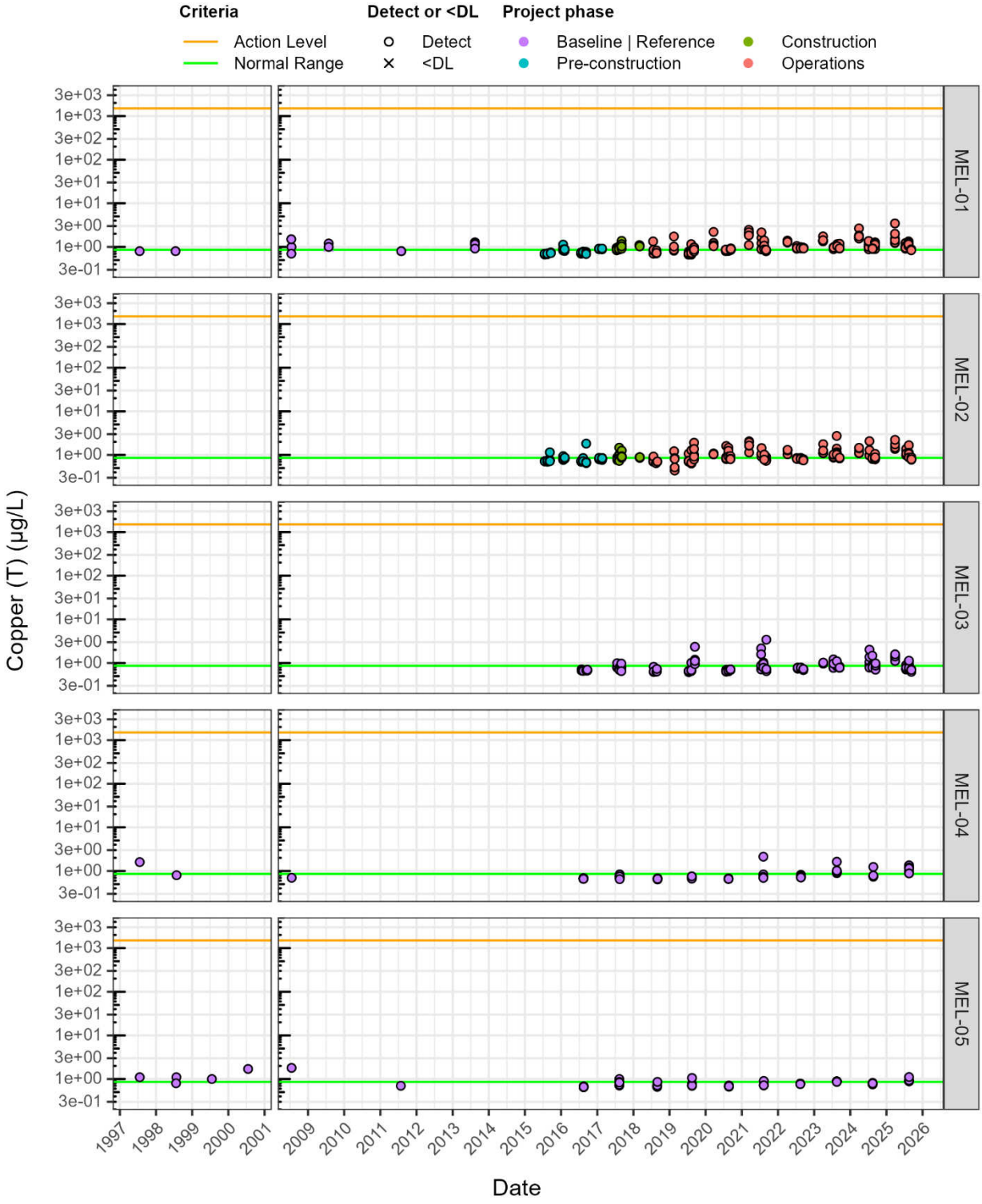


Figure C2-37. Dissolved copper (µg/L)

Notes: The AEMP Benchmark for dissolved copper is based on the copper BLM (ECCC, 2021). The two lines for the Action Level represent the range in site-specific guidelines for protection of aquatic life for open water samples at MEL-01 in 2024.

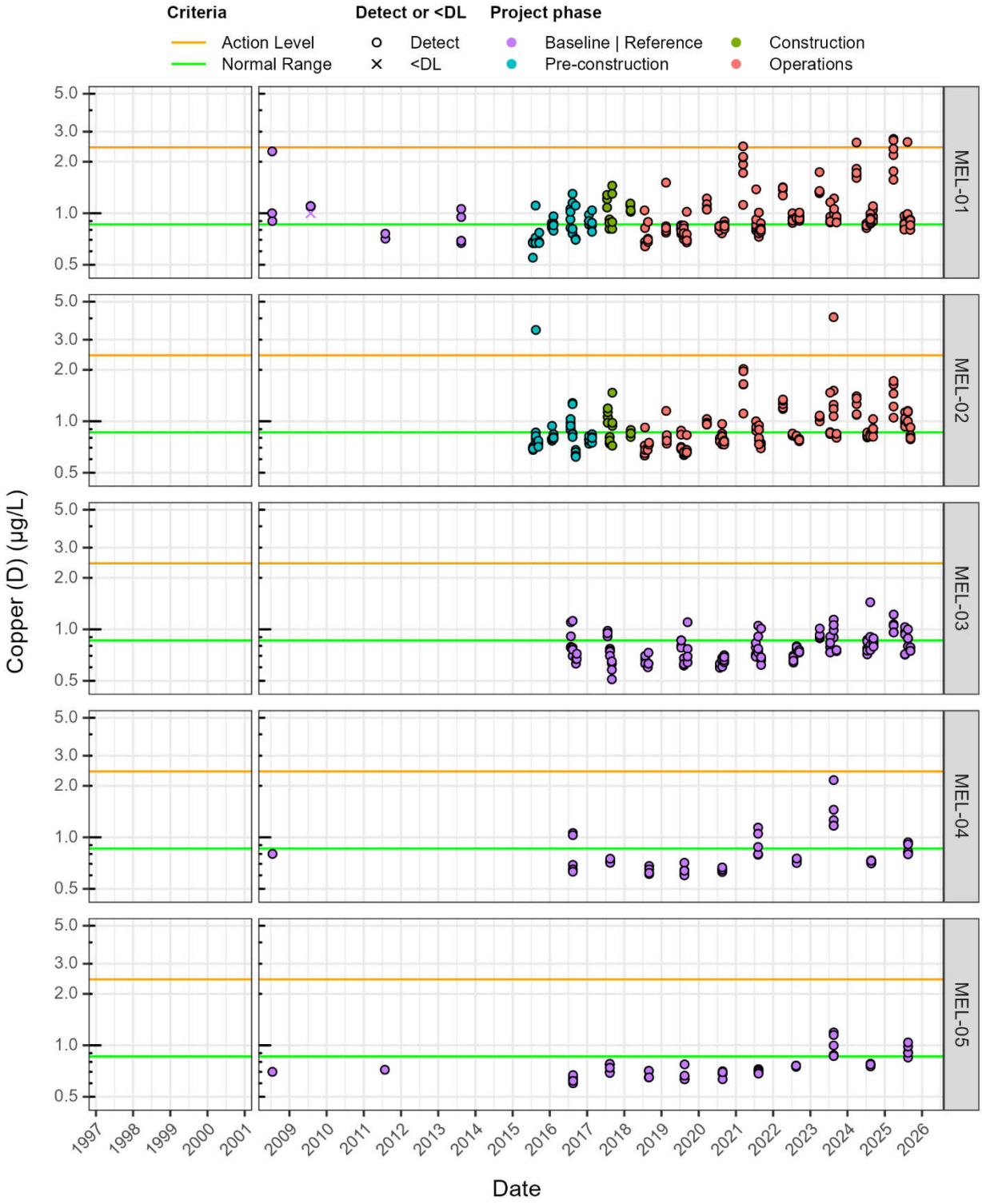


Figure C2-38. Total iron (µg/L)

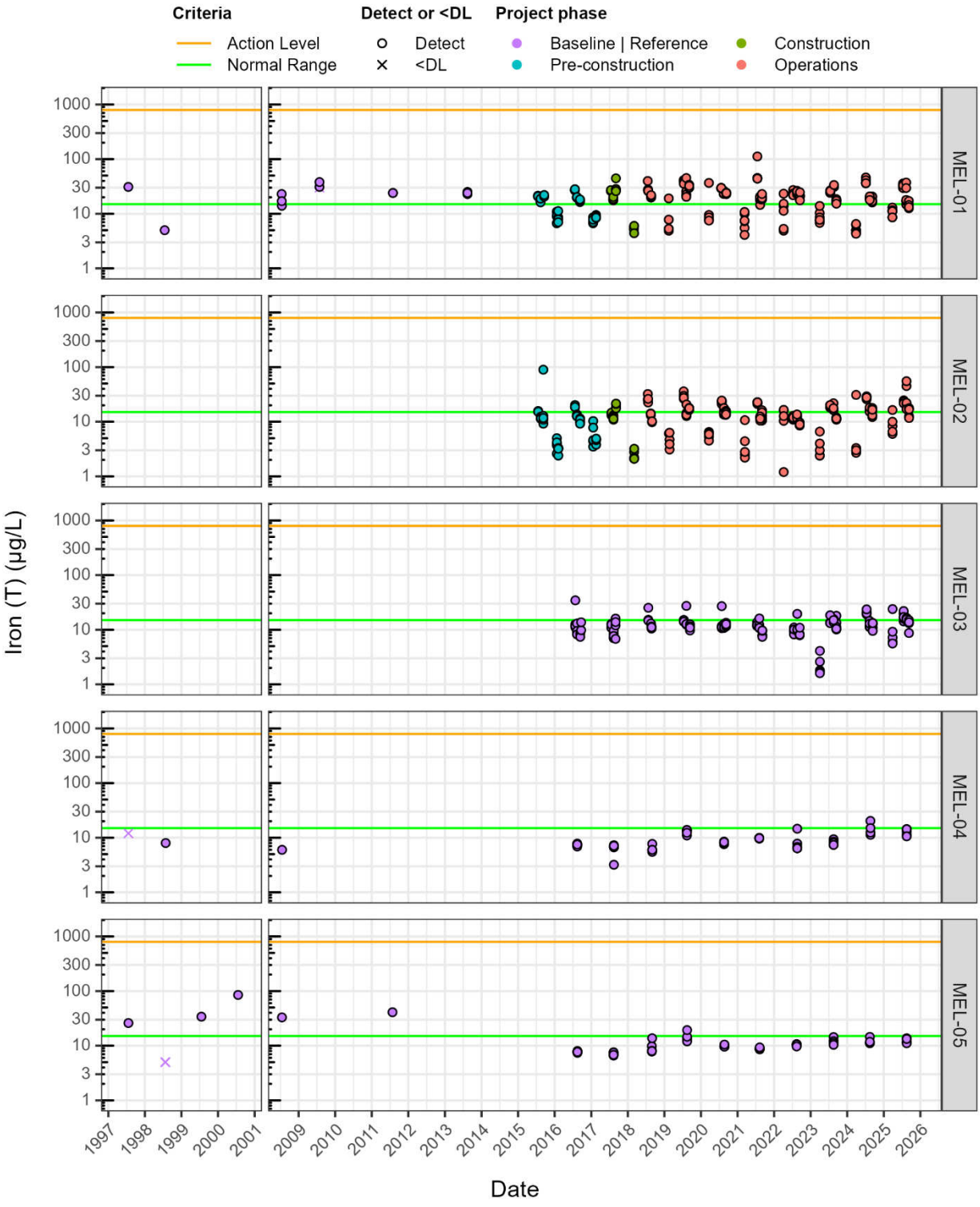


Figure C2-39. Total lead (µg/L)

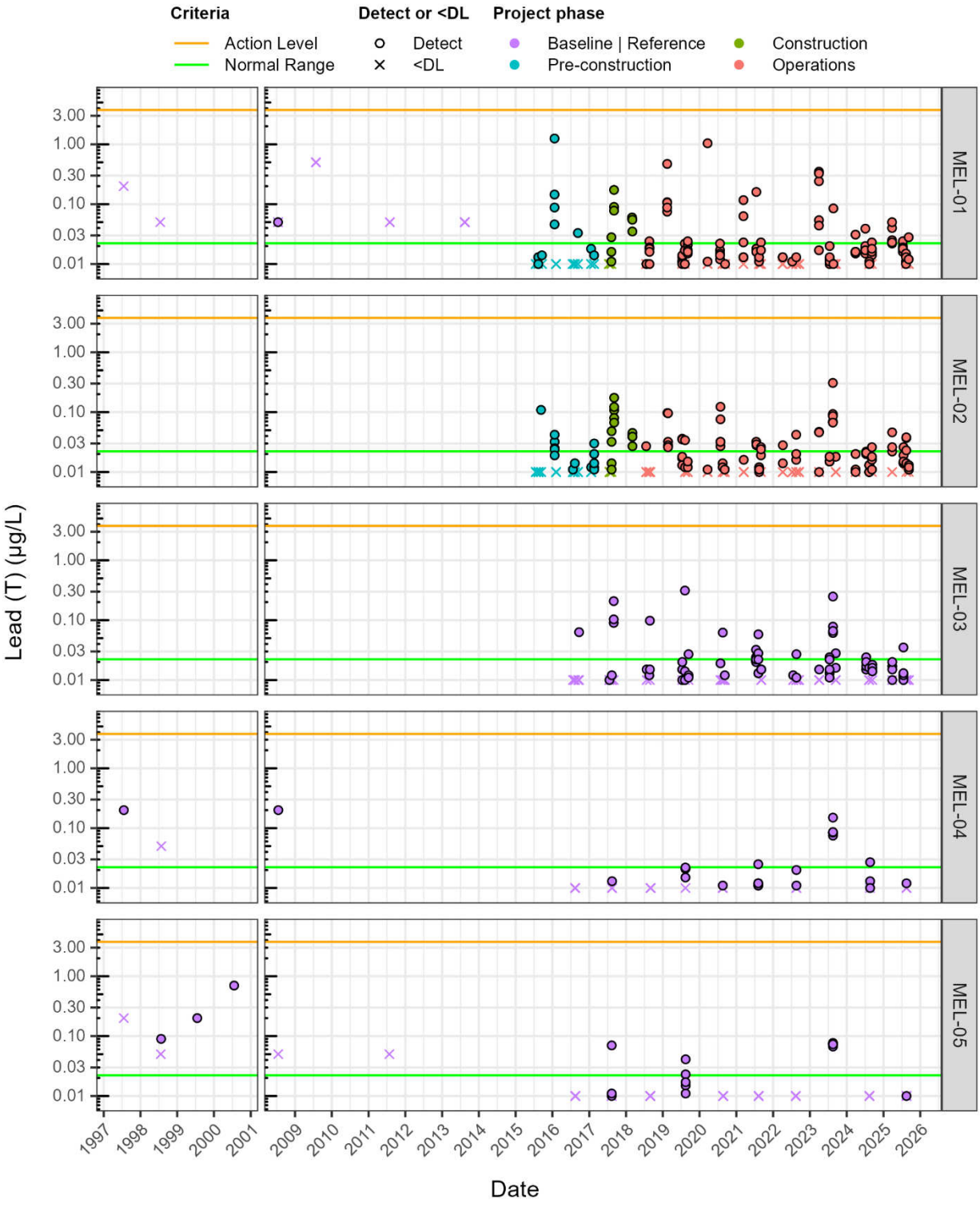


Figure C2-40. Dissolved lead (µg/L)

Notes: The two lines for the Action Level represent the range in site-specific guidelines for protection of aquatic life for open water samples at MEL-01 in 2024.

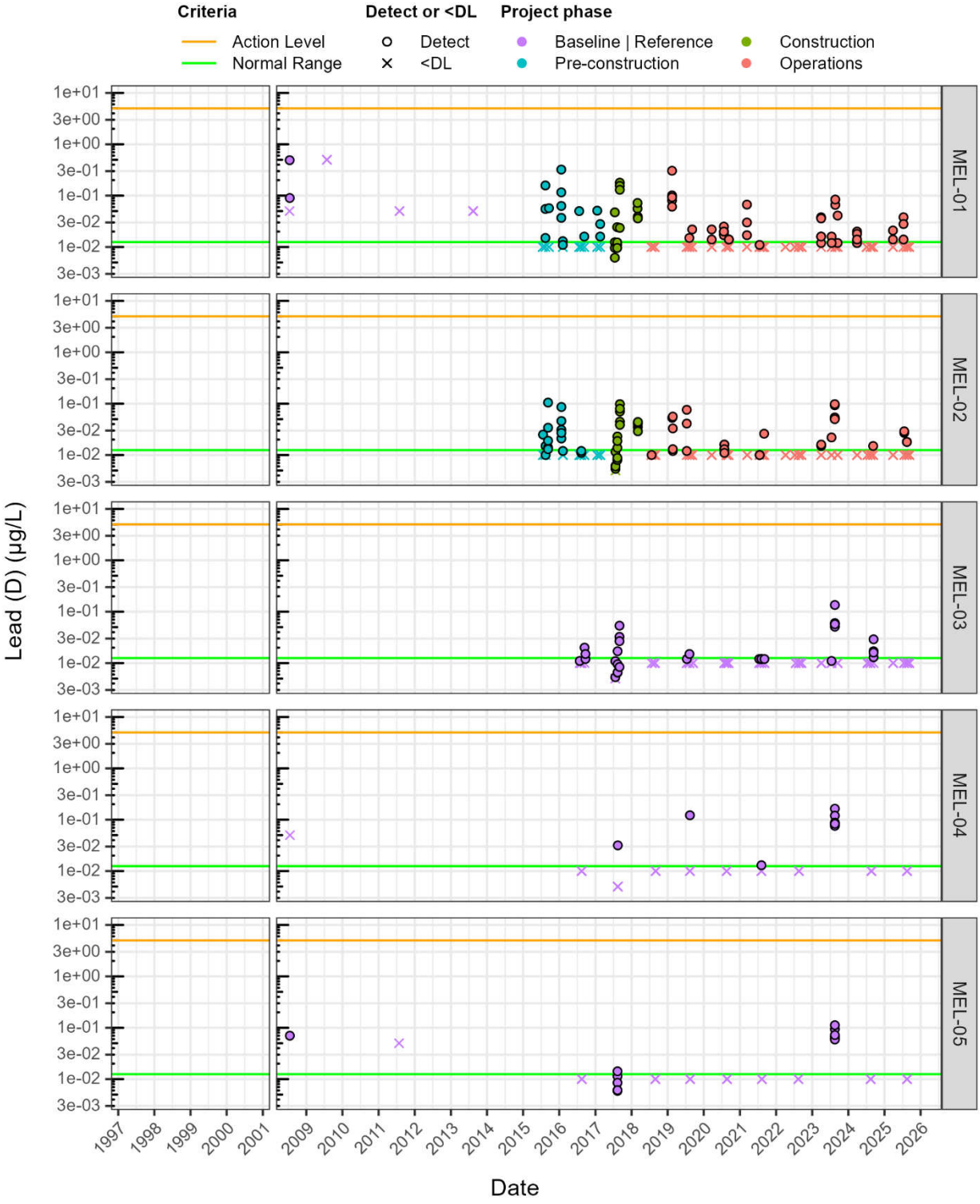


Figure C2-41. Total lithium (µg/L)

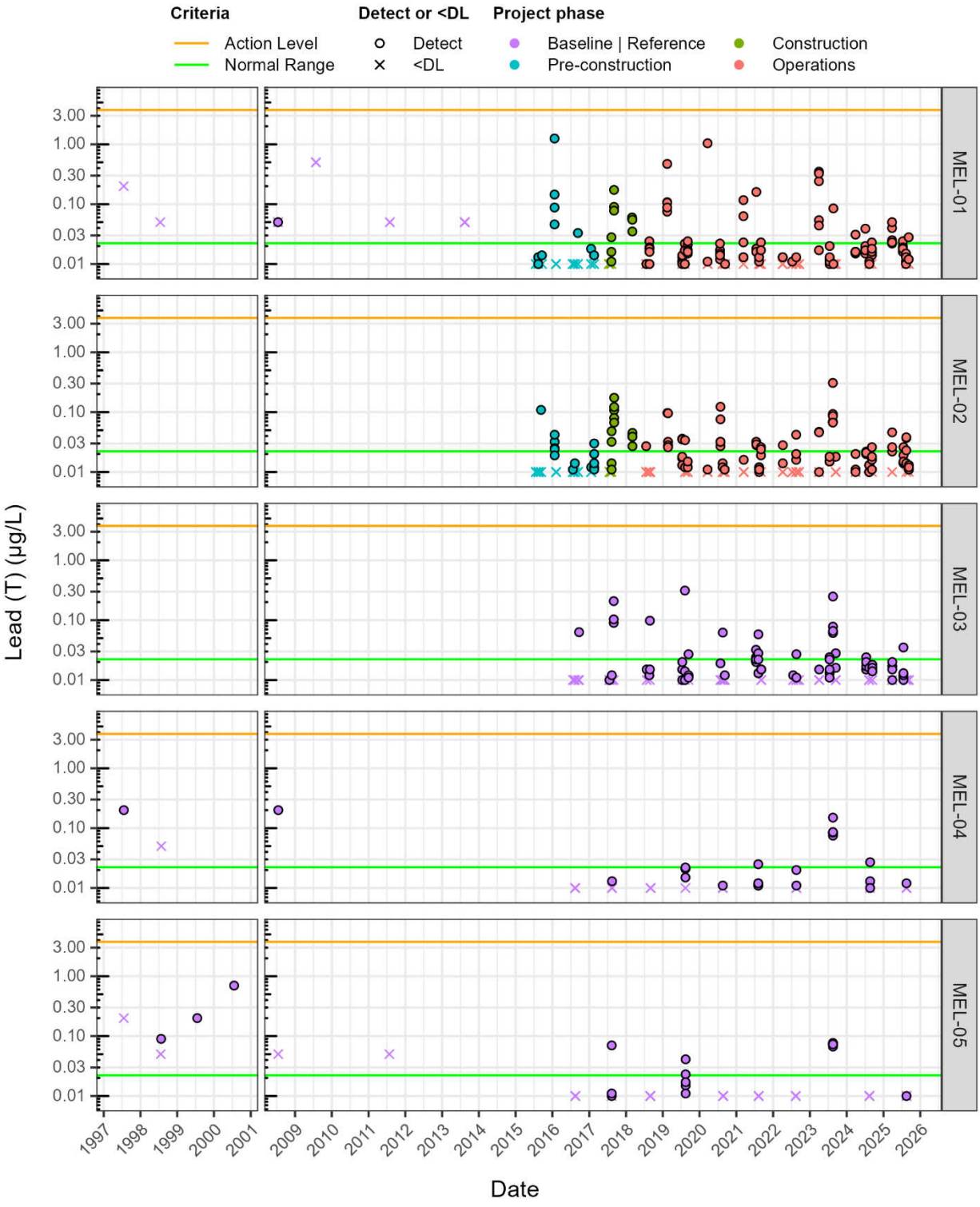


Figure C2-42. Total manganese (µg/L)

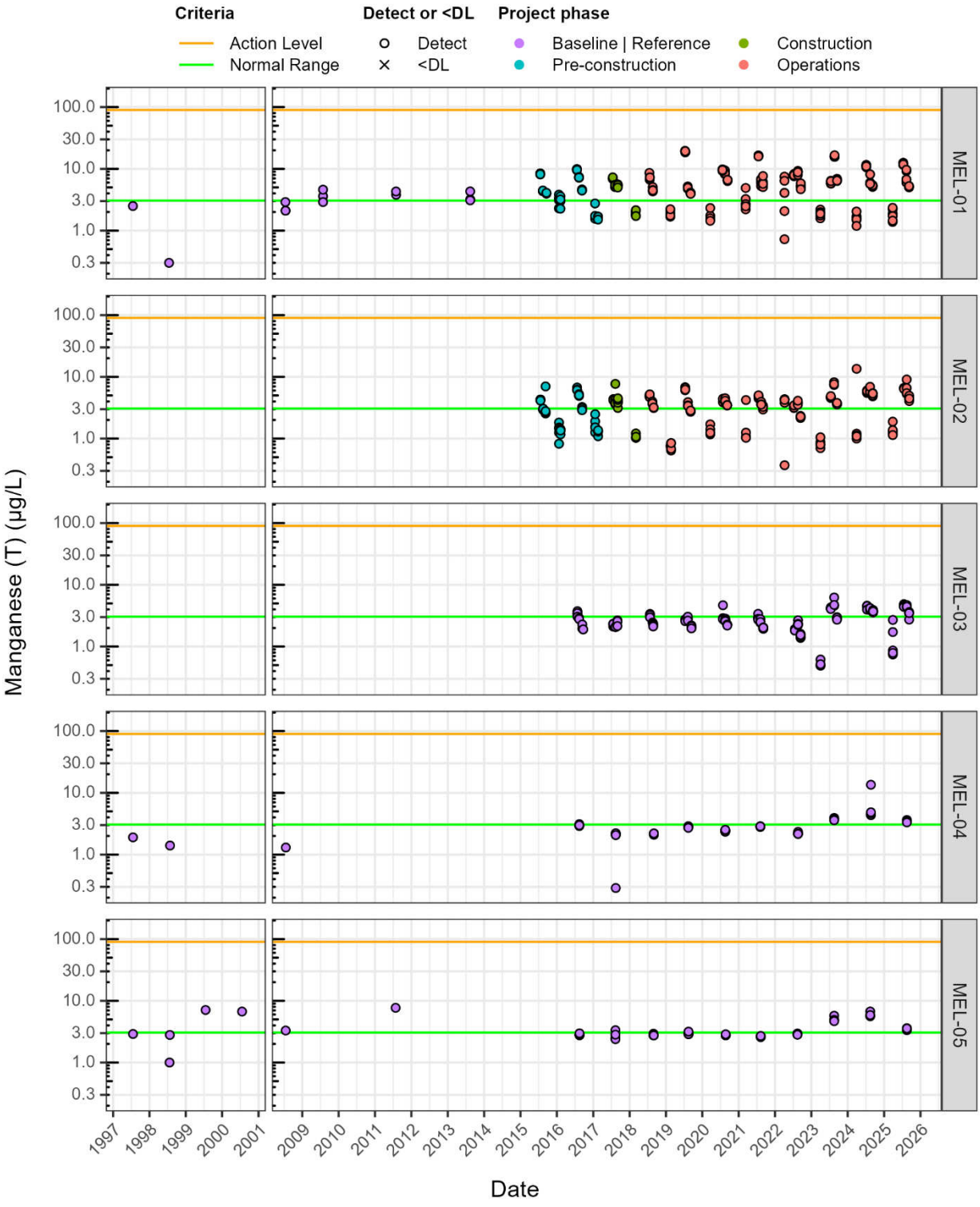


Figure C2-43. Dissolved manganese (µg/L)

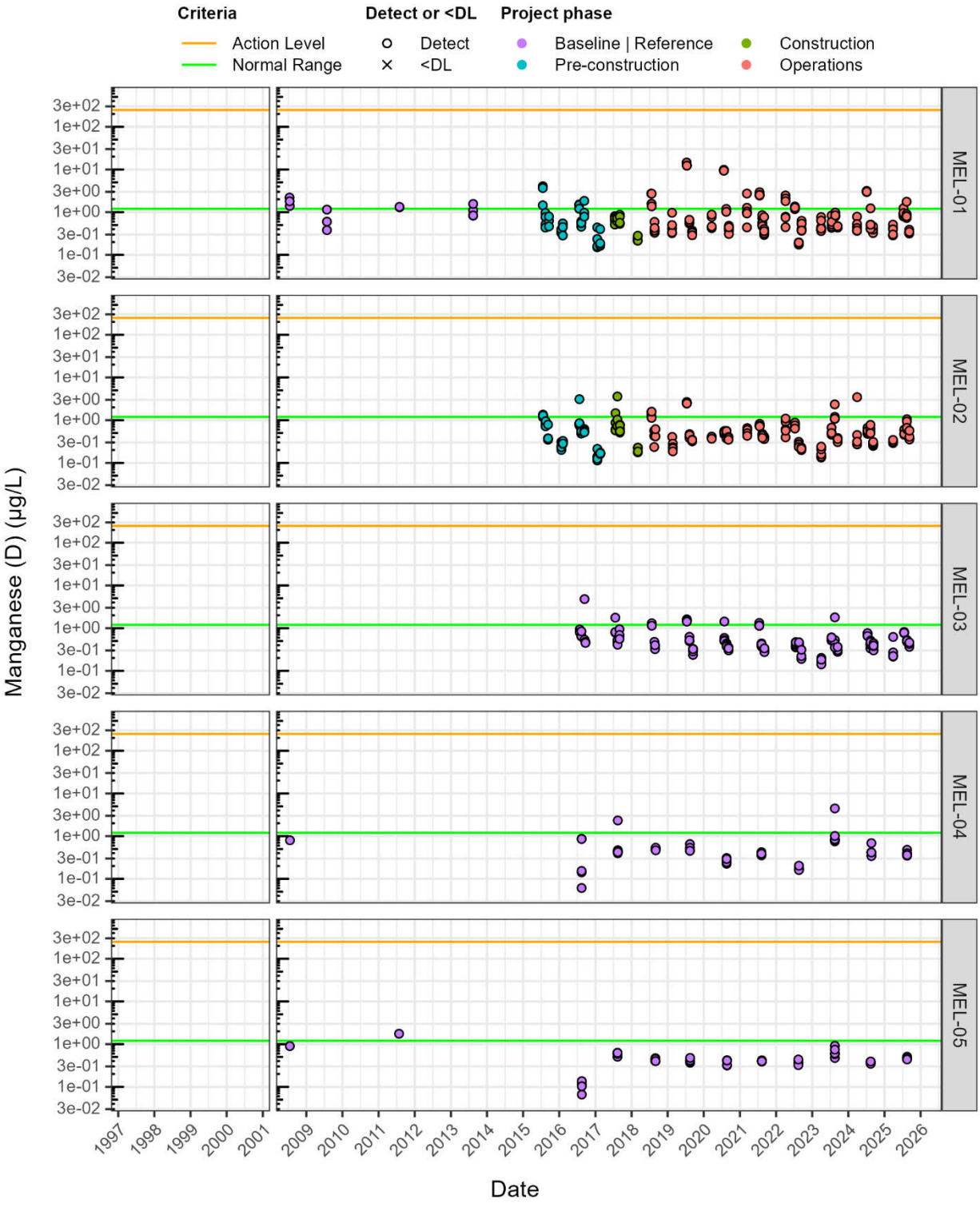


Figure C2-44. Total mercury (µg/L)

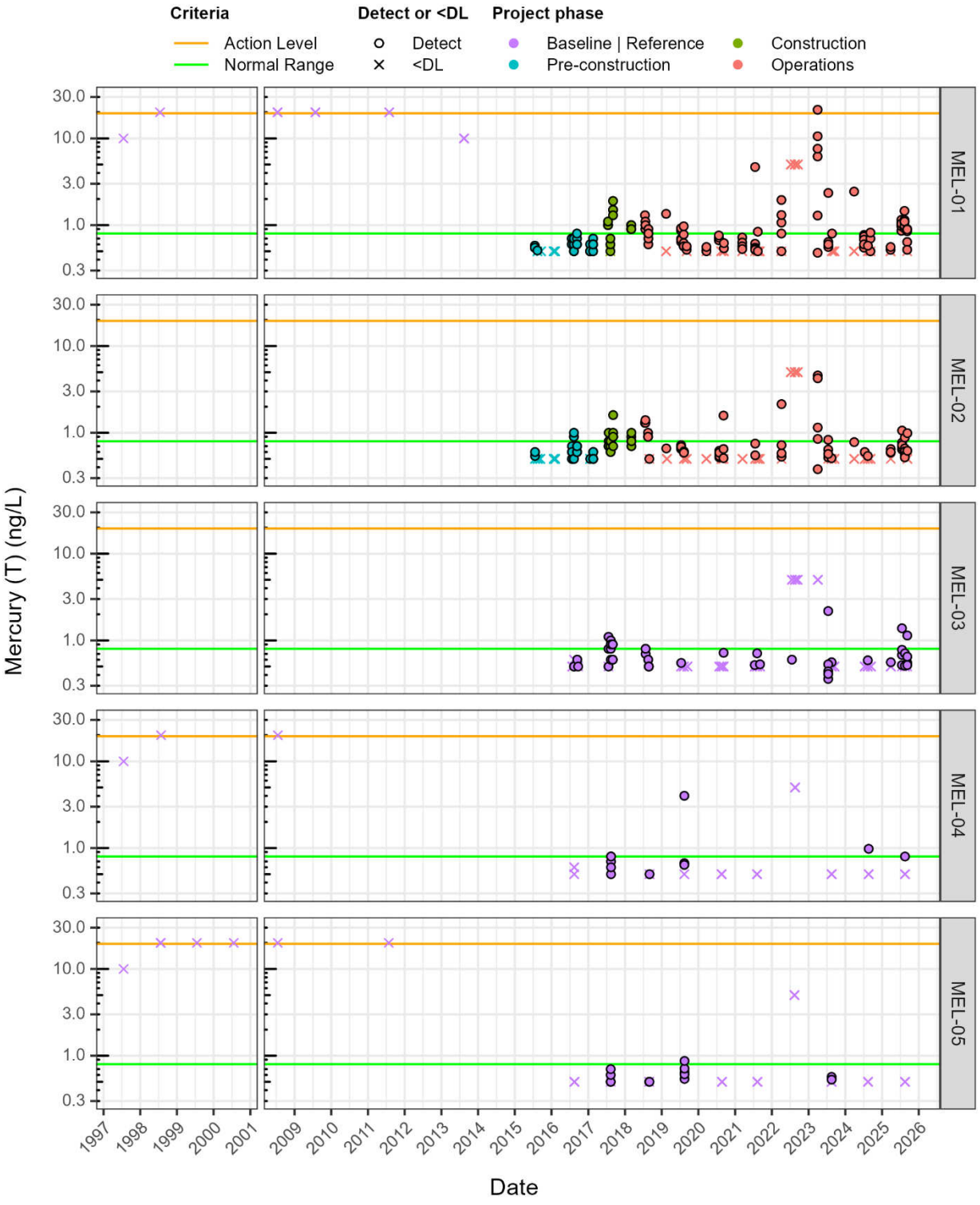


Figure C2-45. Total molybdenum (µg/L)

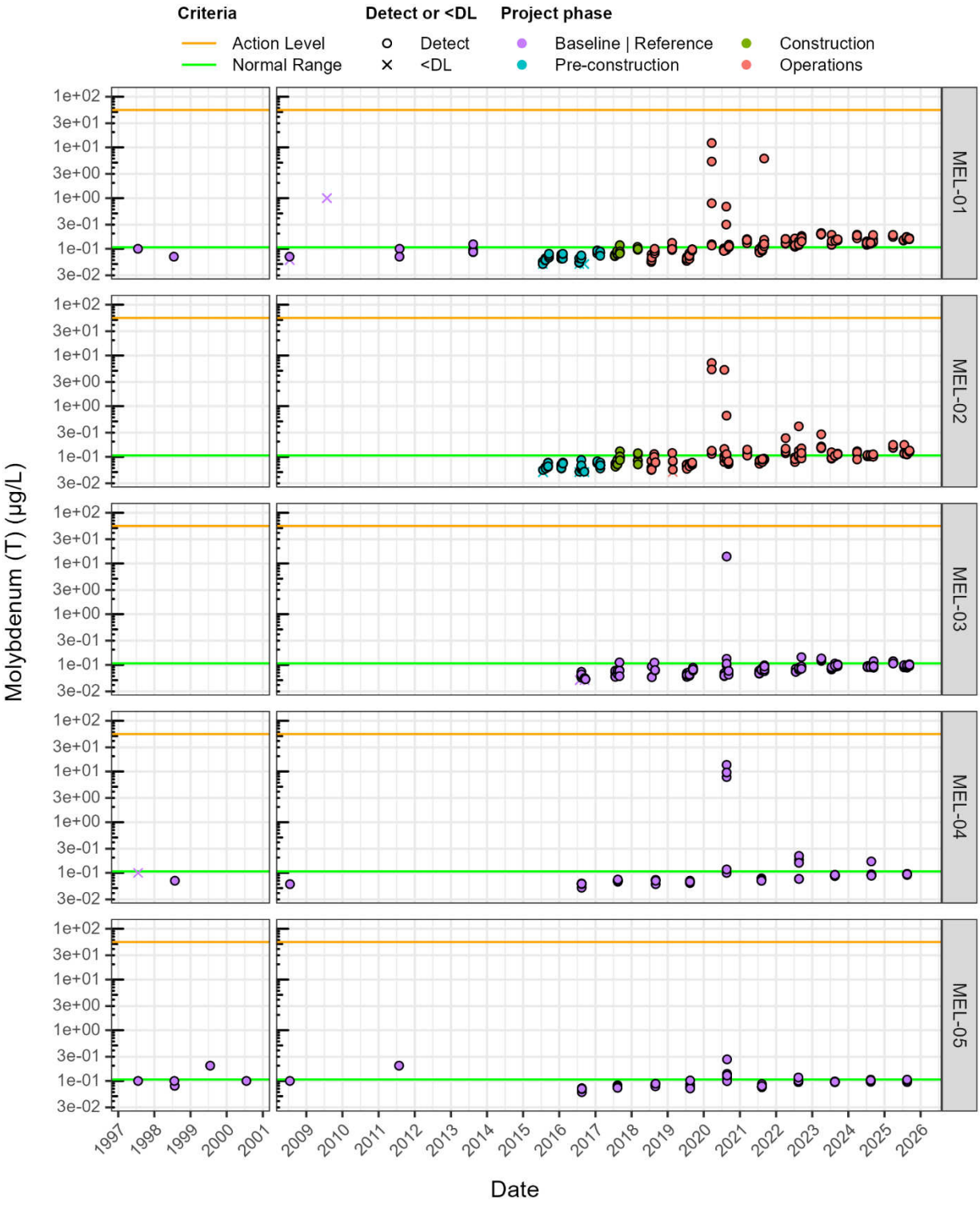


Figure C2-46. Total nickel (µg/L)

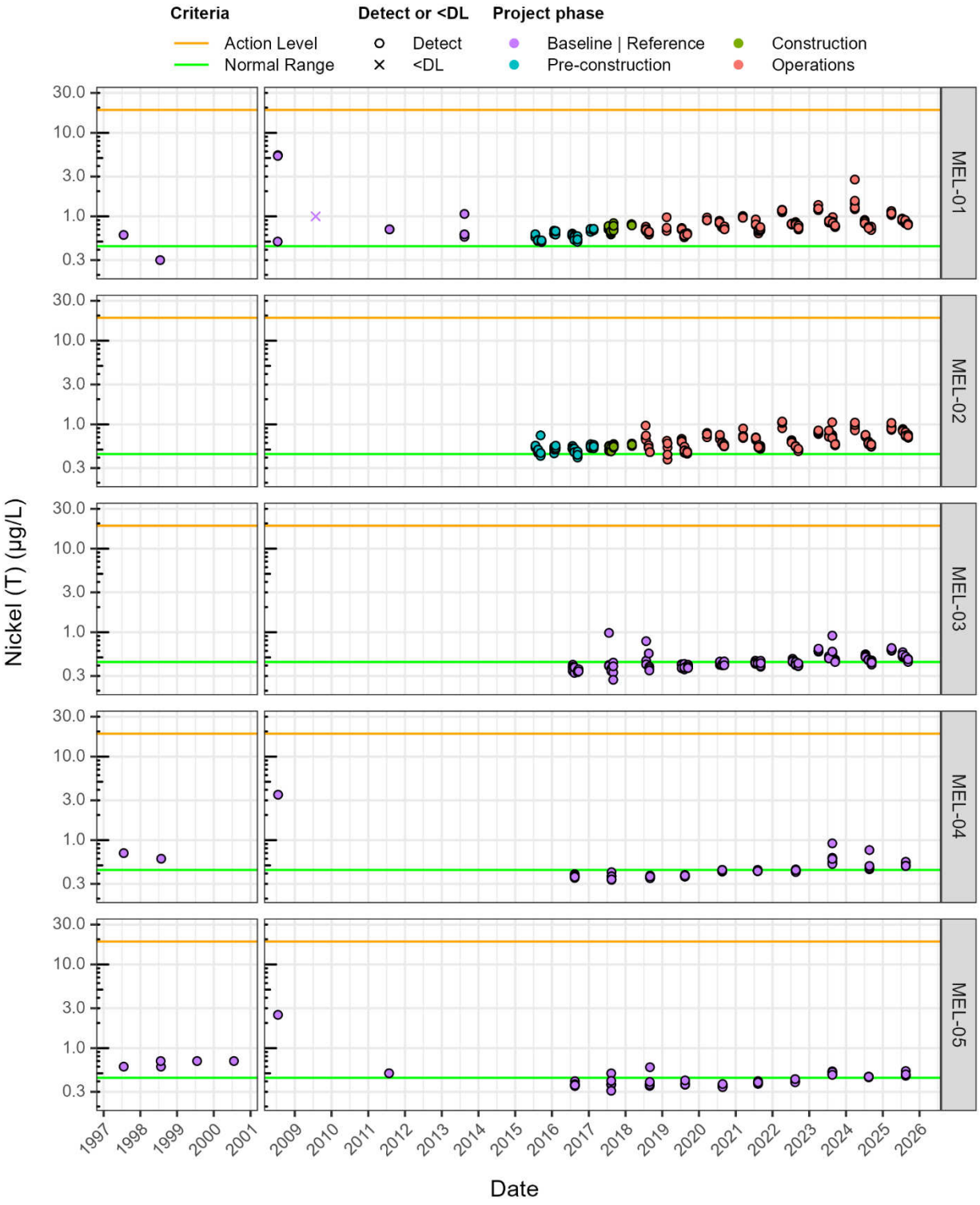


Figure C2-47. Total selenium (µg/L)

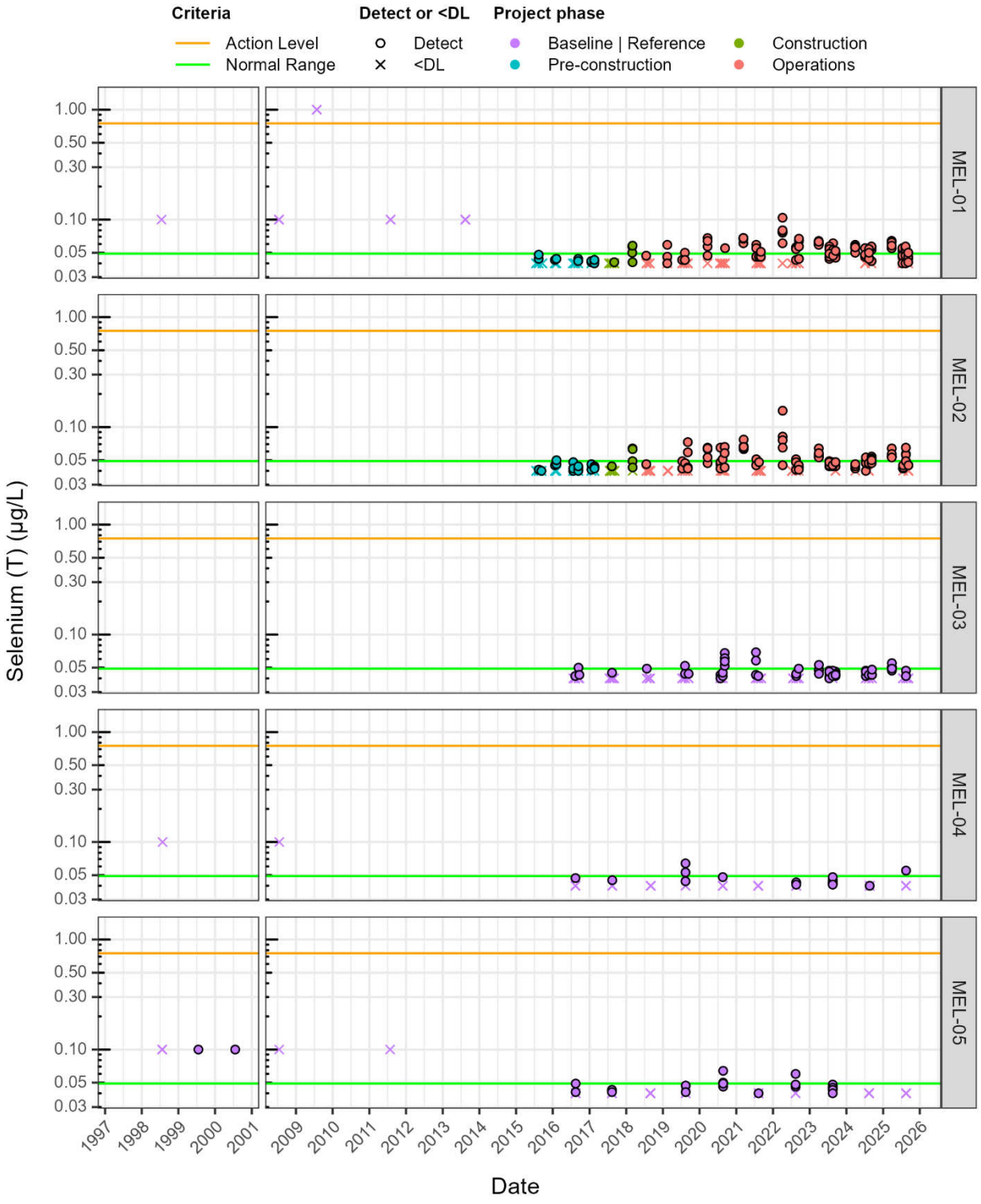


Figure C2-48. Total silver (µg/L)

Notes: The normal range for silver is equal to the current detection limit.

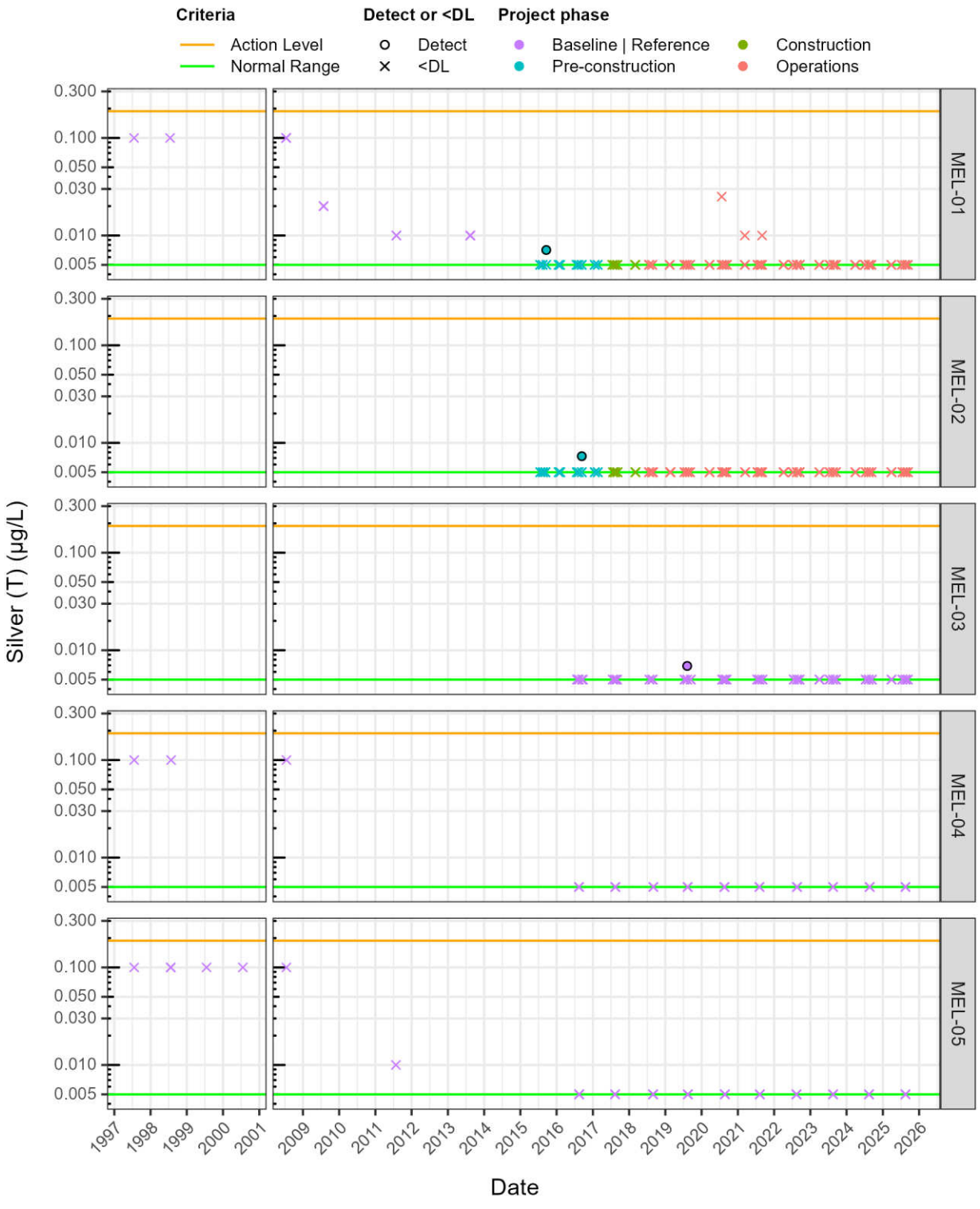


Figure C2-49. Total strontium (µg/L)

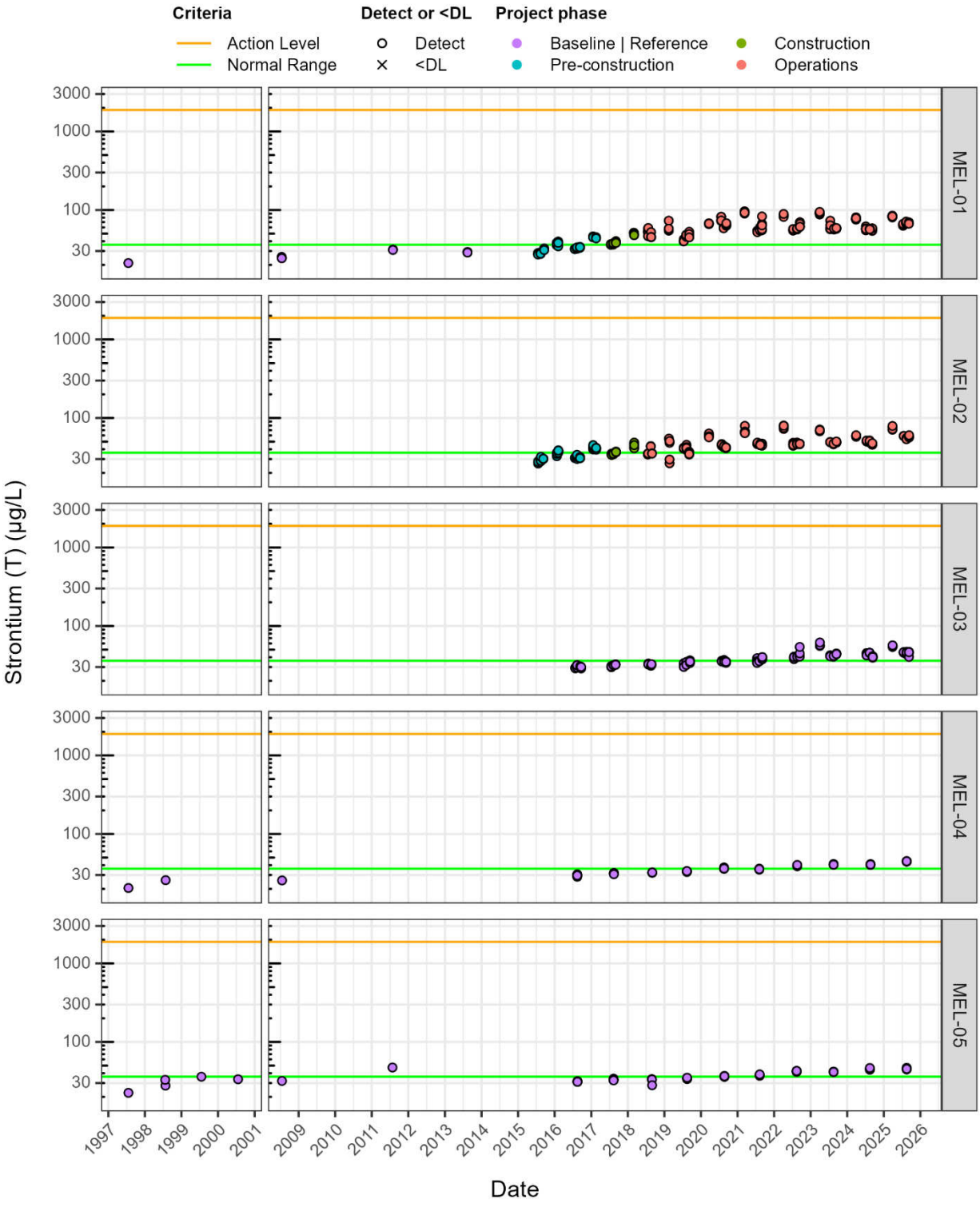


Figure C2-50. Total thallium (µg/L)

Notes: The normal range for thallium is equal to the current detection limit.

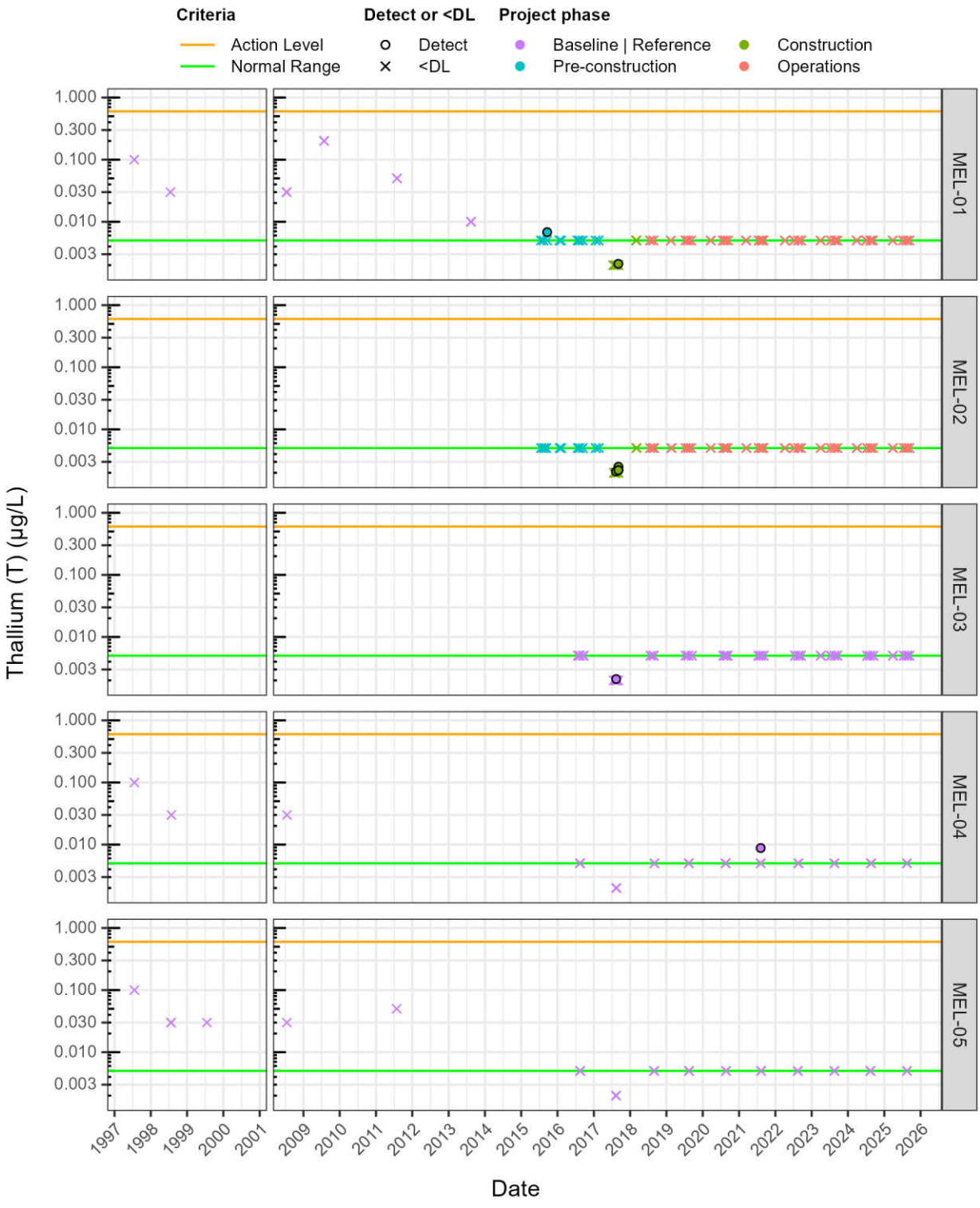


Figure C2-51. Total tin (µg/L)

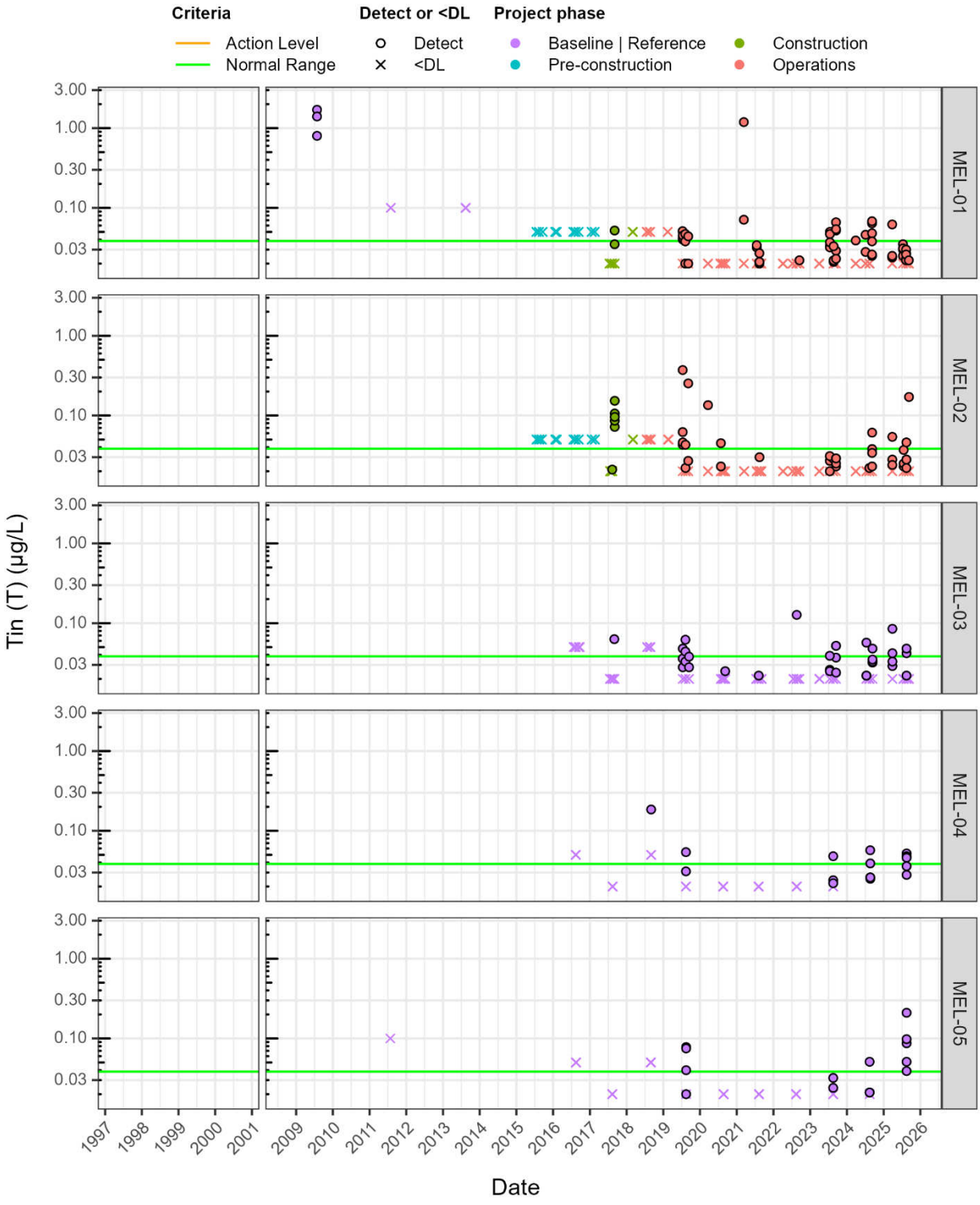


Figure C2-52. Total titanium (µg/L)

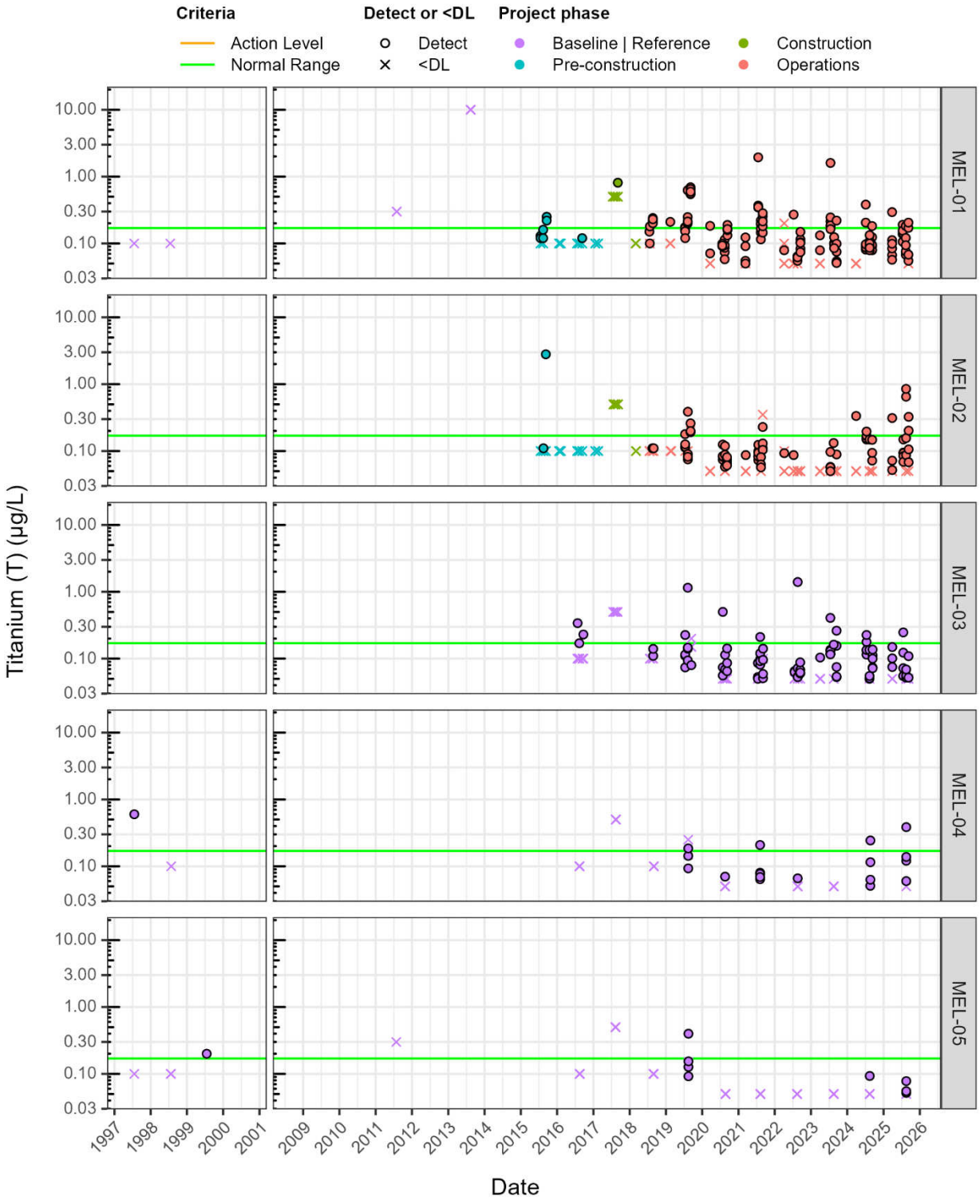


Figure C2-53. Total uranium (µg/L)

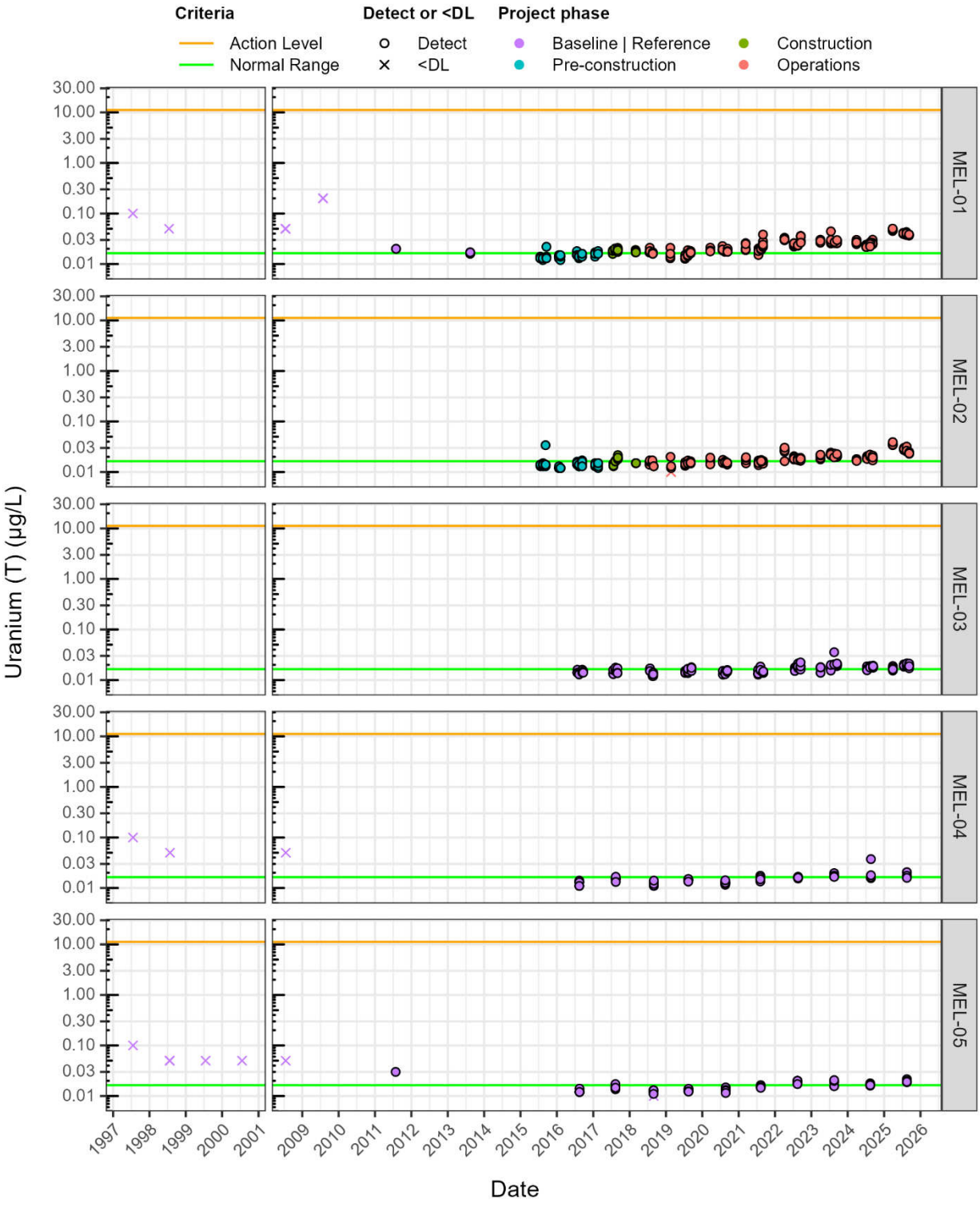


Figure C2-54. Total vanadium (µg/L)

Notes: The normal range for vanadium is equal to the current detection limit.

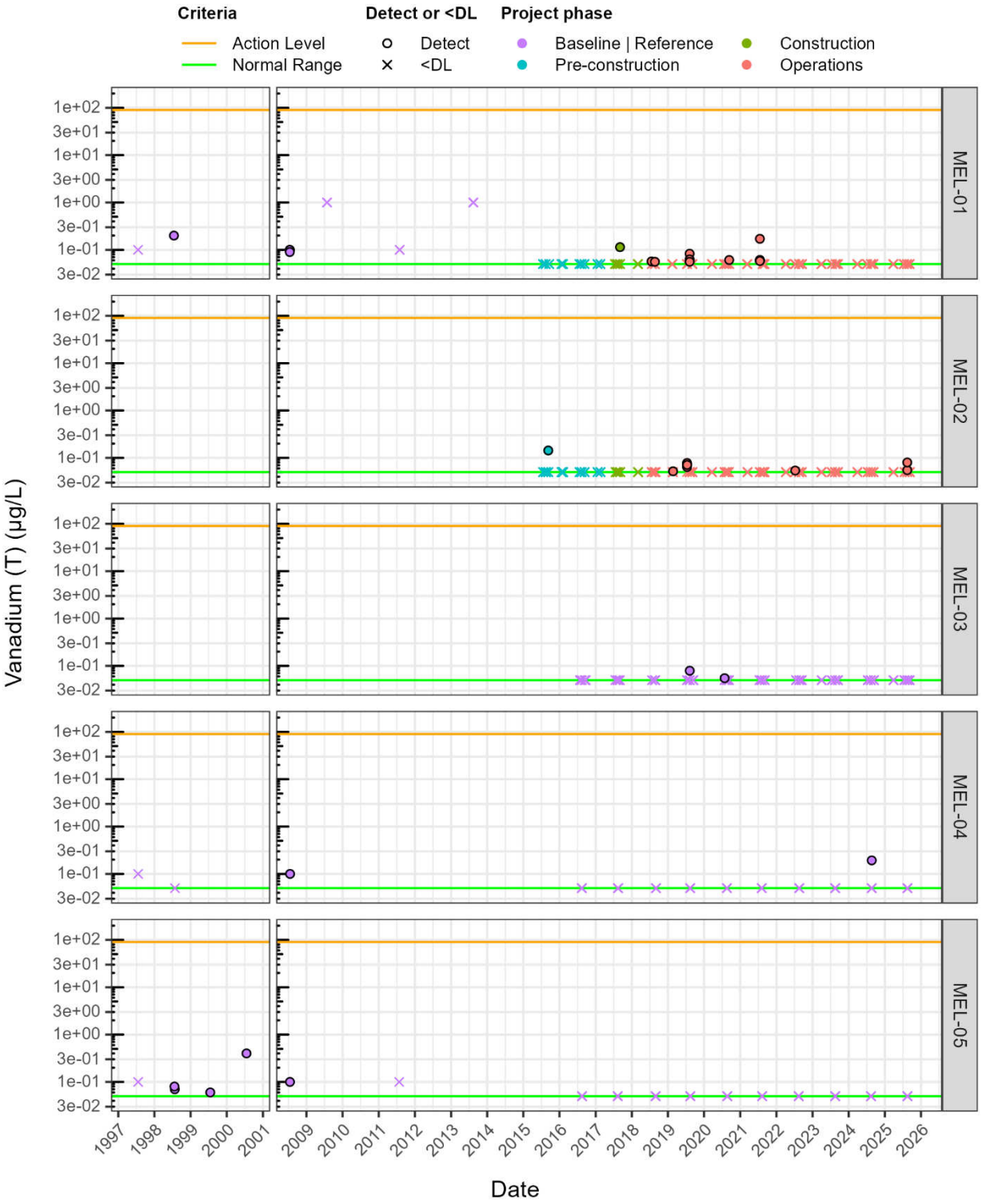


Figure C2-55. Total zinc (µg/L)

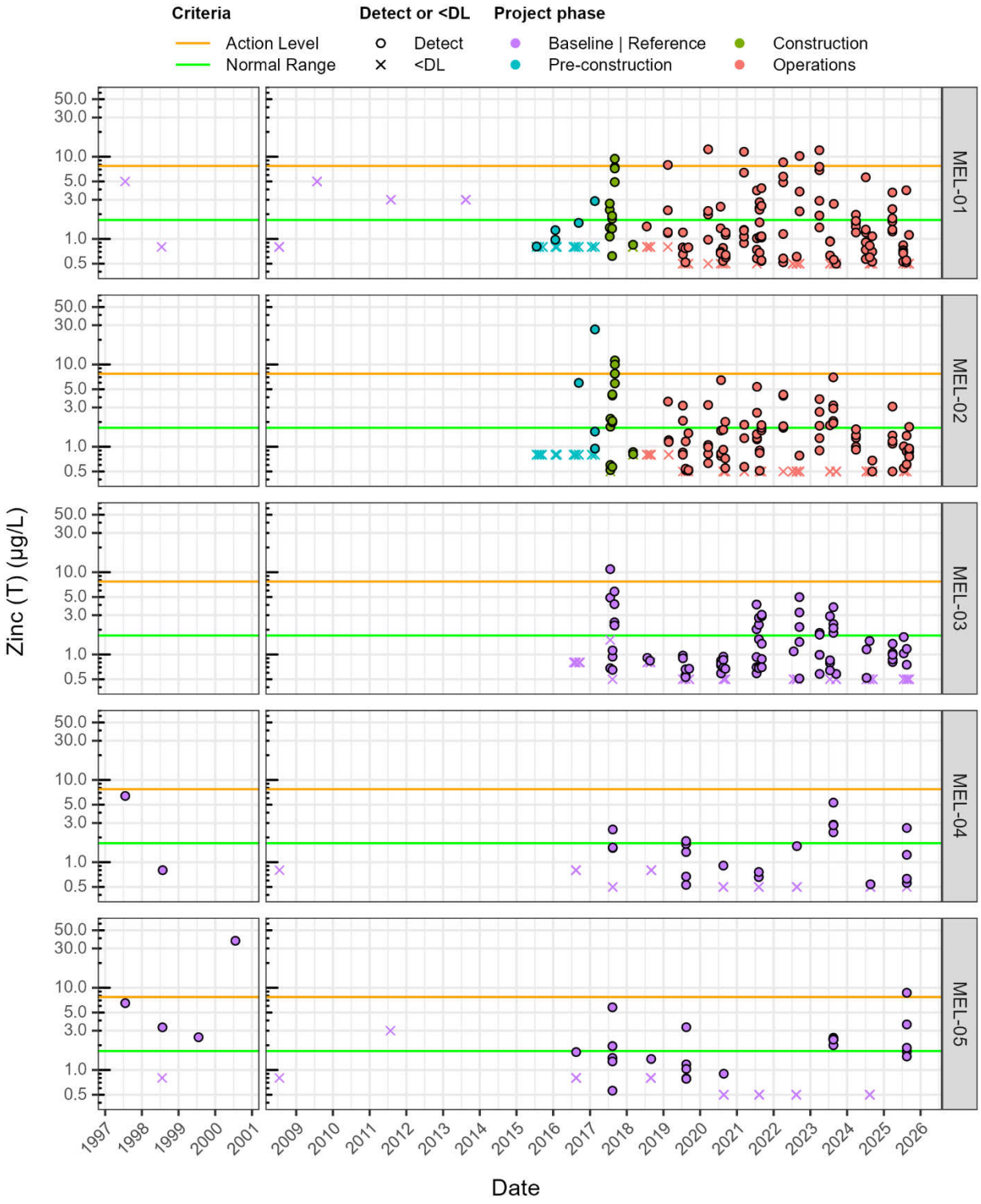
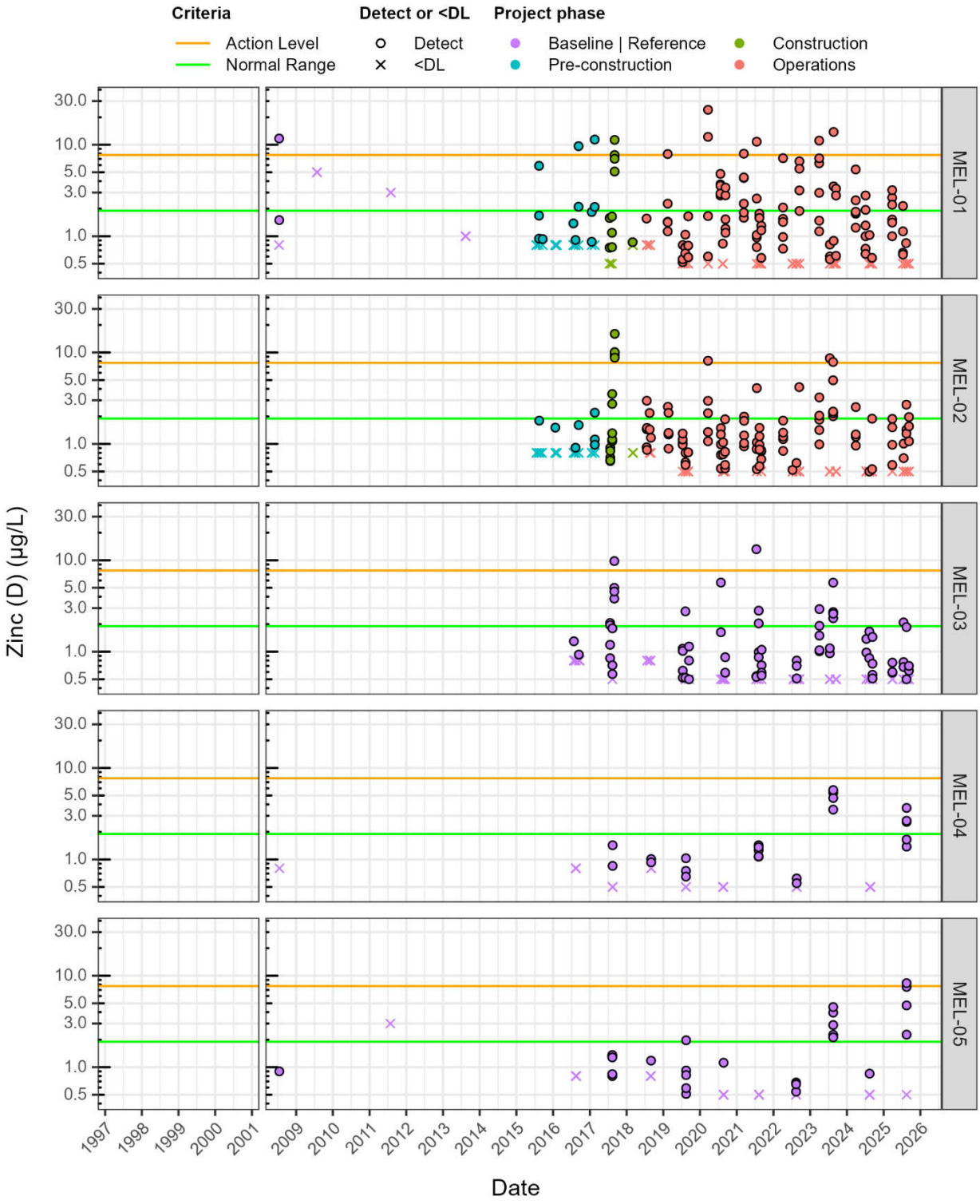


Figure C2-56. Dissolved zinc (µg/L)

Notes: The CCME guideline for dissolved zinc is hardness-dependent. The two lines for the Action Level represent the range in site-specific guidelines for protection of aquatic life for open water samples at MEL-01 in 2024.



Appendix C3
Meliadine Lake Water Quality – ANOVA Results

APPENDIX C3 – TABLES

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake 1

APPENDIX C3 – FIGURES

Note: ANOVA results (model fits ± 95% confidence intervals) are shown along with pairwise comparisons from Tukey post hoc tests; within each sampling area, years that do not share a similar letter are statistically different (α = 0.05). The percentages indicate year-to-year changes in water quality parameters.

Figure C3-2. Total dissolved solids (measured) 9
Figure C3-3. Hardness 9
Figure C3-5. Chloride 10
Figure C3-6. Fluoride 10
Figure C3-7. Total calcium 11
Figure C3-8. Total magnesium 11
Figure C3-9. Total potassium 12
Figure C3-10. Total sodium 12
Figure C3-11. Reactive silica 13
Figure C3-12. Sulphate 13
Figure C3-12. Total Aluminum 14
Figure C3-12. Total Antimony 14
Figure C3-12. Total Arsenic 15
Figure C3-13. Total barium 15
Figure C3-14. Total boron 16
Figure C3-15. Total cobalt 16
Figure C3-16. Dissolved copper 17
Figure C3-17. Total copper 17
Figure C3-18. Total iron 18
Figure C3-19. Total Kjeldahl nitrogen 18
Figure C3-20. Total lithium 19
Figure C3-21. Total manganese 19

Figure C3-22. Total mercury 20
Figure C3-23. Total molybdenum 20
Figure C3-24. Total nickel 21
Figure C3-25. Dissolved organic carbon 22
Figure C3-26. Total phosphorus 22
Figure C3-25. Total dissolved phosphorus 23
Figure C3-27. Total strontium 23
Figure C3-28. Total uranium 24

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Parameter	Year	ANOVA Model Estimates | Pairwise Statistical Differences Among Years | % Change Relative to the Previous Year		
		MEL-01	MEL-02	MEL-03
Total Dissolved Solids [mg/L]	2013	39.757 | ab | ↓		
	2015	37.918 | a | -5	38.653 | a | ↓	
	2016	44.167 | abc | +16	45.533 | ab | +18	41.608 | a | ↓
	2017	53.5 | cde | +21	48.8 | bc | +7	40.417 | a | -3
	2018	54.4 | cdef | +2	45.8 | ab | -6	35.857 | a | -11
	2019	49.2 | bcd | -10	49.933 | bc | +9	63.083 | c | +76
	2020	70.6 | g | +43	49.133 | bc | -2	44.167 | ab | -30
	2021	56.944 | def | -19	52.333 | bc | +7	47.867 | ab | +8
	2022	64.5 | fg | +13	54.133 | c | +3	51.467 | abc | +8
	2023	64.028 | fg | -0.7	55.187 | c | +2	48.053 | ab | -7
	2024	59.906 | ef | -6	51.687 | bc | -6	44.833 | ab | -7
	2025	71.922 | g | +20	67.013 | d | +30	58.333 | bc | +30
Chloride [mg/L]	2013	7.564 | a | ↓		
	2015	8.635 | a | +14	8.821 | a | ↓	
	2016	9.362 | ab | +8	8.395 | a | -5	7.748 | a | ↓
	2017	10.642 | bc | +14	9.376 | ab | +12	8.227 | ab | +6
	2018	12.69 | d | +19	9.372 | ab | -0.1	8.344 | ab | +1
	2019	11.88 | cd | -6	10.885 | bc | +16	9.553 | bc | +14
	2020	17.8 | fg | +50	11.927 | cd | +10	9.374 | b | -2
	2021	16.222 | e | -9	12.167 | cd | +2	9.334 | b | -0.4
	2022	16.211 | e | -0.1	12.021 | cd | -1	10.911 | cd | +17
	2023	16.567 | ef | +2	13.12 | d | +9	11.107 | de | +2
	2024	16.678 | ef | +0.7	13.067 | d | -0.4	11.46 | de | +3
	2025	18.8 | g | +13	15.367 | e | +18	12.467 | e | +9
Fluoride [mg/L]	2013	0.023 | ab | ↓		
	2015	0.02 | a | -11	0.021 | a | ↓	
	2016	0.023 | ab | +13	0.024 | ab | +11	0.024 | a | ↓
	2017	0.027 | cde | +20	0.028 | ef | +17	0.026 | ab | +11
	2018	0.022 | ab | -19	0.024 | abc | -14	0.024 | ab | -6
	2019	0.025 | bc | +13	0.027 | de | +12	0.026 | b | +7
	2020	0.025 | bc | +0.8	0.026 | cde | -2	0.027 | bc | +4
	2021	0.025 | bc | -1	0.025 | bcd | -5	0.025 | ab | -7
	2022	0.027 | cd | +10	0.026 | cde | +3	0.027 | bc | +5
	2023	0.03 | de | +10	0.03 | fg | +14	0.029 | cd | +8
	2024	0.031 | e | +1	0.03 | g | +2	0.03 | d | +4
	2025	0.031 | e | -0.4	0.033 | h | +8	0.034 | e | +13
Reactive Silica (SiO2) [mg/L]	2013	0.5 | bcd | ↓		
	2015	0.35 | a | -30	0.263 | ab | ↓	
	2016	0.427 | abc | +22	0.28 | ab | +6	0.205 | a | ↓
	2017	0.547 | cd | +28	0.348 | d | +24	0.236 | ab | +15
	2018	0.39 | ab | -29	0.341 | cd | -2	0.247 | ab | +5
	2020	0.333 | a | -15	0.293 | abc | -14	0.23 | ab | -7
	2021	0.357 | a | +7	0.244 | a | -17	0.211 | a | -8

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Reactive Silica (SiO2) [mg/L]	2022	0.399 | ab | +12	0.3 | bcd | +23	0.26 | b | +23
	2023	0.544 | d | +36	0.435 | e | +45	0.342 | d | +32
	2024	0.571 | d | +5	0.41 | e | -6	0.347 | d | +2
	2025	0.529 | cd | -7	0.423 | e | +3	0.301 | c | -13
Sulphate [mg/L]	2013	3.266 | a | ↓		
	2015	3.604 | ab | +10	3.665 | a | ↓	
	2016	4.031 | bc | +12	3.579 | a | -2	3.256 | a | ↓
	2017	4.743 | d | +18	4.065 | bc | +14	3.52 | abc | +8
	2018	4.225 | bcd | -11	3.866 | ab | -5	3.449 | ab | -2
	2019	4.309 | cd | +2	4.119 | bcd | +7	3.8 | cd | +10
	2020	5.677 | e | +32	4.425 | cde | +7	3.744 | bc | -1
	2021	5.802 | e | +2	4.484 | de | +1	3.674 | bc | -2
	2022	6.434 | f | +11	4.636 | e | +3	4.021 | d | +9
	2023	7.211 | g | +12	5.548 | f | +20	4.459 | e | +11
	2024	7.154 | g | -0.8	5.401 | f | -3	4.439 | e | -0.4
	2025	13.372 | h | +87	10.068 | g | +86	6.149 | f | +39
Total Calcium [mg/L]	2013	6.204 | a | ↓		
	2015	6.303 | a | +2	6.409 | a | ↓	
	2016	7.165 | b | +14	6.945 | b | +8	6.553 | a | ↓
	2017	7.86 | c | +10	7.4 | c | +7	6.86 | ab | +5
	2018	7.767 | c | -1	7.435 | c | +0.5	6.814 | ab | -0.7
	2019	7.159 | b | -8	7.163 | bc | -4	6.803 | ab | -0.2
	2020	8.793 | d | +23	7.44 | c | +4	6.793 | ab | -0.2
	2021	8.404 | d | -4	7.538 | c | +1	6.983 | b | +3
	2022	9.562 | e | +14	8.282 | d | +10	7.763 | c | +11
	2023	10.154 | f | +6	8.896 | e | +7	8.266 | d | +6
	2024	9.823 | ef | -3	9.151 | e | +3	8.375 | d | +1
	2025	12.039 | g | +23	10.638 | f | +16	8.775 | e | +5
Total Magnesium [mg/L]	2013	1.057 | a | ↓		
	2015	1.099 | ab | +4	1.082 | a | ↓	
	2016	1.23 | bc | +12	1.134 | ab | +5	1.068 | a | ↓
	2017	1.369 | d | +11	1.279 | c | +13	1.123 | a | +5
	2018	1.386 | d | +1	1.241 | bc | -3	1.101 | a | -2
	2019	1.315 | cd | -5	1.29 | cd | +4	1.176 | ab | +7
	2020	1.743 | ef | +33	1.34 | cd | +4	1.161 | a | -1
	2021	1.633 | e | -6	1.359 | cd | +1	1.153 | a | -0.7
	2022	1.786 | fg | +9	1.409 | de | +4	1.295 | bc | +12
	2023	1.881 | g | +5	1.525 | ef | +8	1.401 | cd | +8
	2024	1.796 | fg | -5	1.542 | f | +1	1.362 | cd | -3
	2025	2.258 | h | +26	1.927 | g | +25	1.469 | d | +8
Total Potassium [mg/L]	2013	0.824 | a | ↓		
	2015	0.847 | a | +3	0.852 | a | ↓	
	2016	0.887 | a | +5	0.875 | a | +3	0.846 | a | ↓
	2017	1.01 | b | +14	0.953 | b | +9	0.918 | b | +9
	2018	0.979 | b | -3	0.951 | bc | -0.1	0.876 | ab | -5
	2019	0.98 | b | +0.1	0.979 | bcd | +3	0.929 | b | +6
	2020	1.157 | cd | +18	1.012 | cde | +3	0.935 | b | +0.7

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Total Potassium [mg/L]	2021	1.116 | c | -4	1.021 | de | +0.9	0.942 | b | +0.7
	2022	1.194 | d | +7	1.057 | ef | +3	1.029 | c | +9
	2023	1.195 | d | +0.1	1.057 | ef | -0.1	1.028 | c | -0.1
	2024	1.196 | d | +0.1	1.103 | f | +4	1.041 | c | +1
	2025	1.309 | e | +10	1.215 | g | +10	1.065 | c | +2
Total Sodium [mg/L]	2013	3.859 | a | ↓		
	2015	4.349 | a | +13	4.37 | a | ↓	
	2016	4.803 | ab | +10	4.469 | a | +2	4.235 | a | ↓
	2017	5.352 | b | +11	4.771 | a | +7	4.368 | a | +3
	2018	5.633 | b | +5	4.936 | ab | +3	4.356 | a | -0.3
	2019	5.585 | b | -0.9	5.71 | bc | +16	5.01 | ab | +15
	2020	8.167 | c | +46	5.742 | bc | +0.6	4.762 | a | -5
	2021	7.7 | c | -6	5.959 | bc | +4	4.75 | a | -0.3
	2022	8.014 | c | +4	6.071 | c | +2	5.596 | bc | +18
	2023	8.244 | c | +3	6.391 | c | +5	5.545 | bc | -0.9
	2024	8.026 | c | -3	6.582 | c | +3	5.744 | bc | +4
	2025	9.116 | d | +14	7.557 | d | +15	5.977 | c | +4
Total Diss Phosphorus [mg/L]	2013	0.002 | abcd | ↓		
	2015	0.002 | ab | -8	0.002 | ab | ↓	
	2016	0.002 | ab | +5	0.001 | a | -15	0.002 | ab | ↓
	2017	0.003 | abcd | +38	0.002 | c | +74	0.002 | ab | +43
	2018	0.002 | abc | -22	0.002 | ab | -35	0.002 | ab | -23
	2020	0.003 | bcd | +40	0.002 | abc | +13	0.001 | a | -20
	2021	0.003 | cd | +8	0.003 | c | +41	0.003 | b | +73
	2022	0.002 | a | -42	0.002 | abc | -20	0.002 | ab | -9
	2023	0.002 | abcd | +30	0.002 | abc | -2	0.002 | ab | -25
	2024	0.003 | cd | +30	0.002 | bc | +17	0.002 | ab | +6
	2025	0.003 | d | +8	0.003 | c | +5	0.002 | ab | +19
Total Kjeldahl Nitrogen [mg/L]	2013	0.204 | abc | ↓		
	2015	0.164 | ab | -20	0.214 | bcd | ↓	
	2016	0.136 | a | -17	0.137 | a | -36	0.129 | a | ↓
	2017	0.228 | bcd | +68	0.17 | ab | +24	0.16 | a | +24
	2018	0.233 | bcde | +2	0.233 | bcd | +37	0.182 | abc | +14
	2019	0.218 | bc | -6	0.2 | abc | -14	0.166 | ab | -9
	2020	0.267 | cdef | +22	0.264 | d | +32	0.214 | bcd | +29
	2021	0.244 | cde | -9	0.222 | bcd | -16	0.138 | a | -36
	2022	0.313 | f | +29	0.221 | bcd | -0.6	0.224 | cd | +62
	2023	0.273 | cdef | -13	0.252 | cd | +14	0.225 | cd | +0.5
	2024	0.3 | def | +10	0.227 | bcd | -10	0.225 | cd | +0.2
	2025	0.309 | ef | +3	0.263 | d | +16	0.238 | d | +6
Total Phosphorus [mg/L]	2013	0.004 | a | ↓		
	2015	0.005 | abc | +47	0.005 | ab | ↓	
	2016	0.007 | abc | +20	0.005 | ab | -6	0.005 | c | ↓
	2017	0.007 | abc | +0.2	0.005 | b | +15	0.005 | bc | -4
	2018	0.005 | ab | -29	0.003 | a | -44	0.003 | a | -44
	2019	0.006 | abc | +32	0.004 | ab | +40	0.003 | abc | +29
	2020	0.008 | c | +27	0.006 | b | +36	0.003 | abc | -5

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Total Phosphorus [mg/L]	2021	0.007 | c | -7	0.005 | b | -7	0.004 | abc | +21
	2022	0.007 | bc | -7	0.004 | ab | -27	0.003 | ab | -20
	2023	0.006 | abc | -12	0.004 | ab | +13	0.004 | abc | +22
	2024	0.006 | abc | +4	0.005 | ab | +5	0.004 | abc | +7
	2025	0.008 | c | +25	0.006 | b | +23	0.005 | bc | +10
Dissolved Organic Carbon [mg/L]	2013	2.724 | ab | ↓		
	2015	2.885 | ab | +6	2.739 | ab | ↓	
	2016	2.648 | a | -8	2.399 | a | -12	2.284 | ab | ↓
	2017	3.384 | cd | +28	2.893 | b | +21	2.234 | a | -2
	2018	3.072 | bc | -9	2.725 | ab | -6	2.311 | ab | +3
	2019	2.799 | ab | -9	2.518 | a | -8	2.212 | a | -4
	2020	3.445 | cd | +23	2.985 | b | +19	2.203 | a | -0.4
	2021	3.474 | d | +0.8	3.025 | b | +1	2.633 | b | +20
	2022	4.187 | e | +21	3.819 | c | +26	3.171 | c | +20
	2023	4.285 | e | +2	3.986 | cd | +4	3.469 | c | +9
	2024	4.779 | f | +12	3.976 | cd | -0.3	3.49 | c | +0.6
	2025	4.338 | e | -9	4.227 | d | +6	3.42 | c | -2
Total Aluminum [µg/L]	2013	4.486 | ab | ↓		
	2015	3.529 | ab | -21	2.334 | a | ↓	
	2016	2.201 | a | -38	2.102 | a | -10	3.064 | ab | ↓
	2017	6.424 | ab | +192	4.387 | bc | +109	4.273 | ab | +39
	2018	13.643 | c | +112	3.157 | abc | -28	3.251 | ab | -24
	2019	6.893 | ab | -49	3.633 | abc | +15	5.083 | b | +56
	2020	5.3 | ab | -23	3.527 | abc | -3	3.25 | ab | -36
	2021	8.372 | b | +58	3.24 | abc | -8	2.913 | a | -10
	2022	3.578 | a | -57	1.953 | a | -40	3.4 | ab | +17
	2023	3.55 | a | -0.8	2.54 | a | +30	3.183 | ab | -6
	2024	3.967 | a | +12	2.767 | ab | +9	2.707 | a | -15
	2025	6.244 | ab | +57	4.727 | c | +71	2.46 | a | -9
Total Antimony [µg/L]	2013	0.1 | b | ↓		
	2015	0.028 | a | -72	0.02 | a | ↓	
	2016	0.02 | a | -30	0.02 | a | -0.3	0.02 | a | ↓
	2017	0.023 | a | +14	0.021 | a | +3	0.02 | a | +0.8
	2018	0.02 | a | -12	0.02 | a | -3	0.02 | a | -0.8
	2019	0.02 | a | -0.1	0.02 | a | +0.1	0.02 | a | 0
	2020	0.02 | a | +0.1	0.02 | a | -0.1	0.02 | a | +0.4
	2021	0.021 | a | +3	0.02 | a | 0	0.02 | a | -0.4
	2022	0.02 | a | -2	0.021 | a | +3	0.02 | a | 0
	2023	0.021 | a | +2	0.02 | a | -2	0.02 | a | 0
	2024	0.02 | a | -3	0.02 | a | -0.3	0.02 | a | 0
	2025	0.025 | a | +22	0.02 | a | +0.3	0.02 | a | +0.1
Total Arsenic [µg/L]	2013	0.427 | ab | ↓		
	2015	0.338 | a | -21	0.244 | a | ↓	
	2016	0.403 | ab | +19	0.258 | a | +6	0.201 | a | ↓
	2017	0.44 | b | +9	0.266 | a | +3	0.202 | a | +0.5
	2018	0.385 | ab | -12	0.257 | a | -3	0.196 | a | -3
	2019	0.398 | ab | +3	0.296 | a | +15	0.219 | a | +12

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Total Arsenic [µg/L]	2020	0.523 | c | +31	0.471 | b | +60	0.27 | b | +23
	2021	0.524 | c | +0.1	0.56 | c | +19	0.341 | c | +26
	2022	0.576 | cd | +10	0.592 | c | +6	0.333 | c | -2
	2023	0.642 | de | +11	0.749 | d | +27	0.406 | d | +22
	2024	0.668 | e | +4	0.844 | e | +13	0.464 | e | +14
	2025	0.87 | f | +30	0.893 | e | +6	0.469 | e | +1
Total Barium [µg/L]	2013	6.607 | a | ↓		
	2015	6.81 | a | +3	7.305 | a | ↓	
	2016	7.322 | b | +8	7.662 | b | +5	7.482 | ab | ↓
	2017	7.984 | cd | +9	7.761 | bc | +1	7.534 | abc | +0.7
	2018	8.328 | de | +4	8.15 | de | +5	7.464 | ab | -0.9
	2019	7.676 | c | -8	8.046 | cde | -1	7.352 | a | -1
	2020	8.494 | e | +11	8.32 | e | +3	7.767 | bcd | +6
	2021	8.436 | e | -0.7	8.151 | de | -2	7.815 | d | +0.6
	2022	8.62 | e | +2	7.853 | bcd | -4	7.789 | cd | -0.3
	2023	9.527 | g | +11	9.141 | f | +16	8.812 | e | +13
	2024	9.223 | f | -3	9.039 | f | -1	8.627 | e | -2
	2025	11.867 | h | +29	11.3 | g | +25	9.465 | f | +10
Total Boron [µg/L]	2013	10 | d | ↓		
	2015	4.645 | a | -54	4.207 | a | ↓	
	2016	6.633 | b | +43	6.493 | de | +54	6.342 | d | ↓
	2017	5.033 | a | -24	5.06 | b | -22	5 | b | -21
	2018	4.95 | a | -2	4.11 | a | -19	3.757 | a | -25
	2019	5.493 | a | +11	5.207 | bc | +27	5.142 | bc | +37
	2020	7.6 | c | +38	5.567 | bc | +7	5 | b | -3
	2021	7.461 | bc | -2	5.48 | bc | -2	5 | b | -0.1
	2022	7.444 | bc | -0.2	5.473 | bc | -0.1	5 | b | +0.1
	2023	7.672 | c | +3	5.82 | cd | +6	5.021 | b | +0.4
	2024	7.183 | bc | -6	5.7 | bc | -2	5.053 | b | +0.6
	2025	7.761 | c | +8	6.787 | e | +19	5.593 | c | +11
Total Cobalt [µg/L]	2015	0.02 | a | ↓	0.014 | a | ↓	
	2016	0.019 | a | -3	0.014 | a | -0.1	0.012 | abc | ↓
	2017	0.023 | ab | +19	0.016 | ab | +14	0.01 | a | -21
	2018	0.024 | abc | +6	0.018 | abc | +11	0.015 | bcd | +50
	2019	0.027 | bcd | +13	0.016 | ab | -8	0.013 | bc | -10
	2020	0.03 | cd | +10	0.018 | abc | +9	0.012 | abc | -7
	2021	0.033 | de | +10	0.018 | bc | +4	0.012 | ab | -4
	2022	0.027 | bc | -19	0.014 | a | -26	0.012 | ab | +0.3
	2023	0.029 | bcd | +10	0.019 | bc | +38	0.015 | cd | +30
	2024	0.029 | bcd | -2	0.021 | c | +11	0.016 | d | +6
	2025	0.037 | e | +28	0.028 | d | +34	0.018 | d | +12
Total Copper [µg/L]	2013	1.09 | cd | ↓		
	2015	0.704 | a | -35	0.754 | a | ↓	
	2016	0.733 | a | +4	0.789 | ab | +5	0.683 | a | ↓
	2017	0.99 | bcd | +35	0.934 | ab | +18	0.799 | ab | +17
	2018	0.832 | abc | -16	0.727 | a | -22	0.684 | ab | -14
	2019	0.806 | ab | -3	0.923 | ab | +27	0.933 | ab | +36

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Total Copper [µg/L]	2020	0.848 | abc | +5	0.999 | ab | +8	0.677 | a | -27
	2021	1.067 | d | +26	0.907 | ab | -9	1.129 | b | +67
	2022	0.949 | bcd | -11	0.807 | ab | -11	0.747 | ab | -34
	2023	0.992 | bcd | +5	1.086 | b | +35	0.907 | ab | +21
	2024	1.055 | d | +6	1 | ab | -8	1.007 | ab | +11
	2025	1.013 | cd | -4	1.036 | ab | +4	0.795 | ab | -21
Total Iron [µg/L]	2013	24.286 | ab | ↓		
	2015	19.655 | a | -19	12.893 | ab | ↓	
	2016	21.617 | a | +10	14.02 | abc | +9	12.417 | ab | ↓
	2017	25.567 | ab | +18	15.233 | abc | +9	10.725 | ab | -14
	2018	25.07 | ab | -2	19.28 | bcd | +27	14.457 | ab | +35
	2019	32.433 | b | +29	20.82 | cd | +8	14.042 | ab | -3
	2020	25.94 | ab | -20	17.633 | abcd | -15	13 | ab | -7
	2021	26.694 | ab | +3	15.667 | abc | -11	11.013 | ab | -15
	2022	23.167 | a | -13	11.14 | a | -29	10.027 | a | -9
	2023	24.606 | ab | +6	16.08 | abc | +44	13.846 | ab | +38
	2024	25.378 | ab | +3	19.693 | bcd | +22	15.013 | b | +8
	2025	22.967 | a | -10	23.393 | d | +19	15.407 | b | +3
Total Lithium [µg/L]	2013	0.717 | ab | ↓		
	2015	0.609 | a | -15	0.593 | a | ↓	
	2016	0.902 | bc | +48	0.793 | bc | +34	0.533 | a | ↓
	2017	0.698 | a | -23	0.628 | ab | -21	0.599 | abc | +12
	2018	1.507 | g | +116	0.819 | bcd | +30	0.557 | ab | -7
	2019	1.123 | def | -26	0.852 | cd | +4	0.652 | bc | +17
	2020	1.532 | g | +36	0.942 | cd | +11	0.68 | cd | +4
	2021	1.279 | f | -16	0.949 | cd | +0.8	0.742 | d | +9
	2022	1.178 | ef | -8	0.937 | cd | -1	0.817 | e | +10
	2023	1.108 | de | -6	0.914 | cd | -2	0.839 | e | +3
	2024	0.994 | cd | -10	0.866 | cd | -5	0.819 | e | -2
	2025	1.183 | ef | +19	1.003 | d | +16	0.848 | e | +4
Total Manganese [µg/L]	2013	3.326 | a | ↓		
	2015	5.705 | ab | +72	3.586 | ab | ↓	
	2016	7.184 | ab | +26	4.785 | bcde | +33	2.746 | b | ↓
	2017	5.892 | ab | -18	4.271 | abc | -11	2.277 | ab | -17
	2018	5.971 | ab | +1	4.218 | abcd | -1	2.676 | ab | +18
	2019	9.331 | b | +56	4.247 | abc | +0.7	2.533 | ab | -5
	2020	8.316 | ab | -11	3.941 | ab | -7	2.734 | b | +8
	2021	9.455 | b | +14	3.905 | ab | -0.9	2.512 | ab | -8
	2022	7.301 | ab | -23	3.107 | a | -20	1.9 | a | -24
	2023	9.501 | b | +30	5.334 | cde | +72	3.958 | c | +108
	2024	7.558 | ab | -20	5.681 | de | +6	4.059 | c | +3
	2025	8.227 | ab | +9	5.781 | e | +2	4.138 | c | +2
Total Mercury [µg/L]	2013	10 | c | ↓		
	2015	0.522 | a | -95	0.509 | a | ↓	
	2016	0.633 | a | +21	0.66 | ab | +30	0.533 | a | ↓
	2017	1.05 | a | +66	0.833 | bc | +26	0.767 | a | +44
	2018	0.91 | a | -13	1.04 | c | +25	0.629 | a | -18

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Total Mercury [µg/L]	2019	0.665 | a | -27	0.575 | a | -45	0.504 | a | -20
	2020	0.582 | a | -12	0.606 | a | +5	0.518 | a | +3
	2021	0.763 | a | +31	0.52 | a | -14	0.517 | a | -0.2
	2022	5 | b | +555	5 | d | +862	4.707 | b | +810
	2023	0.648 | a | -87	0.538 | a | -89	0.606 | a | -87
	2024	0.583 | a | -10	0.509 | a | -5	0.506 | a | -16
	2025	0.95 | a | +63	0.68 | ab | +34	0.663 | a | +31
Total Molybdenum [µg/L]	2013	0.101 | cde | ↓		
	2015	0.061 | a | -40	0.061 | a | ↓	
	2016	0.058 | a | -6	0.056 | a | -8	0.055 | a | ↓
	2017	0.084 | bcd | +45	0.083 | bc | +48	0.073 | bc | +32
	2018	0.077 | abc | -8	0.08 | bc | -4	0.079 | bcde | +8
	2019	0.077 | ab | -0.5	0.07 | ab | -12	0.07 | ab | -11
	2020	0.104 | de | +35	0.093 | cd | +33	0.079 | bcd | +13
	2021	0.108 | e | +4	0.085 | bc | -8	0.08 | bcd | +0.7
	2022	0.138 | f | +28	0.105 | d | +24	0.087 | cde | +10
	2023	0.145 | fg | +5	0.107 | d | +1	0.093 | de | +6
	2024	0.136 | f | -6	0.105 | d | -1	0.094 | de | +1
	2025	0.157 | g | +15	0.123 | e | +17	0.095 | e | +1
Total Nickel [µg/L]	2013	0.666 | bcd | ↓		
	2015	0.539 | a | -19	0.503 | ab | ↓	
	2016	0.563 | ab | +5	0.479 | a | -5	0.362 | a | ↓
	2017	0.702 | cde | +25	0.527 | abc | +10	0.42 | abc | +16
	2018	0.672 | cd | -4	0.63 | cde | +20	0.474 | abcd | +13
	2019	0.638 | bc | -5	0.529 | abc | -16	0.39 | ab | -18
	2020	0.781 | efg | +22	0.618 | cde | +17	0.421 | abc | +8
	2021	0.733 | def | -6	0.582 | bcd | -6	0.428 | abc | +2
	2022	0.795 | fgh | +8	0.554 | abcd | -5	0.429 | abc | +0.3
	2023	0.829 | gh | +4	0.699 | ef | +26	0.525 | d | +22
	2024	0.772 | efg | -7	0.631 | de | -10	0.474 | bcd | -10
	2025	0.863 | h | +12	0.778 | f | +23	0.501 | cd | +6
Total Strontium [µg/L]	2013	29.043 | a | ↓		
	2015	28.918 | a | -0.4	28.993 | a | ↓	
	2016	32.667 | ab | +13	31.34 | a | +8	30 | a | ↓
	2017	37.375 | b | +14	35.473 | b | +13	31.433 | ab | +5
	2018	50.72 | c | +36	37.67 | bc | +6	32.286 | ab | +3
	2019	45.353 | c | -11	39.627 | c | +5	33.542 | bc | +4
	2020	67.08 | e | +48	43.54 | d | +10	35.433 | cd | +6
	2021	58.467 | d | -13	46.247 | e | +6	37.087 | d | +5
	2022	59.394 | d | +2	46.673 | e | +0.9	41.387 | e | +12
	2023	59.222 | d | -0.3	48.453 | ef | +4	42.45 | e | +3
	2024	57.25 | d | -3	49.32 | f | +2	43.233 | ef | +2
	2025	67.394 | e | +18	57.18 | g | +16	45.413 | f | +5
Total Uranium [µg/L]	2013	0.017 | abc | ↓		
	2015	0.014 | a | -17	0.015 | a | ↓	
	2016	0.015 | ab | +7	0.015 | a | -4	0.014 | a | ↓
	2017	0.019 | bcd | +24	0.017 | ab | +14	0.015 | a | +6

Table C3-1. Results of ANOVA analysis for water chemistry characteristics in Meliadine Lake

Total Uranium [µg/L]	2018	0.017 | abc | -6	0.015 | ab | -7	0.014 | a | -7
	2019	0.015 | abc | -11	0.015 | a | -2	0.016 | ab | +11
	2020	0.019 | cd | +22	0.016 | ab | +4	0.014 | a | -8
	2021	0.022 | de | +14	0.016 | ab | +1	0.015 | a | +6
	2022	0.026 | fg | +23	0.018 | bc | +15	0.018 | bc | +18
	2023	0.028 | g | +7	0.022 | d | +18	0.02 | d | +15
	2024	0.025 | ef | -13	0.02 | cd | -9	0.018 | bc | -13
	2025	0.039 | h | +60	0.027 | e | +35	0.02 | cd | +10
Dissolved Copper [µg/L]	2013	0.774 | abcd | ↓		
	2015	0.715 | a | -8	0.744 | ab | ↓	
	2016	0.942 | cdef | +32	0.869 | bcde | +17	0.803 | ab | ↓
	2017	1.059 | f | +12	0.958 | cde | +10	0.76 | ab | -5
	2018	0.751 | ab | -29	0.716 | ab | -25	0.656 | a | -14
	2019	0.785 | abc | +4	0.702 | a | -2	0.755 | ab | +15
	2020	0.827 | abcd | +5	0.789 | ab | +12	0.644 | a | -15
	2021	0.854 | abcde | +3	0.83 | abcd | +5	0.771 | ab | +20
	2022	0.939 | def | +10	0.809 | abc | -3	0.731 | ab | -5
	2023	0.972 | ef | +3	1 | e | +24	0.845 | b | +16
	2024	0.918 | cdef | -6	0.855 | abcde | -14	0.852 | b | +0.8
	2025	0.897 | bcde | -2	0.975 | de | +14	0.843 | b | -1

Figure C3-1. Total dissolved solids (measured)

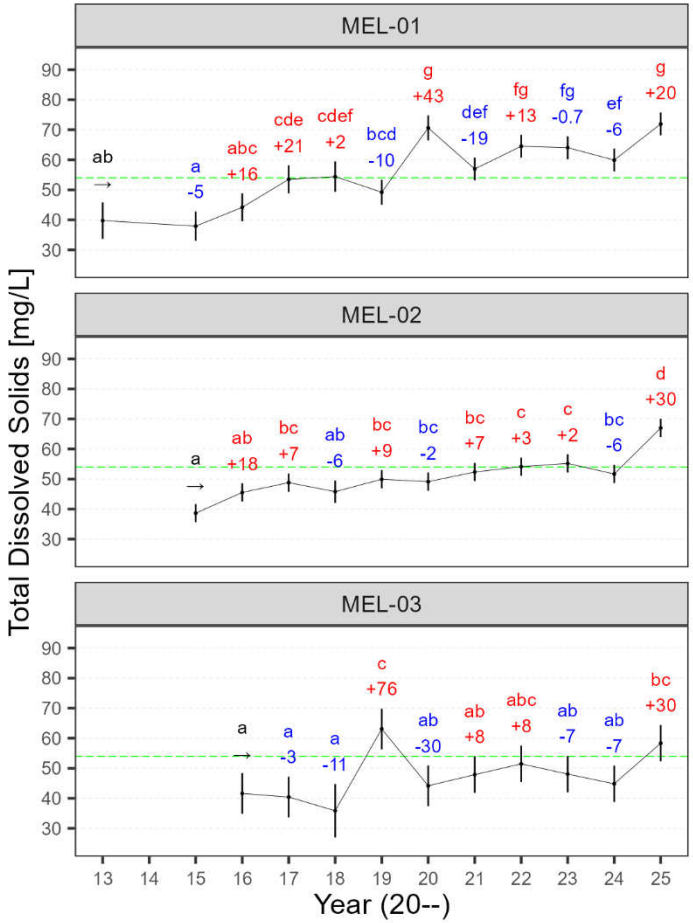


Figure C3-2. Hardness

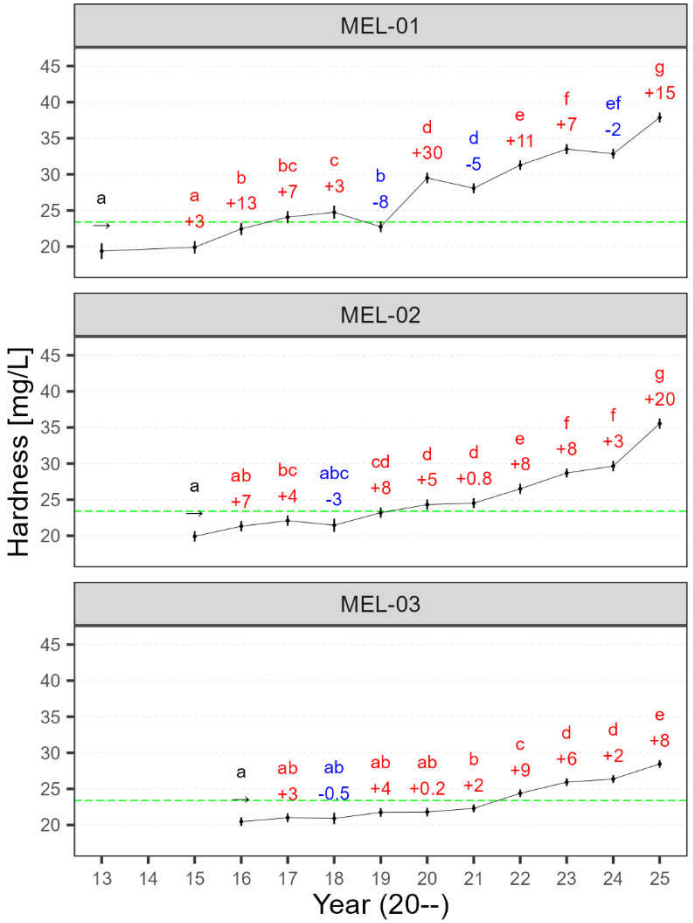


Figure C3-3. Chloride

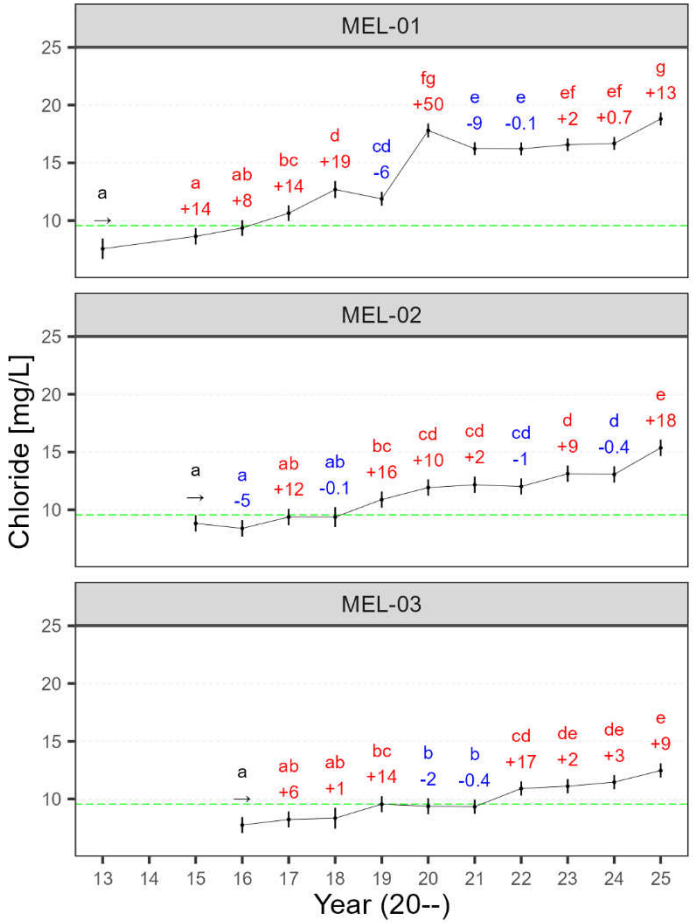


Figure C3-4. Fluoride

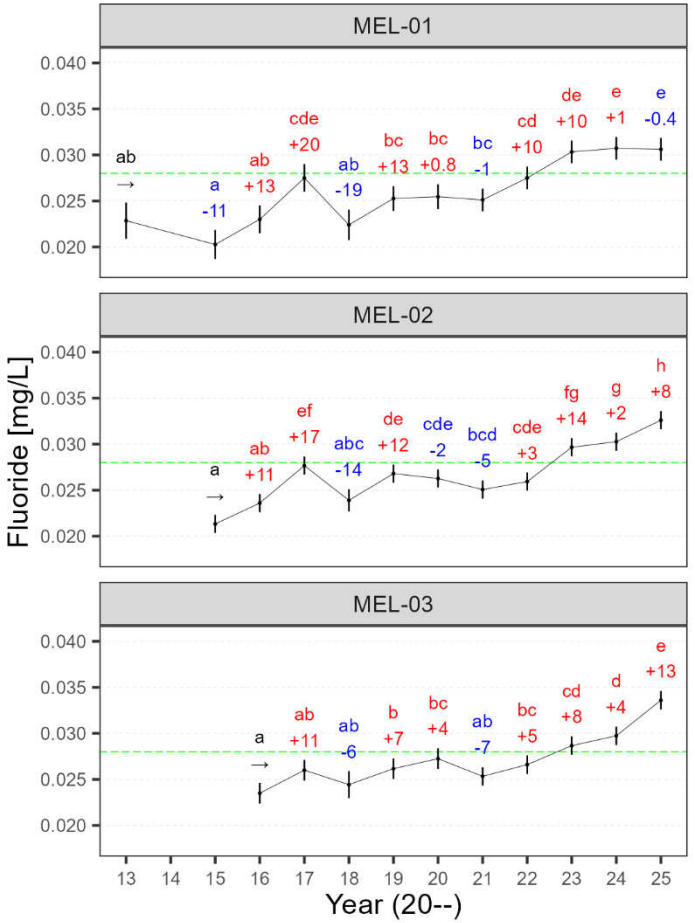


Figure C3-5. Total calcium

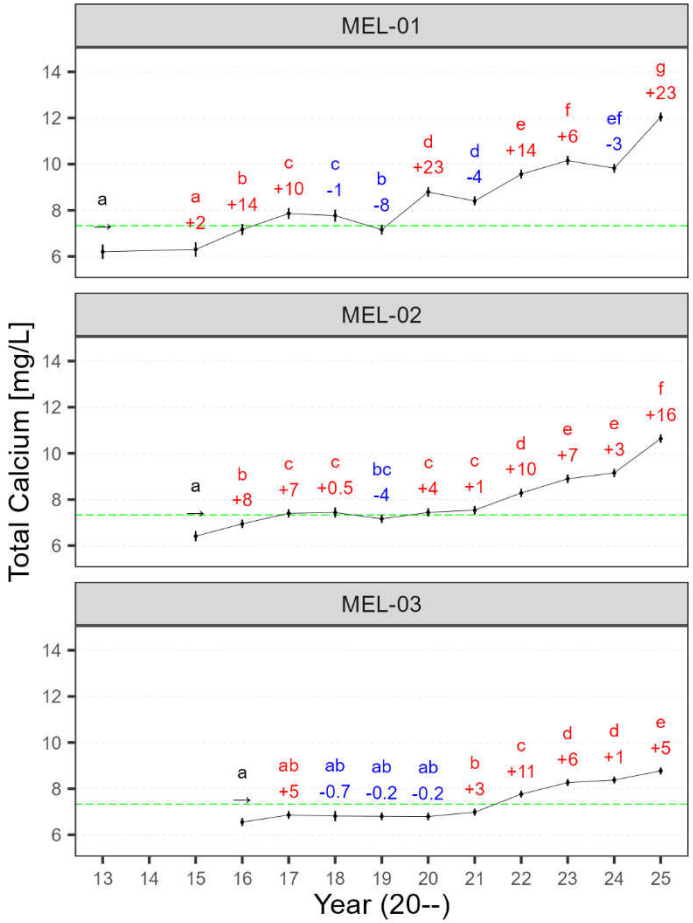


Figure C3-6. Total magnesium

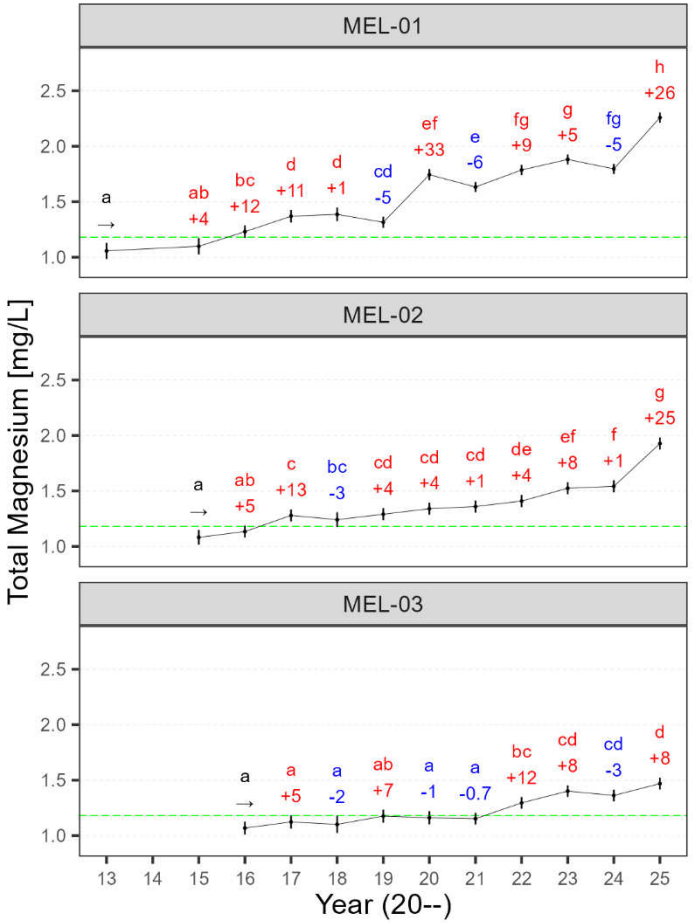


Figure C3-7. Total potassium

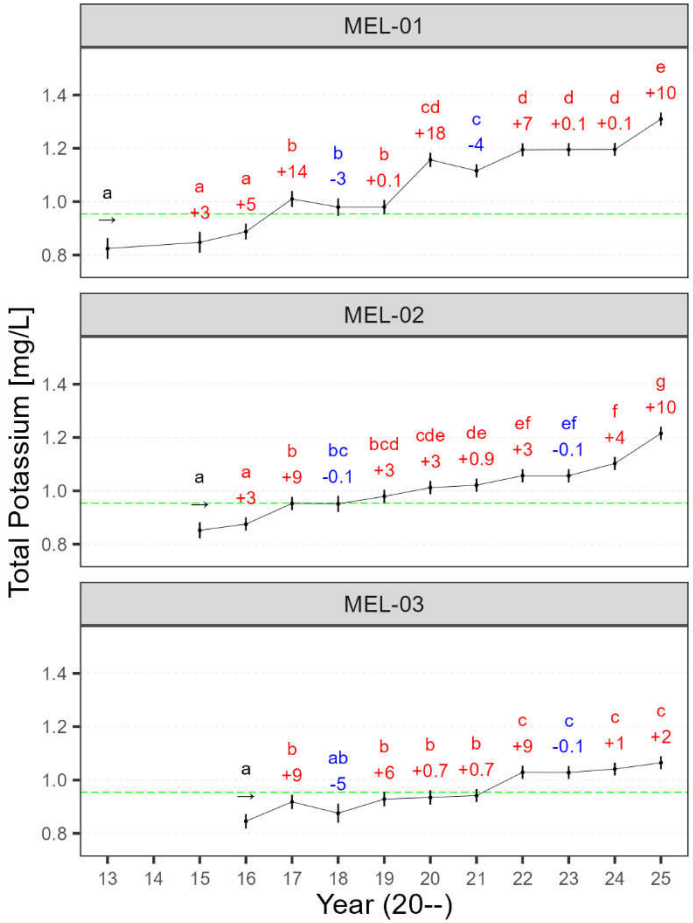


Figure C3-8. Total sodium

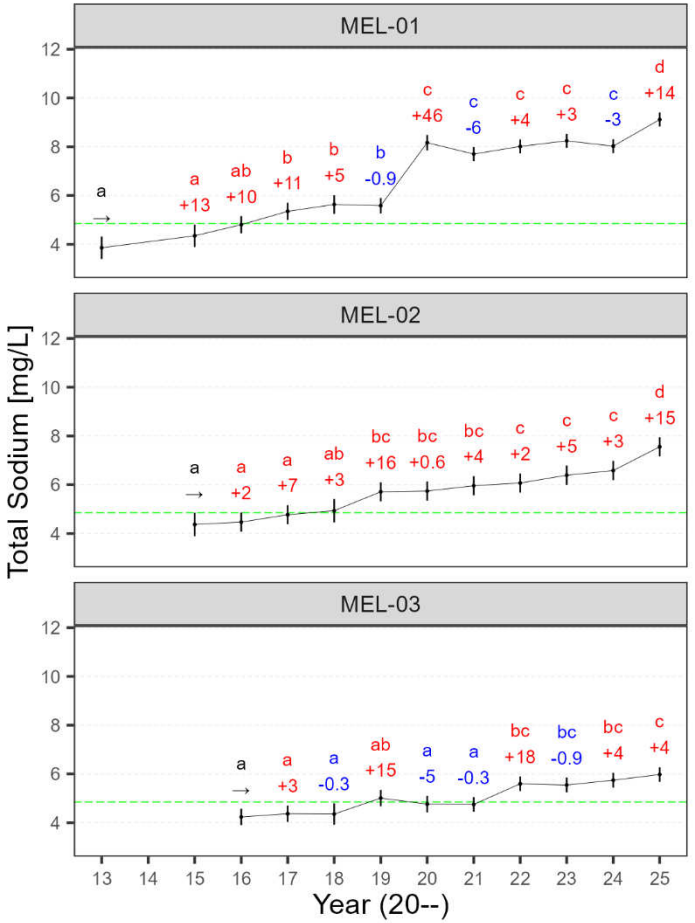


Figure C3-9. Reactive silica

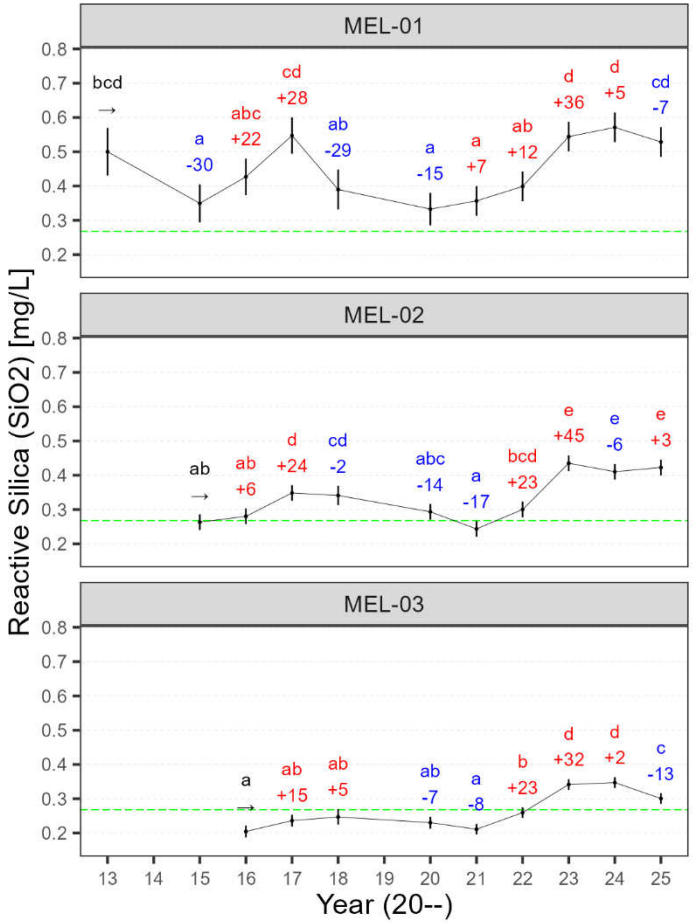


Figure C3-10. Sulphate

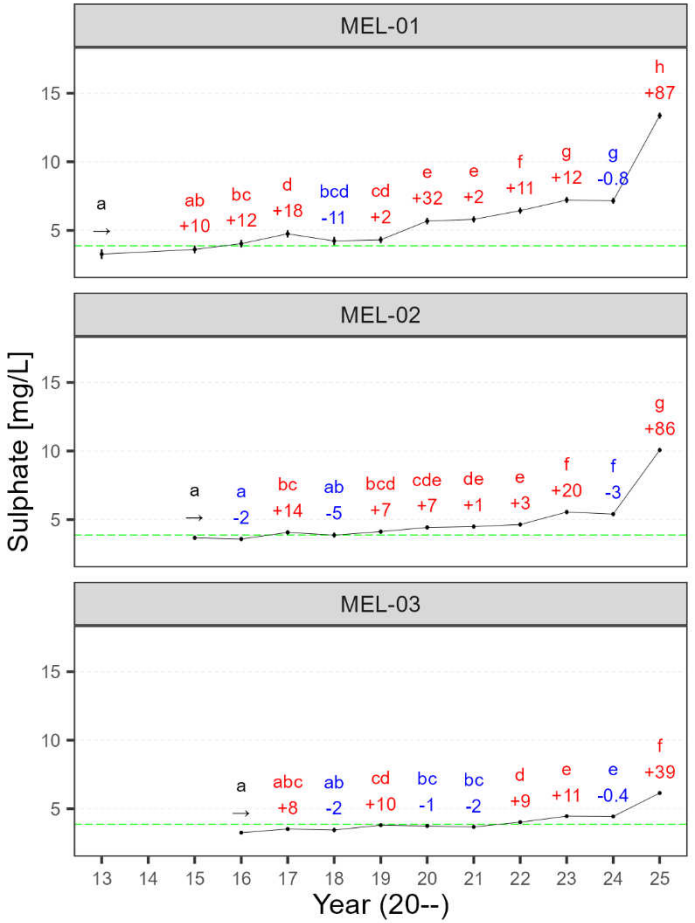


Figure C3-11. Total Aluminum

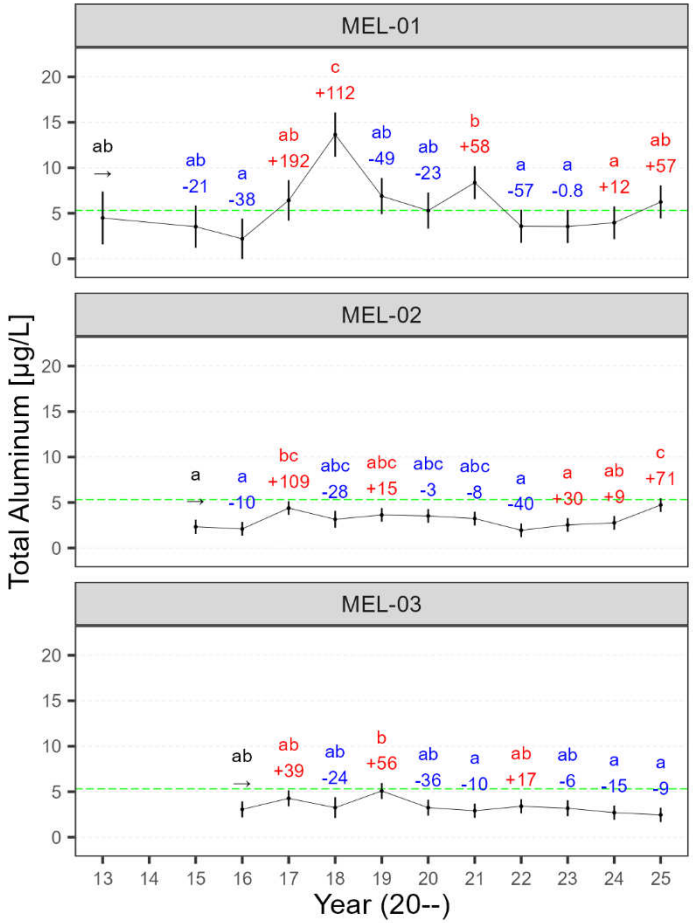


Figure C3-12. Total Antimony

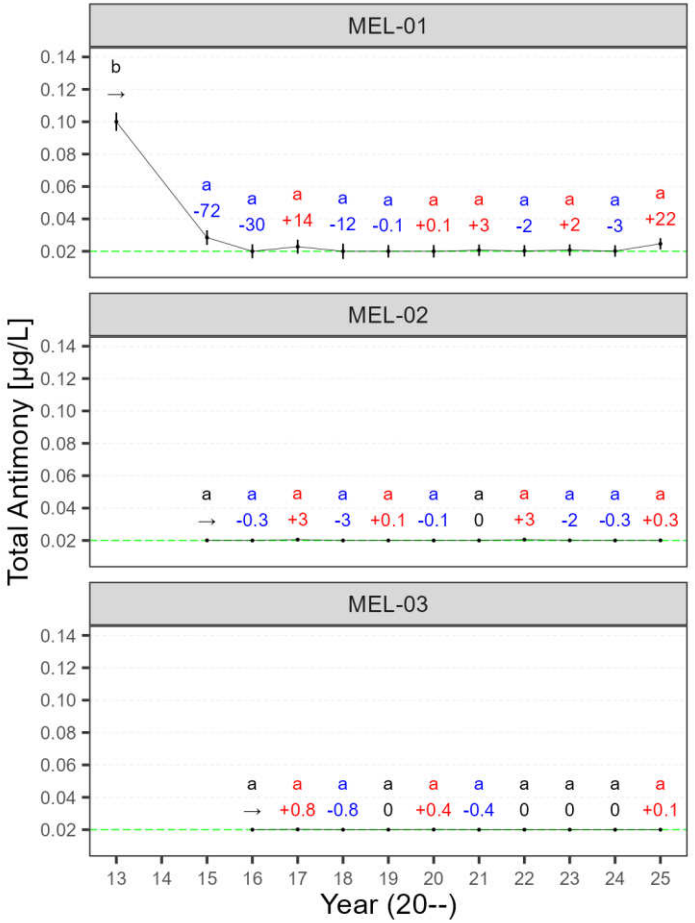


Figure C3-13. Total Arsenic

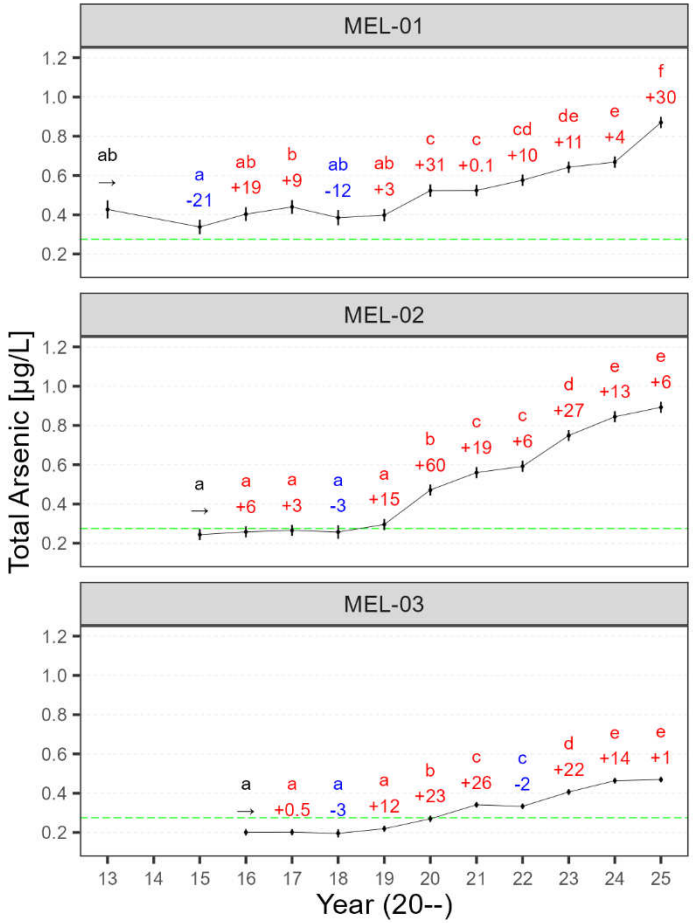


Figure C3-14. Total barium

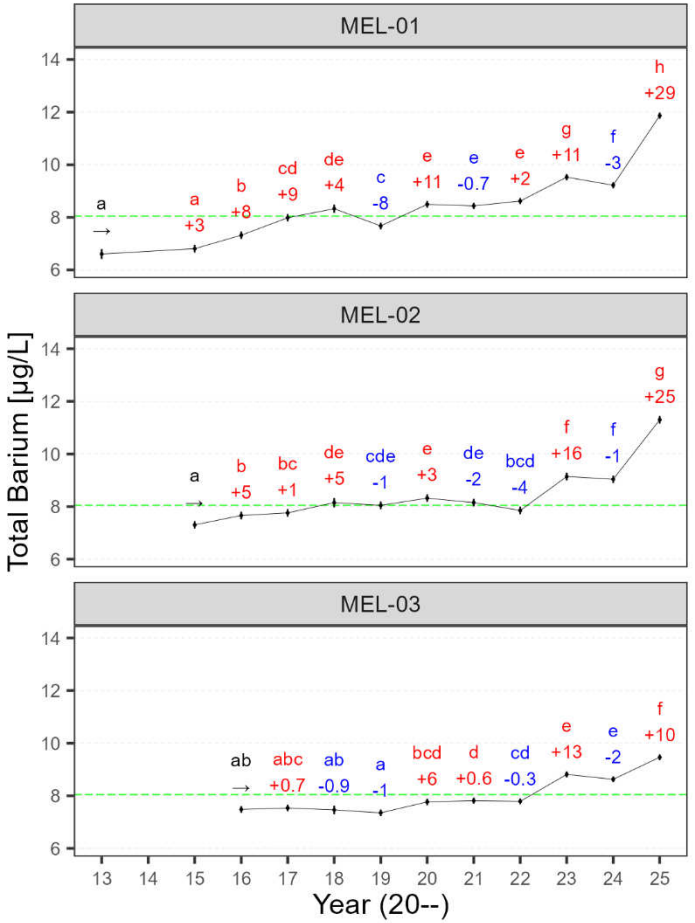


Figure C3-15. Total boron

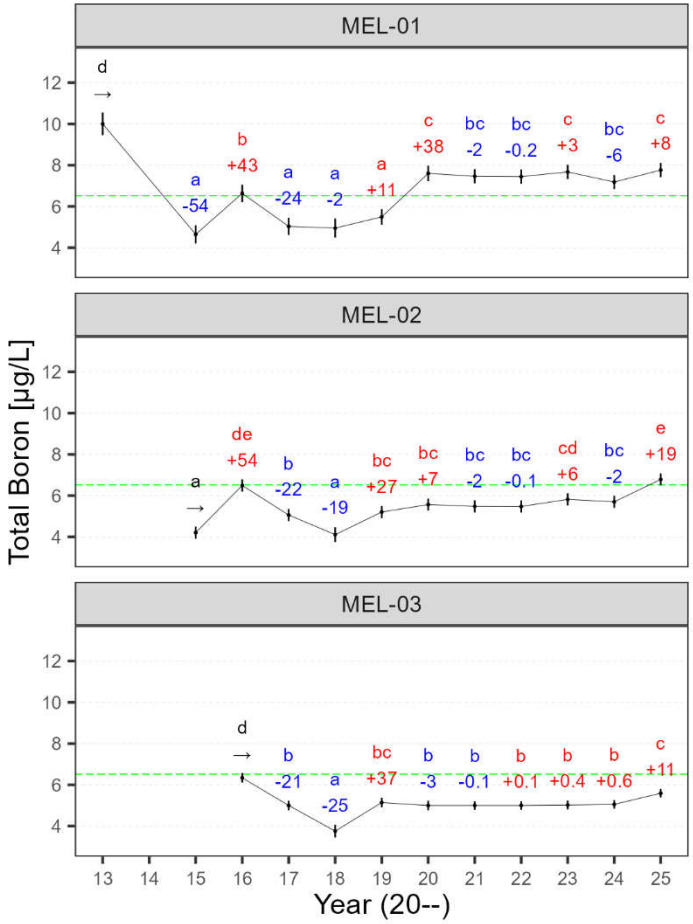


Figure C3-16. Total cobalt

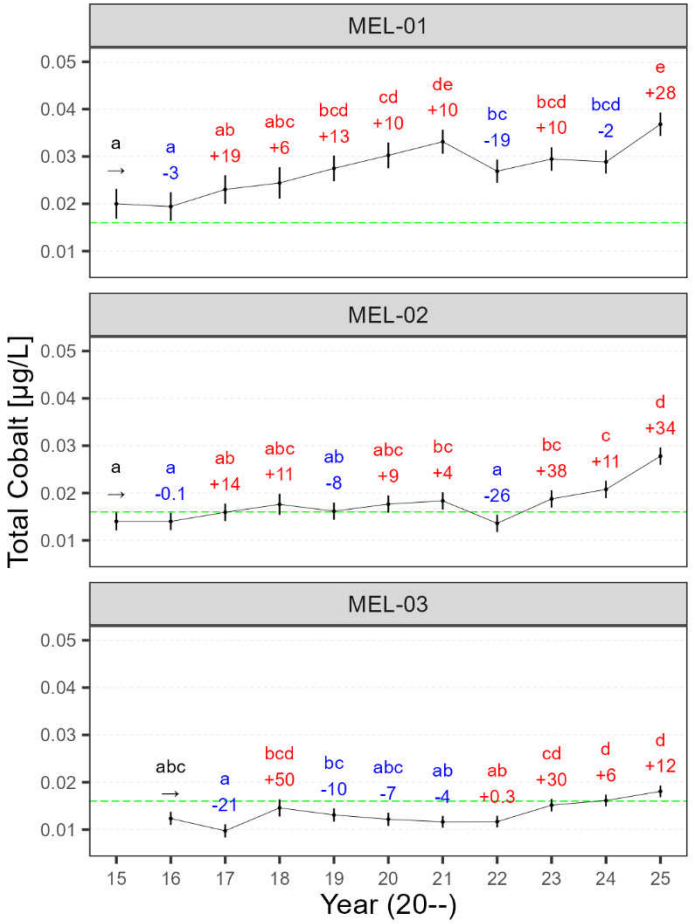


Figure C3-17. Dissolved copper

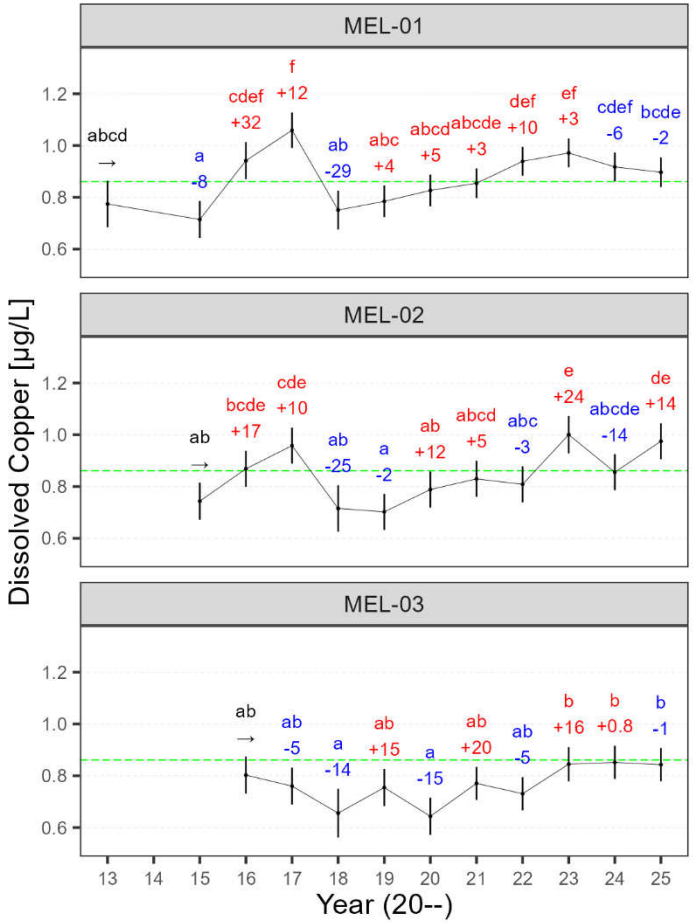


Figure C3-18. Total copper

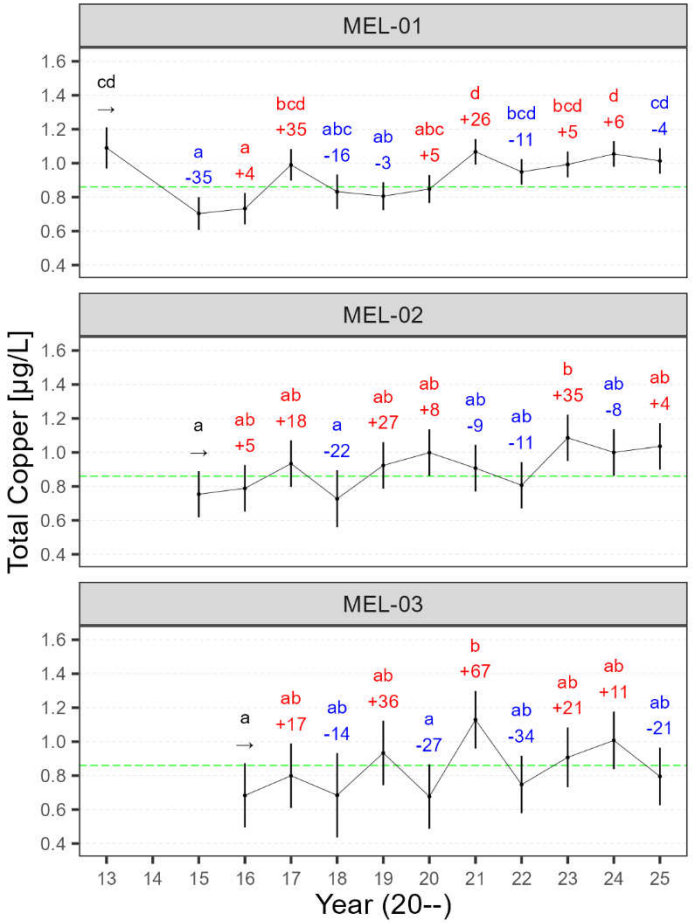


Figure C3-19. Total iron

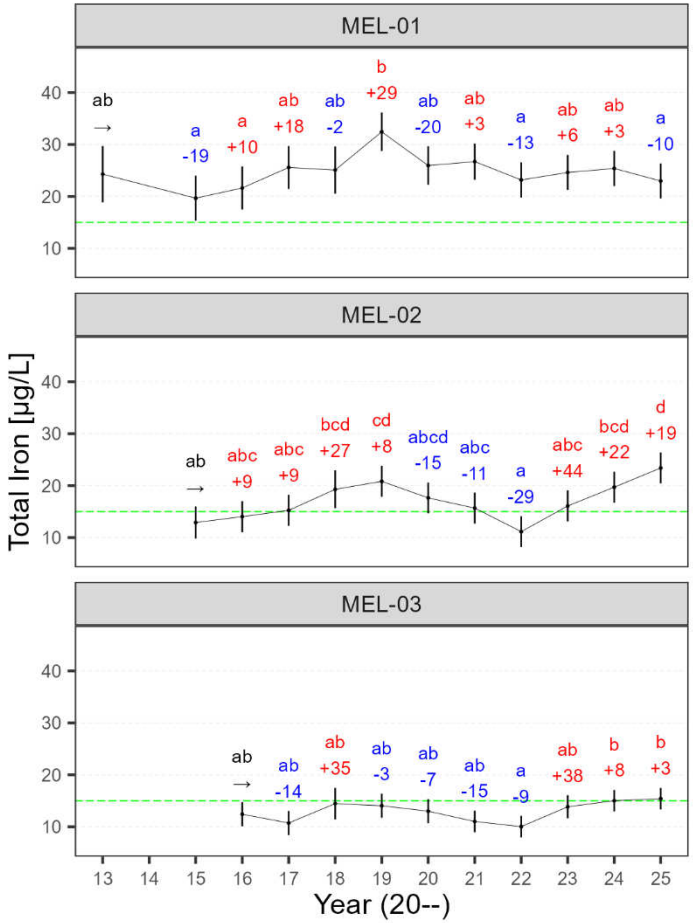


Figure C3-20. Total Kjeldahl nitrogen

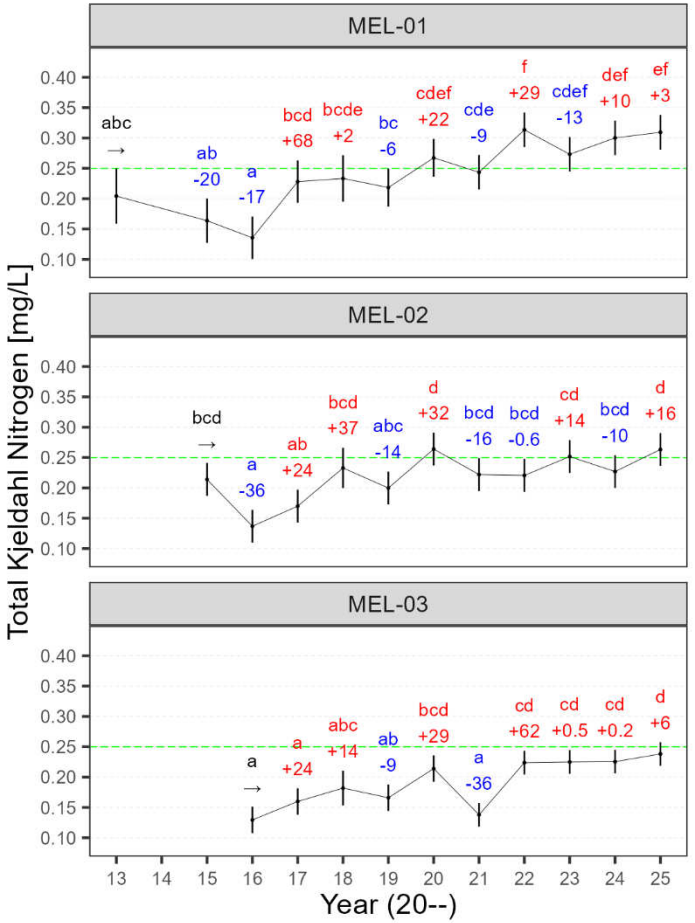


Figure C3-21. Total lithium

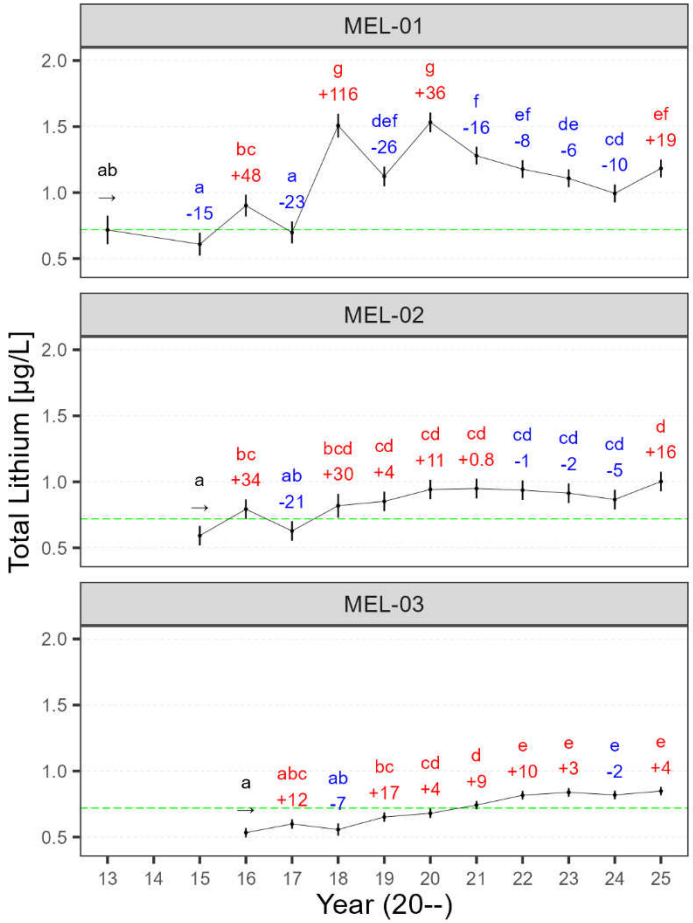


Figure C3-22. Total manganese

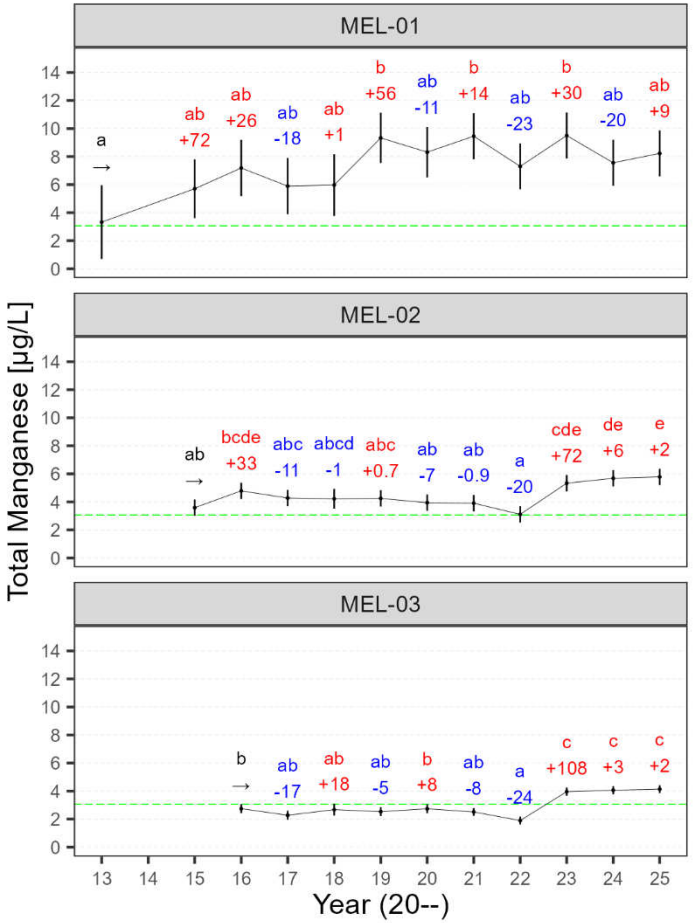


Figure C3-23. Total mercury

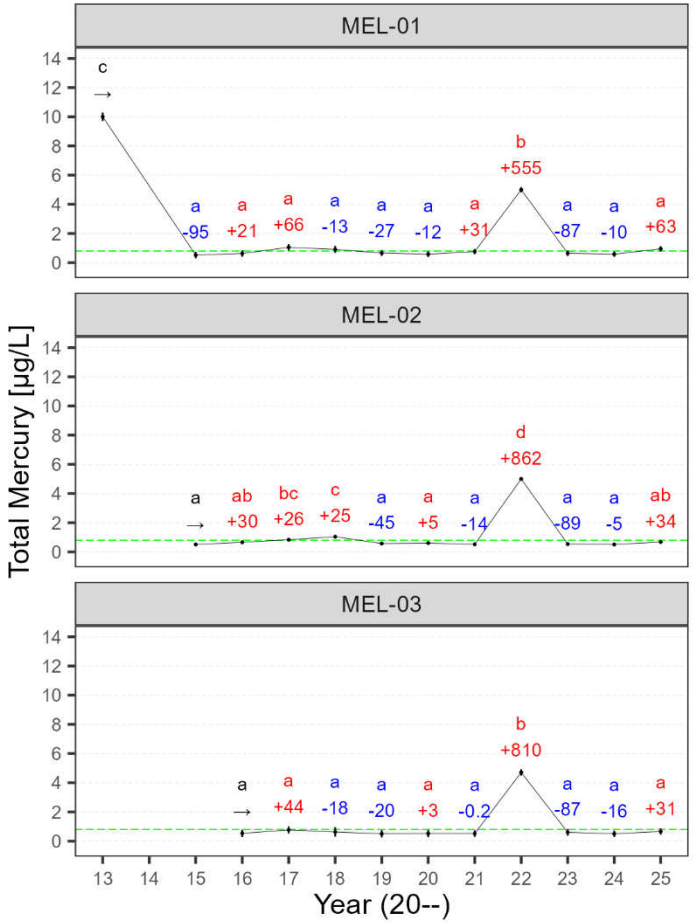


Figure C3-24. Total molybdenum

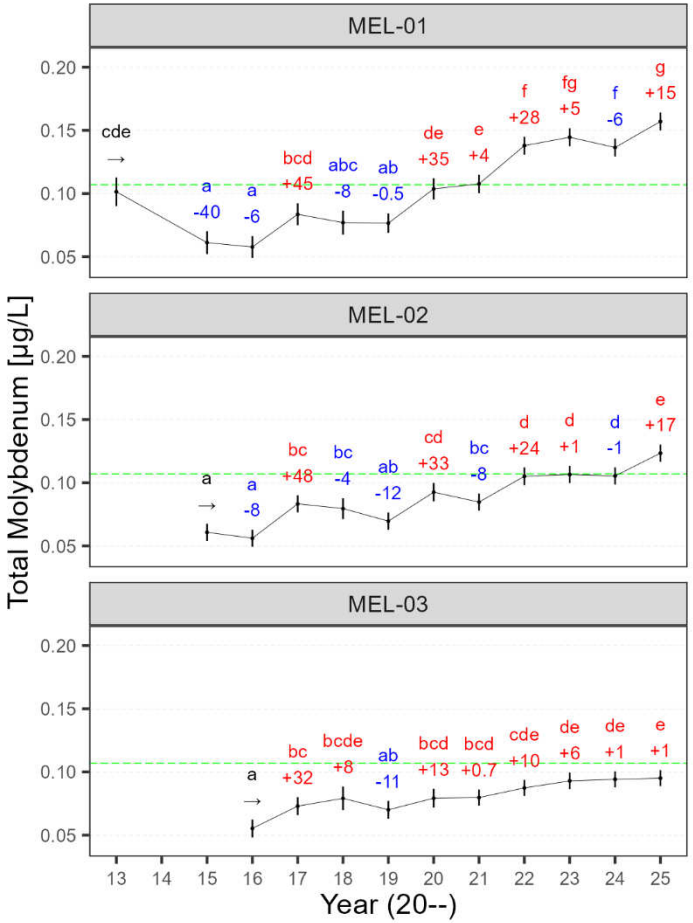


Figure C3-25. Total nickel

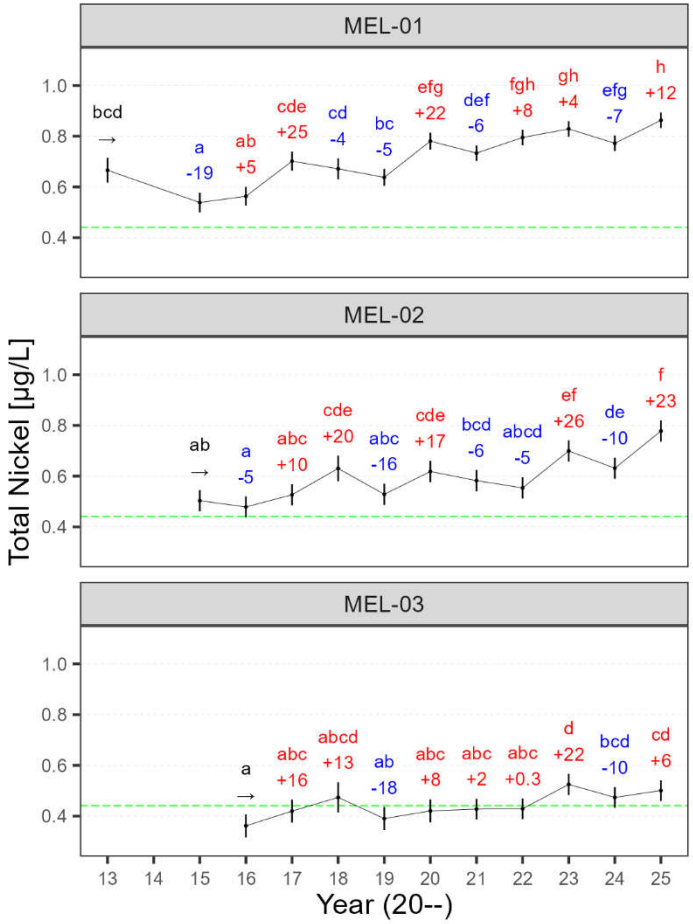


Figure C3-26. Dissolved organic carbon

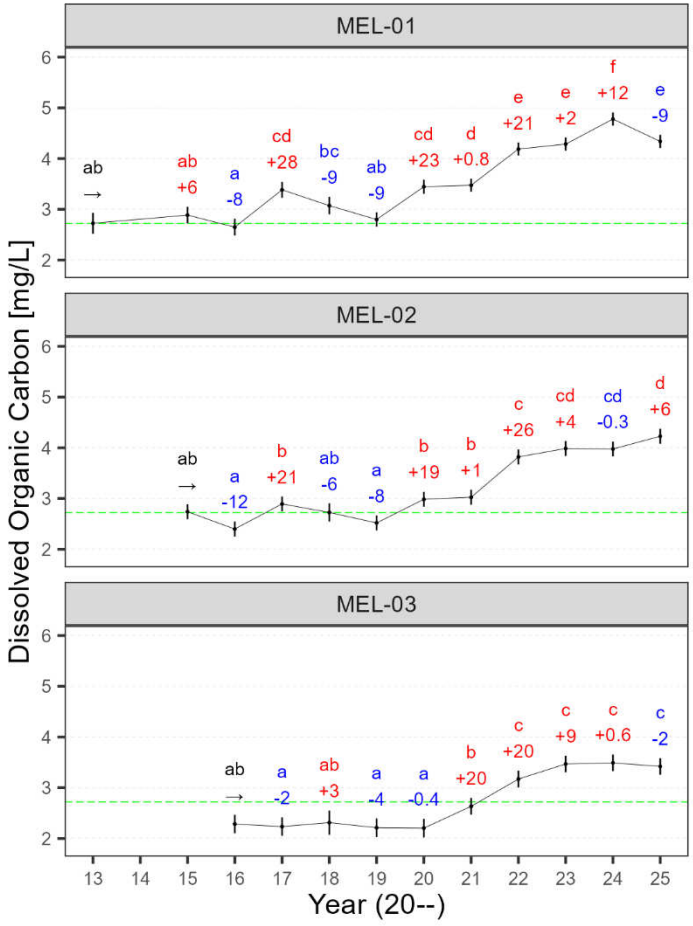


Figure C3-27. Total phosphorus

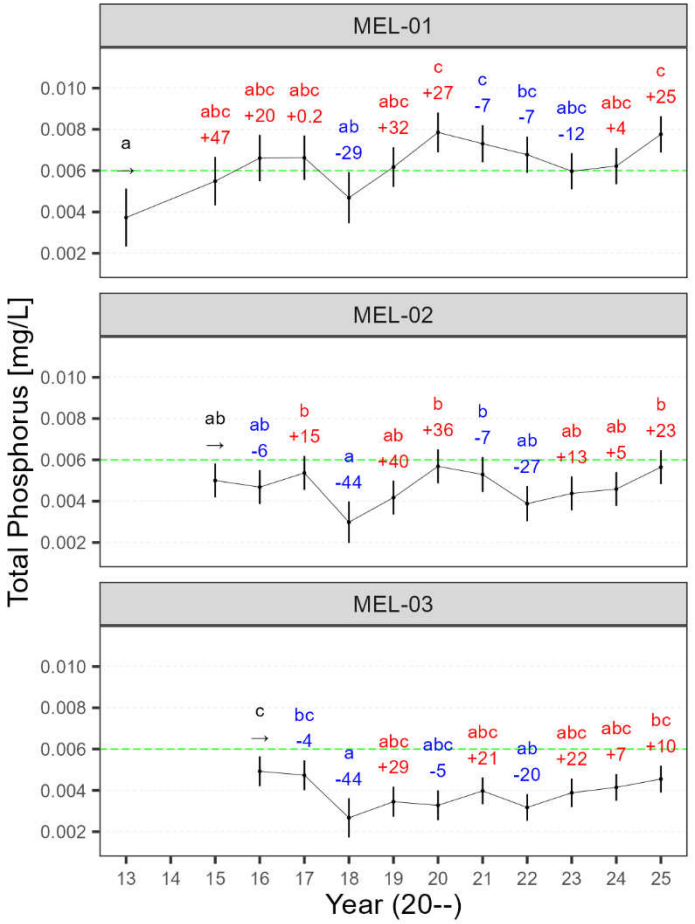


Figure C3-28. Total dissolved phosphorus

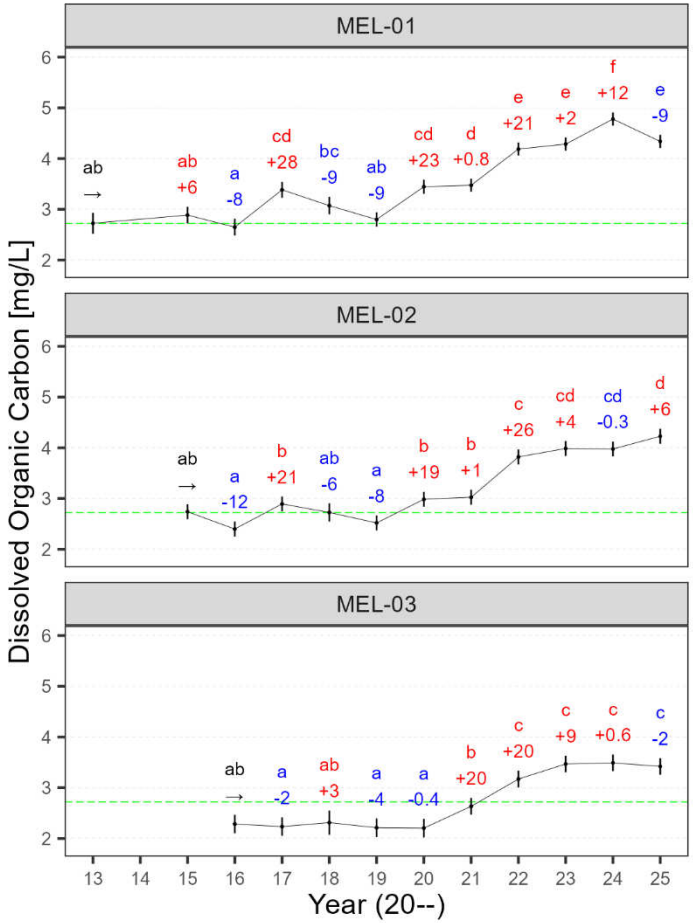


Figure C3-29. Total strontium

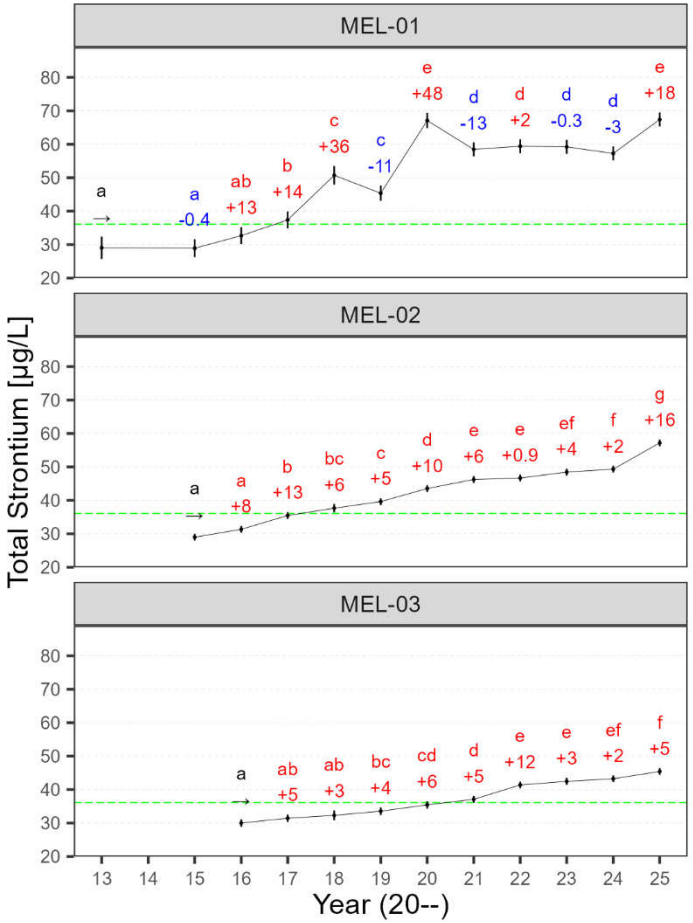
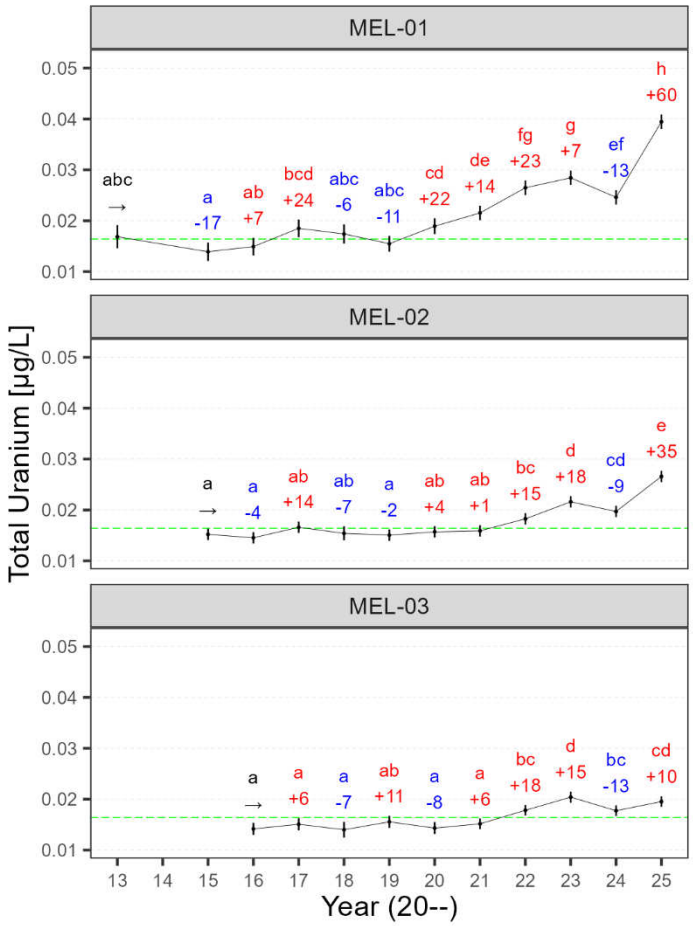


Figure C3-30. Total uranium



APPENDIX D
PENINSULA LAKES WATER QUALITY – SUPPORTING INFORMATION

Appendix D1
Peninsula Lakes Water Quality – 2025 Data and Summary Statistics

APPENDIX D1 – TABLES

Table D1-1. 2018 Normal Range values for the Peninsula Lakes water quality program. 3
Table D1-2. Lake D7 – Summary statistics and screening results for the 2025 sampling events (July and August). 8
Table D1-3. Lake B7 – Summary statistics and screening results for 2025 sampling events (July, August, and October). 11
Table D1-4. Lake E3 – Summary statistics and screening results for the 2025 sampling events. 14
Table D1-5. Water chemistry results from Lake D7, 2025 17
Table D1-6. Water chemistry results from Lake B7, 2025. 20
Table D1-7. Water chemistry results from Lake E3, 2025. 23

Peninsula Lakes Normal Range Derivation

The Normal Ranges for baseline conditions in Lake A8, Lake B7, and Lake D7 were initially defined in the 2018 AEMP (Golder, 2019). Data included in the Normal Range calculations were collected during the baseline period from 1995 to 2011 and during the pre-construction period from 2015 to 2017 (pre-construction). Golder conducted a review of the baseline data as part of the 2018 Normal Range assessment and concluded that conventional parameters, major ions, and selected nutrients from 1995 to 2011 were fit for use in the Normal Range estimation. However, nitrogen and metals data from the baseline were not included in the Normal Range calculations because detection limits in these samples were not comparable with more recent detection limits.

Statistical methods used to estimate the Normal Range of concentrations for the Peninsula Lakes are described in the 2019 AEMP/EEMP report (Golder, 2019). The approach to calculating the normal range in the Peninsula Lakes followed the methods in Barrett et al. (2015). The approach takes into consideration underlying distribution of the baseline/reference data (i.e., are the baseline data normally distributed) when determining which method to use to estimate the limits of the normal range.

Three methods were proposed in the AEMP Design Document (Golder 2016) for calculating the normal range for a given variable (e.g., water quality parameters). A brief description of each method is provided below as per the methods described in the 2018 Interpretive report (Golder 2019):

- **Prediction Interval (PI)** – If the baseline/reference data are normally distributed, the normal range is calculated using the 80% prediction interval. Normality [of the raw data] is assessed using the Shapiro-Wilk test, using $\alpha = 0.05$ to indicate a significant departure from normality.
- **PI Method (Box-Cox Transformation; PI [λ])** – When the baseline/reference data are not normally distributed, but normality could be achieved after Box-Cox transformation (Box and Cox 1964), the normal range is calculated on the Box-Cox transformed data and the upper and lower bound of the normal ranges are back-transformed.
- **Percentile** – If neither the untransformed data nor Box-Cox transformed datasets are normally distributed, the normal range boundaries are defined as the 10^{th} and 90^{th} percentile of the baseline data. In cases where the percentile method is used, a dataset of 1,000 samples is randomly generated from the normal range dataset and the 10^{th} and 90^{th} percentile are calculated from the distribution of 1,000 samples to estimate the normal range.

Normal range estimates were calculated separately for Lake A8, Lake B7, and Lake D7 using samples collected during the open-water sampling events[1]. The baseline period for the Peninsula Lakes ended in 2017; meaning no new data are included in normal range calculations for Lake A8, Lake B7, and Lake D7.

Normal range values derived for each of the three Peninsula Lakes in 2018 are provided in **Table D1-1**. Also included in this table are the revised Normal Ranges that were calculated for a select number of parameters in the 2024 AEMP because the 2018 Normal Ranges were less than two times the 2024 detection limit.

[1] Normal ranges were not derived for the ice-covered sampling events due to insufficient reference and baseline data for the winter months.

Table D1-1. 2018 Normal Range values for the Peninsula Lakes water quality program.

Lake	Parameter Class	Parameter	2018 Normal Range Information			Detection Limit Comparison			Updated Normal Range	
			NR DL	Method	Normal Range (Upper Limit)	2024 DL	DL Comparison	DLx2	Source	Normal Range Value for 2024
A8	Conventional Parameters	TDS Calculated		Percentile	152				2018 Normal Range	152
		Total Suspended Solids	1	Percentile	4	1	2024=2018	2	2018 Normal Range	4
		Turbidity (lab)	0.1	PI(λ)	0.87	0.1	2024=2018	0.2	2018 Normal Range	0.87
	Major Ions	Alkalinity, Bicarbonate	1.2	PI(λ)	91	1	2024 lower	2	2018 Normal Range	91
		Alkalinity, Total	1	PI(λ)	83.6	1	2024=2018	2	2018 Normal Range	83.6
		Calcium (T)	0.02	Percentile	40	0.01	2024 lower	0.02	2018 Normal Range	40
		Chloride	0.1	Percentile	61	0.1	2024=2018	0.2	2018 Normal Range	61
		Fluoride	0.02	PI	0.04	0.02	2024=2018	0.04	2018 Normal Range	0.04
		Magnesium (T)	0.004	Percentile	5.6	0.004	2024=2018	0.008	2018 Normal Range	5.6
		Potassium (T)	0.02	Percentile	2.5	0.02	2024=2018	0.04	2018 Normal Range	2.5
		Reactive Silica (SiO2)	0.01	PI	1.3	0.01	2024=2018	0.02	2018 Normal Range	1.3
		Sodium (T)	0.005	Percentile	8.4	0.02	2024 higher	0.04	2018 Normal Range	8.4
		Sulphate	0.3	PI	9.3	0.3	2024=2018	0.6	2018 Normal Range	9.3
	Nutrients	Ammonia (as N)	0.005	Percentile	0.011	0.005	2024=2018	0.01	2018 Normal Range	0.011
		Nitrate (as N)	0.005	Percentile	0.015	0.005	2024=2018	0.01	2018 Normal Range	0.015
		Nitrite (as N)	0.005	DL	0.005	0.001	2024 lower	0.002	2018 Normal Range	0.005
		Orthophosphate (PO4-P)	0.001	Percentile	0.0023	0.001	2024=2018	0.002	2018 Normal Range	0.0023
		Total Diss Phosphorus	0.001	PI(λ)	0.006	0.001	2024=2018	0.002	2018 Normal Range	0.006
		Total Kjeldahl Nitrogen	0.05	PI(λ)	0.63	0.05	2024=2018	0.1	2018 Normal Range	0.63
		Total Phosphorus	0.001	PI	0.009	0.001	2024=2018	0.002	2018 Normal Range	0.009
	Organic/Inorganic Carbon	Dissolved Organic Carbon	0.5	PI	4.9	0.5	2024=2018	1	2018 Normal Range	4.9
		Total Organic Carbon	0.5	PI	4.7	0.5	2024=2018	1	2018 Normal Range	4.7
	Total Metals	Aluminum (T)	0.3	PI(λ)	3	1	2024 higher	2	2018 Normal Range	3
		Antimony (T)	0.02	Percentile	0.4	0.02	2024=2018	0.04	2018 Normal Range	0.4
		Arsenic (T)	0.02	PI	2.4	0.02	2024=2018	0.04	2018 Normal Range	2.4
		Barium (T)	0.05	PI	32	0.02	2024 lower	0.04	2018 Normal Range	32
		Beryllium (T)	0.01	DL	0.01	0.005	2024 lower	0.01	2018 Normal Range	0.01
		Bismuth (T)	0.01	DL	0.01	0.005	2024 lower	0.01	2018 Normal Range	0.01
		Boron (T)	1	Percentile	5	5	2024 higher	10	DLx2	10
		Cadmium (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Chromium (T)	0.06	DL	0.06	0.1	2024 higher	0.2	DLx2	0.2
		Cobalt (T)	0.01	PI	0.05	0.005	2024 lower	0.01	2018 Normal Range	0.05
		Copper (T)	0.1	PI	0.89	0.05	2024 lower	0.1	2018 Normal Range	0.89

Table D1-1. 2018 Normal Range values for the Peninsula Lakes water quality program.

Lake	Parameter Class	Parameter	2018 Normal Range Information			Detection Limit Comparison			Updated Normal Range	
			NR DL	Method	Normal Range (Upper Limit)	2024 DL	DL Comparison	DLx2	Source	Normal Range Value for 2024
A8	Total Metals	Iron (T)	1	PI	67	1	2024=2018	2	2018 Normal Range	67
		Lead (T)	0.01	Percentile	0.03	0.01	2024=2018	0.02	2018 Normal Range	0.03
		Lithium (T)	0.5	Percentile	10	0.5	2024=2018	1	2018 Normal Range	10
		Manganese (T)	0.05	PI	13	0.05	2024=2018	0.1	2018 Normal Range	13
		Mercury (T)	5.00E-04	PI	0.0012	5.00E-04	2024=2018	0.001	2018 Normal Range	0.0012
		Molybdenum (T)	0.05	Percentile	0.22	0.05	2024=2018	0.1	2018 Normal Range	0.22
		Nickel (T)	0.06	PI	0.92	0.05	2024 lower	0.1	2018 Normal Range	0.92
		Selenium (T)	0.02	DL	0.02	0.04	2024 higher	0.08	DLx2	0.08
		Silver (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Strontium (T)	0.05	PI(λ)	273	0.02	2024 lower	0.04	2018 Normal Range	273
		Thallium (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Tin (T)	0.05	DL	0.05	0.02	2024 lower	0.04	2018 Normal Range	0.05
		Titanium (T)	0.1	Percentile	0.25	0.05	2024 lower	0.1	2018 Normal Range	0.25
		Uranium (T)	0.01	PI(λ)	0.054	0.001	2024 lower	0.002	2018 Normal Range	0.054
		Vanadium (T)	0.01	DL	0.01	0.05	2024 higher	0.1	DLx2	0.1
		Zinc (T)	0.8	Percentile	1.2	0.5	2024 lower	1	2018 Normal Range	1.2
	Dissolved Metals	Zinc (D)	0.8	Percentile	8.5	0.5	2024 lower	1	2018 Normal Range	8.5
	Other	Cyanide (Total)	0.001	DL	0.001	0.001	2024=2018	0.002	DLx2	0.002
B7	Conventional Parameters	TDS Calculated		Percentile	171				2018 Normal Range	171
		Total Suspended Solids	1	PI(λ)	3	1	2024=2018	2	2018 Normal Range	3
		Turbidity (lab)	0.1	PI(λ)	0.69	0.1	2024=2018	0.2	2018 Normal Range	0.69
	Major Ions	Alkalinity, Bicarbonate	1.2	Percentile	135	1	2024 lower	2	2018 Normal Range	135
		Alkalinity, Total	1	Percentile	110	1	2024=2018	2	2018 Normal Range	110
		Calcium (T)	0.02	Percentile	39	0.01	2024 lower	0.02	2018 Normal Range	39
		Chloride	0.1	Percentile	25	0.1	2024=2018	0.2	2018 Normal Range	25
		Fluoride	0.02	PI(λ)	0.04	0.02	2024=2018	0.04	2018 Normal Range	0.04
		Magnesium (T)	0.004	Percentile	5.3	0.004	2024=2018	0.008	2018 Normal Range	5.3
		Potassium (T)	0.02	Percentile	2.8	0.02	2024=2018	0.04	2018 Normal Range	2.8
		Reactive Silica (SiO2)	0.01	Percentile	2.3	0.05	2024 higher	0.1	2018 Normal Range	2.3
		Sodium (T)	0.005	Percentile	7.5	0.02	2024 higher	0.04	2018 Normal Range	7.5
		Sulphate	0.3	Percentile	6	0.3	2024=2018	0.6	2018 Normal Range	6
	Nutrients	Ammonia (as N)	0.005	Percentile	0.025	0.005	2024=2018	0.01	2018 Normal Range	0.025
		Nitrate (as N)	0.005	Percentile	0.005	0.005	2024=2018	0.01	DLx2	0.01

Table D1-1. 2018 Normal Range values for the Peninsula Lakes water quality program.

Lake	Parameter Class	Parameter	2018 Normal Range Information			Detection Limit Comparison			Updated Normal Range	
			NR DL	Method	Normal Range (Upper Limit)	2024 DL	DL Comparison	DLx2	Source	Normal Range Value for 2024
B7	Nutrients	Nitrite (as N)	0.005	DL	0.005	0.001	2024 lower	0.002	2018 Normal Range	0.005
		Orthophosphate (PO4-P)	0.001	DL	0.001	0.001	2024=2018	0.002	DLx2	0.002
		Total Diss Phosphorus	0.001	PI(λ)	0.008	0.001	2024=2018	0.002	2018 Normal Range	0.008
		Total Kjeldahl Nitrogen	0.05	PI(λ)	0.73	0.05	2024=2018	0.1	2018 Normal Range	0.73
		Total Phosphorus	0.001	PI(λ)	0.01	0.001	2024=2018	0.002	2018 Normal Range	0.01
	Organic/Inorganic Carbon	Dissolved Organic Carbon	0.5	PI	5.5	0.5	2024=2018	1	2018 Normal Range	5.5
		Total Organic Carbon	0.5	PI(λ)	7.6	0.5	2024=2018	1	2018 Normal Range	7.6
	Total Metals	Aluminum (T)	0.3	PI(λ)	6.6	1	2024 higher	2	2018 Normal Range	6.6
		Antimony (T)	0.02	DL	0.02	0.02	2024=2018	0.04	DLx2	0.04
		Arsenic (T)	0.02	PI(λ)	1.8	0.02	2024=2018	0.04	2018 Normal Range	1.8
	Total Metals	Barium (T)	0.05	Percentile	20	0.02	2024 lower	0.04	2018 Normal Range	20
		Beryllium (T)	0.01	DL	0.01	0.005	2024 lower	0.01	2018 Normal Range	0.01
		Bismuth (T)	0.01	DL	0.01	0.005	2024 lower	0.01	2018 Normal Range	0.01
		Boron (T)	1	Percentile	8	5	2024 higher	10	DLx2	10
		Cadmium (T)	0.005	Percentile	0.007	0.005	2024=2018	0.01	DLx2	0.01
		Chromium (T)	0.06	DL	0.06	0.1	2024 higher	0.2	DLx2	0.2
		Cobalt (T)	0.01	PI	0.05	0.005	2024 lower	0.01	2018 Normal Range	0.05
		Copper (T)	0.1	Percentile	1.13	0.05	2024 lower	0.1	2018 Normal Range	1.13
		Iron (T)	1	PI	103	1	2024=2018	2	2018 Normal Range	103
		Lead (T)	0.01	Percentile	0.08	0.01	2024=2018	0.02	2018 Normal Range	0.08
		Lithium (T)	0.5	PI(λ)	7.5	0.5	2024=2018	1	2018 Normal Range	7.5
		Manganese (T)	0.05	Percentile	8.6	0.05	2024=2018	0.1	2018 Normal Range	8.6
		Mercury (T)	5.00E-04	PI(λ)	0.004	5.00E-04	2024=2018	0.001	2018 Normal Range	0.004
		Molybdenum (T)	0.05	PI(λ)	0.24	0.05	2024=2018	0.1	2018 Normal Range	0.24
		Nickel (T)	0.06	PI(λ)	1.4	0.05	2024 lower	0.1	2018 Normal Range	1.4
		Selenium (T)	0.02	Percentile	0.04	0.04	2024 higher	0.08	DLx2	0.08
		Silver (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Strontium (T)	0.05	PI	155	0.02	2024 lower	0.04	2018 Normal Range	155
		Thallium (T)	0.005	Percentile	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Tin (T)	0.05	DL	0.05	0.02	2024 lower	0.04	2018 Normal Range	0.05
		Titanium (T)	0.1	Percentile	0.25	0.05	2024 lower	0.1	2018 Normal Range	0.25
		Uranium (T)	0.01	PI	0.03	0.001	2024 lower	0.002	2018 Normal Range	0.03
		Vanadium (T)	0.01	DL	0.01	0.05	2024 higher	0.1	DLx2	0.1

Table D1-1. 2018 Normal Range values for the Peninsula Lakes water quality program.

Lake	Parameter Class	Parameter	2018 Normal Range Information			Detection Limit Comparison			Updated Normal Range	
			NR DL	Method	Normal Range (Upper Limit)	2024 DL	DL Comparison	DLx2	Source	Normal Range Value for 2024
B7	Total Metals	Zinc (T)	0.8	Percentile	1.9	0.5	2024 lower	1	2018 Normal Range	1.9
	Dissolved Metals	Zinc (D)	0.8	Percentile	2.2	0.5	2024 lower	1	2018 Normal Range	2.2
	Other	Cyanide (Total)	0.001	DL	0.001	0.001	2024=2018	0.002	DLx2	0.002
D7	Conventional Parameters	TDS Calculated		Percentile	81				2018 Normal Range	81
		Total Suspended Solids	1	Percentile	2	1	2024=2018	2	2018 Normal Range	2
		Turbidity (lab)	0.1	PI	1.1	0.1	2024=2018	0.2	2018 Normal Range	1.1
	Major Ions	Alkalinity, Bicarbonate	1.2	Percentile	68	1	2024 lower	2	2018 Normal Range	68
		Alkalinity, Total	1	Percentile	55	1	2024=2018	2	2018 Normal Range	55
		Calcium (T)	0.02	Percentile	17	0.01	2024 lower	0.02	2018 Normal Range	17
		Chloride	0.1	Percentile	25	0.1	2024=2018	0.2	2018 Normal Range	25
		Fluoride	0.02	Percentile	0.05	0.02	2024=2018	0.04	2018 Normal Range	0.05
		Magnesium (T)	0.004	Percentile	3.3	0.004	2024=2018	0.008	2018 Normal Range	3.3
		Potassium (T)	0.02	PI(λ)	1.8	0.02	2024=2018	0.04	2018 Normal Range	1.8
		Reactive Silica (SiO2)	0.01	Percentile	0.28	0.01	2024=2018	0.02	2018 Normal Range	0.28
		Sodium (T)	0.005	Percentile	17	0.02	2024 higher	0.04	2018 Normal Range	17
		Sulphate	0.3	Percentile	10	0.3	2024=2018	0.6	2018 Normal Range	10
	Nutrients	Ammonia (as N)	0.005	PI	0.009	0.005	2024=2018	0.01	DLx2	0.01
		Nitrate (as N)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Nitrite (as N)	0.005	DL	0.005	0.001	2024 lower	0.002	2018 Normal Range	0.005
		Orthophosphate (PO4-P)	0.001	Percentile	0.003	0.001	2024=2018	0.002	2018 Normal Range	0.003
		Total Diss Phosphorus	0.001	PI(λ)	0.008	0.001	2024=2018	0.002	2018 Normal Range	0.008
		Total Kjeldahl Nitrogen	0.05	PI(λ)	0.52	0.05	2024=2018	0.1	2018 Normal Range	0.52
		Total Phosphorus	0.001	Percentile	0.02	0.001	2024=2018	0.002	2018 Normal Range	0.02
	Organic/Inorganic Carbon	Dissolved Organic Carbon	0.5	PI(λ)	5.1	0.5	2024=2018	1	2018 Normal Range	5.1
		Total Organic Carbon	0.5	Percentile	14	0.5	2024=2018	1	2018 Normal Range	14
	Total Metals	Aluminum (T)	0.3	PI	6.7	1	2024 higher	2	2018 Normal Range	6.7
		Antimony (T)	0.02	Percentile	0.03	0.02	2024=2018	0.04	DLx2	0.04
		Arsenic (T)	0.02	PI	1.2	0.02	2024=2018	0.04	2018 Normal Range	1.2
		Barium (T)	0.05	PI	17	0.02	2024 lower	0.04	2018 Normal Range	17
		Beryllium (T)	0.01	DL	0.01	0.005	2024 lower	0.01	2018 Normal Range	0.01
		Bismuth (T)	0.01	DL	0.01	0.005	2024 lower	0.01	2018 Normal Range	0.01
		Boron (T)	1	PI	17	5	2024 higher	10	2018 Normal Range	17
		Cadmium (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01

Table D1-1. 2018 Normal Range values for the Peninsula Lakes water quality program.

Lake	Parameter Class	Parameter	2018 Normal Range Information			Detection Limit Comparison			Updated Normal Range	
			NR DL	Method	Normal Range (Upper Limit)	2024 DL	DL Comparison	DLx2	Source	Normal Range Value for 2024
D7	Total Metals	Chromium (T)	0.06	DL	0.06	0.1	2024 higher	0.2	DLx2	0.2
		Cobalt (T)	0.01	Percentile	0.05	0.005	2024 lower	0.01	2018 Normal Range	0.05
		Copper (T)	0.1	PI	1	0.05	2024 lower	0.1	2018 Normal Range	1
		Iron (T)	1	PI(λ)	112	1	2024=2018	2	2018 Normal Range	112
		Lead (T)	0.01	Percentile	0.02	0.01	2024=2018	0.02	2018 Normal Range	0.02
		Lithium (T)	0.5	PI	1.9	0.5	2024=2018	1	2018 Normal Range	1.9
		Manganese (T)	0.05	PI	13	0.05	2024=2018	0.1	2018 Normal Range	13
		Mercury (T)	5.00E-04	PI	0.001	5.00E-04	2024=2018	0.001	2018 Normal Range	0.001
		Molybdenum (T)	0.05	PI(λ)	0.48	0.05	2024=2018	0.1	2018 Normal Range	0.48
		Nickel (T)	0.06	PI	0.75	0.05	2024 lower	0.1	2018 Normal Range	0.75
		Selenium (T)	0.02	Percentile	0.06	0.04	2024 higher	0.08	DLx2	0.08
		Silver (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Strontium (T)	0.05	PI(λ)	83	0.02	2024 lower	0.04	2018 Normal Range	83
		Thallium (T)	0.005	DL	0.005	0.005	2024=2018	0.01	DLx2	0.01
		Tin (T)	0.05	DL	0.05	0.02	2024 lower	0.04	2018 Normal Range	0.05
		Titanium (T)	0.1	PI(λ)	0.34	0.05	2024 lower	0.1	2018 Normal Range	0.34
		Uranium (T)	0.01	PI	0.1	0.001	2024 lower	0.002	2018 Normal Range	0.1
		Vanadium (T)	0.01	PI(λ)	0.07	0.05	2024 higher	0.1	DLx2	0.1
		Zinc (T)	0.8	Percentile	2	0.5	2024 lower	1	2018 Normal Range	2
	Dissolved Metals	Zinc (D)	0.8	Percentile	1.4	0.5	2024 lower	1	2018 Normal Range	1.4
	Other	Cyanide (Total)	0.001	DL	0.001	0.001	2024=2018	0.002	DLx2	0.002

Table D1-2. Lake D7 – Summary statistics and screening results for the 2025 sampling events (July and August).

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	Lake D7 - 2025 July and August Sampling Events										
							N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>NR	N>ActLvl
Field Measurements																	
DO (%)	%	-	-	-	-	-	5	0	0	114	126	18.9	8.45	89.1	128	-	-
DO (mg/L)	mg/L	-	-	-	6.5	6.5	5	0	0	12.3	14	2.31	1.03	9.72	14	-	0
Sp. Conductivity (field)	µS/cm	-	159	-	-	-	5	0	0	162	167	6.16	2.76	155	167	-	-
Temperature	C	-	-	-	-	-	5	0	0	11.5	11.5	0.182	0.0812	11.2	11.7	-	-
pH (field)	pH units	-	7.7 | 8.3	-	6.5 | 9	6.5 | 9	5	0	0	8.13	8.14	0.0239	0.0107	8.09	8.15	0	0
Conventional Parameters																	
Conductivity (lab)	µS/cm	1	-	-	-	-	6	0	0	167	168	4.84	1.98	161	171	-	-
Hardness	mg/L	0.5	56	-	-	-	6	0	0	60.7	61	1.75	0.713	58	62.6	6	-
Total Dissolved Solids	mg/L	10	-	136	500	375	6	0	0	92.8	87.7	17.2	7.01	75.9	116	-	0
Total Dissolved Solids (Calculated)	mg/L	1	81	-	500	375	6	0	0	108	109	3.01	1.23	105	111	6	0
Total Suspended Solids	mg/L	1	2	5.1	-	-	6	0	0	1.55	1.45	0.315	0.128	1.2	2.1	1	-
Turbidity (lab)	NTU	0.1	1.1	-	-	-	6	0	0	0.853	0.855	0.113	0.0463	0.72	0.98	0	-
pH (lab)	pH units	0.1	-	-	6.5 | 9	6.5 | 9	6	0	0	7.84	7.84	0.0734	0.03	7.75	7.92	-	0
Major Ions																	
Alkalinity, Bicarbonate	mg/L	1	68	-	-	-	6	0	0	51.5	51.4	1.58	0.646	49.9	53.4	0	-
Alkalinity, Carbonate	mg/L	1	-	-	-	-	6	6	100	-	1	-	-	1	1	0	-
Alkalinity, Hydroxide	mg/L	1	-	-	-	-	6	6	100	-	1	-	-	1	1	0	-
Alkalinity, Total	mg/L	1	55	83	-	-	6	0	0	51.5	51.4	1.58	0.646	49.9	53.4	0	-
Bromide	mg/L	0.1	-	-	-	-	6	6	100	-	0.1	-	-	0.1	0.1	0	-
Calcium (D)	mg/L	0.01	-	-	-	-	6	0	0	18.8	18.9	0.574	0.234	17.9	19.5	-	-
Calcium (T)	mg/L	0.01	17	36	-	-	6	0	0	18.5	18.4	0.791	0.323	17.6	19.4	6	-
Chloride	mg/L	0.1	25	15	120	90	6	0	0	12.4	12.4	0.476	0.194	12	12.9	0	0
Fluoride	mg/L	0.02	0.05	0.036	2.8	2.1	6	0	0	0.0528	0.052	0.00343	0.0014	0.05	0.059	4	0
Magnesium (D)	mg/L	0.004	-	-	-	-	6	0	0	3.33	3.32	0.0945	0.0386	3.22	3.47	-	-
Magnesium (T)	mg/L	0.004	3.3	5.2	-	-	6	0	0	3.33	3.32	0.242	0.099	3.07	3.59	3	-
Potassium (D)	mg/L	0.02	-	-	-	-	6	0	0	1.45	1.46	0.0479	0.0196	1.39	1.5	-	-
Potassium (T)	mg/L	0.02	1.8	2.3	-	-	6	0	0	1.44	1.43	0.0628	0.0256	1.38	1.53	0	-
Reactive Silica (SiO2)	mg/L	0.01	0.28	-	-	-	6	0	0	0.202	0.205	0.0609	0.0249	0.142	0.259	0	-
Sodium (D)	mg/L	0.02	-	-	-	-	6	0	0	8.2	8.2	0.53	0.216	7.68	8.75	-	-
Sodium (T)	mg/L	0.02	17	8.1	-	-	6	0	0	8.05	8.01	0.79	0.322	7.3	8.88	0	-
Sulphate	mg/L	0.3	10	5.5	218	164	6	0	0	10.3	10.3	0.492	0.201	9.82	10.8	3	0
Nutrients																	
Ammonia (as N)	mg/L	0.005	0.009	0.086	0.588	0.44	6	0	0	0.0275	0.0195	0.0209	0.00853	0.0144	0.0689	6	0
Nitrate (as N)	mg/L	0.005	0.005	1.2	2.9	2.17	6	5	83	-	0.005	-	-	0.005	0.0055	1	0
Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	6	5	83	-	0.0051	-	-	0.0051	0.0055	-	-
Nitrite (as N)	mg/L	0.001	0.0005	-	0.06	0.045	6	6	100	-	0.001	-	-	0.001	0.001	0	0
Nitrogen	mg/L	0.05	-	-	-	-	6	0	0	0.41	0.425	0.0443	0.0181	0.326	0.442	-	-
Orthophosphate (PO4-P)	mg/L	0.001	0.003	0.00072	-	-	6	6	100	-	0.001	-	-	0.001	0.001	0	-
Total Diss Phosphorus	mg/L	0.001	0.008	0.0071	-	-	6	0	0	0.0047	0.00385	0.00277	0.00113	0.0029	0.0102	1	-
Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	6	0	0	0.342	0.341	0.0199	0.00812	0.311	0.372	-	-
Total Kjeldahl Nitrogen	mg/L	0.05	0.52	0.88	-	-	6	0	0	0.409	0.425	0.0436	0.0178	0.326	0.442	0	-
Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	6	0	0	0.341	0.338	0.0199	0.00811	0.311	0.372	-	-
Total Phosphorus	mg/L	0.001	0.02	-	-	-	6	0	0	0.01	0.0104	0.00332	0.00136	0.0044	0.0147	0	-

Table D1-2. Lake D7 – Summary statistics and screening results for the 2025 sampling events (July and August).

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	Lake D7 - 2025 July and August Sampling Events										
							N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>NR	N>ActLvl
Organic/Inorganic Carbon																	
Dissolved Organic Carbon	mg/L	0.5	5.1	-	-	-	6	0	0	5.67	5.7	0.297	0.121	5.22	5.98	6	-
Total Organic Carbon	mg/L	0.5	14	-	-	-	6	0	0	5.74	5.82	0.255	0.104	5.4	6.02	0	-
Total Metals																	
Aluminum (T)	µg/L	1	6.7	37	1030	775	6	0	0	5.25	5.15	1.95	0.797	2.2	7.4	2	0
Antimony (T)	µg/L	0.02	0.03	0.13	6	4.5	6	6	100	-	0.02	-	-	0.02	0.02	0	0
Arsenic (T)	µg/L	0.02	1.2	1.3	25	18.8	6	0	0	1.57	1.51	0.178	0.0725	1.33	1.82	6	0
Barium (T)	µg/L	0.02	17	34	1000	750	6	0	0	19.9	20	0.242	0.0989	19.6	20.2	6	0
Beryllium (T)	µg/L	0.005	0.01	0.26	-	-	6	6	100	-	0.005	-	-	0.005	0.005	0	-
Boron (T)	µg/L	5	17	10	1500	1120	6	0	0	14.6	14.4	0.631	0.257	14	15.6	0	0
Cadmium (T)	µg/L	0.005	0.005	0.071	0.101	0.0756	6	6	100	-	0.005	-	-	0.005	0.005	0	0
Chromium (T)	µg/L	0.1	0.06	1.6	5	3.75	6	6	100	-	0.1	-	-	0.1	0.1	0	0
Cobalt (T)	µg/L	0.005	0.05	0.33	0.814	0.61	6	0	0	0.0582	0.0651	0.0186	0.00758	0.0205	0.0688	5	0
Copper (T)	µg/L	0.05	1	2.1	2000	1500	6	0	0	0.904	0.9	0.0955	0.039	0.804	1.02	1	0
Iron (T)	µg/L	1	112	175	1060	795	6	0	0	54.5	51.2	21.5	8.78	20.1	80.1	0	0
Lead (T)	µg/L	0.01	0.02	0.14	5	3.75	6	1	17	0.0215	0.019	0.00889	0.00363	0.01	0.034	2	0
Lithium (T)	µg/L	0.5	1.9	4.9	-	-	6	0	0	1.82	1.73	0.285	0.117	1.61	2.37	1	-
Manganese (T)	µg/L	0.05	13	67	120	90	6	0	0	12.5	14.2	6.1	2.49	0.894	17.4	3	0
Mercury (T)	µg/L	0.0005	0.001	0.012	0.026	0.0195	6	0	0	0.000767	0.000695	0.00024	9.6E-05	0.00053	0.00112	1	0
Molybdenum (T)	µg/L	0.05	0.48	0.6	73	54.8	6	0	0	0.576	0.571	0.0194	0.00793	0.552	0.604	6	0
Nickel (T)	µg/L	0.05	0.75	2.3	25	18.8	6	0	0	0.826	0.816	0.0435	0.0178	0.774	0.89	6	0
Selenium (T)	µg/L	0.04	0.06	0.48	1	0.75	6	0	0	0.0485	0.049	0.00565	0.00231	0.041	0.055	0	0
Silver (T)	µg/L	0.005	0.005	0.025	0.25	0.188	6	6	100	-	0.005	-	-	0.005	0.005	0	0
Strontium (T)	µg/L	0.02	83	162	2500	1880	6	0	0	91.8	91	3.76	1.54	87.9	97	6	0
Thallium (T)	µg/L	0.005	0.005	0.039	0.8	0.6	6	6	100	-	0.005	-	-	0.005	0.005	0	0
Tin (T)	µg/L	0.02	0.05	0.21	-	-	6	6	100	-	0.02	-	-	0.02	0.02	0	-
Titanium (T)	µg/L	0.05	0.34	2.38	-	-	6	1	17	0.274	0.258	0.141	0.0576	0.05	0.43	2	-
Uranium (T)	µg/L	0.001	0.1	0.13	15	11.2	6	0	0	0.0998	0.0995	0.00596	0.00243	0.0928	0.107	3	0
Vanadium (T)	µg/L	0.05	0.07	0.71	120	90	6	1	17	0.0695	0.062	0.0177	0.00721	0.05	0.092	2	0
Zinc (T)	µg/L	0.5	2	5.8	-	-	6	6	100	-	0.5	-	-	0.5	0.5	0	-
Dissolved Metals																	
Aluminum (D)	µg/L	1	-	-	-	-	6	0	0	2.73	1.8	2.29	0.936	1.6	7.4	-	-
Antimony (D)	µg/L	0.02	-	-	-	-	6	5	83	-	0.02	-	-	0.02	0.02	0	-
Arsenic (D)	µg/L	0.02	-	-	-	-	6	0	0	1.37	1.33	0.147	0.06	1.26	1.66	-	-
Barium (D)	µg/L	0.02	-	-	-	-	6	0	0	19.5	19.6	0.383	0.156	19	19.9	-	-
Beryllium (D)	µg/L	0.005	-	-	-	-	6	6	100	-	0.005	-	-	0.005	0.005	0	-
Boron (D)	µg/L	5	-	-	-	-	6	0	0	14.5	14.6	0.392	0.16	14	15	-	-
Cadmium (D)	µg/L	0.005	-	-	-	-	6	6	100	-	0.005	-	-	0.005	0.005	0	-
Chromium (D)	µg/L	0.1	-	-	-	-	6	6	100	-	0.1	-	-	0.1	0.1	0	-
Cobalt (D)	µg/L	0.005	-	-	-	-	6	0	0	0.0291	0.0229	0.0149	0.00609	0.0214	0.0594	-	-
Copper (D)	µg/L	0.05	-	-	6.9	5.18	6	0	0	1.01	1.02	0.123	0.0501	0.787	1.13	-	0
Iron (D)	µg/L	1	-	-	-	-	6	0	0	27.2	18.9	22.7	9.26	15.5	73.3	-	-
Lead (D)	µg/L	0.01	-	-	8.67	6.5	6	4	67	-	0.01	-	-	0.01	0.037	-	0
Lithium (D)	µg/L	0.5	-	-	-	-	6	0	0	1.84	1.78	0.172	0.0702	1.75	2.19	-	-

Table D1-2. Lake D7 – Summary statistics and screening results for the 2025 sampling events (July and August).

Parameter	Units	DL (min | max)	Normal Range (min | max)	FEIS[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	Lake D7 - 2025 July and August Sampling Events									
							N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>NR	N>ActLvl
Manganese (D)	µg/L	0.05	-	-	320	240	6	0	0	2.46	0.805	4.09	1.67	0.724	10.8	-	0
Mercury (D)	µg/L	0.0005	-	-	-	-	6	2	33	0.00059	5.55E-04	0.0001	4.1E-05	5.00E-04	0.00072	-	-
Molybdenum (D)	µg/L	0.05	-	-	-	-	6	0	0	0.594	0.585	0.0179	0.00729	0.58	0.62	-	-
Nickel (D)	µg/L	0.05	-	-	-	-	6	0	0	0.805	0.802	0.0178	0.00728	0.78	0.832	-	-
Selenium (D)	µg/L	0.04	-	-	-	-	6	1	17	0.0445	0.0445	0.00327	0.00134	0.04	0.049	-	-
Silver (D)	µg/L	0.005	-	-	-	-	6	6	100	-	0.005	-	-	0.005	0.005	0	-
Strontium (D)	µg/L	0.02	-	-	2500	1880	6	0	0	93.7	94.2	3.06	1.25	88.9	97.1	-	0
Thallium (D)	µg/L	0.005	-	-	-	-	6	6	100	-	0.005	-	-	0.005	0.005	0	-
Tin (D)	µg/L	0.02	-	-	-	-	6	4	67	-	0.02	-	-	0.02	0.028	-	-
Titanium (D)	µg/L	0.05	-	-	-	-	6	4	67	-	0.05	-	-	0.05	0.464	-	-
Uranium (D)	µg/L	0.001	-	-	-	-	6	0	0	0.102	0.1	0.00666	0.00272	0.0949	0.111	-	-
Vanadium (D)	µg/L	0.05	-	-	-	-	6	5	83	-	0.05	-	-	0.05	0.086	-	-
Zinc (D)	µg/L	0.5	1.4	-	14.9	11.1	6	5	83	-	0.5	-	-	0.5	0.5	0	0
Cyanide																	
Cyanide (Total)	mg/L	0.001	0.001	-	0.005	0.00375	6	6	100	-	0.001	-	-	0.001	0.001	0	0
Cyanide (WAD)	mg/L	0.001	-	-	-	-	6	6	100	-	0.001	-	-	0.001	0.001	-	-
Cyanide (free)	mg/L	0.001	-	-	-	-	6	6	100	-	0.001	-	-	0.001	0.001	-	-

Notes

[a] The FEIS Prediction show here is the median concentration for 'Operations' year 5-8, which correspond to 2022-2025. The FEIS predictions for Lake D7 are provided in Appendix 7.4-A of the 2014 FEIS (Agnico Eagle, 2014).

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines, or the SSWQO for fluoride, arsenic, and iron.

N>NR indicates at least one sample exceeded the Normal Range.

Table D1-3. Lake B7 – Summary statistics and screening results for 2025 sampling events (July, August, and October).

Parameter	Units	DL (min | max)	Normal Range (min | max)	Action Level[a] (min | max)	AEMP Benchmark[b]	Lake B7 - 2025 July, August, September, and October Sampling Events										
						N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>NR	N>ActLvl
Field Measurements																
DO (%)	%	-	-	-	-	8	0	0	102	103	11.3	3.98	91	125	-	-
DO (mg/L)	mg/L	-	-	6.5	6.5	8	0	0	11.6	10.8	1.77	0.626	10	14.6	-	0
Sp. Conductivity (field)	µS/cm	-	302	-	-	8	0	0	344	347	31.3	11.1	278	390	-	-
Temperature	C	-	-	-	-	8	0	0	10.4	10.8	4.2	1.48	0.9	14.1	-	-
pH (field)	pH units	-	7.7 | 8.3	6.5 | 9	6.5 | 9	8	0	0	8.1	8.12	0.205	0.0725	7.79	8.32	0	0
Conventional Parameters																
Conductivity (lab)	µS/cm	1	-	-	-	9	0	0	354	350	12.2	4.08	342	381	-	-
Hardness	mg/L	0.5	118	-	-	9	0	0	132	132	5.27	1.76	124	140	9	-
Total Dissolved Solids	mg/L	15	-	500	375	9	0	0	245	242	8.81	2.94	234	261	-	0
Total Dissolved Solids (Calculated)	mg/L	1	171	500	375	9	0	0	230	228	8.08	2.69	222	248	9	0
Total Suspended Solids	mg/L	1	3	-	-	9	6	67	-	1	-	-	1	1.6	0	-
Turbidity (lab)	NTU	0.1	0.69	-	-	9	0	0	0.386	0.37	0.0665	0.0222	0.3	0.5	0	-
pH (lab)	pH units	0.1	-	6.5 | 9	6.5 | 9	9	0	0	7.98	8.03	0.139	0.0465	7.66	8.1	-	0
Major Ions																
Alkalinity, Bicarbonate	mg/L	1	135	-	-	9	0	0	62.4	62.4	1.42	0.473	60.6	64.5	0	-
Alkalinity, Carbonate	mg/L	1	-	-	-	9	9	100	-	1	-	-	1	1	0	-
Alkalinity, Hydroxide	mg/L	1	-	-	-	9	9	100	-	1	-	-	1	1	0	-
Alkalinity, Total	mg/L	1	110	-	-	9	0	0	62.4	62.4	1.42	0.473	60.6	64.5	0	-
Bromide	mg/L	0.1	-	-	-	9	0	0	0.207	0.21	0.005	0.00167	0.2	0.21	-	-
Calcium (D)	mg/L	0.01	-	-	-	9	0	0	44.3	44.9	2.09	0.695	41	47.2	-	-
Calcium (T)	mg/L	0.01	39	-	-	9	0	0	43.4	43.6	0.972	0.324	42.3	44.7	9	-
Chloride	mg/L	0.1	25	120	90	9	0	0	51.6	51.6	1.79	0.596	49.4	55.4	9	0
Fluoride	mg/L	0.02	0.04	2.8	2.1	9	0	0	0.0486	0.049	0.00274	0.00092	0.045	0.052	9	0
Magnesium (D)	mg/L	0.004	-	-	-	9	0	0	5.26	5.16	0.291	0.0969	4.97	5.95	-	-
Magnesium (T)	mg/L	0.004	5.3	-	-	9	0	0	5.09	5.07	0.157	0.0524	4.92	5.38	2	-
Potassium (D)	mg/L	0.02	-	-	-	9	0	0	2.56	2.52	0.0775	0.0258	2.46	2.7	-	-
Potassium (T)	mg/L	0.02	2.8	-	-	9	0	0	2.5	2.5	0.0649	0.0216	2.42	2.58	0	-
Reactive Silica (SiO2)	mg/L	0.05	2.3	-	-	9	0	0	1.81	1.71	0.384	0.128	1.31	2.54	1	-
Sodium (D)	mg/L	0.02	-	-	-	9	0	0	12.4	12.5	0.643	0.214	11.4	13.2	-	-
Sodium (T)	mg/L	0.02	7.5	-	-	9	0	0	12.2	12	0.988	0.329	11.2	14.4	9	-
Sulphate	mg/L	0.3	6	218	164	9	0	0	30.8	30.5	1.78	0.592	29.3	35.2	9	0
Nutrients																
Ammonia (as N)	mg/L	0.005	0.025	0.197	0.147	9	1	11	0.0292	0.008	0.0439	0.0146	0.005	0.142	3	0
Nitrate (as N)	mg/L	0.005	0.005	2.9	2.17	9	5	56	-	0.005	-	-	0.005	0.009	4	0
Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	9	5	56	-	0.0051	-	-	0.0051	0.009	-	-
Nitrite (as N)	mg/L	0.001	0.005	0.06	0.045	9	9	100	-	0.001	-	-	0.001	0.001	0	0
Nitrogen	mg/L	0.05	-	-	-	9	0	0	0.462	0.434	0.0747	0.0249	0.413	0.656	-	-
Orthophosphate (PO4-P)	mg/L	0.001	0.001	-	-	9	2	22	0.00128	0.0014	0.00019	6.2E-05	0.001	0.0015	7	-
Total Diss Phosphorus	mg/L	0.001	0.008	-	-	9	0	0	0.0044	0.0042	0.00103	0.00034	0.0031	0.0066	0	-
Total Dissolved Nitrogen	mg/L	0.05	-	-	-	9	0	0	0.393	0.404	0.0315	0.0105	0.352	0.431	-	-
Total Kjeldahl Nitrogen	mg/L	0.05	0.73	-	-	9	0	0	0.459	0.429	0.0758	0.0253	0.413	0.656	0	-
Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	9	0	0	0.39	0.398	0.0296	0.00987	0.352	0.424	-	-
Total Phosphorus	mg/L	0.001	0.01	-	-	9	0	0	0.00761	0.0075	0.00089	0.0003	0.0064	0.0088	0	-

Table D1-3. Lake B7 – Summary statistics and screening results for 2025 sampling events (July, August, and October).

Parameter	Units	DL (min | max)	Normal Range (min | max)	Action Level[a] (min | max)	AEMP Benchmark[b]	Lake B7 - 2025 July, August, September, and October Sampling Events										
						N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>NR	N>ActLvl
Organic/Inorganic Carbon																
Dissolved Organic Carbon	mg/L	0.5	5.5	-	-	9	0	0	6.49	6.58	0.396	0.132	5.87	6.91	9	-
Total Organic Carbon	mg/L	0.5	7.6	-	-	9	0	0	6.77	6.43	0.679	0.226	6.17	8.26	1	-
Total Metals																
Aluminum (T)	µg/L	1	6.6	1080	809	9	0	0	2.71	2.6	0.913	0.304	1.5	4.8	0	0
Antimony (T)	µg/L	0.02	0.02	6	4.5	9	0	0	0.0556	0.056	0.00181	0.0006	0.052	0.057	9	0
Arsenic (T)	µg/L	0.02	1.8	25	18.8	9	0	0	26.4	24.9	3.7	1.23	20.9	32.5	9	9
Barium (T)	µg/L	0.02	20	1000	750	9	0	0	33.4	33.1	0.732	0.244	32.8	34.8	9	0
Beryllium (T)	µg/L	0.005	0.01	-	-	9	9	100	-	0.005	-	-	0.005	0.005	0	-
Boron (T)	µg/L	5	8	1500	1120	9	0	0	16.1	16	0.4	0.133	15.7	17.1	9	0
Cadmium (T)	µg/L	0.005	0.007	0.189	0.142	9	9	100	-	0.005	-	-	0.005	0.005	0	0
Chromium (T)	µg/L	0.1	0.06	5	3.75	9	9	100	-	0.1	-	-	0.1	0.1	0	0
Cobalt (T)	µg/L	0.005	0.05	1.11	0.836	9	0	0	0.0576	0.0575	0.00408	0.00136	0.0526	0.0661	9	0
Copper (T)	µg/L	0.05	1.13	2000	1500	9	0	0	1.08	0.946	0.263	0.0876	0.817	1.59	3	0
Iron (T)	µg/L	1	103	1060	795	9	0	0	43.4	41.2	7.79	2.6	35.5	57.4	0	0
Lead (T)	µg/L	0.01	0.08	5	3.75	9	0	0	0.0798	0.073	0.0259	0.00865	0.046	0.128	4	0
Lithium (T)	µg/L	0.5	7.5	-	-	9	0	0	14.7	14.8	1.11	0.371	13.5	17.2	9	-
Manganese (T)	µg/L	0.05	8.6	120	90	9	0	0	4.64	4.45	1.59	0.529	2.14	7.4	0	0
Mercury (T)	µg/L	0.0005	0.004	0.026	0.0195	9	0	0	0.000884	0.00082	0.00038	0.00013	0.00057	0.00183	0	0
Molybdenum (T)	µg/L	0.05	0.24	73	54.8	9	0	0	0.374	0.374	0.0113	0.00378	0.353	0.39	9	0
Nickel (T)	µg/L	0.05	1.4	113	84.4	9	0	0	0.902	0.89	0.0324	0.0108	0.86	0.956	0	0
Selenium (T)	µg/L	0.04	0.04	1	0.75	9	0	0	0.0568	0.053	0.0119	0.00396	0.042	0.079	9	0
Silver (T)	µg/L	0.005	0.005	0.25	0.188	9	9	100	-	0.005	-	-	0.005	0.005	0	0
Strontium (T)	µg/L	0.02	155	2500	1880	9	0	0	346	344	15.2	5.06	319	365	9	0
Thallium (T)	µg/L	0.005	0.005	0.8	0.6	9	2	22	0.00594	0.0061	0.00061	0.0002	0.005	0.0067	7	0
Tin (T)	µg/L	0.02	0.05	-	-	9	6	67	-	0.02	-	-	0.02	0.039	0	-
Titanium (T)	µg/L	0.05	0.25	-	-	9	2	22	0.142	0.068	0.149	0.0498	0.05	0.496	2	-
Uranium (T)	µg/L	0.001	0.03	15	11.2	9	0	0	0.115	0.111	0.00691	0.0023	0.105	0.126	9	0
Vanadium (T)	µg/L	0.05	0.01	120	90	9	0	0	0.07	0.073	0.0111	0.0037	0.052	0.085	9	0
Zinc (T)	µg/L	0.5	1.9	-	-	9	5	56	-	0.5	-	-	0.5	2.46	1	-
Dissolved Metals																
Aluminum (D)	µg/L	1	-	-	-	9	2	22	1.28	1.4	0.186	0.0619	1	1.5	-	-
Antimony (D)	µg/L	0.02	-	-	-	9	0	0	0.0552	0.055	0.00239	0.0008	0.051	0.058	-	-
Arsenic (D)	µg/L	0.02	-	-	-	9	0	0	24.6	24.7	3.23	1.08	18.9	29.6	-	-
Barium (D)	µg/L	0.02	-	-	-	9	0	0	33.1	33.1	0.534	0.178	32.1	34	-	-
Beryllium (D)	µg/L	0.005	-	-	-	9	9	100	-	0.005	-	-	0.005	0.005	0	-
Boron (D)	µg/L	5	-	-	-	9	0	0	16.2	16.4	0.648	0.216	15	17.2	-	-
Cadmium (D)	µg/L	0.005	-	-	-	9	9	100	-	0.005	-	-	0.005	0.005	0	-
Chromium (D)	µg/L	0.1	-	-	-	9	9	100	-	0.1	-	-	0.1	0.1	0	-
Cobalt (D)	µg/L	0.005	-	-	-	9	0	0	0.0466	0.047	0.00354	0.00118	0.0397	0.051	-	-
Copper (D)	µg/L	0.05	-	8.24	6.18	9	0	0	1.01	0.955	0.181	0.0603	0.841	1.45	-	0
Iron (D)	µg/L	1	-	-	-	9	0	0	19.4	18.5	3.29	1.1	15.6	24.8	-	-
Lead (D)	µg/L	0.01	-	10.9	8.19	9	0	0	0.031	0.032	0.00947	0.00316	0.02	0.047	-	0
Lithium (D)	µg/L	0.5	-	-	-	9	0	0	15.1	15.2	0.567	0.189	13.8	15.8	-	-

Table D1-3. Lake B7 – Summary statistics and screening results for 2025 sampling events (July, August, and October).

Parameter	Units	DL (min | max)	Normal Range (min | max)	Action Level[a] (min | max)	AEMP Benchmark[b]	Lake B7 - 2025 July, August, September, and October Sampling Events										
						N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>NR	N>ActLvl
Manganese (D)	µg/L	0.05	-	260	195	9	0	0	0.947	0.843	0.268	0.0894	0.693	1.51	-	0
Mercury (D)	µg/L	0.0005	-	-	-	9	4	44	0.000544	5.30E-04	6.7E-05	2.2E-05	5.00E-04	0.00071	-	-
Molybdenum (D)	µg/L	0.05	-	-	-	9	0	0	0.384	0.385	0.0187	0.00623	0.357	0.417	-	-
Nickel (D)	µg/L	0.05	-	-	-	9	0	0	0.906	0.908	0.0231	0.00769	0.866	0.935	-	-
Selenium (D)	µg/L	0.04	-	-	-	9	1	11	0.0494	0.048	0.00613	0.00204	0.04	0.062	-	-
Silver (D)	µg/L	0.005	-	-	-	9	9	100	-	0.005	-	-	0.005	0.005	0	-
Strontium (D)	µg/L	0.02	-	2500	1880	9	0	0	352	356	14.6	4.88	326	367	-	0
Thallium (D)	µg/L	0.005	-	-	-	9	3	33	0.00598	0.0061	0.0008	0.00027	0.005	0.007	-	-
Tin (D)	µg/L	0.02	-	-	-	9	8	89	-	0.02	-	-	0.02	0.024	-	-
Titanium (D)	µg/L	0.05	-	-	-	9	8	89	-	0.05	-	-	0.05	0.1	-	-
Uranium (D)	µg/L	0.001	-	-	-	9	0	0	0.115	0.111	0.0116	0.00388	0.0961	0.128	-	-
Vanadium (D)	µg/L	0.05	-	-	-	9	1	11	0.0618	0.062	0.0065	0.00217	0.05	0.07	-	-
Zinc (D)	µg/L	0.5	2.2	30.2	22.7	9	7	78	-	0.5	-	-	0.5	0.85	0	0
Cyanide																
Cyanide (Total)	mg/L	0.001	0.001	0.005	0.00375	9	9	100	-	0.001	-	-	0.001	0.001	0	0
Cyanide (WAD)	mg/L	0.001	-	-	-	9	9	100	-	0.001	-	-	0.001	0.001	-	-
Cyanide (free)	mg/L	0.001	-	-	-	9	9	100	-	0.001	-	-	0.001	0.001	-	-

Notes
[a] The AEMP Action Level is 75% of the AEMP Benchmark.
[b] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines, or the SSWQO for fluoride, arsenic, and iron.
N>NR indicates at least one sample exceeded the Normal Range.

Table D1-4. Lake E3 – Summary statistics and screening results for the 2025 sampling events.

Parameter	Units	DL (min | max)[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	Lake E3 - 2025 June – October Sampling Events[d]									
					N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>ActLvl
Field Measurements														
DO (%)	%	-	-	-	7	0	0	107	105	21.9	8.28	65.1	127	-
DO (mg/L)	mg/L	-	6.5	6.5	7	0	0	13.3	14	3.66	1.38	6.92	17	-
Sp. Conductivity (field)	µS/cm	-	-	-	7	0	0	231	176	108	40.7	150	388	-
Temperature	C	-	-	-	7	0	0	6.64	4.6	5.16	1.95	1	13.5	-
pH (field)	pH units	-	6.5 | 9	6.5 | 9	7	0	0	7.51	7.57	0.216	0.0815	7.2	7.72	0
Conventional Parameters														
Conductivity (lab)	µS/cm	0.002 | 1	-	-	6	0	0	206	180	73.9	30.2	159	356	-
Hardness	mg/L	0.5	-	-	6	0	0	75.8	67.2	25.7	10.5	61	128	-
Total Dissolved Solids	mg/L	10	500	375	6	0	0	115	95.5	59.6	24.3	70	230	0
Total Dissolved Solids (Calculated)	mg/L	1	500	375	6	0	0	116	102	37	15.1	92	190	0
Total Suspended Solids	mg/L	1	-	-	6	2	33	1.97	1.1	1.99	0.812	1	6	-
Turbidity (lab)	NTU	0.1	-	-	6	0	0	0.515	0.45	0.172	0.0702	0.37	0.82	-
pH (lab)	pH units	0 | 0.1	6.5 | 9	6.5 | 9	6	0	0	7.75	7.78	0.132	0.0538	7.56	7.88	0
Major Ions														
Alkalinity, Bicarbonate	mg/L	1	-	-	6	0	0	55.1	53	9.47	3.87	44.9	71	-
Alkalinity, Carbonate	mg/L	1	-	-	6	6	100	-	1	-	-	1	1	0
Alkalinity, Hydroxide	mg/L	1	-	-	2	2	100	-	1	-	-	1	1	0
Alkalinity, Total	mg/L	1	-	-	6	0	0	55.4	53.5	9.61	3.92	44.9	71	-
Bromide	mg/L	0.1	-	-	2	2	100	-	0.1	-	-	0.1	0.1	0
Calcium (D)	mg/L	0.01 | 0.05	-	-	6	0	0	25.4	22.6	8.76	3.58	20.4	43.2	-
Calcium (T)	mg/L	0.01 | 0.05	-	-	6	0	0	26.1	22.4	11	4.5	19.9	48.5	-
Chloride	mg/L	0.1 | 1	120	90	6	0	0	17.5	14.4	7.65	3.12	13.3	33	0
Fluoride	mg/L	0.02 | 0.1	2.8	2.1	6	4	67	-	0.1	-	-	0.04	0.1	0
Magnesium (D)	mg/L	0.004 | 0.05	-	-	6	0	0	2.99	2.62	0.989	0.404	2.44	5	-
Magnesium (T)	mg/L	0.004 | 0.05	-	-	6	0	0	3.05	2.58	1.28	0.522	2.4	5.65	-
Potassium (D)	mg/L	0.02 | 0.05	-	-	6	0	0	1.48	1.35	0.318	0.13	1.28	2.11	-
Potassium (T)	mg/L	0.02 | 0.05	-	-	6	0	0	1.46	1.29	0.414	0.169	1.25	2.3	-
Reactive Silica (SiO2)	mg/L	0.01 | 0.05	-	-	6	0	0	1.21	0.8	0.826	0.337	0.521	2.5	-
Sodium (D)	mg/L	0.02 | 0.05	-	-	6	0	0	6.95	6.3	1.84	0.753	5.87	10.7	-
Sodium (T)	mg/L	0.02 | 0.05	-	-	6	0	0	7.3	6.48	2.54	1.04	5.75	12.4	-
Sulphate	mg/L	0.3 | 0.5	218	164	6	0	0	21.1	13.2	17.9	7.3	11.2	57	0
Nutrients														
Ammonia (as N)	mg/L	0.005 | 0.05	0.291	0.218	6	3	50	-	0.05	-	-	0.0451	0.17	0
Nitrate (as N)	mg/L	0.005 | 0.1	2.9	2.17	6	5	83	-	0.1	-	-	0.005	0.1	0
Nitrate + Nitrite (as N)	mg/L	0.0051 | 0.1	-	-	6	5	83	-	0.1	-	-	0.0051	0.1	-
Nitrite (as N)	mg/L	0.001 | 0.01	0.06	0.045	6	6	100	-	0.01	-	-	0.001	0.01	0
Nitrogen	mg/L	0.05	-	-	2	0	0	0.436	0.436	0.0134	0.0095	0.426	0.445	-
Orthophosphate (PO4-P)	mg/L	0.001 | 0.01	-	-	6	6	100	-	0.01	-	-	0.001	0.01	-
Total Diss Phosphorus	mg/L	0.001	-	-	2	0	0	0.0032	0.0032	0.000283	0.0002	0.003	0.0034	-
Total Dissolved Nitrogen	mg/L	0.05	-	-	2	0	0	0.343	0.343	0.0368	0.026	0.317	0.369	-
Total Kjeldahl Nitrogen	mg/L	0.05 | 0.1	-	-	6	0	0	0.339	0.36	0.1	0.0409	0.21	0.44	-
Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	2	0	0	0.34	0.34	0.0332	0.0235	0.317	0.364	-
Total Phosphorus	mg/L	0.001 | 0.02	-	-	6	4	67	-	0.02	-	-	0.0085	0.02	-

Table D1-4. Lake E3 – Summary statistics and screening results for the 2025 sampling events.

Parameter	Units	DL (min | max)[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	Lake E3 - 2025 June – October Sampling Events[d]									
					N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>ActLvl
Organic/Inorganic Carbon														
Dissolved Organic Carbon	mg/L	0.4 | 0.5	-	-	6	0	0	5.73	5.4	1.12	0.458	4.7	7.8	-
Total Organic Carbon	mg/L	0.4 | 0.5	-	-	6	0	0	5.86	5.69	1.11	0.451	4.7	7.9	-
Total Metals														
Aluminum (T)	µg/L	1 | 3	330	248	6	2	33	4.07	3	3.95	1.61	1	11.9	0
Antimony (T)	µg/L	0.02 | 0.5	6	4.5	6	5	83	-	0.5	-	-	0.02	0.5	0
Arsenic (T)	µg/L	0.02 | 0.1	25	18.8	6	0	0	3.65	2.44	2.23	0.91	2.09	7.72	0
Barium (T)	µg/L	0.02 | 1	1000	750	6	0	0	19.1	16.4	6.31	2.57	14.7	31.3	0
Beryllium (T)	µg/L	0.005 | 0.1	-	-	6	6	100	-	0.1	-	-	0.005	0.1	-
Boron (T)	µg/L	5 | 50	1500	1120	6	6	100	-	50	-	-	5	50	0
Cadmium (T)	µg/L	0.005 | 0.01	0.0378	0.0284	6	6	100	-	0.01	-	-	0.005	0.01	0
Chromium (T)	µg/L	0.1 | 1	5	3.75	6	6	100	-	1	-	-	0.1	1	0
Cobalt (T)	µg/L	0.005	0.779	0.584	2	0	0	0.0562	0.0562	0.0145	0.0102	0.046	0.0665	0
Copper (T)	µg/L	0.05 | 0.5	2000	1500	6	0	0	0.731	0.658	0.222	0.0906	0.51	1.08	0
Iron (T)	µg/L	1 | 10	1060	795	6	0	0	68.4	64	22	8.97	46.4	105	0
Lead (T)	µg/L	0.01 | 0.2	5	3.75	6	5	83	-	0.2	-	-	0.01	0.2	0
Lithium (T)	µg/L	0.5 | 2	-	-	6	3	50	-	2	-	-	1.57	3	-
Manganese (T)	µg/L	0.05 | 1	120	90	6	0	0	13.8	9.64	10.8	4.41	6.26	35.3	0
Mercury (T)	µg/L	5e-04 | 0.01	0.026	0.0195	6	4	67	-	0.01	-	-	0.00084	0.01	0
Molybdenum (T)	µg/L	0.05 | 1	73	54.8	6	4	67	-	1	-	-	0.231	1	0
Nickel (T)	µg/L	0.05 | 1	25	18.8	6	2	33	1.15	1	0.375	0.153	0.841	1.8	0
Selenium (T)	µg/L	0.04 | 0.1	1	0.75	6	4	67	-	0.1	-	-	0.042	0.1	0
Silver (T)	µg/L	0.005 | 0.02	0.25	0.188	6	6	100	-	0.02	-	-	0.005	0.02	0
Strontium (T)	µg/L	0.02 | 1	2500	1880	6	0	0	134	110	62.8	25.6	104	262	0
Thallium (T)	µg/L	0.005 | 0.01	0.8	0.6	6	6	100	-	0.01	-	-	0.005	0.01	0
Tin (T)	µg/L	0.02 | 5	-	-	6	6	100	-	5	-	-	0.02	5	-
Titanium (T)	µg/L	0.05 | 5	-	-	6	6	100	-	5	-	-	0.05	5	-
Uranium (T)	µg/L	0.001 | 0.1	15	11.2	6	3	50	-	0.1	-	-	0.0547	0.42	0
Vanadium (T)	µg/L	0.05 | 5	120	90	6	6	100	-	5	-	-	0.05	5	0
Zinc (T)	µg/L	0.5 | 5	-	-	6	5	83	-	5	-	-	0.5	5	-
Dissolved Metals														
Aluminum (D)	µg/L	1 | 3	-	-	6	3	50	-	3	-	-	1	4.2	-
Antimony (D)	µg/L	0.02 | 0.5	-	-	6	5	83	-	0.5	-	-	0.02	0.5	-
Arsenic (D)	µg/L	0.02 | 0.1	-	-	6	0	0	3.32	2.32	2.01	0.823	1.88	7.11	-
Barium (D)	µg/L	0.02 | 1	-	-	6	0	0	19.2	16.8	5.71	2.33	14.7	29.6	-
Beryllium (D)	µg/L	0.005 | 0.1	-	-	6	6	100	-	0.1	-	-	0.005	0.1	-
Boron (D)	µg/L	5 | 50	-	-	6	6	100	-	50	-	-	5	50	-
Cadmium (D)	µg/L	0.005 | 0.01	-	-	6	6	100	-	0.01	-	-	0.005	0.01	-
Chromium (D)	µg/L	0.1 | 1	-	-	6	6	100	-	1	-	-	0.1	1	-
Cobalt (D)	µg/L	0.005	-	-	2	0	0	0.0412	0.0412	0.0237	0.0168	0.0245	0.058	-
Copper (D)	µg/L	0.05 | 0.2	5.76	4.32	6	0	0	0.781	0.68	0.23	0.0941	0.616	1.23	0
Iron (D)	µg/L	1 | 5	-	-	6	0	0	42.2	32.2	21	8.58	22.7	71.1	-
Lead (D)	µg/L	0.01 | 0.2	5.34	4.01	6	5	83	-	0.2	-	-	0.01	0.2	0
Lithium (D)	µg/L	0.5 | 2	-	-	6	3	50	-	2	-	-	1.38	2.8	-

Table D1-4. Lake E3 – Summary statistics and screening results for the 2025 sampling events.

Parameter	Units	DL (min | max)[a]	Action Level[b] (min | max)	AEMP Benchmark[c]	Lake E3 - 2025 June – October Sampling Events[d]									
					N	N<DL	% <DL	Mean	Median	SD	SE	Min	Max	N>ActLvl
Manganese (D)	µg/L	0.05 | 1	250	188	6	0	0	9.02	3.99	12.6	5.13	1.25	34.1	0
Mercury (D)	µg/L	5e-04 | 0.01	-	-	6	4	67	-	1.00E-02	-	-	6.50E-04	0.01	-
Molybdenum (D)	µg/L	0.05 | 1	-	-	6	4	67	-	1	-	-	0.226	1	-
Nickel (D)	µg/L	0.05 | 1	-	-	6	2	33	1.1	1	0.283	0.116	0.84	1.5	-
Selenium (D)	µg/L	0.04 | 0.1	-	-	6	5	83	-	0.1	-	-	0.04	0.1	-
Silver (D)	µg/L	0.005 | 0.02	-	-	6	6	100	-	0.02	-	-	0.005	0.02	-
Strontium (D)	µg/L	0.02 | 1	2500	1880	6	0	0	131	113	48.9	19.9	104	230	0
Thallium (D)	µg/L	0.005 | 0.01	-	-	6	6	100	-	0.01	-	-	0.005	0.01	-
Tin (D)	µg/L	0.02 | 5	-	-	6	6	100	-	5	-	-	0.02	5	-
Titanium (D)	µg/L	0.05 | 5	-	-	6	6	100	-	5	-	-	0.05	5	-
Uranium (D)	µg/L	0.001 | 0.1	-	-	6	3	50	-	0.1	-	-	0.05	0.43	-
Vanadium (D)	µg/L	0.05 | 5	-	-	6	6	100	-	5	-	-	0.05	5	-
Zinc (D)	µg/L	0.5 | 5	7.26	5.45	6	5	83	-	5	-	-	0.5	5.4	0
Cyanide														
Cyanide (Total)	mg/L	5e-04 | 0.001	0.005	0.00375	5	1	17	0.00081	0.00075	0.00028	0.00013	0.00050	0.0012	0
Cyanide (WAD)	mg/L	5e-04 | 0.001	-	-	5	2	33	0.00077	0.00077	0.00019	0.00009	0.00053	0.0010	-
Cyanide (free)	mg/L	5e-04 | 0.001	-	-	5	2	33	0.00074	0.00061	0.00029	0.00013	0.00050	0.0011	-

Notes

[a] Detection limits for some parameters vary for compliance samples (MEL-15) analyzed at Bureau Veritas Labs compared to AEMP samples analyzed at ALS Environmental.

[b] The AEMP Action Level is 75% of the AEMP Benchmark.

[c] The AEMP Benchmark is the lowest of the FWAL or HH DW guidelines, or the SSWQO for fluoride, arsenic, and iron.

[d] Compliance samples from MEL-15 (June-October); AEMP samples were collected from the same location in July and August and analyzed at ALS Environmental.

N>NR indicates at least one sample exceeded the Normal Range.

Table D1-5. Water chemistry results from Lake D7, 2025

Parameter	Units	DL (min | max)	Normal Range	FEIS	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	July 7/18/2025			August 8/12/2025		
										D7-01	D7-02	D7-03	D7-01	D7-02	D7-03
Field Measurements															
DO (%)	%	-	-	-	-	-	-	-	-	89.1	98.6	-	126.4	128.5	128.4
DO (mg/L)	mg/L	-	-	-	-	-	-	6.5	6.5	9.72	9.87	-	14.01	14.03	13.99
Sp. Conductivity (field)	µS/cm	-	159	-	-	-	-	-	-	155.4	155.7	-	**167**	**167**	**167**
Temperature	C	-	-	-	-	-	-	-	-	11.7	11.5	-	11.4	11.5	11.2
pH (field)	pH units	-	7.7 | 8.3	-	-	-	-	6.5 | 9	6.5 | 9	8.14	8.09	-	8.14	8.15	8.12
Conventional Parameters															
Conductivity (lab)	µS/cm	1	-	-	-	-	-	-	-	164	161	162	171	171	171
Hardness	mg/L	0.5	56	-	-	-	-	-	-	**60.2**	**59.6**	**58**	**62.6**	**61.8**	**62**
pH (lab)	pH units	0.1	-	-	6.5 | 9.0	-	-	6.5 | 9	6.5 | 9	7.88	7.92	7.9	7.75	7.79	7.77
Total Dissolved Solids	mg/L	15	-	136	500	-	-	500	375	88.2	75.9	87.2	112	77.7	116
TDS (Calculated)	mg/L	1	81	-	500	-	-	500	375	**107**	**105**	**105**	**111**	**111**	**111**
Total Suspended Solids	mg/L	1	2	5.1	-	-	-	-	-	1.7	1.4	1.2	1.4	**2.1**	1.5
Turbidity (lab)	NTU	0.1	1.1	-	-	-	-	-	-	0.79	0.72	0.75	0.92	0.96	0.98
Alkalinity, Bicarbonate	mg/L	1	68	-	-	-	-	-	-	50	50.3	49.9	52.7	53.4	52.6
Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
Alkalinity, Total	mg/L	1	55	83	-	-	-	-	-	50	50.3	49.9	52.7	53.4	52.6
Bromide	mg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
Calcium (D)	mg/L	0.01	-	-	-	-	-	-	-	18.7	18.5	17.9	19.5	19.2	19.1
Calcium (T)	mg/L	0.01	17	36	-	-	-	-	-	**17.9**	**18**	**17.6**	**19.4**	**18.8**	**19.4**
Chloride	mg/L	0.1	25	15	120	-	-	120	90	12	12	12	12.9	12.9	12.8
Fluoride	mg/L	0.02	0.05	0.036	0.12	1.5	2.8	2.8	2.1	0.05	0.05	**0.051**	**0.059**	**0.054**	**0.053**
Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	-	3.27	3.26	3.22	3.39	3.36	3.47
Magnesium (T)	mg/L	0.004	3.3	5.2	-	-	-	-	-	3.07	3.17	3.1	**3.48**	**3.57**	**3.59**
Potassium (D)	mg/L	0.02	-	-	-	-	-	-	-	1.43	1.4	1.39	1.5	1.48	1.49
Potassium (T)	mg/L	0.02	1.8	2.3	-	-	-	-	-	1.4	1.39	1.38	1.5	1.46	1.53
Reactive Silica (SiO2)	mg/L	0.01 | 0.05	0.28	-	-	-	-	-	-	0.142	0.152	0.147	0.257	0.259	0.258
Sodium (D)	mg/L	0.02	-	-	-	-	-	-	-	7.68	7.78	7.71	8.69	8.62	8.75
Sodium (T)	mg/L	0.02	17	8.1	-	-	-	-	-	7.39	7.3	7.32	8.88	8.63	8.8
Sulphate	mg/L	0.3	10	5.5	218	-	-	218	164	9.9	9.82	9.9	**10.8**	**10.8**	**10.7**
Nutrients and Organic Carbon															
Ammonia (as N)	mg/L	0.005	0.009	0.086	0.197 | 0.588	-	-	0.588	0.441	**0.0147**	**0.0689**	**0.0184**	**0.0205**	**0.028**	**0.0144**
Nitrate (as N)	mg/L	0.005	0.005	1.2	2.9	10	-	2.9	2.17	*<0.005*	*<0.005*	*<0.005*	*<0.005*	**0.0055**	*<0.005*
Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	-	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	0.0055	*<0.0051*
Nitrite (as N)	mg/L	0.001	0.0005	-	0.06	1	-	0.06	0.045	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.401	0.326	0.416	0.442	0.442	0.434
Orthophosphate (PO4-P)	mg/L	0.001	0.003	0.00072	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Total Diss Phosphorus	mg/L	0.001	0.008	0.0071	-	-	-	-	-	0.0045	**0.0102**	0.004	0.0029	0.0029	0.0037
Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	-	0.335	0.372	0.311	0.338	0.344	0.349
Total Kjeldahl Nitrogen	mg/L	0.05	0.52	0.88	-	-	-	-	-	0.401	0.326	0.416	0.442	0.437	0.434
Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	-	0.335	0.372	0.311	0.338	0.339	0.349
Total Phosphorus	mg/L	0.001	0.02	-	0.01	-	-	-	-	0.011	0.0044	0.0147	0.0105	0.0103	0.0093
Dissolved Organic Carbon	mg/L	0.5	5.1	-	-	-	-	-	-	**5.57**	**5.22**	**5.47**	**5.98**	**5.84**	**5.92**
Total Organic Carbon	mg/L	0.5	14	-	-	-	-	-	-	5.84	5.4	5.44	5.91	6.02	5.8

Table D1-5. Water chemistry results from Lake D7, 2025

Parameter	Units	DL (min | max)	Normal Range	FEIS	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	July 7/18/2025			August 8/12/2025		
										D7-01	D7-02	D7-03	D7-01	D7-02	D7-03
Total Metals															
Aluminum	µg/L	1	6.7	37	100	-	-	1030	775	**7.4**	**7.3**	2.2	5.1	4.3	5.2
Antimony	µg/L	0.02	0.03	0.13	9	6	-	6	4.5	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
Arsenic	µg/L	0.02	1.2	1.3	5	10	25	25	18.8	**1.82**	**1.73**	**1.33**	**1.5**	**1.51**	**1.51**
Barium	µg/L	0.02	17	34	1000	2000	-	1000	750	**20.2**	**20.1**	**19.9**	**19.7**	**20.1**	**19.6**
Beryllium	µg/L	0.005	0.01	0.26	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Boron	µg/L	5	17	10	1500	5000	-	1500	1120	14	14.1	14.1	14.8	14.9	15.6
Cadmium	µg/L	0.005	0.005	0.071	0.095 | 0.101	7	-	0.101	0.0756	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Chromium	µg/L	0.1	0.06	1.6	5	50	-	5	3.75	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
Cobalt	µg/L	0.005	0.05	0.33	0.79 | 0.813	-	-	0.814	0.61	**0.0664**	**0.0652**	0.0205	**0.065**	**0.0633**	**0.0688**
Copper	µg/L	0.05	1	2.1	2	2000	-	2000	1500	0.81	0.848	0.804	0.992	0.953	**1.02**
Iron	µg/L	1	112	175	300	-	1060	1060	795	80.1	75	20.1	49.2	49.9	52.5
Lead	µg/L	0.01	0.02	0.14	-	5	-	5	3.75	**0.034**	**0.03**	*<0.01*	0.017	0.02	0.018
Lithium	µg/L	0.5	1.9	4.9	-	-	-	-	-	1.61	1.64	1.66	1.87	1.8	**2.37**
Manganese	µg/L	0.05	13	67	-	120	-	120	90	12.7	11.9	0.894	**17.4**	**16.5**	**15.8**
Mercury	µg/L	0.0005	0.001	0.012	0.026	1	-	0.026	0.0195	0.00058	0.00053	0.00074	**0.00112**	0.00065	0.00098
Molybdenum	µg/L	0.05	0.48	0.61	73	-	-	73	54.8	**0.563**	**0.552**	**0.568**	**0.593**	**0.574**	**0.604**
Nickel	µg/L	0.05	0.75	2.3	25	-	-	25	18.8	**0.795**	**0.806**	**0.774**	**0.862**	**0.826**	**0.89**
Selenium	µg/L	0.04	0.06	0.48	1	50	-	1	0.75	0.043	0.049	0.041	0.049	0.054	0.055
Silver	µg/L	0.005	0.005	0.025	0.25	-	-	0.25	0.188	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Strontium	µg/L	0.02	83	162	2500	7000	-	2500	1880	**87.9**	**88.8**	**89.3**	**95.3**	**92.8**	**97**
Thallium	µg/L	0.005	0.005	0.039	0.8	-	-	0.8	0.6	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Tin	µg/L	0.02	0.05	0.21	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
Titanium	µg/L	0.05	0.34	2.38	-	-	-	-	-	**0.43**	**0.421**	*<0.05*	0.225	0.274	0.242
Uranium	µg/L	0.001	0.1	0.13	15	20	-	15	11.2	**0.103**	**0.107**	**0.105**	0.0948	0.0928	0.096
Vanadium	µg/L	0.05	0.07	0.71	120	-	-	120	90	**0.092**	**0.091**	*<0.05*	0.06	0.06	0.064
Zinc	µg/L	0.5	2	5.8	-	-	-	-	-	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
Dissolved Metals															
Aluminum	µg/L	1	-	-	-	-	-	-	-	1.8	2.1	7.4	1.7	1.6	1.8
Antimony	µg/L	0.02	-	-	-	-	-	-	-	*<0.02*	*<0.02*	*<0.02*	0.02	*<0.02*	*<0.02*
Arsenic	µg/L	0.02	-	-	-	-	-	-	-	1.35	1.36	1.66	1.26	1.29	1.3
Barium	µg/L	0.02	-	-	-	-	-	-	-	19.9	19.8	19.9	19.3	19.3	19
Beryllium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Boron	µg/L	5	-	-	-	-	-	-	-	14.1	14.6	14	15	14.6	14.8
Cadmium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Chromium	µg/L	0.1	-	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
Cobalt	µg/L	0.005	-	-	-	-	-	-	-	0.0222	0.0214	0.0594	0.023	0.0227	0.0261
Copper	µg/L	0.05	-	-	-	-	-	6.9	5.18	0.787	0.993	1.13	1.01	1.04	1.11
Iron	µg/L	1	-	-	-	-	-	-	-	19.4	20.9	73.3	15.7	15.5	18.4
Lead	µg/L	0.01	-	-	8.34 | 10	-	-	8.67	6.5	*<0.01*	0.013	0.037	*<0.01*	*<0.01*	*<0.01*
Lithium	µg/L	0.5	-	-	-	-	-	-	-	1.76	1.79	1.75	1.78	1.77	2.19
Manganese	µg/L	0.05	-	-	320	-	-	320	240	0.88	0.808	10.8	0.731	0.802	0.724
Mercury	µg/L	0.0005	-	-	-	-	-	-	-	*<5e-04*	0.00071	0.00072	0.00056	*<5e-04*	0.00055
Molybdenum	µg/L	0.05	-	-	-	-	-	-	-	0.588	0.614	0.582	0.58	0.582	0.62
Nickel	µg/L	0.05	-	-	-	-	-	-	-	0.798	0.78	0.797	0.806	0.816	0.832
Selenium	µg/L	0.04	-	-	-	-	-	-	-	0.042	*<0.04*	0.047	0.045	0.049	0.044
Silver	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*

Table D1-5. Water chemistry results from Lake D7, 2025

Parameter	Units	DL (min | max)	Normal Range	FEIS	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	July 7/18/2025			August 8/12/2025		
										D7-01	D7-02	D7-03	D7-01	D7-02	D7-03
Strontium	µg/L	0.02	-	-	2500	-	-	2500	1880	91.9	93.1	88.9	95.2	97.1	96.2
Thallium	µg/L	0.005	-	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Tin	µg/L	0.02	-	-	-	-	-	-	-	*<0.02*	0.024	0.028	*<0.02*	*<0.02*	*<0.02*
Titanium	µg/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	0.464	0.102	*<0.05*	*<0.05*
Uranium	µg/L	0.001	-	-	-	-	-	-	-	0.103	0.111	0.108	0.0978	0.0949	0.096
Vanadium	µg/L	0.05	-	-	-	-	-	-	-	*<0.05*	*<0.05*	0.086	*<0.05*	*<0.05*	*<0.05*
Zinc	µg/L	0.5	1.4	-	13.7 | 16.2	-	-	14.9	11.1	*<0.5*	0.5	*<0.5*	*<0.5*	*<0.5*	*<0.5*
Cyanide															
Cyanide (free)	mg/L	0.001	-	-	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Cyanide (Total)	mg/L	0.001	0.001	-	0.005	0.2	-	0.005	0.00375	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Cyanide (WAD)	mg/L	0.001	-	-	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*

Notes

DL = Current detection limit

Normal Range = upper limit of baseline concentrations (see **Table D1-1**). **Bolded values** > the Normal Range.

FEIS = The FEIS Prediction show here is the median concentration for 'Operations' year 5-8, which correspond to 2022-2025. The FEIS predictions for Lake D7 are provided in Appendix 7.4-A of the 2014 FEIS (Agnico Eagle, 2014).

FWAL = freshwater aquatic life guideline (most recent of the CCME or FEQGs; sulphate guideline from BC)

HH DW = Health Canada drinking water quality guideline

SSWQO = site-specific water quality objective

AEMP Benchmark = lowest of the aquatic life or Health Canada guidelines for each parameter, or SSWQO for fluoride, arsenic, and iron

AEMP Action Level = 75 % of the AEMP Benchmark

Table D1-6. Water chemistry results from Lake B7, 2025.

Parameter	Units	DL (min | max)	Normal Range	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	July 7/18/2025			August 8/10/2025			8/24/2025	September 9/14/2025	October 10/11/2025
									B7-01	B7-02	B7-03	B7-01	B7-02	B7-03	B7-01	B7-01	B7-01
Field Measurements																	
DO (%)	%	-	-		-	-	-	-	93.1	91.4	91	105.9	104.3	106	-	125.2	102
DO (mg/L)	mg/L	-	-		-	-	6.5	6.50	10.6	10.8	10.0	11.0	10.8	10.8	-	14.3	14.6
Sp. Conductivity (field)	uS/cm	-	302		-	-	-	-	**344**	**340**	**337**	**361**	278	**354**	-	**351**	**390**
Temperature	C	-	-		-	-	-	-	10.3	10.6	11.1	13.2	13.6	14.1	-	9.5	0.9
pH (field)	pH units	-	7.7 | 8.3		-	-	6.5 | 9	6.5 | 9	7.92	8.13	8.1	8.29	8.31	8.32	-	7.79	7.91
Conventional Parameters																	
Conductivity (lab)	uS/cm	1	-	-	-	-	-	-	348	343	342	354	350	347	356	364	381
Hardness	mg/L	0.5	118	-	-	-	-	-	**137**	**132**	**132**	**134**	**140**	**136**	**124**	**125**	**131**
pH (lab)	pH units	0.1	-	6.5 | 9.0	-	-	6.5 | 9	6.5 | 9	8.02	8.03	8.03	8.1	8.09	8.09	7.94	7.66	7.9
Total Dissolved Solids	mg/L	15	-	500	-	-	500	375	242	245	242	238	238	253	261	253	234
TDS (Calculated)	mg/L	1	171	500	-	-	500	375	**226**	**223**	**222**	**230**	**228**	**226**	**231**	**237**	**248**
Total Suspended Solids	mg/L	1	3	-	-	-	-	-	*<1*	*<1*	*<1*	1.1	1.6	*<1*	*<1*	*<1*	1.4
Turbidity (lab)	NTU	0.1	0.69	-	-	-	-	-	0.3	0.32	0.37	0.41	0.35	0.35	0.4	0.5	0.47
Alkalinity, Bicarbonate	mg/L	1	135	-	-	-	-	-	61.7	60.8	60.6	62.4	63.6	61.1	63.3	63.6	64.5
Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
Alkalinity, Total	mg/L	1	110	-	-	-	-	-	61.7	60.8	60.6	62.4	63.6	61.1	63.3	63.6	64.5
Bromide	mg/L	0.1	-	-	-	-	-	-	0.21	0.21	0.21	0.21	0.2	0.2	0.21	0.21	0.2
Calcium (D)	mg/L	0.01	-	-	-	-	-	-	45.9	44.6	44.9	45.2	47.2	45.9	41	41.8	42.6
Calcium (T)	mg/L	0.01	39	-	-	-	-	-	**44.6**	**44**	**44.1**	**42.6**	**42.3**	**43.6**	**42.3**	**42.7**	**44.7**
Chloride	mg/L	0.1	25	120	-	-	120	90	**50.5**	**49.6**	**49.4**	**52.4**	**51.6**	**51.3**	**51.7**	**52.2**	**55.4**
Fluoride	mg/L	0.02	0.04	0.12	1.5	2.8	2.8	2.1	**0.046**	**0.045**	**0.045**	**0.052**	**0.049**	**0.05**	**0.048**	**0.052**	**0.05**
Magnesium (D)	mg/L	0.004	-	-	-	-	-	-	5.35	5.12	4.97	5.12	5.32	5.16	5.3	5.03	5.95
Magnesium (T)	mg/L	0.004	5.3	-	-	-	-	-	5.07	4.92	5.01	5.12	4.97	5.08	**5.38**	**5.31**	4.97
Potassium (D)	mg/L	0.02	-	-	-	-	-	-	2.52	2.46	2.49	2.6	2.7	2.62	2.6	2.5	2.52
Potassium (T)	mg/L	0.02	2.8	-	-	-	-	-	2.55	2.43	2.45	2.45	2.42	2.5	2.57	2.58	2.56
Reactive Silica (SiO2)	mg/L	0.01 | 0.05	2.3	-	-	-	-	-	1.54	1.44	1.31	1.9	1.71	1.71	2	2.16	**2.54**
Sodium (D)	mg/L	0.02	-	-	-	-	-	-	12	11.5	11.4	12.8	13.2	12.8	12.3	12.5	13
Sodium (T)	mg/L	0.02	7.5	-	-	-	-	-	**11.8**	**11.2**	**11.4**	**12.1**	**12**	**12.2**	**13**	**14.4**	**11.5**
Sulphate	mg/L	0.3	6	218	-	-	218	164	**30**	**29.4**	**29.3**	**31.3**	**31**	**30.9**	**30**	**30.5**	**35.2**
Nutrients and Organic Carbon																	
Ammonia (as N)	mg/L	0.005	0.025	0.197 | 2.68	-	-	0.197	0.148	**0.142**	**0.0381**	0.0079	**0.03**	0.0055	*<0.005*	0.0186	0.008	0.0074
Nitrate (as N)	mg/L	0.005	0.005	2.9	10	-	2.9	2.17	*<0.005*	*<0.005*	*<0.005*	**0.0067**	**0.007**	*<0.005*	*<0.005*	**0.009**	**0.0063**
Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	-	*<0.0051*	*<0.0051*	*<0.0051*	0.0067	0.007	*<0.0051*	*<0.0051*	0.009	0.0063
Nitrite (as N)	mg/L	0.001	0.005	0.06	1	-	0.06	0.045	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Nitrogen	mg/L	0.05	-	-	-	-	-	-	0.467	0.426	0.429	0.443	0.429	0.413	0.656	0.459	0.434
Orthophosphate (PO4-P)	mg/L	0.001	0.001	-	-	-	-	-	**0.0014**	**0.0014**	**0.0015**	**0.0014**	**0.0014**	**0.0012**	*<0.001*	*<0.001*	**0.0012**
Total Diss Phosphorus	mg/L	0.001	0.008	-	-	-	-	-	0.0066	0.0044	0.0042	0.0042	0.0036	0.004	0.0041	0.0054	0.0031
Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	0.352	0.356	0.355	0.431	0.389	0.412	0.422	0.419	0.404
Total Kjeldahl Nitrogen	mg/L	0.05	0.73	-	-	-	-	-	0.467	0.426	0.429	0.436	0.422	0.413	0.656	0.45	0.428
Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	0.352	0.356	0.355	0.424	0.382	0.412	0.422	0.41	0.398
Total Phosphorus	mg/L	0.001	0.01	0.01	-	-	-	-	0.0075	0.0079	0.0086	0.0072	0.007	0.0066	0.0088	0.0085	0.0064
Dissolved Organic Carbon	mg/L	0.5	5.5	-	-	-	-	-	**6.03**	**5.87**	**6.17**	**6.88**	**6.68**	**6.91**	**6.91**	**6.58**	**6.42**
Total Organic Carbon	mg/L	0.5	7.6	-	-	-	-	-	6.17	6.43	6.38	6.56	6.39	6.38	**8.26**	7.46	6.92

Table D1-6. Water chemistry results from Lake B7, 2025.

Parameter	Units	DL (min | max)	Normal Range	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	July 7/18/2025			August 8/10/2025			8/24/2025	September 9/14/2025	October 10/11/2025
									B7-01	B7-02	B7-03	B7-01	B7-02	B7-03	B7-01	B7-01	B7-01
Total Metals																	
Aluminum	ug/L	1	6.6	100	-	-	1080	809	2.6	3.1	2.1	4.8	2.9	2.3	2.7	1.5	2.4
Antimony	ug/L	0.02	0.02	9	6	-	6	4.5	**0.057**	**0.056**	**0.054**	**0.057**	**0.057**	**0.057**	**0.056**	**0.054**	**0.052**
Arsenic	ug/L	0.02	1.8	5	10	25	25	18.8	24.9	24	24.3	31.4	27.2	27.7	32.5	24.8	20.9
Barium	ug/L	0.02	20	1000	2000	-	1000	750	**33.2**	**33**	**32.8**	**34.8**	**34.3**	**34**	**33.1**	**33**	**32.8**
Beryllium	ug/L	0.005	0.01	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Boron	ug/L	5	8	1500	5000	-	1500	1120	**16**	**16**	**15.9**	**16.2**	**15.7**	**16.2**	**17.1**	**16.2**	**15.9**
Cadmium	ug/L	0.005	0.007	0.16 | 0.216	7	-	0.189	0.142	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Chromium	ug/L	0.1	0.06	5	50	-	5	3.75	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
Cobalt	ug/L	0.005	0.05	1.02 | 1.19	-	-	1.11	0.836	**0.0577**	**0.0548**	**0.0584**	**0.0661**	**0.0575**	**0.0543**	**0.0611**	**0.0526**	**0.0555**
Copper	ug/L	0.05	1.13	2.38 | 3.25	2000	-	2000	1500	**1.32**	**1.29**	1.04	0.946	0.898	0.887	0.902	0.817	**1.59**
Iron	ug/L	1	103	300	-	1060	1060	795	43.8	38.2	38.1	55.2	38.2	35.5	57.4	41.2	42.8
Lead	ug/L	0.01	0.08	-	5	-	5	3.75	**0.099**	0.073	0.064	**0.097**	0.055	0.046	0.065	**0.128**	**0.091**
Lithium	ug/L	0.5	7.5	-	-	-	-	-	**13.7**	**13.9**	**13.5**	**14.8**	**14.5**	**14.8**	**17.2**	**15.4**	**14.9**
Manganese	ug/L	0.05	8.6	-	120	-	120	90	3.85	4.14	4.45	5.92	5.34	5.45	7.4	3.04	2.14
Mercury	ug/L	0.0005	0.004	1	1	-	0.026	0.0195	0.00085	0.00082	0.00065	0.00078	0.00102	0.00082	0.00183	0.00062	0.00057
Molybdenum	ug/L	0.05	0.24	-	-	-	73	54.8	**0.379**	**0.362**	**0.372**	**0.373**	**0.374**	**0.38**	**0.353**	**0.39**	**0.385**
Nickel	ug/L	0.05	1.4	-	-	-	113	84.4	0.956	0.89	0.903	0.942	0.881	0.878	0.883	0.86	0.926
Selenium	ug/L	0.04	0.04	50	50	-	1	0.75	**0.05**	**0.053**	**0.051**	**0.068**	**0.053**	**0.042**	**0.079**	**0.067**	**0.048**
Silver	ug/L	0.005	0.005	-	-	-	0.25	0.188	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Strontium	ug/L	0.02	155	7000	7000	-	2500	1880	**365**	**349**	**358**	**344**	**334**	**338**	**319**	**365**	**341**
Thallium	ug/L	0.005	0.005	-	-	-	0.8	0.6	**0.0059**	**0.0062**	**0.0058**	**0.0066**	**0.0067**	**0.0062**	**0.0061**	*<0.005*	*<0.005*
Tin	ug/L	0.02	0.05	-	-	-	-	-	0.039	0.036	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	0.022
Titanium	ug/L	0.05	0.25	-	-	-	-	-	0.068	0.055	0.051	**0.496**	0.125	**0.261**	*<0.05*	*<0.05*	0.119
Uranium	ug/L	0.001	0.03	20	20	-	15	11.2	**0.119**	**0.123**	**0.116**	**0.111**	**0.111**	**0.11**	**0.105**	**0.11**	**0.126**
Vanadium	ug/L	0.05	0.01	-	-	-	120	90	**0.061**	**0.067**	**0.073**	**0.085**	**0.082**	**0.078**	**0.073**	**0.059**	**0.052**
Zinc	ug/L	0.5	1.9	-	-	-	-	-	**2.46**	0.54	*<0.5*	*<0.5*	*<0.5*	*<0.5*	1.33	0.68	*<0.5*
Dissolved Metals																	
Aluminum	ug/L	1	-	-	-	-	-	-	1.2	1.2	1.4	1.4	1.5	1.4	1.4	*<1*	*<1*
Antimony	ug/L	0.02	-	-	-	-	-	-	0.057	0.055	0.057	0.058	0.055	0.057	0.055	0.052	0.051
Arsenic	ug/L	0.02	-	-	-	-	-	-	23.8	22.9	22.6	28.8	25.4	24.8	29.6	24.7	18.9
Barium	ug/L	0.02	-	-	-	-	-	-	34	33.1	33	33.1	32.7	33.3	33.6	32.1	33
Beryllium	ug/L	0.005	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Boron	ug/L	5	-	-	-	-	-	-	16.2	16	16.6	16.4	17.2	15.6	16.5	16.7	15
Cadmium	ug/L	0.005	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
Chromium	ug/L	0.1	-	-	-	-	-	-	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
Cobalt	ug/L	0.005	-	-	-	-	-	-	0.051	0.047	0.0455	0.0476	0.0473	0.0432	0.0509	0.047	0.0397
Copper	ug/L	0.05	-	-	-	-	8.24	6.18	1	0.94	1.11	0.955	0.921	0.895	0.991	0.841	1.45
Iron	ug/L	1	-	-	-	-	-	-	21.1	17.3	17.3	24.8	18.5	15.6	24.2	18.6	16.8
Lead	ug/L	0.01	-	10 | 12.2	-	-	10.9	8.19	0.047	0.032	0.041	0.036	0.021	0.02	0.022	0.026	0.034
Lithium	ug/L	0.5	-	-	-	-	-	-	15.8	15.2	15.4	14.8	15.4	13.8	15.2	15.4	15
Manganese	ug/L	0.05	-	370 | 500	-	-	260	195	1.04	0.724	0.723	1.14	0.843	0.792	1.51	1.06	0.693
Mercury	ug/L	0.0005	-	-	-	-	-	-	0.00055	*<5e-04*	*<5e-04*	*<5e-04*	0.00053	0.00056	0.00071	*<5e-04*	0.00055
Molybdenum	ug/L	0.05	-	-	-	-	-	-	0.405	0.417	0.375	0.385	0.385	0.388	0.357	0.378	0.364
Nickel	ug/L	0.05	-	-	-	-	-	-	0.935	0.912	0.878	0.921	0.907	0.894	0.931	0.866	0.908
Selenium	ug/L	0.04	-	-	-	-	-	-	0.052	0.047	0.046	0.046	0.053	0.048	0.062	*<0.04*	0.051
Silver	ug/L	0.005	-	-	-	-	-	-	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*

Table D1-6. Water chemistry results from Lake B7, 2025.

Parameter	Units	DL (min | max)	Normal Range	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	July 7/18/2025			August 8/10/2025			8/24/2025	September 9/14/2025	October 10/11/2025
									B7-01	B7-02	B7-03	B7-01	B7-02	B7-03	B7-01	B7-01	B7-01
Strontium	ug/L	0.02	-	2500	-	-	2500	1880	365	356	343	360	367	367	351	336	326
Thallium	ug/L	0.005	-	-	-	-	-	-	0.006	0.0068	0.0061	0.0067	0.0062	0.007	*<0.005*	*<0.005*	*<0.005*
Tin	ug/L	0.02	-	-	-	-	-	-	*<0.02*	*<0.02*	0.024	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
Titanium	ug/L	0.05	-	-	-	-	-	-	*<0.05*	*<0.05*	*<0.05*	*<0.05*	0.1	*<0.05*	*<0.05*	*<0.05*	*<0.05*
Uranium	ug/L	0.001	-	-	-	-	-	-	0.127	0.124	0.126	0.106	0.111	0.111	0.0961	0.105	0.128
Vanadium	ug/L	0.05	-	-	-	-	-	-	0.058	0.062	0.062	0.064	0.068	0.07	0.067	0.055	*<0.05*
Zinc	ug/L	0.5	2.2	25.4 | 41.7	-	-	30.2	22.7	*<0.5*	*<0.5*	0.53	*<0.5*	*<0.5*	*<0.5*	0.85	*<0.5*	*<0.5*
Cyanide																	
Cyanide (free)	mg/L	0.001	-	-		-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Cyanide (Total)	mg/L	0.001	0.001	-	0.2	-	0.005	0.00375	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*
Cyanide (WAD)	mg/L	0.001	-	-	-	-	-	-	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*	*<0.001*

Notes

DL = Current detection limit

Normal Range = upper limit of baseline concentrations (see **Table D1-1**). **Bolded values** > the Normal Range.

FWAL = freshwater aquatic life guideline (most recent of the CCME or FEQGs; sulphate guideline from BC)

HH DW = Health Canada drinking water quality guideline

SSWQO = site-specific water quality objective

AEMP Benchmark = lowest of the aquatic life or Health Canada guidelines for each parameter, or SSWQO for fluoride, arsenic, and iron

AEMP Action Level = 75 % of the AEMP Benchmark. Shaded values > AEMP Action Level

Table D1-7. Water chemistry results from Lake E3, 2025.

Parameter	Units	DL (min | max)	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	June 6/4/2025 MEL-15	July 7/19/2025 E3-01	August 8/5/2025 MEL-15	August 8/25/2025 E3-01	September 9/7/2025 MEL-15	October 10/3/2025 MEL-15
Field Measurements													
DO (%)	%	-	-	-	-	-	-	105	-	65.1	-	122.7	126.6
DO (mg/L)	mg/L	-	-	-	-	6.5	6.5	14.93	-	6.92	-	13.99	16.95
Sp. Conductivity (field)	µS/cm	-	-	-	-	-	-	178.4	-	169.5	-	165.3	387.6
Temperature	C	-	-	-	-	-	-	1	-	12.6	-	9.6	2.6
Turbidity (field)	NTU	-	-	-	-	-	-	1.11	-	0.71	-	0.75	-
pH (field)	pH units	-	-	-	-	6.5 | 9	6.5 | 9	7.2	-	7.57	-	7.54	7.72
Conventional Parameters													
Conductivity (lab)	µS/cm	1	-	-	-	-	-	189	159	179	175	181	356
Hardness	mg/L	0.5	-	-	-	-	-	68.1	61	66.5	63.1	67.8	128
pH (lab)	pH units	0.1	6.5 | 9.0	-	-	6.5 | 9	6.5 | 9	7.79	7.78	7.88	7.63	7.88	7.56
Total Dissolved Solids	mg/L	15	500	-	-	500	375	70	101	90	124	75	230
TDS (Calculated)	mg/L	1	500	-	-	500	375	100	103	97	114	92	190
Total Suspended Solids	mg/L	1	-	-	-	-	-	*<1*	1.2	6	1.6	*<1*	1
Turbidity (lab)	NTU	0.1	-	-	-	-	-	0.6	0.37	0.4	0.82	0.4	0.5
Alkalinity, Bicarbonate	mg/L	1	-	-	-	-	-	56	44.9	60	48.7	50	71
Alkalinity, Carbonate	mg/L	1	-	-	-	-	-	*<1*	*<1*	*<1*	*<1*	*<1*	*<1*
Alkalinity, Hydroxide	mg/L	1	-	-	-	-	-	-	*<1*	-	*<1*	-	-
Alkalinity, Total	mg/L	1	-	-	-	-	-	57	44.9	61	48.7	50	71
Bromide	mg/L	0.1	-	-	-	-	-	-	*<0.1*	-	*<0.1*	-	-
Calcium (D)	mg/L	0.01	-	-	-	-	-	22.8	20.4	22.4	20.9	22.9	43.2
Calcium (T)	mg/L	0.01	-	-	-	-	-	22.8	19.9	22.3	20.8	22.5	48.5
Chloride	mg/L	0.1	120	-	-	120	90	14	13.3	14	14.7	16	33
Fluoride	mg/L	0.02	0.12	1.5	2.8	2.8	2.1	*<0.1*	0.04	*<0.1*	0.044	*<0.1*	*<0.1*
Magnesium (D)	mg/L	0.004	-	-	-	-	-	2.69	2.44	2.59	2.66	2.56	5
Magnesium (T)	mg/L	0.004	-	-	-	-	-	2.45	2.4	2.57	2.62	2.6	5.65
Potassium (D)	mg/L	0.02	-	-	-	-	-	1.49	1.28	1.29	1.34	1.36	2.11
Potassium (T)	mg/L	0.02	-	-	-	-	-	1.37	1.26	1.28	1.3	1.25	2.3
Reactive Silica (SiO2)	mg/L	0.01 | 0.05	-	-	-	-	-	2	0.521	0.65	0.841	0.76	2.5
Sodium (D)	mg/L	0.02	-	-	-	-	-	6.24	5.87	6.39	6.16	6.36	10.7
Sodium (T)	mg/L	0.02	-	-	-	-	-	5.75	5.8	6.29	6.68	6.89	12.4
Sulphate	mg/L	0.3	218	-	-	218	164	20	11.2	14	12.3	12	57
Nutrients and Organic Carbon													
Ammonia (as N)	mg/L	0.005	0.197 | 0.588	-	-	0.291	0.218	0.17	0.0861	*<0.05*	0.0451	*<0.05*	*<0.05*
Nitrate (as N)	mg/L	0.005	2.9	10	-	2.9	2.17	*<0.1*	*<0.005*	*<0.1*	0.0054	*<0.1*	*<0.1*
Nitrate + Nitrite (as N)	mg/L	0.0051	-	-	-	-	-	*<0.1*	*<0.0051*	*<0.1*	0.0054	*<0.1*	*<0.1*
Nitrite (as N)	mg/L	0.001	0.06	1	-	0.06	0.045	*<0.01*	*<0.001*	*<0.01*	*<0.001*	*<0.01*	*<0.01*
Nitrogen	mg/L	0.05	-	-	-	-	-	-	0.426	-	0.445	-	-
Orthophosphate (PO4-P)	mg/L	0.001	-	-	-	-	-	*<0.01*	*<0.001*	*<0.01*	*<0.001*	*<0.01*	*<0.01*
Total Diss Phosphorus	mg/L	0.001	-	-	-	-	-	-	0.003	-	0.0034	-	-
Total Dissolved Nitrogen	mg/L	0.05	-	-	-	-	-	-	0.317	-	0.369	-	-
Total Kjeldahl Nitrogen	mg/L	0.05	-	-	-	-	-	0.21	0.426	0.31	0.44	0.24	0.41
Total Kjeldahl Nitrogen (diss)	mg/L	0.05	-	-	-	-	-	-	0.317	-	0.364	-	-
Total Phosphorus	mg/L	0.001	0.01	-	-	-	-	*<0.02*	0.0085	*<0.02*	0.0088	*<0.02*	*<0.02*
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-	5.6	5.21	4.7	6.07	5	7.8
Total Organic Carbon	mg/L	0.5	-	-	-	-	-	5.9	5.48	5.2	6.01	4.7	7.9

Table D1-7. Water chemistry results from Lake E3, 2025.

Parameter	Units	DL (min | max)	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	June 6/4/2025 MEL-15	July 7/19/2025 E3-01	August 8/5/2025 MEL-15	August 8/25/2025 E3-01	September 9/7/2025 MEL-15	October 10/3/2025 MEL-15
Total Metals													
Aluminum	ug/L	1	100	-	-	330	248	11.9	1.9	*<3*	1	*<3*	3.6
Antimony	ug/L	0.02	9	6	-	6	4.5	*<0.5*	*<0.02*	*<0.5*	0.023	*<0.5*	*<0.5*
Arsenic	ug/L	0.02	5	10	25	25	18.8	7.72	2.47	2.41	2.4	2.09	4.81
Barium	ug/L	0.02	1000	2000	-	1000	750	20.5	15.3	16.2	16.7	14.7	31.3
Beryllium	ug/L	0.005	-	-	-	-	-	*<0.1*	*<0.005*	*<0.1*	*<0.005*	*<0.1*	*<0.1*
Boron	ug/L	5	1500	5000	-	1500	1120	*<50*	*<5*	*<50*	*<5*	*<50*	*<50*
Cadmium	ug/L	0.005	0.095 | 0.101	7	-	0.0378	0.0284	*<0.01*	*<0.005*	*<0.01*	*<0.005*	*<0.01*	*<0.01*
Chromium	ug/L	0.1	5	50	-	5	3.75	*<1*	*<0.1*	*<1*	*<0.1*	*<1*	*<1*
Cobalt	ug/L	0.005	0.79 | 0.813	-	-	0.779	0.584	-	0.046	-	0.0665	-	-
Copper	ug/L	0.05	2	2000	-	2000	1500	0.92	0.661	0.51	0.655	0.56	1.08
Iron	ug/L	1	300	-	1060	1060	795	73	46.4	52	79.3	55	105
Lead	ug/L	0.01	-	5	-	5	3.75	*<0.2*	0.023	*<0.2*	*<0.01*	*<0.2*	*<0.2*
Lithium	ug/L	0.5	-	-	-	-	-	*<2*	1.57	*<2*	1.84	*<2*	3
Manganese	ug/L	0.05	-	120	-	120	90	35.3	9.39	9.9	6.26	8.3	13.4
Mercury	ug/L	0.0005	0.026	1	-	0.026	0.0195	*<0.01*	0.00084	*<0.01*	0.0013	*<0.01*	*<0.01*
Molybdenum	ug/L	0.05	73	-	-	73	54.8	*<1*	0.245	*<1*	0.231	*<1*	*<1*
Nickel	ug/L	0.05	25	-	-	25	18.8	1.4	0.872	*<1*	0.841	*<1*	1.8
Selenium	ug/L	0.04	1	50	-	1	0.75	*<0.1*	0.042	*<0.1*	0.053	*<0.1*	*<0.1*
Silver	ug/L	0.005	0.25	-	-	0.25	0.188	*<0.02*	*<0.005*	*<0.02*	*<0.005*	*<0.02*	*<0.02*
Strontium	ug/L	0.02	2500	7000	-	2500	1880	110	104	112	105	111	262
Thallium	ug/L	0.005	0.8	-	-	0.8	0.6	*<0.01*	*<0.005*	*<0.01*	*<0.005*	*<0.01*	*<0.01*
Tin	ug/L	0.02	-	-	-	-	-	*<5*	*<0.02*	*<5*	*<0.02*	*<5*	*<5*
Titanium	ug/L	0.05	-	-	-	-	-	*<5*	*<0.05*	*<5*	*<0.05*	*<5*	*<5*
Uranium	ug/L	0.001	15	20	-	15	11.2	*<0.1*	0.0548	*<0.1*	0.0547	*<0.1*	0.42
Vanadium	ug/L	0.05	120	-	-	120	90	*<5*	*<0.05*	*<5*	*<0.05*	*<5*	*<5*
Zinc	ug/L	0.5	-	-	-	-	-	*<5*	1.19	*<5*	*<0.5*	*<5*	*<5*
Dissolved Metals													
Aluminum	ug/L	1	-	-	-	-	-	4.2	1.4	*<3*	1	*<3*	*<3*
Antimony	ug/L	0.02	-	-	-	-	-	*<0.5*	*<0.02*	*<0.5*	0.024	*<0.5*	*<0.5*
Arsenic	ug/L	0.02	-	-	-	-	-	7.11	2.21	2.29	2.34	1.88	4.1
Barium	ug/L	0.02	-	-	-	-	-	21.8	15.3	16.3	17.2	14.7	29.6
Beryllium	ug/L	0.005	-	-	-	-	-	*<0.1*	*<0.005*	*<0.1*	*<0.005*	*<0.1*	*<0.1*
Boron	ug/L	5	-	-	-	-	-	*<50*	*<5*	*<50*	*<5*	*<50*	*<50*
Cadmium	ug/L	0.005	-	-	-	-	-	*<0.01*	*<0.005*	*<0.01*	*<0.005*	*<0.01*	*<0.01*
Chromium	ug/L	0.1	-	-	-	-	-	*<1*	*<0.1*	*<1*	*<0.1*	*<1*	*<1*
Cobalt	ug/L	0.005	-	-	-	-	-	-	0.0245	-	0.058	-	-
Copper	ug/L	0.05	-	-	-	5.76	4.32	1.23	0.69	0.66	0.616	0.67	0.82
Iron	ug/L	1	-	-	-	-	-	33.5	22.7	28.4	71.1	30.8	66.6
Lead	ug/L	0.01	8.34 | 10	-	-	5.34	4.01	*<0.2*	0.01	*<0.2*	*<0.01*	*<0.2*	*<0.2*
Lithium	ug/L	0.5	-	-	-	-	-	*<2*	1.38	*<2*	1.69	*<2*	2.8
Manganese	ug/L	0.05	320	-	-	250	188	34.1	1.25	2.5	5.48	2.4	8.4
Mercury	ug/L	0.0005	-	-	-	-	-	*<0.01*	0.00065	*<0.01*	0.00093	*<0.01*	*<0.01*
Molybdenum	ug/L	0.05	-	-	-	-	-	*<1*	0.248	*<1*	0.226	*<1*	*<1*
Nickel	ug/L	0.05	-	-	-	-	-	1.4	0.84	*<1*	0.847	*<1*	1.5
Selenium	ug/L	0.04	-	-	-	-	-	*<0.1*	*<0.04*	*<0.1*	0.047	*<0.1*	*<0.1*
Silver	ug/L	0.005	-	-	-	-	-	*<0.02*	*<0.005*	*<0.02*	*<0.005*	*<0.02*	*<0.02*

Table D1-7. Water chemistry results from Lake E3, 2025.

Parameter	Units	DL (min | max)	FWAL (min | max)	HH DW	SSWQO	AEMP Benchmark (min | max)	AEMP Action Level (min | max)	June 6/4/2025 MEL-15	July 7/19/2025 E3-01	August 8/5/2025 MEL-15	August 8/25/2025 E3-01	September 9/7/2025 MEL-15	October 10/3/2025 MEL-15
Strontium	ug/L	0.02	2500	-	-	2500	1880	115	104	116	111	108	230
Thallium	ug/L	0.005	-	-	-	-	-	*<0.01*	*<0.005*	*<0.01*	*<0.005*	*<0.01*	*<0.01*
Tin	ug/L	0.02	-	-	-	-	-	*<5*	*<0.02*	*<5*	*<0.02*	*<5*	*<5*
Titanium	ug/L	0.05	-	-	-	-	-	*<5*	*<0.05*	*<5*	*<0.05*	*<5*	*<5*
Uranium	ug/L	0.001	-	-	-	-	-	*<0.1*	0.0543	*<0.1*	0.05	*<0.1*	0.43
Vanadium	ug/L	0.05	-	-	-	-	-	*<5*	*<0.05*	*<5*	*<0.05*	*<5*	*<5*
Zinc	ug/L	0.5	13.7 | 16.2	-	-	7.26	5.45	5.4	*<0.5*	*<5*	*<0.5*	*<5*	*<5*
Cyanide													
Cyanide (free)	mg/L	0.001	-	-	-	-	-	0.00075	*<0.001*	0.00118	0.0267	0.0006	*<5e-04*
Cyanide (Total)	mg/L	0.001	0.005	0.2	-	0.005	0.00375	0.00077	*<0.001*	0.00091	0.046	0.00064	0.00053
Cyanide (WAD)	mg/L	0.001	-	-	-	-	-	0.00061	0.001	0.0011	0.028	*<5e-04*	*<5e-04*

Notes

Samples collected on June 4, August 5, September 7, and October 3 (MEL-15) were for compliance purposes as per the Water Licence (2AM-MEL1631).

DL = Current detection limit

Values in red were flagged as unreliable and excluded from plots and summary statistics.

FWAL = freshwater aquatic life guideline (most recent of the CCME or FEQGs; sulphate guideline from BC)

HH DW = Health Canada drinking water quality guideline

SSWQO = site-specific water quality objective

AEMP Benchmark = lowest of the aquatic life or Health Canada guidelines for each parameter, or SSWQO for fluoride, arsenic, and iron

AEMP Action Level = 75 % of the AEMP Benchmark

Appendix D2
Lake B7 Toxicity Test Results

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT

Daphnia magna
EPS 1/RM/14

Work Order : 258697
Sample Number : 88140

SAMPLE IDENTIFICATION

Company :	Agnico Eagle Mines Limited - Meliadine Project		
Location :	Rankin Inlet NU		
Substance :	B7	Sampling Date :	2025-08-25
Sampling Method :	Grab	Sampling Time :	Not provided
Sampled By :	R. Schwandt/S.Knowles	Date Received :	2025-08-27
Sample Description :	Clear, colourless	Time Received :	14:30
Date Tested :	2025-08-28	Temperature at Receipt :	20 °C

Test Method : Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna* . Environment Canada EPS 1/RM/14 (Second Edition, December 2000, with February 2016 amendments).

48-HOUR TEST RESULTS

Effect	Value	95% Confidence Limits	Calculation Method
LC50	>100%	–	–
EC50	>100%	–	–

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Species :	*Daphnia magna*	Time to First Brood :	8.4 days
Organism Batch :	Dm25-16	Average Brood Size :	39.1
Culture Mortality :	2.0% (previous 7 days)		

TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	1
pH Adjustment :	None	Organisms per Replicate :	10
Pre-aeration Rate :	~30 mL/min/L	Organisms per Test Level :	10
Duration of Pre-Aeration :	0 minutes	Organism Loading Rate :	15.0 mL/organism
Test Aeration :	None	Impaired Control Organisms :	0.0%
Hardness Adjustment :	None	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride		
Date Tested :	2025-08-23	LC50 :	6.4 g/L
Organism Batch :	Dm25-16	95% Confidence Limits :	6.2 - 6.6 g/L
Analyst(s) :	CB, CYW	Historical Mean LC50 :	6.3 g/L
Statistical Method :	Spearman-Kärber	Warning Limits (± 2SD) :	5.8 - 6.8 g/L

COMMENTS

- All test validity criteria as specified in the test method were satisfied.
- The salinity of the 100% sample was 0.22 ppt.

Approved By : _____

Project Manager

Work Order: 258697
Sample Number: 88140

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)*	Hardness (as $CaCO_3$)
Initial Chemistry (100%) :	8.0	8.5	318	21	99	150 mg/L

0 HOURS

Date & Time: 2025-08-28 10:00
Analyst(s) : CYW (NM)

Concentration (%)	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation*	Hardness
100	0	0	8.0	8.5	318	21	99	150
50	0	0	8.3	8.4	383	22	–	–
25	0	0	8.3	8.4	413	22	–	–
12.5	0	0	8.3	8.3	428	22	–	–
6.25	0	0	8.3	8.3	434	22	–	–
Control	0	0	8.4	8.4	443	22	100	140

Notes:

24 HOURS

Date & Time: 2025-08-29 10:35
Analyst(s) : ACS (SSF)

Concentration (%)	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	–	0	–	–	–	22
50	–	0	–	–	–	22
25	–	0	–	–	–	22
12.5	–	0	–	–	–	22
6.25	–	0	–	–	–	22
Control	–	0	–	–	–	22

Notes: One test organism in the Control and one test organism in the 12.5% concentration was floating but mobile.

48 HOURS

Date & Time: 2025-08-30 9:45
Analyst(s) : CYW (JGR)

Concentration (%)	Dead	Immobile	pH	Dissolved O_2	Conductivity	Temperature
100	0	0	8.2	8.2	326	20
50	0	0	8.3	8.3	387	20
25	0	0	8.3	8.3	417	20
12.5	0	0	8.4	8.3	433	20
6.25	0	0	8.4	8.3	440	20
Control	0	0	8.4	8.3	443	20

Notes: Two test organisms in the 12.5% concentration were floating but mobile.

Number immobile does not include number dead.

"–" = not measured/not required
* adjusted for temperature and barometric pressure

Test Data Reviewed By : EM
Date : 2025-09-04

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT

Rainbow Trout
EPS 1/RM/13

Work Order : 258697
Sample Number : 88140

SAMPLE IDENTIFICATION

Company :	Agnico Eagle Mines Limited - Meliadine Project		
Location :	Rankin Inlet NU		
Substance :	B7	Sampling Date :	2025-08-25
Sampling Method :	Grab	Sampling Time :	Not provided
Sampled By :	R. Schwandt/S.Knowles	Date Received :	2025-08-27
Sample Description :	Clear, colourless	Time Received :	14:30
Date Tested :	2025-08-28	Temperature at Receipt :	20 °C

Test Method(s) : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout. Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007, February 2016, and December 2023 amendments).

96-HOUR TEST RESULTS

Effect	Value	95% Confidence Limits	Statistical Method
LC50	>100%	–	–

The results reported relate only to the sample tested and as received.

TEST ORGANISM

Test Organism :	*Oncorhynchus mykiss*	Mean Fork Length :	42.1 mm
Organism Batch :	T25-20	Range of Fork Lengths :	38 - 45 mm
Control Sample Size :	10	Mean Wet Weight :	0.6 g
Cumulative stock tank mortality rate :	0% (previous 7 days)	Organism Loading Rate :	0.4 g/L
Control organisms showing stress :	0 (at test completion)		

TEST CONDITIONS

Test Type :	Multiple Concentration	Number of Replicates :	1
Sample pH Adjustment :	None	Organisms Per Replicate :	10
Sample Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Organisms Per Test Level :	10
Duration of Sample Pre-Aeration :	30 minutes	Volume per Replicate :	16 L
Control Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Volume of Control :	16 L
Duration of Control Pre-aeration:	30 minutes	Test Method Deviation(s) :	None

REFERENCE TOXICANT DATA

Toxicant :	Potassium Chloride		
Organism Batch :	T25-20	LC50 :	3787 mg/L
Date Tested :	2025-08-11	95% Confidence Limits :	3341 - 4285 mg/L
Analyst(s) :	NWP, GF	Historical Mean LC50 :	3772 mg/L
Statistical Method :	Linear Regression (MLE)	Warning Limits (± 2SD) :	2860 - 4974 mg/L

COMMENTS

•All test validity criteria as specified in the test method were satisfied.
•The salinity of the 100% sample was 0.22 ppt.

Approved By : _____

Project Manager

Work Order : 258697
Sample Number : 88140

TEST DATA

	pH	Dissolved O_2 (mg/L)	Conductivity (µmhos/cm)	Temperature (°C)	O_2 Saturation (%)[3]
Initial Water Chemistry (100%) :	7.7	8.6	344	15	90
After 30 min pre-aeration :	7.7	9.2	345	15	95

0 HOURS

Date & Time 2025-08-28 10:05
Analyst(s) : GF (JGR)

Concentration (%)	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature	O_2 Saturation[3]
100	0	0	7.7	9.2	345	15	95
50	0	0	8.0	9.8	540	15	–
25	0	0	8.0	9.9	633	15	–
12.5	0	0	8.0	9.8	673	15	–
6.25	0	0	8.0	9.7	695	15	–
Control	0	0	8.0	9.6	713	15	99

Notes:

24 HOURS

Date & Time 2025-08-29 10:20
Analyst(s) : GF (JGR)

Concentration (%)	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100	0	0	–	–	–	15
50	0	0	–	–	–	15
25	0	0	–	–	–	15
12.5	0	0	–	–	–	15
6.25	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

48 HOURS

Date & Time 2025-08-30 9:50
Analyst(s) : NWP

Concentration (%)	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100	0	0	–	–	–	15
50	0	0	–	–	–	15
25	0	0	–	–	–	15
12.5	0	0	–	–	–	15
6.25	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

72 HOURS

Date & Time 2025-08-31 9:10
Analyst(s) : JGR

Concentration (%)	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100	0	0	–	–	–	15
50	0	0	–	–	–	15
25	0	0	–	–	–	15
12.5	0	0	–	–	–	15
6.25	0	0	–	–	–	15
Control	0	0	–	–	–	15

Notes:

96 HOURS

Date & Time 2025-09-01 9:35
Analyst(s) : JGR

Concentration (%)	Dead	Impaired	pH	Dissolved O_2	Conductivity	Temperature
100	0	0	7.9	9.7	351	14
50	0	0	8.3	9.7	543	14
25	0	0	8.4	9.6	639	14
12.5	0	0	8.4	9.6	676	14
6.25	0	0	8.3	9.6	697	14
Control	0	0	8.3	9.7	690	14

Notes:

"–" = not measured/not required
Number impaired does not include number dead.
[3] adjusted for temperature and barometric pressure

Test Data Reviewed By : EM
Date : 2025-09-04

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 258697

Shipping Address: Nautilus Environmental Guelph.
B-11 Nicholas Beaver Road
Puslinch, Ontario Canada N0B 2J0

Voice: (519) 763-4412 **Fax:** (519) 763-4419

P.O. Number: 1504864

Field Sampler Name (print): RandySchwandt and Spencer Knowles

Signature:

Affiliation: Agnico Eagles Mines - Meliadine

Sample Storage (prior to shipping):

Custody Relinquished by: Spencer Knowles

Date/Time Shipped: 2025-08-24

Client: AgnicoEagle
Meliadine Project
Rankin Inlet, Nunavut, Canada

Phone: (819) 759-3555

Fax:

Contact: Randy Schwandt/Alexandre L-Bourassa

Sample Identification					Analyses Requested									Sample Method and Volume		
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	Nautilus Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	*Daphnia magna* Single Concentration	*Daphnia magna* LC50	Fathead Minnow Survival & Growth	*Ceriodaphnia dubia* Survival & Reproduction	*Lemna minor* Growth	*Pseudokirchneriella subcapitata* Growth	Microtox	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
* 2025-08-25		B7	88140	20°C		✓		✓						✓		2 pails (40L)

For Lab Use Only

Received By: GF/PG

Date: 2025-08-27

Time: 14:30

Storage Location:

Storage Temp.(°C)

Please list any special requests or instructions:

Please include salinity with results.

* taken off of pail. 2025-08-27 PG.

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT

Ceriodaphnia dubia
EPS 1/RM/21

Work Order : 258894
Sample Number : 88442

SAMPLE IDENTIFICATION

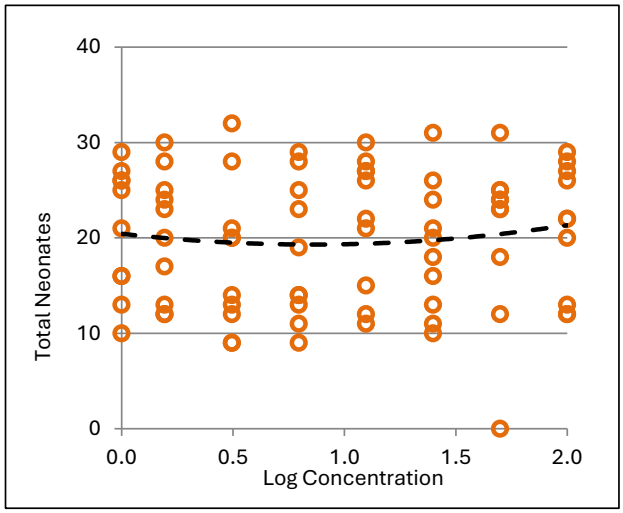
Company :	Agnico Eagle Mines Limited - Meliadine Project	Sampling Date :	2025-09-14
Location :	Rankin Inlet NU	Sampling Time :	13:15
Substance :	B7	Date Received :	2025-09-18
Sampling Method :	Grab	Time Received :	11:00
Sampled By :	R. Schwandt, S. Knowles	Temperature at Receipt :	21 °C
Sample Description :	Clear, colourless	Date Tested :	2025-09-18

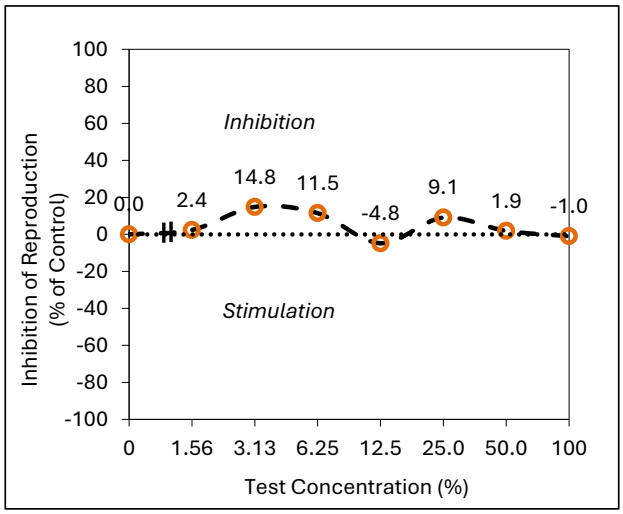
Test Method : Test of Reproduction and Survival using the Cladoceran *Ceriodaphnia dubia* . Environment Canada, Conservation and Protection. Ottawa, Ontario. Report EPS 1/RM/21, 2nd ed. (February 2007).

6-DAY TEST RESULTS

Effect	Value	95% Confidence Limits	Statistical Method
IC25 (Reproduction)	>100%	–	–
LC50	>100%	–	–

The results reported relate only to the sample tested and as received.





COMMENTS

Noted Deviation: The maximum sample holding time of 3 days allowed by the test method was exceeded. The sample was tested with the client's consent. There were no other unusual conditions, and the test result is considered to be valid.

•All test validity criteria as specified in the test method cited above were satisfied.

Approved By : _____

Project Manager

Work Order : 258894
Sample Number : 88442

TEST ORGANISM

Test Organism :	*Ceriodaphnia dubia*	Range of Age (at start of test) :	07:45 h - 19:45 h
Organism Batch :	Cd25-09	Mean Brood Organism Mortality :	0% (previous 7 days)
Organism Origin :	Single in-house mass culture	Brood Organism Mean Young :	21.8 (first three broods)
Test Organism Origin :	Individual in-house cultures	Mean Young per Brood Organism :	12.9 (3rd or subsequent brood)
Ephippia in Culture :	None		

No organisms exhibiting unusual appearance, behaviour, or undergoing unusual treatment were used in the test.

TEST CONDITIONS

Test Type :	Static renewal	Control/Dilution Water :	Reconstituted water [2]
Renewal Method :	Transferred to fresh solutions	Test Volume per Replicate :	15 mL
Renewal Frequency :	≤ 24 hours	Test Vessel :	20 mL glass vial
Sample Filtration :	None	Depth of Test Solution :	4 cm
Test Aeration :	None	Organisms per Replicate :	1
pH Adjustment :	None	Number of Replicates :	10
Hardness Adjustment :	None	Test Method Deviation(s) :	Yes (see 'COMMENTS')

[2]no additional chemicals

REFERENCE TOXICANT DATA

Toxicant :	Sodium Chloride	Analyst(s) :	PG, AW, JC, OHC
Date Tested :	2025-09-17	Test Duration :	7 days
IC25 (Reproduction) :	0.90 g/L	LC50 :	2.04 g/L
95% Confidence Limits :	0.56 - 1.23 g/L	95% Confidence Limits :	1.75 - 2.37 g/L
Statistical Method :	Non-linear Regression (CETIS)[a]	Statistical Method :	Spearman-Kärber (CETIS)[a]
Historical Mean IC25 :	1.01 g/L	Historical Mean LC50 :	2.11 g/L
Warning Limits (± 2SD) :	0.56 - 1.85 g/L	Warning Limits (± 2SD) :	1.81 - 2.45 g/L

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

CUMULATIVE DAILY MORTALITY DATA

		Test Concentration (%)							
Date	Test Day	**Control**	**1.56**	**3.13**	**6.25**	**12.5**	**25**	**50**	**100**
2025-09-19	1	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0
2025-09-21	3	0	0	0	0	0	0	0	0
2025-09-22	4	0	0	0	0	0	0	10	0
2025-09-23	5	0	0	0	0	0	0	10	0
2025-09-24	6	0	0	0	0	0	0	10	0
Total Mortality (%) :		**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**

REFERENCES

[a] CETIS™, © 2000-2022. v2.1.4.0 x64. Comprehensive Environmental Toxicity Information System. Tidepool Scientific Software, LLC, McKinleyville, CA 95519 [Program on disk and printed User's Guide].

[b]Grubbs, F.E., 1969. Procedures for detecting outlying observations in samples. *Technometrics, 11* :1-21.

Work Order : 258894
Sample Number : 88442

SURVIVAL AND REPRODUCTION

Test Initiation Date : 2025-09-18
Initiated By : JC (SF)
Initiation Time : 13:45
Test Completion Date : 2025-09-24

Control

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)	Analyst(s)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0	JC (SV)
2025-09-20	2	0	0	0	0	0	0	0	0	0	0	JC (VC)
2025-09-21	3	0	4	0	0	0	0	0	0	0	0.4	JC (VC)
2025-09-22	4	4	0	5	4	4	4	4	5	5	4	3.9	NWP
2025-09-23	5	8	7	11	6	9	9	10	10	9	11	9	JC (PG)
2025-09-24	6	14	10	0	0	0	3	12	14	11	12	7.6	JC (PG)
Total		**26**	**21**	**16**	**10**	**13**	**16**	**26**	**29**	**25**	**27**	**20.9 (±6.7)**	

12.5%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	4	0	0	0	0	0	0	0	0.4
2025-09-22	4	3	0	5	4	5	4	5	5	5	4.1
2025-09-23	5	8	9	10	8	11	10	11	12	11	9	9.9
2025-09-24	6	0	8	0	0	12	13	11	13	10	8	7.5
Total		**11**	**21**	**15**	**12**	**28**	**27**	**27**	**30**	**26**	**22**	**21.9 (±7.0)**

1.56%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	2	0	0	0	0	0	0	0	0.2
2025-09-22	4	3	1	6	2	4	4	3	4	4	4	3.5
2025-09-23	5	9	7	11	10	9	8	11	11	8	9	9.3
2025-09-24	6	0	10	0	0	0	13	14	15	11	11	7.4
Total		**12**	**20**	**17**	**12**	**13**	**25**	**28**	**30**	**23**	**24**	**20.4 (±6.7)**

25%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	4	0	0	0	0	0	0	0	2	0.6
2025-09-22	4	4	0	8	4	4	3	4	6	4	0	3.7
2025-09-23	5	7	8	8	6	9	9	11	12	10	9	8.9
2025-09-24	6	0	9	0	0	0	6	9	13	12	9	5.8
Total		**11**	**21**	**16**	**10**	**13**	**18**	**24**	**31**	**26**	**20**	**19.0 (±6.8)**

3.13%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	0	0	0	0	0	4	0	0	2	0.6
2025-09-22	4	4	3	0	4	2	6	0	4	5	0	2.8
2025-09-23	5	8	8	9	9	7	12	11	7	9	9	8.9
2025-09-24	6	0	9	0	0	0	14	13	9	0	10	5.5
Total		**12**	**20**	**9**	**13**	**9**	**32**	**28**	**20**	**14**	**21**	**17.8 (±7.8)**

50%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	2	0	0	0	0	4	0	0	4	1
2025-09-22	4	5	0	4	0	x	4	4	0	4	4	0	2.5
2025-09-23	5	8	10	10	0	0	8	9	11	9	9	7.4
2025-09-24	6	12	6	9	0	8	11	12	16	11	11	9.6
Total		**25**	**18**	**23**	**0**[3]	**12**	**23**	**25**	**31**	**24**	**24**	**20.5 (±8.7)**

6.25%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	0	0	0	0	0	2	0	0	0	0.2
2025-09-22	4	3	4	4	4	2	5	1	5	4	2	3.4
2025-09-23	5	8	8	10	9	0	9	10	12	10	8	8.4
2025-09-24	6	0	7	0	0	7	11	15	12	0	13	6.5
Total		**11**	**19**	**14**	**13**	**9**	**25**	**28**	**29**	**14**	**23**	**18.5 (±7.3)**

100%

Day	Replicate 1	2	3	4	5	6	7	8	9	10	Mean Young (±SD)
2025-09-19	1	0	0	0	0	0	0	0	0	0	0	0
2025-09-20	2	0	0	0	0	0	0	0	0	0	0	0
2025-09-21	3	0	4	0	0	0	0	4	0	0	3	1.1
2025-09-22	4	3	0	5	4	0	5	0	6	5	0	2.8
2025-09-23	5	10	5	8	8	5	7	10	11	10	12	8.6
2025-09-24	6	9	11	0	0	7	10	12	12	12	13	8.6
Total		**22**	**20**	**13**	**12**	**12**	**22**	**26**	**29**	**27**	**28**	**21.1 (±6.7)**

NOTES : •All young produced by a test organism during its fourth and subsequent broods were discarded and not included in the above counts. The presence of two or more neonates in any test chamber, during any given day of the test, constitutes a brood.

•[3] Outlier according to Grubbs Test[b]. Outlying data points were not excluded from statistical analysis, since they could not be attributed to error.

x = test organism mortality

* = accidental test organism mortality

– = 4th brood (see 'NOTES')

Test Data Reviewed By : SF

Date : 2025-10-28

Work Order : 258894
Sample Number : 88442

WATER CHEMISTRY DATA

			Day 0 - 1	Day 1 - 2	Day 2 - 3	Day 3 - 4	Day 4 - 5	Day 5 - 6
	Date :		2025-09-18	2025-09-19	2025-09-20	2025-09-21	2025-09-22	2025-09-23
Initial Chemistry (100 %)	Sub-sample Used		1	1	1	2	2	3
	Temperature (°C)		24	24	24	24	24	24
	Dissolved O_2 (mg/L)		8.2	8.1	8.3	8.4	8.5	8.4
	Dissolved O_2 (% Sat.)[4]		99	102	103	104	106	106
	pH		7.9	7.8	7.9	7.9	7.8	7.8
	Conductivity (µmhos/cm)		365	364	367	366	366	364
	Pre-aeration Time (min)[5]		0	20	20	20	20	20
	Analyst(s)	Initial	JW (SF)	JW (SV)	JW (VC)	JW (VC)	OHC	JC (PG)
		Final	JW (SV)	JW (VC)	JC (VC)	NWP	JW (PG)	JW (PG)
Control	Temperature (°C)	Initial	24	24	24	24	24	24
		Final	24	24	24	24	25	24
	Dissolved O_2 (% Sat.)[4]	Initial	99	101	99	99	99	100
	Dissolved O_2 (mg/L)	Initial	8.0	8.2	8.1	8.0	8.0	8.0
		Final	6.5	5.8	5.8	6.2	6.2	6.3
	pH	Initial	8.4	8.3	8.4	8.4	8.3	8.3
		Final	7.9	7.8	7.7	7.8	7.8	7.8
	Conductivity (µmhos/cm)	Initial	543	536	543	542	546	547
	Hardness (mg/L as $CaCO_3$)		150	–	–	–	–	–
1.56 %	Temperature (°C)	Initial	24	24	24	24	24	24
		Final	24	24	24	24	25	24
	Dissolved O_2 (mg/L)	Initial	7.9	7.9	8.0	7.9	7.9	8.0
		Final	6.4	6.0	6.0	6.1	6.1	6.4
	pH	Initial	8.3	8.2	8.3	8.3	8.1	8.2
		Final	7.9	8.0	8.0	7.8	7.8	7.9
	Conductivity (µmhos/cm)	Initial	542	545	535	538	541	541
25 %	Temperature (°C)	Initial	24	24	24	24	24	24
		Final	24	24	24	24	25	24
	Dissolved O_2 (mg/L)	Initial	7.9	7.9	8.0	7.9	7.9	8.0
		Final	6.2	5.8	5.8	5.9	6.0	6.0
	pH	Initial	8.2	8.2	8.2	8.2	8.1	8.2
		Final	7.8	7.8	7.8	7.8	7.8	7.7
	Conductivity (µmhos/cm)	Initial	503	507	505	500	504	502
100 %	Temperature (°C)	Initial	24	24	24	24	24	24
		Final	24	24	24	24	25	24
	Dissolved O_2 (mg/L)	Initial	8.2	8.0	8.1	8.0	8.0	8.0
		Final	6.3	5.1	5.3	6.0	5.9	5.8
	pH	Initial	7.9	8.0	8.1	8.0	7.9	8.0
		Final	7.7	7.6	7.6	7.7	7.6	7.6
	Conductivity (µmhos/cm)	Initial	367	370	370	373	373	369
	Hardness (mg/L as $CaCO_3$)		140	–	–	–	–	–

"–" = not measured/not required
[4] adjusted for temperature and barometric pressure
[5] ≤100 bubbles/minute

Test Data Reviewed By : SF
Date : 2025-10-28

NAUTILUS ENVIRONMENTAL
B-11 Nicholas Beaver Road
Puslinch, ON N0B 2J0
Tel. (519) 763-4412
Fax. (519) 763-4419

TOXICITY TEST REPORT

Pseudokirchneriella subcapitata [1]
EPS 1/RM/25

Work Order : 258894
Sample Number : 88442

SAMPLE IDENTIFICATION

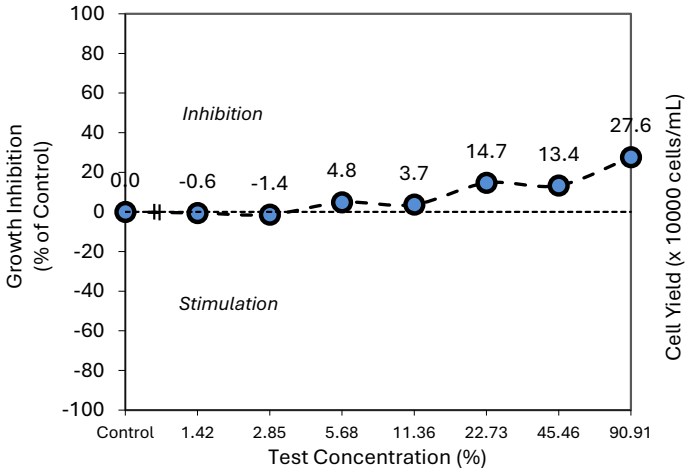
Company :	Agnico Eagle Mines Limited - Meliadine Project	Sampling Date :	2025-09-14
Location :	Rankin Inlet NU	Sampling Time :	13:15
Substance :	B7	Date Received :	2025-09-18
Sampling Method :	Grab	Time Received :	11:00
Sampled By :	R. Schwandt, S. Knowles	Temperature at Receipt :	21 °C
Sample Description :	Clear, colourless	Date Tested :	2025-09-18

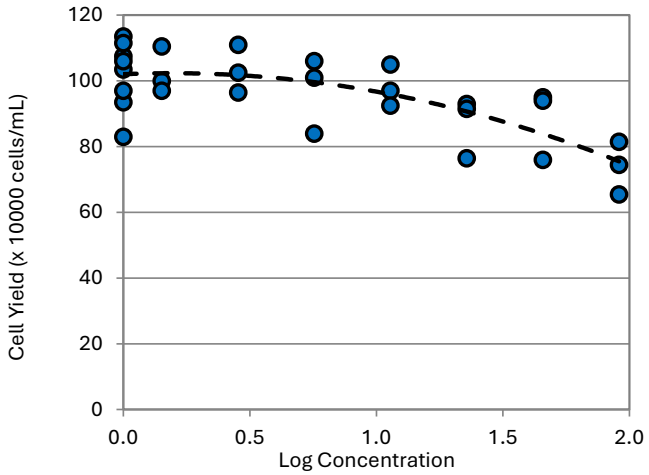
Test Method : Growth Inhibition Test Using a Freshwater Alga. Environment Canada, Conservation and Protection. Ottawa, Ontario. Report EPS 1/RM/25, 2nd ed. (March 2007).

72-HOUR TEST RESULTS

Effect	Value	95% Confidence Limits	Statistical Method
IC25 (Growth)	79.5%	52.7 – 109[2]%	Non-Linear Regression (CETIS)[a]

The results reported relate only to the sample tested and as received.





COMMENTS

Noted Deviation: The maximum sample holding time of 3 days allowed by the test method was exceeded. The sample was tested with the client's consent. There were no other unusual conditions, and the test result is considered to be valid.

•All test validity criteria as specified in the test method cited above were satisfied.

[1] *Pseudokirchneriella subcapitata* (Korschikov) Hindák (OECD, 2011) has recently been renamed *Raphidocelis subcapitata* (Guiry and Guiry, 2018) and was formerly known as *Selenastrum capricornutum*. *P. subcapitata* is used throughout this document because it is being used in the EPS 1/RM/25 (EC, 2007) and OECD 201 (2011) test methods. *P. subcapitata* is currently regarded as a synonym of *R. subcapitata*.

[2] Note: An upper 95% confidence limit greater than 90.91% is statistically valid.

Approved By : _____
Project Manager

Work Order : 258894
Sample Number : 88442

TEST ORGANISM

Test Organism :	*Pseudokirchneriella subcapitata* [1]	Strain Number :	CPCC 37
Culture Origin :	University of Waterloo, Waterloo ON	Inoculum Source :	In-house culture
Inoculum Prepared :	75 min. prior to test initiation	Organism Batch :	Ps25-09/G1-14
Age (at start of test) :	3 days (in exponential growth)	Cell Density at 0-h :	10409 cells/mL

•Algal growth curve is determined at least twice per year as required by the test method.
•No unusual appearance or treatment of culture prior to testing.

TEST CONDITIONS

Test Type :	Static	Volume per Replicate :	220 µL
Test Duration :	72 hours	Control Replicates :	10
Mean Temperature (± SD):	23.0°C (± 0.0)	Test Replicates :	4
Sample Pre-aeration :	None	Concentrations Tested :	10 + Control
Sample Filtration :	0.45 µm preconditioned filter	Photoperiod :	Continuous light
Volume Filtered:	≥10 mL	Light Intensity :	3990-4270 lux
Control/Dilution Water :	Millipore Milli-Q (no chemicals added)	Initial pH (100% sample) :	7.8
Enrichment Medium :	Stock 2B: EDTA reduced to 25%	pH Adjustment :	None
Test Vessel :	U-shaped polystyrene microplate	Hardness Adjustment :	None
Enumeration Method :	Manual (haemocytometer)	Test Method Deviation(s) :	See 'COMMENTS'

REFERENCE TOXICANT DATA

Toxicant :	Zinc (as Zinc Sulfate)		
Date Tested :	2025-09-30	IC25 Growth :	15.1 µg/L
Analyst(s) :	NM, CB	95% Confidence Limits :	12.4 - 17.9 µg/L
Test Duration :	72 hours	Historical Mean IC25 :	19.7 µg/L
Statistical Method :	Non-Linear Regression (CETIS)[a]	Warning Limits (± 2SD) :	9.9 - 38.9 µg/L

The reference toxicity test was performed under the same experimental conditions as those used with the test sample.

Work Order : 258894
Sample Number : 88442

CELL COUNTS AT 72-HOURS

Initiated By : CB/VZ
Date Counted : 2025-09-21
Counted By : NM

Control pH (at 0 hours) : 7.0
Control pH (at 72 hours) : 7.0
Control Increase Factor : 98.9 times growth

Concentration	Cell Concentration (x 10000 cells/mL) Replicate								Cell Yield (x 10000 cells/mL)			
									Mean	Standard Deviation	CV (%)	Stimulation (% of control)
%	1	2	3	4	7	8	9	10				
Control	108.5	114.5	84.0	112.5	94.5	104.5	98.0	107.0	101.90	10.21	10	–
0.18	–	–	–	–	–	–	–	–	–	–	–	–
0.35	–	–	–	–	–	–	–	–	–	–	–	–
0.71	–	–	–	–	–	–	–	–	–	–	–	–
1.42	101.0	98.0	111.5	–	–	–	–	–	102.46	7.09	7	0.6
2.85	112.0	97.5	103.5	–	–	–	–	–	103.29	7.29	7	1.4
5.68	85.0	102.0	107.0	–	–	–	–	–	96.96	11.53	12	-4.8
11.36	98.0	93.5	106.0	–	–	–	–	–	98.13	6.33	6	-3.7
22.73	77.5	94.0	92.5	–	–	–	–	–	86.96	9.12	10	-14.7
45.46	77.0[3]	96.0	95.0	–	–	–	–	–	88.29	10.69	12	-13.4
90.91	66.5	82.5	75.5	–	–	–	–	–	73.79	8.02	11	-27.6

NOTES : No significant stimulation (α=0.05) of cell yield was detected by ANOVA-Dunnett Multiple Comparison Test (CETIS)[a] at any test level compared to the control.

- Control replicates 5 and 6 used for pH measurement.
- The Mann-Kendall test shows that there is no inhibitory gradient (α=0.05).
- [3]Outlier according to Grubbs Test[b]. Outlying data points were not excluded from statistical analysis, since they could not be attributed to error.

Test Data Reviewed By : SF

"–" = not counted/not required

Date : 2025-10-28

REFERENCES

[a] CETIS™, © 2000-2022. v2.1.4.0 x64. Comprehensive Environmental Toxicity Information System. Tidepool Scientific Software, LLC, McKinleyville, CA 95519 [Program on disk and printed User's Guide].

[b]Grubbs, F.E., 1969. Procedures for detecting outlying observations in samples. *Technometrics, 11* :1-21.

CHAIN OF CUSTODY RECORD

NAUTILUS ENVIRONMENTAL

Nautilus Work Order No: 258894

Shipping Address: Nautilus Environmental Guelph.
B-11 Nicholas Beaver Road
Puslinch, Ontario Canada N0B 2J0

Voice: (519) 763-4412 **Fax:** (519) 763-4419

P.O. Number: 1504864
Field Sampler Name (print): RandySchwandt and Spencer Knowles
Signature:
Affiliation: Agnico Eagles Mines - Meliadine
Sample Storage (prior to shipping):
Custody Relinquished by: Spencer Knowles
Date/Time Shipped: 2025-09-15 8:00

Client: AgnicoEagle
Meliadine Project
Rankin Inlet, Nunavut, Canada

Phone: (819) 759-3555
Fax:
Contact: Randy Schwandt/Alexandre L-Bourassa

Sample Identification					Analyses Requested									Sample Method and Volume		
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	Nautilus Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	*Daphnia magna* Single Concentration	*Daphnia magna* LC50	Fathead Minnow Survival & Growth	*Ceriodaphnia dubia* Survival & Reproduction	*Lemna minor* Growth	*Pseudokirchneriella subcapitata* Growth	Microtox	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
2025-09-14	13:15	B7	88442	21						*		*		✔		3 pails x 20L

For Lab Use Only
Received By: EK/PC
Date: 2025-09-18
Time: 11:00
Storage Location:
Storage Temp.(°C)

Please list any special requests or instructions:
AEM Environment will email analysis instructions. Thank you
* Ceriodaphnia and algae testing requested as per PM instructions. EK

APPENDIX E
PHYTOPLANKTON – SUPPORTING INFORMATION

Appendix E1
Phytoplankton Taxonomy – Supporting Metrics

APPENDIX E1 – TABLES

Table E1-1. Phytoplankton biomass (mg/m^3) by major taxa, 2025. 3
Table E1-2. Phytoplankton density (cells/L) by major taxa, 2025..... 4
Table E1-3. Phytoplankton richness by major taxa, 2025..... 5
Table E1-4. Phytoplankton community indices – Simpson's Diversity, Simpson's Evenness, and Bray-Curtis Index, 2025. 6
Table E1-5. Phytoplankton biomass (mg/m^3) for the top 5 taxa in July, August, and September 2025. . 7

Simpson's Diversity Index

Simpson's Diversity Index considers both the abundance and taxonomic richness of the community. There are typically two ways that Simpson's Diversity is presented, either by subtracting D from 1 (aka Simpson's Index of Diversity) or taking the reciprocal of D (aka, Simpson's Reciprocal Index [1/D]). D is calculated according to the formula in the TGD:

$$\mathrm{D} = \sum_{i-1}^{s} (p_i)^2$$

Where:

D = Simpson's Diversity,
pi = the proportion of the ith taxon at the station,
S = the total number of taxa at the station (i.e., taxa richness),
1 – D = Simpson's Index of Diversity: this index ranges from 0 to 1 with 0 representing no diversity and 1 representing infinite diversity, and
1/D = Simpson's Reciprocal Index: this way of presenting the diversity ranges from 1 as the lowest possible value (i.e., only one taxon in the sample) up to the number of taxa represented in the sample.

Simpson's Evenness Index

Simpson's Evenness is another way of measuring the diversity of the community that takes into consideration how the total abundance is distributed among the various taxa groups. Values range from 0 to 1, with 1 representing a community with completely equal distribution of the number of individuals among the taxa. Evenness was calculated using the density data set as follows:

$$\mathrm{E} = \frac{1}{D}\ x\ \frac{1}{S}$$

Where:

E = Simpson's Evenness,
D = Simpson's Diversity (see above), and
S = the total number of taxa at the station (i.e., taxa richness).

Bray Curtis Index

The Bray-Curtis index quantifies the difference between two ecological communities based on species composition and abundance. The Bray-Curtis Index reaches a maximum value of "1" for two samples that are entirely different and a minimum of "0" for two samples that possess identical descriptors (Bray and Curtis, 1957). Bray-Curtis was calculated according to methods prescribed in the EEM TGD (Environment Canada, 2012):

$$\mathrm{BCI} = \frac{\sum_{i=1}^{n} |y_{i1} - y_{i2}|}{\sum_{i=1}^{n} (y_{i1} + y_{i2})}$$

Where:

BCI = Bray-Curtis distance between sites 1 and 2,

Yi1 = count for taxon i at site 1,

Yi2 = count for taxon i at site 2, and

n = the total number of taxa at the two sites.

Note: The Bray-Curtis index is calculated relative to the reference mean on a year/program/habitat-specific basis.

Table E1-1. Phytoplankton biomass (mg/m^3) by major taxa, 2025.

Sampling Event	Area	Station	Date	Biomass (mg/m^3)							
				Total	Diatoms	Cyano	Chloro	Crypto	Chryso	Dino	Eugleno
July	MEL-01	MEL-01-01	19-Jul	277	61	0	0	25	168	23	0
	MEL-01	MEL-01-06	19-Jul	419	91	0	7	32	228	60	0
	MEL-01	MEL-01-07	19-Jul	399	98	0	13	13	201	75	0
	MEL-01	MEL-01-08	19-Jul	547	96	0	0	53	358	40	0
	MEL-01	MEL-01-09	19-Jul	330	68	0	3	27	211	22	0
	MEL-01	MEL-01-10	19-Jul	210	26	4	1	28	117	36	0
	MEL-02	MEL-02-02	19-Jul	656	187	0	40	25	376	28	0
	MEL-02	MEL-02-03	19-Jul	588	184	0	31	35	317	20	0
	MEL-02	MEL-02-05	19-Jul	653	199	0	8	18	403	25	0
	MEL-02	MEL-02-06	19-Jul	503	178	0	5	19	283	19	0
	MEL-02	MEL-02-08	19-Jul	547	171	0	9	17	318	32	0
	MEL-03	MEL-03-01	19-Jul	413	135	0	7	10	197	61	2
	MEL-03	MEL-03-02	19-Jul	298	115	0	6	13	146	18	0
	MEL-03	MEL-03-03	19-Jul	365	159	1	1	12	148	44	0
	MEL-03	MEL-03-04	19-Jul	316	108	0	18	14	144	31	0
	MEL-03	MEL-03-05	19-Jul	337	71	0	12	24	193	37	0
August	MEL-01	MEL-01-01	20-Aug	391	147	0	27	23	174	20	0
	MEL-01	MEL-01-06	20-Aug	549	222	0	24	46	229	28	0
	MEL-01	MEL-01-07	20-Aug	413	98	0	15	27	240	33	0
	MEL-01	MEL-01-08	20-Aug	406	164	17	8	25	161	31	0
	MEL-01	MEL-01-09	20-Aug	377	104	13	20	28	188	23	0
	MEL-01	MEL-01-10	20-Aug	335	101	2	15	31	176	10	0
	MEL-02	MEL-02-02	15-Aug	198	52	4	20	22	59	40	0
	MEL-02	MEL-02-03	15-Aug	300	117	0	12	35	95	40	0
	MEL-02	MEL-02-05	15-Aug	258	100	6	18	33	70	30	0
	MEL-02	MEL-02-06	15-Aug	207	85	1	27	19	62	13	0
	MEL-02	MEL-02-08	15-Aug	235	83	4	16	36	67	28	0
	MEL-03	MEL-03-01	20-Aug	225	61	0	14	21	108	21	0
	MEL-03	MEL-03-02	20-Aug	198	40	1	15	33	79	29	0
	MEL-03	MEL-03-03	20-Aug	272	62	0	32	42	107	30	0
	MEL-03	MEL-03-04	20-Aug	200	38	0	20	34	85	22	0
	MEL-03	MEL-03-05	20-Aug	208	27	0	20	31	117	14	0
	MEL-04	MEL-04-01	17-Aug	121	41	0	7	16	43	15	0
	MEL-04	MEL-04-02	17-Aug	104	53	2	20	7	19	5	0
	MEL-04	MEL-04-03	17-Aug	126	49	0	14	9	41	14	0
	MEL-04	MEL-04-04	17-Aug	135	56	0	23	15	37	3	0
	MEL-04	MEL-04-05	17-Aug	127	38	0	20	15	45	9	0
	MEL-05	MEL-05-01	20-Aug	164	58	0	13	15	72	6	0
	MEL-05	MEL-05-02	20-Aug	235	46	0	11	10	161	7	0
	MEL-05	MEL-05-03	20-Aug	147	59	2	14	13	48	11	0
	MEL-05	MEL-05-04	20-Aug	148	66	0	19	15	38	10	0
	MEL-05	MEL-05-05	20-Aug	344	47	0	30	192	68	7	0
September	MEL-01	MEL-01-01	9-Sep	559	308	8	18	24	157	45	0
	MEL-01	MEL-01-06	9-Sep	439	157	6	29	14	187	46	0
	MEL-01	MEL-01-07	9-Sep	564	250	3	41	19	212	39	0
	MEL-01	MEL-01-08	9-Sep	451	245	3	12	25	134	32	0
	MEL-01	MEL-01-09	9-Sep	589	260	4	61	19	200	45	0
	MEL-01	MEL-01-10	9-Sep	545	193	2	31	24	224	72	0
	MEL-02	MEL-02-02	10-Sep	338	92	0	11	13	197	25	0
	MEL-02	MEL-02-03	10-Sep	320	100	1	10	6	154	49	0
	MEL-02	MEL-02-05	10-Sep	233	72	0	14	6	119	22	0
	MEL-02	MEL-02-06	10-Sep	230	89	0	12	14	84	31	0
	MEL-02	MEL-02-08	10-Sep	259	60	6	35	3	149	5	0
	MEL-03	MEL-03-01	9-Sep	171	42	1	11	14	75	28	0
	MEL-03	MEL-03-02	9-Sep	180	54	0	13	1	91	21	0
	MEL-03	MEL-03-03	9-Sep	218	77	0	7	8	107	18	0
	MEL-03	MEL-03-04	9-Sep	185	53	2	2	5	111	13	0
	MEL-03	MEL-03-05	9-Sep	151	50	0	21	2	74	4	0

Notes:
Chloro = chlorophytes; Chryso = chrysophytes; Crypto = cryptophytes; Dino = dinoflagellates; Cyano = cyanobacteria; Eugleno = Euglenophytes

Table E1-2. Phytoplankton density (cells/L) by major taxa, 2025.

Sampling Event	Area	Station	Date	Density (cells/L)							
				Total	Diatoms	Cyano	Chloro	Crypto	Chryso	Dino	Eugleno
July	MEL-01	MEL-01-01	19-Jul	1894720	395416	0	7184	80240	1408880	3000	0
	MEL-01	MEL-01-06	19-Jul	2937728	765912	0	93792	97008	1974616	6400	0
	MEL-01	MEL-01-07	19-Jul	1945376	808072	0	43104	47304	1043496	3400	0
	MEL-01	MEL-01-08	19-Jul	4078032	818616	0	0	121576	3133640	4200	0
	MEL-01	MEL-01-09	19-Jul	2529160	635536	0	79024	67872	1743728	3000	0
	MEL-01	MEL-01-10	19-Jul	1426512	195616	64656	21552	135312	1004776	4600	0
	MEL-02	MEL-02-02	19-Jul	5081360	1619624	0	158448	59888	3239600	3800	0
	MEL-02	MEL-02-03	19-Jul	4635784	1553000	0	115144	126144	2838896	2600	0
	MEL-02	MEL-02-05	19-Jul	5846832	1913152	0	50288	36936	3842856	3600	0
	MEL-02	MEL-02-06	19-Jul	4216232	1604608	0	28736	36936	2544552	1400	0
	MEL-02	MEL-02-08	19-Jul	4362528	1478112	0	79224	28552	2773840	2800	0
	MEL-03	MEL-03-01	19-Jul	3595928	1344104	600	43904	25352	2177568	4200	200
	MEL-03	MEL-03-02	19-Jul	2178096	968552	0	29536	26752	1150456	2800	0
	MEL-03	MEL-03-03	19-Jul	2950200	1532320	28936	14768	12984	1358392	2800	0
	MEL-03	MEL-03-04	19-Jul	2239768	910296	0	28736	40920	1256416	3400	0
	MEL-03	MEL-03-05	19-Jul	2644608	677160	200	87808	118744	1757296	3400	0
August	MEL-01	MEL-01-01	20-Aug	2969216	297936	0	560952	98992	2007536	3800	0
	MEL-01	MEL-01-06	20-Aug	3371880	275928	600	389136	252856	2448160	5200	0
	MEL-01	MEL-01-07	20-Aug	3491000	106704	600	511064	121944	2746888	3800	0
	MEL-01	MEL-01-08	20-Aug	2583560	307984	31736	302528	93808	1842304	5200	0
	MEL-01	MEL-01-09	20-Aug	3433544	199712	159248	762304	155864	2153016	3400	0
	MEL-01	MEL-01-10	20-Aug	3070424	206576	57472	646960	164248	1992768	2400	0
	MEL-02	MEL-02-02	15-Aug	1495584	104456	129312	460176	92608	704432	4600	0
	MEL-02	MEL-02-03	15-Aug	2094736	279336	0	366784	132128	1309288	7200	0
	MEL-02	MEL-02-05	15-Aug	2097088	260336	173216	433040	158464	1065232	6800	0
	MEL-02	MEL-02-06	15-Aug	1910488	254752	7184	554568	76840	1014144	3000	0
	MEL-02	MEL-02-08	15-Aug	2089072	209816	115544	591688	145696	1020128	6200	0
	MEL-03	MEL-03-01	20-Aug	1686936	145744	200	218520	125528	1192944	4000	0
	MEL-03	MEL-03-02	20-Aug	1897040	195600	7184	232088	185400	1272168	4600	0
	MEL-03	MEL-03-03	20-Aug	2117360	148512	0	339848	230304	1393896	4800	0
	MEL-03	MEL-03-04	20-Aug	1916408	218952	0	188984	152480	1351192	4800	0
	MEL-03	MEL-03-05	20-Aug	2184784	175832	0	274992	157464	1573496	3000	0
	MEL-04	MEL-04-01	17-Aug	1221528	150896	0	252840	75640	740152	2000	0
	MEL-04	MEL-04-02	17-Aug	1418896	247088	200	628008	10384	532016	1200	0
	MEL-04	MEL-04-03	17-Aug	1398144	134144	200	598472	24952	639376	1000	0
	MEL-04	MEL-04-04	17-Aug	1794064	250288	0	778472	81824	682880	600	0
	MEL-04	MEL-04-05	17-Aug	1616248	200784	0	534816	81824	797624	1200	0
	MEL-05	MEL-05-01	20-Aug	1745192	186248	400	369184	88408	1099752	1200	0
	MEL-05	MEL-05-02	20-Aug	2917768	116992	0	289560	39120	2471296	800	0
	MEL-05	MEL-05-03	20-Aug	1778512	233336	7784	447808	67256	1020328	2000	0
	MEL-05	MEL-05-04	20-Aug	1722640	176864	400	750536	88408	704232	2200	0
	MEL-05	MEL-05-05	20-Aug	2235672	161280	0	765504	201152	1106536	1200	0
September	MEL-01	MEL-01-01	9-Sep	2981808	532984	1400	396920	107376	1937328	5800	0
	MEL-01	MEL-01-06	9-Sep	2938496	241448	2200	561752	34536	2092160	6400	0
	MEL-01	MEL-01-07	9-Sep	3174064	206208	59872	503280	63472	2333032	8200	0
	MEL-01	MEL-01-08	9-Sep	2335936	197640	59272	360200	107576	1606248	5000	0
	MEL-01	MEL-01-09	9-Sep	3194448	325784	115344	352616	63472	2330632	6600	0
	MEL-01	MEL-01-10	9-Sep	3578752	156504	3000	726584	106576	2574688	11400	0
	MEL-02	MEL-02-02	10-Sep	2298024	312008	800	153264	109760	1719592	2600	0
	MEL-02	MEL-02-03	10-Sep	1771624	250352	1000	197968	51488	1264016	6800	0
	MEL-02	MEL-02-05	10-Sep	1668448	106488	800	145080	9584	1402496	4000	0
	MEL-02	MEL-02-06	10-Sep	1439328	149360	800	96192	88208	1099968	4800	0
	MEL-02	MEL-02-08	10-Sep	1806296	188264	102176	324280	8184	1182392	1000	0
	MEL-03	MEL-03-01	9-Sep	1388224	184480	1000	211536	88008	900400	2800	0
	MEL-03	MEL-03-02	9-Sep	1430112	78104	400	232488	600	1116120	2400	0
	MEL-03	MEL-03-03	9-Sep	1495184	162528	200	176216	51488	1102152	2600	0
	MEL-03	MEL-03-04	9-Sep	1464232	143960	29136	51288	36120	1202328	1400	0
	MEL-03	MEL-03-05	9-Sep	1641232	112824	200	432440	7984	1086784	1000	0

Notes:
Chloro = chlorophytes; Chryso = chrysophytes; Crypto = cryptophytes; Dino = dinoflagellates; Cyano = cyanobacteria; Eugleno = Euglenophytes

Table E1-3. Phytoplankton richness by major taxa, 2025.

Sampling Event	Area	Station	Date	Taxa Richness							
				Total	Diatoms	Cyano	Chloro	Crypto	Chryso	Dino	Eugleno
July	MEL-01	MEL-01-01	19-Jul	29	10	0	1	3	11	4	0
	MEL-01	MEL-01-06	19-Jul	38	11	0	6	3	14	4	0
	MEL-01	MEL-01-07	19-Jul	28	9	0	2	3	10	4	0
	MEL-01	MEL-01-08	19-Jul	33	10	0	0	3	15	5	0
	MEL-01	MEL-01-09	19-Jul	33	9	0	4	3	13	4	0
	MEL-01	MEL-01-10	19-Jul	33	10	2	3	4	10	4	0
	MEL-02	MEL-02-02	19-Jul	34	8	0	7	3	13	3	0
	MEL-02	MEL-02-03	19-Jul	35	8	0	4	4	15	4	0
	MEL-02	MEL-02-05	19-Jul	35	9	0	4	4	14	4	0
	MEL-02	MEL-02-06	19-Jul	32	9	0	3	3	13	4	0
	MEL-02	MEL-02-08	19-Jul	36	9	0	6	3	14	4	0
	MEL-03	MEL-03-01	19-Jul	38	8	1	5	3	15	5	1
	MEL-03	MEL-03-02	19-Jul	36	11	0	4	3	14	4	0
	MEL-03	MEL-03-03	19-Jul	36	10	2	3	3	14	4	0
	MEL-03	MEL-03-04	19-Jul	31	9	0	1	3	13	5	0
	MEL-03	MEL-03-05	19-Jul	39	8	1	9	3	14	4	0
August	MEL-01	MEL-01-01	20-Aug	34	7	0	10	3	11	3	0
	MEL-01	MEL-01-06	20-Aug	40	10	1	12	3	11	3	0
	MEL-01	MEL-01-07	20-Aug	34	8	1	8	3	10	4	0
	MEL-01	MEL-01-08	20-Aug	41	10	3	11	3	10	4	0
	MEL-01	MEL-01-09	20-Aug	45	10	4	12	3	12	4	0
	MEL-01	MEL-01-10	20-Aug	33	9	1	8	3	10	2	0
	MEL-02	MEL-02-02	15-Aug	28	6	1	7	3	9	2	0
	MEL-02	MEL-02-03	15-Aug	36	9	0	9	3	12	3	0
	MEL-02	MEL-02-05	15-Aug	40	10	2	12	3	11	2	0
	MEL-02	MEL-02-06	15-Aug	32	9	1	8	3	9	2	0
	MEL-02	MEL-02-08	15-Aug	38	10	2	12	3	9	2	0
	MEL-03	MEL-03-01	20-Aug	34	9	1	9	2	10	3	0
	MEL-03	MEL-03-02	20-Aug	39	10	1	11	3	11	3	0
	MEL-03	MEL-03-03	20-Aug	34	8	0	10	3	10	3	0
	MEL-03	MEL-03-04	20-Aug	32	8	0	6	3	13	2	0
	MEL-03	MEL-03-05	20-Aug	28	8	0	6	3	9	2	0
	MEL-04	MEL-04-01	17-Aug	28	8	0	8	2	7	3	0
	MEL-04	MEL-04-02	17-Aug	27	8	1	9	2	6	1	0
	MEL-04	MEL-04-03	17-Aug	29	5	1	9	2	8	4	0
	MEL-04	MEL-04-04	17-Aug	29	7	0	9	3	8	2	0
	MEL-04	MEL-04-05	17-Aug	27	6	0	9	2	7	3	0
	MEL-05	MEL-05-01	20-Aug	32	8	1	10	2	9	2	0
	MEL-05	MEL-05-02	20-Aug	30	7	0	10	2	9	2	0
	MEL-05	MEL-05-03	20-Aug	32	8	2	10	2	8	2	0
	MEL-05	MEL-05-04	20-Aug	31	8	1	11	2	7	2	0
	MEL-05	MEL-05-05	20-Aug	30	8	0	9	2	9	2	0
September	MEL-01	MEL-01-01	9-Sep	49	11	2	11	4	16	5	0
	MEL-01	MEL-01-06	9-Sep	53	11	2	13	4	18	5	0
	MEL-01	MEL-01-07	9-Sep	44	10	2	10	3	16	3	0
	MEL-01	MEL-01-08	9-Sep	41	9	2	8	4	14	4	0
	MEL-01	MEL-01-09	9-Sep	47	12	2	7	4	17	5	0
	MEL-01	MEL-01-10	9-Sep	45	10	1	9	3	17	5	0
	MEL-02	MEL-02-02	10-Sep	45	8	1	10	2	19	5	0
	MEL-02	MEL-02-03	10-Sep	41	9	1	9	2	15	5	0
	MEL-02	MEL-02-05	10-Sep	36	9	1	5	3	15	3	0
	MEL-02	MEL-02-06	10-Sep	40	9	1	9	4	13	4	0
	MEL-02	MEL-02-08	10-Sep	35	9	3	6	2	12	3	0
	MEL-03	MEL-03-01	9-Sep	35	9	1	9	3	9	4	0
	MEL-03	MEL-03-02	9-Sep	38	10	1	10	1	13	3	0
	MEL-03	MEL-03-03	9-Sep	35	9	1	7	2	13	3	0
	MEL-03	MEL-03-04	9-Sep	36	8	2	5	2	15	4	0
	MEL-03	MEL-03-05	9-Sep	33	9	1	7	2	12	2	0

Notes:
Chloro = chlorophytes; Chryso = chrysophytes; Crypto = cryptophytes; Dino = dinoflagellates; Cyano = cyanobacteria; Eugleno = Euglenophytes

Table E1-4. Phytoplankton community indices – Simpson's Diversity, Simpson's Evenness, and Bray-Curtis Index, 2025.

Sampling Event	Area	Station	Date	Simpson's Diversity		Simpson's Evenness	Bray-Curtis Index
				1/D	1-D		
July	MEL-01	MEL-01-01	19-Jul	7.05	0.858	0.243	0.338
	MEL-01	MEL-01-06	19-Jul	8.91	0.888	0.235	0.292
	MEL-01	MEL-01-07	19-Jul	4.53	0.779	0.162	0.621
	MEL-01	MEL-01-08	19-Jul	8.13	0.877	0.246	0.435
	MEL-01	MEL-01-09	19-Jul	5.62	0.822	0.17	0.372
	MEL-01	MEL-01-10	19-Jul	11.4	0.912	0.345	0.435
	MEL-02	MEL-02-02	19-Jul	7.46	0.866	0.219	0.411
	MEL-02	MEL-02-03	19-Jul	8.52	0.883	0.244	0.359
	MEL-02	MEL-02-05	19-Jul	6.71	0.851	0.192	0.411
	MEL-02	MEL-02-06	19-Jul	7.11	0.859	0.222	0.313
	MEL-02	MEL-02-08	19-Jul	6.74	0.852	0.187	0.327
	MEL-03	MEL-03-01	19-Jul	8.68	0.885	0.228	0.2
	MEL-03	MEL-03-02	19-Jul	8.31	0.88	0.231	0.107
	MEL-03	MEL-03-03	19-Jul	6.73	0.851	0.187	0.215
	MEL-03	MEL-03-04	19-Jul	10.6	0.906	0.342	0.184
	MEL-03	MEL-03-05	19-Jul	11.9	0.916	0.305	0.353
August	MEL-01	MEL-01-01	20-Aug	8.12	0.877	0.239	0.527
	MEL-01	MEL-01-06	20-Aug	8.05	0.876	0.201	0.643
	MEL-01	MEL-01-07	20-Aug	6.48	0.846	0.191	0.562
	MEL-01	MEL-01-08	20-Aug	10	0.9	0.245	0.546
	MEL-01	MEL-01-09	20-Aug	6.81	0.853	0.151	0.565
	MEL-01	MEL-01-10	20-Aug	9.66	0.896	0.293	0.484
	MEL-02	MEL-02-02	15-Aug	11.1	0.91	0.397	0.335
	MEL-02	MEL-02-03	15-Aug	12.6	0.92	0.349	0.391
	MEL-02	MEL-02-05	15-Aug	12.1	0.918	0.303	0.315
	MEL-02	MEL-02-06	15-Aug	11.5	0.913	0.358	0.291
	MEL-02	MEL-02-08	15-Aug	11.1	0.91	0.292	0.353
	MEL-03	MEL-03-01	20-Aug	11	0.909	0.322	0.265
	MEL-03	MEL-03-02	20-Aug	12.6	0.921	0.324	0.263
	MEL-03	MEL-03-03	20-Aug	10.4	0.903	0.305	0.355
	MEL-03	MEL-03-04	20-Aug	12.4	0.919	0.386	0.3
	MEL-03	MEL-03-05	20-Aug	8.34	0.88	0.298	0.421
	MEL-04	MEL-04-01	17-Aug	9.06	0.89	0.324	0.207
	MEL-04	MEL-04-02	17-Aug	7.19	0.861	0.266	0.283
	MEL-04	MEL-04-03	17-Aug	9.5	0.895	0.328	0.313
	MEL-04	MEL-04-04	17-Aug	8.6	0.884	0.296	0.283
	MEL-04	MEL-04-05	17-Aug	11	0.909	0.409	0.243
	MEL-05	MEL-05-01	20-Aug	7.82	0.872	0.244	0.203
	MEL-05	MEL-05-02	20-Aug	3.42	0.707	0.114	0.408
	MEL-05	MEL-05-03	20-Aug	9.74	0.897	0.304	0.219
	MEL-05	MEL-05-04	20-Aug	6.25	0.84	0.202	0.24
	MEL-05	MEL-05-05	20-Aug	3.41	0.707	0.114	0.457
September	MEL-01	MEL-01-01	9-Sep	10.5	0.905	0.215	0.576
	MEL-01	MEL-01-06	9-Sep	14.1	0.929	0.265	0.524
	MEL-01	MEL-01-07	9-Sep	11	0.909	0.249	0.632
	MEL-01	MEL-01-08	9-Sep	10.5	0.905	0.256	0.581
	MEL-01	MEL-01-09	9-Sep	10.8	0.907	0.229	0.651
	MEL-01	MEL-01-10	9-Sep	13.6	0.926	0.301	0.602
	MEL-02	MEL-02-02	10-Sep	12.4	0.919	0.276	0.432
	MEL-02	MEL-02-03	10-Sep	12.8	0.922	0.311	0.509
	MEL-02	MEL-02-05	10-Sep	12	0.917	0.333	0.369
	MEL-02	MEL-02-06	10-Sep	10.2	0.902	0.256	0.381
	MEL-02	MEL-02-08	10-Sep	10.4	0.904	0.297	0.431
	MEL-03	MEL-03-01	9-Sep	13.7	0.927	0.391	0.217
	MEL-03	MEL-03-02	9-Sep	8.69	0.885	0.229	0.193
	MEL-03	MEL-03-03	9-Sep	9.53	0.895	0.272	0.231
	MEL-03	MEL-03-04	9-Sep	9.7	0.897	0.27	0.17
	MEL-03	MEL-03-05	9-Sep	9.95	0.9	0.302	0.185

Table E1-5. Phytoplankton biomass (mg/m^3) for the top 5 taxa in July, August, and September 2025.

Sampling Event	Area	Station	Sample Date	Total Biomass (mg/m^3)	Dominant Taxa 1	Dominant Taxa 2	Dominant Taxa 3	Dominant Taxa 4	Dominant Taxa 5
July	MEL-01	MEL-01-01	19-Jul	277	Dinobryon sociale Ehrenberg || CHRYSO || 89.92	Uroglena volvox Ehrenberg || CHRYSO || 24.37	Chrysococcus sp. || CHRYSO || 23.49	Rhizosolenia eriense H.L. Smith || DIATOMS || 23.14	Cyclotella pseudostelligera || DIATOMS || 19.35
		MEL-01-06	19-Jul	419	Dinobryon sociale Ehrenberg || CHRYSO || 113.05	Rhizosolenia eriense H.L. Smith || DIATOMS || 49.34	Uroglena volvox Ehrenberg || CHRYSO || 30.87	Chrysococcus sp. || CHRYSO || 28.19	Dinobryon sertularia Ehrenberg || CHRYSO || 28
		MEL-01-07	19-Jul	399	Dinobryon bavaricum Imhof || CHRYSO || 164.12	Rhizosolenia eriense H.L. Smith || DIATOMS || 61.52	Peridinium limbatum (Stokes) Lemmermann || DINOFLG || 57.51	Cyclotella pseudostelligera || DIATOMS || 23.22	Planctonema lauterbornii Schmidle || CHLORO || 12.69
		MEL-01-08	19-Jul	547	Dinobryon sociale Ehrenberg || CHRYSO || 143.06	Uroglena volvox Ehrenberg || CHRYSO || 83.68	Chrysococcus sp. || CHRYSO || 56.38	Rhizosolenia eriense H.L. Smith || DIATOMS || 54.82	Cryptomonas erosa Ehrenberg || CRYPTO || 33.99
		MEL-01-09	19-Jul	330	Dinobryon sociale Ehrenberg || CHRYSO || 124.05	Rhizosolenia eriense H.L. Smith || DIATOMS || 41.42	Uroglena volvox Ehrenberg || CHRYSO || 35.75	Cryptomonas erosa Ehrenberg || CRYPTO || 17.36	Chrysococcus sp. || CHRYSO || 14.56
		MEL-01-10	19-Jul	210	Dinobryon sertularia Ehrenberg || CHRYSO || 34.75	Dinobryon sociale Ehrenberg || CHRYSO || 31.8	Chrysococcus sp. || CHRYSO || 23.49	Peridinium aciculiferum Lemmermann || DINOFLG || 16.28	Rhodomonas minuta Skuja || CRYPTO || 15.8
	MEL-02	MEL-02-02	19-Jul	656	Dinobryon sociale Ehrenberg || CHRYSO || 153.37	Rhizosolenia eriense H.L. Smith || DIATOMS || 124.27	Uroglena volvox Ehrenberg || CHRYSO || 105.62	Dinobryon sertularia Ehrenberg || CHRYSO || 61.62	Planctonema lauterbornii Schmidle || CHLORO || 38.36
		MEL-02-03	19-Jul	588	Rhizosolenia eriense H.L. Smith || DIATOMS || 121.84	Dinobryon sociale Ehrenberg || CHRYSO || 115.46	Dinobryon sertularia Ehrenberg || CHRYSO || 74.12	Uroglena volvox Ehrenberg || CHRYSO || 48.75	Chrysococcus sp. || CHRYSO || 38.99
		MEL-02-05	19-Jul	653	Dinobryon sociale Ehrenberg || CHRYSO || 158.09	Rhizosolenia eriense H.L. Smith || DIATOMS || 146.2	Uroglena volvox Ehrenberg || CHRYSO || 112.93	Dinobryon sertularia Ehrenberg || CHRYSO || 38.83	Synedra ulna (Nitzsch) Ehrenberg || DIATOMS || 35.28
		MEL-02-06	19-Jul	503	Rhizosolenia eriense H.L. Smith || DIATOMS || 116.35	Dinobryon sociale Ehrenberg || CHRYSO || 106.95	Uroglena volvox Ehrenberg || CHRYSO || 78.81	Dinobryon sertularia Ehrenberg || CHRYSO || 41.99	Synedra ulna (Nitzsch) Ehrenberg || DIATOMS || 38.71
		MEL-02-08	19-Jul	547	Dinobryon sociale Ehrenberg || CHRYSO || 136.96	Rhizosolenia eriense H.L. Smith || DIATOMS || 116.35	Uroglena volvox Ehrenberg || CHRYSO || 88.56	Dinobryon sertularia Ehrenberg || CHRYSO || 42.85	Synedra ulna (Nitzsch) Ehrenberg || DIATOMS || 36.26
	MEL-03	MEL-03-01	19-Jul	413	Rhizosolenia eriense H.L. Smith || DIATOMS || 109.65	Dinobryon sociale Ehrenberg || CHRYSO || 61.26	Dinobryon sertularia Ehrenberg || CHRYSO || 31.01	Peridinium limbatum (Stokes) Lemmermann || DINOFLG || 28.75	Chrysococcus sp. || CHRYSO || 24.9
		MEL-03-02	19-Jul	298	Rhizosolenia eriense H.L. Smith || DIATOMS || 70.66	Dinobryon sociale Ehrenberg || CHRYSO || 57.25	Dinobryon sertularia Ehrenberg || CHRYSO || 35.18	Synedra ulna (Nitzsch) Ehrenberg || DIATOMS || 20.58	Uroglena volvox Ehrenberg || CHRYSO || 12.18
		MEL-03-03	19-Jul	365	Rhizosolenia eriense H.L. Smith || DIATOMS || 113.31	Dinobryon sociale Ehrenberg || CHRYSO || 62.62	Peridinium limbatum (Stokes) Lemmermann || DINOFLG || 28.75	Dinobryon sertularia Ehrenberg || CHRYSO || 24.62	Synedra ulna (Nitzsch) Ehrenberg || DIATOMS || 24.01
		MEL-03-04	19-Jul	316	Rhizosolenia eriense H.L. Smith || DIATOMS || 65.79	Dinobryon sertularia Ehrenberg || CHRYSO || 38.01	Dinobryon sociale Ehrenberg || CHRYSO || 30.2	Synedra ulna (Nitzsch) Ehrenberg || DIATOMS || 26.95	Uroglena volvox Ehrenberg || CHRYSO || 25.18
		MEL-03-05	19-Jul	337	Uroglena volvox Ehrenberg || CHRYSO || 58.5	Rhizosolenia eriense H.L. Smith || DIATOMS || 46.29	Chrysochromulina laurentiana Kling || CHRYSO || 33.85	Gymnodinium helveticum Penard || DINOFLG || 23.56	Chrysococcus sp. || CHRYSO || 23.49
August	MEL-01	MEL-01-01	20-Aug	391	Uroglena volvox Ehrenberg || CHRYSO || 100.63	Cyclotella stelligera Cleve and Grunow || DIATOMS || 71.19	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 37.46	Stephanodiscus niagarae Ehrenberg || DIATOMS || 23.15	Dinobryon bavaricum Imhof || CHRYSO || 20.75
		MEL-01-06	20-Aug	549	Cyclotella stelligera Cleve and Grunow || DIATOMS || 119.45	Uroglena volvox Ehrenberg || CHRYSO || 118.62	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 53.58	Dinobryon sertularia Ehrenberg || CHRYSO || 53.06	Rhodomonas minuta Skuja || CRYPTO || 30.7
		MEL-01-07	20-Aug	413	Uroglena volvox Ehrenberg || CHRYSO || 142.18	Cyclotella stelligera Cleve and Grunow || DIATOMS || 43	Stephanodiscus niagarae Ehrenberg || DIATOMS || 35.3	Dinobryon sertularia Ehrenberg || CHRYSO || 28.38	Stichogloea sp. || CHRYSO || 26.01
		MEL-01-08	20-Aug	406	Cyclotella stelligera Cleve and Grunow || DIATOMS || 76.44	Uroglena volvox Ehrenberg || CHRYSO || 71.14	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 39.64	Dinobryon sertularia Ehrenberg || CHRYSO || 33.66	Stephanodiscus niagarae Ehrenberg || DIATOMS || 30.86
		MEL-01-09	20-Aug	377	Uroglena volvox Ehrenberg || CHRYSO || 121.06	Cyclotella stelligera Cleve and Grunow || DIATOMS || 59.72	Dinobryon sertularia Ehrenberg || CHRYSO || 29.98	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 19.38	Rhodomonas minuta Skuja || CRYPTO || 18.96
		MEL-01-10	20-Aug	335	Uroglena volvox Ehrenberg || CHRYSO || 64.18	Dinobryon bavaricum Imhof || CHRYSO || 49.37	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 45.3	Cyclotella stelligera Cleve and Grunow || DIATOMS || 33.44	Stichogloea sp. || CHRYSO || 27.46
	MEL-02	MEL-02-02	15-Aug	198	Cyclotella stelligera Cleve and Grunow || DIATOMS || 33.92	Gymnodinium helveticum Penard || DINOFLG || 26.61	Dinobryon sertularia Ehrenberg || CHRYSO || 23	Stephanodiscus niagarae Ehrenberg || DIATOMS || 13.89	Peridinium pusillum (Penard) Lemmermann || DINOFLG || 13.4
		MEL-02-03	15-Aug	300	Cyclotella stelligera Cleve and Grunow || DIATOMS || 56.38	Dinobryon bavaricum Imhof || CHRYSO || 29.82	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 26.57	Peridinium pusillum (Penard) Lemmermann || DINOFLG || 20.94	Stephanodiscus niagarae Ehrenberg || DIATOMS || 20.06
		MEL-02-05	15-Aug	258	Cyclotella stelligera Cleve and Grunow || DIATOMS || 45.86	Dinobryon bavaricum Imhof || CHRYSO || 28.19	Stephanodiscus niagarae Ehrenberg || DIATOMS || 27.78	Peridinium pusillum (Penard) Lemmermann || DINOFLG || 22.61	Rhodomonas minuta Skuja || CRYPTO || 18.96
		MEL-02-06	15-Aug	207	Cyclotella stelligera Cleve and Grunow || DIATOMS || 41.56	Dinobryon sertularia Ehrenberg || CHRYSO || 21.09	Dinobryon bavaricum Imhof || CHRYSO || 19.88	Stephanodiscus niagarae Ehrenberg || DIATOMS || 16.97	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 14.37
		MEL-02-08	15-Aug	235	Cyclotella stelligera Cleve and Grunow || DIATOMS || 47.78	Stephanodiscus niagarae Ehrenberg || DIATOMS || 23.15	Dinobryon sertularia Ehrenberg || CHRYSO || 22.75	Peridinium pusillum (Penard) Lemmermann || DINOFLG || 20.1	Rhodomonas minuta Skuja || CRYPTO || 17.15
	MEL-03	MEL-03-01	20-Aug	225	Dinobryon sertularia Ehrenberg || CHRYSO || 35.94	Cyclotella stelligera Cleve and Grunow || DIATOMS || 33.92	Dinobryon bavaricum Imhof || CHRYSO || 31.06	Chrysococcus sp. || CHRYSO || 18.79	Rhodomonas minuta Skuja || CRYPTO || 15.35
		MEL-03-02	20-Aug	198	Dinobryon bavaricum Imhof || CHRYSO || 32.69	Cyclotella stelligera Cleve and Grunow || DIATOMS || 23.89	Rhodomonas minuta Skuja || CRYPTO || 22.57	Chrysococcus sp. || CHRYSO || 15.03	Peridinium pusillum (Penard) Lemmermann || DINOFLG || 12.56
		MEL-03-03	20-Aug	272	Dinobryon bavaricum Imhof || CHRYSO || 58.69	Cyclotella stelligera Cleve and Grunow || DIATOMS || 31.53	Rhodomonas minuta Skuja || CRYPTO || 27.99	Planctonema lauterbornii Schmidle || CHLORO || 22.84	Chrysococcus sp. || CHRYSO || 19.26
		MEL-03-04	20-Aug	200	Dinobryon bavaricum Imhof || CHRYSO || 32.69	Chrysococcus sp. || CHRYSO || 22.08	Cyclotella stelligera Cleve and Grunow || DIATOMS || 19.58	Rhodomonas minuta Skuja || CRYPTO || 18.06	Cryptomonas erosa Ehrenberg || CRYPTO || 15.29
		MEL-03-05	20-Aug	208	Dinobryon bavaricum Imhof || CHRYSO || 52	Chrysococcus sp. || CHRYSO || 35.7	Rhodomonas minuta Skuja || CRYPTO || 18.96	Cyclotella stelligera Cleve and Grunow || DIATOMS || 14.33	Planctonema lauterbornii Schmidle || CHLORO || 12.69
	MEL-04	MEL-04-01	17-Aug	121	Cyclotella stelligera Cleve and Grunow || DIATOMS || 29.62	Dinobryon bavaricum Imhof || CHRYSO || 14.62	Stichogloea sp. || CHRYSO || 12.28	Dinobryon sertularia Ehrenberg || CHRYSO || 9.94	Rhodomonas minuta Skuja || CRYPTO || 9.03
		MEL-04-02	17-Aug	104	Cyclotella stelligera Cleve and Grunow || DIATOMS || 33.92	Stephanodiscus niagarae Ehrenberg || DIATOMS || 9.26	Chrysococcus sp. || CHRYSO || 7.98	Cryptomonas erosa Ehrenberg || CRYPTO || 5.69	Dinobryon sertularia Ehrenberg || CHRYSO || 5.25
		MEL-04-03	17-Aug	126	Cyclotella stelligera Cleve and Grunow || DIATOMS || 32.49	Stephanodiscus niagarae Ehrenberg || DIATOMS || 12.34	Dinobryon sertularia Ehrenberg || CHRYSO || 9.75	Chrysococcus sp. || CHRYSO || 9.39	Stichogloea sp. || CHRYSO || 6.86
		MEL-04-04	17-Aug	135	Cyclotella stelligera Cleve and Grunow || DIATOMS || 36.79	Oocystis lacustris Chodat || CHLORO || 13.84	Stichogloea sp. || CHRYSO || 11.56	Rhodomonas minuta Skuja || CRYPTO || 9.93	Dinobryon bavaricum Imhof || CHRYSO || 9.75
		MEL-04-05	17-Aug	127	Cyclotella stelligera Cleve and Grunow || DIATOMS || 23.41	Dinobryon bavaricum Imhof || CHRYSO || 19.69	Stichogloea sp. || CHRYSO || 11.2	Rhodomonas minuta Skuja || CRYPTO || 9.93	Cyclotella ocellata Pant. || DIATOMS || 8.99
	MEL-05	MEL-05-01	20-Aug	164	Cyclotella stelligera Cleve and Grunow || DIATOMS || 42.04	Stichogloea sp. || CHRYSO || 23.84	Dinobryon bavaricum Imhof || CHRYSO || 22.75	Chrysococcus sp. || CHRYSO || 16.44	Rhodomonas minuta Skuja || CRYPTO || 10.83
		MEL-05-02	20-Aug	235	Chrysococcus sp. || CHRYSO || 119.33	Cyclotella stelligera Cleve and Grunow || DIATOMS || 31.53	Dinobryon bavaricum Imhof || CHRYSO || 26	Stephanodiscus niagarae Ehrenberg || DIATOMS || 9.26	Dinobryon sertularia Ehrenberg || CHRYSO || 6.5
		MEL-05-03	20-Aug	147	Cyclotella stelligera Cleve and Grunow || DIATOMS || 35.83	Dinobryon bavaricum Imhof || CHRYSO || 16.44	Stichogloea sp. || CHRYSO || 14.81	Stephanodiscus niagarae Ehrenberg || DIATOMS || 9.26	Chrysococcus sp. || CHRYSO || 8.45
		MEL-05-04	20-Aug	148	Cyclotella stelligera Cleve and Grunow || DIATOMS || 52.55	Chrysococcus sp. || CHRYSO || 16.91	Rhodomonas minuta Skuja || CRYPTO || 10.83	Elakatothrix gelatinosa Willen || CHLORO || 7.89	Peridinium pusillum (Penard) Lemmermann || DINOFLG || 6.7
		MEL-05-05	20-Aug	344	Cryptomonas erosa Ehrenberg || CRYPTO || 178.9	Cyclotella stelligera Cleve and Grunow || DIATOMS || 31.53	Dinobryon bavaricum Imhof || CHRYSO || 26	Stichogloea sp. || CHRYSO || 19.87	Chrysococcus sp. || CHRYSO || 14.56
September	MEL-01	MEL-01-01	9-Sep	559	Cyclotella stelligera Cleve and Grunow || DIATOMS || 107.98	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 85.82	Stephanodiscus niagarae Ehrenberg || DIATOMS || 81.19	Dinobryon sociale Ehrenberg || CHRYSO || 27.14	Chrysococcus sp. || CHRYSO || 26.78
		MEL-01-06	9-Sep	439	Cyclotella stelligera Cleve and Grunow || DIATOMS || 77.4	Chrysococcus sp. || CHRYSO || 37.11	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 34.41	Stephanodiscus niagarae Ehrenberg || DIATOMS || 33.81	Chrysochromulina laurentiana Kling || CHRYSO || 32.9
		MEL-01-07	9-Sep	564	Cyclotella stelligera Cleve and Grunow || DIATOMS || 108.93	Stephanodiscus niagarae Ehrenberg || DIATOMS || 71.6	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 52.49	Chrysococcus sp. || CHRYSO || 52.15	Chrysochromulina laurentiana Kling || CHRYSO || 43.87
		MEL-01-08	9-Sep	451	Cyclotella stelligera Cleve and Grunow || DIATOMS || 85.04	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 66.43	Stephanodiscus niagarae Ehrenberg || DIATOMS || 61.66	Dinobryon bavaricum Imhof || CHRYSO || 30	Chrysococcus sp. || CHRYSO || 29.59
		MEL-01-09	9-Sep	589	Cyclotella stelligera Cleve and Grunow || DIATOMS || 104.16	Stephanodiscus niagarae Ehrenberg || DIATOMS || 73.59	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 65.12	Dinobryon bavaricum Imhof || CHRYSO || 60.5	Planctonema lauterbornii Schmidle || CHLORO || 53.31
		MEL-01-10	9-Sep	545	Cyclotella stelligera Cleve and Grunow || DIATOMS || 85.04	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 60.55	Chrysochromulina laurentiana Kling || CHRYSO || 54.84	Chrysococcus sp. || CHRYSO || 45.1	Dinobryon bavaricum Imhof || CHRYSO || 42.62
	MEL-02	MEL-02-02	10-Sep	338	Chrysococcus sp. || CHRYSO || 52.62	Cyclotella stelligera Cleve and Grunow || DIATOMS || 43	Chrysochromulina laurentiana Kling || CHRYSO || 38.38	Dinobryon bavaricum Imhof || CHRYSO || 33.03	Dinobryon sertularia Ehrenberg || CHRYSO || 27.99
		MEL-02-03	10-Sep	320	Cyclotella stelligera Cleve and Grunow || DIATOMS || 48.25	Dinobryon bavaricum Imhof || CHRYSO || 45.91	Large chrysophyceae || CHRYSO || 29.67	Chrysococcus sp. || CHRYSO || 27.25	Stephanodiscus niagarae Ehrenberg || DIATOMS || 22.61
		MEL-02-05	10-Sep	233	Dinobryon bavaricum Imhof || CHRYSO || 36.75	Chrysococcus sp. || CHRYSO || 31.94	Cyclotella stelligera Cleve and Grunow || DIATOMS || 31.53	Tabellaria fenestrata (Lyngbye) Kutzing || DIATOMS || 18.95	Stephanodiscus niagarae Ehrenberg || DIATOMS || 11.93
		MEL-02-06	10-Sep	230	Cyclotella stelligera Cleve and Grunow || DIATOMS || 51.12	Dinobryon bavaricum Imhof || CHRYSO || 24.25	Stephanodiscus niagarae Ehrenberg || DIATOMS || 23.81	Chrysochromulina laurentiana Kling || CHRYSO || 21.93	Chrysococcus sp. || CHRYSO || 20.2
		MEL-02-08	10-Sep	259	Dinobryon bavaricum Imhof || CHRYSO || 43.75	Chrysochromulina laurentiana Kling || CHRYSO || 38.38	Planctonema lauterbornii Schmidle || CHLORO || 30.46	Cyclotella stelligera Cleve and Grunow || DIATOMS || 27.23	Chrysococcus sp. || CHRYSO || 22.55
	MEL-03	MEL-03-01	9-Sep	171	Cyclotella stelligera Cleve and Grunow || DIATOMS || 24.36	Chrysococcus sp. || CHRYSO || 21.61	Dinobryon bavaricum Imhof || CHRYSO || 15	Dinobryon sociale Ehrenberg || CHRYSO || 13.63	Gymnodinium sp. || DINOFLG || 11.58
		MEL-03-02	9-Sep	180	Cyclotella stelligera Cleve and Grunow || DIATOMS || 39.65	Dinobryon sociale Ehrenberg || CHRYSO || 29.44	Chrysococcus sp. || CHRYSO || 28.65	Gymnodinium sp. || DINOFLG || 12.7	Chrysochromulina laurentiana Kling || CHRYSO || 8.22
		MEL-03-03	9-Sep	218	Cyclotella stelligera Cleve and Grunow || DIATOMS || 44.91	Dinobryon sociale Ehrenberg || CHRYSO || 39	Stephanodiscus niagarae Ehrenberg || DIATOMS || 19.89	Chrysochromulina laurentiana Kling || CHRYSO || 16.45	Dinobryon bavaricum Imhof || CHRYSO || 13.87
		MEL-03-04	9-Sep	185	Dinobryon sociale Ehrenberg || CHRYSO || 34.12	Cyclotella stelligera Cleve and Grunow || DIATOMS || 27.23	Chrysococcus sp. || CHRYSO || 23.96	Chrysochromulina laurentiana Kling || CHRYSO || 19.19	Stephanodiscus niagarae Ehrenberg || DIATOMS || 17.9
		MEL-03-05	9-Sep	151	Cyclotella stelligera Cleve and Grunow || DIATOMS || 32.01	Chrysococcus sp. || CHRYSO || 20.2	Dinobryon sociale Ehrenberg || CHRYSO || 19.5	Planctonema lauterbornii Schmidle || CHLORO || 10.15	Stephanodiscus niagarae Ehrenberg || DIATOMS || 9.94

Notes

Dominant taxa information includes the species || major taxonomic group || biomass (mg/m^3)

Appendix E2
2025 Phytoplankton Taxonomy and Chlorophyll-a Lab Reports

UNIVERSITY OF ALBERTA
Biogeochemical Analytical Service Laboratory

Analytical Report

Date Reported On: October 28, 2025

ATTN: Randy Schwandt

Reported To: Agnico Eagle

Date Received: September 15, 2025

Project Name: AEM Meliadine 2025
Client Name: Agnico Eagle
Supervisor: Randy Schwandt
Billing Address or Speed Code:
Rankin Inlet, NU, CAN, X0C 0G0

Other Information:

Comments:
- 280554: Chlorophyll A sample was missing upon arrival.

Reviewed by: 

Alvin Kwan, BSc.
Quality Assurance Officer

Approved by: 

Mingsheng Ma, Ph. D
Laboratory Manager

RESULTS RELAY TO SAMPLE AS RECEIVED. THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

UNIVERSITY OF ALBERTA
Biogeochemical Analytical Service Laboratory

Algae Parameters

UA-BASL Sample ID	Received Date	Sample Description	Sampling Date	**Chlorophyll-a (µg/L)**	Analyzed Date	Qualifier
280510	09/18/2025	MEL-01-01-PC	07/12/2025	2.71	10/08/2025	
280511	09/18/2025	MEL-01-06-PC	07/12/2025	2.64	10/08/2025	
280512	09/18/2025	MEL-01-07-PC	07/12/2025	2.51	10/08/2025	
280513	09/18/2025	MEL-01-08-PC	07/12/2025	2.51	10/08/2025	
280514	09/18/2025	MEL-01-09-PC	07/12/2025	2.69	10/08/2025	
280515	09/18/2025	MEL-01-10-PC	07/12/2025	2.03	10/08/2025	
280516	09/18/2025	MEL-02-02-PC	07/19/2025	1.74	10/08/2025	
280517	09/18/2025	MEL-02-03-PC	07/19/2025	1.52	10/08/2025	
280518	09/18/2025	MEL-02-05-PC	07/19/2025	1.28	10/08/2025	
280519	09/18/2025	MEL-02-06-PC	07/19/2025	1.26	10/08/2025	
280520	09/18/2025	MEL-02-08-PC	07/19/2025	1.34	10/08/2025	
280521	09/18/2025	MEL-03-01-PC	07/18/2025	0.11	10/08/2025	
280522	09/18/2025	MEL-03-02-PC	07/18/2025	0.47	10/08/2025	
280523	09/18/2025	MEL-03-03-PC	07/18/2025	<0.04	10/08/2025	
280524	09/18/2025	MEL-03-04-PC	07/18/2025	0.13	10/08/2025	
280525	09/18/2025	MEL-03-05-PC	07/18/2025	0.07	10/08/2025	
280526	09/18/2025	DUP-MEL-JUL-01-PC	07/19/2025	1.11	10/08/2025	
280527	09/18/2025	DUP-MEL-JUL-02-PC	07/12/2025	3.25	10/08/2025	
280528	09/18/2025	MEL-01-01-PC	08/12/2025	2.92	10/08/2025	
280529	09/18/2025	MEL-01-06-PC	08/12/2025	2.11	10/08/2025	
280530	09/18/2025	MEL-01-07-PC	08/12/2025	2.34	10/08/2025	
280531	09/18/2025	MEL-01-08-PC	08/12/2025	2.60	10/08/2025	
280532	09/18/2025	MEL-01-09-PC	08/12/2025	1.92	10/08/2025	
280533	09/18/2025	MEL-01-10-PC	08/12/2025	1.64	10/08/2025	
280534	09/18/2025	MEL-02-02-PC	08/15/2025	0.65	10/08/2025	
280535	09/18/2025	MEL-02-03-PC	08/15/2025	0.62	10/08/2025	
280536	09/18/2025	MEL-02-05-PC	08/15/2025	0.80	10/08/2025	
280537	09/18/2025	MEL-02-06-PC	08/15/2025	0.79	10/08/2025	
280538	09/18/2025	MEL-02-08-PC	08/15/2025	0.99	10/08/2025	
280539	09/18/2025	MEL-03-01-PC	08/16/2025	0.20	10/08/2025	
280540	09/18/2025	MEL-03-02-PC	08/16/2025	0.14	10/08/2025	
280541	09/18/2025	MEL-03-03-PC	08/16/2025	0.12	10/08/2025	
280542	09/18/2025	MEL-03-04-PC	08/16/2025	0.07	10/08/2025	
		Reportable Detection Limit (µg/L)		0.04		

UNIVERSITY OF ALBERTA
Biogeochemical Analytical Service Laboratory

UA-BASL Sample ID	Received Date	Sample Description	Sampling Date	**Chlorophyll-a (µg/L)**	Analyzed Date	Qualifier
280543	09/18/2025	MEL-03-05-PC	08/16/2025	0.13	10/08/2025	
280544	09/18/2025	MEL-04-01-PC	08/17/2025	0.05	10/08/2025	
280545	09/18/2025	MEL-04-02-PC	08/17/2025	<0.04	10/08/2025	
280546	09/18/2025	MEL-04-03-PC	08/17/2025	0.12	10/08/2025	
280547	09/18/2025	MEL-04-04-PC	08/17/2025	0.08	10/08/2025	
280548	09/18/2025	MEL-04-05-PC	08/17/2025	0.07	10/08/2025	
280549	09/18/2025	MEL-05-01-PC	08/17/2025	<0.04	10/08/2025	
280550	09/18/2025	MEL-05-02-PC	08/17/2025	<0.04	10/08/2025	
280551	09/18/2025	MEL-05-03-PC	08/17/2025	0.06	10/08/2025	
280552	09/18/2025	MEL-05-04-PC	08/17/2025	<0.04	10/08/2025	
280553	09/18/2025	MEL-05-05-PC	08/17/2025	0.11	10/08/2025	
280554	09/18/2025	DUP-MEL-AUG-01-PC	08/17/2025	N/A	N/A	SS
280555	09/18/2025	DUP-MEL-AUG-02-PC	08/12/2025	2.02	10/08/2025	
280556	09/18/2025	DUP-MEL-AUG-03-PC	08/17/2025	<0.04	10/08/2025	
280557	09/18/2025	MEL-01-01-PC	09/08/2025	2.52	10/08/2025	
280558	09/18/2025	MEL-01-06-PC	09/08/2025	2.81	10/08/2025	
280559	09/18/2025	MEL-01-07-PC	09/08/2025	2.63	10/08/2025	
280560	09/18/2025	MEL-01-08-PC	09/08/2025	2.32	10/08/2025	
280561	09/18/2025	MEL-01-09-PC	09/08/2025	2.60	10/08/2025	
280562	09/18/2025	MEL-01-10-PC	09/08/2025	2.50	10/08/2025	
280563	09/18/2025	MEL-02-02-PC	09/10/2025	1.16	10/08/2025	
280564	09/18/2025	MEL-02-03-PC	09/10/2025	1.49	10/08/2025	
280565	09/18/2025	MEL-02-05-PC	09/10/2025	1.19	10/08/2025	
280566	09/18/2025	MEL-02-06-PC	09/10/2025	1.25	10/08/2025	
280567	09/18/2025	MEL-02-08-PC	09/10/2025	1.04	10/08/2025	
280568	09/18/2025	MEL-03-01-PC	09/09/2025	0.32	10/08/2025	
280569	09/18/2025	MEL-03-02-PC	09/09/2025	0.35	10/08/2025	
280570	09/18/2025	MEL-03-03-PC	09/09/2025	0.38	10/08/2025	
280571	09/18/2025	MEL-03-04-PC	09/09/2025	0.27	10/08/2025	
280572	09/18/2025	MEL-03-05-PC	09/09/2025	0.39	10/08/2025	
280573	09/18/2025	DUP-MEL-SEP-01-PC	09/08/2025	0.22	10/08/2025	
		Reportable Detection Limit (µg/L)		0.04		

* SS - SAMPLE IS NOT SUBMITTED TO THE LABORATORY



UNIVERSITY OF ALBERTA

Biogeochemical Analytical Service Laboratory

UA-BASL Sample ID	Received Date	Sample Description	Sampling Date	**Chlorophyll-a (µg/L)**	Analyzed Date	Qualifier
280574	09/18/2025	DUP-MEL-SEP-02-PC	09/09/2025	2.55	10/08/2025	
281051	09/18/2025	PL-01	08/15/2025	0.17	10/08/2025	
281052	09/18/2025	PL-02	08/15/2025	0.07	10/08/2025	
281053	09/18/2025	PL-03	08/15/2025	0.17	10/08/2025	
281054	09/18/2025	PL-FB	08/15/2025	<0.04	10/08/2025	
281055	09/18/2025	EB-AUG-01	08/16/2025	<0.04	10/08/2025	
281056	09/18/2025	MEL-03-01 FB	08/16/2025	0.14	10/08/2025	
281057	09/18/2025	AL-01	08/20/2025	0.51	10/08/2025	
281058	09/18/2025	AL-02	08/20/2025	0.43	10/08/2025	
281059	09/18/2025	AL-03	08/20/2025	0.42	10/08/2025	
		Reportable Detection Limit (µg/L)		0.04		

Biogeochemical Analytical Service Laboratory
2-255, Centennial Center for Interdisciplinary Science, University of Alberta, Edmonton, AB T6G 2E1
Tel: (780) 492-5497 Fax: (780) 248-5861 www.biology.ualberta.ca/BASL

UNIVERSITY OF ALBERTA
Biogeochemical Analytical Service Laboratory

Method of Analysis

Laboratory Method	Reference	Method	Instrument
Determination of Chlorophyll a in Water by Fluorometry	*Welschmeyer, N.A. 1994. Fluorometric Analysis of chlorophyll a in the presence of chlorophyll b and pheopigments. Limnol. Oceanogr., 39(8), 1994, 1985-1992. (Modified)		Agilent Eclipse fluorescence spectrophotometer

* REFERENCE METHOD MODIFIED.

Phytoplankton species data for Meliadine 2025 (Azimuth Consulting Group)

** 1st number in **species code** = group 1=cyanophyte 2=chlorophyte
3= Euglenophyte 4=chrysophyte 5=diatoms 6=Cryptophyte 7=Dinoflagellates

***RECOUNT = QA\QC sample

** total daily biomass is sum of all species on a date.

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume $µ^3$
MEL - 0101	12-Jul-25	2260	Monomastix minuta Skuja	7184	0.14	6.20	3.00	19.50
MEL - 0101	12-Jul-25	4351	Small chrysophyceae	172416	1.59	2.60	2.60	9.20
MEL - 0101	12-Jul-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0101	12-Jul-25	4357	Chrysococcus sp.	359200	23.49	5.00	5.00	65.40
MEL - 0101	12-Jul-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0101	12-Jul-25	4362	Kephyrion sp.	86208	1.22	3.00	3.00	14.10
MEL - 0101	12-Jul-25	4378	Dinobryon borgei Lemmermann	71840	3.05	9.00	3.00	42.40
MEL - 0101	12-Jul-25	4383	Dinobryon bavaricum Imhof	1000	1.25	0.00	0.00	1250.00
MEL - 0101	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	50288	11.38	12.00	6.00	226.20
MEL - 0101	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	3000	3.75	0.00	0.00	1250.00
MEL - 0101	12-Jul-25	4390	Dinobryon sociale Ehrenberg	380752	86.13	12.00	6.00	226.20
MEL - 0101	12-Jul-25	4390	Dinobryon sociale Ehrenberg	4000	3.80	0.00	0.00	950.00
MEL - 0101	12-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	21552	0.59	5.80	3.00	27.30
MEL - 0101	12-Jul-25	4401	Uroglena volvox Ehrenberg	215520	24.38	6.00	6.00	113.10
MEL - 0101	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1400	3.34	11.50	23.00	2389.00
MEL - 0101	12-Jul-25	5508	Cyclotella pseudostelligera	35920	19.35	7.00	14.00	538.80
MEL - 0101	12-Jul-25	5509	Cyclotella ocellata Pant.	7184	0.72	4.00	8.00	100.50
MEL - 0101	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	272992	23.15	12.00	3.00	84.80
MEL - 0101	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3800	2.87	80.00	6.00	754.00
MEL - 0101	12-Jul-25	5518	Synedra acus Kutzing	1200	0.14	115.00	2.00	120.40
MEL - 0101	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	2200	5.39	260.00	6.00	2450.40
MEL - 0101	12-Jul-25	5524	Asterionella formosa Hassall	34600	3.62	100.00	2.00	104.70
MEL - 0101	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0101	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	35920	0.78	2.40	4.80	21.70
MEL - 0101	12-Jul-25	6554	Rhodomonas minuta Skuja	71840	9.03	10.00	6.00	125.70
MEL - 0101	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	7200	13.30	27.00	14.00	1847.30
MEL - 0101	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	1200	2.87	35.00	14.00	2394.60
MEL - 0101	12-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0101	12-Jul-25	7632	Gymnodinium sp.	1000	6.37	23.00	23.00	6370.60
MEL - 0101	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	800	3.30	19.90	19.90	4126.30
MEL - 0101	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	1000	9.05	30.00	24.00	9047.80
MEL - 0106	12-Jul-25	2105	Chlamydomonas spp.	21552	0.35	5.00	2.50	16.40
MEL - 0106	12-Jul-25	2112	Sphaerocystis schroeteri Chodat	28736	0.45	3.10	3.10	15.60
MEL - 0106	12-Jul-25	2132	Scenedesmus denticulatus Lagerhiem	28736	1.22	7.60	4.00	42.40
MEL - 0106	12-Jul-25	2169	Planctonema lauterbornii Schmidle	14368	4.51	16.00	5.00	314.20
MEL - 0106	12-Jul-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0106	12-Jul-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	200	0.50	25.00	23.00	2508.90
MEL - 0106	12-Jul-25	4351	Small chrysophyceae	330464	3.04	2.60	2.60	9.20
MEL - 0106	12-Jul-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - 0106	12-Jul-25	4355	Chrysochromulina parva Lackey	28736	1.88	5.00	5.00	65.40
MEL - 0106	12-Jul-25	4357	Chrysococcus sp.	431040	28.19	5.00	5.00	65.40
MEL - 0106	12-Jul-25	4362	Kephyrion sp.	93392	1.32	3.00	3.00	14.10
MEL - 0106	12-Jul-25	4378	Dinobryon borgei Lemmermann	71840	3.05	9.00	3.00	42.40
MEL - 0106	12-Jul-25	4383	Dinobryon bavaricum Imhof	200	0.25	0.00	0.00	1250.00
MEL - 0106	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	114944	26.00	12.00	6.00	226.20
MEL - 0106	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	1600	2.00	0.00	0.00	1250.00
MEL - 0106	12-Jul-25	4390	Dinobryon sociale Ehrenberg	481328	108.88	12.00	6.00	226.20
MEL - 0106	12-Jul-25	4390	Dinobryon sociale Ehrenberg	4400	4.18	0.00	0.00	950.00
MEL - 0106	12-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	50288	1.37	5.80	3.00	27.30
MEL - 0106	12-Jul-25	4401	Uroglena volvox Ehrenberg	272992	30.88	6.00	6.00	113.10
MEL - 0106	12-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0106	12-Jul-25	4414	Stichogloea spp.	7184	0.36	6.00	4.00	50.30
MEL - 0106	12-Jul-25	4436	Dinobryon attenuatum Hill	14368	2.71	10.00	6.00	188.50
MEL - 0106	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1800	4.30	11.50	23.00	2389.00
MEL - 0106	12-Jul-25	5508	Cyclotella pseudostelligera	7184	3.87	7.00	14.00	538.80
MEL - 0106	12-Jul-25	5509	Cyclotella ocellata Pant.	57472	5.78	4.00	8.00	100.50
MEL - 0106	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	581904	49.35	12.00	3.00	84.80
MEL - 0106	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	7600	5.73	80.00	6.00	754.00
MEL - 0106	12-Jul-25	5515	Fragilaria crotonensis Kitton	1200	0.36	71.00	4.00	297.40
MEL - 0106	12-Jul-25	5518	Synedra acus Kutzing	8800	1.06	115.00	2.00	120.40
MEL - 0106	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	4600	11.27	260.00	6.00	2450.40
MEL - 0106	12-Jul-25	5524	Asterionella formosa Hassall	73600	7.71	100.00	2.00	104.70
MEL - 0106	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0106	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	21552	0.47	2.40	4.80	21.70
MEL - 0106	12-Jul-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - 0106	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	9200	17.00	27.00	14.00	1847.30
MEL - 0106	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	1600	3.83	35.00	14.00	2394.60
MEL - 0106	12-Jul-25	7631	Gymnodinium helveticum Penard	800	18.85	50.00	30.00	23561.90
MEL - 0106	12-Jul-25	7632	Gymnodinium sp.	2600	21.27	25.00	25.00	8181.20
MEL - 0106	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1400	5.78	19.90	19.90	4126.30
MEL - 0106	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	1600	14.48	30.00	24.00	9047.80
MEL - 0107	12-Jul-25	2105	Chlamydomonas spp.	7184	0.17	5.00	3.00	23.60
MEL - 0107	12-Jul-25	2169	Planctonema lauterbornii Schmidle	35920	12.69	18.00	5.00	353.40
MEL - 0107	12-Jul-25	4351	Small chrysophyceae	43104	0.40	2.60	2.60	9.20
MEL - 0107	12-Jul-25	4352	Large chrysophyceae	43104	7.74	7.00	7.00	179.60
MEL - 0107	12-Jul-25	4357	Chrysococcus sp.	43104	2.82	5.00	5.00	65.40
MEL - 0107	12-Jul-25	4362	Kephyrion sp.	100576	1.42	3.00	3.00	14.10
MEL - 0107	12-Jul-25	4383	Dinobryon bavaricum Imhof	725584	164.13	12.00	6.00	226.20

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0107	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0107	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	2200	2.75	0.00	0.00	1250.00
MEL - 0107	12-Jul-25	4390	Dinobryon sociale Ehrenberg	6800	8.50	0.00	0.00	1250.00
MEL - 0107	12-Jul-25	4401	Uroglena volvox Ehrenberg	50288	5.69	6.00	6.00	113.10
MEL - 0107	12-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0107	12-Jul-25	4436	Dinobryon attenuatum Hill	14368	2.71	10.00	6.00	188.50
MEL - 0107	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1400	3.34	11.50	23.00	2389.00
MEL - 0107	12-Jul-25	5508	Cyclotella pseudostelligera	43104	23.22	7.00	14.00	538.80
MEL - 0107	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	725584	61.53	12.00	3.00	84.80
MEL - 0107	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	2400	1.81	80.00	6.00	754.00
MEL - 0107	12-Jul-25	5518	Synedra acus Kutzing	5400	0.65	115.00	2.00	120.40
MEL - 0107	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1400	3.43	260.00	6.00	2450.40
MEL - 0107	12-Jul-25	5524	Asterionella formosa Hassall	21400	2.24	100.00	2.00	104.70
MEL - 0107	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0107	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	7184	0.16	2.40	4.80	21.70
MEL - 0107	12-Jul-25	6554	Rhodomonas minuta Skuja	43104	5.42	10.00	6.00	125.70
MEL - 0107	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	4000	7.39	27.00	14.00	1847.30
MEL - 0107	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	200	0.48	35.00	14.00	2394.60
MEL - 0107	12-Jul-25	7632	Gymnodinium sp.	800	5.10	23.00	23.00	6370.60
MEL - 0107	12-Jul-25	7637	Peridinium limbatum (Stokes) Lemmermann	400	57.52	65.00	65.00	143793.30
MEL - 0107	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1600	6.60	19.90	19.90	4126.30
MEL - 0107	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	600	5.43	30.00	24.00	9047.80
MEL - 0108	12-Jul-25	4351	Small chrysophyceae	416672	3.83	2.60	2.60	9.20
MEL - 0108	12-Jul-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0108	12-Jul-25	4355	Chrysochromulina parva Lackey	100576	6.58	5.00	5.00	65.40
MEL - 0108	12-Jul-25	4357	Chrysococcus sp.	862080	56.38	5.00	5.00	65.40
MEL - 0108	12-Jul-25	4358	Chrysostephanosphaera globulifera Scherffel	21552	6.00	8.10	8.10	278.30
MEL - 0108	12-Jul-25	4362	Kephyrion sp.	100576	1.42	3.00	3.00	14.10
MEL - 0108	12-Jul-25	4378	Dinobryon borgei Lemmermann	35920	1.52	9.00	3.00	42.40
MEL - 0108	12-Jul-25	4383	Dinobryon bavaricum Imhof	1000	1.25	0.00	0.00	1250.00
MEL - 0108	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	28736	6.50	12.00	6.00	226.20
MEL - 0108	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	2400	3.00	0.00	0.00	1250.00
MEL - 0108	12-Jul-25	4390	Dinobryon sociale Ehrenberg	610640	138.13	12.00	6.00	226.20
MEL - 0108	12-Jul-25	4390	Dinobryon sociale Ehrenberg	5200	4.94	0.00	0.00	950.00
MEL - 0108	12-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0108	12-Jul-25	4401	Uroglena volvox Ehrenberg	739952	83.69	6.00	6.00	113.10
MEL - 0108	12-Jul-25	4413	Chrysochromulina laurentiana Kling	50288	19.84	9.10	9.10	394.60
MEL - 0108	12-Jul-25	4414	Stichogloea spp.	21552	1.08	6.00	4.00	50.30
MEL - 0108	12-Jul-25	4436	Dinobryon attenuatum Hill	79024	14.90	10.00	6.00	188.50
MEL - 0108	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	800	1.91	11.50	23.00	2389.00
MEL - 0108	12-Jul-25	5508	Cyclotella pseudostelligera	7184	3.87	7.00	14.00	538.80
MEL - 0108	12-Jul-25	5509	Cyclotella ocellata Pant.	35920	3.61	4.00	8.00	100.50
MEL - 0108	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	646560	54.83	12.00	3.00	84.80
MEL - 0108	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	2800	2.11	80.00	6.00	754.00
MEL - 0108	12-Jul-25	5518	Synedra acus Kutzing	14800	1.78	115.00	2.00	120.40
MEL - 0108	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	7000	17.15	260.00	6.00	2450.40
MEL - 0108	12-Jul-25	5524	Asterionella formosa Hassall	81800	8.56	100.00	2.00	104.70
MEL - 0108	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0108	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	21552	0.47	2.40	4.80	21.70
MEL - 0108	12-Jul-25	6554	Rhodomonas minuta Skuja	100576	12.64	10.00	6.00	125.70
MEL - 0108	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	18400	33.99	27.00	14.00	1847.30
MEL - 0108	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	2600	6.23	35.00	14.00	2394.60
MEL - 0108	12-Jul-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0108	12-Jul-25	7632	Gymnodinium sp.	1000	6.37	23.00	23.00	6370.60
MEL - 0108	12-Jul-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.49	35.00	35.00	22449.30
MEL - 0108	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	800	3.30	19.90	19.90	4126.30
MEL - 0108	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	1800	16.29	30.00	24.00	9047.80
MEL - 0108R	12-Jul-25	2105	Chlamydomonas spp.	7184	0.14	5.00	2.70	19.10
MEL - 0108R	12-Jul-25	4351	Small chrysophyceae	294544	2.71	2.60	2.60	9.20
MEL - 0108R	12-Jul-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0108R	12-Jul-25	4355	Chrysochromulina parva Lackey	57472	3.76	5.00	5.00	65.40
MEL - 0108R	12-Jul-25	4357	Chrysococcus sp.	941104	61.55	5.00	5.00	65.40
MEL - 0108R	12-Jul-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0108R	12-Jul-25	4362	Kephyrion sp.	114944	1.62	3.00	3.00	14.10
MEL - 0108R	12-Jul-25	4378	Dinobryon borgei Lemmermann	35920	1.52	9.00	3.00	42.40
MEL - 0108R	12-Jul-25	4383	Dinobryon bavaricum Imhof	43104	9.75	12.00	6.00	226.20
MEL - 0108R	12-Jul-25	4383	Dinobryon bavaricum Imhof	1800	2.25	0.00	0.00	1250.00
MEL - 0108R	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	64656	14.63	12.00	6.00	226.20
MEL - 0108R	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	2000	2.50	0.00	0.00	1250.00
MEL - 0108R	12-Jul-25	4390	Dinobryon sociale Ehrenberg	545984	123.50	12.00	6.00	226.20
MEL - 0108R	12-Jul-25	4390	Dinobryon sociale Ehrenberg	6800	6.46	0.00	0.00	950.00
MEL - 0108R	12-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	14368	0.39	5.80	3.00	27.30
MEL - 0108R	12-Jul-25	4401	Uroglena volvox Ehrenberg	811792	91.81	6.00	6.00	113.10
MEL - 0108R	12-Jul-25	4413	Chrysochromulina laurentiana Kling	14368	5.67	9.10	9.10	394.60
MEL - 0108R	12-Jul-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	14368	0.39	5.80	3.00	27.30
MEL - 0108R	12-Jul-25	4436	Dinobryon attenuatum Hill	14368	2.71	10.00	6.00	188.50
MEL - 0108R	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1200	2.87	11.50	23.00	2389.00
MEL - 0108R	12-Jul-25	5509	Cyclotella ocellata Pant.	28736	2.89	4.00	8.00	100.50
MEL - 0108R	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	610640	51.78	12.00	3.00	84.80
MEL - 0108R	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	5400	4.07	80.00	6.00	754.00
MEL - 0108R	12-Jul-25	5518	Synedra acus Kutzing	15800	1.90	115.00	2.00	120.40
MEL - 0108R	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	86200	9.03	100.00	2.00	104.70
MEL - 0108R	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	5400	13.23	260.00	6.00	2450.40
MEL - 0108R	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	400	3.37	17.50	35.00	8418.50
MEL - 0108R	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	7184	0.16	2.40	4.80	21.70
MEL - 0108R	12-Jul-25	6554	Rhodomonas minuta Skuja	79024	9.93	10.00	6.00	125.70
MEL - 0108R	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	21200	39.16	27.00	14.00	1847.30
MEL - 0108R	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	1800	4.31	35.00	14.00	2394.60
MEL - 0108R	12-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0108R	12-Jul-25	7632	Gymnodinium sp.	1000	6.37	23.00	23.00	6370.60
MEL - 0108R	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1000	4.13	19.90	19.90	4126.30
MEL - 0108R	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	1200	10.86	30.00	24.00	9047.80
MEL - 0109	12-Jul-25	2112	Sphaerocystis schroeteri Chodat	43104	0.61	3.00	3.00	14.10
MEL - 0109	12-Jul-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - 0109	12-Jul-25	2169	Planctonema lauterbornii Schmidle	7184	2.26	16.00	5.00	314.20
MEL - 0109	12-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0109	12-Jul-25	4351	Small chrysophyceae	272992	2.51	2.60	2.60	9.20
MEL - 0109	12-Jul-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0109	12-Jul-25	4355	Chrysochromulina parva Lackey	21552	1.41	5.00	5.00	65.40
MEL - 0109	12-Jul-25	4357	Chrysococcus sp.	222704	14.56	5.00	5.00	65.40
MEL - 0109	12-Jul-25	4362	Kephyrion sp.	186784	2.63	3.00	3.00	14.10
MEL - 0109	12-Jul-25	4378	Dinobryon borgei Lemmermann	50288	2.13	9.00	3.00	42.40
MEL - 0109	12-Jul-25	4383	Dinobryon bavaricum Imhof	28736	6.50	12.00	6.00	226.20
MEL - 0109	12-Jul-25	4383	Dinobryon bavaricum Imhof	400	0.50	0.00	0.00	1250.00
MEL - 0109	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0109	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	800	1.00	0.00	0.00	1250.00
MEL - 0109	12-Jul-25	4390	Dinobryon sociale Ehrenberg	531616	120.25	12.00	6.00	226.20
MEL - 0109	12-Jul-25	4390	Dinobryon sociale Ehrenberg	4000	3.80	0.00	0.00	950.00
MEL - 0109	12-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0109	12-Jul-25	4401	Uroglena volvox Ehrenberg	316096	35.75	6.00	6.00	113.10
MEL - 0109	12-Jul-25	4413	Chrysochromulina laurentiana Kling	21552	8.23	9.00	9.00	381.70
MEL - 0109	12-Jul-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	21552	0.59	5.80	3.00	27.30
MEL - 0109	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1200	2.87	11.50	23.00	2389.00
MEL - 0109	12-Jul-25	5508	Cyclotella pseudostelligera	7184	3.87	7.00	14.00	538.80
MEL - 0109	12-Jul-25	5509	Cyclotella ocellata Pant.	50288	5.05	4.00	8.00	100.50
MEL - 0109	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	488512	41.43	12.00	3.00	84.80
MEL - 0109	12-Jul-25	5518	Synedra acus Kutzing	7200	0.87	115.00	2.00	120.40
MEL - 0109	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	2400	5.88	260.00	6.00	2450.40
MEL - 0109	12-Jul-25	5524	Asterionella formosa Hassall	57000	5.97	100.00	2.00	104.70
MEL - 0109	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0109	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	21552	0.47	2.40	4.80	21.70
MEL - 0109	12-Jul-25	6554	Rhodomonas minuta Skuja	57472	7.22	10.00	6.00	125.70
MEL - 0109	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	9400	17.36	27.00	14.00	1847.30
MEL - 0109	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	1000	2.39	35.00	14.00	2394.60
MEL - 0109	12-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0109	12-Jul-25	7632	Gymnodinium sp.	800	5.79	24.00	24.00	7238.20
MEL - 0109	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1400	5.78	19.90	19.90	4126.30
MEL - 0109	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	600	5.43	30.00	24.00	9047.80
MEL - 0110	12-Jul-25	1014	Chroococcus limneticus Lemmermann	57472	1.93	4.00	4.00	33.50
MEL - 0110	12-Jul-25	1070	Anabaenopsis sp.	7184	1.60	21.00	4.50	222.70
MEL - 0110	12-Jul-25	2105	Chlamydomonas spp.	7184	0.09	4.00	2.50	13.10
MEL - 0110	12-Jul-25	2121	Oocystis lacustris Chodat	7184	0.19	5.50	3.00	25.90
MEL - 0110	12-Jul-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.10	4.00	57.20
MEL - 0110	12-Jul-25	4351	Small chrysophyceae	186784	1.72	2.60	2.60	9.20
MEL - 0110	12-Jul-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0110	12-Jul-25	4355	Chrysochromulina parva Lackey	28736	1.88	5.00	5.00	65.40
MEL - 0110	12-Jul-25	4357	Chrysococcus sp.	359200	23.49	5.00	5.00	65.40
MEL - 0110	12-Jul-25	4362	Kephyrion sp.	71840	1.01	3.00	3.00	14.10
MEL - 0110	12-Jul-25	4381	Dinobryon mucronatom Nygaard	7184	0.94	10.00	5.00	130.90
MEL - 0110	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	143680	32.50	12.00	6.00	226.20
MEL - 0110	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	1800	2.25	0.00	0.00	1250.00
MEL - 0110	12-Jul-25	4390	Dinobryon sociale Ehrenberg	122128	27.63	12.00	6.00	226.20
MEL - 0110	12-Jul-25	4390	Dinobryon sociale Ehrenberg	4400	4.18	0.00	0.00	950.00
MEL - 0110	12-Jul-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - 0110	12-Jul-25	4413	Chrysochromulina laurentiana Kling	21552	11.28	10.00	10.00	523.60
MEL - 0110	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1800	4.30	11.50	23.00	2389.00
MEL - 0110	12-Jul-25	5509	Cyclotella ocellata Pant.	35920	4.49	4.30	8.60	124.90
MEL - 0110	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	100576	8.53	12.00	3.00	84.80
MEL - 0110	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3600	2.75	81.00	6.00	763.40
MEL - 0110	12-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	200	0.27	26.00	14.00	1334.10
MEL - 0110	12-Jul-25	5518	Synedra acus Kutzing	2800	0.34	115.00	2.00	120.40
MEL - 0110	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	1.96	260.00	6.00	2450.40
MEL - 0110	12-Jul-25	5524	Asterionella formosa Hassall	14000	1.47	100.00	2.00	104.70
MEL - 0110	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	28736	0.70	2.50	5.00	24.50
MEL - 0110	12-Jul-25	5860	Diatoma vulgare Bory	7184	0.78	26.00	4.00	108.90
MEL - 0110	12-Jul-25	6554	Rhodomonas minuta Skuja	122128	15.80	10.30	6.00	129.40
MEL - 0110	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	5600	10.73	28.00	14.00	1915.70
MEL - 0110	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	400	0.96	35.00	14.00	2394.60
MEL - 0110	12-Jul-25	6568	Katablepharis ovalis Skuja	7184	0.32	8.00	4.00	44.70
MEL - 0110	12-Jul-25	7632	Gymnodinium sp.	1200	8.69	24.00	24.00	7238.20
MEL - 0110	12-Jul-25	7635	Peridinium willei Huitfeldt-Kaas	200	5.75	38.00	38.00	28730.90
MEL - 0110	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1400	5.52	19.60	19.60	3942.50
MEL - 0110	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	1800	16.29	30.00	24.00	9047.80
MEL - DUP2	12-Jul-25	2112	Sphaerocystis schroeteri Chodat	21552	0.34	3.10	3.10	15.60
MEL - DUP2	12-Jul-25	2169	Planctonema lauterbornii Schmidle	7184	2.12	15.00	5.00	294.50
MEL - DUP2	12-Jul-25	4351	Small chrysophyceae	86208	0.79	2.60	2.60	9.20
MEL - DUP2	12-Jul-25	4352	Large chrysophyceae	79024	14.19	7.00	7.00	179.60
MEL - DUP2	12-Jul-25	4355	Chrysochromulina parva Lackey	50288	3.29	5.00	5.00	65.40
MEL - DUP2	12-Jul-25	4357	Chrysococcus sp.	323280	21.14	5.00	5.00	65.40
MEL - DUP2	12-Jul-25	4362	Kephyrion sp.	179600	2.53	3.00	3.00	14.10
MEL - DUP2	12-Jul-25	4378	Dinobryon borgei Lemmermann	71840	3.05	9.00	3.00	42.40
MEL - DUP2	12-Jul-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - DUP2	12-Jul-25	4383	Dinobryon bavaricum Imhof	400	0.38	0.00	0.00	950.00
MEL - DUP2	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	64656	14.63	12.00	6.00	226.20
MEL - DUP2	12-Jul-25	4388	Dinobryon sertularia Ehrenberg	1800	3.58	0.00	0.00	1991.00
MEL - DUP2	12-Jul-25	4390	Dinobryon sociale Ehrenberg	337648	76.38	12.00	6.00	226.20
MEL - DUP2	12-Jul-25	4390	Dinobryon sociale Ehrenberg	3800	4.75	0.00	0.00	1250.00
MEL - DUP2	12-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	79024	2.16	5.80	3.00	27.30

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - DUP2	12-Jul-25	4401	Uroglena volvox Ehrenberg	373568	42.25	6.00	6.00	113.10
MEL - DUP2	12-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - DUP2	12-Jul-25	4414	Stichogloea spp.	21552	1.08	6.00	4.00	50.30
MEL - DUP2	12-Jul-25	4436	Dinobryon attenuatum Hill	7184	1.35	10.00	6.00	188.50
MEL - DUP2	12-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	800	1.91	11.50	23.00	2389.00
MEL - DUP2	12-Jul-25	5508	Cyclotella pseudostelligera	21552	11.61	7.00	14.00	538.80
MEL - DUP2	12-Jul-25	5509	Cyclotella ocellata Pant.	35920	3.61	4.00	8.00	100.50
MEL - DUP2	12-Jul-25	5511	Rhizosolenia eriense H.L. Smith	502880	42.64	12.00	3.00	84.80
MEL - DUP2	12-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	5400	4.07	80.00	6.00	754.00
MEL - DUP2	12-Jul-25	5518	Synedra acus Kutzing	13600	1.64	115.00	2.00	120.40
MEL - DUP2	12-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	7400	18.13	260.00	6.00	2450.40
MEL - DUP2	12-Jul-25	5524	Asterionella formosa Hassall	54400	5.70	100.00	2.00	104.70
MEL - DUP2	12-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	600	4.23	16.50	33.00	7056.20
MEL - DUP2	12-Jul-25	5551	Cyclotella michiganiana Skvortzow	7184	0.16	2.40	4.80	21.70
MEL - DUP2	12-Jul-25	6554	Rhodomonas minuta Skuja	50288	6.32	10.00	6.00	125.70
MEL - DUP2	12-Jul-25	6558	Cryptomonas erosa Ehrenberg	6600	12.19	27.00	14.00	1847.30
MEL - DUP2	12-Jul-25	6565	Cryptomonas rostratiformis Skuja	1400	3.35	35.00	14.00	2394.60
MEL - DUP2	12-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - DUP2	12-Jul-25	7632	Gymnodinium sp.	200	1.27	23.00	23.00	6370.60
MEL - DUP2	12-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	200	0.83	19.90	19.90	4126.30
MEL - DUP2	12-Jul-25	7641	Peridinium aciculiferum Lemmermann	1200	10.86	30.00	24.00	9047.80
MEL - 0301	18-Jul-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0301	18-Jul-25	2121	Oocystis lacustris Chodat	21552	0.59	5.80	3.00	27.30
MEL - 0301	18-Jul-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0301	18-Jul-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0301	18-Jul-25	2182	Euastrum spp.	400	0.74	22.00	22.00	1858.40
MEL - 0301	18-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0301	18-Jul-25	3301	Euglena acus Ehrenberg	200	2.16	105.00	14.00	10775.70
MEL - 0301	18-Jul-25	4351	Small chrysophyceae	229888	2.11	2.60	2.60	9.20
MEL - 0301	18-Jul-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0301	18-Jul-25	4355	Chrysochromulina parva Lackey	71840	4.70	5.00	5.00	65.40
MEL - 0301	18-Jul-25	4357	Chrysococcus sp.	380752	24.90	5.00	5.00	65.40
MEL - 0301	18-Jul-25	4362	Kephyrion sp.	510064	7.19	3.00	3.00	14.10
MEL - 0301	18-Jul-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - 0301	18-Jul-25	4378	Dinobryon borgei Lemmermann	193968	8.22	9.00	3.00	42.40
MEL - 0301	18-Jul-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - 0301	18-Jul-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0301	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	79024	17.88	12.00	6.00	226.20
MEL - 0301	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	6600	13.14	0.00	0.00	1991.00
MEL - 0301	18-Jul-25	4390	Dinobryon sociale Ehrenberg	265808	60.13	12.00	6.00	226.20
MEL - 0301	18-Jul-25	4390	Dinobryon sociale Ehrenberg	1200	1.14	0.00	0.00	950.00
MEL - 0301	18-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	86208	2.35	5.80	3.00	27.30
MEL - 0301	18-Jul-25	4401	Uroglena volvox Ehrenberg	158048	17.88	6.00	6.00	113.10
MEL - 0301	18-Jul-25	4413	Chrysochromulina laurentiana Kling	35920	14.17	9.10	9.10	394.60
MEL - 0301	18-Jul-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	35920	0.98	5.80	3.00	27.30
MEL - 0301	18-Jul-25	4436	Dinobryon attenuatum Hill	57472	10.83	10.00	6.00	188.50
MEL - 0301	18-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	800	1.91	11.50	23.00	2389.00
MEL - 0301	18-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1293120	109.66	12.00	3.00	84.80
MEL - 0301	18-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	9400	7.09	80.00	6.00	754.00
MEL - 0301	18-Jul-25	5515	Fragilaria crotonensis Kitton	2000	0.59	71.00	4.00	297.40
MEL - 0301	18-Jul-25	5518	Synedra acus Kutzing	16000	1.93	115.00	2.00	120.40
MEL - 0301	18-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	5200	12.74	260.00	6.00	2450.40
MEL - 0301	18-Jul-25	5524	Asterionella formosa Hassall	10400	1.09	100.00	2.00	104.70
MEL - 0301	18-Jul-25	5551	Cyclotella michiganiana Skvortzow	7184	0.16	2.40	4.80	21.70
MEL - 0301	18-Jul-25	6554	Rhodomonas minuta Skuja	21552	2.71	10.00	6.00	125.70
MEL - 0301	18-Jul-25	6558	Cryptomonas erosa Ehrenberg	3400	6.28	27.00	14.00	1847.30
MEL - 0301	18-Jul-25	6565	Cryptomonas rostratiformis Skuja	400	0.96	35.00	14.00	2394.60
MEL - 0301	18-Jul-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0301	18-Jul-25	7632	Gymnodinium sp.	1000	8.18	25.00	25.00	8181.20
MEL - 0301	18-Jul-25	7637	Peridinium limbatum (Stokes) Lemmermann	200	28.76	65.00	65.00	143793.30
MEL - 0301	18-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1800	7.43	19.90	19.90	4126.30
MEL - 0301	18-Jul-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0302	18-Jul-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.42	9.30	4.00	58.40
MEL - 0302	18-Jul-25	2169	Planctonema lauterbornii Schmidle	14368	4.51	16.00	5.00	314.20
MEL - 0302	18-Jul-25	2205	Mougeotia sp.	800	0.79	35.00	6.00	989.60
MEL - 0302	18-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0302	18-Jul-25	4351	Small chrysophyceae	172416	1.59	2.60	2.60	9.20
MEL - 0302	18-Jul-25	4352	Large chrysophyceae	21552	3.87	7.00	7.00	179.60
MEL - 0302	18-Jul-25	4355	Chrysochromulina parva Lackey	7184	0.47	5.00	5.00	65.40
MEL - 0302	18-Jul-25	4357	Chrysococcus sp.	172416	11.28	5.00	5.00	65.40
MEL - 0302	18-Jul-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0302	18-Jul-25	4362	Kephyrion sp.	86208	1.22	3.00	3.00	14.10
MEL - 0302	18-Jul-25	4378	Dinobryon borgei Lemmermann	179600	7.62	9.00	3.00	42.40
MEL - 0302	18-Jul-25	4384	Dinobryon bavaricum v vanhoeffenii (Bachmann) Krieger	7184	2.76	15.00	7.00	384.80
MEL - 0302	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0302	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	6600	33.56	0.00	0.00	5085.00
MEL - 0302	18-Jul-25	4390	Dinobryon sociale Ehrenberg	244256	55.25	12.00	6.00	226.20
MEL - 0302	18-Jul-25	4390	Dinobryon sociale Ehrenberg	1600	2.00	0.00	0.00	1250.00
MEL - 0302	18-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	71840	1.96	5.80	3.00	27.30
MEL - 0302	18-Jul-25	4401	Uroglena volvox Ehrenberg	107760	12.19	6.00	6.00	113.10
MEL - 0302	18-Jul-25	4414	Stichogloea spp.	7184	0.36	6.00	4.00	50.30
MEL - 0302	18-Jul-25	4436	Dinobryon attenuatum Hill	50288	9.48	10.00	6.00	188.50
MEL - 0302	18-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1200	2.87	11.50	23.00	2389.00
MEL - 0302	18-Jul-25	5508	Cyclotella pseudostelligera	7184	3.87	7.00	14.00	538.80
MEL - 0302	18-Jul-25	5509	Cyclotella ocellata Pant.	35920	3.61	4.00	8.00	100.50
MEL - 0302	18-Jul-25	5511	Rhizosolenia eriense H.L. Smith	833344	70.67	12.00	3.00	84.80
MEL - 0302	18-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	5400	4.07	80.00	6.00	754.00
MEL - 0302	18-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	3000	4.00	26.00	14.00	1334.10
MEL - 0302	18-Jul-25	5515	Fragilaria crotonensis Kitton	3600	1.04	69.00	4.00	289.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0302	18-Jul-25	5518	Synedra acus Kutzing	21400	2.58	115.00	2.00	120.40
MEL - 0302	18-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	8400	20.58	260.00	6.00	2450.40
MEL - 0302	18-Jul-25	5524	Asterionella formosa Hassall	6000	0.63	100.00	2.00	104.70
MEL - 0302	18-Jul-25	5551	Cyclotella michiganiana Skvortzow	43104	0.94	2.40	4.80	21.70
MEL - 0302	18-Jul-25	6554	Rhodomonas minuta Skuja	21552	2.71	10.00	6.00	125.70
MEL - 0302	18-Jul-25	6558	Cryptomonas erosa Ehrenberg	4200	7.76	27.00	14.00	1847.30
MEL - 0302	18-Jul-25	6565	Cryptomonas rostratiformis Skuja	1000	2.39	35.00	14.00	2394.60
MEL - 0302	18-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0302	18-Jul-25	7632	Gymnodinium sp.	800	5.10	23.00	23.00	6370.60
MEL - 0302	18-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1600	6.60	19.90	19.90	4126.30
MEL - 0302	18-Jul-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - 0303	18-Jul-25	1014	Chroococcus limneticus Lemmermann	28736	0.96	4.00	4.00	33.50
MEL - 0303	18-Jul-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - 0303	18-Jul-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0303	18-Jul-25	2205	Mougeotia sp.	200	0.19	33.00	6.00	933.10
MEL - 0303	18-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0303	18-Jul-25	4351	Small chrysophyceae	172416	1.59	2.60	2.60	9.20
MEL - 0303	18-Jul-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0303	18-Jul-25	4355	Chrysochromulina parva Lackey	7184	0.47	5.00	5.00	65.40
MEL - 0303	18-Jul-25	4357	Chrysococcus sp.	272992	17.85	5.00	5.00	65.40
MEL - 0303	18-Jul-25	4362	Kephyrion sp.	129312	1.82	3.00	3.00	14.10
MEL - 0303	18-Jul-25	4375	Synura sphagnicola Korschikow	21552	11.28	10.00	10.00	523.60
MEL - 0303	18-Jul-25	4378	Dinobryon borgei Lemmermann	186784	7.92	9.00	3.00	42.40
MEL - 0303	18-Jul-25	4383	Dinobryon bavaricum Imhof	400	0.80	0.00	0.00	1991.00
MEL - 0303	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	79024	17.88	12.00	6.00	226.20
MEL - 0303	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	5400	6.75	0.00	0.00	1250.00
MEL - 0303	18-Jul-25	4390	Dinobryon sociale Ehrenberg	265808	60.13	12.00	6.00	226.20
MEL - 0303	18-Jul-25	4390	Dinobryon sociale Ehrenberg	2000	2.50	0.00	0.00	1250.00
MEL - 0303	18-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	79024	2.16	5.80	3.00	27.30
MEL - 0303	18-Jul-25	4401	Uroglena volvox Ehrenberg	114944	13.00	6.00	6.00	113.10
MEL - 0303	18-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0303	18-Jul-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0303	18-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1000	2.39	11.50	23.00	2389.00
MEL - 0303	18-Jul-25	5509	Cyclotella ocellata Pant.	21552	2.17	4.00	8.00	100.50
MEL - 0303	18-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1336224	113.31	12.00	3.00	84.80
MEL - 0303	18-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	12000	9.05	80.00	6.00	754.00
MEL - 0303	18-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	200	0.27	26.00	14.00	1334.10
MEL - 0303	18-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	200	0.27	26.00	14.00	1334.10
MEL - 0303	18-Jul-25	5515	Fragilaria crotonensis Kitton	4000	1.09	65.00	4.00	272.30
MEL - 0303	18-Jul-25	5518	Synedra acus Kutzing	26200	3.15	115.00	2.00	120.40
MEL - 0303	18-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	9800	24.01	260.00	6.00	2450.40
MEL - 0303	18-Jul-25	5524	Asterionella formosa Hassall	6200	0.65	100.00	2.00	104.70
MEL - 0303	18-Jul-25	5551	Cyclotella michiganiana Skvortzow	114944	2.49	2.40	4.80	21.70
MEL - 0303	18-Jul-25	6554	Rhodomonas minuta Skuja	7184	0.90	10.00	6.00	125.70
MEL - 0303	18-Jul-25	6558	Cryptomonas erosa Ehrenberg	5000	9.24	27.00	14.00	1847.30
MEL - 0303	18-Jul-25	6565	Cryptomonas rostratiformis Skuja	800	1.81	33.00	14.00	2257.80
MEL - 0303	18-Jul-25	7632	Gymnodinium sp.	1000	6.37	23.00	23.00	6370.60
MEL - 0303	18-Jul-25	7637	Peridinium limbatum (Stokes) Lemmermann	200	28.76	65.00	65.00	143793.30
MEL - 0303	18-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1200	4.88	19.60	19.90	4064.10
MEL - 0303	18-Jul-25	7641	Peridinium aciculiferum Lemmermann	400	3.62	30.00	24.00	9047.80
MEL - 0304	18-Jul-25	2101	Carteria spp.	28736	17.92	10.60	10.60	623.60
MEL - 0304	18-Jul-25	4351	Small chrysophyceae	186784	1.72	2.60	2.60	9.20
MEL - 0304	18-Jul-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0304	18-Jul-25	4355	Chrysochromulina parva Lackey	21552	1.41	5.00	5.00	65.40
MEL - 0304	18-Jul-25	4357	Chrysococcus sp.	330464	21.61	5.00	5.00	65.40
MEL - 0304	18-Jul-25	4362	Kephyrion sp.	35920	0.51	3.00	3.00	14.10
MEL - 0304	18-Jul-25	4378	Dinobryon borgei Lemmermann	64656	2.74	9.00	3.00	42.40
MEL - 0304	18-Jul-25	4383	Dinobryon bavaricum Imhof	43104	9.75	12.00	6.00	226.20
MEL - 0304	18-Jul-25	4383	Dinobryon bavaricum Imhof	1000	1.99	0.00	0.00	1991.00
MEL - 0304	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	129312	29.25	12.00	6.00	226.20
MEL - 0304	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	4400	8.76	0.00	0.00	1991.00
MEL - 0304	18-Jul-25	4390	Dinobryon sociale Ehrenberg	129312	29.25	12.00	6.00	226.20
MEL - 0304	18-Jul-25	4390	Dinobryon sociale Ehrenberg	1000	0.95	0.00	0.00	950.00
MEL - 0304	18-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	35920	0.98	5.80	3.00	27.30
MEL - 0304	18-Jul-25	4401	Uroglena volvox Ehrenberg	222704	25.19	6.00	6.00	113.10
MEL - 0304	18-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	3.76	10.00	10.00	523.60
MEL - 0304	18-Jul-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0304	18-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	400	0.96	11.50	23.00	2389.00
MEL - 0304	18-Jul-25	5509	Cyclotella ocellata Pant.	7184	0.72	4.00	8.00	100.50
MEL - 0304	18-Jul-25	5511	Rhizosolenia eriense H.L. Smith	775872	65.79	12.00	3.00	84.80
MEL - 0304	18-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3800	2.90	81.00	6.00	763.40
MEL - 0304	18-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	3800	5.07	26.00	14.00	1334.10
MEL - 0304	18-Jul-25	5518	Synedra acus Kutzing	25800	3.11	115.00	2.00	120.40
MEL - 0304	18-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	11000	26.95	260.00	6.00	2450.40
MEL - 0304	18-Jul-25	5524	Asterionella formosa Hassall	10600	1.11	100.00	2.00	104.70
MEL - 0304	18-Jul-25	5551	Cyclotella michiganiana Skvortzow	71840	1.37	2.30	4.60	19.10
MEL - 0304	18-Jul-25	6554	Rhodomonas minuta Skuja	35920	4.92	10.90	6.00	137.00
MEL - 0304	18-Jul-25	6558	Cryptomonas erosa Ehrenberg	4600	8.50	27.00	14.00	1847.30
MEL - 0304	18-Jul-25	6565	Cryptomonas rostratiformis Skuja	400	0.96	35.00	14.00	2394.60
MEL - 0304	18-Jul-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0304	18-Jul-25	7632	Gymnodinium sp.	1000	6.37	23.00	23.00	6370.60
MEL - 0304	18-Jul-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.49	35.00	35.00	22449.30
MEL - 0304	18-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1000	3.76	19.30	19.30	3764.20
MEL - 0304	18-Jul-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0305	18-Jul-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - 0305	18-Jul-25	2105	Chlamydomonas spp.	21552	0.52	5.10	3.00	24.00
MEL - 0305	18-Jul-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	14368	0.85	9.40	4.00	59.10
MEL - 0305	18-Jul-25	2146	Crucigeniella rectangularis (Nag.) Komarek	28736	0.72	6.00	4.00	25.10
MEL - 0305	18-Jul-25	2169	Planctonema lauterbornii Schmidle	21552	7.62	18.00	5.00	353.40

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0305	18-Jul-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0305	18-Jul-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0305	18-Jul-25	2187	Staurodesmus extensus (Andersson) Teiling	400	0.15	13.60	12.00	387.40
MEL - 0305	18-Jul-25	2195	Staurodesmus bullardii G.M. Smith	200	0.68	28.00	25.00	3420.80
MEL - 0305	18-Jul-25	2206	Botryococcus braunii Kutzing	600	0.54	12.00	12.00	904.80
MEL - 0305	18-Jul-25	4351	Small chrysophyceae	150864	1.55	2.70	2.70	10.30
MEL - 0305	18-Jul-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - 0305	18-Jul-25	4355	Chrysochromulina parva Lackey	57472	3.76	5.00	5.00	65.40
MEL - 0305	18-Jul-25	4357	Chrysococcus sp.	359200	23.49	5.00	5.00	65.40
MEL - 0305	18-Jul-25	4361	Kephyrion boreale Skuja	14368	1.71	6.10	6.10	118.80
MEL - 0305	18-Jul-25	4362	Kephyrion sp.	143680	2.03	3.00	3.00	14.10
MEL - 0305	18-Jul-25	4378	Dinobryon borgei Lemmermann	100576	4.26	9.00	3.00	42.40
MEL - 0305	18-Jul-25	4383	Dinobryon bavaricum Imhof	43104	9.75	12.00	6.00	226.20
MEL - 0305	18-Jul-25	4383	Dinobryon bavaricum Imhof	800	1.59	0.00	0.00	1991.00
MEL - 0305	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	79024	17.88	12.00	6.00	226.20
MEL - 0305	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	2200	2.75	0.00	0.00	1250.00
MEL - 0305	18-Jul-25	4390	Dinobryon sociale Ehrenberg	71840	16.25	12.00	6.00	226.20
MEL - 0305	18-Jul-25	4390	Dinobryon sociale Ehrenberg	1400	1.33	0.00	0.00	950.00
MEL - 0305	18-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	64656	1.77	5.80	3.00	27.30
MEL - 0305	18-Jul-25	4401	Uroglena volvox Ehrenberg	517248	58.50	6.00	6.00	113.10
MEL - 0305	18-Jul-25	4413	Chrysochromulina laurentiana Kling	64656	33.85	10.00	10.00	523.60
MEL - 0305	18-Jul-25	4414	Stichogloea spp.	21552	1.08	6.00	4.00	50.30
MEL - 0305	18-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	600	1.43	11.50	23.00	2389.00
MEL - 0305	18-Jul-25	5509	Cyclotella ocellata Pant.	21552	2.17	4.00	8.00	100.50
MEL - 0305	18-Jul-25	5511	Rhizosolenia eriense H.L. Smith	545984	46.30	12.00	3.00	84.80
MEL - 0305	18-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	1600	2.13	26.00	14.00	1334.10
MEL - 0305	18-Jul-25	5518	Synedra acus Kutzing	17600	2.12	115.00	2.00	120.40
MEL - 0305	18-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	6200	15.19	260.00	6.00	2450.40
MEL - 0305	18-Jul-25	5524	Asterionella formosa Hassall	4600	0.48	100.00	2.00	104.70
MEL - 0305	18-Jul-25	5551	Cyclotella michiganiana Skvortzow	79024	1.51	2.30	4.60	19.10
MEL - 0305	18-Jul-25	6554	Rhodomonas minuta Skuja	114944	15.75	10.90	6.00	137.00
MEL - 0305	18-Jul-25	6558	Cryptomonas erosa Ehrenberg	2400	4.43	27.00	14.00	1847.30
MEL - 0305	18-Jul-25	6565	Cryptomonas rostratiformis Skuja	1400	3.35	35.00	14.00	2394.60
MEL - 0305	18-Jul-25	7631	Gymnodinium helveticum Penard	1000	23.56	50.00	30.00	23561.90
MEL - 0305	18-Jul-25	7632	Gymnodinium sp.	1200	7.64	23.00	23.00	6370.60
MEL - 0305	18-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1000	3.94	19.60	19.60	3942.50
MEL - 0305	18-Jul-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - 0305R	18-Jul-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0305R	18-Jul-25	2105	Chlamydomonas spp.	7184	0.17	5.10	3.00	24.00
MEL - 0305R	18-Jul-25	2121	Oocystis lacustris Chodat	21552	0.60	5.90	3.00	27.80
MEL - 0305R	18-Jul-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	64656	3.82	9.40	4.00	59.10
MEL - 0305R	18-Jul-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - 0305R	18-Jul-25	2185	Micrasterias sp.	400	0.41	18.00	18.00	1017.90
MEL - 0305R	18-Jul-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	13.60	12.00	387.40
MEL - 0305R	18-Jul-25	2193	Staurodesmus paradoxum Meyen	400	1.13	26.00	24.00	2831.60
MEL - 0305R	18-Jul-25	2206	Botryococcus braunii Kutzing	200	0.18	12.00	12.00	904.80
MEL - 0305R	18-Jul-25	4351	Small chrysophyceae	114944	1.18	2.70	2.70	10.30
MEL - 0305R	18-Jul-25	4352	Large chrysophyceae	28736	5.16	7.00	7.00	179.60
MEL - 0305R	18-Jul-25	4355	Chrysochromulina parva Lackey	43104	2.82	5.00	5.00	65.40
MEL - 0305R	18-Jul-25	4357	Chrysococcus sp.	517248	33.83	5.00	5.00	65.40
MEL - 0305R	18-Jul-25	4361	Kephyrion boreale Skuja	28736	3.41	6.10	6.10	118.80
MEL - 0305R	18-Jul-25	4362	Kephyrion sp.	186784	2.63	3.00	3.00	14.10
MEL - 0305R	18-Jul-25	4378	Dinobryon borgei Lemmermann	79024	3.35	9.00	3.00	42.40
MEL - 0305R	18-Jul-25	4383	Dinobryon bavaricum Imhof	64656	14.63	12.00	6.00	226.20
MEL - 0305R	18-Jul-25	4383	Dinobryon bavaricum Imhof	1000	1.99	0.00	0.00	1991.00
MEL - 0305R	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	57472	13.00	12.00	6.00	226.20
MEL - 0305R	18-Jul-25	4388	Dinobryon sertularia Ehrenberg	2000	2.50	0.00	0.00	1250.00
MEL - 0305R	18-Jul-25	4390	Dinobryon sociale Ehrenberg	122128	27.63	12.00	6.00	226.20
MEL - 0305R	18-Jul-25	4390	Dinobryon sociale Ehrenberg	1000	0.95	0.00	0.00	950.00
MEL - 0305R	18-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	86208	2.35	5.80	3.00	27.30
MEL - 0305R	18-Jul-25	4401	Uroglena volvox Ehrenberg	495696	56.06	6.00	6.00	113.10
MEL - 0305R	18-Jul-25	4411	Bitrichia chodatii (Reverdin) Chodat	14368	0.72	6.00	4.00	50.30
MEL - 0305R	18-Jul-25	4413	Chrysochromulina laurentiana Kling	43104	22.57	10.00	10.00	523.60
MEL - 0305R	18-Jul-25	4414	Stichogloea spp.	64656	3.25	6.00	4.00	50.30
MEL - 0305R	18-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1000	2.39	11.50	23.00	2389.00
MEL - 0305R	18-Jul-25	5509	Cyclotella ocellata Pant.	28736	2.89	4.00	8.00	100.50
MEL - 0305R	18-Jul-25	5511	Rhizosolenia eriense H.L. Smith	395120	33.51	12.00	3.00	84.80
MEL - 0305R	18-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	800	0.61	81.00	6.00	763.40
MEL - 0305R	18-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	2800	3.74	26.00	14.00	1334.10
MEL - 0305R	18-Jul-25	5518	Synedra acus Kutzing	20200	2.43	115.00	2.00	120.40
MEL - 0305R	18-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	7200	17.64	260.00	6.00	2450.40
MEL - 0305R	18-Jul-25	5524	Asterionella formosa Hassall	5800	0.61	100.00	2.00	104.70
MEL - 0305R	18-Jul-25	5551	Cyclotella michiganiana Skvortzow	71840	1.37	2.30	4.60	19.10
MEL - 0305R	18-Jul-25	6554	Rhodomonas minuta Skuja	136496	18.70	10.90	6.00	137.00
MEL - 0305R	18-Jul-25	6558	Cryptomonas erosa Ehrenberg	3200	5.91	27.00	14.00	1847.30
MEL - 0305R	18-Jul-25	6565	Cryptomonas rostratiformis Skuja	1000	2.26	33.00	14.00	2257.80
MEL - 0305R	18-Jul-25	6568	Katablepharis ovalis Skuja	28736	1.28	8.00	4.00	44.70
MEL - 0305R	18-Jul-25	7631	Gymnodinium helveticum Penard	800	18.85	50.00	30.00	23561.90
MEL - 0305R	18-Jul-25	7632	Gymnodinium sp.	600	3.82	23.00	23.00	6370.60
MEL - 0305R	18-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1800	7.10	19.60	19.60	3942.50
MEL - 0305R	18-Jul-25	7641	Peridinium aciculiferum Lemmermann	400	3.62	30.00	24.00	9047.80
MEL - 0202	19-Jul-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - 0202	19-Jul-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - 0202	19-Jul-25	2169	Planctonema lauterbornii Schmidle	114944	38.37	17.00	5.00	333.80
MEL - 0202	19-Jul-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0202	19-Jul-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	13.90	12.00	404.70
MEL - 0202	19-Jul-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0202	19-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0202	19-Jul-25	4351	Small chrysophyceae	438224	4.03	2.60	2.60	9.20

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0202	19-Jul-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0202	19-Jul-25	4355	Chrysochromulina parva Lackey	28736	1.88	5.00	5.00	65.40
MEL - 0202	19-Jul-25	4357	Chrysococcus sp.	294544	19.26	5.00	5.00	65.40
MEL - 0202	19-Jul-25	4358	Chrysostephanosphaera globulifera Scherffel	14368	4.00	8.10	8.10	278.30
MEL - 0202	19-Jul-25	4362	Kephyrion sp.	229888	3.24	3.00	3.00	14.10
MEL - 0202	19-Jul-25	4363	Spiniferomonas serrata	7184	0.85	6.10	6.10	118.80
MEL - 0202	19-Jul-25	4378	Dinobryon borgei Lemmermann	129312	5.48	9.00	3.00	42.40
MEL - 0202	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	251440	56.88	12.00	6.00	226.20
MEL - 0202	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	5000	4.75	0.00	0.00	950.00
MEL - 0202	19-Jul-25	4390	Dinobryon sociale Ehrenberg	668112	151.13	12.00	6.00	226.20
MEL - 0202	19-Jul-25	4390	Dinobryon sociale Ehrenberg	1800	2.25	0.00	0.00	1250.00
MEL - 0202	19-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	179600	4.90	5.80	3.00	27.30
MEL - 0202	19-Jul-25	4401	Uroglena volvox Ehrenberg	933920	105.63	6.00	6.00	113.10
MEL - 0202	19-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0202	19-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	3400	8.12	11.50	23.00	2389.00
MEL - 0202	19-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1465536	124.28	12.00	3.00	84.80
MEL - 0202	19-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	18000	13.57	80.00	6.00	754.00
MEL - 0202	19-Jul-25	5518	Synedra acus Kutzing	20800	2.50	115.00	2.00	120.40
MEL - 0202	19-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	11400	27.93	260.00	6.00	2450.40
MEL - 0202	19-Jul-25	5524	Asterionella formosa Hassall	49600	5.19	100.00	2.00	104.70
MEL - 0202	19-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	600	4.23	16.50	33.00	7056.20
MEL - 0202	19-Jul-25	5551	Cyclotella michiganiana Skvortzow	50288	1.09	2.40	4.80	21.70
MEL - 0202	19-Jul-25	6554	Rhodomonas minuta Skuja	50288	6.32	10.00	6.00	125.70
MEL - 0202	19-Jul-25	6558	Cryptomonas erosa Ehrenberg	7600	14.04	27.00	14.00	1847.30
MEL - 0202	19-Jul-25	6565	Cryptomonas rostratiformis Skuja	2000	4.52	33.00	14.00	2257.80
MEL - 0202	19-Jul-25	7631	Gymnodinium helveticum Penard	600	14.14	50.00	30.00	23561.90
MEL - 0202	19-Jul-25	7632	Gymnodinium sp.	400	2.55	23.00	23.00	6370.60
MEL - 0202	19-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	2800	11.55	19.90	19.90	4126.30
MEL - 0203	19-Jul-25	2105	Chlamydomonas spp.	21552	0.35	5.00	2.50	16.40
MEL - 0203	19-Jul-25	2169	Planctonema lauterbornii Schmidle	86208	30.47	18.00	5.00	353.40
MEL - 0203	19-Jul-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0203	19-Jul-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0203	19-Jul-25	4351	Small chrysophyceae	272992	2.51	2.60	2.60	9.20
MEL - 0203	19-Jul-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0203	19-Jul-25	4355	Chrysochromulina parva Lackey	50288	3.29	5.00	5.00	65.40
MEL - 0203	19-Jul-25	4357	Chrysococcus sp.	596272	39.00	5.00	5.00	65.40
MEL - 0203	19-Jul-25	4362	Kephyrion sp.	229888	3.24	3.00	3.00	14.10
MEL - 0203	19-Jul-25	4378	Dinobryon borgei Lemmermann	136496	5.79	9.00	3.00	42.40
MEL - 0203	19-Jul-25	4381	Dinobryon mucronatom Nygaard	28736	3.76	10.00	5.00	130.90
MEL - 0203	19-Jul-25	4383	Dinobryon bavaricum Imhof	1200	1.14	0.00	0.00	950.00
MEL - 0203	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	280176	63.38	12.00	6.00	226.20
MEL - 0203	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	5400	10.75	0.00	0.00	1991.00
MEL - 0203	19-Jul-25	4390	Dinobryon sociale Ehrenberg	502880	113.75	12.00	6.00	226.20
MEL - 0203	19-Jul-25	4390	Dinobryon sociale Ehrenberg	1800	1.71	0.00	0.00	950.00
MEL - 0203	19-Jul-25	4394	Epiphyxis sp.	7184	0.54	9.00	4.00	75.40
MEL - 0203	19-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	229888	6.28	5.80	3.00	27.30
MEL - 0203	19-Jul-25	4401	Uroglena volvox Ehrenberg	431040	48.75	6.00	6.00	113.10
MEL - 0203	19-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0203	19-Jul-25	4436	Dinobryon attenuatum Hill	7184	1.35	10.00	6.00	188.50
MEL - 0203	19-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	2000	4.78	11.50	23.00	2389.00
MEL - 0203	19-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1436800	121.84	12.00	3.00	84.80
MEL - 0203	19-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	31200	23.52	80.00	6.00	754.00
MEL - 0203	19-Jul-25	5515	Fragilaria crotonensis Kitton	2000	0.58	69.00	4.00	289.00
MEL - 0203	19-Jul-25	5518	Synedra acus Kutzing	17400	2.09	115.00	2.00	120.40
MEL - 0203	19-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	10000	24.50	260.00	6.00	2450.40
MEL - 0203	19-Jul-25	5524	Asterionella formosa Hassall	53400	5.59	100.00	2.00	104.70
MEL - 0203	19-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0203	19-Jul-25	6554	Rhodomonas minuta Skuja	107760	13.55	10.00	6.00	125.70
MEL - 0203	19-Jul-25	6558	Cryptomonas erosa Ehrenberg	9200	17.00	27.00	14.00	1847.30
MEL - 0203	19-Jul-25	6565	Cryptomonas rostratiformis Skuja	2000	4.52	33.00	14.00	2257.80
MEL - 0203	19-Jul-25	6568	Katablepharis ovalis Skuja	7184	0.29	7.60	4.00	40.30
MEL - 0203	19-Jul-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0203	19-Jul-25	7632	Gymnodinium sp.	200	1.27	23.00	23.00	6370.60
MEL - 0203	19-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	1800	7.43	19.90	19.90	4126.30
MEL - 0203	19-Jul-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - 0205	19-Jul-25	2169	Planctonema lauterbornii Schmidle	21552	7.62	18.00	5.00	353.40
MEL - 0205	19-Jul-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0205	19-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0205	19-Jul-25	2235	Ankistrodesmus spiralis Lemmermann	7184	0.41	36.00	2.00	56.50
MEL - 0205	19-Jul-25	4351	Small chrysophyceae	287360	2.64	2.60	2.60	9.20
MEL - 0205	19-Jul-25	4352	Large chrysophyceae	21552	3.87	7.00	7.00	179.60
MEL - 0205	19-Jul-25	4355	Chrysochromulina parva Lackey	114944	7.52	5.00	5.00	65.40
MEL - 0205	19-Jul-25	4357	Chrysococcus sp.	352016	23.02	5.00	5.00	65.40
MEL - 0205	19-Jul-25	4362	Kephyrion sp.	402304	5.67	3.00	3.00	14.10
MEL - 0205	19-Jul-25	4378	Dinobryon borgei Lemmermann	409488	17.36	9.00	3.00	42.40
MEL - 0205	19-Jul-25	4381	Dinobryon mucronatom Nygaard	35920	4.70	10.00	5.00	130.90
MEL - 0205	19-Jul-25	4383	Dinobryon bavaricum Imhof	21552	4.88	12.00	6.00	226.20
MEL - 0205	19-Jul-25	4383	Dinobryon bavaricum Imhof	400	0.38	0.00	0.00	950.00
MEL - 0205	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	136496	30.88	12.00	6.00	226.20
MEL - 0205	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	4000	7.96	0.00	0.00	1991.00
MEL - 0205	19-Jul-25	4390	Dinobryon sociale Ehrenberg	689664	156.00	12.00	6.00	226.20
MEL - 0205	19-Jul-25	4390	Dinobryon sociale Ehrenberg	2200	2.09	0.00	0.00	950.00
MEL - 0205	19-Jul-25	4394	Epiphyxis sp.	7184	0.54	9.00	4.00	75.40
MEL - 0205	19-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	323280	8.83	5.80	3.00	27.30
MEL - 0205	19-Jul-25	4401	Uroglena volvox Ehrenberg	998576	112.94	6.00	6.00	113.10
MEL - 0205	19-Jul-25	4413	Chrysochromulina laurentiana Kling	35920	14.17	9.10	9.10	394.60
MEL - 0205	19-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	600	1.43	11.50	23.00	2389.00
MEL - 0205	19-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1724160	146.21	12.00	3.00	84.80
MEL - 0205	19-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3600	2.71	80.00	6.00	754.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0205	19-Jul-25	5515	Fragilaria crotonensis Kitton	9000	2.64	70.00	4.00	293.20
MEL - 0205	19-Jul-25	5518	Synedra acus Kutzing	18800	2.26	115.00	2.00	120.40
MEL - 0205	19-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	14400	35.29	260.00	6.00	2450.40
MEL - 0205	19-Jul-25	5524	Asterionella formosa Hassall	49000	5.13	100.00	2.00	104.70
MEL - 0205	19-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	200	1.41	16.50	33.00	7056.20
MEL - 0205	19-Jul-25	5551	Cyclotella michiganiana Skvortzow	93392	2.03	2.40	4.80	21.70
MEL - 0205	19-Jul-25	6554	Rhodomonas minuta Skuja	7184	0.90	10.00	6.00	125.70
MEL - 0205	19-Jul-25	6558	Cryptomonas erosa Ehrenberg	6800	12.56	27.00	14.00	1847.30
MEL - 0205	19-Jul-25	6565	Cryptomonas rostratiformis Skuja	1400	3.16	33.00	14.00	2257.80
MEL - 0205	19-Jul-25	6568	Katablepharis ovalis Skuja	21552	0.89	7.70	4.00	41.40
MEL - 0205	19-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0205	19-Jul-25	7632	Gymnodinium sp.	200	1.27	23.00	23.00	6370.60
MEL - 0205	19-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	2000	8.25	19.90	19.90	4126.30
MEL - 0205	19-Jul-25	7641	Peridinium aciculiferum Lemmermann	1200	10.86	30.00	24.00	9047.80
MEL - 0206	19-Jul-25	2112	Sphaerocystis schroeteri Chodat	7184	0.11	3.10	3.10	15.60
MEL - 0206	19-Jul-25	2169	Planctonema lauterbornii Schmidle	14368	4.51	16.00	5.00	314.20
MEL - 0206	19-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0206	19-Jul-25	4351	Small chrysophyceae	186784	1.72	2.60	2.60	9.20
MEL - 0206	19-Jul-25	4352	Large chrysophyceae	86208	15.48	7.00	7.00	179.60
MEL - 0206	19-Jul-25	4355	Chrysochromulina parva Lackey	7184	0.47	5.00	5.00	65.40
MEL - 0206	19-Jul-25	4357	Chrysococcus sp.	244256	15.97	5.00	5.00	65.40
MEL - 0206	19-Jul-25	4362	Kephyrion sp.	380752	5.37	3.00	3.00	14.10
MEL - 0206	19-Jul-25	4378	Dinobryon borgei Lemmermann	172416	7.31	9.00	3.00	42.40
MEL - 0206	19-Jul-25	4383	Dinobryon bavaricum Imhof	14368	3.25	12.00	6.00	226.20
MEL - 0206	19-Jul-25	4383	Dinobryon bavaricum Imhof	800	0.76	0.00	0.00	950.00
MEL - 0206	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	129312	29.25	12.00	6.00	226.20
MEL - 0206	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	6400	12.74	0.00	0.00	1991.00
MEL - 0206	19-Jul-25	4390	Dinobryon sociale Ehrenberg	466960	105.63	12.00	6.00	226.20
MEL - 0206	19-Jul-25	4390	Dinobryon sociale Ehrenberg	1400	1.33	0.00	0.00	950.00
MEL - 0206	19-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	136496	3.73	5.80	3.00	27.30
MEL - 0206	19-Jul-25	4401	Uroglena volvox Ehrenberg	696848	78.81	6.00	6.00	113.10
MEL - 0206	19-Jul-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0206	19-Jul-25	4436	Dinobryon attenuatum Hill	7184	1.35	10.00	6.00	188.50
MEL - 0206	19-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	600	1.43	11.50	23.00	2389.00
MEL - 0206	19-Jul-25	5509	Cyclotella ocellata Pant.	57472	5.99	4.05	8.10	104.30
MEL - 0206	19-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1372144	116.36	12.00	3.00	84.80
MEL - 0206	19-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	4800	3.62	80.00	6.00	754.00
MEL - 0206	19-Jul-25	5518	Synedra acus Kutzing	19600	2.36	115.00	2.00	120.40
MEL - 0206	19-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	15800	38.72	260.00	6.00	2450.40
MEL - 0206	19-Jul-25	5524	Asterionella formosa Hassall	40400	4.23	100.00	2.00	104.70
MEL - 0206	19-Jul-25	5530	Stephanodiscus niagarae Ehrenberg	400	2.82	16.50	33.00	7056.20
MEL - 0206	19-Jul-25	5551	Cyclotella michiganiana Skvortzow	93392	2.03	2.40	4.80	21.70
MEL - 0206	19-Jul-25	6554	Rhodomonas minuta Skuja	28736	3.61	10.00	6.00	125.70
MEL - 0206	19-Jul-25	6558	Cryptomonas erosa Ehrenberg	7800	14.41	27.00	14.00	1847.30
MEL - 0206	19-Jul-25	6565	Cryptomonas rostratiformis Skuja	400	0.90	33.00	14.00	2257.80
MEL - 0206	19-Jul-25	7631	Gymnodinium helveticum Penard	600	14.14	50.00	30.00	23561.90
MEL - 0206	19-Jul-25	7632	Gymnodinium sp.	200	1.27	23.00	23.00	6370.60
MEL - 0206	19-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	400	1.65	19.90	19.90	4126.30
MEL - 0206	19-Jul-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - 0208	19-Jul-25	2112	Sphaerocystis schroeteri Chodat	7184	0.10	3.00	3.00	14.10
MEL - 0208	19-Jul-25	2121	Oocystis lacustris Chodat	21552	0.56	5.50	3.00	25.90
MEL - 0208	19-Jul-25	2132	Scenedesmus denticulatus Lagerhiem	14368	0.64	8.00	4.00	44.70
MEL - 0208	19-Jul-25	2169	Planctonema lauterbornii Schmidle	21552	7.62	18.00	5.00	353.40
MEL - 0208	19-Jul-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0208	19-Jul-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0208	19-Jul-25	4351	Small chrysophyceae	287360	2.64	2.60	2.60	9.20
MEL - 0208	19-Jul-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0208	19-Jul-25	4355	Chrysochromulina parva Lackey	43104	2.82	5.00	5.00	65.40
MEL - 0208	19-Jul-25	4357	Chrysococcus sp.	265808	17.38	5.00	5.00	65.40
MEL - 0208	19-Jul-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0208	19-Jul-25	4362	Kephyrion sp.	244256	3.44	3.00	3.00	14.10
MEL - 0208	19-Jul-25	4378	Dinobryon borgei Lemmermann	129312	5.48	9.00	3.00	42.40
MEL - 0208	19-Jul-25	4383	Dinobryon bavaricum Imhof	600	0.57	0.00	0.00	950.00
MEL - 0208	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	143680	32.50	12.00	6.00	226.20
MEL - 0208	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	5200	10.35	0.00	0.00	1991.00
MEL - 0208	19-Jul-25	4390	Dinobryon sociale Ehrenberg	596272	134.88	12.00	6.00	226.20
MEL - 0208	19-Jul-25	4390	Dinobryon sociale Ehrenberg	2200	2.09	0.00	0.00	950.00
MEL - 0208	19-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	215520	5.88	5.80	3.00	27.30
MEL - 0208	19-Jul-25	4401	Uroglena volvox Ehrenberg	783056	88.56	6.00	6.00	113.10
MEL - 0208	19-Jul-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0208	19-Jul-25	4436	Dinobryon attenuatum Hill	7184	1.35	10.00	6.00	188.50
MEL - 0208	19-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	1200	2.87	11.50	23.00	2389.00
MEL - 0208	19-Jul-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0208	19-Jul-25	5511	Rhizosolenia eriense H.L. Smith	1372144	116.36	12.00	3.00	84.80
MEL - 0208	19-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	6600	4.98	80.00	6.00	754.00
MEL - 0208	19-Jul-25	5514	Tabellaria flocculosa (Roth) Kutzing	1600	2.13	26.00	14.00	1334.10
MEL - 0208	19-Jul-25	5518	Synedra acus Kutzing	20200	2.43	115.00	2.00	120.40
MEL - 0208	19-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	14800	36.27	260.00	6.00	2450.40
MEL - 0208	19-Jul-25	5524	Asterionella formosa Hassall	47200	4.94	100.00	2.00	104.70
MEL - 0208	19-Jul-25	5551	Cyclotella michiganiana Skvortzow	7184	0.16	2.40	4.80	21.70
MEL - 0208	19-Jul-25	6554	Rhodomonas minuta Skuja	21552	2.71	10.00	6.00	125.70
MEL - 0208	19-Jul-25	6558	Cryptomonas erosa Ehrenberg	3800	7.02	27.00	14.00	1847.30
MEL - 0208	19-Jul-25	6565	Cryptomonas rostratiformis Skuja	3200	7.22	33.00	14.00	2257.80
MEL - 0208	19-Jul-25	7631	Gymnodinium helveticum Penard	800	18.85	50.00	30.00	23561.90
MEL - 0208	19-Jul-25	7632	Gymnodinium sp.	800	5.10	23.00	23.00	6370.60
MEL - 0208	19-Jul-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.48	19.90	19.90	4126.30
MEL - 0208	19-Jul-25	7641	Peridinium aciculiferum Lemmermann	600	5.43	30.00	24.00	9047.80
MEL - DUP1	19-Jul-25	2112	Sphaerocystis schroeteri Chodat	21552	0.34	3.10	3.10	15.60
MEL - DUP1	19-Jul-25	2113	Pediastrum duplex Meyen	200	0.62	0.00	0.00	3100.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - DUP1	19-Jul-25	2132	Scenedesmus denticulatus Lagerhiem	14368	0.64	8.00	4.00	44.70
MEL - DUP1	19-Jul-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - DUP1	19-Jul-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - DUP1	19-Jul-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - DUP1	19-Jul-25	2206	Botryococcus braunii Kutzing	1000	0.90	12.00	12.00	904.80
MEL - DUP1	19-Jul-25	4351	Small chrysophyceae	316096	2.91	2.60	2.60	9.20
MEL - DUP1	19-Jul-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - DUP1	19-Jul-25	4355	Chrysochromulina parva Lackey	43104	2.82	5.00	5.00	65.40
MEL - DUP1	19-Jul-25	4357	Chrysococcus sp.	344832	22.55	5.00	5.00	65.40
MEL - DUP1	19-Jul-25	4362	Kephyrion sp.	143680	2.03	3.00	3.00	14.10
MEL - DUP1	19-Jul-25	4378	Dinobryon borgei Lemmermann	129312	5.48	9.00	3.00	42.40
MEL - DUP1	19-Jul-25	4381	Dinobryon mucronatom Nygaard	7184	0.94	10.00	5.00	130.90
MEL - DUP1	19-Jul-25	4383	Dinobryon bavaricum Imhof	1400	1.33	0.00	0.00	950.00
MEL - DUP1	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	186784	42.25	12.00	6.00	226.20
MEL - DUP1	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	1000	0.95	0.00	0.00	950.00
MEL - DUP1	19-Jul-25	4388	Dinobryon sertularia Ehrenberg	5000	6.25	0.00	0.00	1250.00
MEL - DUP1	19-Jul-25	4390	Dinobryon sociale Ehrenberg	510064	115.38	12.00	6.00	226.20
MEL - DUP1	19-Jul-25	4396	Chrysolykos skuja (Nauwerck) Willen	244256	6.67	5.80	3.00	27.30
MEL - DUP1	19-Jul-25	4401	Uroglena volvox Ehrenberg	668112	75.56	6.00	6.00	113.10
MEL - DUP1	19-Jul-25	4414	Stichogloea spp.	7184	0.36	6.00	4.00	50.30
MEL - DUP1	19-Jul-25	5507	Cyclotella stelligera Cleve and Grunow	2000	4.78	11.50	23.00	2389.00
MEL - DUP1	19-Jul-25	5508	Cyclotella pseudostelligera	7184	3.87	7.00	14.00	538.80
MEL - DUP1	19-Jul-25	5509	Cyclotella ocellata Pant.	7184	0.72	4.00	8.00	100.50
MEL - DUP1	19-Jul-25	5511	Rhizosolenia eriense H.L. Smith	998576	84.68	12.00	3.00	84.80
MEL - DUP1	19-Jul-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	18000	13.57	80.00	6.00	754.00
MEL - DUP1	19-Jul-25	5515	Fragilaria crotonensis Kitton	11200	3.33	71.00	4.00	297.40
MEL - DUP1	19-Jul-25	5518	Synedra acus Kutzing	20800	2.50	115.00	2.00	120.40
MEL - DUP1	19-Jul-25	5523	Synedra ulna (Nitzsch) Ehrenberg	13800	33.82	260.00	6.00	2450.40
MEL - DUP1	19-Jul-25	5524	Asterionella formosa Hassall	14400	1.51	100.00	2.00	104.70
MEL - DUP1	19-Jul-25	5551	Cyclotella michiganiana Skvortzow	50288	1.09	2.40	4.80	21.70
MEL - DUP1	19-Jul-25	6554	Rhodomonas minuta Skuja	93392	11.74	10.00	6.00	125.70
MEL - DUP1	19-Jul-25	6558	Cryptomonas erosa Ehrenberg	8200	15.15	27.00	14.00	1847.30
MEL - DUP1	19-Jul-25	6565	Cryptomonas rostratiformis Skuja	2600	6.23	35.00	14.00	2394.60
MEL - DUP1	19-Jul-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - DUP1	19-Jul-25	7632	Gymnodinium sp.	400	2.55	23.00	23.00	6370.60
MEL - DUP1	19-Jul-25	7641	Peridinium aciculiferum Lemmermann	1400	12.67	30.00	24.00	9047.80
MEL - DUP1	19-Jul-25	7641	Peridinium aciculiferum Lemmermann	400	3.62	30.00	24.00	9047.80
MEL - 0101	12-Aug-25	2105	Chlamydomonas spp.	21552	0.35	5.00	2.50	16.40
MEL - 0101	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	165232	2.33	3.00	3.00	14.10
MEL - 0101	12-Aug-25	2113	Pediastrum duplex Meyen	400	0.92	0.00	0.00	2300.00
MEL - 0101	12-Aug-25	2121	Oocystis lacustris Chodat	93392	2.47	5.60	3.00	26.40
MEL - 0101	12-Aug-25	2137	Dictyosphaerium simplex Sukja	28736	0.12	2.00	2.00	4.20
MEL - 0101	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	64656	3.65	9.00	4.00	56.50
MEL - 0101	12-Aug-25	2167	Elakatothrix gelatinosa Willen	57472	0.90	10.00	2.00	15.70
MEL - 0101	12-Aug-25	2169	Planctonema lauterbornii Schmidle	35920	12.69	18.00	5.00	353.40
MEL - 0101	12-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0101	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	93392	3.52	6.00	6.00	37.70
MEL - 0101	12-Aug-25	4351	Small chrysophyceae	596272	3.82	2.30	2.30	6.40
MEL - 0101	12-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0101	12-Aug-25	4357	Chrysococcus sp.	136496	8.93	5.00	5.00	65.40
MEL - 0101	12-Aug-25	4362	Kephyrion sp.	43104	0.61	3.00	3.00	14.10
MEL - 0101	12-Aug-25	4364	Mallomonas caudata Ivanov	400	2.14	40.00	16.00	5361.70
MEL - 0101	12-Aug-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0101	12-Aug-25	4383	Dinobryon bavaricum Imhof	1000	1.25	0.00	0.00	1250.00
MEL - 0101	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0101	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	1200	2.39	0.00	0.00	1991.00
MEL - 0101	12-Aug-25	4401	Uroglena volvox Ehrenberg	790240	89.38	6.00	6.00	113.10
MEL - 0101	12-Aug-25	4401	Uroglena volvox Ehrenberg	200	11.26	0.00	0.00	56300.00
MEL - 0101	12-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0101	12-Aug-25	4414	Stichogloea spp.	294544	14.82	6.00	4.00	50.30
MEL - 0101	12-Aug-25	4431	Synura petersenii Korschikow	400	6.30	0.00	0.00	15750.00
MEL - 0101	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	29800	71.19	11.50	23.00	2389.00
MEL - 0101	12-Aug-25	5509	Cyclotella ocellata Pant.	93392	10.11	4.10	8.20	108.30
MEL - 0101	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	34400	37.47	65.00	8.00	1089.10
MEL - 0101	12-Aug-25	5518	Synedra acus Kutzing	2000	0.21	100.00	2.00	104.70
MEL - 0101	12-Aug-25	5524	Asterionella formosa Hassall	20400	2.14	100.00	2.00	104.70
MEL - 0101	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	3000	23.15	17.00	34.00	7717.30
MEL - 0101	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	114944	2.82	2.50	5.00	24.50
MEL - 0101	12-Aug-25	6554	Rhodomonas minuta Skuja	93392	11.74	10.00	6.00	125.70
MEL - 0101	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	5000	8.89	26.00	14.00	1778.80
MEL - 0101	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	600	1.93	36.00	16.00	3217.00
MEL - 0101	12-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0101	12-Aug-25	7632	Gymnodinium sp.	200	1.12	22.00	22.00	5575.30
MEL - 0101	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3400	14.24	20.00	20.00	4188.80
MEL - 0106	12-Aug-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0106	12-Aug-25	2101	Carteria spp.	14368	11.44	11.50	11.50	796.30
MEL - 0106	12-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.30	2.50	17.30
MEL - 0106	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	50288	0.71	3.00	3.00	14.10
MEL - 0106	12-Aug-25	2121	Oocystis lacustris Chodat	136496	3.60	5.60	3.00	26.40
MEL - 0106	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	35920	2.03	9.00	4.00	56.50
MEL - 0106	12-Aug-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - 0106	12-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0106	12-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0106	12-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	400	0.16	13.90	12.00	404.70
MEL - 0106	12-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0106	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	114944	4.33	6.00	6.00	37.70
MEL - 0106	12-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0106	12-Aug-25	4351	Small chrysophyceae	452592	2.90	2.30	2.30	6.40
MEL - 0106	12-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0106	12-Aug-25	4357	Chrysococcus sp.	150864	9.87	5.00	5.00	65.40
MEL - 0106	12-Aug-25	4362	Kephyrion sp.	21552	0.30	3.00	3.00	14.10
MEL - 0106	12-Aug-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - 0106	12-Aug-25	4383	Dinobryon bavaricum Imhof	79024	17.88	12.00	6.00	226.20
MEL - 0106	12-Aug-25	4383	Dinobryon bavaricum Imhof	1800	2.25	0.00	0.00	1250.00
MEL - 0106	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	201152	45.50	12.00	6.00	226.20
MEL - 0106	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	3800	7.57	0.00	0.00	1991.00
MEL - 0106	12-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.90	3.00	27.80
MEL - 0106	12-Aug-25	4401	Uroglena volvox Ehrenberg	1048864	118.63	6.00	6.00	113.10
MEL - 0106	12-Aug-25	4414	Stichogloea spp.	431040	21.68	6.00	4.00	50.30
MEL - 0106	12-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	35920	1.00	5.90	3.00	27.80
MEL - 0106	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	50000	119.45	11.50	23.00	2389.00
MEL - 0106	12-Aug-25	5508	Cyclotella pseudostelligera	21552	11.61	7.00	14.00	538.80
MEL - 0106	12-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0106	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	49200	53.58	65.00	8.00	1089.10
MEL - 0106	12-Aug-25	5515	Fragilaria crotonensis Kitton	8000	1.71	51.00	4.00	213.60
MEL - 0106	12-Aug-25	5518	Synedra acus Kutzing	1400	0.15	100.00	2.00	104.70
MEL - 0106	12-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - 0106	12-Aug-25	5524	Asterionella formosa Hassall	41600	4.36	100.00	2.00	104.70
MEL - 0106	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	3400	26.24	17.00	34.00	7717.30
MEL - 0106	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	79024	1.94	2.50	5.00	24.50
MEL - 0106	12-Aug-25	6554	Rhodomonas minuta Skuja	244256	30.70	10.00	6.00	125.70
MEL - 0106	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	8400	14.94	26.00	14.00	1778.80
MEL - 0106	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0106	12-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0106	12-Aug-25	7632	Gymnodinium sp.	1400	7.81	22.00	22.00	5575.30
MEL - 0106	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3600	15.08	20.00	20.00	4188.80
MEL - 0107	12-Aug-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0107	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	71840	1.01	3.00	3.00	14.10
MEL - 0107	12-Aug-25	2121	Oocystis lacustris Chodat	237072	6.26	5.60	3.00	26.40
MEL - 0107	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	28736	1.62	9.00	4.00	56.50
MEL - 0107	12-Aug-25	2167	Elakatothrix gelatinosa Willen	79024	1.24	10.00	2.00	15.70
MEL - 0107	12-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0107	12-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	13.50	12.00	381.70
MEL - 0107	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	93392	3.52	6.00	6.00	37.70
MEL - 0107	12-Aug-25	2205	Mougeotia sp.	400	0.88	44.00	8.00	2211.70
MEL - 0107	12-Aug-25	4351	Small chrysophyceae	517248	3.31	2.30	2.30	6.40
MEL - 0107	12-Aug-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0107	12-Aug-25	4357	Chrysococcus sp.	136496	8.93	5.00	5.00	65.40
MEL - 0107	12-Aug-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.07	8.20	8.20	288.70
MEL - 0107	12-Aug-25	4362	Kephyrion sp.	35920	0.51	3.00	3.00	14.10
MEL - 0107	12-Aug-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0107	12-Aug-25	4383	Dinobryon bavaricum Imhof	1400	1.75	0.00	0.00	1250.00
MEL - 0107	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	114944	26.00	12.00	6.00	226.20
MEL - 0107	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	1200	2.39	0.00	0.00	1991.00
MEL - 0107	12-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	35920	0.98	5.80	3.00	27.30
MEL - 0107	12-Aug-25	4401	Uroglena volvox Ehrenberg	1257200	142.19	6.00	6.00	113.10
MEL - 0107	12-Aug-25	4414	Stichogloea spp.	517248	26.02	6.00	4.00	50.30
MEL - 0107	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	18000	43.00	11.50	23.00	2389.00
MEL - 0107	12-Aug-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0107	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	13200	14.38	65.00	8.00	1089.10
MEL - 0107	12-Aug-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0107	12-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - 0107	12-Aug-25	5524	Asterionella formosa Hassall	29000	3.04	100.00	2.00	104.70
MEL - 0107	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0107	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	26.05	25.50	51.00	26046.00
MEL - 0107	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	35920	0.88	2.50	5.00	24.50
MEL - 0107	12-Aug-25	6554	Rhodomonas minuta Skuja	114944	14.45	10.00	6.00	125.70
MEL - 0107	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	6800	12.10	26.00	14.00	1778.80
MEL - 0107	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0107	12-Aug-25	7631	Gymnodinium helveticum Penard	600	14.14	50.00	30.00	23561.90
MEL - 0107	12-Aug-25	7632	Gymnodinium sp.	1000	5.58	22.00	22.00	5575.30
MEL - 0107	12-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.49	35.00	35.00	22449.30
MEL - 0107	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	2000	8.38	20.00	20.00	4188.80
MEL - 0108	12-Aug-25	1014	Chroococcus limneticus Lemmermann	28736	0.96	4.00	4.00	33.50
MEL - 0108	12-Aug-25	1073	Snowella sp	1000	0.50	0.00	0.00	500.00
MEL - 0108	12-Aug-25	1133	Anabaena flos-aquae (Lyngb.) Breb. & Bornet	2000	15.28	335.00	6.60	7640.70
MEL - 0108	12-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - 0108	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	86208	1.22	3.00	3.00	14.10
MEL - 0108	12-Aug-25	2121	Oocystis lacustris Chodat	86208	2.28	5.60	3.00	26.40
MEL - 0108	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0108	12-Aug-25	2145	Crucigenia quadrata Morr.	28736	0.14	3.00	3.00	4.70
MEL - 0108	12-Aug-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - 0108	12-Aug-25	2178	Cosmarium sp.	600	0.84	20.00	20.00	1396.30
MEL - 0108	12-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	13.90	12.00	404.70
MEL - 0108	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0108	12-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0108	12-Aug-25	2235	Ankistrodesmus spiralis Lemmermann	7184	0.43	38.00	2.00	59.70
MEL - 0108	12-Aug-25	4351	Small chrysophyceae	402304	2.57	2.30	2.30	6.40
MEL - 0108	12-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0108	12-Aug-25	4357	Chrysococcus sp.	150864	9.87	5.00	5.00	65.40
MEL - 0108	12-Aug-25	4362	Kephyrion sp.	28736	0.41	3.00	3.00	14.10
MEL - 0108	12-Aug-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - 0108	12-Aug-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0108	12-Aug-25	4383	Dinobryon bavaricum Imhof	1400	1.75	0.00	0.00	1250.00
MEL - 0108	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	136496	30.88	12.00	6.00	226.20
MEL - 0108	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	1400	2.79	0.00	0.00	1991.00
MEL - 0108	12-Aug-25	4401	Uroglena volvox Ehrenberg	589088	66.63	6.00	6.00	113.10
MEL - 0108	12-Aug-25	4401	Uroglena volvox Ehrenberg	400	4.52	0.00	0.00	11300.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0108	12-Aug-25	4414	Stichogloea spp.	380752	19.15	6.00	4.00	50.30
MEL - 0108	12-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	50288	1.40	5.90	3.00	27.80
MEL - 0108	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	32000	76.45	11.50	23.00	2389.00
MEL - 0108	12-Aug-25	5509	Cyclotella ocellata Pant.	57472	5.99	4.05	8.10	104.30
MEL - 0108	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	36400	39.64	65.00	8.00	1089.10
MEL - 0108	12-Aug-25	5514	Tabellaria flocculosa (Roth) Kutzing	600	0.80	26.00	14.00	1334.10
MEL - 0108	12-Aug-25	5515	Fragilaria crotonensis Kitton	8000	1.71	51.00	4.00	213.60
MEL - 0108	12-Aug-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0108	12-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	600	1.58	280.00	6.00	2638.90
MEL - 0108	12-Aug-25	5524	Asterionella formosa Hassall	38600	4.04	100.00	2.00	104.70
MEL - 0108	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	4000	30.87	17.00	34.00	7717.30
MEL - 0108	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	129312	3.17	2.50	5.00	24.50
MEL - 0108	12-Aug-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - 0108	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	7200	12.81	26.00	14.00	1778.80
MEL - 0108	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	400	1.29	36.00	16.00	3217.00
MEL - 0108	12-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0108	12-Aug-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0108	12-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	200	5.75	38.00	38.00	28730.90
MEL - 0108	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	4200	17.59	20.00	20.00	4188.80
MEL - 0109	12-Aug-25	1008	Aphanocapsa sp.	14368	2.16	0.00	0.00	150.00
MEL - 0109	12-Aug-25	1014	Chroococcus limneticus Lemmermann	143680	4.81	4.00	4.00	33.50
MEL - 0109	12-Aug-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0109	12-Aug-25	1133	Anabaena flos-aquae (Lyngb.) Breb. & Bornet	600	5.54	405.00	6.60	9237.20
MEL - 0109	12-Aug-25	2105	Chlamydomonas spp.	57472	0.94	5.00	2.50	16.40
MEL - 0109	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	71840	1.01	3.00	3.00	14.10
MEL - 0109	12-Aug-25	2121	Oocystis lacustris Chodat	107760	2.84	5.60	3.00	26.40
MEL - 0109	12-Aug-25	2130	Scenedesmus quadricauda (Turp.) Brebisson	28736	1.33	8.30	4.00	46.40
MEL - 0109	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	50288	2.84	9.00	4.00	56.50
MEL - 0109	12-Aug-25	2145	Crucigenia quadrata Morr.	287360	1.35	3.00	3.00	4.70
MEL - 0109	12-Aug-25	2167	Elakatothrix gelatinosa Willen	71840	1.13	10.00	2.00	15.70
MEL - 0109	12-Aug-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0109	12-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0109	12-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	400	0.16	13.90	12.00	404.70
MEL - 0109	12-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0109	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	71840	2.71	6.00	6.00	37.70
MEL - 0109	12-Aug-25	4351	Small chrysophyceae	316096	2.02	2.30	2.30	6.40
MEL - 0109	12-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0109	12-Aug-25	4357	Chrysococcus sp.	129312	8.46	5.00	5.00	65.40
MEL - 0109	12-Aug-25	4362	Kephyrion sp.	136496	1.92	3.00	3.00	14.10
MEL - 0109	12-Aug-25	4369	Mallomonas pseudocoronata Prescott	200	0.22	21.00	10.00	1099.60
MEL - 0109	12-Aug-25	4378	Dinobryon borgei Lemmermann	14368	0.61	9.00	3.00	42.40
MEL - 0109	12-Aug-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - 0109	12-Aug-25	4383	Dinobryon bavaricum Imhof	2800	3.50	0.00	0.00	1250.00
MEL - 0109	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	114944	26.00	12.00	6.00	226.20
MEL - 0109	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	2000	3.98	0.00	0.00	1991.00
MEL - 0109	12-Aug-25	4401	Uroglena volvox Ehrenberg	1070416	121.06	6.00	6.00	113.10
MEL - 0109	12-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0109	12-Aug-25	4414	Stichogloea spp.	337648	16.98	6.00	4.00	50.30
MEL - 0109	12-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.90	3.00	27.80
MEL - 0109	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	25000	59.73	11.50	23.00	2389.00
MEL - 0109	12-Aug-25	5509	Cyclotella ocellata Pant.	35920	3.89	4.10	8.20	108.30
MEL - 0109	12-Aug-25	5511	Rhizosolenia eriense H.L. Smith	21552	1.83	12.00	3.00	84.80
MEL - 0109	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	17800	19.39	65.00	8.00	1089.10
MEL - 0109	12-Aug-25	5515	Fragilaria crotonensis Kitton	4000	0.85	51.00	4.00	213.60
MEL - 0109	12-Aug-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0109	12-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.49	260.00	6.00	2450.40
MEL - 0109	12-Aug-25	5524	Asterionella formosa Hassall	20800	2.18	100.00	2.00	104.70
MEL - 0109	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1800	13.89	17.00	34.00	7717.30
MEL - 0109	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - 0109	12-Aug-25	6554	Rhodomonas minuta Skuja	150864	18.96	10.00	6.00	125.70
MEL - 0109	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	4600	8.18	26.00	14.00	1778.80
MEL - 0109	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	400	1.29	36.00	16.00	3217.00
MEL - 0109	12-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0109	12-Aug-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0109	12-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.89	36.00	36.00	24429.00
MEL - 0109	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	2400	10.05	20.00	20.00	4188.80
MEL - 0109R	12-Aug-25	1008	Aphanocapsa sp.	14368	2.16	0.00	0.00	150.00
MEL - 0109R	12-Aug-25	1014	Chroococcus limneticus Lemmermann	186784	6.26	4.00	4.00	33.50
MEL - 0109R	12-Aug-25	1073	Snowella sp	1200	0.60	0.00	0.00	500.00
MEL - 0109R	12-Aug-25	2105	Chlamydomonas spp.	28736	0.47	5.00	2.50	16.40
MEL - 0109R	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	64656	0.91	3.00	3.00	14.10
MEL - 0109R	12-Aug-25	2121	Oocystis lacustris Chodat	215520	5.69	5.60	3.00	26.40
MEL - 0109R	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	86208	4.87	9.00	4.00	56.50
MEL - 0109R	12-Aug-25	2145	Crucigenia quadrata Morr.	258624	1.22	3.00	3.00	4.70
MEL - 0109R	12-Aug-25	2167	Elakatothrix gelatinosa Willen	64656	1.02	10.00	2.00	15.70
MEL - 0109R	12-Aug-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - 0109R	12-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0109R	12-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0109R	12-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	13.90	12.00	404.70
MEL - 0109R	12-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0109R	12-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	1.21	34.00	30.00	6052.80
MEL - 0109R	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	50288	1.90	6.00	6.00	37.70
MEL - 0109R	12-Aug-25	2235	Ankistrodesmus spiralis Lemmermann	14368	0.86	38.00	2.00	59.70
MEL - 0109R	12-Aug-25	4351	Small chrysophyceae	366384	2.34	2.30	2.30	6.40
MEL - 0109R	12-Aug-25	4352	Large chrysophyceae	14368	2.58	7.00	7.00	179.60
MEL - 0109R	12-Aug-25	4357	Chrysococcus sp.	114944	7.52	5.00	5.00	65.40
MEL - 0109R	12-Aug-25	4358	Chrysostephanosphaera globulifera Scherffel	14368	4.00	8.10	8.10	278.30
MEL - 0109R	12-Aug-25	4362	Kephyrion sp.	122128	1.72	3.00	3.00	14.10
MEL - 0109R	12-Aug-25	4378	Dinobryon borgei Lemmermann	35920	1.52	9.00	3.00	42.40

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0109R	12-Aug-25	4383	Dinobryon bavaricum Imhof	2000	2.50	0.00	0.00	1250.00
MEL - 0109R	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	86208	19.50	12.00	6.00	226.20
MEL - 0109R	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	2000	3.98	0.00	0.00	1991.00
MEL - 0109R	12-Aug-25	4401	Uroglena volvox Ehrenberg	1163808	131.63	6.00	6.00	113.10
MEL - 0109R	12-Aug-25	4414	Stichogloea spp.	423856	21.32	6.00	4.00	50.30
MEL - 0109R	12-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	14368	0.40	5.90	3.00	27.80
MEL - 0109R	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	23000	54.95	11.50	23.00	2389.00
MEL - 0109R	12-Aug-25	5509	Cyclotella ocellata Pant.	50288	5.45	4.10	8.20	108.30
MEL - 0109R	12-Aug-25	5511	Rhizosolenia eriense H.L. Smith	35920	3.05	12.00	3.00	84.80
MEL - 0109R	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	19200	11.76	65.00	6.00	612.60
MEL - 0109R	12-Aug-25	5514	Tabellaria flocculosa (Roth) Kutzing	2000	2.67	26.00	14.00	1334.10
MEL - 0109R	12-Aug-25	5515	Fragilaria crotonensis Kitton	6400	1.37	51.00	4.00	213.60
MEL - 0109R	12-Aug-25	5518	Synedra acus Kutzing	1600	0.17	100.00	2.00	104.70
MEL - 0109R	12-Aug-25	5524	Asterionella formosa Hassall	22200	2.32	100.00	2.00	104.70
MEL - 0109R	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0109R	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	43104	1.06	2.50	5.00	24.50
MEL - 0109R	12-Aug-25	6554	Rhodomonas minuta Skuja	136496	17.16	10.00	6.00	125.70
MEL - 0109R	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	6600	11.74	26.00	14.00	1778.80
MEL - 0109R	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	1800	5.79	36.00	16.00	3217.00
MEL - 0109R	12-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0109R	12-Aug-25	7632	Gymnodinium sp.	800	4.46	22.00	22.00	5575.30
MEL - 0109R	12-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	600	14.66	36.00	36.00	24429.00
MEL - 0109R	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	2000	8.38	20.00	20.00	4188.80
MEL - 0110	12-Aug-25	1014	Chroococcus limneticus Lemmermann	57472	1.93	4.00	4.00	33.50
MEL - 0110	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	50288	0.71	3.00	3.00	14.10
MEL - 0110	12-Aug-25	2113	Pediastrum duplex Meyen	200	0.66	0.00	0.00	3300.00
MEL - 0110	12-Aug-25	2121	Oocystis lacustris Chodat	215520	5.69	5.60	3.00	26.40
MEL - 0110	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	100576	5.68	9.00	4.00	56.50
MEL - 0110	12-Aug-25	2145	Crucigenia quadrata Morr.	229888	1.08	3.00	3.00	4.70
MEL - 0110	12-Aug-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - 0110	12-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0110	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	28736	1.08	6.00	6.00	37.70
MEL - 0110	12-Aug-25	4351	Small chrysophyceae	387936	2.48	2.30	2.30	6.40
MEL - 0110	12-Aug-25	4352	Large chrysophyceae	79024	14.19	7.00	7.00	179.60
MEL - 0110	12-Aug-25	4357	Chrysococcus sp.	172416	11.28	5.00	5.00	65.40
MEL - 0110	12-Aug-25	4362	Kephyrion sp.	7184	0.10	3.00	3.00	14.10
MEL - 0110	12-Aug-25	4383	Dinobryon bavaricum Imhof	208336	47.13	12.00	6.00	226.20
MEL - 0110	12-Aug-25	4383	Dinobryon bavaricum Imhof	1800	2.25	0.00	0.00	1250.00
MEL - 0110	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0110	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	1000	1.99	0.00	0.00	1991.00
MEL - 0110	12-Aug-25	4400	Ochromonas sp.	7184	0.46	7.60	4.00	63.70
MEL - 0110	12-Aug-25	4401	Uroglena volvox Ehrenberg	567536	64.19	6.00	6.00	113.10
MEL - 0110	12-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0110	12-Aug-25	4414	Stichogloea spp.	545984	27.46	6.00	4.00	50.30
MEL - 0110	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	14000	33.45	11.50	23.00	2389.00
MEL - 0110	12-Aug-25	5509	Cyclotella ocellata Pant.	50288	5.45	4.10	8.20	108.30
MEL - 0110	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	41600	45.31	65.00	8.00	1089.10
MEL - 0110	12-Aug-25	5515	Fragilaria crotonensis Kitton	1800	0.38	51.00	4.00	213.60
MEL - 0110	12-Aug-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0110	12-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - 0110	12-Aug-25	5524	Asterionella formosa Hassall	46200	4.84	100.00	2.00	104.70
MEL - 0110	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0110	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	50288	1.23	2.50	5.00	24.50
MEL - 0110	12-Aug-25	6554	Rhodomonas minuta Skuja	158048	19.87	10.00	6.00	125.70
MEL - 0110	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	6000	10.67	26.00	14.00	1778.80
MEL - 0110	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0110	12-Aug-25	7632	Gymnodinium sp.	200	1.12	22.00	22.00	5575.30
MEL - 0110	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	2200	9.22	20.00	20.00	4188.80
MEL - DUP2	12-Aug-25	1073	Snowella sp	400	0.20	0.00	0.00	500.00
MEL - DUP2	12-Aug-25	2101	Carteria spp.	7184	5.72	11.50	11.50	796.30
MEL - DUP2	12-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - DUP2	12-Aug-25	2112	Sphaerocystis schroeteri Chodat	7184	0.10	3.00	3.00	14.10
MEL - DUP2	12-Aug-25	2121	Oocystis lacustris Chodat	143680	3.79	5.60	3.00	26.40
MEL - DUP2	12-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - DUP2	12-Aug-25	2167	Elakatothrix gelatinosa Willen	50288	0.79	10.00	2.00	15.70
MEL - DUP2	12-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - DUP2	12-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - DUP2	12-Aug-25	2235	Ankistrodesmus spiralis Lemmermann	7184	0.43	38.00	2.00	59.70
MEL - DUP2	12-Aug-25	4351	Small chrysophyceae	229888	1.47	2.30	2.30	6.40
MEL - DUP2	12-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - DUP2	12-Aug-25	4357	Chrysococcus sp.	79024	5.17	5.00	5.00	65.40
MEL - DUP2	12-Aug-25	4362	Kephyrion sp.	7184	0.10	3.00	3.00	14.10
MEL - DUP2	12-Aug-25	4383	Dinobryon bavaricum Imhof	50288	11.38	12.00	6.00	226.20
MEL - DUP2	12-Aug-25	4383	Dinobryon bavaricum Imhof	2200	2.75	0.00	0.00	1250.00
MEL - DUP2	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	158048	35.75	12.00	6.00	226.20
MEL - DUP2	12-Aug-25	4388	Dinobryon sertularia Ehrenberg	3000	5.97	0.00	0.00	1991.00
MEL - DUP2	12-Aug-25	4401	Uroglena volvox Ehrenberg	502880	56.88	6.00	6.00	113.10
MEL - DUP2	12-Aug-25	4414	Stichogloea spp.	186784	9.40	6.00	4.00	50.30
MEL - DUP2	12-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	23200	55.42	11.50	23.00	2389.00
MEL - DUP2	12-Aug-25	5509	Cyclotella ocellata Pant.	7184	0.78	4.10	8.20	108.30
MEL - DUP2	12-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	47200	51.41	65.00	8.00	1089.10
MEL - DUP2	12-Aug-25	5518	Synedra acus Kutzing	2000	0.21	100.00	2.00	104.70
MEL - DUP2	12-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - DUP2	12-Aug-25	5524	Asterionella formosa Hassall	27600	2.89	100.00	2.00	104.70
MEL - DUP2	12-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1400	10.80	17.00	34.00	7717.30
MEL - DUP2	12-Aug-25	5551	Cyclotella michiganiana Skvortzow	201152	4.93	2.50	5.00	24.50
MEL - DUP2	12-Aug-25	6554	Rhodomonas minuta Skuja	172416	21.67	10.00	6.00	125.70
MEL - DUP2	12-Aug-25	6558	Cryptomonas erosa Ehrenberg	5200	9.25	26.00	14.00	1778.80
MEL - DUP2	12-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - DUP2	12-Aug-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - DUP2	12-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1200	5.03	20.00	20.00	4188.80
MEL - 0202	15-Aug-25	1014	Chroococcus limneticus Lemmermann	129312	4.33	4.00	4.00	33.50
MEL - 0202	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	193968	2.73	3.00	3.00	14.10
MEL - 0202	15-Aug-25	2113	Pediastrum duplex Meyen	200	0.64	0.00	0.00	3200.00
MEL - 0202	15-Aug-25	2121	Oocystis lacustris Chodat	143680	3.79	5.60	3.00	26.40
MEL - 0202	15-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	21552	1.22	9.00	4.00	56.50
MEL - 0202	15-Aug-25	2167	Elakatothrix gelatinosa Willen	71840	1.13	10.00	2.00	15.70
MEL - 0202	15-Aug-25	2169	Planctonema lauterbornii Schmidle	28736	10.16	18.00	5.00	353.40
MEL - 0202	15-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0202	15-Aug-25	4351	Small chrysophyceae	150864	0.97	2.30	2.30	6.40
MEL - 0202	15-Aug-25	4357	Chrysococcus sp.	172416	11.28	5.00	5.00	65.40
MEL - 0202	15-Aug-25	4361	Kephyrion boreale Skuja	7184	0.77	5.90	5.90	107.50
MEL - 0202	15-Aug-25	4362	Kephyrion sp.	7184	0.10	3.00	3.00	14.10
MEL - 0202	15-Aug-25	4383	Dinobryon bavaricum Imhof	50288	11.38	12.00	6.00	226.20
MEL - 0202	15-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0202	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	100576	22.75	12.00	6.00	226.20
MEL - 0202	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.25	0.00	0.00	1250.00
MEL - 0202	15-Aug-25	4400	Ochromonas sp.	7184	0.46	7.60	4.00	63.70
MEL - 0202	15-Aug-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - 0202	15-Aug-25	4414	Stichogloea spp.	201152	10.12	6.00	4.00	50.30
MEL - 0202	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	14200	33.92	11.50	23.00	2389.00
MEL - 0202	15-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0202	15-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0202	15-Aug-25	5524	Asterionella formosa Hassall	23400	2.45	100.00	2.00	104.70
MEL - 0202	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1800	13.89	17.00	34.00	7717.30
MEL - 0202	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	64656	1.58	2.50	5.00	24.50
MEL - 0202	15-Aug-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - 0202	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	6200	11.03	26.00	14.00	1778.80
MEL - 0202	15-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0202	15-Aug-25	7631	Gymnodinium helveticum Penard	800	12.48	31.00	31.00	15598.50
MEL - 0202	15-Aug-25	7631	Gymnodinium helveticum Penard	600	14.14	50.00	30.00	23561.90
MEL - 0202	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3200	13.40	20.00	20.00	4188.80
MEL - 0203	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	79024	1.11	3.00	3.00	14.10
MEL - 0203	15-Aug-25	2121	Oocystis lacustris Chodat	114944	3.03	5.60	3.00	26.40
MEL - 0203	15-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0203	15-Aug-25	2167	Elakatothrix gelatinosa Willen	57472	0.90	10.00	2.00	15.70
MEL - 0203	15-Aug-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - 0203	15-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0203	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	13.50	12.00	381.70
MEL - 0203	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	50288	1.90	6.00	6.00	37.70
MEL - 0203	15-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0203	15-Aug-25	4351	Small chrysophyceae	445408	2.85	2.30	2.30	6.40
MEL - 0203	15-Aug-25	4357	Chrysococcus sp.	229888	15.03	5.00	5.00	65.40
MEL - 0203	15-Aug-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0203	15-Aug-25	4362	Kephyrion sp.	129312	1.82	3.00	3.00	14.10
MEL - 0203	15-Aug-25	4368	Mallomonas crassisquama (Asmund) Fott	200	0.21	20.00	10.00	1047.20
MEL - 0203	15-Aug-25	4383	Dinobryon bavaricum Imhof	129312	29.25	12.00	6.00	226.20
MEL - 0203	15-Aug-25	4383	Dinobryon bavaricum Imhof	600	0.57	0.00	0.00	950.00
MEL - 0203	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	50288	11.38	12.00	6.00	226.20
MEL - 0203	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	800	0.76	0.00	0.00	950.00
MEL - 0203	15-Aug-25	4401	Uroglena volvox Ehrenberg	21552	2.44	6.00	6.00	113.10
MEL - 0203	15-Aug-25	4413	Chrysochromulina laurentiana Kling	35920	14.17	9.10	9.10	394.60
MEL - 0203	15-Aug-25	4414	Stichogloea spp.	251440	12.65	6.00	4.00	50.30
MEL - 0203	15-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0203	15-Aug-25	4431	Synura petersenii Korschikow	200	3.01	0.00	0.00	15050.00
MEL - 0203	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	23600	56.38	11.50	23.00	2389.00
MEL - 0203	15-Aug-25	5509	Cyclotella ocellata Pant.	64656	6.74	4.05	8.10	104.30
MEL - 0203	15-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	24400	26.57	65.00	8.00	1089.10
MEL - 0203	15-Aug-25	5515	Fragilaria crotonensis Kitton	400	0.09	51.00	4.00	213.60
MEL - 0203	15-Aug-25	5518	Synedra acus Kutzing	600	0.06	100.00	2.00	104.70
MEL - 0203	15-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	2.11	280.00	6.00	2638.90
MEL - 0203	15-Aug-25	5524	Asterionella formosa Hassall	18600	1.95	100.00	2.00	104.70
MEL - 0203	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	2600	20.06	17.00	34.00	7717.30
MEL - 0203	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	143680	3.52	2.50	5.00	24.50
MEL - 0203	15-Aug-25	6554	Rhodomonas minuta Skuja	122128	15.35	10.00	6.00	125.70
MEL - 0203	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	9000	16.01	26.00	14.00	1778.80
MEL - 0203	15-Aug-25	6565	Cryptomonas rostratiformis Skuja	1000	3.22	36.00	16.00	3217.00
MEL - 0203	15-Aug-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0203	15-Aug-25	7632	Gymnodinium sp.	1800	10.04	22.00	22.00	5575.30
MEL - 0203	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	5000	20.94	20.00	20.00	4188.80
MEL - 0205	15-Aug-25	1014	Chroococcus limneticus Lemmermann	172416	5.78	4.00	4.00	33.50
MEL - 0205	15-Aug-25	1073	Snowella sp	800	0.40	0.00	0.00	500.00
MEL - 0205	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	50288	0.71	3.00	3.00	14.10
MEL - 0205	15-Aug-25	2113	Pediastrum duplex Meyen	200	0.64	0.00	0.00	3200.00
MEL - 0205	15-Aug-25	2121	Oocystis lacustris Chodat	179600	4.74	5.60	3.00	26.40
MEL - 0205	15-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	21552	1.22	9.00	4.00	56.50
MEL - 0205	15-Aug-25	2167	Elakatothrix gelatinosa Willen	100576	1.58	10.00	2.00	15.70
MEL - 0205	15-Aug-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0205	15-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0205	15-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0205	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1200	0.46	13.50	12.00	381.70
MEL - 0205	15-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0205	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	57472	2.17	6.00	6.00	37.70
MEL - 0205	15-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0205	15-Aug-25	4351	Small chrysophyceae	416672	2.67	2.30	2.30	6.40
MEL - 0205	15-Aug-25	4357	Chrysococcus sp.	244256	15.97	5.00	5.00	65.40
MEL - 0205	15-Aug-25	4362	Kephyrion sp.	100576	1.42	3.00	3.00	14.10
MEL - 0205	15-Aug-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.42	20.00	10.00	1047.20

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0205	15-Aug-25	4383	Dinobryon bavaricum Imhof	122128	27.63	12.00	6.00	226.20
MEL - 0205	15-Aug-25	4383	Dinobryon bavaricum Imhof	600	0.57	0.00	0.00	950.00
MEL - 0205	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0205	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	1000	0.95	0.00	0.00	950.00
MEL - 0205	15-Aug-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - 0205	15-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0205	15-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0205	15-Aug-25	4414	Stichogloea spp.	107760	5.42	6.00	4.00	50.30
MEL - 0205	15-Aug-25	4437	Pteridomonas sp.	7184	1.71	8.80	8.80	237.90
MEL - 0205	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	19200	45.87	11.50	23.00	2389.00
MEL - 0205	15-Aug-25	5509	Cyclotella ocellata Pant.	50288	5.25	4.05	8.10	104.30
MEL - 0205	15-Aug-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0205	15-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	10400	11.33	65.00	8.00	1089.10
MEL - 0205	15-Aug-25	5515	Fragilaria crotonensis Kitton	800	0.17	51.00	4.00	213.60
MEL - 0205	15-Aug-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0205	15-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1400	3.69	280.00	6.00	2638.90
MEL - 0205	15-Aug-25	5524	Asterionella formosa Hassall	15800	1.65	100.00	2.00	104.70
MEL - 0205	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	3600	27.78	17.00	34.00	7717.30
MEL - 0205	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	150864	3.70	2.50	5.00	24.50
MEL - 0205	15-Aug-25	6554	Rhodomonas minuta Skuja	150864	18.96	10.00	6.00	125.70
MEL - 0205	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	7400	13.16	26.00	14.00	1778.80
MEL - 0205	15-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0205	15-Aug-25	7632	Gymnodinium sp.	1400	7.81	22.00	22.00	5575.30
MEL - 0205	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	5400	22.62	20.00	20.00	4188.80
MEL - 0206	15-Aug-25	1012	Aphanothece sp.	7184	0.55	0.00	0.00	77.00
MEL - 0206	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	222704	3.14	3.00	3.00	14.10
MEL - 0206	15-Aug-25	2121	Oocystis lacustris Chodat	86208	2.28	5.60	3.00	26.40
MEL - 0206	15-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0206	15-Aug-25	2167	Elakatothrix gelatinosa Willen	64656	1.02	10.00	2.00	15.70
MEL - 0206	15-Aug-25	2169	Planctonema lauterbornii Schmidle	35920	12.69	18.00	5.00	353.40
MEL - 0206	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1200	0.46	13.50	12.00	381.70
MEL - 0206	15-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	1.25	34.00	31.00	6254.60
MEL - 0206	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	100576	3.79	6.00	6.00	37.70
MEL - 0206	15-Aug-25	4351	Small chrysophyceae	438224	2.80	2.30	2.30	6.40
MEL - 0206	15-Aug-25	4357	Chrysococcus sp.	193968	12.69	5.00	5.00	65.40
MEL - 0206	15-Aug-25	4361	Kephyrion boreale Skuja	7184	0.77	5.90	5.90	107.50
MEL - 0206	15-Aug-25	4362	Kephyrion sp.	129312	1.82	3.00	3.00	14.10
MEL - 0206	15-Aug-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0206	15-Aug-25	4383	Dinobryon bavaricum Imhof	400	0.38	0.00	0.00	950.00
MEL - 0206	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	86208	19.50	12.00	6.00	226.20
MEL - 0206	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	800	1.59	0.00	0.00	1991.00
MEL - 0206	15-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	28736	0.78	5.80	3.00	27.30
MEL - 0206	15-Aug-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - 0206	15-Aug-25	4414	Stichogloea spp.	35920	1.81	6.00	4.00	50.30
MEL - 0206	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	17400	41.57	11.50	23.00	2389.00
MEL - 0206	15-Aug-25	5509	Cyclotella ocellata Pant.	35920	3.75	4.05	8.10	104.30
MEL - 0206	15-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	13200	14.38	65.00	8.00	1089.10
MEL - 0206	15-Aug-25	5515	Fragilaria crotonensis Kitton	800	0.17	51.00	4.00	213.60
MEL - 0206	15-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0206	15-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	2.11	280.00	6.00	2638.90
MEL - 0206	15-Aug-25	5524	Asterionella formosa Hassall	19000	1.99	100.00	2.00	104.70
MEL - 0206	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	2200	16.98	17.00	34.00	7717.30
MEL - 0206	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	165232	4.05	2.50	5.00	24.50
MEL - 0206	15-Aug-25	6554	Rhodomonas minuta Skuja	71840	9.03	10.00	6.00	125.70
MEL - 0206	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	4200	7.47	26.00	14.00	1778.80
MEL - 0206	15-Aug-25	6565	Cryptomonas rostratiformis Skuja	800	2.57	36.00	16.00	3217.00
MEL - 0206	15-Aug-25	7632	Gymnodinium sp.	400	2.23	22.00	22.00	5575.30
MEL - 0206	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	2600	10.89	20.00	20.00	4188.80
MEL - 0208	15-Aug-25	1014	Chroococcus limneticus Lemmermann	114944	3.85	4.00	4.00	33.50
MEL - 0208	15-Aug-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0208	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	244256	3.44	3.00	3.00	14.10
MEL - 0208	15-Aug-25	2121	Oocystis lacustris Chodat	7184	0.20	6.00	3.00	28.30
MEL - 0208	15-Aug-25	2130	Scenedesmus quadricauda (Turp.) Brebisson	28736	1.33	8.30	4.00	46.40
MEL - 0208	15-Aug-25	2137	Dictyosphaerium simplex Sukja	28736	0.12	2.00	2.00	4.20
MEL - 0208	15-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0208	15-Aug-25	2145	Crucigenia quadrata Morr.	28736	0.14	3.00	3.00	4.70
MEL - 0208	15-Aug-25	2167	Elakatothrix gelatinosa Willen	122128	1.92	10.00	2.00	15.70
MEL - 0208	15-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0208	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1800	0.69	13.50	12.00	381.70
MEL - 0208	15-Aug-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	200	0.42	24.00	21.00	2111.20
MEL - 0208	15-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	1.54	36.00	34.00	7690.60
MEL - 0208	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	86208	3.25	6.00	6.00	37.70
MEL - 0208	15-Aug-25	4351	Small chrysophyceae	344832	2.21	2.30	2.30	6.40
MEL - 0208	15-Aug-25	4357	Chrysococcus sp.	251440	16.44	5.00	5.00	65.40
MEL - 0208	15-Aug-25	4362	Kephyrion sp.	86208	1.22	3.00	3.00	14.10
MEL - 0208	15-Aug-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - 0208	15-Aug-25	4383	Dinobryon bavaricum Imhof	64656	14.63	12.00	6.00	226.20
MEL - 0208	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	100576	22.75	12.00	6.00	226.20
MEL - 0208	15-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0208	15-Aug-25	4401	Uroglena volvox Ehrenberg	21552	2.44	6.00	6.00	113.10
MEL - 0208	15-Aug-25	4414	Stichogloea spp.	136496	6.87	6.00	4.00	50.30
MEL - 0208	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	20000	47.78	11.50	23.00	2389.00
MEL - 0208	15-Aug-25	5509	Cyclotella ocellata Pant.	50288	5.25	4.05	8.10	104.30
MEL - 0208	15-Aug-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0208	15-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	1200	1.31	65.00	8.00	1089.10
MEL - 0208	15-Aug-25	5515	Fragilaria crotonensis Kitton	800	0.17	51.00	4.00	213.60
MEL - 0208	15-Aug-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0208	15-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	400	1.06	280.00	6.00	2638.90
MEL - 0208	15-Aug-25	5524	Asterionella formosa Hassall	11200	1.17	100.00	2.00	104.70

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0208	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	3000	23.15	17.00	34.00	7717.30
MEL - 0208	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	114944	2.82	2.50	5.00	24.50
MEL - 0208	15-Aug-25	6554	Rhodomonas minuta Skuja	136496	17.16	10.00	6.00	125.70
MEL - 0208	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	8000	14.23	26.00	14.00	1778.80
MEL - 0208	15-Aug-25	6565	Cryptomonas rostratiformis Skuja	1200	4.29	40.00	16.00	3574.40
MEL - 0208	15-Aug-25	7632	Gymnodinium sp.	1400	7.81	22.00	22.00	5575.30
MEL - 0208	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	4800	20.11	20.00	20.00	4188.80
MEL - 0301	16-Aug-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - 0301	16-Aug-25	2113	Pediastrum duplex Meyen	200	0.64	0.00	0.00	3200.00
MEL - 0301	16-Aug-25	2121	Oocystis lacustris Chodat	57472	1.52	5.60	3.00	26.40
MEL - 0301	16-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	21552	1.22	9.00	4.00	56.50
MEL - 0301	16-Aug-25	2167	Elakatothrix gelatinosa Willen	50288	0.79	10.00	2.00	15.70
MEL - 0301	16-Aug-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0301	16-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0301	16-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0301	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2200	0.84	13.50	12.00	381.70
MEL - 0301	16-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	71840	2.71	6.00	6.00	37.70
MEL - 0301	16-Aug-25	4351	Small chrysophyceae	294544	1.89	2.30	2.30	6.40
MEL - 0301	16-Aug-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0301	16-Aug-25	4357	Chrysococcus sp.	287360	18.79	5.00	5.00	65.40
MEL - 0301	16-Aug-25	4361	Kephyrion boreale Skuja	14368	1.71	6.10	6.10	118.80
MEL - 0301	16-Aug-25	4362	Kephyrion sp.	79024	1.11	3.00	3.00	14.10
MEL - 0301	16-Aug-25	4383	Dinobryon bavaricum Imhof	136496	30.88	12.00	6.00	226.20
MEL - 0301	16-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0301	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	158048	35.75	12.00	6.00	226.20
MEL - 0301	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0301	16-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	21552	0.57	5.60	3.00	26.40
MEL - 0301	16-Aug-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - 0301	16-Aug-25	4414	Stichogloea spp.	143680	7.23	6.00	4.00	50.30
MEL - 0301	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	14200	33.92	11.50	23.00	2389.00
MEL - 0301	16-Aug-25	5509	Cyclotella ocellata Pant.	43104	4.50	4.05	8.10	104.30
MEL - 0301	16-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	7200	7.84	65.00	8.00	1089.10
MEL - 0301	16-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - 0301	16-Aug-25	5518	Synedra acus Kutzing	1200	0.13	100.00	2.00	104.70
MEL - 0301	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1000	2.64	280.00	6.00	2638.90
MEL - 0301	16-Aug-25	5524	Asterionella formosa Hassall	5400	0.57	100.00	2.00	104.70
MEL - 0301	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0301	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - 0301	16-Aug-25	6554	Rhodomonas minuta Skuja	122128	15.35	10.00	6.00	125.70
MEL - 0301	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	3400	6.05	26.00	14.00	1778.80
MEL - 0301	16-Aug-25	7632	Gymnodinium sp.	400	2.23	22.00	22.00	5575.30
MEL - 0301	16-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.49	35.00	35.00	22449.30
MEL - 0301	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3400	14.24	20.00	20.00	4188.80
MEL - 0302	16-Aug-25	1008	Aphanocapsa sp.	7184	1.08	0.00	0.00	150.00
MEL - 0302	16-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - 0302	16-Aug-25	2112	Sphaerocystis schroeteri Chodat	7184	0.10	3.00	3.00	14.10
MEL - 0302	16-Aug-25	2113	Pediastrum duplex Meyen	200	0.64	0.00	0.00	3200.00
MEL - 0302	16-Aug-25	2121	Oocystis lacustris Chodat	50288	1.33	5.60	3.00	26.40
MEL - 0302	16-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	28736	1.62	9.00	4.00	56.50
MEL - 0302	16-Aug-25	2167	Elakatothrix gelatinosa Willen	107760	1.69	10.00	2.00	15.70
MEL - 0302	16-Aug-25	2169	Planctonema lauterbornii Schmidle	21552	7.62	18.00	5.00	353.40
MEL - 0302	16-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0302	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1600	0.61	13.50	12.00	381.70
MEL - 0302	16-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	1.07	32.00	30.00	5361.70
MEL - 0302	16-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0302	16-Aug-25	4351	Small chrysophyceae	452592	2.90	2.30	2.30	6.40
MEL - 0302	16-Aug-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - 0302	16-Aug-25	4357	Chrysococcus sp.	229888	15.03	5.00	5.00	65.40
MEL - 0302	16-Aug-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0302	16-Aug-25	4362	Kephyrion sp.	201152	2.84	3.00	3.00	14.10
MEL - 0302	16-Aug-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - 0302	16-Aug-25	4383	Dinobryon bavaricum Imhof	143680	32.50	12.00	6.00	226.20
MEL - 0302	16-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0302	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0302	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0302	16-Aug-25	4401	Uroglena volvox Ehrenberg	35920	4.06	6.00	6.00	113.10
MEL - 0302	16-Aug-25	4414	Stichogloea spp.	114944	5.78	6.00	4.00	50.30
MEL - 0302	16-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0302	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	10000	23.89	11.50	23.00	2389.00
MEL - 0302	16-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0302	16-Aug-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0302	16-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	200	0.22	65.00	8.00	1089.10
MEL - 0302	16-Aug-25	5515	Fragilaria crotonensis Kitton	800	0.17	51.00	4.00	213.60
MEL - 0302	16-Aug-25	5518	Synedra acus Kutzing	1600	0.17	100.00	2.00	104.70
MEL - 0302	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	600	1.58	280.00	6.00	2638.90
MEL - 0302	16-Aug-25	5524	Asterionella formosa Hassall	1800	0.19	100.00	2.00	104.70
MEL - 0302	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - 0302	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	150864	3.70	2.50	5.00	24.50
MEL - 0302	16-Aug-25	6554	Rhodomonas minuta Skuja	179600	22.58	10.00	6.00	125.70
MEL - 0302	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	5400	9.61	26.00	14.00	1778.80
MEL - 0302	16-Aug-25	6565	Cryptomonas rostratiformis Skuja	400	1.29	36.00	16.00	3217.00
MEL - 0302	16-Aug-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0302	16-Aug-25	7632	Gymnodinium sp.	1200	6.69	22.00	22.00	5575.30
MEL - 0302	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3000	12.57	20.00	20.00	4188.80
MEL - 0303	16-Aug-25	2112	Sphaerocystis schroeteri Chodat	50288	0.71	3.00	3.00	14.10
MEL - 0303	16-Aug-25	2121	Oocystis lacustris Chodat	71840	1.90	5.60	3.00	26.40
MEL - 0303	16-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0303	16-Aug-25	2145	Crucigenia quadrata Morr.	28736	0.14	3.00	3.00	4.70
MEL - 0303	16-Aug-25	2167	Elakatothrix gelatinosa Willen	71840	1.13	10.00	2.00	15.70

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0303	16-Aug-25	2169	Planctonema lauterbornii Schmidle	64656	22.85	18.00	5.00	353.40
MEL - 0303	16-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0303	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1200	0.46	13.50	12.00	381.70
MEL - 0303	16-Aug-25	2193	Staurodesmus paradoxum Meyen	800	2.27	26.00	24.00	2831.60
MEL - 0303	16-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	43104	1.63	6.00	6.00	37.70
MEL - 0303	16-Aug-25	4351	Small chrysophyceae	495696	3.17	2.30	2.30	6.40
MEL - 0303	16-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0303	16-Aug-25	4357	Chrysococcus sp.	294544	19.26	5.00	5.00	65.40
MEL - 0303	16-Aug-25	4362	Kephyrion sp.	79024	1.11	3.00	3.00	14.10
MEL - 0303	16-Aug-25	4383	Dinobryon bavaricum Imhof	258624	58.50	12.00	6.00	226.20
MEL - 0303	16-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0303	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0303	16-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	35920	0.95	5.60	3.00	26.40
MEL - 0303	16-Aug-25	4401	Uroglena volvox Ehrenberg	57472	6.50	6.00	6.00	113.10
MEL - 0303	16-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0303	16-Aug-25	4414	Stichogloea spp.	114944	5.78	6.00	4.00	50.30
MEL - 0303	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	13200	31.53	11.50	23.00	2389.00
MEL - 0303	16-Aug-25	5509	Cyclotella ocellata Pant.	79024	8.24	4.05	8.10	104.30
MEL - 0303	16-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	1800	1.96	65.00	8.00	1089.10
MEL - 0303	16-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0303	16-Aug-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0303	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1200	3.17	280.00	6.00	2638.90
MEL - 0303	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	2000	15.43	17.00	34.00	7717.30
MEL - 0303	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	50288	1.23	2.50	5.00	24.50
MEL - 0303	16-Aug-25	6554	Rhodomonas minuta Skuja	222704	27.99	10.00	6.00	125.70
MEL - 0303	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	7400	13.16	26.00	14.00	1778.80
MEL - 0303	16-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0303	16-Aug-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0303	16-Aug-25	7632	Gymnodinium sp.	1200	6.69	22.00	22.00	5575.30
MEL - 0303	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3200	13.40	20.00	20.00	4188.80
MEL - 0304	16-Aug-25	2121	Oocystis lacustris Chodat	129312	3.41	5.60	3.00	26.40
MEL - 0304	16-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0304	16-Aug-25	2167	Elakatothrix gelatinosa Willen	7184	0.11	10.00	2.00	15.70
MEL - 0304	16-Aug-25	2169	Planctonema lauterbornii Schmidle	43104	15.23	18.00	5.00	353.40
MEL - 0304	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2000	0.76	13.50	12.00	381.70
MEL - 0304	16-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0304	16-Aug-25	4351	Small chrysophyceae	402304	2.57	2.30	2.30	6.40
MEL - 0304	16-Aug-25	4352	Large chrysophyceae	21552	3.87	7.00	7.00	179.60
MEL - 0304	16-Aug-25	4357	Chrysococcus sp.	337648	22.08	5.00	5.00	65.40
MEL - 0304	16-Aug-25	4361	Kephyrion boreale Skuja	14368	1.71	6.10	6.10	118.80
MEL - 0304	16-Aug-25	4362	Kephyrion sp.	129312	1.82	3.00	3.00	14.10
MEL - 0304	16-Aug-25	4378	Dinobryon borgei Lemmermann	21552	0.91	9.00	3.00	42.40
MEL - 0304	16-Aug-25	4383	Dinobryon bavaricum Imhof	143680	32.50	12.00	6.00	226.20
MEL - 0304	16-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0304	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	35920	8.13	12.00	6.00	226.20
MEL - 0304	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0304	16-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0304	16-Aug-25	4401	Uroglena volvox Ehrenberg	43104	4.88	6.00	6.00	113.10
MEL - 0304	16-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0304	16-Aug-25	4414	Stichogloea spp.	35920	1.81	6.00	4.00	50.30
MEL - 0304	16-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	150864	4.12	5.80	3.00	27.30
MEL - 0304	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	8200	19.59	11.50	23.00	2389.00
MEL - 0304	16-Aug-25	5509	Cyclotella ocellata Pant.	28736	3.11	4.10	8.20	108.30
MEL - 0304	16-Aug-25	5515	Fragilaria crotonensis Kitton	2600	0.56	51.00	4.00	213.60
MEL - 0304	16-Aug-25	5518	Synedra acus Kutzing	1800	0.19	100.00	2.00	104.70
MEL - 0304	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1000	2.64	280.00	6.00	2638.90
MEL - 0304	16-Aug-25	5524	Asterionella formosa Hassall	3200	0.34	100.00	2.00	104.70
MEL - 0304	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - 0304	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	172416	4.22	2.50	5.00	24.50
MEL - 0304	16-Aug-25	6554	Rhodomonas minuta Skuja	143680	18.06	10.00	6.00	125.70
MEL - 0304	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	8600	15.30	26.00	14.00	1778.80
MEL - 0304	16-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0304	16-Aug-25	7632	Gymnodinium sp.	1400	7.81	22.00	22.00	5575.30
MEL - 0304	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3400	14.24	20.00	20.00	4188.80
MEL - 0305	16-Aug-25	2121	Oocystis lacustris Chodat	28736	0.76	5.60	3.00	26.40
MEL - 0305	16-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0305	16-Aug-25	2167	Elakatothrix gelatinosa Willen	114944	1.80	10.00	2.00	15.70
MEL - 0305	16-Aug-25	2169	Planctonema lauterbornii Schmidle	35920	12.69	18.00	5.00	353.40
MEL - 0305	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2000	0.76	13.50	12.00	381.70
MEL - 0305	16-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	86208	3.25	6.00	6.00	37.70
MEL - 0305	16-Aug-25	4351	Small chrysophyceae	502880	3.22	2.30	2.30	6.40
MEL - 0305	16-Aug-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - 0305	16-Aug-25	4357	Chrysococcus sp.	545984	35.71	5.00	5.00	65.40
MEL - 0305	16-Aug-25	4361	Kephyrion boreale Skuja	28736	3.41	6.10	6.10	118.80
MEL - 0305	16-Aug-25	4362	Kephyrion sp.	107760	1.52	3.00	3.00	14.10
MEL - 0305	16-Aug-25	4383	Dinobryon bavaricum Imhof	229888	52.00	12.00	6.00	226.20
MEL - 0305	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0305	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.25	0.00	0.00	1250.00
MEL - 0305	16-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	21552	0.57	5.60	3.00	26.40
MEL - 0305	16-Aug-25	4401	Uroglena volvox Ehrenberg	64656	7.31	6.00	6.00	113.10
MEL - 0305	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	6000	14.33	11.50	23.00	2389.00
MEL - 0305	16-Aug-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0305	16-Aug-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0305	16-Aug-25	5515	Fragilaria crotonensis Kitton	1800	0.41	54.00	4.00	226.20
MEL - 0305	16-Aug-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0305	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1400	3.69	280.00	6.00	2638.90
MEL - 0305	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	400	3.09	17.00	34.00	7717.30
MEL - 0305	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	150864	3.70	2.50	5.00	24.50
MEL - 0305	16-Aug-25	6554	Rhodomonas minuta Skuja	150864	18.96	10.00	6.00	125.70

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0305	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	6400	11.38	26.00	14.00	1778.80
MEL - 0305	16-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0305	16-Aug-25	7632	Gymnodinium sp.	1000	5.58	22.00	22.00	5575.30
MEL - 0305	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	2000	8.38	20.00	20.00	4188.80
MEL - 0305R	16-Aug-25	2105	Chlamydomonas spp.	7184	0.08	5.00	2.00	10.50
MEL - 0305R	16-Aug-25	2121	Oocystis lacustris Chodat	21552	0.57	5.60	3.00	26.40
MEL - 0305R	16-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	14368	0.81	9.00	4.00	56.50
MEL - 0305R	16-Aug-25	2167	Elakatothrix gelatinosa Willen	107760	1.69	10.00	2.00	15.70
MEL - 0305R	16-Aug-25	2169	Planctonema lauterbornii Schmidle	35920	12.69	18.00	5.00	353.40
MEL - 0305R	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	3200	1.22	13.50	12.00	381.70
MEL - 0305R	16-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	57472	2.17	6.00	6.00	37.70
MEL - 0305R	16-Aug-25	4351	Small chrysophyceae	395120	2.53	2.30	2.30	6.40
MEL - 0305R	16-Aug-25	4352	Large chrysophyceae	50288	9.03	7.00	7.00	179.60
MEL - 0305R	16-Aug-25	4357	Chrysococcus sp.	567536	37.12	5.00	5.00	65.40
MEL - 0305R	16-Aug-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0305R	16-Aug-25	4362	Kephyrion sp.	158048	2.23	3.00	3.00	14.10
MEL - 0305R	16-Aug-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - 0305R	16-Aug-25	4383	Dinobryon bavaricum Imhof	258624	58.50	12.00	6.00	226.20
MEL - 0305R	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	35920	8.13	12.00	6.00	226.20
MEL - 0305R	16-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0305R	16-Aug-25	4401	Uroglena volvox Ehrenberg	28736	3.25	6.00	6.00	113.10
MEL - 0305R	16-Aug-25	4414	Stichogloea spp.	28736	1.45	6.00	4.00	50.30
MEL - 0305R	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	4800	11.47	11.50	23.00	2389.00
MEL - 0305R	16-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0305R	16-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	1200	1.31	65.00	8.00	1089.10
MEL - 0305R	16-Aug-25	5515	Fragilaria crotonensis Kitton	1000	0.21	51.00	4.00	213.60
MEL - 0305R	16-Aug-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0305R	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	400	1.06	280.00	6.00	2638.90
MEL - 0305R	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	800	6.17	17.00	34.00	7717.30
MEL - 0305R	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	215520	5.28	2.50	5.00	24.50
MEL - 0305R	16-Aug-25	6554	Rhodomonas minuta Skuja	136496	17.16	10.00	6.00	125.70
MEL - 0305R	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	8600	15.30	26.00	14.00	1778.80
MEL - 0305R	16-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - 0305R	16-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0305R	16-Aug-25	7632	Gymnodinium sp.	800	4.46	22.00	22.00	5575.30
MEL - 0305R	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	3200	13.40	20.00	20.00	4188.80
MEL - DUP1	16-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - DUP1	16-Aug-25	2112	Sphaerocystis schroeteri Chodat	7184	0.10	3.00	3.00	14.10
MEL - DUP1	16-Aug-25	2121	Oocystis lacustris Chodat	136496	3.60	5.60	3.00	26.40
MEL - DUP1	16-Aug-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - DUP1	16-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - DUP1	16-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2600	0.99	13.50	12.00	381.70
MEL - DUP1	16-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - DUP1	16-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	57472	2.17	6.00	6.00	37.70
MEL - DUP1	16-Aug-25	4351	Small chrysophyceae	323280	2.07	2.30	2.30	6.40
MEL - DUP1	16-Aug-25	4352	Large chrysophyceae	21552	3.87	7.00	7.00	179.60
MEL - DUP1	16-Aug-25	4357	Chrysococcus sp.	201152	13.16	5.00	5.00	65.40
MEL - DUP1	16-Aug-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - DUP1	16-Aug-25	4362	Kephyrion sp.	129312	1.82	3.00	3.00	14.10
MEL - DUP1	16-Aug-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - DUP1	16-Aug-25	4383	Dinobryon bavaricum Imhof	201152	45.50	12.00	6.00	226.20
MEL - DUP1	16-Aug-25	4383	Dinobryon bavaricum Imhof	600	0.75	0.00	0.00	1250.00
MEL - DUP1	16-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - DUP1	16-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - DUP1	16-Aug-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - DUP1	16-Aug-25	4414	Stichogloea spp.	50288	2.53	6.00	4.00	50.30
MEL - DUP1	16-Aug-25	4437	Pteridomonas sp.	7184	1.71	8.80	8.80	237.90
MEL - DUP1	16-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	7400	17.68	11.50	23.00	2389.00
MEL - DUP1	16-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - DUP1	16-Aug-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - DUP1	16-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	4200	4.57	65.00	8.00	1089.10
MEL - DUP1	16-Aug-25	5515	Fragilaria crotonensis Kitton	800	0.17	51.00	4.00	213.60
MEL - DUP1	16-Aug-25	5518	Synedra acus Kutzing	600	0.06	100.00	2.00	104.70
MEL - DUP1	16-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1000	2.64	280.00	6.00	2638.90
MEL - DUP1	16-Aug-25	5524	Asterionella formosa Hassall	3200	0.34	100.00	2.00	104.70
MEL - DUP1	16-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - DUP1	16-Aug-25	5551	Cyclotella michiganiana Skvortzow	57472	1.41	2.50	5.00	24.50
MEL - DUP1	16-Aug-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - DUP1	16-Aug-25	6558	Cryptomonas erosa Ehrenberg	4800	8.54	26.00	14.00	1778.80
MEL - DUP1	16-Aug-25	6565	Cryptomonas rostratiformis Skuja	200	0.64	36.00	16.00	3217.00
MEL - DUP1	16-Aug-25	7632	Gymnodinium sp.	400	2.23	22.00	22.00	5575.30
MEL - DUP1	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	4000	16.76	20.00	20.00	4188.80
MEL - 0401	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	7184	0.10	3.00	3.00	14.10
MEL - 0401	17-Aug-25	2121	Oocystis lacustris Chodat	158048	4.17	5.60	3.00	26.40
MEL - 0401	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	21552	1.22	9.00	4.00	56.50
MEL - 0401	17-Aug-25	2167	Elakatothrix gelatinosa Willen	7184	0.11	10.00	2.00	15.70
MEL - 0401	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1000	0.38	13.50	12.00	381.70
MEL - 0401	17-Aug-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0401	17-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0401	17-Aug-25	2255	Selenastrum copricornutum Printz	43104	0.47	7.20	1.70	10.90
MEL - 0401	17-Aug-25	4351	Small chrysophyceae	301728	1.93	2.30	2.30	6.40
MEL - 0401	17-Aug-25	4357	Chrysococcus sp.	43104	2.82	5.00	5.00	65.40
MEL - 0401	17-Aug-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0401	17-Aug-25	4362	Kephyrion sp.	35920	0.51	3.00	3.00	14.10
MEL - 0401	17-Aug-25	4383	Dinobryon bavaricum Imhof	64656	14.63	12.00	6.00	226.20
MEL - 0401	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0401	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0401	17-Aug-25	4414	Stichogloea spp.	244256	12.29	6.00	4.00	50.30
MEL - 0401	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	12400	29.62	11.50	23.00	2389.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0401	17-Aug-25	5509	Cyclotella ocellata Pant.	14368	1.50	4.05	8.10	104.30
MEL - 0401	17-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	200	0.22	65.00	8.00	1089.10
MEL - 0401	17-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0401	17-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - 0401	17-Aug-25	5524	Asterionella formosa Hassall	600	0.06	100.00	2.00	104.70
MEL - 0401	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	800	6.17	17.00	34.00	7717.30
MEL - 0401	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	122128	2.99	2.50	5.00	24.50
MEL - 0401	17-Aug-25	6554	Rhodomonas minuta Skuja	71840	9.03	10.00	6.00	125.70
MEL - 0401	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	3800	6.76	26.00	14.00	1778.80
MEL - 0401	17-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0401	17-Aug-25	7632	Gymnodinium sp.	200	3.12	31.00	31.00	15598.50
MEL - 0401	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1600	6.70	20.00	20.00	4188.80
MEL - 0402	17-Aug-25	1040	Phormidium sp	200	1.51	600.00	4.00	7539.80
MEL - 0402	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	344832	4.86	3.00	3.00	14.10
MEL - 0402	17-Aug-25	2121	Oocystis lacustris Chodat	179600	4.74	5.60	3.00	26.40
MEL - 0402	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0402	17-Aug-25	2167	Elakatothrix gelatinosa Willen	35920	0.56	10.00	2.00	15.70
MEL - 0402	17-Aug-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0402	17-Aug-25	2182	Euastrum spp.	400	0.56	20.00	20.00	1396.30
MEL - 0402	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2200	0.84	13.50	12.00	381.70
MEL - 0402	17-Aug-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0402	17-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0402	17-Aug-25	4351	Small chrysophyceae	287360	1.84	2.30	2.30	6.40
MEL - 0402	17-Aug-25	4357	Chrysococcus sp.	122128	7.99	5.00	5.00	65.40
MEL - 0402	17-Aug-25	4362	Kephyrion sp.	71840	1.01	3.00	3.00	14.10
MEL - 0402	17-Aug-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - 0402	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	21552	4.88	12.00	6.00	226.20
MEL - 0402	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0402	17-Aug-25	4414	Stichogloea spp.	21552	1.08	6.00	4.00	50.30
MEL - 0402	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	14200	33.92	11.50	23.00	2389.00
MEL - 0402	17-Aug-25	5509	Cyclotella ocellata Pant.	43104	4.50	4.05	8.10	104.30
MEL - 0402	17-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0402	17-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0402	17-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - 0402	17-Aug-25	5524	Asterionella formosa Hassall	1200	0.13	100.00	2.00	104.70
MEL - 0402	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0402	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	186784	4.58	2.50	5.00	24.50
MEL - 0402	17-Aug-25	6554	Rhodomonas minuta Skuja	7184	0.90	10.00	6.00	125.70
MEL - 0402	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	3200	5.69	26.00	14.00	1778.80
MEL - 0402	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1200	5.03	20.00	20.00	4188.80
MEL - 0403	17-Aug-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - 0403	17-Aug-25	2100	Pyramidomonas tetrarhynchus Schmarda	200	0.11	14.60	12.00	550.40
MEL - 0403	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	380752	5.37	3.00	3.00	14.10
MEL - 0403	17-Aug-25	2121	Oocystis lacustris Chodat	143680	3.79	5.60	3.00	26.40
MEL - 0403	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0403	17-Aug-25	2167	Elakatothrix gelatinosa Willen	28736	0.45	10.00	2.00	15.70
MEL - 0403	17-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0403	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1400	0.53	13.50	12.00	381.70
MEL - 0403	17-Aug-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	200	0.39	23.00	21.00	1938.90
MEL - 0403	17-Aug-25	2206	Botryococcus braunii Kutzing	200	0.29	14.00	14.00	1436.80
MEL - 0403	17-Aug-25	4351	Small chrysophyceae	251440	1.61	2.30	2.30	6.40
MEL - 0403	17-Aug-25	4352	Large chrysophyceae	21552	3.87	7.00	7.00	179.60
MEL - 0403	17-Aug-25	4357	Chrysococcus sp.	143680	9.40	5.00	5.00	65.40
MEL - 0403	17-Aug-25	4362	Kephyrion sp.	7184	0.10	3.00	3.00	14.10
MEL - 0403	17-Aug-25	4383	Dinobryon bavaricum Imhof	28736	6.50	12.00	6.00	226.20
MEL - 0403	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0403	17-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0403	17-Aug-25	4414	Stichogloea spp.	136496	6.87	6.00	4.00	50.30
MEL - 0403	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	13600	32.49	11.50	23.00	2389.00
MEL - 0403	17-Aug-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0403	17-Aug-25	5524	Asterionella formosa Hassall	4000	0.42	100.00	2.00	104.70
MEL - 0403	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1600	12.35	17.00	34.00	7717.30
MEL - 0403	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	107760	2.64	2.50	5.00	24.50
MEL - 0403	17-Aug-25	6554	Rhodomonas minuta Skuja	21552	2.71	10.00	6.00	125.70
MEL - 0403	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	3400	6.05	26.00	14.00	1778.80
MEL - 0403	17-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0403	17-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	200	5.75	38.00	38.00	28730.90
MEL - 0403	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	400	1.68	20.00	20.00	4188.80
MEL - 0403	17-Aug-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - 0403R	17-Aug-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0403R	17-Aug-25	2100	Pyramidomonas tetrarhynchus Schmarda	200	0.13	14.60	13.00	646.00
MEL - 0403R	17-Aug-25	2105	Chlamydomonas spp.	14368	0.24	5.00	2.50	16.40
MEL - 0403R	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	294544	4.15	3.00	3.00	14.10
MEL - 0403R	17-Aug-25	2121	Oocystis lacustris Chodat	79024	2.09	5.60	3.00	26.40
MEL - 0403R	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	43104	2.44	9.00	4.00	56.50
MEL - 0403R	17-Aug-25	2167	Elakatothrix gelatinosa Willen	43104	0.68	10.00	2.00	15.70
MEL - 0403R	17-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0403R	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2200	0.84	13.50	12.00	381.70
MEL - 0403R	17-Aug-25	2206	Botryococcus braunii Kutzing	200	0.29	14.00	14.00	1436.80
MEL - 0403R	17-Aug-25	4351	Small chrysophyceae	294544	1.89	2.30	2.30	6.40
MEL - 0403R	17-Aug-25	4352	Large chrysophyceae	14368	2.58	7.00	7.00	179.60
MEL - 0403R	17-Aug-25	4357	Chrysococcus sp.	172416	11.28	5.00	5.00	65.40
MEL - 0403R	17-Aug-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - 0403R	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	50288	11.38	12.00	6.00	226.20
MEL - 0403R	17-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	14368	0.72	6.00	4.00	50.30
MEL - 0403R	17-Aug-25	4414	Stichogloea spp.	179600	9.03	6.00	4.00	50.30
MEL - 0403R	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	15400	36.79	11.50	23.00	2389.00
MEL - 0403R	17-Aug-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0403R	17-Aug-25	5518	Synedra acus Kutzing	600	0.06	100.00	2.00	104.70

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0403R	17-Aug-25	5524	Asterionella formosa Hassall	2800	0.29	100.00	2.00	104.70
MEL - 0403R	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - 0403R	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	186784	4.58	2.50	5.00	24.50
MEL - 0403R	17-Aug-25	6554	Rhodomonas minuta Skuja	35920	4.52	10.00	6.00	125.70
MEL - 0403R	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2800	4.98	26.00	14.00	1778.80
MEL - 0403R	17-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0403R	17-Aug-25	7635	Peridinium willei Huitfeldt-Kaas	400	11.49	38.00	38.00	28730.90
MEL - 0403R	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	200	0.84	20.00	20.00	4188.80
MEL - 0404	17-Aug-25	2105	Chlamydomonas spp.	50288	0.82	5.00	2.50	16.40
MEL - 0404	17-Aug-25	2121	Oocystis lacustris Chodat	524432	13.85	5.60	3.00	26.40
MEL - 0404	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	64656	3.65	9.00	4.00	56.50
MEL - 0404	17-Aug-25	2167	Elakatothrix gelatinosa Willen	129312	2.03	10.00	2.00	15.70
MEL - 0404	17-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0404	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1400	0.53	13.50	12.00	381.70
MEL - 0404	17-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0404	17-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0404	17-Aug-25	2206	Botryococcus braunii Kutzing	600	0.86	14.00	14.00	1436.80
MEL - 0404	17-Aug-25	4351	Small chrysophyceae	186784	1.20	2.30	2.30	6.40
MEL - 0404	17-Aug-25	4357	Chrysococcus sp.	100576	6.58	5.00	5.00	65.40
MEL - 0404	17-Aug-25	4362	Kephyrion sp.	57472	0.81	3.00	3.00	14.10
MEL - 0404	17-Aug-25	4363	Spiniferomonas serrata	14368	1.54	5.90	5.90	107.50
MEL - 0404	17-Aug-25	4383	Dinobryon bavaricum Imhof	43104	9.75	12.00	6.00	226.20
MEL - 0404	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	21552	4.88	12.00	6.00	226.20
MEL - 0404	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0404	17-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	28736	0.78	5.80	3.00	27.30
MEL - 0404	17-Aug-25	4414	Stichogloea spp.	229888	11.56	6.00	4.00	50.30
MEL - 0404	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	15400	36.79	11.50	23.00	2389.00
MEL - 0404	17-Aug-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0404	17-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3400	3.70	65.00	8.00	1089.10
MEL - 0404	17-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0404	17-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0404	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0404	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	222704	5.46	2.50	5.00	24.50
MEL - 0404	17-Aug-25	6554	Rhodomonas minuta Skuja	79024	9.93	10.00	6.00	125.70
MEL - 0404	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2400	4.27	26.00	14.00	1778.80
MEL - 0404	17-Aug-25	6565	Cryptomonas rostratiformis Skuja	400	1.29	36.00	16.00	3217.00
MEL - 0404	17-Aug-25	7632	Gymnodinium sp.	400	2.23	22.00	22.00	5575.30
MEL - 0404	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	200	0.84	20.00	20.00	4188.80
MEL - 0405	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	323280	4.56	3.00	3.00	14.10
MEL - 0405	17-Aug-25	2121	Oocystis lacustris Chodat	57472	1.52	5.60	3.00	26.40
MEL - 0405	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	21552	1.22	9.00	4.00	56.50
MEL - 0405	17-Aug-25	2167	Elakatothrix gelatinosa Willen	100576	1.58	10.00	2.00	15.70
MEL - 0405	17-Aug-25	2169	Planctonema lauterbornii Schmidle	21552	7.62	18.00	5.00	353.40
MEL - 0405	17-Aug-25	2178	Cosmarium sp.	800	1.12	20.00	20.00	1396.30
MEL - 0405	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2200	0.84	13.50	12.00	381.70
MEL - 0405	17-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	1.21	34.00	30.00	6052.80
MEL - 0405	17-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0405	17-Aug-25	4351	Small chrysophyceae	272992	1.75	2.30	2.30	6.40
MEL - 0405	17-Aug-25	4357	Chrysococcus sp.	107760	7.05	5.00	5.00	65.40
MEL - 0405	17-Aug-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0405	17-Aug-25	4362	Kephyrion sp.	86208	1.22	3.00	3.00	14.10
MEL - 0405	17-Aug-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0405	17-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0405	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	14368	3.25	12.00	6.00	226.20
MEL - 0405	17-Aug-25	4414	Stichogloea spp.	222704	11.20	6.00	4.00	50.30
MEL - 0405	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	9800	23.41	11.50	23.00	2389.00
MEL - 0405	17-Aug-25	5509	Cyclotella ocellata Pant.	86208	8.99	4.05	8.10	104.30
MEL - 0405	17-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - 0405	17-Aug-25	5524	Asterionella formosa Hassall	3200	0.34	100.00	2.00	104.70
MEL - 0405	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	400	3.09	17.00	34.00	7717.30
MEL - 0405	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	100576	2.46	2.50	5.00	24.50
MEL - 0405	17-Aug-25	6554	Rhodomonas minuta Skuja	79024	9.93	10.00	6.00	125.70
MEL - 0405	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2800	4.98	26.00	14.00	1778.80
MEL - 0405	17-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0405	17-Aug-25	7632	Gymnodinium sp.	200	1.12	22.00	22.00	5575.30
MEL - 0405	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	800	3.35	20.00	20.00	4188.80
MEL - 0501	17-Aug-25	1073	Snowella sp	400	0.20	0.00	0.00	500.00
MEL - 0501	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	122128	1.72	3.00	3.00	14.10
MEL - 0501	17-Aug-25	2121	Oocystis lacustris Chodat	136496	3.60	5.60	3.00	26.40
MEL - 0501	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	28736	1.62	9.00	4.00	56.50
MEL - 0501	17-Aug-25	2167	Elakatothrix gelatinosa Willen	35920	0.56	10.00	2.00	15.70
MEL - 0501	17-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0501	17-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0501	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1200	0.46	13.50	12.00	381.70
MEL - 0501	17-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	1.01	31.00	30.00	5031.80
MEL - 0501	17-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	43104	1.63	6.00	6.00	37.70
MEL - 0501	17-Aug-25	2206	Botryococcus braunii Kutzing	800	1.15	14.00	14.00	1436.80
MEL - 0501	17-Aug-25	4351	Small chrysophyceae	158048	1.01	2.30	2.30	6.40
MEL - 0501	17-Aug-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0501	17-Aug-25	4357	Chrysococcus sp.	251440	16.44	5.00	5.00	65.40
MEL - 0501	17-Aug-25	4362	Kephyrion sp.	57472	0.81	3.00	3.00	14.10
MEL - 0501	17-Aug-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.42	20.00	10.00	1047.20
MEL - 0501	17-Aug-25	4383	Dinobryon bavaricum Imhof	100576	22.75	12.00	6.00	226.20
MEL - 0501	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0501	17-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	21552	0.59	5.80	3.00	27.30
MEL - 0501	17-Aug-25	4414	Stichogloea spp.	474144	23.85	6.00	4.00	50.30
MEL - 0501	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	17600	42.05	11.50	23.00	2389.00
MEL - 0501	17-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0501	17-Aug-25	5515	Fragilaria crotonensis Kitton	2600	0.56	51.00	4.00	213.60

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0501	17-Aug-25	5518	Synedra acus Kutzing	400	0.04	100.00	2.00	104.70
MEL - 0501	17-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	400	1.06	280.00	6.00	2638.90
MEL - 0501	17-Aug-25	5524	Asterionella formosa Hassall	6200	0.65	100.00	2.00	104.70
MEL - 0501	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - 0501	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	136496	3.34	2.50	5.00	24.50
MEL - 0501	17-Aug-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - 0501	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2200	3.91	26.00	14.00	1778.80
MEL - 0501	17-Aug-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0501	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.51	20.00	20.00	4188.80
MEL - 0502	17-Aug-25	2121	Oocystis lacustris Chodat	179600	4.74	5.60	3.00	26.40
MEL - 0502	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0502	17-Aug-25	2167	Elakatothrix gelatinosa Willen	93392	1.47	10.00	2.00	15.70
MEL - 0502	17-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0502	17-Aug-25	2182	Euastrum spp.	400	0.74	22.00	22.00	1858.40
MEL - 0502	17-Aug-25	2185	Micrasterias sp.	200	0.20	18.00	18.00	1017.90
MEL - 0502	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1000	0.38	13.50	12.00	381.70
MEL - 0502	17-Aug-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	200	0.39	23.00	21.00	1938.90
MEL - 0502	17-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	2.01	40.00	36.00	10053.10
MEL - 0502	17-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0502	17-Aug-25	4351	Small chrysophyceae	294544	1.89	2.30	2.30	6.40
MEL - 0502	17-Aug-25	4357	Chrysococcus sp.	1824736	119.34	5.00	5.00	65.40
MEL - 0502	17-Aug-25	4362	Kephyrion sp.	143680	2.03	3.00	3.00	14.10
MEL - 0502	17-Aug-25	4383	Dinobryon bavaricum Imhof	114944	26.00	12.00	6.00	226.20
MEL - 0502	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	28736	6.50	12.00	6.00	226.20
MEL - 0502	17-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.19	5.60	3.00	26.40
MEL - 0502	17-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0502	17-Aug-25	4414	Stichogloea spp.	43104	2.17	6.00	4.00	50.30
MEL - 0502	17-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0502	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	13200	31.53	11.50	23.00	2389.00
MEL - 0502	17-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0502	17-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - 0502	17-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0502	17-Aug-25	5524	Asterionella formosa Hassall	8400	0.88	100.00	2.00	104.70
MEL - 0502	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0502	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - 0502	17-Aug-25	6554	Rhodomonas minuta Skuja	35920	4.52	10.00	6.00	125.70
MEL - 0502	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	3200	5.69	26.00	14.00	1778.80
MEL - 0502	17-Aug-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0502	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.51	20.00	20.00	4188.80
MEL - 0503	17-Aug-25	1019	Radiocystis geminata Skuja	7184	1.26	0.00	0.00	175.00
MEL - 0503	17-Aug-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0503	17-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - 0503	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	136496	1.92	3.00	3.00	14.10
MEL - 0503	17-Aug-25	2121	Oocystis lacustris Chodat	143680	3.79	5.60	3.00	26.40
MEL - 0503	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	35920	1.81	8.00	4.00	50.30
MEL - 0503	17-Aug-25	2167	Elakatothrix gelatinosa Willen	86208	1.35	10.00	2.00	15.70
MEL - 0503	17-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0503	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1600	0.61	13.50	12.00	381.70
MEL - 0503	17-Aug-25	2195	Staurodesmus bullardii G.M. Smith	200	2.01	40.00	36.00	10053.10
MEL - 0503	17-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	35920	1.35	6.00	6.00	37.70
MEL - 0503	17-Aug-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0503	17-Aug-25	4351	Small chrysophyceae	316096	2.02	2.30	2.30	6.40
MEL - 0503	17-Aug-25	4357	Chrysococcus sp.	129312	8.46	5.00	5.00	65.40
MEL - 0503	17-Aug-25	4362	Kephyrion sp.	172416	2.43	3.00	3.00	14.10
MEL - 0503	17-Aug-25	4383	Dinobryon bavaricum Imhof	71840	16.25	12.00	6.00	226.20
MEL - 0503	17-Aug-25	4383	Dinobryon bavaricum Imhof	200	0.19	0.00	0.00	950.00
MEL - 0503	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0503	17-Aug-25	4401	Uroglena volvox Ehrenberg	21552	2.44	6.00	6.00	113.10
MEL - 0503	17-Aug-25	4414	Stichogloea spp.	294544	14.82	6.00	4.00	50.30
MEL - 0503	17-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.20	5.80	3.00	27.30
MEL - 0503	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	15000	35.84	11.50	23.00	2389.00
MEL - 0503	17-Aug-25	5509	Cyclotella ocellata Pant.	64656	6.74	4.05	8.10	104.30
MEL - 0503	17-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3200	3.49	65.00	8.00	1089.10
MEL - 0503	17-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0503	17-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0503	17-Aug-25	5524	Asterionella formosa Hassall	5200	0.54	100.00	2.00	104.70
MEL - 0503	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1200	9.26	17.00	34.00	7717.30
MEL - 0503	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	143680	3.52	2.50	5.00	24.50
MEL - 0503	17-Aug-25	6554	Rhodomonas minuta Skuja	64656	8.13	10.00	6.00	125.70
MEL - 0503	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2600	4.62	26.00	14.00	1778.80
MEL - 0503	17-Aug-25	7632	Gymnodinium sp.	200	3.12	31.00	31.00	15598.50
MEL - 0503	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1800	7.54	20.00	20.00	4188.80
MEL - 0504	17-Aug-25	1073	Snowella sp	400	0.20	0.00	0.00	500.00
MEL - 0504	17-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - 0504	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	7184	0.10	3.00	3.00	14.10
MEL - 0504	17-Aug-25	2113	Pediastrum duplex Meyen	200	0.64	0.00	0.00	3200.00
MEL - 0504	17-Aug-25	2121	Oocystis lacustris Chodat	186784	4.93	5.60	3.00	26.40
MEL - 0504	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	35920	2.03	9.00	4.00	56.50
MEL - 0504	17-Aug-25	2167	Elakatothrix gelatinosa Willen	502880	7.90	10.00	2.00	15.70
MEL - 0504	17-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0504	17-Aug-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0504	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1800	0.69	13.50	12.00	381.70
MEL - 0504	17-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0504	17-Aug-25	2206	Botryococcus braunii Kutzing	800	1.15	14.00	14.00	1436.80
MEL - 0504	17-Aug-25	4351	Small chrysophyceae	215520	1.38	2.30	2.30	6.40
MEL - 0504	17-Aug-25	4357	Chrysococcus sp.	258624	16.91	5.00	5.00	65.40
MEL - 0504	17-Aug-25	4362	Kephyrion sp.	64656	0.91	3.00	3.00	14.10
MEL - 0504	17-Aug-25	4383	Dinobryon bavaricum Imhof	21552	4.88	12.00	6.00	226.20
MEL - 0504	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	21552	4.88	12.00	6.00	226.20

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0504	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0504	17-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - 0504	17-Aug-25	4414	Stichogloea spp.	114944	5.78	6.00	4.00	50.30
MEL - 0504	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	22000	52.56	11.50	23.00	2389.00
MEL - 0504	17-Aug-25	5509	Cyclotella ocellata Pant.	35920	3.75	4.05	8.10	104.30
MEL - 0504	17-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - 0504	17-Aug-25	5518	Synedra acus Kutzing	400	0.04	100.00	2.00	104.70
MEL - 0504	17-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - 0504	17-Aug-25	5524	Asterionella formosa Hassall	2400	0.25	100.00	2.00	104.70
MEL - 0504	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	800	6.17	17.00	34.00	7717.30
MEL - 0504	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	114944	2.82	2.50	5.00	24.50
MEL - 0504	17-Aug-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - 0504	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2200	3.91	26.00	14.00	1778.80
MEL - 0504	17-Aug-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0504	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1600	6.70	20.00	20.00	4188.80
MEL - 0505	17-Aug-25	2112	Sphaerocystis schroeteri Chodat	373568	5.27	3.00	3.00	14.10
MEL - 0505	17-Aug-25	2121	Oocystis lacustris Chodat	215520	5.69	5.60	3.00	26.40
MEL - 0505	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	86208	4.87	9.00	4.00	56.50
MEL - 0505	17-Aug-25	2167	Elakatothrix gelatinosa Willen	57472	0.90	10.00	2.00	15.70
MEL - 0505	17-Aug-25	2169	Planctonema lauterbornii Schmidle	21552	7.62	18.00	5.00	353.40
MEL - 0505	17-Aug-25	2178	Cosmarium sp.	600	0.84	20.00	20.00	1396.30
MEL - 0505	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	2600	0.99	13.50	12.00	381.70
MEL - 0505	17-Aug-25	2195	Staurodesmus bullardii G.M. Smith	800	4.29	32.00	30.00	5361.70
MEL - 0505	17-Aug-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0505	17-Aug-25	4351	Small chrysophyceae	244256	1.56	2.30	2.30	6.40
MEL - 0505	17-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0505	17-Aug-25	4357	Chrysococcus sp.	222704	14.56	5.00	5.00	65.40
MEL - 0505	17-Aug-25	4362	Kephyrion sp.	100576	1.42	3.00	3.00	14.10
MEL - 0505	17-Aug-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - 0505	17-Aug-25	4383	Dinobryon bavaricum Imhof	114944	26.00	12.00	6.00	226.20
MEL - 0505	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0505	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0505	17-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0505	17-Aug-25	4414	Stichogloea spp.	395120	19.87	6.00	4.00	50.30
MEL - 0505	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	13200	31.53	11.50	23.00	2389.00
MEL - 0505	17-Aug-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0505	17-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	2200	2.40	65.00	8.00	1089.10
MEL - 0505	17-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - 0505	17-Aug-25	5518	Synedra acus Kutzing	400	0.04	100.00	2.00	104.70
MEL - 0505	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - 0505	17-Aug-25	5546	Gyrosigma sp	200	0.20	71.00	6.00	1003.70
MEL - 0505	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	122128	2.99	2.50	5.00	24.50
MEL - 0505	17-Aug-25	6554	Rhodomonas minuta Skuja	100576	12.64	10.00	6.00	125.70
MEL - 0505	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	100576	178.90	26.00	14.00	1778.80
MEL - 0505	17-Aug-25	7632	Gymnodinium sp.	200	3.12	31.00	31.00	15598.50
MEL - 0505	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1000	4.19	20.00	20.00	4188.80
MEL - DUP3	17-Aug-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - DUP3	17-Aug-25	2105	Chlamydomonas spp.	7184	0.12	5.00	2.50	16.40
MEL - DUP3	17-Aug-25	2121	Oocystis lacustris Chodat	201152	5.31	5.60	3.00	26.40
MEL - DUP3	17-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	71840	4.06	9.00	4.00	56.50
MEL - DUP3	17-Aug-25	2145	Crucigenia quadrata Morr.	28736	0.14	3.00	3.00	4.70
MEL - DUP3	17-Aug-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - DUP3	17-Aug-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - DUP3	17-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - DUP3	17-Aug-25	2182	Euastrum spp.	400	0.74	22.00	22.00	1858.40
MEL - DUP3	17-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	1200	0.46	13.50	12.00	381.70
MEL - DUP3	17-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - DUP3	17-Aug-25	4351	Small chrysophyceae	158048	1.01	2.30	2.30	6.40
MEL - DUP3	17-Aug-25	4352	Large chrysophyceae	21552	3.87	7.00	7.00	179.60
MEL - DUP3	17-Aug-25	4357	Chrysococcus sp.	129312	8.46	5.00	5.00	65.40
MEL - DUP3	17-Aug-25	4362	Kephyrion sp.	71840	1.01	3.00	3.00	14.10
MEL - DUP3	17-Aug-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - DUP3	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - DUP3	17-Aug-25	4388	Dinobryon sertularia Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - DUP3	17-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - DUP3	17-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - DUP3	17-Aug-25	4414	Stichogloea spp.	79024	3.97	6.00	4.00	50.30
MEL - DUP3	17-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.19	5.60	3.00	26.40
MEL - DUP3	17-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	15200	36.31	11.50	23.00	2389.00
MEL - DUP3	17-Aug-25	5509	Cyclotella ocellata Pant.	50288	5.25	4.05	8.10	104.30
MEL - DUP3	17-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	3800	4.14	65.00	8.00	1089.10
MEL - DUP3	17-Aug-25	5515	Fragilaria crotonensis Kitton	1400	0.30	51.00	4.00	213.60
MEL - DUP3	17-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - DUP3	17-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	400	1.06	280.00	6.00	2638.90
MEL - DUP3	17-Aug-25	5524	Asterionella formosa Hassall	600	0.06	100.00	2.00	104.70
MEL - DUP3	17-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - DUP3	17-Aug-25	5551	Cyclotella michiganiana Skvortzow	86208	2.11	2.50	5.00	24.50
MEL - DUP3	17-Aug-25	6554	Rhodomonas minuta Skuja	64656	8.13	10.00	6.00	125.70
MEL - DUP3	17-Aug-25	6558	Cryptomonas erosa Ehrenberg	2400	4.27	26.00	14.00	1778.80
MEL - DUP3	17-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	1200	5.03	20.00	20.00	4188.80
MEL - 0101	8-Sep-25	1073	Snowella sp	1200	0.60	0.00	0.00	500.00
MEL - 0101	8-Sep-25	1078	Planktothrix agardhii (Gom.) Anagnostidis and Komarek	200	7.46	475.00	10.00	37306.40
MEL - 0101	8-Sep-25	2105	Chlamydomonas spp.	28736	0.81	6.00	3.00	28.30
MEL - 0101	8-Sep-25	2121	Oocystis lacustris Chodat	14368	0.39	5.80	3.00	27.30
MEL - 0101	8-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	28736	1.62	9.00	4.00	56.50
MEL - 0101	8-Sep-25	2145	Crucigenia quadrata Morr.	229888	1.08	3.00	3.00	4.70
MEL - 0101	8-Sep-25	2167	Elakatothrix gelatinosa Willen	57472	0.90	10.00	2.00	15.70
MEL - 0101	8-Sep-25	2169	Planctonema lauterbornii Schmidle	28736	10.16	18.00	5.00	353.40
MEL - 0101	8-Sep-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0101	8-Sep-25	2182	Euastrum spp.	600	1.12	22.00	22.00	1858.40
MEL - 0101	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	400	0.16	14.00	12.00	410.50
MEL - 0101	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - 0101	8-Sep-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0101	8-Sep-25	4351	Small chrysophyceae	510064	3.26	2.30	2.30	6.40
MEL - 0101	8-Sep-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0101	8-Sep-25	4355	Chrysochromulina parva Lackey	143680	9.40	5.00	5.00	65.40
MEL - 0101	8-Sep-25	4357	Chrysococcus sp.	409488	26.78	5.00	5.00	65.40
MEL - 0101	8-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	21552	6.00	8.10	8.10	278.30
MEL - 0101	8-Sep-25	4362	Kephyrion sp.	64656	1.11	3.20	3.20	17.20
MEL - 0101	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	800	0.84	20.00	10.00	1047.20
MEL - 0101	8-Sep-25	4369	Mallomonas pseudocoronata Prescott	600	0.87	23.00	11.00	1457.20
MEL - 0101	8-Sep-25	4383	Dinobryon bavaricum Imhof	35920	8.13	12.00	6.00	226.20
MEL - 0101	8-Sep-25	4383	Dinobryon bavaricum Imhof	12800	16.00	0.00	0.00	1250.00
MEL - 0101	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	71840	16.25	12.00	6.00	226.20
MEL - 0101	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	3800	4.75	0.00	0.00	1250.00
MEL - 0101	8-Sep-25	4390	Dinobryon sociale Ehrenberg	114944	26.00	12.00	6.00	226.20
MEL - 0101	8-Sep-25	4390	Dinobryon sociale Ehrenberg	1200	1.14	0.00	0.00	950.00
MEL - 0101	8-Sep-25	4401	Uroglena volvox Ehrenberg	107760	12.19	6.00	6.00	113.10
MEL - 0101	8-Sep-25	4411	Bitrichia chodatii (Reverdin) Chodat	21552	1.08	6.00	4.00	50.30
MEL - 0101	8-Sep-25	4413	Chrysochromulina laurentiana Kling	14368	5.48	9.00	9.00	381.70
MEL - 0101	8-Sep-25	4414	Stichogloea spp.	71840	3.61	6.00	4.00	50.30
MEL - 0101	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	294544	8.04	5.80	3.00	27.30
MEL - 0101	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	45200	107.98	11.50	23.00	2389.00
MEL - 0101	8-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0101	8-Sep-25	5511	Rhizosolenia eriense H.L. Smith	50288	4.26	12.00	3.00	84.80
MEL - 0101	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	78800	85.82	65.00	8.00	1089.10
MEL - 0101	8-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	9200	12.27	26.00	14.00	1334.10
MEL - 0101	8-Sep-25	5515	Fragilaria crotonensis Kitton	4400	1.12	61.00	4.00	255.50
MEL - 0101	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	2200	5.39	260.00	6.00	2450.40
MEL - 0101	8-Sep-25	5524	Asterionella formosa Hassall	12600	1.32	100.00	2.00	104.70
MEL - 0101	8-Sep-25	5529	Eunotia zazumenensis **********	8200	0.21	44.00	1.50	25.90
MEL - 0101	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	6000	81.20	20.50	41.00	13532.60
MEL - 0101	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	308912	7.57	2.50	5.00	24.50
MEL - 0101	8-Sep-25	6554	Rhodomonas minuta Skuja	79024	9.93	10.00	6.00	125.70
MEL - 0101	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	6000	11.04	26.90	14.00	1840.40
MEL - 0101	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	800	1.92	35.00	14.00	2394.60
MEL - 0101	8-Sep-25	6568	Katablepharis ovalis Skuja	21552	0.96	8.00	4.00	44.70
MEL - 0101	8-Sep-25	7631	Gymnodinium helveticum Penard	600	14.14	50.00	30.00	23561.90
MEL - 0101	8-Sep-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0101	8-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.89	36.00	36.00	24429.00
MEL - 0101	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	3200	11.49	19.00	19.00	3591.40
MEL - 0101	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	1200	10.86	30.00	24.00	9047.80
MEL - 0106	8-Sep-25	1073	Snowella sp	2000	1.00	0.00	0.00	500.00
MEL - 0106	8-Sep-25	1078	Planktothrix agardhii (Gom.) Anagnostidis and Komarek	200	4.95	315.00	10.00	24740.00
MEL - 0106	8-Sep-25	2105	Chlamydomonas spp.	7184	0.19	5.50	3.00	25.90
MEL - 0106	8-Sep-25	2112	Sphaerocystis schroeteri Chodat	50288	0.71	3.00	3.00	14.10
MEL - 0106	8-Sep-25	2121	Oocystis lacustris Chodat	93392	2.47	5.60	3.00	26.40
MEL - 0106	8-Sep-25	2132	Scenedesmus denticulatus Lagerhiem	28736	1.28	8.00	4.00	44.70
MEL - 0106	8-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	14368	0.81	9.00	4.00	56.50
MEL - 0106	8-Sep-25	2145	Crucigenia quadrata Morr.	114944	0.54	3.00	3.00	4.70
MEL - 0106	8-Sep-25	2164	Quadrigula closterioides (Bohl.) Printz	114944	2.53	14.00	2.00	22.00
MEL - 0106	8-Sep-25	2169	Planctonema lauterbornii Schmidle	43104	15.23	18.00	5.00	353.40
MEL - 0106	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	14.00	12.00	410.50
MEL - 0106	8-Sep-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0106	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	71840	2.71	6.00	6.00	37.70
MEL - 0106	8-Sep-25	2206	Botryococcus braunii Kutzing	1000	1.44	14.00	14.00	1436.80
MEL - 0106	8-Sep-25	2260	Monomastix minuta Skuja	21552	0.42	6.20	3.00	19.50
MEL - 0106	8-Sep-25	4351	Small chrysophyceae	474144	3.03	2.30	2.30	6.40
MEL - 0106	8-Sep-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0106	8-Sep-25	4355	Chrysochromulina parva Lackey	114944	7.52	5.00	5.00	65.40
MEL - 0106	8-Sep-25	4357	Chrysococcus sp.	567536	37.12	5.00	5.00	65.40
MEL - 0106	8-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0106	8-Sep-25	4362	Kephyrion sp.	50288	0.86	3.20	3.20	17.20
MEL - 0106	8-Sep-25	4363	Spiniferomonas serrata	14368	1.71	6.10	6.10	118.80
MEL - 0106	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	1000	1.05	20.00	10.00	1047.20
MEL - 0106	8-Sep-25	4369	Mallomonas pseudocoronata Prescott	600	0.87	23.00	11.00	1457.20
MEL - 0106	8-Sep-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0106	8-Sep-25	4383	Dinobryon bavaricum Imhof	5400	6.75	0.00	0.00	1250.00
MEL - 0106	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	114944	26.00	12.00	6.00	226.20
MEL - 0106	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	1400	1.75	0.00	0.00	1250.00
MEL - 0106	8-Sep-25	4390	Dinobryon sociale Ehrenberg	71840	16.25	12.00	6.00	226.20
MEL - 0106	8-Sep-25	4390	Dinobryon sociale Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0106	8-Sep-25	4394	Epiphyxis sp.	14368	1.08	9.00	4.00	75.40
MEL - 0106	8-Sep-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0106	8-Sep-25	4401	Uroglena volvox Ehrenberg	79024	8.94	6.00	6.00	113.10
MEL - 0106	8-Sep-25	4413	Chrysochromulina laurentiana Kling	86208	32.91	9.00	9.00	381.70
MEL - 0106	8-Sep-25	4414	Stichogloea spp.	114944	5.78	6.00	4.00	50.30
MEL - 0106	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	244256	6.67	5.80	3.00	27.30
MEL - 0106	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	32400	77.40	11.50	23.00	2389.00
MEL - 0106	8-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0106	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	31600	34.42	65.00	8.00	1089.10
MEL - 0106	8-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	1200	1.60	26.00	14.00	1334.10
MEL - 0106	8-Sep-25	5515	Fragilaria crotonensis Kitton	5800	1.46	60.00	4.00	251.30
MEL - 0106	8-Sep-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0106	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1200	2.94	260.00	6.00	2450.40
MEL - 0106	8-Sep-25	5524	Asterionella formosa Hassall	4800	0.50	100.00	2.00	104.70
MEL - 0106	8-Sep-25	5529	Eunotia zazumenensis **********	2000	0.05	40.00	1.50	23.60
MEL - 0106	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	3400	33.82	18.50	37.00	9945.70

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0106	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	150864	3.70	2.50	5.00	24.50
MEL - 0106	8-Sep-25	6554	Rhodomonas minuta Skuja	21552	2.71	10.00	6.00	125.70
MEL - 0106	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	5200	9.57	26.90	14.00	1840.40
MEL - 0106	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	600	1.44	35.00	14.00	2394.60
MEL - 0106	8-Sep-25	6568	Katablepharis ovalis Skuja	7184	0.32	8.00	4.00	44.70
MEL - 0106	8-Sep-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0106	8-Sep-25	7632	Gymnodinium sp.	2600	14.50	22.00	22.00	5575.30
MEL - 0106	8-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	400	9.77	36.00	36.00	24429.00
MEL - 0106	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	3000	10.77	19.00	19.00	3591.40
MEL - 0106	8-Sep-25	7640	Peridinium goslaviense Woloszynska	200	6.70	40.00	40.00	33510.30
MEL - 0107	8-Sep-25	1014	Chroococcus limneticus Lemmermann	57472	2.07	4.10	4.10	36.10
MEL - 0107	8-Sep-25	1073	Snowella sp	2400	1.20	0.00	0.00	500.00
MEL - 0107	8-Sep-25	2105	Chlamydomonas spp.	7184	0.17	5.00	3.00	23.60
MEL - 0107	8-Sep-25	2112	Sphaerocystis schroeteri Chodat	57472	0.99	3.20	3.20	17.20
MEL - 0107	8-Sep-25	2121	Oocystis lacustris Chodat	179600	4.90	5.80	3.00	27.30
MEL - 0107	8-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	14368	0.84	9.30	4.00	58.40
MEL - 0107	8-Sep-25	2167	Elakatothrix gelatinosa Willen	100576	1.58	10.00	2.00	15.70
MEL - 0107	8-Sep-25	2169	Planctonema lauterbornii Schmidle	86208	30.47	18.00	5.00	353.40
MEL - 0107	8-Sep-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0107	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	14.00	12.00	410.50
MEL - 0107	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	43104	1.63	6.00	6.00	37.70
MEL - 0107	8-Sep-25	2215	Tetraedron caudatum (Corda) Hansgrig	14368	0.07	3.00	3.00	4.70
MEL - 0107	8-Sep-25	4351	Small chrysophyceae	704032	4.51	2.30	2.30	6.40
MEL - 0107	8-Sep-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - 0107	8-Sep-25	4355	Chrysochromulina parva Lackey	50288	3.29	5.00	5.00	65.40
MEL - 0107	8-Sep-25	4357	Chrysococcus sp.	797424	52.15	5.00	5.00	65.40
MEL - 0107	8-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0107	8-Sep-25	4362	Kephyrion sp.	100576	1.73	3.20	3.20	17.20
MEL - 0107	8-Sep-25	4363	Spiniferomonas serrata	14368	1.47	5.80	5.80	102.20
MEL - 0107	8-Sep-25	4364	Mallomonas caudata Ivanov	600	3.22	40.00	16.00	5361.70
MEL - 0107	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	1400	1.47	20.00	10.00	1047.20
MEL - 0107	8-Sep-25	4383	Dinobryon bavaricum Imhof	143680	32.50	12.00	6.00	226.20
MEL - 0107	8-Sep-25	4383	Dinobryon bavaricum Imhof	8200	10.25	0.00	0.00	1250.00
MEL - 0107	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	107760	24.38	12.00	6.00	226.20
MEL - 0107	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	2200	2.75	0.00	0.00	1250.00
MEL - 0107	8-Sep-25	4390	Dinobryon sociale Ehrenberg	21552	4.88	12.00	6.00	226.20
MEL - 0107	8-Sep-25	4390	Dinobryon sociale Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0107	8-Sep-25	4401	Uroglena volvox Ehrenberg	79024	8.94	6.00	6.00	113.10
MEL - 0107	8-Sep-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0107	8-Sep-25	4413	Chrysochromulina laurentiana Kling	114944	43.87	9.00	9.00	381.70
MEL - 0107	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	107760	2.94	5.80	3.00	27.30
MEL - 0107	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	45600	108.94	11.50	23.00	2389.00
MEL - 0107	8-Sep-25	5509	Cyclotella ocellata Pant.	71840	7.49	4.05	8.10	104.30
MEL - 0107	8-Sep-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0107	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	48200	52.49	65.00	8.00	1089.10
MEL - 0107	8-Sep-25	5515	Fragilaria crotonensis Kitton	10800	2.71	60.00	4.00	251.30
MEL - 0107	8-Sep-25	5518	Synedra acus Kutzing	1200	0.13	100.00	2.00	104.70
MEL - 0107	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	2400	5.88	260.00	6.00	2450.40
MEL - 0107	8-Sep-25	5524	Asterionella formosa Hassall	4600	0.48	100.00	2.00	104.70
MEL - 0107	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	7200	71.61	18.50	37.00	9945.70
MEL - 0107	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	7184	0.18	2.50	5.00	24.50
MEL - 0107	8-Sep-25	6554	Rhodomonas minuta Skuja	57472	7.22	10.00	6.00	125.70
MEL - 0107	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	5200	9.57	26.90	14.00	1840.40
MEL - 0107	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	800	1.92	35.00	14.00	2394.60
MEL - 0107	8-Sep-25	7632	Gymnodinium sp.	2400	13.38	22.00	22.00	5575.30
MEL - 0107	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	5000	17.96	19.00	19.00	3591.40
MEL - 0107	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0108	8-Sep-25	1014	Chroococcus limneticus Lemmermann	57472	1.93	4.00	4.00	33.50
MEL - 0108	8-Sep-25	1073	Snowella sp	1800	0.90	0.00	0.00	500.00
MEL - 0108	8-Sep-25	2112	Sphaerocystis schroeteri Chodat	50288	0.86	3.20	3.20	17.20
MEL - 0108	8-Sep-25	2121	Oocystis lacustris Chodat	222704	6.30	6.00	3.00	28.30
MEL - 0108	8-Sep-25	2167	Elakatothrix gelatinosa Willen	57472	0.90	10.00	2.00	15.70
MEL - 0108	8-Sep-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - 0108	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	800	0.33	14.00	12.00	410.50
MEL - 0108	8-Sep-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	200	0.39	23.00	21.00	1938.90
MEL - 0108	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	14368	0.54	6.00	6.00	37.70
MEL - 0108	8-Sep-25	2235	Ankistrodesmus spiralis Lemmermann	7184	0.36	32.00	2.00	50.30
MEL - 0108	8-Sep-25	4351	Small chrysophyceae	445408	3.21	2.40	2.40	7.20
MEL - 0108	8-Sep-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0108	8-Sep-25	4355	Chrysochromulina parva Lackey	114944	7.52	5.00	5.00	65.40
MEL - 0108	8-Sep-25	4357	Chrysococcus sp.	452592	29.60	5.00	5.00	65.40
MEL - 0108	8-Sep-25	4362	Kephyrion sp.	64656	1.11	3.20	3.20	17.20
MEL - 0108	8-Sep-25	4363	Spiniferomonas serrata	14368	1.47	5.80	5.80	102.20
MEL - 0108	8-Sep-25	4369	Mallomonas pseudocoronata Prescott	400	0.58	23.00	11.00	1457.20
MEL - 0108	8-Sep-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0108	8-Sep-25	4383	Dinobryon bavaricum Imhof	8400	10.50	0.00	0.00	1250.00
MEL - 0108	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	57472	13.00	12.00	6.00	226.20
MEL - 0108	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	2200	2.75	0.00	0.00	1250.00
MEL - 0108	8-Sep-25	4390	Dinobryon sociale Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0108	8-Sep-25	4401	Uroglena volvox Ehrenberg	86208	9.75	6.00	6.00	113.10
MEL - 0108	8-Sep-25	4413	Chrysochromulina laurentiana Kling	57472	21.94	9.00	9.00	381.70
MEL - 0108	8-Sep-25	4414	Stichogloea spp.	64656	3.25	6.00	4.00	50.30
MEL - 0108	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	114944	3.14	5.80	3.00	27.30
MEL - 0108	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	35600	85.05	11.50	23.00	2389.00
MEL - 0108	8-Sep-25	5509	Cyclotella ocellata Pant.	64656	6.74	4.05	8.10	104.30
MEL - 0108	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	61000	66.44	65.00	8.00	1089.10
MEL - 0108	8-Sep-25	5515	Fragilaria crotonensis Kitton	10000	2.51	60.00	4.00	251.30
MEL - 0108	8-Sep-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0108	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	9000	22.05	260.00	6.00	2450.40

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0108	8-Sep-25	5524	Asterionella formosa Hassall	3200	0.34	100.00	2.00	104.70
MEL - 0108	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	6200	61.66	18.50	37.00	9945.70
MEL - 0108	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	7184	0.18	2.50	5.00	24.50
MEL - 0108	8-Sep-25	6554	Rhodomonas minuta Skuja	93392	11.74	10.00	6.00	125.70
MEL - 0108	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	6400	11.78	26.90	14.00	1840.40
MEL - 0108	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	600	1.44	35.00	14.00	2394.60
MEL - 0108	8-Sep-25	6568	Katablepharis ovalis Skuja	7184	0.32	8.00	4.00	44.70
MEL - 0108	8-Sep-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0108	8-Sep-25	7632	Gymnodinium sp.	2800	15.61	22.00	22.00	5575.30
MEL - 0108	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	1200	4.31	19.00	19.00	3591.40
MEL - 0108	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0108R	8-Sep-25	1073	Snowella sp	1800	0.90	0.00	0.00	500.00
MEL - 0108R	8-Sep-25	2105	Chlamydomonas spp.	14368	0.34	5.00	3.00	23.60
MEL - 0108R	8-Sep-25	2112	Sphaerocystis schroeteri Chodat	172416	2.97	3.20	3.20	17.20
MEL - 0108R	8-Sep-25	2121	Oocystis lacustris Chodat	186784	5.29	6.00	3.00	28.30
MEL - 0108R	8-Sep-25	2167	Elakatothrix gelatinosa Willen	79024	1.24	10.00	2.00	15.70
MEL - 0108R	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	800	0.33	14.00	12.00	410.50
MEL - 0108R	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	43104	1.63	6.00	6.00	37.70
MEL - 0108R	8-Sep-25	4351	Small chrysophyceae	387936	2.79	2.40	2.40	7.20
MEL - 0108R	8-Sep-25	4352	Large chrysophyceae	43104	7.74	7.00	7.00	179.60
MEL - 0108R	8-Sep-25	4355	Chrysochromulina parva Lackey	64656	4.23	5.00	5.00	65.40
MEL - 0108R	8-Sep-25	4357	Chrysococcus sp.	431040	28.19	5.00	5.00	65.40
MEL - 0108R	8-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	14368	4.00	8.10	8.10	278.30
MEL - 0108R	8-Sep-25	4362	Kephyrion sp.	86208	1.48	3.20	3.20	17.20
MEL - 0108R	8-Sep-25	4363	Spiniferomonas serrata	28736	2.94	5.80	5.80	102.20
MEL - 0108R	8-Sep-25	4364	Mallomonas caudata Ivanov	400	2.14	40.00	16.00	5361.70
MEL - 0108R	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.42	20.00	10.00	1047.20
MEL - 0108R	8-Sep-25	4369	Mallomonas pseudocoronata Prescott	800	1.17	23.00	11.00	1457.20
MEL - 0108R	8-Sep-25	4381	Dinobryon mucronatom Nygaard	64656	14.63	12.00	6.00	226.20
MEL - 0108R	8-Sep-25	4383	Dinobryon bavaricum Imhof	10200	12.75	0.00	0.00	1250.00
MEL - 0108R	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0108R	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	1800	2.25	0.00	0.00	1250.00
MEL - 0108R	8-Sep-25	4390	Dinobryon sociale Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0108R	8-Sep-25	4390	Dinobryon sociale Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0108R	8-Sep-25	4401	Uroglena volvox Ehrenberg	100576	11.38	6.00	6.00	113.10
MEL - 0108R	8-Sep-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0108R	8-Sep-25	4413	Chrysochromulina laurentiana Kling	71840	27.42	9.00	9.00	381.70
MEL - 0108R	8-Sep-25	4414	Stichogloea spp.	43104	2.17	6.00	4.00	50.30
MEL - 0108R	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	136496	3.73	5.80	3.00	27.30
MEL - 0108R	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	31400	75.01	11.50	23.00	2389.00
MEL - 0108R	8-Sep-25	5509	Cyclotella ocellata Pant.	35920	3.75	4.05	8.10	104.30
MEL - 0108R	8-Sep-25	5511	Rhizosolenia eriense H.L. Smith	14368	1.22	12.00	3.00	84.80
MEL - 0108R	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	63800	69.48	65.00	8.00	1089.10
MEL - 0108R	8-Sep-25	5515	Fragilaria crotonensis Kitton	9000	2.26	60.00	4.00	251.30
MEL - 0108R	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	10200	24.99	260.00	6.00	2450.40
MEL - 0108R	8-Sep-25	5524	Asterionella formosa Hassall	1200	0.13	100.00	2.00	104.70
MEL - 0108R	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	7200	71.61	18.50	37.00	9945.70
MEL - 0108R	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	28736	0.70	2.50	5.00	24.50
MEL - 0108R	8-Sep-25	6554	Rhodomonas minuta Skuja	143680	18.06	10.00	6.00	125.70
MEL - 0108R	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	4800	8.83	26.90	14.00	1840.40
MEL - 0108R	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	1200	2.87	35.00	14.00	2394.60
MEL - 0108R	8-Sep-25	6568	Katablepharis ovalis Skuja	7184	0.32	8.00	4.00	44.70
MEL - 0108R	8-Sep-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0108R	8-Sep-25	7632	Gymnodinium sp.	3400	63.98	33.00	33.00	18816.60
MEL - 0108R	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	1600	5.75	19.00	19.00	3591.40
MEL - 0108R	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	600	5.43	30.00	24.00	9047.80
MEL - 0109	8-Sep-25	1014	Chroococcus limneticus Lemmermann	114944	3.85	4.00	4.00	33.50
MEL - 0109	8-Sep-25	1073	Snowella sp	400	0.20	0.00	0.00	500.00
MEL - 0109	8-Sep-25	2112	Sphaerocystis schroeteri Chodat	57472	0.99	3.20	3.20	17.20
MEL - 0109	8-Sep-25	2121	Oocystis lacustris Chodat	79024	2.16	5.80	3.00	27.30
MEL - 0109	8-Sep-25	2130	Scenedesmus quadricauda (Turp.) Brebisson	43104	3.35	8.90	5.00	77.70
MEL - 0109	8-Sep-25	2169	Planctonema lauterbornii Schmidle	150864	53.32	18.00	5.00	353.40
MEL - 0109	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	14.00	12.00	410.50
MEL - 0109	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	21552	0.81	6.00	6.00	37.70
MEL - 0109	8-Sep-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0109	8-Sep-25	4351	Small chrysophyceae	646560	4.14	2.30	2.30	6.40
MEL - 0109	8-Sep-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - 0109	8-Sep-25	4355	Chrysochromulina parva Lackey	114944	7.52	5.00	5.00	65.40
MEL - 0109	8-Sep-25	4357	Chrysococcus sp.	653744	42.75	5.00	5.00	65.40
MEL - 0109	8-Sep-25	4362	Kephyrion sp.	114944	1.62	3.00	3.00	14.10
MEL - 0109	8-Sep-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - 0109	8-Sep-25	4364	Mallomonas caudata Ivanov	600	3.22	40.00	16.00	5361.70
MEL - 0109	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	600	0.63	20.00	10.00	1047.20
MEL - 0109	8-Sep-25	4383	Dinobryon bavaricum Imhof	165232	37.38	12.00	6.00	226.20
MEL - 0109	8-Sep-25	4383	Dinobryon bavaricum Imhof	64656	14.63	12.00	6.00	226.20
MEL - 0109	8-Sep-25	4383	Dinobryon bavaricum Imhof	6800	8.50	0.00	0.00	1250.00
MEL - 0109	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	1800	2.25	0.00	0.00	1250.00
MEL - 0109	8-Sep-25	4390	Dinobryon sociale Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0109	8-Sep-25	4390	Dinobryon sociale Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0109	8-Sep-25	4401	Uroglena volvox Ehrenberg	165232	18.69	6.00	6.00	113.10
MEL - 0109	8-Sep-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0109	8-Sep-25	4413	Chrysochromulina laurentiana Kling	122128	46.62	9.00	9.00	381.70
MEL - 0109	8-Sep-25	4414	Stichogloea spp.	21552	1.08	6.00	4.00	50.30
MEL - 0109	8-Sep-25	4415	Bicosoeca lacustris Clark	7184	0.30	4.30	4.30	41.60
MEL - 0109	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	215520	5.88	5.80	3.00	27.30
MEL - 0109	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	43600	104.16	11.50	23.00	2389.00
MEL - 0109	8-Sep-25	5509	Cyclotella ocellata Pant.	35920	3.75	4.05	8.10	104.30
MEL - 0109	8-Sep-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0109	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	59800	65.13	65.00	8.00	1089.10

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0109	8-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	800	1.07	26.00	14.00	1334.10
MEL - 0109	8-Sep-25	5515	Fragilaria crotonensis Kitton	12400	3.12	60.00	4.00	251.30
MEL - 0109	8-Sep-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - 0109	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1800	4.41	260.00	6.00	2450.40
MEL - 0109	8-Sep-25	5524	Asterionella formosa Hassall	9800	1.03	100.00	2.00	104.70
MEL - 0109	8-Sep-25	5529	Eunotia zazumenensis **********	3200	0.08	40.00	1.50	23.60
MEL - 0109	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	7400	73.60	18.50	37.00	9945.70
MEL - 0109	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	143680	3.52	2.50	5.00	24.50
MEL - 0109	8-Sep-25	6554	Rhodomonas minuta Skuja	50288	7.58	12.00	6.00	150.80
MEL - 0109	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	5600	10.31	26.90	14.00	1840.40
MEL - 0109	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	400	0.96	35.00	14.00	2394.60
MEL - 0109	8-Sep-25	6568	Katablepharis ovalis Skuja	7184	0.29	7.60	4.00	40.30
MEL - 0109	8-Sep-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0109	8-Sep-25	7632	Gymnodinium sp.	1800	10.04	22.00	22.00	5575.30
MEL - 0109	8-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	400	9.77	36.00	36.00	24429.00
MEL - 0109	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	3800	13.65	19.00	19.00	3591.40
MEL - 0109	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - 0110	8-Sep-25	1073	Snowella sp	3000	1.50	0.00	0.00	500.00
MEL - 0110	8-Sep-25	2112	Sphaerocystis schroeteri Chodat	395120	6.80	3.20	3.20	17.20
MEL - 0110	8-Sep-25	2121	Oocystis lacustris Chodat	165232	4.36	5.60	3.00	26.40
MEL - 0110	8-Sep-25	2132	Scenedesmus denticulatus Lagerhiem	28736	1.38	8.60	4.00	48.00
MEL - 0110	8-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	28736	1.62	9.00	4.00	56.50
MEL - 0110	8-Sep-25	2145	Crucigenia quadrata Morr.	28736	0.14	3.00	3.00	4.70
MEL - 0110	8-Sep-25	2167	Elakatothrix gelatinosa Willen	21552	0.34	10.00	2.00	15.70
MEL - 0110	8-Sep-25	2169	Planctonema lauterbornii Schmidle	43104	15.23	18.00	5.00	353.40
MEL - 0110	8-Sep-25	2178	Cosmarium sp.	600	0.25	14.00	12.00	410.50
MEL - 0110	8-Sep-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0110	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	14368	0.54	6.00	6.00	37.70
MEL - 0110	8-Sep-25	4351	Small chrysophyceae	660928	4.23	2.30	2.30	6.40
MEL - 0110	8-Sep-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0110	8-Sep-25	4355	Chrysochromulina parva Lackey	86208	5.64	5.00	5.00	65.40
MEL - 0110	8-Sep-25	4357	Chrysococcus sp.	689664	45.10	5.00	5.00	65.40
MEL - 0110	8-Sep-25	4362	Kephyrion sp.	143680	2.03	3.00	3.00	14.10
MEL - 0110	8-Sep-25	4363	Spiniferomonas serrata	14368	1.54	5.90	5.90	107.50
MEL - 0110	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	1200	1.26	20.00	10.00	1047.20
MEL - 0110	8-Sep-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - 0110	8-Sep-25	4383	Dinobryon bavaricum Imhof	150864	34.13	12.00	6.00	226.20
MEL - 0110	8-Sep-25	4383	Dinobryon bavaricum Imhof	6800	8.50	0.00	0.00	1250.00
MEL - 0110	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	64656	14.63	12.00	6.00	226.20
MEL - 0110	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	2000	2.50	0.00	0.00	1250.00
MEL - 0110	8-Sep-25	4390	Dinobryon sociale Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0110	8-Sep-25	4394	Epiphyxis sp.	14368	1.08	9.00	4.00	75.40
MEL - 0110	8-Sep-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.20	5.80	3.00	27.30
MEL - 0110	8-Sep-25	4401	Uroglena volvox Ehrenberg	193968	21.94	6.00	6.00	113.10
MEL - 0110	8-Sep-25	4413	Chrysochromulina laurentiana Kling	143680	54.84	9.00	9.00	381.70
MEL - 0110	8-Sep-25	4414	Stichogloea spp.	57472	2.89	6.00	4.00	50.30
MEL - 0110	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	251440	6.86	5.80	3.00	27.30
MEL - 0110	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	35600	85.05	11.50	23.00	2389.00
MEL - 0110	8-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0110	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	55600	60.55	65.00	8.00	1089.10
MEL - 0110	8-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	2200	2.94	26.00	14.00	1334.10
MEL - 0110	8-Sep-25	5515	Fragilaria crotonensis Kitton	5600	1.41	60.00	4.00	251.30
MEL - 0110	8-Sep-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0110	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1800	4.41	260.00	6.00	2450.40
MEL - 0110	8-Sep-25	5524	Asterionella formosa Hassall	8000	0.84	100.00	2.00	104.70
MEL - 0110	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	3600	35.80	18.50	37.00	9945.70
MEL - 0110	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	35920	0.88	2.50	5.00	24.50
MEL - 0110	8-Sep-25	6554	Rhodomonas minuta Skuja	100576	12.64	10.00	6.00	125.70
MEL - 0110	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	4800	8.80	26.80	14.00	1833.60
MEL - 0110	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	1200	2.87	35.00	14.00	2394.60
MEL - 0110	8-Sep-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0110	8-Sep-25	7632	Gymnodinium sp.	2200	12.27	22.00	22.00	5575.30
MEL - 0110	8-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.89	36.00	36.00	24429.00
MEL - 0110	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	6000	21.55	19.00	19.00	3591.40
MEL - 0110	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	2400	21.71	30.00	24.00	9047.80
MEL - 0110	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - DUP2	8-Sep-25	1073	Snowella sp	2000	1.00	0.00	0.00	500.00
MEL - DUP2	8-Sep-25	1076	Woronichinia compacta (Lemmermann) Komarek and Hindak	200	4.97	475.00	10.00	24870.90
MEL - DUP2	8-Sep-25	2105	Chlamydomonas spp.	50288	1.42	6.00	3.00	28.30
MEL - DUP2	8-Sep-25	2121	Oocystis lacustris Chodat	7184	0.20	5.80	3.00	27.30
MEL - DUP2	8-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	14368	0.81	9.00	4.00	56.50
MEL - DUP2	8-Sep-25	2145	Crucigenia quadrata Morr.	114944	0.54	3.00	3.00	4.70
MEL - DUP2	8-Sep-25	2167	Elakatothrix gelatinosa Willen	28736	0.45	10.00	2.00	15.70
MEL - DUP2	8-Sep-25	2169	Planctonema lauterbornii Schmidle	43104	15.23	18.00	5.00	353.40
MEL - DUP2	8-Sep-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - DUP2	8-Sep-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - DUP2	8-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	200	0.08	14.00	12.00	410.50
MEL - DUP2	8-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	14368	0.54	6.00	6.00	37.70
MEL - DUP2	8-Sep-25	2206	Botryococcus braunii Kutzing	800	1.15	14.00	14.00	1436.80
MEL - DUP2	8-Sep-25	4351	Small chrysophyceae	474144	3.03	2.30	2.30	6.40
MEL - DUP2	8-Sep-25	4355	Chrysochromulina parva Lackey	100576	6.58	5.00	5.00	65.40
MEL - DUP2	8-Sep-25	4357	Chrysococcus sp.	431040	28.19	5.00	5.00	65.40
MEL - DUP2	8-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - DUP2	8-Sep-25	4362	Kephyrion sp.	86208	1.48	3.20	3.20	17.20
MEL - DUP2	8-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	800	0.84	20.00	10.00	1047.20
MEL - DUP2	8-Sep-25	4369	Mallomonas pseudocoronata Prescott	400	0.58	23.00	11.00	1457.20
MEL - DUP2	8-Sep-25	4375	Synura sphagnicola Korschikow	200	3.01	0.00	0.00	15050.00
MEL - DUP2	8-Sep-25	4383	Dinobryon bavaricum Imhof	57472	13.00	12.00	6.00	226.20
MEL - DUP2	8-Sep-25	4383	Dinobryon bavaricum Imhof	10200	12.75	0.00	0.00	1250.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - DUP2	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	35920	8.13	12.00	6.00	226.20
MEL - DUP2	8-Sep-25	4388	Dinobryon sertularia Ehrenberg	2400	3.00	0.00	0.00	1250.00
MEL - DUP2	8-Sep-25	4390	Dinobryon sociale Ehrenberg	93392	21.13	12.00	6.00	226.20
MEL - DUP2	8-Sep-25	4390	Dinobryon sociale Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - DUP2	8-Sep-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.19	5.60	3.00	26.40
MEL - DUP2	8-Sep-25	4401	Uroglena volvox Ehrenberg	150864	17.06	6.00	6.00	113.10
MEL - DUP2	8-Sep-25	4414	Stichogloea spp.	50288	2.53	6.00	4.00	50.30
MEL - DUP2	8-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	445408	12.16	5.80	3.00	27.30
MEL - DUP2	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	42400	101.29	11.50	23.00	2389.00
MEL - DUP2	8-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	42400	101.29	11.50	23.00	2389.00
MEL - DUP2	8-Sep-25	5511	Rhizosolenia eriense H.L. Smith	43104	3.66	12.00	3.00	84.80
MEL - DUP2	8-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	85800	93.44	65.00	8.00	1089.10
MEL - DUP2	8-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	6200	8.27	26.00	14.00	1334.10
MEL - DUP2	8-Sep-25	5515	Fragilaria crotonensis Kitton	7200	1.84	61.00	4.00	255.50
MEL - DUP2	8-Sep-25	5518	Synedra acus Kutzing	1800	0.19	100.00	2.00	104.70
MEL - DUP2	8-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1600	3.92	260.00	6.00	2450.40
MEL - DUP2	8-Sep-25	5524	Asterionella formosa Hassall	9000	0.94	100.00	2.00	104.70
MEL - DUP2	8-Sep-25	5529	Eunotia zazumenensis **********	3200	0.08	40.00	1.50	23.60
MEL - DUP2	8-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	7000	94.73	20.50	41.00	13532.60
MEL - DUP2	8-Sep-25	5551	Cyclotella michiganiana Skvortzow	237072	5.81	2.50	5.00	24.50
MEL - DUP2	8-Sep-25	5776	Rhopalodia gibba (Ehrenberg) O. Muller	200	6.03	200.00	24.00	30159.30
MEL - DUP2	8-Sep-25	6554	Rhodomonas minuta Skuja	129312	16.25	10.00	6.00	125.70
MEL - DUP2	8-Sep-25	6558	Cryptomonas erosa Ehrenberg	7000	12.88	26.90	14.00	1840.40
MEL - DUP2	8-Sep-25	6565	Cryptomonas rostratiformis Skuja	1200	2.87	35.00	14.00	2394.60
MEL - DUP2	8-Sep-25	6568	Katablepharis ovalis Skuja	35920	1.61	8.00	4.00	44.70
MEL - DUP2	8-Sep-25	7631	Gymnodinium helveticum Penard	1400	32.99	50.00	30.00	23561.90
MEL - DUP2	8-Sep-25	7632	Gymnodinium sp.	800	4.46	22.00	22.00	5575.30
MEL - DUP2	8-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	400	9.77	36.00	36.00	24429.00
MEL - DUP2	8-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	3200	11.49	19.00	19.00	3591.40
MEL - DUP2	8-Sep-25	7641	Peridinium aciculiferum Lemmermann	1600	14.48	30.00	24.00	9047.80
MEL - 0301	9-Sep-25	1073	Snowella sp	1000	0.50	0.00	0.00	500.00
MEL - 0301	9-Sep-25	2121	Oocystis lacustris Chodat	7184	0.19	5.60	3.00	26.40
MEL - 0301	9-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	86208	4.87	9.00	4.00	56.50
MEL - 0301	9-Sep-25	2145	Crucigenia quadrata Morr.	28736	0.14	3.00	3.00	4.70
MEL - 0301	9-Sep-25	2167	Elakatothrix gelatinosa Willen	57472	0.90	10.00	2.00	15.70
MEL - 0301	9-Sep-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - 0301	9-Sep-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0301	9-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	2600	1.07	14.00	12.00	410.50
MEL - 0301	9-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	21552	0.81	6.00	6.00	37.70
MEL - 0301	9-Sep-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0301	9-Sep-25	4351	Small chrysophyceae	294544	2.12	2.40	2.40	7.20
MEL - 0301	9-Sep-25	4357	Chrysococcus sp.	330464	21.61	5.00	5.00	65.40
MEL - 0301	9-Sep-25	4362	Kephyrion sp.	57472	0.81	3.00	3.00	14.10
MEL - 0301	9-Sep-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - 0301	9-Sep-25	4375	Synura sphagnicola Korschikow	200	3.01	0.00	0.00	15050.00
MEL - 0301	9-Sep-25	4383	Dinobryon bavaricum Imhof	57472	13.00	12.00	6.00	226.20
MEL - 0301	9-Sep-25	4383	Dinobryon bavaricum Imhof	1600	2.00	0.00	0.00	1250.00
MEL - 0301	9-Sep-25	4390	Dinobryon sociale Ehrenberg	57472	13.00	12.00	6.00	226.20
MEL - 0301	9-Sep-25	4390	Dinobryon sociale Ehrenberg	400	0.38	0.00	0.00	950.00
MEL - 0301	9-Sep-25	4390	Dinobryon sociale Ehrenberg	200	0.25	0.00	0.00	1250.00
MEL - 0301	9-Sep-25	4401	Uroglena volvox Ehrenberg	64656	7.31	6.00	6.00	113.10
MEL - 0301	9-Sep-25	4413	Chrysochromulina laurentiana Kling	28736	10.97	9.00	9.00	381.70
MEL - 0301	9-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	10200	24.37	11.50	23.00	2389.00
MEL - 0301	9-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0301	9-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	800	0.87	65.00	8.00	1089.10
MEL - 0301	9-Sep-25	5515	Fragilaria crotonensis Kitton	2000	0.50	60.00	4.00	251.30
MEL - 0301	9-Sep-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0301	9-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	1.96	260.00	6.00	2450.40
MEL - 0301	9-Sep-25	5524	Asterionella formosa Hassall	25400	2.66	100.00	2.00	104.70
MEL - 0301	9-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	800	7.96	18.50	37.00	9945.70
MEL - 0301	9-Sep-25	5551	Cyclotella michiganiana Skvortzow	136496	3.34	2.50	5.00	24.50
MEL - 0301	9-Sep-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - 0301	9-Sep-25	6558	Cryptomonas erosa Ehrenberg	1600	2.87	26.20	14.00	1792.50
MEL - 0301	9-Sep-25	6565	Cryptomonas rostratiformis Skuja	200	0.45	33.00	14.00	2257.80
MEL - 0301	9-Sep-25	7632	Gymnodinium sp.	400	2.23	22.00	22.00	5575.30
MEL - 0301	9-Sep-25	7632	Gymnodinium sp.	600	9.36	31.00	31.00	15598.50
MEL - 0301	9-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	400	8.98	35.00	35.00	22449.30
MEL - 0301	9-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	1000	3.59	19.00	19.00	3591.40
MEL - 0301	9-Sep-25	7641	Peridinium aciculiferum Lemmermann	400	3.62	30.00	24.00	9047.80
MEL - 0302	9-Sep-25	1073	Snowella sp	400	0.20	0.00	0.00	500.00
MEL - 0302	9-Sep-25	2105	Chlamydomonas spp.	7184	0.36	6.00	4.00	50.30
MEL - 0302	9-Sep-25	2112	Sphaerocystis schroeteri Chodat	71840	1.24	3.20	3.20	17.20
MEL - 0302	9-Sep-25	2121	Oocystis lacustris Chodat	35920	0.88	5.20	3.00	24.50
MEL - 0302	9-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	21552	1.22	9.00	4.00	56.50
MEL - 0302	9-Sep-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0302	9-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	1600	0.66	14.00	12.00	410.50
MEL - 0302	9-Sep-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	800	1.55	23.00	21.00	1938.90
MEL - 0302	9-Sep-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0302	9-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	28736	1.08	6.00	6.00	37.70
MEL - 0302	9-Sep-25	2215	Tetraedron caudatum (Corda) Hansgrig	50288	0.24	3.00	3.00	4.70
MEL - 0302	9-Sep-25	4351	Small chrysophyceae	287360	2.07	2.40	2.40	7.20
MEL - 0302	9-Sep-25	4355	Chrysochromulina parva Lackey	71840	4.70	5.00	5.00	65.40
MEL - 0302	9-Sep-25	4357	Chrysococcus sp.	438224	28.66	5.00	5.00	65.40
MEL - 0302	9-Sep-25	4361	Kephyrion boreale Skuja	14368	1.71	6.10	6.10	118.80
MEL - 0302	9-Sep-25	4362	Kephyrion sp.	21552	0.30	3.00	3.00	14.10
MEL - 0302	9-Sep-25	4363	Spiniferomonas serrata	14368	1.54	5.90	5.90	107.50
MEL - 0302	9-Sep-25	4369	Mallomonas pseudocoronata Prescott	200	0.29	23.00	11.00	1457.20
MEL - 0302	9-Sep-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - 0302	9-Sep-25	4383	Dinobryon bavaricum Imhof	1600	2.00	0.00	0.00	1250.00

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0302	9-Sep-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0302	9-Sep-25	4388	Dinobryon sertularia Ehrenberg	600	0.75	0.00	0.00	1250.00
MEL - 0302	9-Sep-25	4390	Dinobryon sociale Ehrenberg	129312	29.25	12.00	6.00	226.20
MEL - 0302	9-Sep-25	4390	Dinobryon sociale Ehrenberg	200	0.19	0.00	0.00	950.00
MEL - 0302	9-Sep-25	4401	Uroglena volvox Ehrenberg	64656	7.31	6.00	6.00	113.10
MEL - 0302	9-Sep-25	4413	Chrysochromulina laurentiana Kling	21552	8.23	9.00	9.00	381.70
MEL - 0302	9-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	35920	0.98	5.80	3.00	27.30
MEL - 0302	9-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	16600	39.66	11.50	23.00	2389.00
MEL - 0302	9-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0302	9-Sep-25	5511	Rhizosolenia eriense H.L. Smith	7184	0.61	12.00	3.00	84.80
MEL - 0302	9-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	200	0.22	65.00	8.00	1089.10
MEL - 0302	9-Sep-25	5515	Fragilaria crotonensis Kitton	2400	0.60	60.00	4.00	251.30
MEL - 0302	9-Sep-25	5518	Synedra acus Kutzing	1200	0.11	90.00	2.00	94.20
MEL - 0302	9-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	1.96	260.00	6.00	2450.40
MEL - 0302	9-Sep-25	5524	Asterionella formosa Hassall	13000	1.36	100.00	2.00	104.70
MEL - 0302	9-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	800	7.96	18.50	37.00	9945.70
MEL - 0302	9-Sep-25	5551	Cyclotella michiganiana Skvortzow	28736	0.70	2.50	5.00	24.50
MEL - 0302	9-Sep-25	6558	Cryptomonas erosa Ehrenberg	600	1.07	26.00	14.00	1778.80
MEL - 0302	9-Sep-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0302	9-Sep-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0302	9-Sep-25	7632	Gymnodinium sp.	600	9.36	31.00	31.00	15598.50
MEL - 0302	9-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	1000	3.59	19.00	19.00	3591.40
MEL - 0303	9-Sep-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - 0303	9-Sep-25	2112	Sphaerocystis schroeteri Chodat	122128	2.10	3.20	3.20	17.20
MEL - 0303	9-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	28736	1.62	9.00	4.00	56.50
MEL - 0303	9-Sep-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0303	9-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	3200	1.31	14.00	12.00	410.50
MEL - 0303	9-Sep-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0303	9-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	21552	0.81	6.00	6.00	37.70
MEL - 0303	9-Sep-25	2206	Botryococcus braunii Kutzing	200	0.29	14.00	14.00	1436.80
MEL - 0303	9-Sep-25	4351	Small chrysophyceae	359200	2.30	2.30	2.30	6.40
MEL - 0303	9-Sep-25	4355	Chrysochromulina parva Lackey	100576	6.58	5.00	5.00	65.40
MEL - 0303	9-Sep-25	4357	Chrysococcus sp.	165232	10.81	5.00	5.00	65.40
MEL - 0303	9-Sep-25	4362	Kephyrion sp.	21552	0.30	3.00	3.00	14.10
MEL - 0303	9-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	800	0.84	20.00	10.00	1047.20
MEL - 0303	9-Sep-25	4383	Dinobryon bavaricum Imhof	50288	11.38	12.00	6.00	226.20
MEL - 0303	9-Sep-25	4383	Dinobryon bavaricum Imhof	2000	2.50	0.00	0.00	1250.00
MEL - 0303	9-Sep-25	4388	Dinobryon sertularia Ehrenberg	200	0.25	0.00	0.00	1250.00
MEL - 0303	9-Sep-25	4390	Dinobryon sociale Ehrenberg	172416	39.00	12.00	6.00	226.20
MEL - 0303	9-Sep-25	4401	Uroglena volvox Ehrenberg	100576	11.38	6.00	6.00	113.10
MEL - 0303	9-Sep-25	4413	Chrysochromulina laurentiana Kling	43104	16.45	9.00	9.00	381.70
MEL - 0303	9-Sep-25	4414	Stichogloea spp.	7184	0.36	6.00	4.00	50.30
MEL - 0303	9-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	64656	1.77	5.80	3.00	27.30
MEL - 0303	9-Sep-25	4437	Pteridomonas sp.	14368	3.42	8.80	8.80	237.90
MEL - 0303	9-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	18800	44.91	11.50	23.00	2389.00
MEL - 0303	9-Sep-25	5509	Cyclotella ocellata Pant.	50288	5.25	4.05	8.10	104.30
MEL - 0303	9-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	1400	1.87	26.00	14.00	1334.10
MEL - 0303	9-Sep-25	5515	Fragilaria crotonensis Kitton	2000	0.50	60.00	4.00	251.30
MEL - 0303	9-Sep-25	5518	Synedra acus Kutzing	1400	0.13	90.00	2.00	94.20
MEL - 0303	9-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	400	0.98	260.00	6.00	2450.40
MEL - 0303	9-Sep-25	5524	Asterionella formosa Hassall	14400	1.51	100.00	2.00	104.70
MEL - 0303	9-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	2000	19.89	18.50	37.00	9945.70
MEL - 0303	9-Sep-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - 0303	9-Sep-25	6554	Rhodomonas minuta Skuja	50288	6.32	10.00	6.00	125.70
MEL - 0303	9-Sep-25	6558	Cryptomonas erosa Ehrenberg	1200	2.13	26.00	14.00	1778.80
MEL - 0303	9-Sep-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0303	9-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.15	19.00	19.00	3591.40
MEL - 0303	9-Sep-25	7641	Peridinium aciculiferum Lemmermann	1400	12.67	30.00	24.00	9047.80
MEL - 0304	9-Sep-25	1014	Chroococcus limneticus Lemmermann	28736	1.47	4.60	4.60	51.00
MEL - 0304	9-Sep-25	1073	Snowella sp	400	0.20	0.00	0.00	500.00
MEL - 0304	9-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0304	9-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	1000	0.41	14.00	12.00	410.50
MEL - 0304	9-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	28736	1.08	6.00	6.00	37.70
MEL - 0304	9-Sep-25	2204	Ankyra judayi (G.M. Smith) Fott	7184	0.37	30.00	2.10	52.00
MEL - 0304	9-Sep-25	2215	Tetraedron caudatum (Corda) Hansgrig	7184	0.03	3.00	3.00	4.70
MEL - 0304	9-Sep-25	4351	Small chrysophyceae	272992	1.75	2.30	2.30	6.40
MEL - 0304	9-Sep-25	4355	Chrysochromulina parva Lackey	21552	1.41	5.00	5.00	65.40
MEL - 0304	9-Sep-25	4357	Chrysococcus sp.	366384	23.96	5.00	5.00	65.40
MEL - 0304	9-Sep-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0304	9-Sep-25	4362	Kephyrion sp.	100576	1.42	3.00	3.00	14.10
MEL - 0304	9-Sep-25	4363	Spiniferomonas serrata	21552	2.32	5.90	5.90	107.50
MEL - 0304	9-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	600	0.63	20.00	10.00	1047.20
MEL - 0304	9-Sep-25	4383	Dinobryon bavaricum Imhof	57472	13.00	12.00	6.00	226.20
MEL - 0304	9-Sep-25	4383	Dinobryon bavaricum Imhof	1400	1.75	0.00	0.00	1250.00
MEL - 0304	9-Sep-25	4388	Dinobryon sertularia Ehrenberg	600	0.75	0.00	0.00	1250.00
MEL - 0304	9-Sep-25	4390	Dinobryon sociale Ehrenberg	150864	34.13	12.00	6.00	226.20
MEL - 0304	9-Sep-25	4401	Uroglena volvox Ehrenberg	50288	5.69	6.00	6.00	113.10
MEL - 0304	9-Sep-25	4411	Bitrichia chodatii (Reverdin) Chodat	7184	0.36	6.00	4.00	50.30
MEL - 0304	9-Sep-25	4413	Chrysochromulina laurentiana Kling	50288	19.19	9.00	9.00	381.70
MEL - 0304	9-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	86208	2.28	5.60	3.00	26.40
MEL - 0304	9-Sep-25	4437	Pteridomonas sp.	7184	1.71	8.80	8.80	237.90
MEL - 0304	9-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	11400	27.23	11.50	23.00	2389.00
MEL - 0304	9-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0304	9-Sep-25	5515	Fragilaria crotonensis Kitton	1200	0.30	60.00	4.00	251.30
MEL - 0304	9-Sep-25	5518	Synedra acus Kutzing	1600	0.17	100.00	2.00	104.70
MEL - 0304	9-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	1.96	260.00	6.00	2450.40
MEL - 0304	9-Sep-25	5524	Asterionella formosa Hassall	19400	1.83	90.00	2.00	94.20
MEL - 0304	9-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1800	17.90	18.50	37.00	9945.70
MEL - 0304	9-Sep-25	5551	Cyclotella michiganiana Skvortzow	100576	2.46	2.50	5.00	24.50

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0304	9-Sep-25	6554	Rhodomonas minuta Skuja	35920	4.52	10.00	6.00	125.70
MEL - 0304	9-Sep-25	6558	Cryptomonas erosa Ehrenberg	200	0.36	26.00	14.00	1778.80
MEL - 0304	9-Sep-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - 0304	9-Sep-25	7632	Gymnodinium sp.	200	1.12	22.00	22.00	5575.30
MEL - 0304	9-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	400	1.44	19.00	19.00	3591.40
MEL - 0304	9-Sep-25	7641	Peridinium aciculiferum Lemmermann	600	5.43	30.00	24.00	9047.80
MEL - 0305	9-Sep-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - 0305	9-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	64656	3.65	9.00	4.00	56.50
MEL - 0305	9-Sep-25	2167	Elakatothrix gelatinosa Willen	294544	4.62	10.00	2.00	15.70
MEL - 0305	9-Sep-25	2169	Planctonema lauterbornii Schmidle	28736	10.16	18.00	5.00	353.40
MEL - 0305	9-Sep-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - 0305	9-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	800	0.33	14.00	12.00	410.50
MEL - 0305	9-Sep-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0305	9-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	43104	1.63	6.00	6.00	37.70
MEL - 0305	9-Sep-25	4351	Small chrysophyceae	359200	2.30	2.30	2.30	6.40
MEL - 0305	9-Sep-25	4355	Chrysochromulina parva Lackey	129312	8.46	5.00	5.00	65.40
MEL - 0305	9-Sep-25	4357	Chrysococcus sp.	308912	20.20	5.00	5.00	65.40
MEL - 0305	9-Sep-25	4361	Kephyrion boreale Skuja	14368	1.71	6.10	6.10	118.80
MEL - 0305	9-Sep-25	4362	Kephyrion sp.	79024	1.11	3.00	3.00	14.10
MEL - 0305	9-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	200	0.21	20.00	10.00	1047.20
MEL - 0305	9-Sep-25	4383	Dinobryon bavaricum Imhof	7184	1.63	12.00	6.00	226.20
MEL - 0305	9-Sep-25	4383	Dinobryon bavaricum Imhof	1400	1.75	0.00	0.00	1250.00
MEL - 0305	9-Sep-25	4388	Dinobryon sertularia Ehrenberg	400	0.50	0.00	0.00	1250.00
MEL - 0305	9-Sep-25	4390	Dinobryon sociale Ehrenberg	86208	19.50	12.00	6.00	226.20
MEL - 0305	9-Sep-25	4401	Uroglena volvox Ehrenberg	71840	8.13	6.00	6.00	113.10
MEL - 0305	9-Sep-25	4413	Chrysochromulina laurentiana Kling	21552	8.23	9.00	9.00	381.70
MEL - 0305	9-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.19	5.60	3.00	26.40
MEL - 0305	9-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	13400	32.01	11.50	23.00	2389.00
MEL - 0305	9-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.75	4.05	8.10	104.30
MEL - 0305	9-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	1200	1.31	65.00	8.00	1089.10
MEL - 0305	9-Sep-25	5515	Fragilaria crotonensis Kitton	1200	0.30	60.00	4.00	251.30
MEL - 0305	9-Sep-25	5518	Synedra acus Kutzing	1600	0.15	90.00	2.00	94.20
MEL - 0305	9-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	1.96	260.00	6.00	2450.40
MEL - 0305	9-Sep-25	5524	Asterionella formosa Hassall	14600	1.53	100.00	2.00	104.70
MEL - 0305	9-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1000	9.95	18.50	37.00	9945.70
MEL - 0305	9-Sep-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - 0305	9-Sep-25	6554	Rhodomonas minuta Skuja	7184	0.90	10.00	6.00	125.70
MEL - 0305	9-Sep-25	6558	Cryptomonas erosa Ehrenberg	800	1.42	26.00	14.00	1778.80
MEL - 0305	9-Sep-25	7632	Gymnodinium sp.	200	1.12	22.00	22.00	5575.30
MEL - 0305	9-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	800	2.87	19.00	19.00	3591.40
MEL - DUP1	9-Sep-25	1014	Chroococcus limneticus Lemmermann	201152	26.33	6.30	6.30	130.90
MEL - DUP1	9-Sep-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - DUP1	9-Sep-25	2121	Oocystis lacustris Chodat	86208	2.28	5.60	3.00	26.40
MEL - DUP1	9-Sep-25	2167	Elakatothrix gelatinosa Willen	43104	0.68	10.00	2.00	15.70
MEL - DUP1	9-Sep-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - DUP1	9-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	1600	0.66	14.00	12.00	410.50
MEL - DUP1	9-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	14368	0.54	6.00	6.00	37.70
MEL - DUP1	9-Sep-25	2206	Botryococcus braunii Kutzing	600	0.86	14.00	14.00	1436.80
MEL - DUP1	9-Sep-25	2260	Monomastix minuta Skuja	7184	0.14	6.30	3.00	19.80
MEL - DUP1	9-Sep-25	4351	Small chrysophyceae	208336	1.50	2.40	2.40	7.20
MEL - DUP1	9-Sep-25	4355	Chrysochromulina parva Lackey	21552	1.41	5.00	5.00	65.40
MEL - DUP1	9-Sep-25	4357	Chrysococcus sp.	366384	23.96	5.00	5.00	65.40
MEL - DUP1	9-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - DUP1	9-Sep-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - DUP1	9-Sep-25	4362	Kephyrion sp.	129312	1.82	3.00	3.00	14.10
MEL - DUP1	9-Sep-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - DUP1	9-Sep-25	4383	Dinobryon bavaricum Imhof	2000	2.50	0.00	0.00	1250.00
MEL - DUP1	9-Sep-25	4388	Dinobryon sertularia Ehrenberg	600	0.75	0.00	0.00	1250.00
MEL - DUP1	9-Sep-25	4390	Dinobryon sociale Ehrenberg	86208	19.50	12.00	6.00	226.20
MEL - DUP1	9-Sep-25	4401	Uroglena volvox Ehrenberg	86208	9.75	6.00	6.00	113.10
MEL - DUP1	9-Sep-25	4413	Chrysochromulina laurentiana Kling	7184	2.74	9.00	9.00	381.70
MEL - DUP1	9-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	5800	13.86	11.50	23.00	2389.00
MEL - DUP1	9-Sep-25	5509	Cyclotella ocellata Pant.	7184	0.78	4.10	8.20	108.30
MEL - DUP1	9-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	4000	4.36	65.00	8.00	1089.10
MEL - DUP1	9-Sep-25	5515	Fragilaria crotonensis Kitton	1800	0.45	60.00	4.00	251.30
MEL - DUP1	9-Sep-25	5518	Synedra acus Kutzing	1800	0.17	90.00	2.00	94.20
MEL - DUP1	9-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1200	2.94	260.00	6.00	2450.40
MEL - DUP1	9-Sep-25	5524	Asterionella formosa Hassall	14400	1.51	100.00	2.00	104.70
MEL - DUP1	9-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1400	13.92	18.50	37.00	9945.70
MEL - DUP1	9-Sep-25	5551	Cyclotella michiganiana Skvortzow	122128	2.99	2.50	5.00	24.50
MEL - DUP1	9-Sep-25	6554	Rhodomonas minuta Skuja	86208	10.84	10.00	6.00	125.70
MEL - DUP1	9-Sep-25	6558	Cryptomonas erosa Ehrenberg	1000	1.80	26.30	14.00	1799.40
MEL - DUP1	9-Sep-25	7631	Gymnodinium helveticum Penard	200	4.71	50.00	30.00	23561.90
MEL - DUP1	9-Sep-25	7632	Gymnodinium sp.	800	4.46	22.00	22.00	5575.30
MEL - DUP1	9-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	200	5.75	38.00	38.00	28730.90
MEL - DUP1	9-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.15	19.00	19.00	3591.40
MEL - DUP1	9-Sep-25	7641	Peridinium aciculiferum Lemmermann	400	3.62	30.00	24.00	9047.80
MEL - 0202	10-Sep-25	1073	Snowella sp	800	0.40	0.00	0.00	500.00
MEL - 0202	10-Sep-25	2105	Chlamydomonas spp.	7184	0.36	6.00	4.00	50.30
MEL - 0202	10-Sep-25	2121	Oocystis lacustris Chodat	7184	0.19	5.60	3.00	26.40
MEL - 0202	10-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	14368	0.81	9.00	4.00	56.50
MEL - 0202	10-Sep-25	2167	Elakatothrix gelatinosa Willen	35920	0.56	10.00	2.00	15.70
MEL - 0202	10-Sep-25	2169	Planctonema lauterbornii Schmidle	7184	2.54	18.00	5.00	353.40
MEL - 0202	10-Sep-25	2182	Euastrum spp.	600	1.12	22.00	22.00	1858.40
MEL - 0202	10-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	1000	0.44	14.50	12.00	440.30
MEL - 0202	10-Sep-25	2193	Staurodesmus paradoxum Meyen	400	1.13	26.00	24.00	2831.60
MEL - 0202	10-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	79024	2.98	6.00	6.00	37.70
MEL - 0202	10-Sep-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0202	10-Sep-25	4351	Small chrysophyceae	215520	1.38	2.30	2.30	6.40

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0202	10-Sep-25	4352	Large chrysophyceae	64656	11.61	7.00	7.00	179.60
MEL - 0202	10-Sep-25	4355	Chrysochromulina parva Lackey	43104	2.82	5.00	5.00	65.40
MEL - 0202	10-Sep-25	4357	Chrysococcus sp.	804608	52.62	5.00	5.00	65.40
MEL - 0202	10-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0202	10-Sep-25	4361	Kephyrion boreale Skuja	7184	0.85	6.10	6.10	118.80
MEL - 0202	10-Sep-25	4362	Kephyrion sp.	86208	1.48	3.20	3.20	17.20
MEL - 0202	10-Sep-25	4363	Spiniferomonas serrata	7184	0.85	6.10	6.10	118.80
MEL - 0202	10-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.41	19.60	10.00	1026.30
MEL - 0202	10-Sep-25	4369	Mallomonas pseudocoronata Prescott	200	0.29	23.00	11.00	1457.20
MEL - 0202	10-Sep-25	4383	Dinobryon bavaricum Imhof	86208	19.50	12.00	6.00	226.20
MEL - 0202	10-Sep-25	4383	Dinobryon bavaricum Imhof	6800	13.54	0.00	0.00	1991.00
MEL - 0202	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	114944	26.00	12.00	6.00	226.20
MEL - 0202	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	1000	1.99	0.00	0.00	1991.00
MEL - 0202	10-Sep-25	4390	Dinobryon sociale Ehrenberg	57472	13.00	12.00	6.00	226.20
MEL - 0202	10-Sep-25	4390	Dinobryon sociale Ehrenberg	1400	1.33	0.00	0.00	950.00
MEL - 0202	10-Sep-25	4394	Epiphyxis sp.	21552	1.63	9.00	4.00	75.40
MEL - 0202	10-Sep-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.19	5.60	3.00	26.40
MEL - 0202	10-Sep-25	4401	Uroglena volvox Ehrenberg	50288	5.69	6.00	6.00	113.10
MEL - 0202	10-Sep-25	4413	Chrysochromulina laurentiana Kling	100576	38.39	9.00	9.00	381.70
MEL - 0202	10-Sep-25	4414	Stichogloea spp.	28736	1.45	6.00	4.00	50.30
MEL - 0202	10-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	7184	0.36	6.00	4.00	50.30
MEL - 0202	10-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	18000	43.00	11.50	23.00	2389.00
MEL - 0202	10-Sep-25	5509	Cyclotella ocellata Pant.	64656	7.00	4.10	8.20	108.30
MEL - 0202	10-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	14000	16.19	69.00	8.00	1156.10
MEL - 0202	10-Sep-25	5515	Fragilaria crotonensis Kitton	3800	1.11	70.00	4.00	293.20
MEL - 0202	10-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	3.49	260.00	8.00	4356.30
MEL - 0202	10-Sep-25	5524	Asterionella formosa Hassall	8400	0.88	100.00	2.00	104.70
MEL - 0202	10-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1200	15.08	20.00	40.00	12566.40
MEL - 0202	10-Sep-25	5551	Cyclotella michiganiana Skvortzow	201152	4.93	2.50	5.00	24.50
MEL - 0202	10-Sep-25	6554	Rhodomonas minuta Skuja	107760	9.03	9.60	5.00	83.80
MEL - 0202	10-Sep-25	6558	Cryptomonas erosa Ehrenberg	2000	3.63	26.50	14.00	1813.00
MEL - 0202	10-Sep-25	7632	Gymnodinium sp.	800	4.46	22.00	22.00	5575.30
MEL - 0202	10-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.49	35.00	35.00	22449.30
MEL - 0202	10-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.15	19.00	19.00	3591.40
MEL - 0202	10-Sep-25	7640	Peridinium goslaviense Woloszynska	200	6.70	40.00	40.00	33510.30
MEL - 0202	10-Sep-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0203	10-Sep-25	1073	Snowella sp	1000	0.50	0.00	0.00	500.00
MEL - 0203	10-Sep-25	2112	Sphaerocystis schroeteri Chodat	64656	0.91	3.00	3.00	14.10
MEL - 0203	10-Sep-25	2113	Pediastrum duplex Meyen	200	0.62	0.00	0.00	3100.00
MEL - 0203	10-Sep-25	2130	Scenedesmus quadricauda (Turp.) Brebisson	28736	1.33	8.30	4.00	46.40
MEL - 0203	10-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0203	10-Sep-25	2167	Elakatothrix gelatinosa Willen	7184	0.11	10.00	2.00	15.70
MEL - 0203	10-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	2800	1.23	14.50	12.00	440.30
MEL - 0203	10-Sep-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - 0203	10-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	86208	3.25	6.00	6.00	37.70
MEL - 0203	10-Sep-25	2206	Botryococcus braunii Kutzing	800	1.15	14.00	14.00	1436.80
MEL - 0203	10-Sep-25	4351	Small chrysophyceae	215520	1.38	2.30	2.30	6.40
MEL - 0203	10-Sep-25	4352	Large chrysophyceae	165232	29.68	7.00	7.00	179.60
MEL - 0203	10-Sep-25	4355	Chrysochromulina parva Lackey	28736	1.88	5.00	5.00	65.40
MEL - 0203	10-Sep-25	4357	Chrysococcus sp.	416672	27.25	5.00	5.00	65.40
MEL - 0203	10-Sep-25	4362	Kephyrion sp.	114944	1.98	3.20	3.20	17.20
MEL - 0203	10-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	200	0.21	19.60	10.00	1026.30
MEL - 0203	10-Sep-25	4369	Mallomonas pseudocoronata Prescott	600	0.87	23.00	11.00	1457.20
MEL - 0203	10-Sep-25	4381	Dinobryon mucronatom Nygaard	57472	13.00	12.00	6.00	226.20
MEL - 0203	10-Sep-25	4383	Dinobryon bavaricum Imhof	114944	26.00	12.00	6.00	226.20
MEL - 0203	10-Sep-25	4383	Dinobryon bavaricum Imhof	10000	19.91	0.00	0.00	1991.00
MEL - 0203	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0203	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	2200	4.38	0.00	0.00	1991.00
MEL - 0203	10-Sep-25	4390	Dinobryon sociale Ehrenberg	1000	0.95	0.00	0.00	950.00
MEL - 0203	10-Sep-25	4394	Epiphyxis sp.	50288	3.79	9.00	4.00	75.40
MEL - 0203	10-Sep-25	4413	Chrysochromulina laurentiana Kling	50288	19.19	9.00	9.00	381.70
MEL - 0203	10-Sep-25	4414	Stichogloea spp.	21552	1.08	6.00	4.00	50.30
MEL - 0203	10-Sep-25	4437	Pteridomonas sp.	7184	1.33	8.10	8.10	185.50
MEL - 0203	10-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	20200	48.26	11.50	23.00	2389.00
MEL - 0203	10-Sep-25	5509	Cyclotella ocellata Pant.	35920	3.89	4.10	8.20	108.30
MEL - 0203	10-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	5600	6.47	69.00	8.00	1156.10
MEL - 0203	10-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	800	1.03	25.00	14.00	1282.80
MEL - 0203	10-Sep-25	5515	Fragilaria crotonensis Kitton	4400	1.29	70.00	4.00	293.20
MEL - 0203	10-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	2600	11.33	260.00	8.00	4356.30
MEL - 0203	10-Sep-25	5524	Asterionella formosa Hassall	13800	1.44	100.00	2.00	104.70
MEL - 0203	10-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1800	22.62	20.00	40.00	12566.40
MEL - 0203	10-Sep-25	5551	Cyclotella michiganiana Skvortzow	165232	4.05	2.50	5.00	24.50
MEL - 0203	10-Sep-25	6554	Rhodomonas minuta Skuja	50288	4.21	9.60	5.00	83.80
MEL - 0203	10-Sep-25	6558	Cryptomonas erosa Ehrenberg	1200	2.18	26.50	14.00	1813.00
MEL - 0203	10-Sep-25	7632	Gymnodinium sp.	3000	16.73	22.00	22.00	5575.30
MEL - 0203	10-Sep-25	7635	Peridinium willei Huitfeldt-Kaas	200	4.89	36.00	36.00	24429.00
MEL - 0203	10-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	2800	10.06	19.00	19.00	3591.40
MEL - 0203	10-Sep-25	7640	Peridinium goslaviense Woloszynska	400	13.40	40.00	40.00	33510.30
MEL - 0203	10-Sep-25	7641	Peridinium aciculiferum Lemmermann	400	3.62	30.00	24.00	9047.80
MEL - 0205	10-Sep-25	1073	Snowella sp	800	0.40	0.00	0.00	500.00
MEL - 0205	10-Sep-25	2121	Oocystis lacustris Chodat	71840	1.90	5.60	3.00	26.40
MEL - 0205	10-Sep-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	7184	0.41	9.00	4.00	56.50
MEL - 0205	10-Sep-25	2169	Planctonema lauterbornii Schmidle	28736	10.16	18.00	5.00	353.40
MEL - 0205	10-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	1400	0.57	14.00	12.00	410.50
MEL - 0205	10-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	35920	1.35	6.00	6.00	37.70
MEL - 0205	10-Sep-25	4351	Small chrysophyceae	272992	1.75	2.30	2.30	6.40
MEL - 0205	10-Sep-25	4352	Large chrysophyceae	35920	6.45	7.00	7.00	179.60
MEL - 0205	10-Sep-25	4355	Chrysochromulina parva Lackey	35920	2.35	5.00	5.00	65.40
MEL - 0205	10-Sep-25	4357	Chrysococcus sp.	488512	31.95	5.00	5.00	65.40

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - 0205	10-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0205	10-Sep-25	4362	Kephyrion sp.	136496	1.92	3.00	3.00	14.10
MEL - 0205	10-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.42	20.00	10.00	1047.20
MEL - 0205	10-Sep-25	4383	Dinobryon bavaricum Imhof	129312	29.25	12.00	6.00	226.20
MEL - 0205	10-Sep-25	4383	Dinobryon bavaricum Imhof	6000	7.50	0.00	0.00	1250.00
MEL - 0205	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	35920	8.13	12.00	6.00	226.20
MEL - 0205	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	1600	2.00	0.00	0.00	1250.00
MEL - 0205	10-Sep-25	4390	Dinobryon sociale Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0205	10-Sep-25	4390	Dinobryon sociale Ehrenberg	800	0.76	0.00	0.00	950.00
MEL - 0205	10-Sep-25	4396	Chrysolykos skuja (Nauwerck) Willen	7184	0.19	5.60	3.00	26.40
MEL - 0205	10-Sep-25	4401	Uroglena volvox Ehrenberg	57472	6.50	6.00	6.00	113.10
MEL - 0205	10-Sep-25	4413	Chrysochromulina laurentiana Kling	7184	2.74	9.00	9.00	381.70
MEL - 0205	10-Sep-25	4414	Stichogloea spp.	71840	3.61	6.00	4.00	50.30
MEL - 0205	10-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	64656	1.77	5.80	3.00	27.30
MEL - 0205	10-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	13200	31.53	11.50	23.00	2389.00
MEL - 0205	10-Sep-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0205	10-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	17400	18.95	65.00	8.00	1089.10
MEL - 0205	10-Sep-25	5515	Fragilaria crotonensis Kitton	11800	2.97	60.00	4.00	251.30
MEL - 0205	10-Sep-25	5518	Synedra acus Kutzing	400	0.04	100.00	2.00	104.70
MEL - 0205	10-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	800	1.96	260.00	6.00	2450.40
MEL - 0205	10-Sep-25	5524	Asterionella formosa Hassall	11400	1.19	100.00	2.00	104.70
MEL - 0205	10-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1200	11.93	18.50	37.00	9945.70
MEL - 0205	10-Sep-25	5551	Cyclotella michiganiana Skvortzow	28736	0.70	2.50	5.00	24.50
MEL - 0205	10-Sep-25	6554	Rhodomonas minuta Skuja	7184	0.90	10.00	6.00	125.70
MEL - 0205	10-Sep-25	6558	Cryptomonas erosa Ehrenberg	2000	3.68	26.90	14.00	1840.40
MEL - 0205	10-Sep-25	6565	Cryptomonas rostratiformis Skuja	400	0.96	35.00	14.00	2394.60
MEL - 0205	10-Sep-25	7632	Gymnodinium sp.	1600	8.92	22.00	22.00	5575.30
MEL - 0205	10-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	1600	5.75	19.00	19.00	3591.40
MEL - 0205	10-Sep-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0205R	10-Sep-25	1073	Snowella sp	600	0.30	0.00	0.00	500.00
MEL - 0205R	10-Sep-25	2121	Oocystis lacustris Chodat	21552	0.57	5.60	3.00	26.40
MEL - 0205R	10-Sep-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0205R	10-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	600	0.25	14.00	12.00	410.50
MEL - 0205R	10-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	43104	1.63	6.00	6.00	37.70
MEL - 0205R	10-Sep-25	4351	Small chrysophyceae	330464	2.11	2.30	2.30	6.40
MEL - 0205R	10-Sep-25	4352	Large chrysophyceae	14368	2.58	7.00	7.00	179.60
MEL - 0205R	10-Sep-25	4355	Chrysochromulina parva Lackey	79024	5.17	5.00	5.00	65.40
MEL - 0205R	10-Sep-25	4357	Chrysococcus sp.	545984	35.71	5.00	5.00	65.40
MEL - 0205R	10-Sep-25	4358	Chrysostephanosphaera globulifera Scherffel	7184	2.00	8.10	8.10	278.30
MEL - 0205R	10-Sep-25	4362	Kephyrion sp.	114944	1.62	3.00	3.00	14.10
MEL - 0205R	10-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.42	20.00	10.00	1047.20
MEL - 0205R	10-Sep-25	4383	Dinobryon bavaricum Imhof	114944	26.00	12.00	6.00	226.20
MEL - 0205R	10-Sep-25	4383	Dinobryon bavaricum Imhof	7200	9.00	0.00	0.00	1250.00
MEL - 0205R	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	64656	14.63	12.00	6.00	226.20
MEL - 0205R	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	800	1.00	0.00	0.00	1250.00
MEL - 0205R	10-Sep-25	4390	Dinobryon sociale Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0205R	10-Sep-25	4390	Dinobryon sociale Ehrenberg	1800	1.71	0.00	0.00	950.00
MEL - 0205R	10-Sep-25	4394	Epiphyxis sp.	28736	2.17	9.00	4.00	75.40
MEL - 0205R	10-Sep-25	4396	Chrysolykos skuja (Nauwerck) Willen	14368	0.38	5.60	3.00	26.40
MEL - 0205R	10-Sep-25	4401	Uroglena volvox Ehrenberg	14368	1.63	6.00	6.00	113.10
MEL - 0205R	10-Sep-25	4414	Stichogloea spp.	158048	7.95	6.00	4.00	50.30
MEL - 0205R	10-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	35920	0.98	5.80	3.00	27.30
MEL - 0205R	10-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	14400	34.40	11.50	23.00	2389.00
MEL - 0205R	10-Sep-25	5509	Cyclotella ocellata Pant.	14368	1.50	4.05	8.10	104.30
MEL - 0205R	10-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	12600	13.72	65.00	8.00	1089.10
MEL - 0205R	10-Sep-25	5515	Fragilaria crotonensis Kitton	16600	4.17	60.00	4.00	251.30
MEL - 0205R	10-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	1000	2.45	260.00	6.00	2450.40
MEL - 0205R	10-Sep-25	5524	Asterionella formosa Hassall	12400	1.30	100.00	2.00	104.70
MEL - 0205R	10-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	400	3.98	18.50	37.00	9945.70
MEL - 0205R	10-Sep-25	5551	Cyclotella michiganiana Skvortzow	21552	0.53	2.50	5.00	24.50
MEL - 0205R	10-Sep-25	6554	Rhodomonas minuta Skuja	14368	1.81	10.00	6.00	125.70
MEL - 0205R	10-Sep-25	6558	Cryptomonas erosa Ehrenberg	4000	7.36	26.90	14.00	1840.40
MEL - 0205R	10-Sep-25	6565	Cryptomonas rostratiformis Skuja	600	1.44	35.00	14.00	2394.60
MEL - 0205R	10-Sep-25	7632	Gymnodinium sp.	1400	7.81	22.00	22.00	5575.30
MEL - 0205R	10-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	2000	7.18	19.00	19.00	3591.40
MEL - 0205R	10-Sep-25	7641	Peridinium aciculiferum Lemmermann	1200	10.86	30.00	24.00	9047.80
MEL - 0206	10-Sep-25	1073	Snowella sp	800	0.40	0.00	0.00	500.00
MEL - 0206	10-Sep-25	2105	Chlamydomonas spp.	7184	0.17	5.10	3.00	24.00
MEL - 0206	10-Sep-25	2127	Tetraedron minimum (Brunow) Hansgrig	7184	1.25	10.00	10.00	174.50
MEL - 0206	10-Sep-25	2169	Planctonema lauterbornii Schmidle	14368	5.08	18.00	5.00	353.40
MEL - 0206	10-Sep-25	2178	Cosmarium sp.	800	1.12	20.00	20.00	1396.30
MEL - 0206	10-Sep-25	2182	Euastrum spp.	200	0.37	22.00	22.00	1858.40
MEL - 0206	10-Sep-25	2185	Micrasterias sp.	200	0.20	18.00	18.00	1017.90
MEL - 0206	10-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	1200	0.49	14.00	12.00	410.50
MEL - 0206	10-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	64656	2.44	6.00	6.00	37.70
MEL - 0206	10-Sep-25	2206	Botryococcus braunii Kutzing	400	0.57	14.00	14.00	1436.80
MEL - 0206	10-Sep-25	4351	Small chrysophyceae	416672	2.67	2.30	2.30	6.40
MEL - 0206	10-Sep-25	4355	Chrysochromulina parva Lackey	57472	3.76	5.00	5.00	65.40
MEL - 0206	10-Sep-25	4357	Chrysococcus sp.	308912	20.20	5.00	5.00	65.40
MEL - 0206	10-Sep-25	4362	Kephyrion sp.	64656	0.91	3.00	3.00	14.10
MEL - 0206	10-Sep-25	4363	Spiniferomonas serrata	14368	1.71	6.10	6.10	118.80
MEL - 0206	10-Sep-25	4364	Mallomonas caudata Ivanov	200	1.07	40.00	16.00	5361.70
MEL - 0206	10-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	200	0.21	20.00	10.00	1047.20
MEL - 0206	10-Sep-25	4383	Dinobryon bavaricum Imhof	71840	16.25	12.00	6.00	226.20
MEL - 0206	10-Sep-25	4383	Dinobryon bavaricum Imhof	6400	8.00	0.00	0.00	1250.00
MEL - 0206	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	7184	1.63	12.00	6.00	226.20
MEL - 0206	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	1200	1.50	0.00	0.00	1250.00
MEL - 0206	10-Sep-25	4401	Uroglena volvox Ehrenberg	7184	0.81	6.00	6.00	113.10
MEL - 0206	10-Sep-25	4413	Chrysochromulina laurentiana Kling	57472	21.94	9.00	9.00	381.70

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume $µ^3$
MEL - 0206	10-Sep-25	4414	Stichogloea spp.	28736	1.45	6.00	4.00	50.30
MEL - 0206	10-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	57472	1.52	5.60	3.00	26.40
MEL - 0206	10-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	21400	51.12	11.50	23.00	2389.00
MEL - 0206	10-Sep-25	5509	Cyclotella ocellata Pant.	35920	3.75	4.05	8.10	104.30
MEL - 0206	10-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	5000	5.45	65.00	8.00	1089.10
MEL - 0206	10-Sep-25	5515	Fragilaria crotonensis Kitton	5600	1.41	60.00	4.00	251.30
MEL - 0206	10-Sep-25	5518	Synedra acus Kutzing	800	0.08	100.00	2.00	104.70
MEL - 0206	10-Sep-25	5523	Synedra ulna (Nitzsch) Ehrenberg	600	1.47	260.00	6.00	2450.40
MEL - 0206	10-Sep-25	5524	Asterionella formosa Hassall	5600	0.59	100.00	2.00	104.70
MEL - 0206	10-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	2600	23.82	18.00	36.00	9160.90
MEL - 0206	10-Sep-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - 0206	10-Sep-25	6554	Rhodomonas minuta Skuja	79024	9.93	10.00	6.00	125.70
MEL - 0206	10-Sep-25	6558	Cryptomonas erosa Ehrenberg	1800	3.26	26.50	14.00	1813.00
MEL - 0206	10-Sep-25	6565	Cryptomonas rostratiformis Skuja	200	0.48	35.00	14.00	2394.60
MEL - 0206	10-Sep-25	6568	Katablepharis ovalis Skuja	7184	0.29	7.60	4.00	40.30
MEL - 0206	10-Sep-25	7631	Gymnodinium helveticum Penard	400	9.42	50.00	30.00	23561.90
MEL - 0206	10-Sep-25	7632	Gymnodinium sp.	600	3.35	22.00	22.00	5575.30
MEL - 0206	10-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	3000	10.77	19.00	19.00	3591.40
MEL - 0206	10-Sep-25	7641	Peridinium aciculiferum Lemmermann	800	7.24	30.00	24.00	9047.80
MEL - 0208	10-Sep-25	1014	Chroococcus limneticus Lemmermann	100576	3.37	4.00	4.00	33.50
MEL - 0208	10-Sep-25	1073	Snowella sp	1200	0.60	0.00	0.00	500.00
MEL - 0208	10-Sep-25	1133	Anabaena flos-aquae (Lyngb.) Breb. & Bornet	400	2.17	245.00	6.50	5419.90
MEL - 0208	10-Sep-25	2112	Sphaerocystis schroeteri Chodat	193968	2.73	3.00	3.00	14.10
MEL - 0208	10-Sep-25	2167	Elakatothrix gelatinosa Willen	7184	0.11	10.00	2.00	15.70
MEL - 0208	10-Sep-25	2169	Planctonema lauterbornii Schmidle	86208	30.47	18.00	5.00	353.40
MEL - 0208	10-Sep-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - 0208	10-Sep-25	2187	Staurodesmus extensus (Andersson) Teiling	800	0.33	14.00	12.00	410.50
MEL - 0208	10-Sep-25	2199	Spondylosium planum (Wolle) W. and G.S. West	35920	1.35	6.00	6.00	37.70
MEL - 0208	10-Sep-25	4351	Small chrysophyceae	294544	1.89	2.30	2.30	6.40
MEL - 0208	10-Sep-25	4352	Large chrysophyceae	71840	12.90	7.00	7.00	179.60
MEL - 0208	10-Sep-25	4355	Chrysochromulina parva Lackey	28736	1.88	5.00	5.00	65.40
MEL - 0208	10-Sep-25	4357	Chrysococcus sp.	344832	22.55	5.00	5.00	65.40
MEL - 0208	10-Sep-25	4362	Kephyrion sp.	57472	0.99	3.20	3.20	17.20
MEL - 0208	10-Sep-25	4363	Spiniferomonas serrata	7184	0.77	5.90	5.90	107.50
MEL - 0208	10-Sep-25	4368	Mallomonas crassisquama (Asmund) Fott	400	0.42	20.00	10.00	1047.20
MEL - 0208	10-Sep-25	4383	Dinobryon bavaricum Imhof	143680	32.50	12.00	6.00	226.20
MEL - 0208	10-Sep-25	4383	Dinobryon bavaricum Imhof	9000	11.25	0.00	0.00	1250.00
MEL - 0208	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	43104	9.75	12.00	6.00	226.20
MEL - 0208	10-Sep-25	4388	Dinobryon sertularia Ehrenberg	1000	1.25	0.00	0.00	1250.00
MEL - 0208	10-Sep-25	4390	Dinobryon sociale Ehrenberg	57472	13.00	12.00	6.00	226.20
MEL - 0208	10-Sep-25	4390	Dinobryon sociale Ehrenberg	1000	0.95	0.00	0.00	950.00
MEL - 0208	10-Sep-25	4413	Chrysochromulina laurentiana Kling	100576	38.39	9.00	9.00	381.70
MEL - 0208	10-Sep-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	21552	0.59	5.80	3.00	27.30
MEL - 0208	10-Sep-25	5507	Cyclotella stelligera Cleve and Grunow	11400	27.23	11.50	23.00	2389.00
MEL - 0208	10-Sep-25	5509	Cyclotella ocellata Pant.	21552	2.25	4.05	8.10	104.30
MEL - 0208	10-Sep-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	8000	8.71	65.00	8.00	1089.10
MEL - 0208	10-Sep-25	5514	Tabellaria flocculosa (Roth) Kutzing	800	1.07	26.00	14.00	1334.10
MEL - 0208	10-Sep-25	5515	Fragilaria crotonensis Kitton	2800	0.70	60.00	4.00	251.30
MEL - 0208	10-Sep-25	5518	Synedra acus Kutzing	1000	0.10	100.00	2.00	104.70
MEL - 0208	10-Sep-25	5524	Asterionella formosa Hassall	11800	1.24	100.00	2.00	104.70
MEL - 0208	10-Sep-25	5530	Stephanodiscus niagarae Ehrenberg	1600	15.91	18.50	37.00	9945.70
MEL - 0208	10-Sep-25	5551	Cyclotella michiganiana Skvortzow	129312	3.17	2.50	5.00	24.50
MEL - 0208	10-Sep-25	6554	Rhodomonas minuta Skuja	7184	0.90	10.00	6.00	125.70
MEL - 0208	10-Sep-25	6558	Cryptomonas erosa Ehrenberg	1000	1.79	26.20	14.00	1792.50
MEL - 0208	10-Sep-25	7632	Gymnodinium sp.	400	2.23	22.00	22.00	5575.30
MEL - 0208	10-Sep-25	7639	Peridinium pusillum (Penard) Lemmermann	400	1.44	19.00	19.00	3591.40
MEL - 0208	10-Sep-25	7641	Peridinium aciculiferum Lemmermann	200	1.81	30.00	24.00	9047.80
MEL - PL-01	15-Aug-25	1073	Snowella sp	300	0.15	0.00	0.00	500.00
MEL - PL-01	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	67376	0.95	3.00	3.00	14.10
MEL - PL-01	15-Aug-25	2113	Pediastrum duplex Meyen	100	0.21	0.00	0.00	2100.00
MEL - PL-01	15-Aug-25	2121	Oocystis lacustris Chodat	67376	1.78	5.60	3.00	26.40
MEL - PL-01	15-Aug-25	2137	Dictyosphaerium simplex Sukja	170213	0.71	2.00	2.00	4.20
MEL - PL-01	15-Aug-25	2145	Crucigenia quadrata Morr.	56738	0.27	3.00	3.00	4.70
MEL - PL-01	15-Aug-25	2178	Cosmarium sp.	600	0.84	20.00	20.00	1396.30
MEL - PL-01	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	500	0.19	13.50	12.00	381.70
MEL - PL-01	15-Aug-25	4351	Small chrysophyceae	251773	1.61	2.30	2.30	6.40
MEL - PL-01	15-Aug-25	4357	Chrysococcus sp.	184397	12.06	5.00	5.00	65.40
MEL - PL-01	15-Aug-25	4362	Kephyrion sp.	138298	1.95	3.00	3.00	14.10
MEL - PL-01	15-Aug-25	4363	Spiniferomonas serrata	3546	0.31	5.50	5.50	87.10
MEL - PL-01	15-Aug-25	4383	Dinobryon bavaricum Imhof	109929	24.87	12.00	6.00	226.20
MEL - PL-01	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	3546	0.80	12.00	6.00	226.20
MEL - PL-01	15-Aug-25	4396	Chrysolykos skuja (Nauwerck) Willen	17731	0.48	5.80	3.00	27.30
MEL - PL-01	15-Aug-25	4414	Stichogloea spp.	81560	4.10	6.00	4.00	50.30
MEL - PL-01	15-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	17731	0.48	5.80	3.00	27.30
MEL - PL-01	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	3400	8.12	11.50	23.00	2389.00
MEL - PL-01	15-Aug-25	5509	Cyclotella ocellata Pant.	3546	0.37	4.05	8.10	104.30
MEL - PL-01	15-Aug-25	5515	Fragilaria crotonensis Kitton	400	0.09	51.00	4.00	213.60
MEL - PL-01	15-Aug-25	5518	Synedra acus Kutzing	400	0.04	100.00	2.00	104.70
MEL - PL-01	15-Aug-25	5524	Asterionella formosa Hassall	3200	0.34	100.00	2.00	104.70
MEL - PL-01	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	500	3.86	17.00	34.00	7717.30
MEL - PL-01	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	88653	2.17	2.50	5.00	24.50
MEL - PL-01	15-Aug-25	6554	Rhodomonas minuta Skuja	223404	28.08	10.00	6.00	125.70
MEL - PL-01	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	5200	9.25	26.00	14.00	1778.80
MEL - PL-01	15-Aug-25	7632	Gymnodinium sp.	100	0.56	22.00	22.00	5575.30
MEL - PL-01	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	100	0.42	20.00	20.00	4188.80
MEL - PL-02	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	53192	0.75	3.00	3.00	14.10
MEL - PL-02	15-Aug-25	2137	Dictyosphaerium simplex Sukja	241135	1.01	2.00	2.00	4.20
MEL - PL-02	15-Aug-25	2167	Elakatothrix gelatinosa Willen	67376	1.06	10.00	2.00	15.70
MEL - PL-02	15-Aug-25	2178	Cosmarium sp.	100	0.14	20.00	20.00	1396.30

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - PL-02	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	24823	0.94	6.00	6.00	37.70
MEL - PL-02	15-Aug-25	4351	Small chrysophyceae	184397	1.18	2.30	2.30	6.40
MEL - PL-02	15-Aug-25	4357	Chrysococcus sp.	109929	7.19	5.00	5.00	65.40
MEL - PL-02	15-Aug-25	4362	Kephyrion sp.	56738	0.80	3.00	3.00	14.10
MEL - PL-02	15-Aug-25	4363	Spiniferomonas serrata	3546	0.33	5.60	5.60	92.00
MEL - PL-02	15-Aug-25	4378	Dinobryon borgei Lemmermann	3546	0.15	9.00	3.00	42.40
MEL - PL-02	15-Aug-25	4383	Dinobryon bavaricum Imhof	24823	5.61	12.00	6.00	226.20
MEL - PL-02	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	3546	0.80	12.00	6.00	226.20
MEL - PL-02	15-Aug-25	4413	Chrysochromulina laurentiana Kling	24823	9.80	9.10	9.10	394.60
MEL - PL-02	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	2100	5.02	11.50	23.00	2389.00
MEL - PL-02	15-Aug-25	5509	Cyclotella ocellata Pant.	3546	0.37	4.05	8.10	104.30
MEL - PL-02	15-Aug-25	5515	Fragilaria crotonensis Kitton	400	0.09	51.00	4.00	213.60
MEL - PL-02	15-Aug-25	5518	Synedra acus Kutzing	100	0.01	100.00	2.00	104.70
MEL - PL-02	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	600	4.63	17.00	34.00	7717.30
MEL - PL-02	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	81560	2.00	2.50	5.00	24.50
MEL - PL-02	15-Aug-25	6554	Rhodomonas minuta Skuja	127660	16.05	10.00	6.00	125.70
MEL - PL-02	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	3600	6.40	26.00	14.00	1778.80
MEL - PL-02	15-Aug-25	7631	Gymnodinium helveticum Penard	100	2.36	50.00	30.00	23561.90
MEL - PL-02	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	600	2.51	20.00	20.00	4188.80
MEL - PL-02R	15-Aug-25	2112	Sphaerocystis schroeteri Chodat	21277	0.30	3.00	3.00	14.10
MEL - PL-02R	15-Aug-25	2137	Dictyosphaerium simplex Sukja	258865	1.09	2.00	2.00	4.20
MEL - PL-02R	15-Aug-25	2167	Elakatothrix gelatinosa Willen	42553	0.67	10.00	2.00	15.70
MEL - PL-02R	15-Aug-25	2178	Cosmarium sp.	100	0.14	20.00	20.00	1396.30
MEL - PL-02R	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	17731	0.67	6.00	6.00	37.70
MEL - PL-02R	15-Aug-25	4351	Small chrysophyceae	124114	0.79	2.30	2.30	6.40
MEL - PL-02R	15-Aug-25	4357	Chrysococcus sp.	138298	9.04	5.00	5.00	65.40
MEL - PL-02R	15-Aug-25	4362	Kephyrion sp.	78014	1.10	3.00	3.00	14.10
MEL - PL-02R	15-Aug-25	4378	Dinobryon borgei Lemmermann	3546	0.15	9.00	3.00	42.40
MEL - PL-02R	15-Aug-25	4383	Dinobryon bavaricum Imhof	35461	8.02	12.00	6.00	226.20
MEL - PL-02R	15-Aug-25	4411	Bitrichia chodatii (Reverdin) Chodat	3546	0.18	6.00	4.00	50.30
MEL - PL-02R	15-Aug-25	4413	Chrysochromulina laurentiana Kling	24823	9.80	9.10	9.10	394.60
MEL - PL-02R	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	2600	6.21	11.50	23.00	2389.00
MEL - PL-02R	15-Aug-25	5509	Cyclotella ocellata Pant.	14184	1.48	4.05	8.10	104.30
MEL - PL-02R	15-Aug-25	5515	Fragilaria crotonensis Kitton	100	0.02	51.00	4.00	213.60
MEL - PL-02R	15-Aug-25	5518	Synedra acus Kutzing	300	0.03	100.00	2.00	104.70
MEL - PL-02R	15-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	100	0.26	280.00	6.00	2638.90
MEL - PL-02R	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	500	3.86	17.00	34.00	7717.30
MEL - PL-02R	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	67376	1.65	2.50	5.00	24.50
MEL - PL-02R	15-Aug-25	6554	Rhodomonas minuta Skuja	152482	19.17	10.00	6.00	125.70
MEL - PL-02R	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	2400	4.27	26.00	14.00	1778.80
MEL - PL-02R	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	500	2.09	20.00	20.00	4188.80
MEL - PL-03	15-Aug-25	1014	Chroococcus limneticus Lemmermann	28369	0.95	4.00	4.00	33.50
MEL - PL-03	15-Aug-25	2121	Oocystis lacustris Chodat	3546	0.10	6.00	3.00	28.30
MEL - PL-03	15-Aug-25	2137	Dictyosphaerium simplex Sukja	368794	1.55	2.00	2.00	4.20
MEL - PL-03	15-Aug-25	2143	Monoraphidium minutum (Nag.) Komarkova-Legnerova	3546	0.20	9.00	4.00	56.50
MEL - PL-03	15-Aug-25	2145	Crucigenia quadrata Morr.	56738	0.27	3.00	3.00	4.70
MEL - PL-03	15-Aug-25	2167	Elakatothrix gelatinosa Willen	3546	0.06	10.00	2.00	15.70
MEL - PL-03	15-Aug-25	2178	Cosmarium sp.	400	0.56	20.00	20.00	1396.30
MEL - PL-03	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	400	0.15	13.50	12.00	381.70
MEL - PL-03	15-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	28369	1.07	6.00	6.00	37.70
MEL - PL-03	15-Aug-25	4351	Small chrysophyceae	198582	1.27	2.30	2.30	6.40
MEL - PL-03	15-Aug-25	4357	Chrysococcus sp.	212766	13.91	5.00	5.00	65.40
MEL - PL-03	15-Aug-25	4362	Kephyrion sp.	39007	0.55	3.00	3.00	14.10
MEL - PL-03	15-Aug-25	4383	Dinobryon bavaricum Imhof	24823	5.61	12.00	6.00	226.20
MEL - PL-03	15-Aug-25	4413	Chrysochromulina laurentiana Kling	3546	1.40	9.10	9.10	394.60
MEL - PL-03	15-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	39007	1.06	5.80	3.00	27.30
MEL - PL-03	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	2800	6.69	11.50	23.00	2389.00
MEL - PL-03	15-Aug-25	5509	Cyclotella ocellata Pant.	24823	2.59	4.05	8.10	104.30
MEL - PL-03	15-Aug-25	5515	Fragilaria crotonensis Kitton	200	0.04	51.00	4.00	213.60
MEL - PL-03	15-Aug-25	5518	Synedra acus Kutzing	100	0.01	100.00	2.00	104.70
MEL - PL-03	15-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	100	0.26	280.00	6.00	2638.90
MEL - PL-03	15-Aug-25	5524	Asterionella formosa Hassall	3000	0.31	100.00	2.00	104.70
MEL - PL-03	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	800	6.17	17.00	34.00	7717.30
MEL - PL-03	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	109929	2.69	2.50	5.00	24.50
MEL - PL-03	15-Aug-25	6554	Rhodomonas minuta Skuja	170213	21.40	10.00	6.00	125.70
MEL - PL-03	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	5600	9.96	26.00	14.00	1778.80
MEL - PL-03	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	200	0.84	20.00	20.00	4188.80
MEL - PL-DUP	15-Aug-25	1073	Snowella sp	100	0.05	0.00	0.00	500.00
MEL - PL-DUP	15-Aug-25	2121	Oocystis lacustris Chodat	24823	0.66	5.60	3.00	26.40
MEL - PL-DUP	15-Aug-25	2137	Dictyosphaerium simplex Sukja	85106	0.36	2.00	2.00	4.20
MEL - PL-DUP	15-Aug-25	2137	Dictyosphaerium simplex Sukja	241135	1.01	2.00	2.00	4.20
MEL - PL-DUP	15-Aug-25	2167	Elakatothrix gelatinosa Willen	21277	0.33	10.00	2.00	15.70
MEL - PL-DUP	15-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	100	0.04	13.50	12.00	381.70
MEL - PL-DUP	15-Aug-25	4351	Small chrysophyceae	180851	1.16	2.30	2.30	6.40
MEL - PL-DUP	15-Aug-25	4357	Chrysococcus sp.	102837	6.73	5.00	5.00	65.40
MEL - PL-DUP	15-Aug-25	4362	Kephyrion sp.	67376	0.95	3.00	3.00	14.10
MEL - PL-DUP	15-Aug-25	4383	Dinobryon bavaricum Imhof	106383	24.06	12.00	6.00	226.20
MEL - PL-DUP	15-Aug-25	4388	Dinobryon sertularia Ehrenberg	17731	4.01	12.00	6.00	226.20
MEL - PL-DUP	15-Aug-25	4414	Stichogloea spp.	56738	2.85	6.00	4.00	50.30
MEL - PL-DUP	15-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	2600	6.21	11.50	23.00	2389.00
MEL - PL-DUP	15-Aug-25	5509	Cyclotella ocellata Pant.	31915	4.72	4.55	9.10	148.00
MEL - PL-DUP	15-Aug-25	5515	Fragilaria crotonensis Kitton	1200	0.26	51.00	4.00	213.60
MEL - PL-DUP	15-Aug-25	5518	Synedra acus Kutzing	600	0.06	100.00	2.00	104.70
MEL - PL-DUP	15-Aug-25	5524	Asterionella formosa Hassall	200	0.02	100.00	2.00	104.70
MEL - PL-DUP	15-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	500	3.86	17.00	34.00	7717.30
MEL - PL-DUP	15-Aug-25	5551	Cyclotella michiganiana Skvortzow	81560	2.00	2.50	5.00	24.50
MEL - PL-DUP	15-Aug-25	6554	Rhodomonas minuta Skuja	127660	16.05	10.00	6.00	125.70
MEL - PL-DUP	15-Aug-25	6558	Cryptomonas erosa Ehrenberg	2700	4.80	26.00	14.00	1778.80
MEL - PL-DUP	15-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	200	0.84	20.00	20.00	4188.80

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - EBAU	16-Aug-25	4351	Small chrysophyceae	56738	0.20	1.90	1.90	3.60
MEL - EBAU	16-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	600	1.41	16.50	16.50	2352.10
MEL - AL-01	20-Aug-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - AL-01	20-Aug-25	1133	Anabaena flos-aquae (Lyngb.) Breb. & Bornet	800	5.23	325.00	6.20	6541.30
MEL - AL-01	20-Aug-25	2121	Oocystis lacustris Chodat	57472	1.52	5.60	3.00	26.40
MEL - AL-01	20-Aug-25	2164	Quadrigula closterioides (Bohl.) Printz	172416	3.24	12.00	2.00	18.80
MEL - AL-01	20-Aug-25	2167	Elakatothrix gelatinosa Willen	93392	1.47	10.00	2.00	15.70
MEL - AL-01	20-Aug-25	2169	Planctonema lauterbornii Schmidle	28736	10.16	18.00	5.00	353.40
MEL - AL-01	20-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - AL-01	20-Aug-25	2182	Euastrum spp.	400	0.74	22.00	22.00	1858.40
MEL - AL-01	20-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - AL-01	20-Aug-25	4351	Small chrysophyceae	71840	0.46	2.30	2.30	6.40
MEL - AL-01	20-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - AL-01	20-Aug-25	4357	Chrysococcus sp.	215520	14.10	5.00	5.00	65.40
MEL - AL-01	20-Aug-25	4378	Dinobryon borgei Lemmermann	7184	0.30	9.00	3.00	42.40
MEL - AL-01	20-Aug-25	4383	Dinobryon bavaricum Imhof	71840	16.25	12.00	6.00	226.20
MEL - AL-01	20-Aug-25	4383	Dinobryon bavaricum Imhof	1400	1.33	0.00	0.00	950.00
MEL - AL-01	20-Aug-25	4388	Dinobryon sertularia Ehrenberg	100576	22.75	12.00	6.00	226.20
MEL - AL-01	20-Aug-25	4388	Dinobryon sertularia Ehrenberg	2600	3.25	0.00	0.00	1250.00
MEL - AL-01	20-Aug-25	4401	Uroglena volvox Ehrenberg	21552	2.44	6.00	6.00	113.10
MEL - AL-01	20-Aug-25	4413	Chrysochromulina laurentiana Kling	28736	11.34	9.10	9.10	394.60
MEL - AL-01	20-Aug-25	4414	Stichogloea spp.	71840	3.61	6.00	4.00	50.30
MEL - AL-01	20-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	150864	3.98	5.60	3.00	26.40
MEL - AL-01	20-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	5400	12.90	11.50	23.00	2389.00
MEL - AL-01	20-Aug-25	5509	Cyclotella ocellata Pant.	43104	4.50	4.05	8.10	104.30
MEL - AL-01	20-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	2400	2.61	65.00	8.00	1089.10
MEL - AL-01	20-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - AL-01	20-Aug-25	5518	Synedra acus Kutzing	1800	0.19	100.00	2.00	104.70
MEL - AL-01	20-Aug-25	5523	Synedra ulna (Nitzsch) Ehrenberg	200	0.53	280.00	6.00	2638.90
MEL - AL-01	20-Aug-25	5524	Asterionella formosa Hassall	59400	6.22	100.00	2.00	104.70
MEL - AL-01	20-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	800	6.17	17.00	34.00	7717.30
MEL - AL-01	20-Aug-25	5551	Cyclotella michiganiana Skvortzow	71840	1.76	2.50	5.00	24.50
MEL - AL-01	20-Aug-25	6554	Rhodomonas minuta Skuja	64656	8.13	10.00	6.00	125.70
MEL - AL-01	20-Aug-25	6558	Cryptomonas erosa Ehrenberg	400	0.71	26.00	14.00	1778.80
MEL - AL-01	20-Aug-25	7632	Gymnodinium sp.	600	9.36	31.00	31.00	15598.50
MEL - AL-01	20-Aug-25	7639	Peridinium pusillum (Penard) Lemmermann	200	0.84	20.00	20.00	4188.80
MEL - AL-02	20-Aug-25	1012	Aphanothece sp.	7184	0.55	0.00	0.00	77.00
MEL - AL-02	20-Aug-25	1073	Snowella sp	800	0.40	0.00	0.00	500.00
MEL - AL-02	20-Aug-25	2112	Sphaerocystis schroeteri Chodat	143680	2.03	3.00	3.00	14.10
MEL - AL-02	20-Aug-25	2121	Oocystis lacustris Chodat	71840	1.90	5.60	3.00	26.40
MEL - AL-02	20-Aug-25	2167	Elakatothrix gelatinosa Willen	64656	1.02	10.00	2.00	15.70
MEL - AL-02	20-Aug-25	2178	Cosmarium sp.	200	0.28	20.00	20.00	1396.30
MEL - AL-02	20-Aug-25	2182	Euastrum spp.	600	1.12	22.00	22.00	1858.40
MEL - AL-02	20-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - AL-02	20-Aug-25	2206	Botryococcus braunii Kutzing	600	0.86	14.00	14.00	1436.80
MEL - AL-02	20-Aug-25	4351	Small chrysophyceae	402304	2.57	2.30	2.30	6.40
MEL - AL-02	20-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - AL-02	20-Aug-25	4357	Chrysococcus sp.	244256	15.97	5.00	5.00	65.40
MEL - AL-02	20-Aug-25	4362	Kephyrion sp.	7184	0.10	3.00	3.00	14.10
MEL - AL-02	20-Aug-25	4383	Dinobryon bavaricum Imhof	79024	17.88	12.00	6.00	226.20
MEL - AL-02	20-Aug-25	4383	Dinobryon bavaricum Imhof	800	0.76	0.00	0.00	950.00
MEL - AL-02	20-Aug-25	4388	Dinobryon sertularia Ehrenberg	122128	27.63	12.00	6.00	226.20
MEL - AL-02	20-Aug-25	4388	Dinobryon sertularia Ehrenberg	2600	3.25	0.00	0.00	1250.00
MEL - AL-02	20-Aug-25	4401	Uroglena volvox Ehrenberg	287360	32.50	6.00	6.00	113.10
MEL - AL-02	20-Aug-25	4418	Salpingoeca frequentissima (Zach.) Lemmermann	21552	0.57	5.60	3.00	26.40
MEL - AL-02	20-Aug-25	4437	Pteridomonas sp.	7184	1.71	8.80	8.80	237.90
MEL - AL-02	20-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	2000	4.78	11.50	23.00	2389.00
MEL - AL-02	20-Aug-25	5509	Cyclotella ocellata Pant.	129312	13.49	4.05	8.10	104.30
MEL - AL-02	20-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	7200	7.84	65.00	8.00	1089.10
MEL - AL-02	20-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - AL-02	20-Aug-25	5518	Synedra acus Kutzing	200	0.02	100.00	2.00	104.70
MEL - AL-02	20-Aug-25	5524	Asterionella formosa Hassall	46400	4.86	100.00	2.00	104.70
MEL - AL-02	20-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - AL-02	20-Aug-25	5551	Cyclotella michiganiana Skvortzow	100576	2.46	2.50	5.00	24.50
MEL - AL-02	20-Aug-25	6554	Rhodomonas minuta Skuja	43104	3.72	9.90	5.00	86.40
MEL - AL-02	20-Aug-25	6558	Cryptomonas erosa Ehrenberg	400	0.71	26.00	14.00	1778.80
MEL - AL-02	20-Aug-25	7632	Gymnodinium sp.	200	3.12	31.00	31.00	15598.50
MEL - AL-03	20-Aug-25	1073	Snowella sp	200	0.10	0.00	0.00	500.00
MEL - AL-03	20-Aug-25	2121	Oocystis lacustris Chodat	201152	5.31	5.60	3.00	26.40
MEL - AL-03	20-Aug-25	2145	Crucigenia quadrata Morr.	86208	0.41	3.00	3.00	4.70
MEL - AL-03	20-Aug-25	2167	Elakatothrix gelatinosa Willen	50288	0.79	10.00	2.00	15.70
MEL - AL-03	20-Aug-25	2169	Planctonema lauterbornii Schmidle	43104	12.69	15.00	5.00	294.50
MEL - AL-03	20-Aug-25	2187	Staurodesmus extensus (Andersson) Teiling	400	0.16	13.90	12.00	404.70
MEL - AL-03	20-Aug-25	2191	Staurodesmus cuspidatus (Brebisson and Ralfs) Teiling	200	0.44	24.00	22.00	2211.70
MEL - AL-03	20-Aug-25	2193	Staurodesmus paradoxum Meyen	200	0.57	26.00	24.00	2831.60
MEL - AL-03	20-Aug-25	2199	Spondylosium planum (Wolle) W. and G.S. West	7184	0.27	6.00	6.00	37.70
MEL - AL-03	20-Aug-25	2206	Botryococcus braunii Kutzing	800	1.15	14.00	14.00	1436.80
MEL - AL-03	20-Aug-25	4351	Small chrysophyceae	431040	2.76	2.30	2.30	6.40
MEL - AL-03	20-Aug-25	4352	Large chrysophyceae	7184	1.29	7.00	7.00	179.60
MEL - AL-03	20-Aug-25	4357	Chrysococcus sp.	136496	8.93	5.00	5.00	65.40
MEL - AL-03	20-Aug-25	4362	Kephyrion sp.	21552	0.28	2.90	2.90	12.80
MEL - AL-03	20-Aug-25	4383	Dinobryon bavaricum Imhof	57472	13.00	12.00	6.00	226.20
MEL - AL-03	20-Aug-25	4383	Dinobryon bavaricum Imhof	2000	1.90	0.00	0.00	950.00
MEL - AL-03	20-Aug-25	4388	Dinobryon sertularia Ehrenberg	100576	22.75	12.00	6.00	226.20
MEL - AL-03	20-Aug-25	4388	Dinobryon sertularia Ehrenberg	600	0.75	0.00	0.00	1250.00
MEL - AL-03	20-Aug-25	4401	Uroglena volvox Ehrenberg	294544	33.31	6.00	6.00	113.10
MEL - AL-03	20-Aug-25	4413	Chrysochromulina laurentiana Kling	7184	2.83	9.10	9.10	394.60
MEL - AL-03	20-Aug-25	5507	Cyclotella stelligera Cleve and Grunow	4000	9.56	11.50	23.00	2389.00
MEL - AL-03	20-Aug-25	5509	Cyclotella ocellata Pant.	64656	6.74	4.05	8.10	104.30

Station	Date	Species code	Speceis name	density cells/L^{-1}	biomass mg/m^{-3}	length µ	width µ	cell volume μ^3
MEL - AL-03	20-Aug-25	5513	Tabellaria fenestrata (Lyngbye) Kutzing	6400	6.97	65.00	8.00	1089.10
MEL - AL-03	20-Aug-25	5515	Fragilaria crotonensis Kitton	600	0.13	51.00	4.00	213.60
MEL - AL-03	20-Aug-25	5518	Synedra acus Kutzing	600	0.06	100.00	2.00	104.70
MEL - AL-03	20-Aug-25	5524	Asterionella formosa Hassall	62000	6.49	100.00	2.00	104.70
MEL - AL-03	20-Aug-25	5530	Stephanodiscus niagarae Ehrenberg	1000	7.72	17.00	34.00	7717.30
MEL - AL-03	20-Aug-25	5551	Cyclotella michiganiana Skvortzow	57472	1.41	2.50	5.00	24.50
MEL - AL-03	20-Aug-25	6554	Rhodomonas minuta Skuja	50288	4.34	9.90	5.00	86.40
MEL - AL-03	20-Aug-25	6558	Cryptomonas erosa Ehrenberg	400	0.71	26.00	14.00	1778.80
MEL - AL-03	20-Aug-25	7632	Gymnodinium sp.	400	6.24	31.00	31.00	15598.50