Flambeau Mining Company
4700 Daybreak Parkway
South Jordan, UT 84095
801-204-2526

January 31, 2025

Ms. Molly Gardner
Wisconsin Department of Natural Resources
Mellen Ranger Station
620 W. Layman Drive
PO Box 709
Mellen WI 54546-0709

Dear Ms. Gardner:

The Flambeau Mining Company (Flambeau) is submitting, in electronic format, this 2024 Annual Summary Memorandum pursuant to Pursuant to Sections 2 and 3 of the *Findings of Fact, Conclusions of Law and Revised Mining Permit – Flambeau Mining Company* (Wisconsin Department of Natural Resources, dated December 20, 2022). This submittal also addresses other requirements of the Mining Permit and associated approvals.

Monitoring and evaluations conducted during 2024 continue to document that the Flambeau River remains fully protected and Flambeau remains in full compliance with its permit standards.

If you have any comments or questions regarding this submittal, please contact me at stephen.bourn@riotinto.com.

Sincerely,

Stephen Bourn
President – Flambeau Mining Company

attachments

cc: John Moore, Rusk County Board of Supervisors
Erle Barber IV, Town of Grant Chairman
Al Christianson, City of Ladysmith Administrator
Yvonne Johnson, Rusk County Zoning Administrator
Leland Roberts, Flambeau Mining Company
Steve Donohue, P.H., Foth Infrastructure & Environment, LLC
Foth File: 17F777.25\4000

Memorandum

2121 Innovation Court, Suite 100
De Pere, WI 54115
(920) 497-2500
foth.com

January 31, 2025

TO: Stephen Bourn, Flambeau Mining Company
Leland Roberts, Flambeau Mining Company

CC: Foth Project #: 17F777.25

FR: Nick Glander, Foth Infrastructure & Environment, LLC
Steve Lehrke, Ph.D., Foth Infrastructure & Environment, LLC
Steve Donohue, P.H., Foth Infrastructure & Environment, LLC

RE: 2024 Annual Summary Memorandum – Reclaimed Flambeau Mine
Flambeau Mining Company

1. Purpose and Need

This 2024 Annual Summary Memorandum documents the work that was completed by Flambeau Mining Company (Flambeau) at the Reclaimed Flambeau Mine Site, Ladysmith, Wisconsin, in 2024, to satisfy the requirements of the Mining Permit (MP). These requirements are summarized in Table 1.

Table 1 – Mine Permit Location Information Key

Condition Number	Location of Information	Condition Requirement
(WDNR, 2022[1]) MP, 1f	Section 2	*"Flambeau Mining Company shall continue to conduct environmental monitoring and long-term care activities as described in the 2020 Updated Monitoring Plan."*
(WDNR, 2022[1]) MP, 1g	Section 2	*"Flambeau Mining Company shall maintain all necessary monitoring devices, including wells and piezometers, in good working condition and shall replace or repair any damaged or inoperable devices, as needed."*

Condition Number	Location of Information	Condition Requirement
(WDNR, 2022[1]),1h	Section 3	*"Flambeau Mining Company shall maintain the mining site to manage surface water runoff and minimize, to the extent practicable, erosion and sedimentation, and shall repair any areas of excessive erosion, perform routine maintenance, and augment, as necessary, any components of the surface water management system to ensure effective and controlled drainage from the site. Any construction activities affecting the surface water drainage system shall be conducted in compliance with applicable regulatory authorities."*
(WDNR, 2022[1]),1l	Section 3	*"If in the course of conducting routine monitoring, maintenance or other construction activities on the site, materials or conditions that could result in significant environmental pollution are encountered, Flambeau Mining Company shall notify the Department within five business days and formulate a plan to investigate and report to the Department on any necessary actions to address the issue in accordance with applicable law and regulatory requirements."*
(WDNR, 2022[1]),1l	Section 3, Attachment A, Attachment B	*"By January 31 of each year, Flambeau Mining Company shall submit an annual report to the Department covering the period of January 1 through December 31 of the preceding year. The annual report shall summarize and document all monitoring activities including assessments of any trends detected and any exceedances of groundwater quality standards at the intervention boundary, assess the backfilled pit water quality and potential impacts to the Flambeau River, summarize any routine maintenance activities conducted on the mining site, qualitatively discuss and document overall site conditions, identify any deviations or unanticipated conditions experienced during the year, summarize any remedial measures implemented to prevent or mitigate significant environmental pollution, and document continued coverage of the reclamation bond and long-term care bond required under s. 293.51, Wis. Stats."*

1. *Findings of Fact, Conclusions of Law and Revised Mining Permit – Flambeau Mining Company,* Wisconsin Department of Natural Resources, December 20, 2022.

Long-term monitoring is conducted in accordance with the Updated Monitoring Plan (August 2020) and Quality Assurance Project Plan (QAPP) (August 2020) which were amended and submitted to the Wisconsin Department of Natural Resources (Department) in August 2020.

2. 2022 Certificate of Completion Determination

On November 4, 2021, Flambeau submitted a petition seeking issuance of a Certificate of Completion of Reclamation for the Industrial Outlot area of the Reclaimed Flambeau Mine. The Department issued a public notice on June 6, 2022, announcing the request and provided the public a comment period before and after the public hearing held on July 6, 2022. The hearing was conducted virtually, and provisions were also made to accept in-person statements at the Ladysmith Service Center. After the comment period, the Department determined Flambeau met the requirements of the approved Reclamation Plan, as amended by the 1998 Modification Approval. The Certificate of Completion of Reclamation for the Industrial Outlot portion of the mining site was issued on December 20, 2022.

The Certificate of Completion of Reclamation issued in 2007 signified that Flambeau had fulfilled the requirements of reclamation for the mining site, except the Industrial Outlot. As a result, the Certification of Completion of Reclamation for the Industrial Outlot, considered together with the 2007 Certification of Completion of Reclamation, signifies that the Flambeau Mining Company has fulfilled the requirements of reclamation for the entire mine site.

As stated in number 27 of the Findings of Fact to the Revised Mining Permit, the Department has been engaged with Flambeau on a study of Stream C to determine if Stream C is attaining its designated uses. This engagement began in 2023 with Stream C monitoring; however, with delays due to the lack of precipitation and flow in Stream C, the study of Stream C will continue in 2025.

3. 2024 Site Monitoring

Environmental monitoring at the Reclaimed Flambeau Mine, during 2024, included assessing the quality of groundwater and backfill pore water. All data obtained during environmental monitoring continues to show that Flambeau remains in compliance with all permit standards and the Flambeau River remains protected.

3.1 Groundwater Sampling and Analysis

Semi-annual groundwater monitoring was performed in accordance with descriptions provided in the Updated Monitoring Plan, the QAPP, and the Local Agreement. Results of the 2024 monitoring were submitted to the Department's Mine Reclamation Unit on July 12, 2024 and January 5, 2025. Those reports are incorporated by reference.

Figure 1 shows the groundwater potentiometric surface using data obtained during 2024. The map was generated using the shallowest measured water levels and thus represents shallow groundwater flow in the native formations and in the replaced till and sandstone in the backfilled pit footprint. The potentiometric surface shows a direction of regional shallow groundwater flow toward the Flambeau River.

Figure 2 shows the potentiometric surface using the deeper water level for nested wells, where available, and the water levels for the B completion in the backfill monitoring wells. Beyond the pit footprint, the groundwater levels generally mimic the shallow groundwater conditions.

Within the pit backfill, the surface reflects a general direction of groundwater flow in the backfilled Type I and Type II stockpile materials along the axis of the pit toward the Flambeau River.

Figure 3 shows hydraulic head in the cross section along the axis of the pit. The cross section is interpreted to show predominantly horizontal flow in the backfilled Type I and Type II stockpile materials but with a downward hydraulic gradient at the eastern pit area and an upward hydraulic gradient with convergent groundwater flow near the Flambeau River. These observations are consistent with previous, post-mining years.

3.1.1 Trend Analysis

A detailed analysis of statistical trends occurring in the groundwater and surface water data was performed. Statistical tests evaluated the long-term trends occurring during the post-mining period (October 1997 to the present) and the short-term trends for the most recent five years. Historical trend graphs of the data are also presented.

A detailed discussion of the trend results for each well nest is provided in Attachment A. In general, the number of more notable concentration trends as observed in earlier Annual Memos has reduced for both the intervention boundary and in-pit wells, indicating a broader stabilization in the groundwater concentrations. Most trends noted through the Mann-Kendall nonparametric test for the most recent five-year dataset are due to slight but consecutive concentration changes (either increasing or decreasing) and not reflective of a substantial overall concentration change. The majority of the observed trends continue to occur in the semi-annual groundwater indicator monitoring parameters.

For the intervention boundary wells, no current trends with substantial concentration change are reported.

For the MW-1013 in-pit well nest, copper and manganese have decreasing trends in MW-1013B which began approximately in 2013. Iron at MW-1013 previously had an increasing trend which has since stabilized, however, iron in this well continues to exhibit a strong degree of seasonal variation with increased concentrations observed during the fall event.

For the in-pit well nest at MW-1014, copper in MW-1014B remains at lowered concentrations after a substantial decrease in 2019. Arsenic at MW-1014C shows a smaller increasing trend which has stabilized in the recent five-year dataset and is not statistically significant.

No statistical trends were noted in the five-year datasets for surface water at sampling location SW-1 and SW-2. A tabular summary of the 2024 analytical SW-3 results is provided in Attachment B.

3.2 Protection of the Flambeau River

Potential impact to the Flambeau River was estimated by performing a concentration reduction factor (CRF) calculation in the Request to Modify the Updated Monitoring Plan (November 2018). This calculation was initially presented in Appendix L of the Mine Permit Application for the Flambeau Project (December 1989) and then updated with current gradient and concentration data for copper, iron, manganese, and sulfate in a memorandum submitted by Flambeau, to the Department, on October 17, 2000, entitled “Backfilled Pit Water Quality Assessment” (October 2000). The 2024 calculation, updated using the current gradient and

concentrations, is incorporated by reference. The results of the 2024 calculation were consistent with the 1989 and 2000 CRF calculations, with the CRF being on the order of 0.00000010 and 0.0000010 milligrams per liter (mg/L) for average and low flow conditions, respectively. This CRF results in negligible, unmeasurable, and incremental impacts to the Flambeau River that are 3 to 5 orders of magnitude lower than background concentrations in the Flambeau River indicating that the river remains protected. The 2024 Flambeau River analytical results are summarized in Attachment A (see Attachment 3) for SW-1 and SW-2. The 2024 Flambeau River analytical results for SW-3 are summarized in Attachment B.

3.3 Annual Site Inspection

The site was inspected during the 2024 groundwater monitoring events. During these events, there were no areas of erosion or settling observed; vegetative growth appeared normal; and all monitoring devices were functional, with the following exception:

> The beaver dam/issue, first observed in 2019, had expanded and was impeding drainage to the weir causing flooding in the local area. The beaver removal began in 2020 and continued in 2021. In spring 2021, the beaver dam was removed, and the trailway was restored. There was no beaver removal activities conducted in 2022. In 2024, the presence of beaver activity in the wetland area was noted during a site inspection. The beaver(s) constructed only a mud hut, with no trees being harvested. With no site damage being noted to trails, trees, or the wetland perimeter, no beaver removal activities were conducted in 2024. Beaver activity will continue to be monitored in spring of 2025.

3.4 Other Activities

The Flambeau River was voluntarily monitored in the spring and fall for copper, iron, manganese, total hardness, zinc, and total suspended solids (TSS). These results are summarized in Attachment A (see Attachment 3) for SW-1 and SW-2 and in Attachment B for SW-3. The results indicate that the Flambeau River remains protected.

4. References

Stream C – April through August Sampling Results Memorandum	November 2024
2023 Annual Summary Memorandum	January 2024
Stream C Fall Sampling Results Memorandum	January 2024
Stream C Spring Sampling Results Memorandum	August 2023
2022 Annual Summary Memorandum	January 2023
2022 Revised Mining Permit	December 2022
2021 Annual Summary Memorandum	January 2022
2020 Annual Summary Memorandum	January 2021
Reclaimed Flambeau Mine Well Abandonment Documentation Submittal	November 2020
2020 Updated Monitoring Plan	August 2020
Reclaimed Flambeau Mine Well Abandonment Work Plan	August 2020

Beaver Removal Work Plan	August 2020
2019 Annual Summary Memorandum	January 2020
2018 Annual Summary Memorandum	January 2019
Request to Modify the Updated Monitoring Plan	November 2018
2017 Annual Report	January 2018
2016 Annual Report	January 2017
Copper Park Business and Recreation Area Supplement Construction Documentation Report	November 2016
2015 Annual Report	January 2016
2015 Flambeau Mining Company Surface Water Monitoring Plan	September 2015
Copper Park Business and Recreation Area Work Plan Supplement	May 2015
Quality Assurance Project Plan	February 2015
2014 Annual Report	January 2015
2013 Annual Report	January 2014
Copper Park Business and Recreation Area Maintenance and Monitoring Plan	February 2013
2012 Annual Report	January 2013
Copper Park Business and Recreation Area Construction Documentation Report	January 2013
2012 Annual Reclamation Report	November 2012
2011 Annual Report	January 2012
2011 Annual Reclamation Report	November 2011
Copper Park Business and Recreation Area Work Plan	May 2011
2010 Annual Report	January 2011
2010 Annual Reclamation Report	November 2010
2009 Annual Report	February 2010
2009 Annual Reclamation Report	November 2009
2008 Annual Report	January 2009
2008 Annual Reclamation Report	November 2008
2008 Monitoring Results and Copper Park Lane Work Plan	October 2008
2007 Annual Report	January 2008

COC Stipulation Monitoring Work Plan	December 2007
Quality Assurance Project Plan – Stipulation Monitoring Work Plan QAPP for the Flambeau Mine	December 2007
2007 Annual Reclamation Report	November 2007
Stipulation and Order	May 2007
2006 Annual Report	January 2007
Biofilter Management Plan	January 2007
2006 Annual Reclamation Report	November 2006
Construction Documentation Report – Flambeau Industrial Outlot	September 2006
2005 Annual Report	January 2006
2005 Annual Reclamation Report	November 2005
2004 Annual Reclamation Report	November 2004
2001 Annual Reclamation Report	November 2001
2000 Annual Report	January 2001
Revised Mining Permit Quality Assurance/Quality Control Plan	August 1991
Updated Monitoring Plan	July 1991
Mining Permit	January 1991
Operational Phase and Long Term Care Quality Assurance Plan	November 1993
Mine Permit Application	December 1989
Local Agreement	August 1988

5. Submittal Summary

Document	Date	Submittee
2023 Annual Summary Memorandum	January 2024	Molly Gardner[1]
Environmental Groundwater Monitoring (First half 2024)	July 2024	Molly Gardner[1]
Stream C – April through August Sampling Results Memorandum	November 2024	Molly Gardner[1]
Environmental Groundwater Monitoring (Second half 2024)	January 2025	Molly Gardner[1]

1. Wisconsin Department of Natural Resources
   Division of External Services
   Bureau of Environmental Analysis & Sustainability

Attachments

Figure 1	November 2024 Potentiometric Surface, Shallow Groundwater Levels
Figure 2	November 2024 Potentiometric Surface, Wells Screened at Mid-Depths
Figure 3	2024 Mine Pit Cross Section A-A' with In-Pit Groundwater Monitoring Wells
Attachment A	Groundwater Quality & Elevation/Surface Water Quality Trends
Attachment B	SW-3 2024 Data Table

Figures

38,000 E
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MW-1002G
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MW-1015A
MW-1015B
1087.90

MW-1004 1107.79
MW-1004S 1107.84
MW-1004P 1105.87

MW-1013 1114.36
MW-1013A 1099.49
MW-1013B 1100.04
MW-1013C 1102.51

MW-1010P
1087.57

MW-1000PR
1087.81

MW-1000R
1088.91

OW-39
1100.42

ST-9-26
1117.72

PZ-S3
1124.85

MW-1014 1124.22
MW-1014A 1121.68
MW-1014B 1117.41
MW-1014C 1111.69

ST-9-23
1126.32
ST-9-23A
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MW-1005 1140.54
MW-1005P 1139.34
MW-1005S 1140.12

MW-1001 1119.27
MW-1001P 1118.64
MW-1001G 1118.17

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N

LEGEND

1125 — POTENTIOMETRIC SURFACE CONTOUR

INFERRED POTENTIOMETRIC SURFACE CONTOUR BASED ON HISTORICAL DATA

MW-1001
1119.27
GROUNDWATER MONITORING WELL AND MEASURED GROUNDWATER ELEVATION (FT MSL) (NOVEMBER 11, 2024)

1119.54 * ASTERISK DENOTES ELEVATION FROM WELL NEST REPRESENTED BY GROUNDWATER CONTOUR

SLURRY WALL LOCATION

APPROXIMATE LIMITS OF FORMER MINE PIT

NOTE:
FOR THE PURPOSE OF THIS POTENTIOMETRIC SURFACE MAP THE SHALLOWEST, NON DRY WELL OF THE NESTED WELL SET WAS USED TO GENERATE THE POTENTIOMETRIC SURFACE.

FLAMBEAU MINING COMPANY
2024 ANNUAL SUMMARY MEMORANDUM

Foth Environment Solutions

REVISED	DATE	BY	DESCRIPTION

PREPARED BY:	NMG1	DATE:	JAN. '25
REVIEWED BY:	MAN	DATE:	JAN. '25
APPROVED BY:	SVF	DATE:	JAN. '25

FLAMBEAU MINING COMPANY

FIGURE 1
NOVEMBER 2024
POTENTIOMETRIC SURFACE
SHALLOW GROUNDWATER LEVELS

Scale: 0 250' 500' | Date: JANUARY 2025
Drawn By: JOW | Project No: 17F777.23

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1090.45
MW-1002
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MW-1015A
MW-1015B
1087.90

MW-1004 1107.79
MW-1004S 1107.84
MW-1004P 1105.87

MW-1013 1114.36
MW-1013A 1099.49
MW-1013B 1100.04
MW-1013C 1102.51

MW-1010P
1087.57

MW-1000PR
1087.81

MW-1000R
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OW-39
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ST-9-26
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PZ-S3
1124.85

MW-1014 1124.22
MW-1014A 1121.68
MW-1014B 1117.41
MW-1014C 1111.69

ST-9-23
1126.32
ST-9-23A
1126.42

MW-1001 1119.27
MW-1001P 1118.17
MW-1001G 1117.56

MW-1005 1140.54
MW-1005P 1139.34
MW-1005S 1140.12

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N

LEGEND

1125 — POTENTIOMETRIC SURFACE CONTOUR

INFERRED POTENTIOMETRIC SURFACE CONTOUR BASED ON HISTORICAL DATA

MW-1002G
1090.30
GROUNDWATER MONITORING WELL AND MEASURED GROUNDWATER ELEVATION (FT MSL) (NOVEMBER 11, 2024)

SLURRY WALL LOCATION

APPROXIMATE LIMITS OF FORMER MINE PIT

NOTE:
"B-WELLS" IN THE BACKFILL PIT AND DEEPER WELLS IN AREAS WITH WELL NESTS OUTSIDE OF THE BACKFILLED PIT WERE USED.

FLAMBEAU MINING COMPANY
2023 ANNUAL SUMMARY MEMORANDUM

Foth

Foth Environment Solutions				
REVISED	DATE	BY	DESCRIPTION	
PREPARED BY:		NMG1	DATE:	JAN. '25
REVIEWED BY:		MAN	DATE:	JAN. '25
APPROVED BY:		SVF	DATE:	JAN. '25

FLAMBEAU MINING COMPANY

FIGURE 2
NOVEMBER 2024
POTENTIOMETRIC SURFACE
WELLS SCREENED AT MID-DEPTHS

Scale: 0 250' 500'
Date: JANUARY 2025
Drawn By: JOW
Project No: 17F777.23

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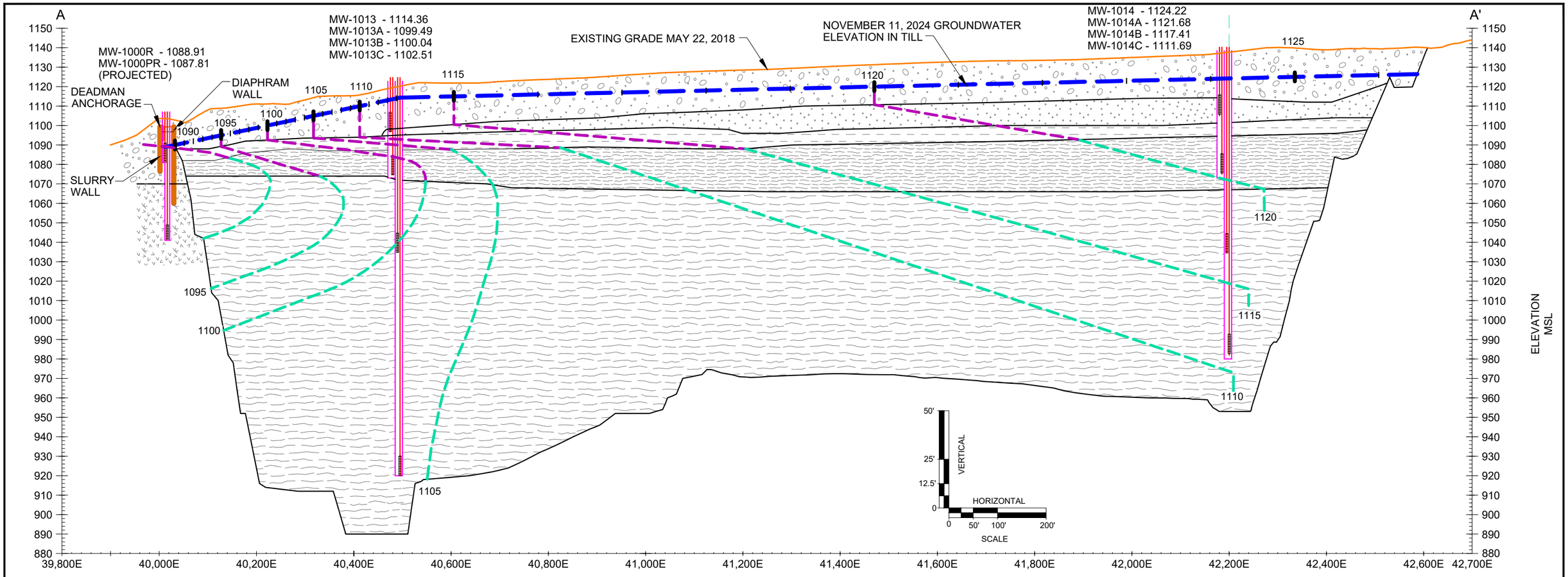

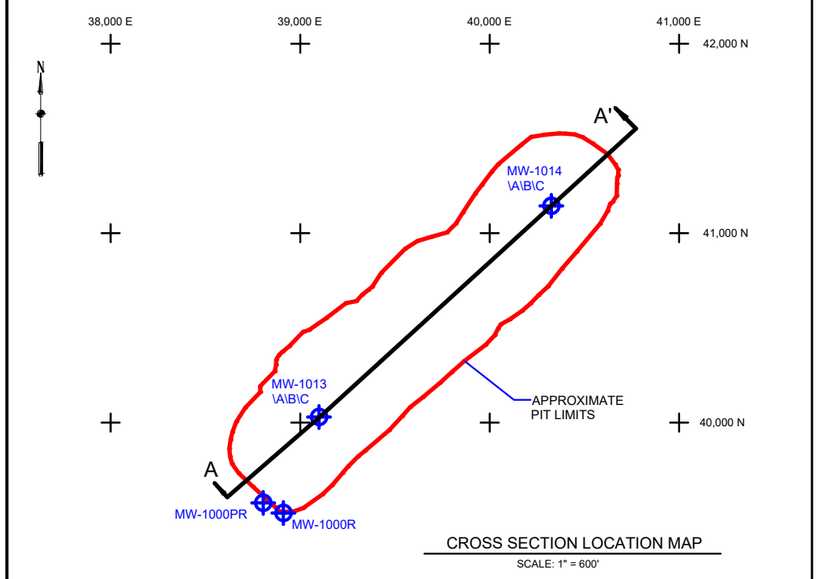

MINE PIT COORDINATES

SECTION A - A'

LEGEND

- TILL
- SANDSTONE
- SAPROLITE
- TYPE I MATERIAL
- TYPE II MATERIAL
- PRECAMBRIAN
- WATER TABLE
- GROUNDWATER EQUIPOTENTIAL LINE IN TYPE I AND II BACKFILL
- GROUNDWATER EQUIPOTENTIAL LINE IN SHALLOW FLOW SYSTEM

Foth Environment Solutions			
REVISED	DATE	BY	DESCRIPTION

PREPARED BY:	NMG1	DATE:	JAN. '25
REVIEWED BY:	MAN	DATE:	JAN. '25
APPROVED BY:	SVF	DATE:	JAN. '25

FLAMBEAU MINING COMPANY

FIGURE 3

2024 MINE PIT CROSS SECTION A - A' WITH IN-PIT GROUNDWATER MONITORING WELLS

Scale: 0 250' 500' | Date: JANUARY 2025

Drawn By: JOW | Project No: 17F777.23

FLAMBEAU MINING COMPANY
2023 ANNUAL SUMMARY MEMORANDUM

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Attachment A

Groundwater Quality & Elevation/Surface Water Quality Trends

Memorandum

2121 Innovation Court, Suite 100
De Pere, WI 54115
(920) 497-2500
foth.com

January 23, 2025

TO: Stephen Bourn, Flambeau Mining Company
Leland Roberts, Flambeau Mining Company

CC: Steve Donohue, P.H., Foth Infrastructure & Environment, LLC
Nick Glander, Foth Infrastructure & Environment, LLC
Sharon Kozicki, P.G., Foth Infrastructure & Environment, LLC

FR: Stephen Lehrke, Ph.D., Foth Infrastructure & Environment, LLC

RE: 2024 Annual Memo – Groundwater and Surface Water Trends

1. Background

Groundwater and surface water sample results collected during the 2024 monitoring programs were added to the analytical monitoring historical database. These results were statistically tested and graphically displayed to determine whether any significant increasing or decreasing trends are occurring in the groundwater or surface water chemistry. This is done to satisfy the requirements of Part 4, Condition 9 of the Mine Permit, to summarize the monitoring activities and any observed trends. The 2024 surface water samples from the Flambeau River were collected voluntarily by Flambeau Mining Company (Flambeau).

The trend analyses presented in this memorandum (memo) reflect the changes to the long-term groundwater monitoring program as provided in the approved 2020 Updated Monitoring Plan (Foth, 2020)[1]. Analytes previously collected on a quarterly schedule are now collected semi-annually, and analytes collected on an annual basis are now limited to calcium, chloride, lead, magnesium, potassium, and zinc. Groundwater elevation data is also collected semi-annually at the intervention boundary and in-pit wells, along with eight piezometer locations retained for that purpose.

Groundwater quality results, trend graphs, and statistical test results are included as attachments: Attachment 1 presents the semi-annual monitoring parameters, and Attachment 2 presents the annual monitoring parameters. Surface water quality results, trend graphs, and statistical test results are included as Attachment 3. Hydrographs are included as Attachment 4.

Intervention boundary wells included in the trend analyses are MW-1000R, MW-1000PR, MW-1010P, MW-1002, MW-1002G, MW-1004, MW-1004P, MW-1004S, MW-1005, MW-1005P, and MW-1005S. The in-pit wells included in the trend analyses are MW-1013, MW-1013A,

[1] Foth, 2020. *2020 Updated Monitoring Plan*, Reclaimed Flambeau Mine, Project I.D.: 17F777.20, Flambeau Mining Company, Ladysmith, Wisconsin. August 2020.

MW-1013B, MW-1013C, MW-1014, MW-1014A, MW-1014B, and MW-1014C. Wells MW-1015A and MW-1015B (also included in the analyses) were constructed in January 2001 approximately 1,000 feet northwest of the backfilled pit and adjacent to the compliance boundary.

Statistical trend test methods are described in Section 2 of this memo, with more detailed results provided in Section 3, and a summary of conclusions of the trend results provided in Section 4.

2. Statistical Methods

Groundwater and surface water trends over time were assessed using the non-parametric Mann-Kendall test. This test indicates general increasing or decreasing trends over the time periods evaluated. Two data sets (utilizing two distinct start dates) were assessed: "short-term" trends encompass the results of 2020 through 2024, i.e., the last five years, and "long-term" trends encompass the results from October 1997, when the post-mining period began, through the end of 2024.

Monitoring and long-term trend analyses began in July 1999 for the annual monitoring parameters. Monitoring and long-term trend analyses began in February 1999 for the in-pit wells (i.e., MW-1013B, MW-1013C, MW-1014A, MW-1014B, and MW-1014C), and in April 2001 for wells MW-1015A and MW-1015B. Trend analyses for wells MW-1013, MW-1013A, and MW-1014 began in October 2005, and for MW-1000R and MW-1004 in October 2010, when groundwater levels recovered sufficiently to collect samples.

The statistical results of the non-parametric Mann-Kendall test are used in conjunction with the time series graphs in Attachments 1, 2, and 3 to evaluate trend conditions within the context of the broader site hydrology. It should be noted that a statistically increasing or decreasing trend as determined through the Mann-Kendall test does not necessarily indicate a substantial increase or decrease in actual parameter concentrations. For example, there are situations where variation in the data is small, allowing slight but consecutive increasing or decreasing concentration changes to be detected as a statistically significant trend. Although these minor trends may occur, they should not be construed as an indication of a broader impact on water quality.

In some cases, the Mann-Kendall trend test results of Attachments 1, 2, and 3 may indicate a statistical trend in the "long-term" data (i.e., results since October 1997), while "short-term" data do not illustrate a trend. In these situations, higher or lower concentration data may have been observed in the past, but more recent concentration data has stabilized. The trend result discussion given below focuses on cases that exhibit trends only in the more recent "short-term" data of 2020 through 2024.

The procedure for the Mann-Kendall test is given in Gilbert (1987)[2] and U.S. Environmental Protection Agency (USEPA) (2009)[3]. The Type I error for each test was set to 0.01 (two-tailed), with the exception of the five-year trend tests for the annual parameters. To counteract the decrease in statistical power due to small sample sizes in those cases, the type I error (two-

[2]Gilbert, R.O., 1987. *Statistical Methods for Environmental Pollution Monitoring*, Van Nostrand Reinhold, New York.

[3]USEPA, 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities – Unified Guidance. EPA 530-R-09-007. Office of Resource Conservation and Recovery, Program Implementation and Information Division, Washington, D.C.

tailed) was set to 0.05 to increase the statistical power (power of detecting existing trends). All non-detected values were replaced with a common value below the lowest detected value.

In the trend test results of Attachments 1, 2, and 3, a "+" indicates a statistically increasing trend and a "-" indicates a statistically decreasing trend. If neither a "+" or "-" is given, no statistically significant trend is present as measured by the Mann-Kendall test.

3. Trend Results

The majority of trends, increasing and/or decreasing, were exhibited in the groundwater results for the semi-annual parameters. Statistical trend results at each well are summarized below. Historical trend graphs from Attachment 1 (semi-annual parameters), Attachment 2 (annual parameters), Attachment 3 (surface water), and Attachment 4 (hydrographs) aid in interpretation. The results are organized by well nest and location.

As previously noted, the Mann-Kendall test may at times indicate that a statistical trend exists due to slight but consecutive concentration changes (either increasing or decreasing) in conjunction with low overall variability in the data. In those instances, trend tests (Attachments 1, 2, and 3) indicate either an increasing ("+") or decreasing ("-") result which does not reflect a substantial overall concentration change as illustrated in the corresponding time series graphs. The discussion below is limited to statistical trends existing in the recent five-year dataset that show at least a modest change in relative concentration level.

3.1 Semi-Annual Parameters (Attachment 1)

Semi-annual parameters include alkalinity, arsenic, copper, hardness, iron, manganese, sulfate, total dissolved solids (TDS), pH, conductivity, oxidation reduction potential (ORP), and water elevation.

3.1.1 Intervention Boundary Wells

- **MW-1000R/MW-1000PR/MW-1010P (Figures B-1a through B-1d):** These three wells are located near the immediate southwest boundary and hydraulically downgradient of the reclaimed mine pit.

  Changes in Reported Trends from 2024 Annual Memo:

  - None to report.

  Continuing Trends from 2024 Annual Memo:

  - None to report.

- **MW-1002/MW-1002G (Figures B-2a through B-2d):** This well nest is located approximately 1,800 feet to the northwest and hydraulically side-gradient to the former mine pit.

  Changes in Reported Trends from 2024 Annual Memo:

  - None to report. No statistical trends in the recent five-year datasets are occurring.

Continuing Trends from 2024 Annual Memo:

- None to report.

- **MW-1004/MW-1004S/MW-1004P (Figures B-3a through B-3d):** This well nest is located near the immediate northwest boundary and is hydraulically downgradient of the former mine pit.

  Changes in Reported Trends from 2024 Annual Memo:

  - None to report. No statistical trends in the recent five-year datasets are occurring.

  Continuing Trends from 2024 Annual Memo:

  - None to report.

- **MW-1005/MW-1005S/MW-1005P (Figures B-4a through B-4d):** This well nest is located approximately 1,000 feet to the southeast and hydraulically upgradient of the former mine pit.

  Changes in Reported Trends from 2024 Annual Memo:

  - None to report. No statistical trends in the recent five-year datasets are occurring.

  Continuing Trends from 2024 Annual Memo:

  - None to report.

- **MW-1015A/MW-1015B (Figures B-5a through B-5d):** This well nest is located approximately 1,000 feet to the west and hydraulically downgradient of the former mine pit.

  Changes in Reported Trends from 2024 Annual Memo:

  - None to report.

  Continuing Trends from 2024 Annual Memo:

  - None to report.

3.1.2 In-Pit Wells

- **MW-1013/MW-1013A/MW-1013B/MW-1013C (Figures B-6a through B-6d):** This well nest is located within the former mine pit on the southwest side.

  Changes in Reported Trends from 2024 Annual Memo:

  - Copper and manganese indicate statistically decreasing trends in the recent five year dataset for MW-1013B. The Attachment 1 concentration trend graphs indicate these constituents in MW-1013B began the currently decreasing trend approximately in 2013.

- Although not a statistical trend, a single outlying increased value of sulfate was observed during May 2024 in MW-1013B and MW-1013C, which returned to historical concentrations in November 2024.

Continuing Trends from 2024 Annual Memo:

- Iron in MW-1013 has historically exhibited a large degree of variation. Between 2006 and 2009, seasonal effects were apparent, with iron being highest during the first and fourth quarter sampling events. While the seasonal effect seemed to diminish following 2009, iron concentrations in this well were elevated in 2013, and again in 2018, and to a lesser degree in 2019. While no statistical trend is currently reported, the seasonal effect was once again stronger during 2020 through 2024, with the fourth quarter concentrations elevated from the second quarter concentrations.

- **MW-1014/MW-1014A/MW-1014B/MW-1014C (Figures B-7a through B-7d):** This well nest is located within the former mine pit on the northeast side.

Changes in Reported Trends from 2024 Annual Memo:

- The smaller increasing trend for arsenic at MW-1014C has stabilized in the recent five-year dataset and is not statistically significant.

Continuing Trends from 2024 Annual Memo:

- A smaller statistically increasing trend in the five-year dataset is given for manganese in MW-1014A, but concentrations remain below those seen prior to 2004.

- The decreasing trend noted previously for copper in MW-1014B continues with stable concentrations. A step drop in copper concentrations from those observed historically for this well occurred generally in 2019.

3.2 Annual Parameters (Attachment 2)

As previously noted, per the 2020 Updated Monitoring Plan, analytes collected on an annual basis are now limited to calcium, chloride, lead, magnesium, potassium, and zinc. Similar to previous trend analyses, the annual groundwater parameters illustrate few statistically significant trends. Of those trends that are noted, most reflect relatively small consecutive concentration changes. The following summary is limited to those trends which show at least a modest change in recent concentrations.

Historical trend charts for the annual parameters are illustrated on Figures B-8a through B-14b of Attachment 2.

Changes in Reported Trends from 2024 Annual Memo:

- None to report.

Continuing Trends from 2024 Annual Memo:

- Calcium, chloride, and magnesium had small concentration increases during 2011 in MW-1005, which remained consistent through 2015. Concentrations of these parameters rose again from 2016 through 2018, potentially attributed to application of road salt on State Highway 27 along with rising water levels and evaporative concentration effects. However, concentrations have since remained generally consistent, with no statistical trend currently reported in the five-year datasets.

3.3 Surface Water (Attachment 3)

Flambeau voluntarily continued surface water sampling of the Flambeau River in 2024. Sampling parameters currently include copper, hardness, iron, manganese, zinc, total suspended solids (TSS), pH, conductivity, dissolved oxygen (DO) and ORP. Concentrations were generally stable with no statistical trends in the five-year data.

Although not a statistical trend, a single increased value of TSS and manganese was observed during May 2024 in both the upstream and downstream surface water, which returned to historical concentrations in November of 2024.

3.4 Hydrographs (Attachment 4)

As observed in the hydrographs (Figures B-16a through B-16j), water levels have stabilized in all wells that showed significant drawdown during the production period from 1993 to 1997.

Groundwater elevations increased steadily from 1999 through 2002 for the in-pit wells MW-1013A, MW-1013B, MW-1013C, MW-1014, MW-1014A, MW-1014B, and MW-1014C, and stabilized after 2003. At MW-1013, groundwater elevation rose through 2004 and stabilized during 2005.

Generally, higher groundwater elevations are noted for all wells during 2010 and 2011, reflecting the increased precipitation observed in those years. Elevations dropped in 2012 and rebounded during summer 2013. An increase in water levels was observed from 2014 through 2017 for both the intervention boundary and the in-pit wells. Decreased elevations were observed in 2018, followed by a rebound in 2019, with generally less variation or consistent elevations observed since.

4. Conclusions

A detailed analysis of statistical trends occurring in the groundwater and surface water data was performed. Statistical tests evaluated the long-term trends occurring during the post-mining period (October 1997 to the present) and the short-term trends for the most recent five years. Historical trend graphs of the data are also presented.

A detailed discussion of the trend results for each well nest is provided in Section 3. In general, the number of more notable concentration trends as observed in earlier Annual Memos has reduced for both the intervention boundary and in-pit wells, indicating a broader stabilization in the groundwater concentrations. Most trends noted through the Mann-Kendall nonparametric test for the most recent five-year dataset are due to slight but consecutive concentration changes (either increasing or decreasing) and not reflective of a substantial overall

concentration change. The majority of the observed trends continue to occur in the semi-annual groundwater indicator monitoring parameters.

For the intervention boundary wells, no current trends with substantial concentration change are reported.

For the MW-1013 in-pit well nest, copper and manganese have decreasing trends in MW-1013B which began approximately in 2013. Iron at MW-1013 previously had an increasing trend which has since stabilized, however, iron in this well continues to exhibit a strong degree of seasonal variation with increased concentrations observed during the fall event.

For the in-pit well nest at MW-1014, copper in MW-1014B remains at lowered concentrations after a substantial decrease in 2019.

No statistical trends were noted in the five-year datasets for surface water.

Attachments

Attachment 1: Groundwater – Semi-Annual Parameters
Attachment 2: Groundwater - Annual Parameters
Attachment 3: Surface Water
Attachment 4: Hydrographs and Groundwater Elevation Data

Attachment 1

Groundwater – Semi-Annual Parameters

Trend Analysis

Trend Graphs

2024 Data

Trend Analysis Results - Groundwater (Semi-Annual Parameters)
Year Ending 2024

	Alkalinity	Arsenic	Copper	Hardness	Iron	Manganese	Sulfate	TDS	Field pH (su)	Cond (umhos /cm)	Redox (mV)	Grd Water El (Feet)
MW-1000PR												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-4	-5	3	-13	-9	-23	-6	-4	-19	-1	15	-8
p-Level	0.795	0.728	0.862	0.292	0.484	0.046	0.664	0.795	0.108	1.000	0.216	0.542
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	80	99	99	99	99	99	99	99	99	83	99
Mann-Kendall S	1889	1601	-1153	-3550	-264	-3178	-3694	-3464	1356	-3535	-1445	1531
p-Level	0.000	0.000	0.000	0.000	0.427	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Trend	+	+	-	-		-	-	-	+	-	-	+
MW-1000R												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	7	-9	1	5	0	-5	1	0	-9	-7	7	-9
p-Level	0.6	0.484	1	0.728	1	0.728	1	1	0.484	0.6	0.6	0.484
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	47	47	47	47	47	47	47	47	47	47	46	98
Mann-Kendall S	-525	-50	-567	-491	-253	-556	-243	-466	-67	-535	-381	1728
p-Level	0.000	0.528	0.000	0.000	0.002	0.000	0.026	0.000	0.545	0.000	0.000	0.000
Trend	-		-	-	-	-		-		-	-	+
MW-1010P												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	8	-7	0	9	9	35	23	1	1	1	9	-7
p-Level	0.542	0.600	1.000	0.484	0.484	0.000	0.046	1.000	1.000	1.000	0.484	0.600
Trend						+						
Trend Results for All Data Since Oct. 1997												
Sample Size	99	80	99	99	99	99	99	99	99	99	84	99
Mann-Kendall S	1651	964	-1121	3617	-1715	-744	3868	1809	723	2933	465	1217
p-Level	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.000	0.029	0.000	0.073	0.000
Trend	+	+	-	+	-		+	+		+		+
MW-1002												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-4	0	-7	-13	-7	-7	13	-18	-22	-9	-1	-11
p-Level	0.795	1.000	0.600	0.292	0.600	0.600	0.292	0.132	0.059	0.484	1.000	0.380
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	77	99	99	99	99	99	99	99	99	34	99
Mann-Kendall S	1549	-66	-78	1598	-719	-351	-2088	302	-544	1309	-130	1080
p-Level	0.000	0.456	0.749	0.000	0.005	0.098	0.000	0.362	0.100	0.000	0.056	0.001
Trend	+			+	-		-			+		+
MW-1002G												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	16	0	-7	19	0	0	-7	12	-27	11	1	-11
p-Level	0.186	1.000	0.600	0.108	1.000	1.000	0.600	0.336	0.016	0.380	1.000	0.380
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	77	99	99	99	99	99	99	99	99	34	99
Mann-Kendall S	2392	-121	271	3359	-490	6	-546	1966	-766	2835	-140	1015
p-Level	0.000	0.055	0.134	0.000	0.038	0.981	0.099	0.000	0.021	0.000	0.039	0.002
Trend	+			+				+		+		+

Trend Analysis Results - Groundwater (Semi-Annual Parameters)
Year Ending 2024

	Alkalinity	Arsenic	Copper	Hardness	Iron	Manganese	Sulfate	TDS	Field pH (su)	Cond (umhos /cm)	Redox (mV)	Grd Water El (Feet)
MW-1004												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-1	0	-14	8	-17	-11	3	-12	-3	13	3	-9
p-Level	1	1	0.254	0.542	0.156	0.38	0.862	0.336	0.862	0.292	0.862	0.484
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	46	46	46	46	46	46	46	46	46	46	45	86
Mann-Kendall S	-235	-16	225	-181	-69	-16	-145	113	237	-83	-365	977
p-Level	0.027	0.739	0.034	0.088	0.508	0.884	0.173	0.288	0.025	0.437	0.000	0.000
Trend											-	+
MW-1004S												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-13	0	16	-5	0	-5	-1	1	-17	-11	5	-9
p-Level	0.292	1.000	0.186	0.728	1.000	0.728	1.000	1.000	0.156	0.380	0.728	0.484
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	79	99	99	99	99	99	99	99	99	84	99
Mann-Kendall S	38	-57	1178	496	-858	-293	2016	-626	188	-222	-1289	1786
p-Level	0.911	0.473	0.000	0.134	0.000	0.266	0.000	0.058	0.572	0.504	0.000	0.000
Trend			+		-		+				-	+
MW-1004P												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	8	-6	0	-21	-2	3	4	-1	-17	3	-9	-13
p-Level	0.542	0.664	1.000	0.072	0.931	0.862	0.795	1.000	0.156	0.862	0.484	0.292
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	100	80	100	100	100	100	100	100	100	100	80	100
Mann-Kendall S	1566	867	-961	1611	2442	2274	623	66	515	1213	-1170	2028
p-Level	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.846	0.125	0.000	0.000	0.000
Trend	+	+	-	+	+	+				+	-	+
MW-1005												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-11	1	-3	-13	-3	-21	-21	-25	-3	9	11	-11
p-Level	0.380	1.000	0.862	0.292	0.862	0.072	0.072	0.028	0.862	0.484	0.380	0.380
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	77	99	99	99	99	99	99	99	99	34	98
Mann-Kendall S	-567	-471	624	2329	-257	1149	1758	2296	-1093	2454	-82	1813
p-Level	0.087	0.037	0.020	0.000	0.438	0.001	0.000	0.000	0.001	0.000	0.232	0.000
Trend				+		+	+	+	-	+		+
MW-1005S												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	3	0	0	5	4	14	16	-2	-5	9	-9	-11
p-Level	0.862	1.000	1.000	0.728	0.795	0.254	0.186	0.931	0.728	0.484	0.484	0.380
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	77	99	99	99	99	99	99	99	99	34	99
Mann-Kendall S	-686	-50	-43	-366	-1092	-668	276	-1133	117	-148	52	1848
p-Level	0.033	0.828	0.668	0.260	0.001	0.041	0.368	0.001	0.726	0.657	0.453	0.000
Trend					-			-				+

Trend Analysis Results - Groundwater (Semi-Annual Parameters)
Year Ending 2024

	Alkalinity	Arsenic	Copper	Hardness	Iron	Manganese	Sulfate	TDS	Field pH (su)	Cond (umhos /cm)	Redox (mV)	Grd Water El (Feet)
MW-1005P												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	10	-2	0	-10	7	-7	5	-21	-15	-1	-7	-17
p-Level	0.432	0.931	1.000	0.432	0.600	0.600	0.728	0.072	0.216	1.000	0.600	0.156
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	99	77	99	99	99	99	99	99	99	99	86	99
Mann-Kendall S	802	704	-159	1074	2763	1265	-446	-241	-289	871	-145	1487
p-Level	0.013	0.000	0.398	0.001	0.000	0.000	0.031	0.467	0.384	0.009	0.591	0.000
Trend		+		+	+	+				+		+
MW-1015A												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	12	0	0	0	0	39	30	0	-8	-1	15	-14
p-Level	0.336	1.000	1.000	1.000	1.000	0.000	0.007	1.000	0.542	1.000	0.216	0.254
Trend						+	+					
Trend Results for All Data Since Oct. 1997												
Sample Size	93	86	93	93	94	94	93	93	94	94	70	94
Mann-Kendall S	1891	-173	111	1925	-139	-619	-9	458	439	1986	-687	748
p-Level	0.000	0.043	0.514	0.000	0.418	0.043	0.979	0.128	0.152	0.000	0.001	0.015
Trend	+			+						+	-	
MW-1015B												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	6	0	0	-23	3	11	6	-20	-1	1	-11	-17
p-Level	0.664	1.000	1.000	0.046	0.862	0.380	0.664	0.090	1.000	1.000	0.380	0.156
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	93	86	93	93	94	94	93	93	94	94	71	94
Mann-Kendall S	83	16	79	1707	-240	-1437	670	38	488	1490	1047	800
p-Level	0.763	0.911	0.397	0.000	0.434	0.000	0.001	0.902	0.111	0.000	0.000	0.009
Trend				+		-	+			+	+	+
MW-1013												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	17	27	1	16	17	14	-33	16	-4	5	-3	-9
p-Level	0.156	0.016	1.000	0.186	0.156	0.254	0.002	0.186	0.795	0.728	0.862	0.484
Trend							-					
Trend Results for All Data Since Oct. 1997												
Sample Size	67	67	67	67	67	67	67	67	67	67	67	94
Mann-Kendall S	539	220	119	-704	474	1021	-1841	-271	-116	-711	-856	3006
p-Level	0.004	0.220	0.518	0.000	0.010	0.000	0.000	0.143	0.533	0.000	0.000	0.000
Trend	+			-		+	-			-	-	+
MW-1013A												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	2	-14	0	-13	-10	-9	-9	-13	-20	-7	-11	-14
p-Level	0.931	0.254	1.000	0.292	0.432	0.484	0.484	0.292	0.090	0.600	0.380	0.254
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	67	67	67	67	67	67	67	67	67	67	66	94
Mann-Kendall S	923	-58	-178	186	65	1063	30	550	-269	-123	-716	2436
p-Level	0.000	0.686	0.235	0.316	0.718	0.000	0.875	0.003	0.146	0.509	0.000	0.000
Trend	+					+		+			-	+

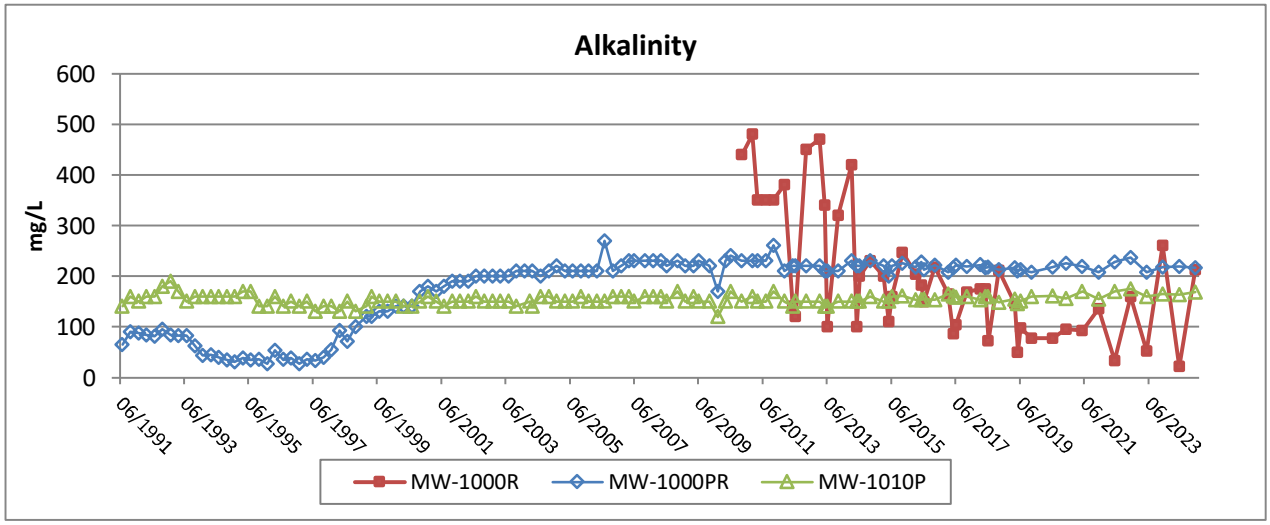
Trend Analysis Results - Groundwater (Semi-Annual Parameters)
Year Ending 2024

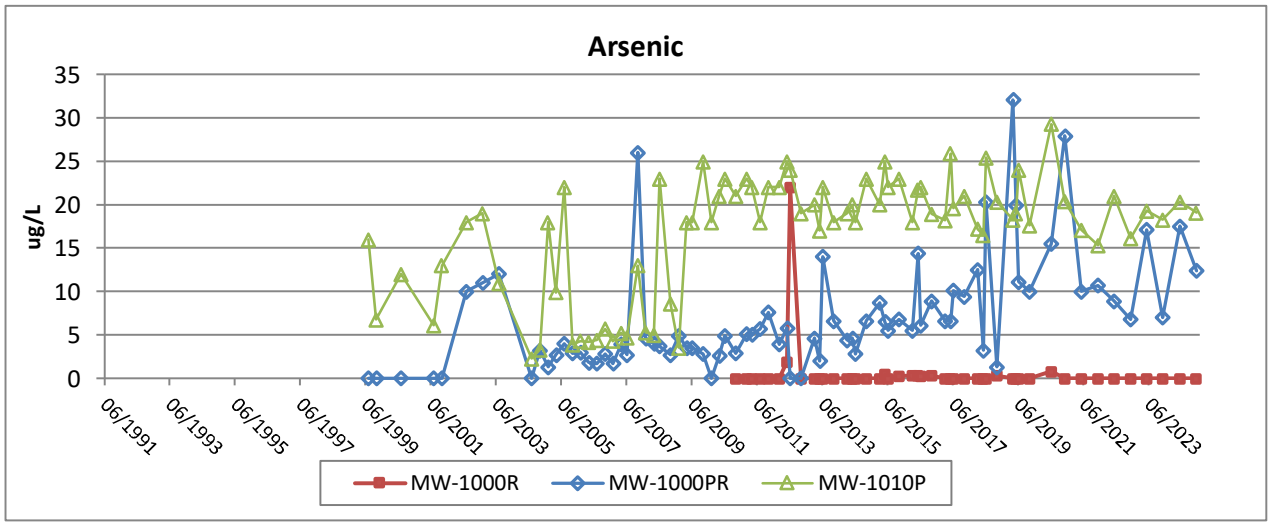
	Alkalinity	Arsenic	Copper	Hardness	Iron	Manganese	Sulfate	TDS	Field pH (su)	Cond (umhos /cm)	Redox (mV)	Grd Water El (Feet)
MW-1013B												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-15	-2	-36	4	2	-32	17	-10	-3	-3	-5	-15
p-Level	0.216	0.931	0.000	0.795	0.931	0.003	0.156	0.432	0.862	0.862	0.728	0.216
Trend			-			-						
Trend Results for All Data Since Oct. 1997												
Sample Size	94	82	94	94	94	94	94	94	94	94	86	94
Mann-Kendall S	-408	-49	1716	-617	-750	-1200	1697	-1527	-622	-1418	-911	2457
p-Level	0.183	0.839	0.000	0.039	0.007	0.000	0.000	0.000	0.042	0.000	0.001	0.000
Trend			+		-	-	+	-		-	-	+
MW-1013C												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-13	-17	-5	-7	-6	-27	3	-12	-16	1	-1	-11
p-Level	0.292	0.156	0.728	0.600	0.664	0.016	0.862	0.336	0.186	1.000	1.000	0.380
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	94	82	94	94	94	94	94	94	94	93	86	94
Mann-Kendall S	281	1813	81	-1959	3608	-46	-718	-2588	341	-2211	-491	2488
p-Level	0.359	0.000	0.733	0.000	0.000	0.883	0.017	0.000	0.266	0.000	0.067	0.000
Trend		+		-	+			-		-		+
MW-1014												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	12	-16	-11	-19	-3	-25	20	1	-24	-7	-1	-20
p-Level	0.336	0.186	0.380	0.108	0.862	0.028	0.090	1.000	0.037	0.600	1.000	0.090
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	67	67	67	67	67	67	67	67	67	67	67	91
Mann-Kendall S	492	17	-468	519	-20	844	-144	448	-253	-247	-1008	2408
p-Level	0.007	0.897	0.011	0.005	0.862	0.000	0.438	0.015	0.172	0.183	0.000	0.000
Trend	+			+		+					-	+
MW-1014A												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-4	-18	21	2	0	35	0	-2	-7	5	-5	-15
p-Level	0.795	0.132	0.072	0.931	1.000	0.000	1.000	0.931	0.600	0.728	0.728	0.216
Trend						+						
Trend Results for All Data Since Oct. 1997												
Sample Size	89	79	89	89	89	89	89	89	89	89	86	94
Mann-Kendall S	1229	381	1639	302	-1355	-1489	354	-452	-639	-1247	-979	2658
p-Level	0.000	0.091	0.000	0.266	0.000	0.000	0.209	0.101	0.023	0.000	0.000	0.000
Trend	+		+		-	-				-	-	+
MW-1014B												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-7	-26	-3	-4	17	-7	-9	-13	-3	-1	-7	-17
p-Level	0.600	0.022	0.862	0.795	0.156	0.600	0.484	0.292	0.862	1.000	0.600	0.156
Trend												
Trend Results for All Data Since Oct. 1997												
Sample Size	94	82	94	94	94	94	94	94	95	95	86	95
Mann-Kendall S	-1344	-206	-2015	-2298	294	-3552	-1357	-2483	326	-2500	-2106	2529
p-Level	0.000	0.402	0.000	0.000	0.143	0.000	0.000	0.000	0.295	0.000	0.000	0.000
Trend	-		-	-		-	-	-		-	-	+

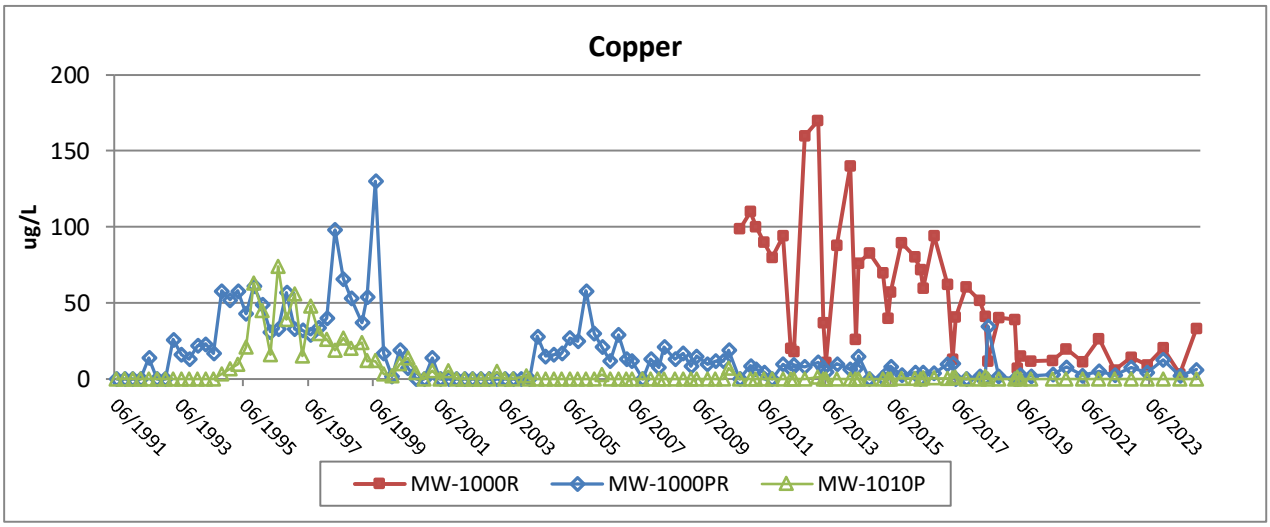
Trend Analysis Results - Groundwater (Semi-Annual Parameters)
Year Ending 2024

	Alkalinity	Arsenic	Copper	Hardness	Iron	Manganese	Sulfate	TDS	Field pH (su)	Cond (umhos /cm)	Redox (mV)	Grd Water El (Feet)
MW-1014C												
Trend Results for Most Recent 5 Years												
Sample Size	10	10	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	-5	18	0	-25	-20	-31	-7	-13	-11	-1	1	-15
p-Level	0.728	0.132	1.000	0.028	0.090	0.004	0.600	0.292	0.380	1.000	1.000	0.216
Trend						-						
Trend Results for All Data Since Oct. 1997												
Sample Size	94	82	94	94	94	94	94	94	94	94	86	94
Mann-Kendall S	-2804	2270	20	-2398	-3254	-2979	-2218	-2240	847	-3157	-285	2362
p-Level	0.000	0.000	0.924	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.289	0.000
Trend	-	+		-	-	-	-	-	+	-		+

Notes: Overall increasing trend denoted by "+".
Overall decreasing trend denoted by "-"
All trend tests performed at a Type I (two-tailed) error rate of 0.01.







Note: Fourth quarter 2010 was the first time MW-1000R had sufficient water recovery for sampling.

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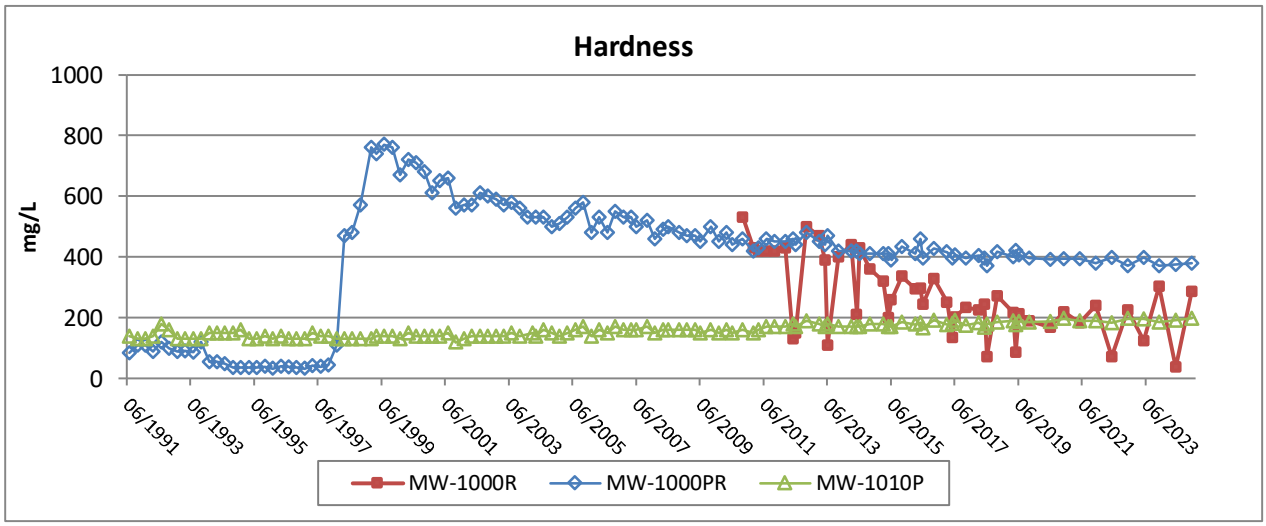
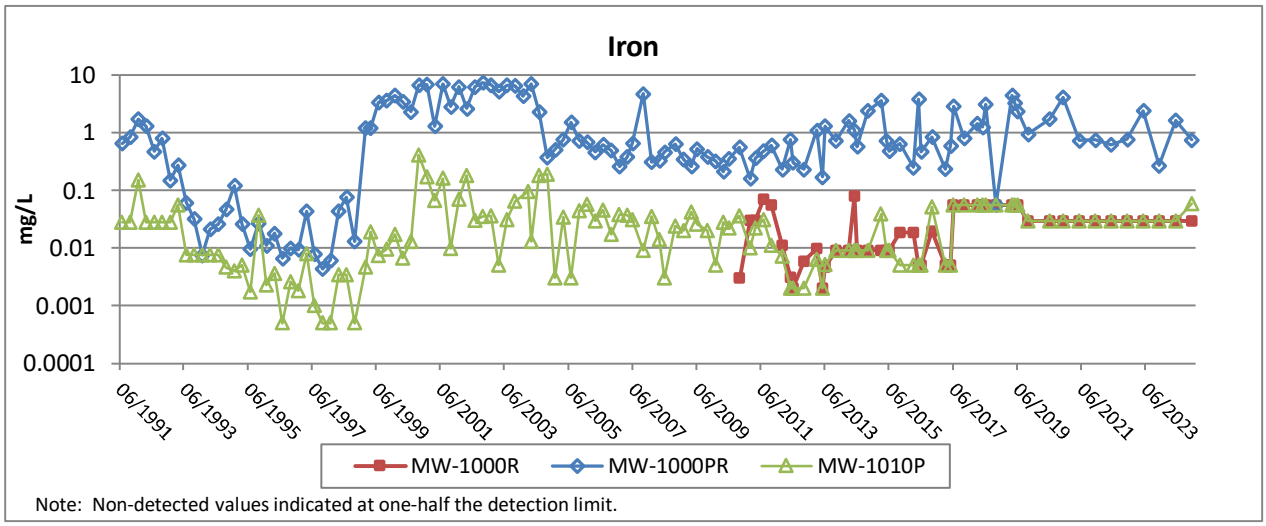
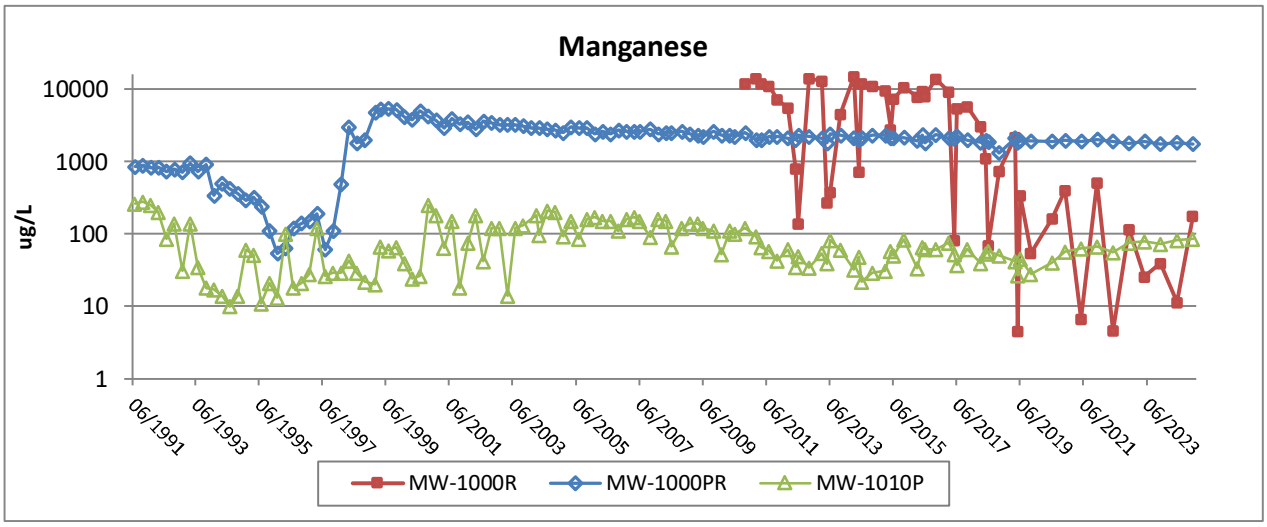
Figure B-1a
Groundwater Trend Graphs - Semi-Annual Results
MW-1000R/MW-1000PR/MW-1010P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





Note: Non-detected values indicated at one-half the detection limit.



Note: Iron trend graphs are displayed on a logarithmic scale so the trend patterns of MW-1000R, MW-1000PR and MW-1010P are visible at different concentration scales.

Flambeau Mining Co.
2024 Annual Summary Memorandum

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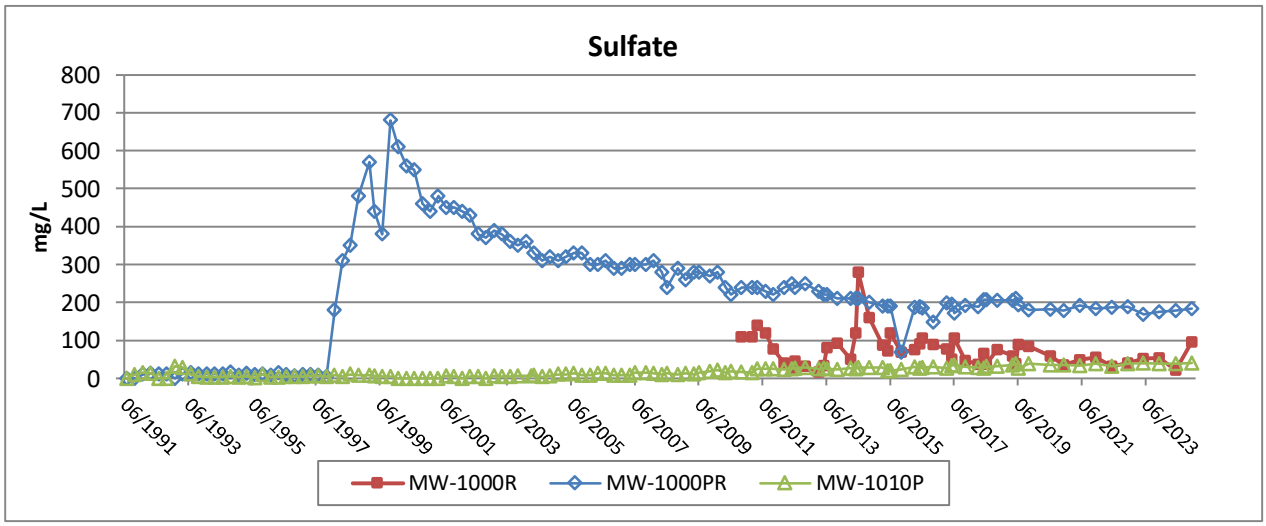
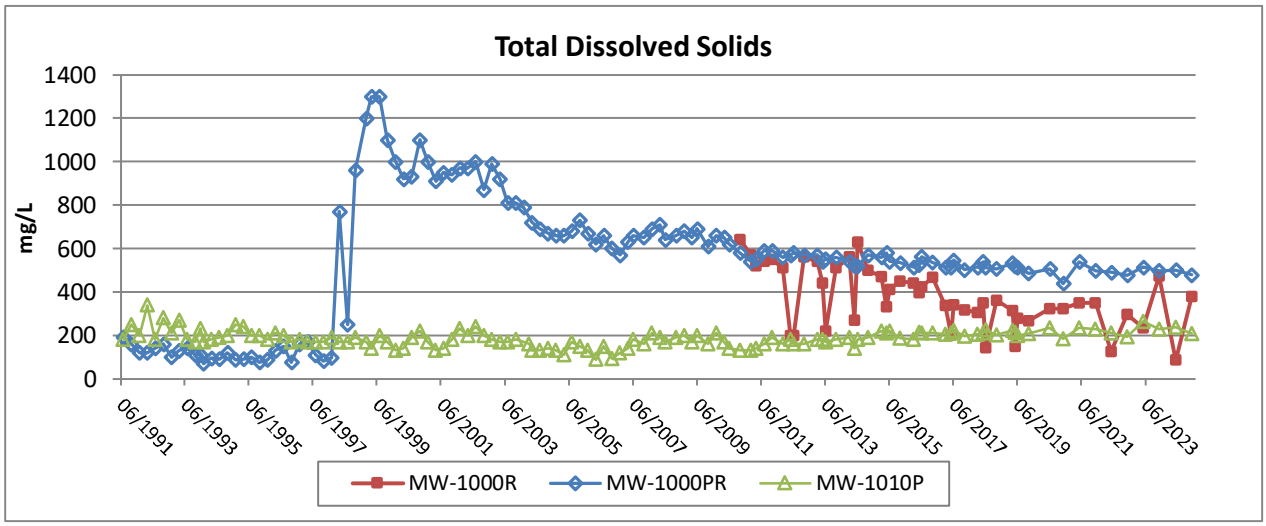
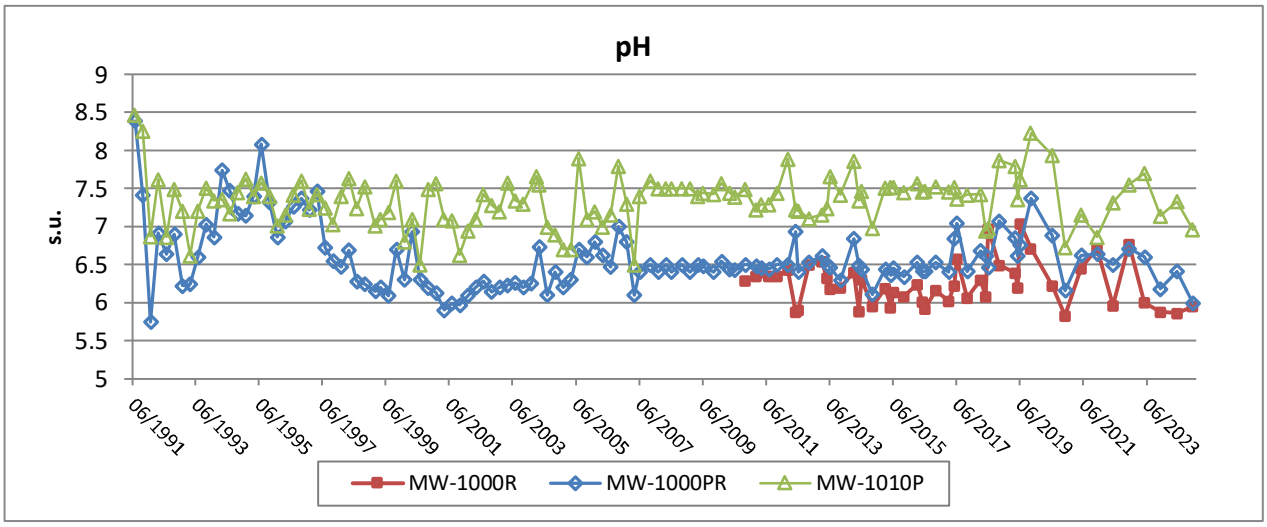
Figure B-1b
Groundwater Trend Graphs - Semi-Annual Results
MW-1000R/MW-1000PR/MW-1010P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

pw:\Flambeau Mining\0017F777\10500 Reference Information\Stats\2024 Annual Report\GWGraphs_Qtrly.xlsm







Note: May 2023 pH result is from lab analysis since a malfunction occurred with the pH field meter.

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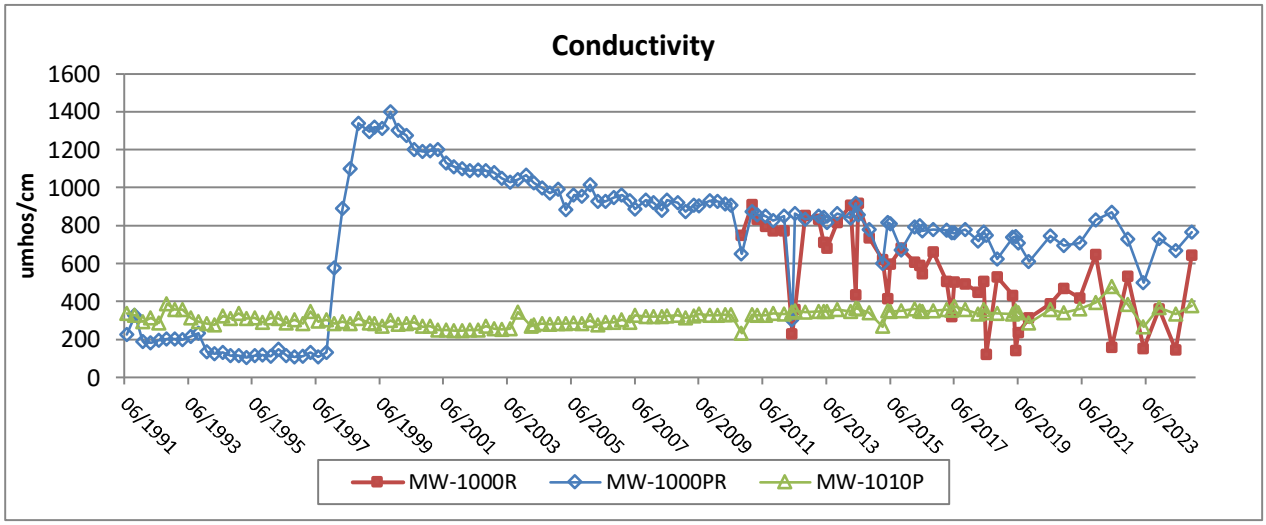
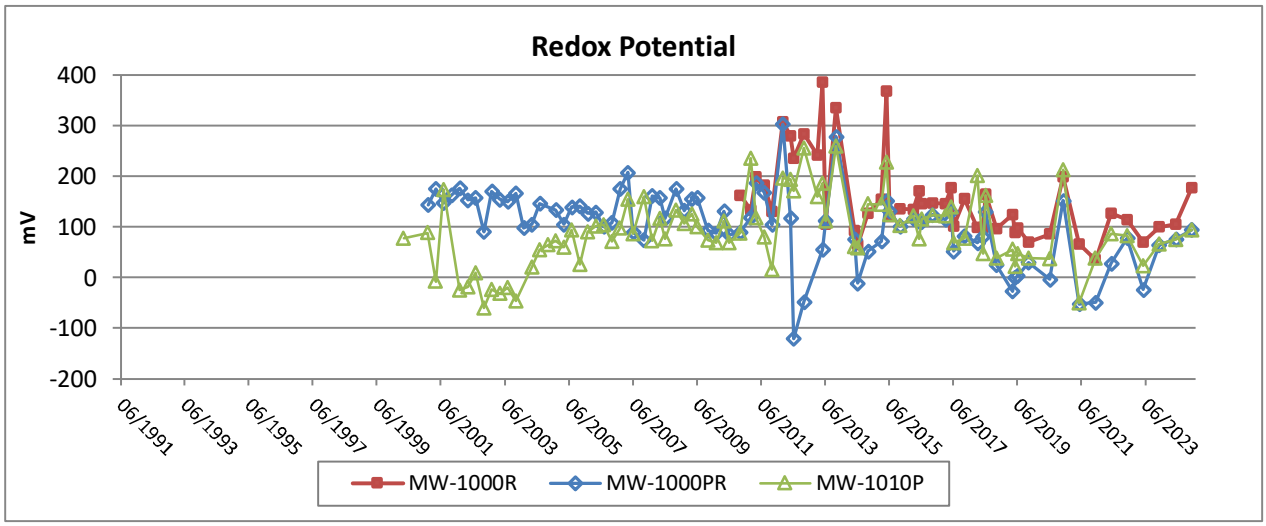
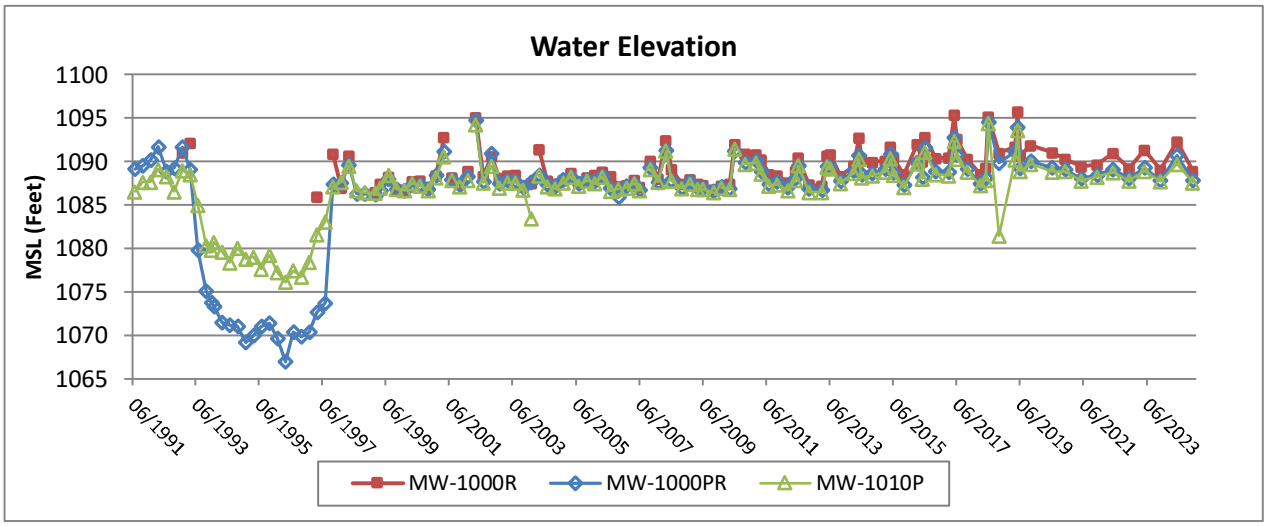
Figure B-1c
Groundwater Trend Graphs - Semi-Annual Results
MW-1000R/MW-1000PR/MW-1010P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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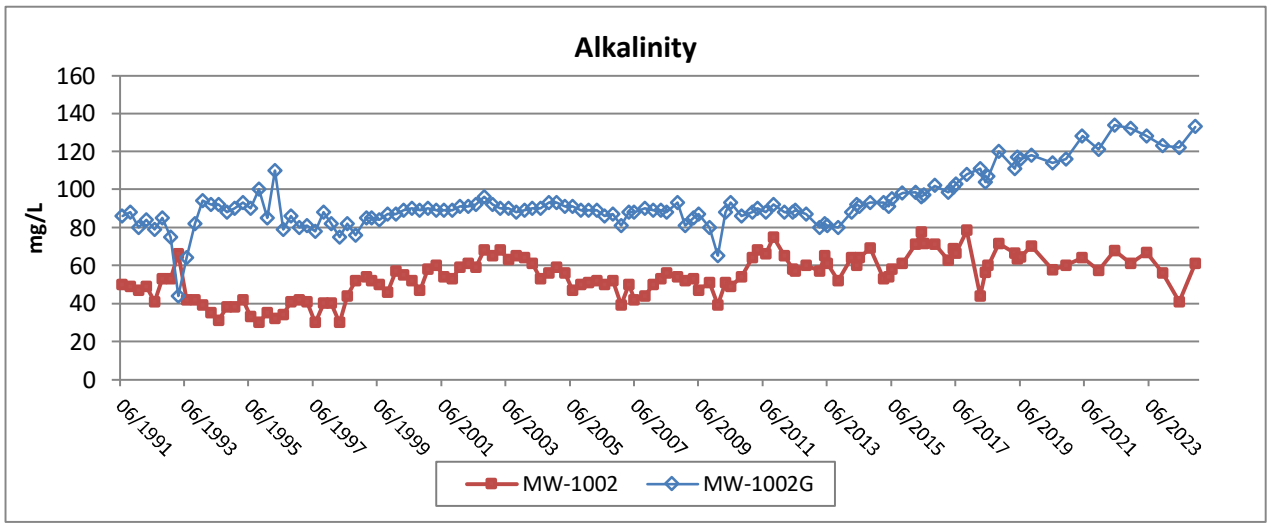
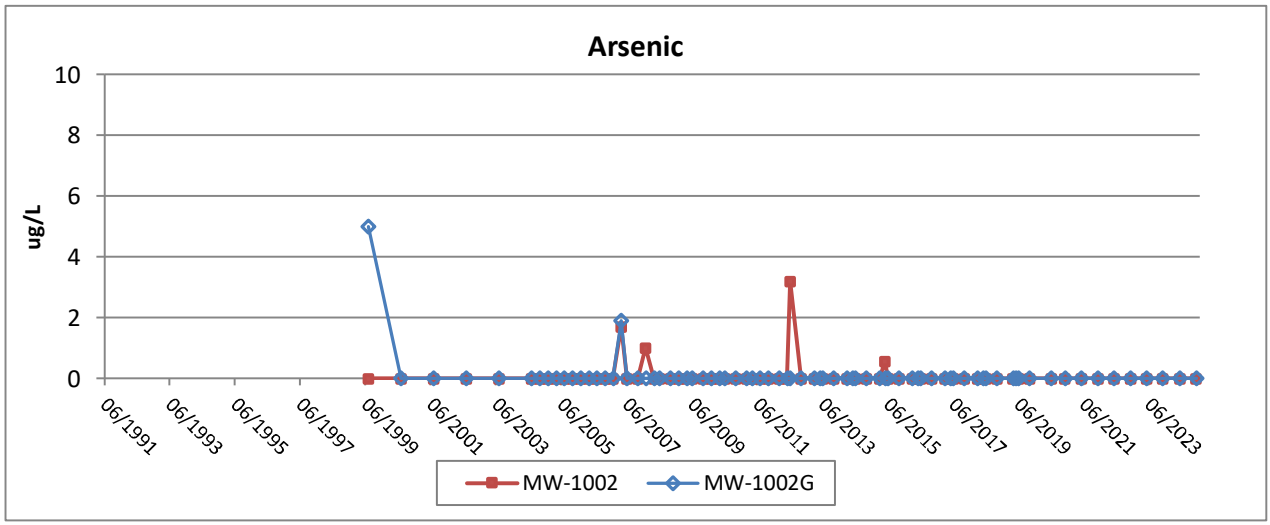
FLAMBEAU MINING COMPANY

Figure B-1d
Groundwater Trend Graphs - Semi-Annual Results
MW-1000R/MW-1000PR/MW-1010P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





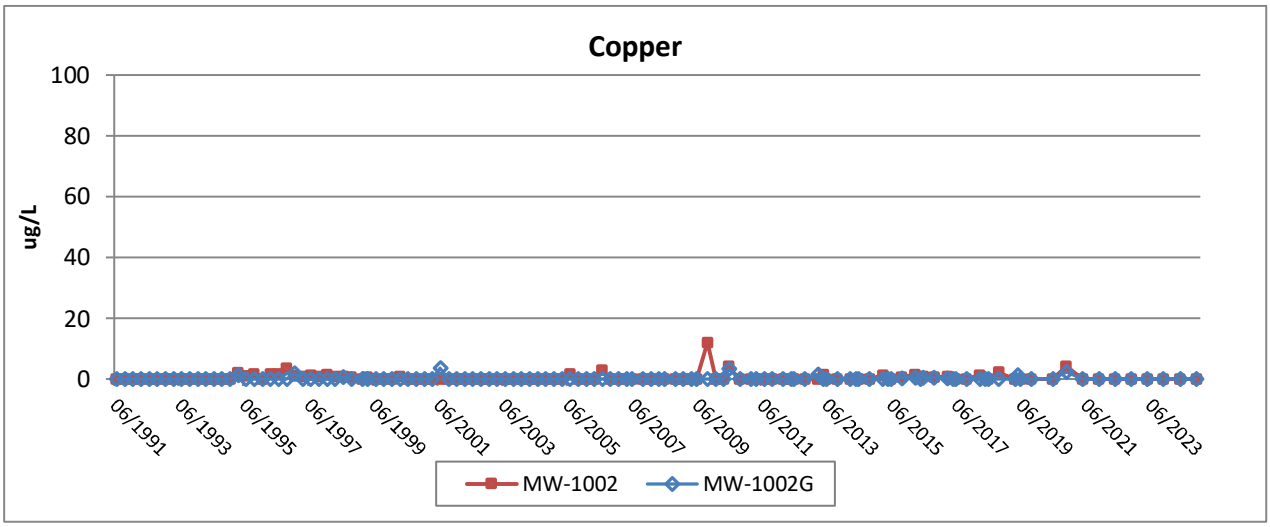


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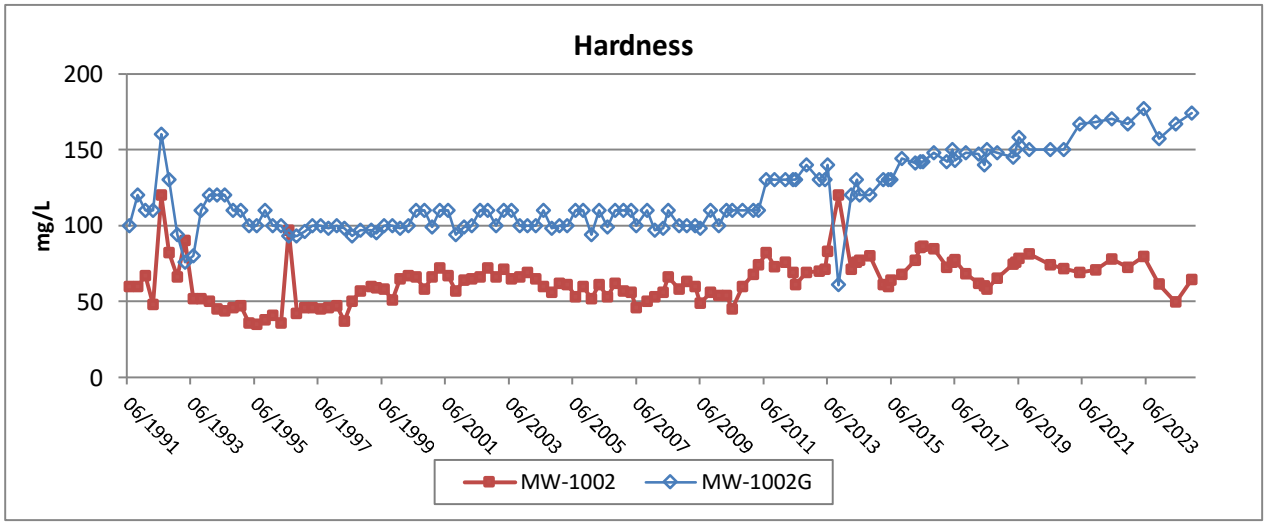
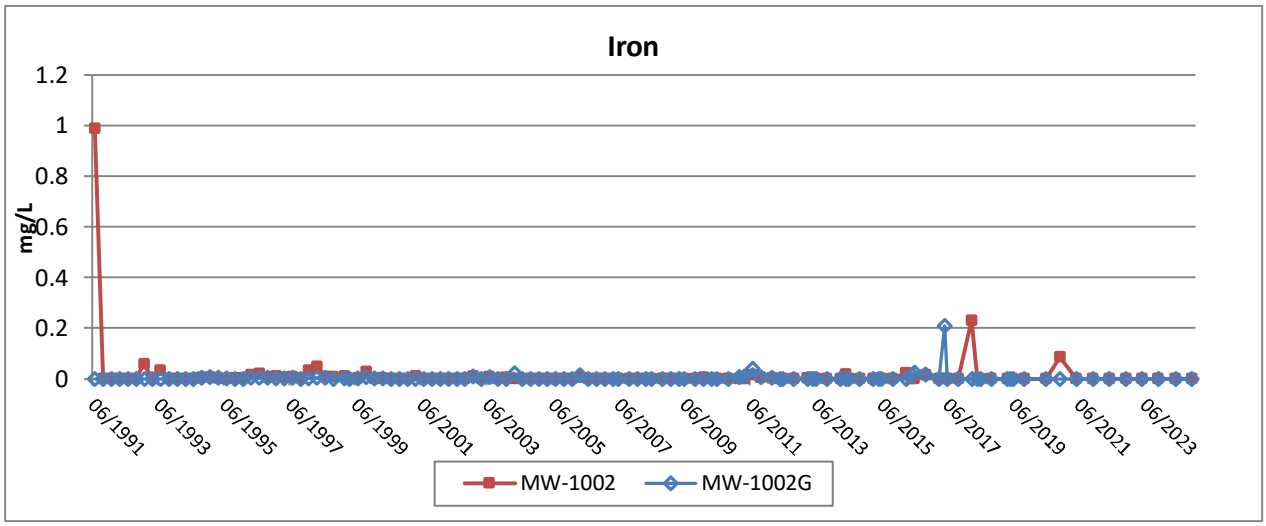
Figure B-2a
Groundwater Trend Graphs - Semi-Annual Results
MW-1002/MW-1002G

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





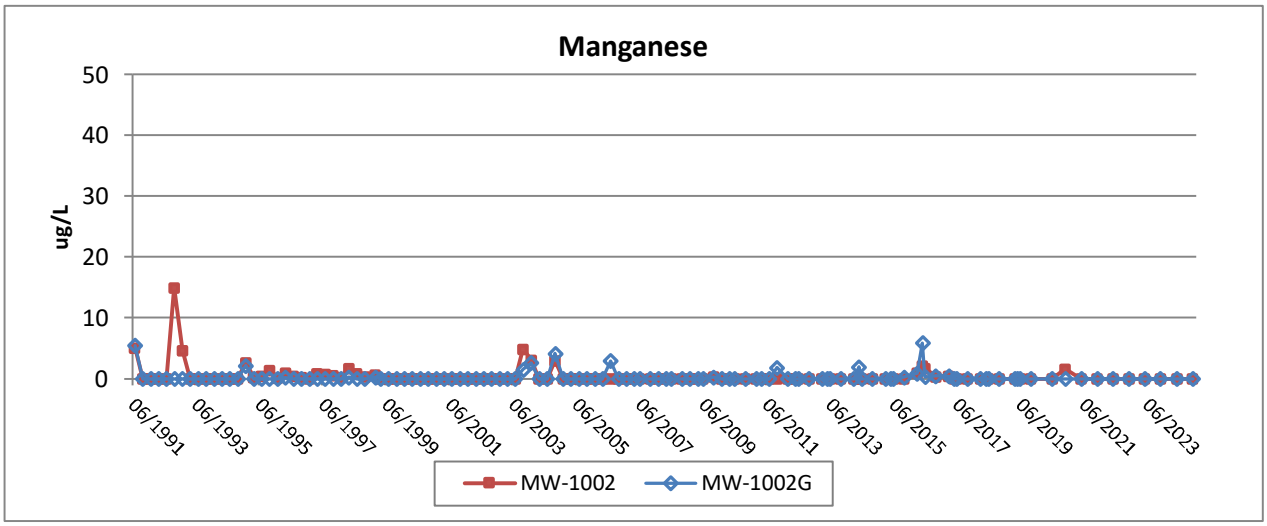


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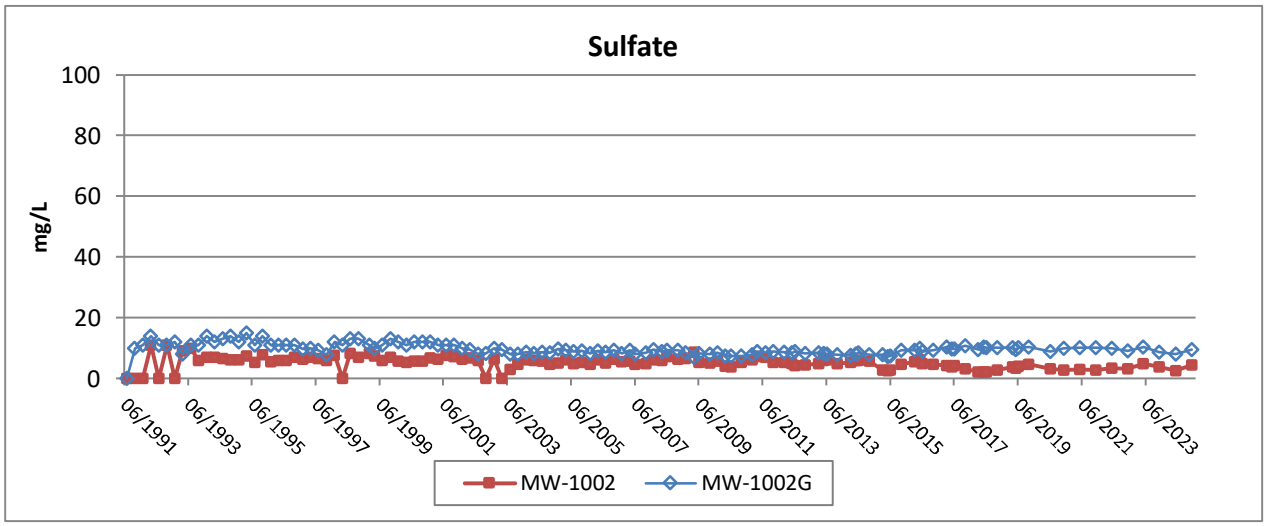
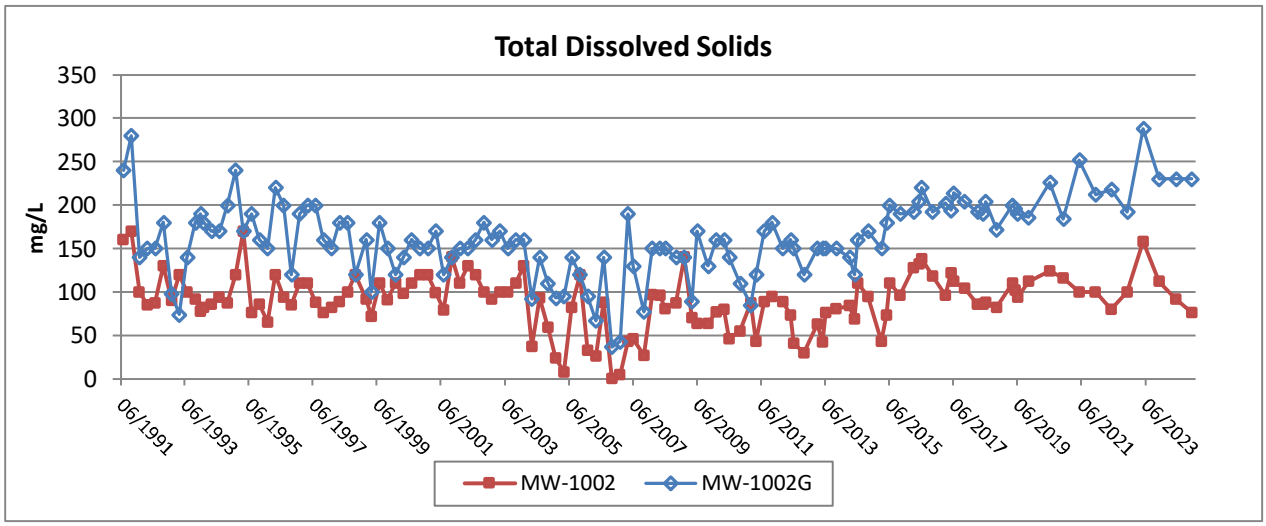
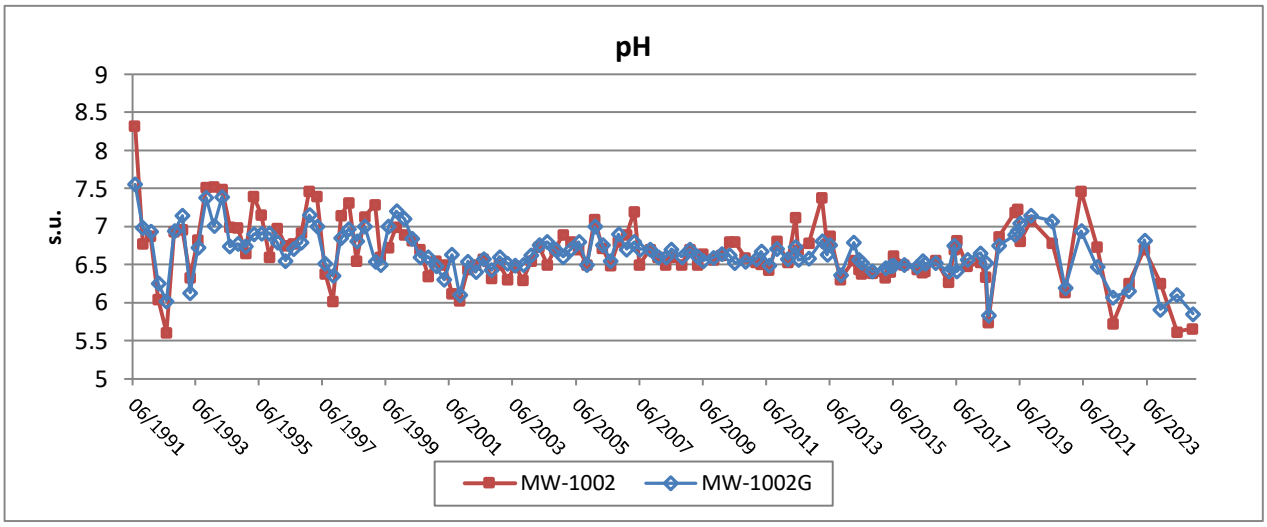
Figure B-2b
Groundwater Trend Graphs - Semi-Annual Results
MW-1002/MW-1002G

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25



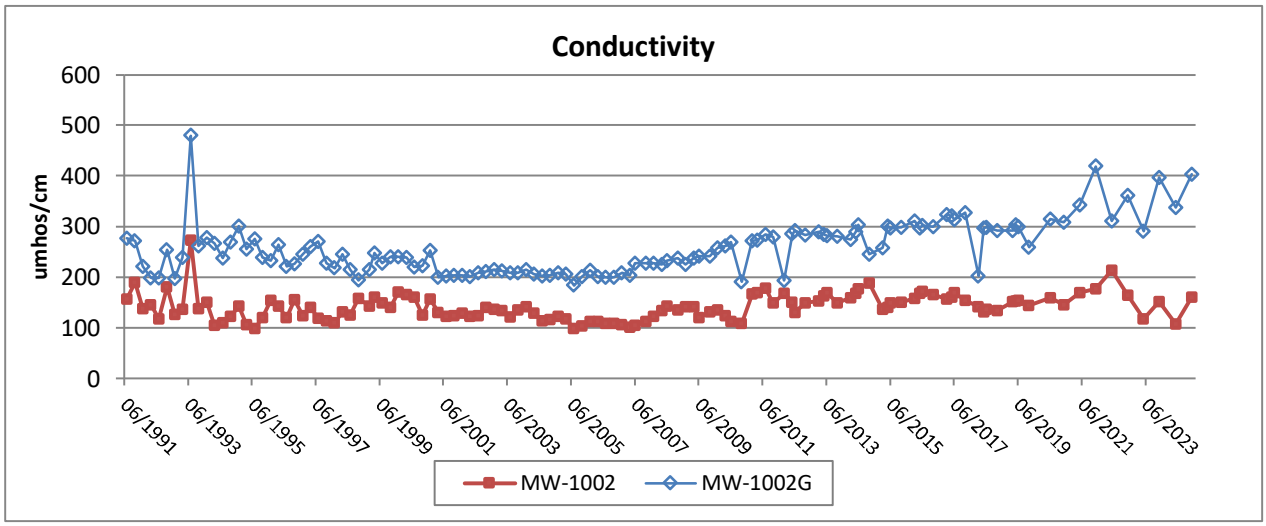


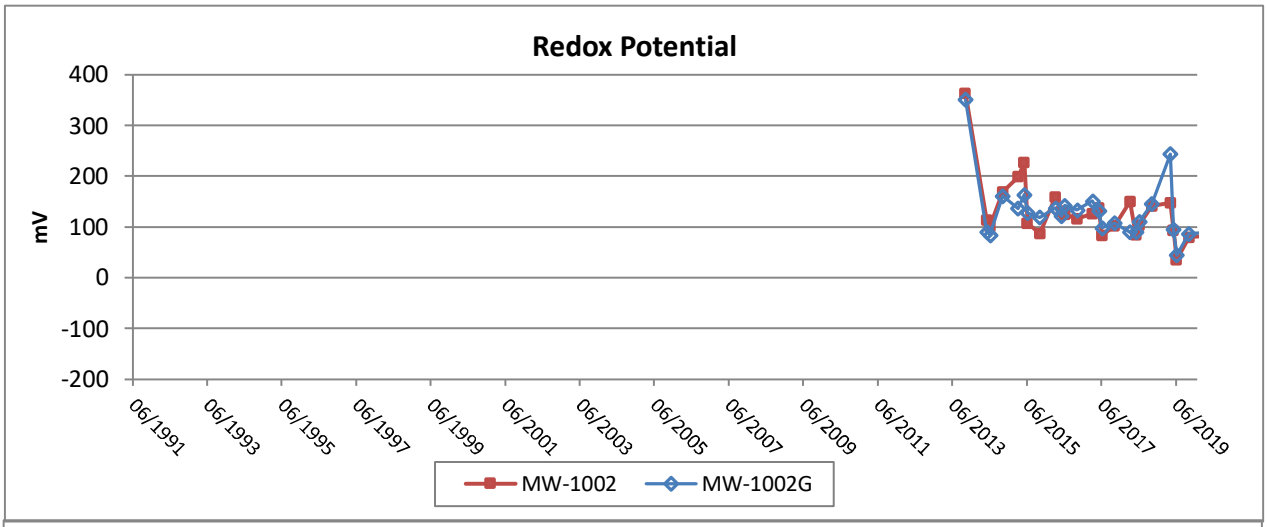


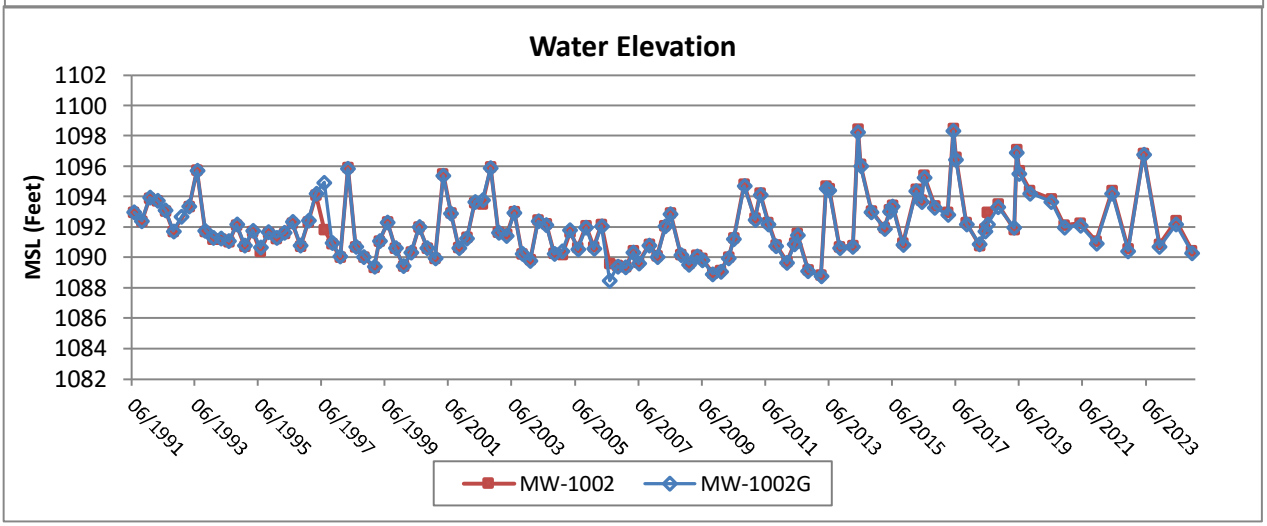
FLAMBEAU MINING COMPANY

Figure B-2c
Groundwater Trend Graphs - Semi-Annual Results
MW-1002/MW-1002G

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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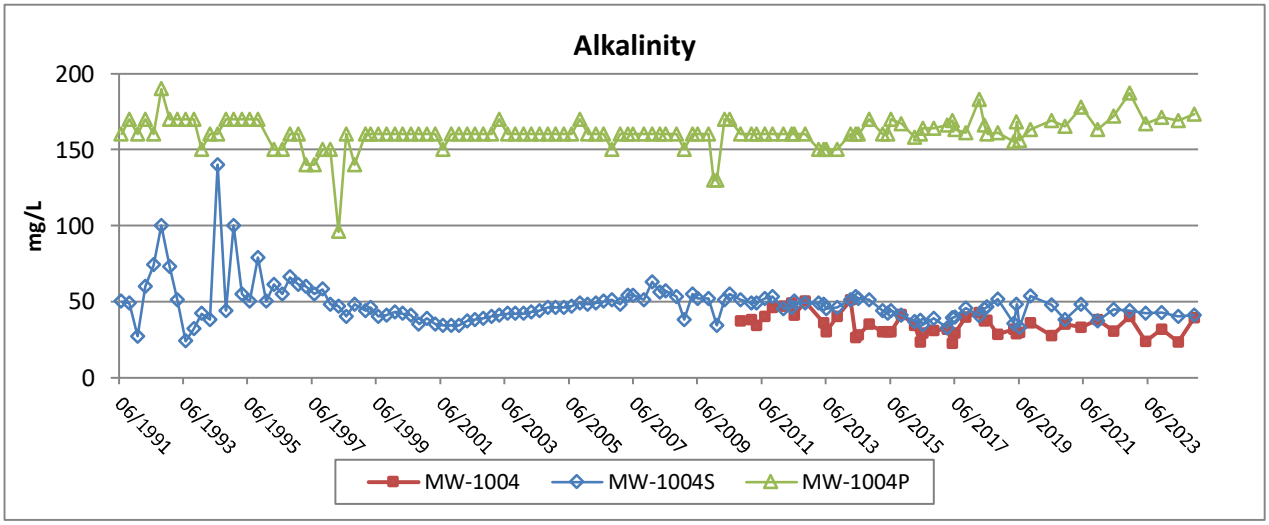
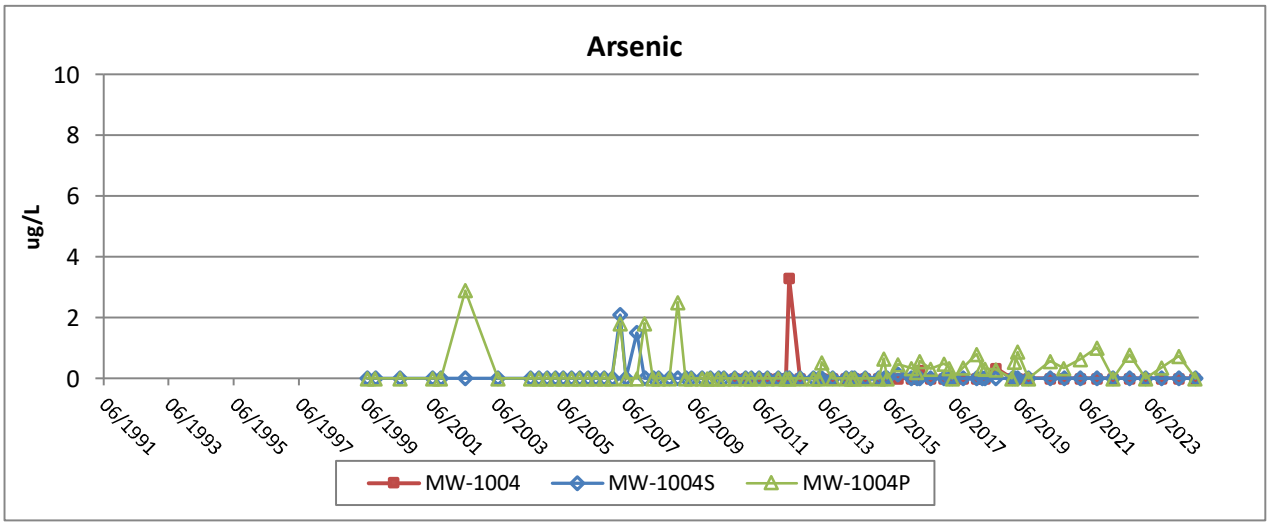
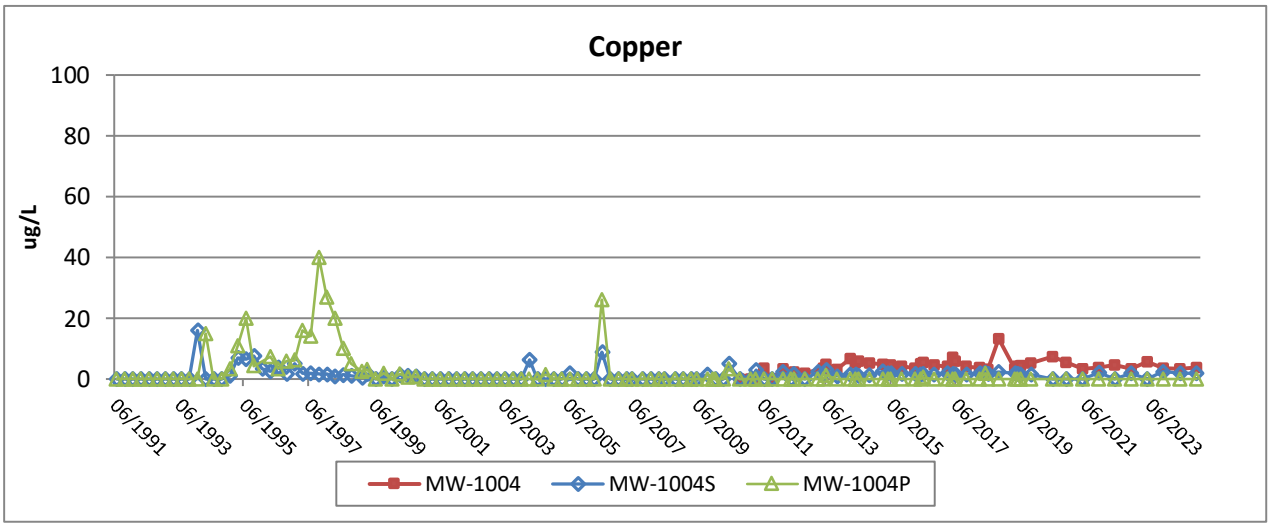
FLAMBEAU MINING COMPANY

Figure B-2d
Groundwater Trend Graphs - Semi-Annual Results
MW-1002/MW-1002G

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: Fourth quarter 2010 was the first time MW-1004 had sufficient water recovery for sampling.

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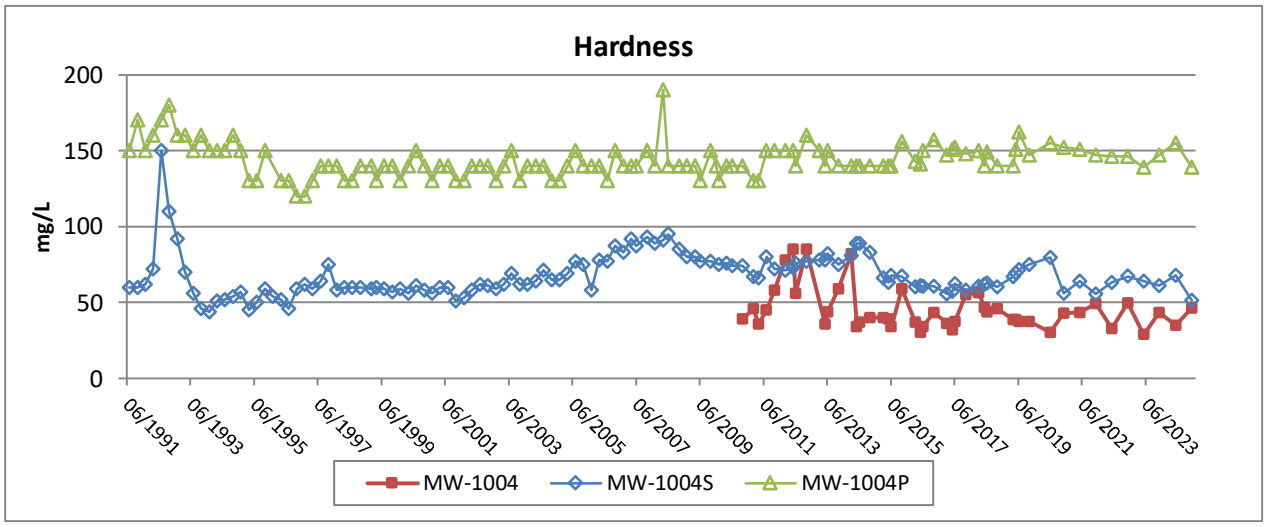
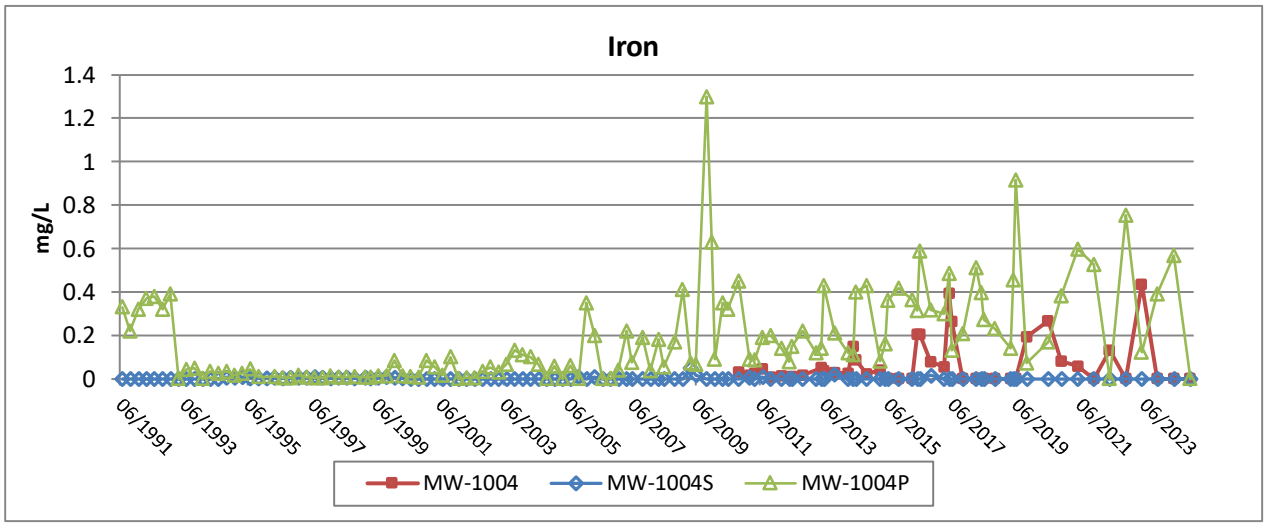
Figure B-3a
Groundwater Trend Graphs - Semi-Annual Results
MW-1004/MW-1004S/MW-1004P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1
	Project: 17F777.25





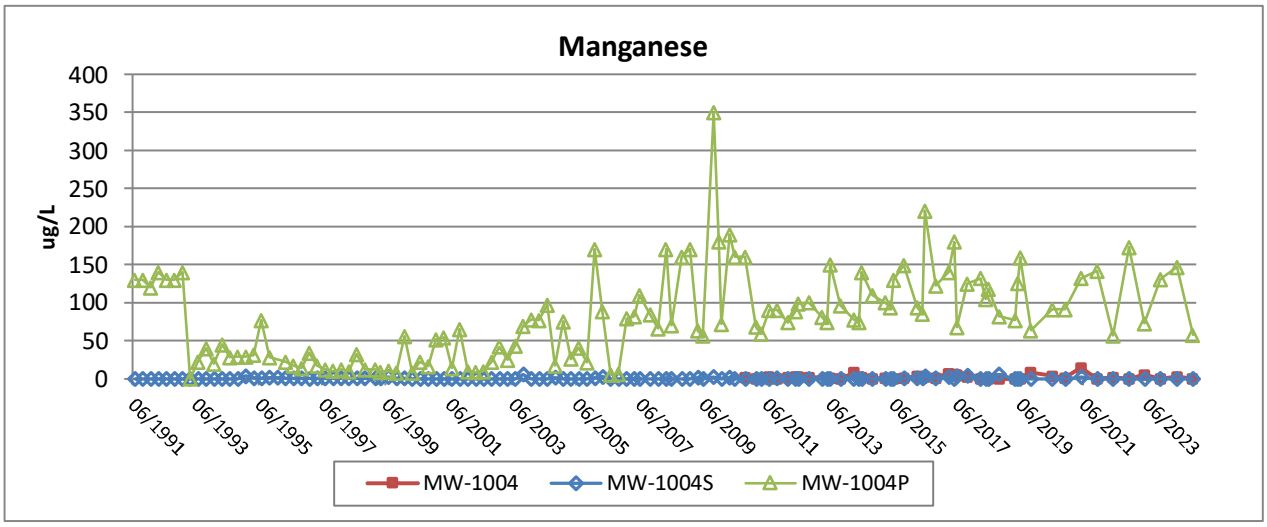


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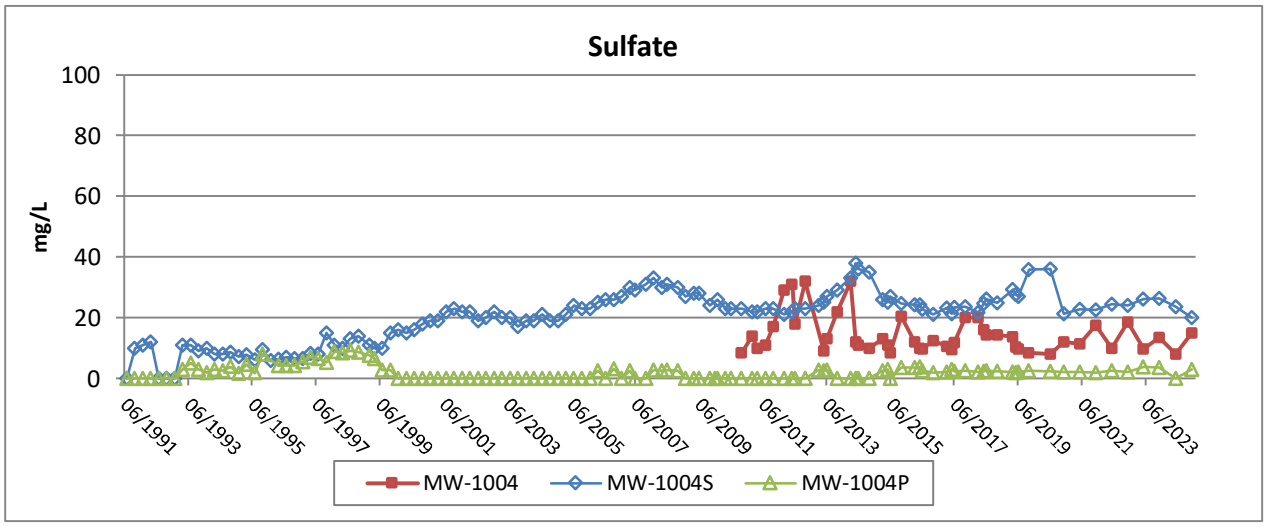
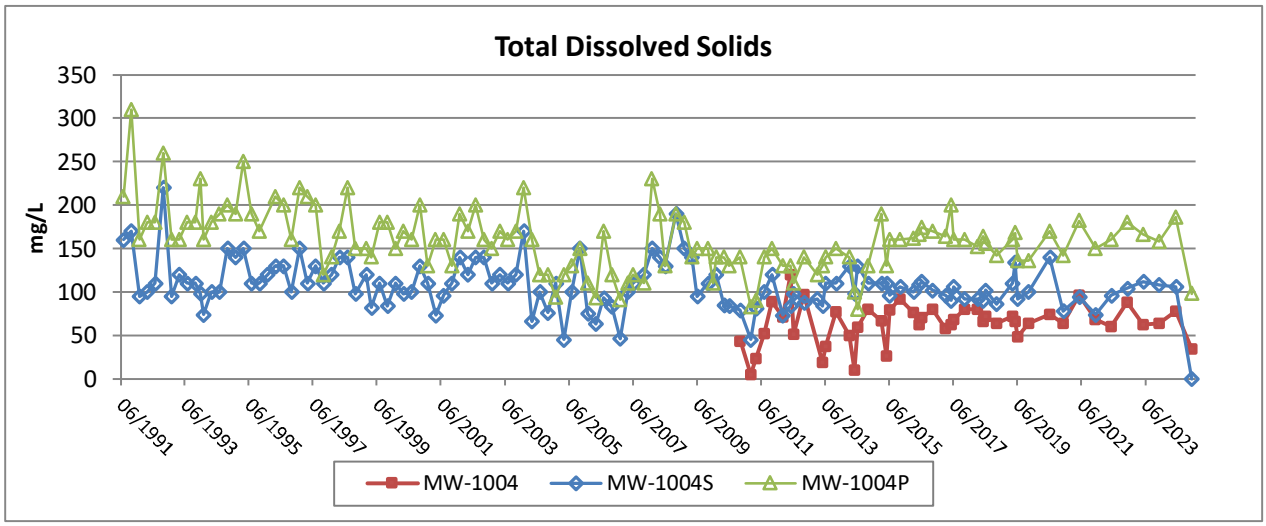
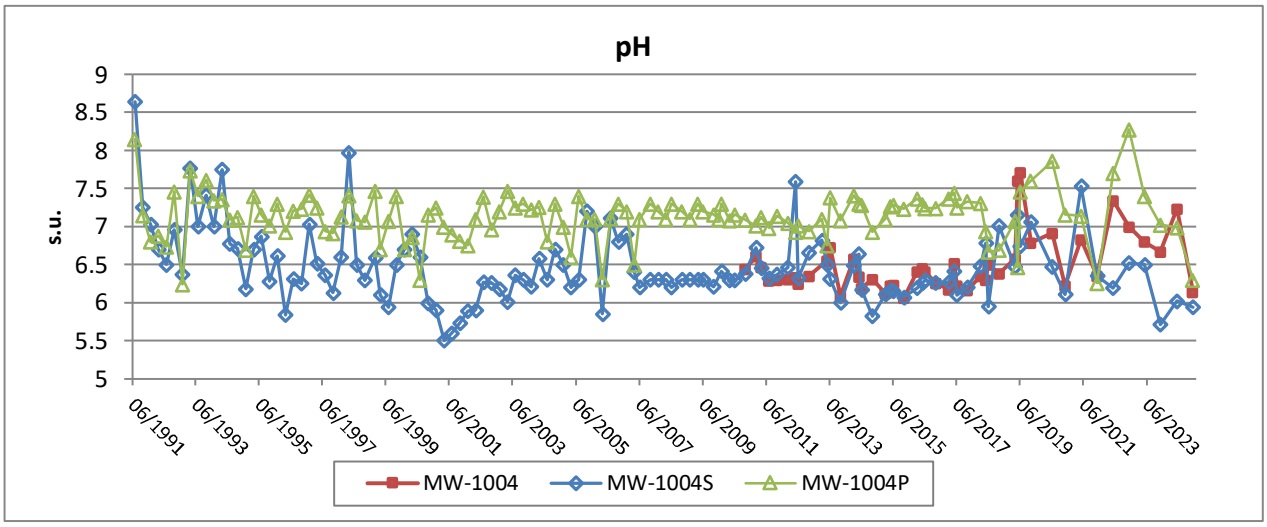
Figure B-3b
Groundwater Trend Graphs - Semi-Annual Results
MW-1004/MW-1004S/MW-1004P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: May 2023 pH result is from lab analysis since a malfunction occurred with the pH field meter.

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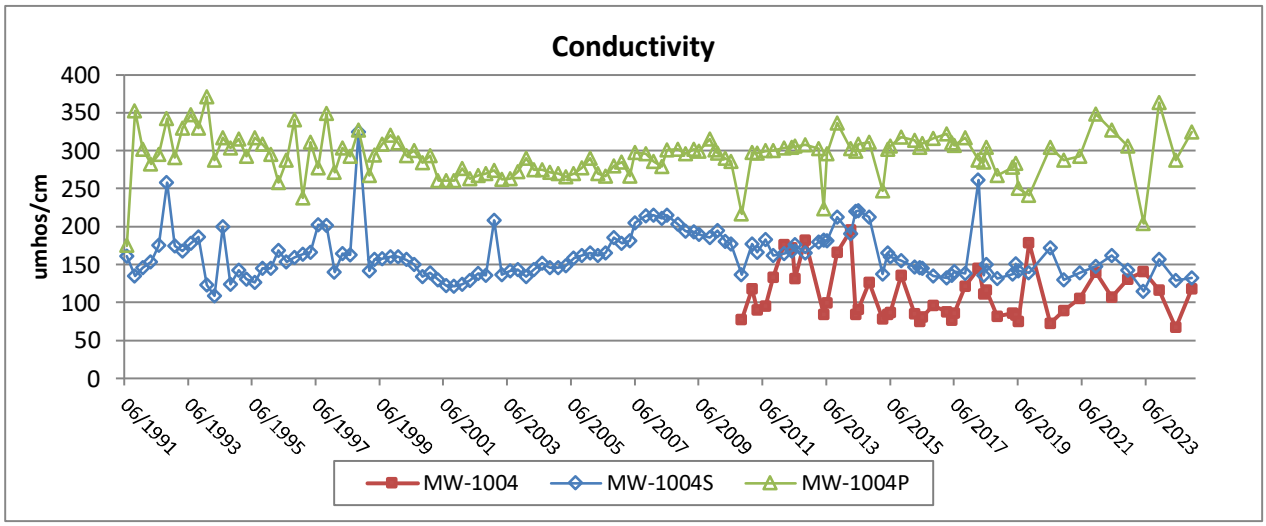
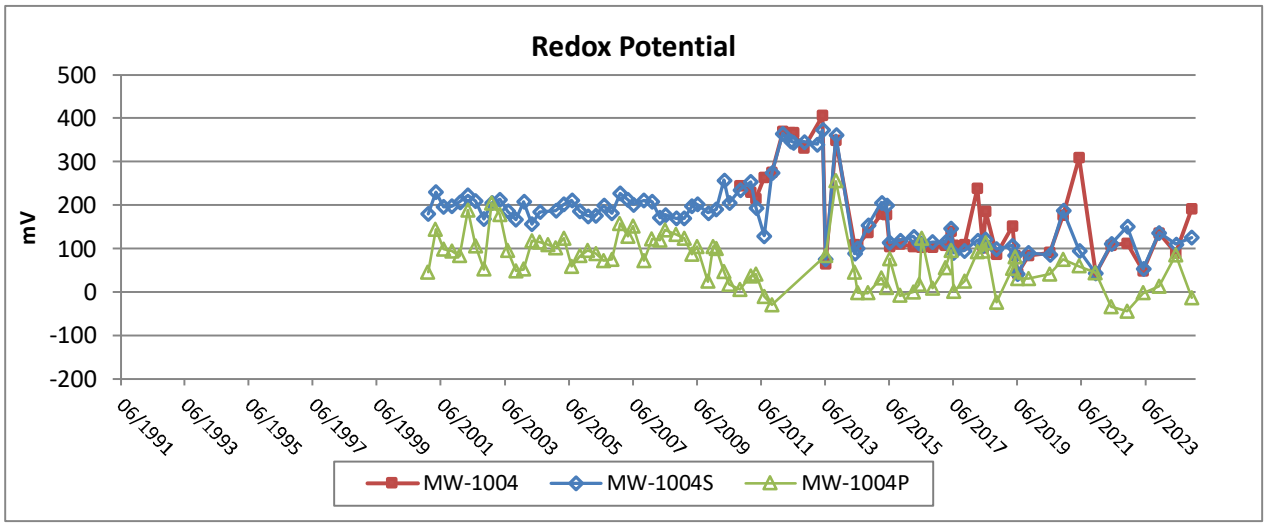
Figure B-3c
Groundwater Trend Graphs - Semi-Annual Results
MW-1004/MW-1004S/MW-1004P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





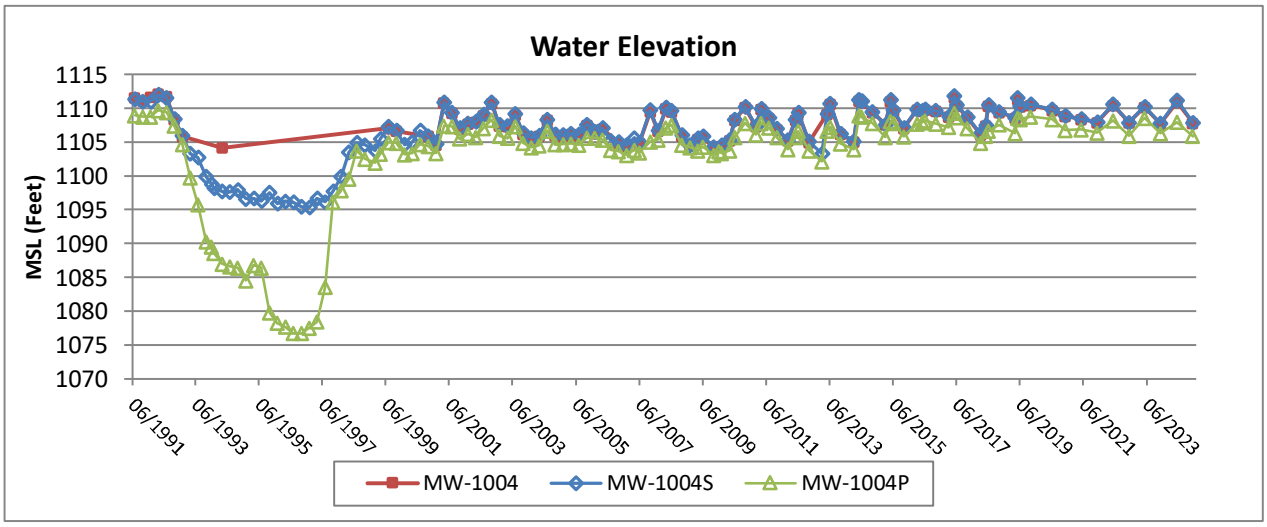


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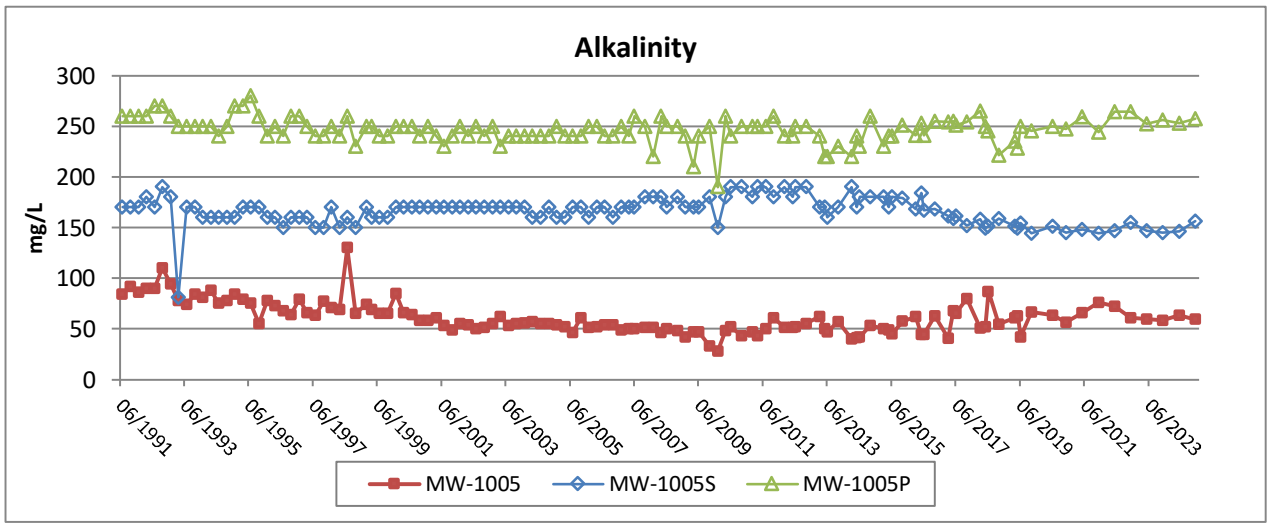
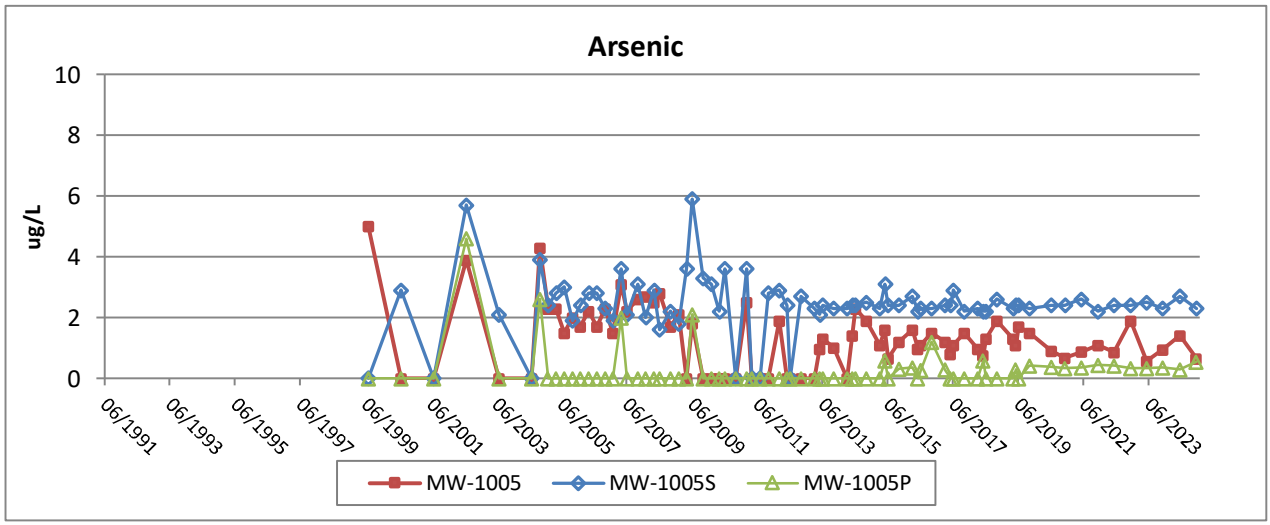
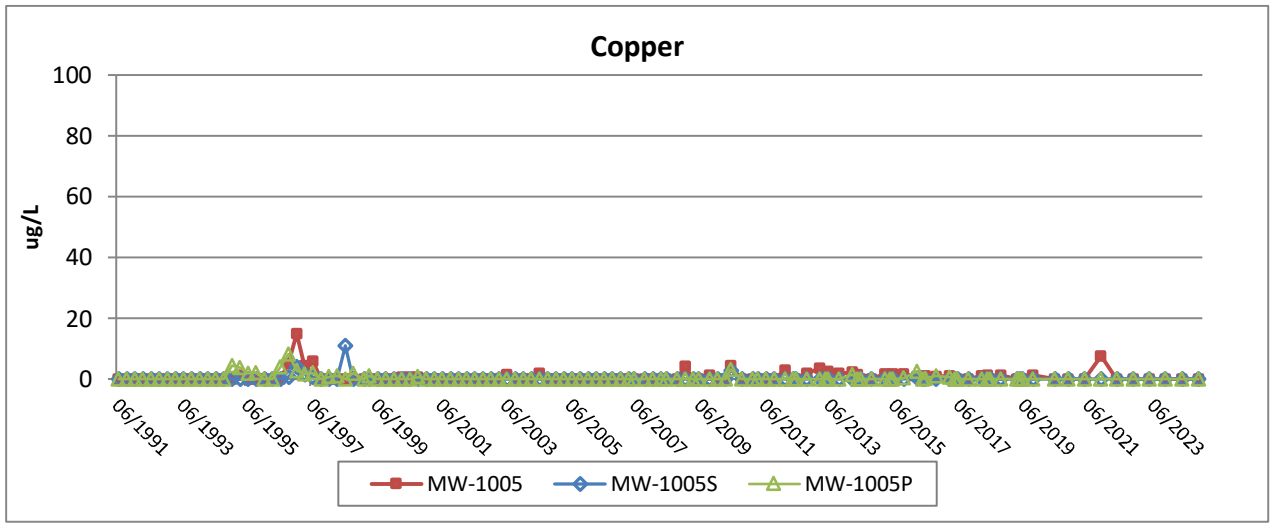
Figure B-3d
Groundwater Trend Graphs - Semi-Annual Results
MW-1004/MW-1004S/MW-1004P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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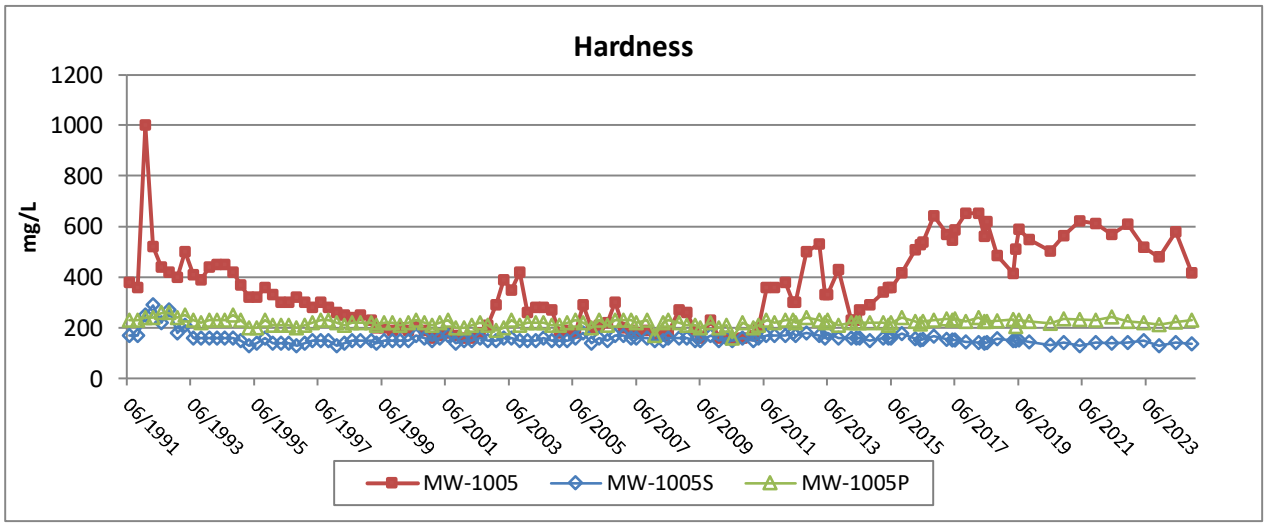
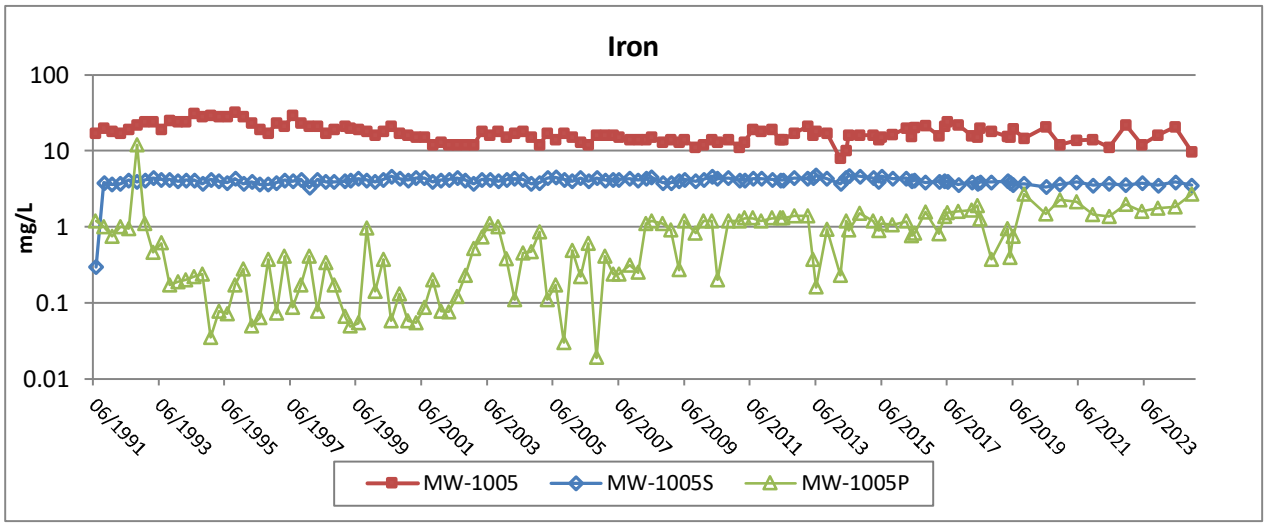
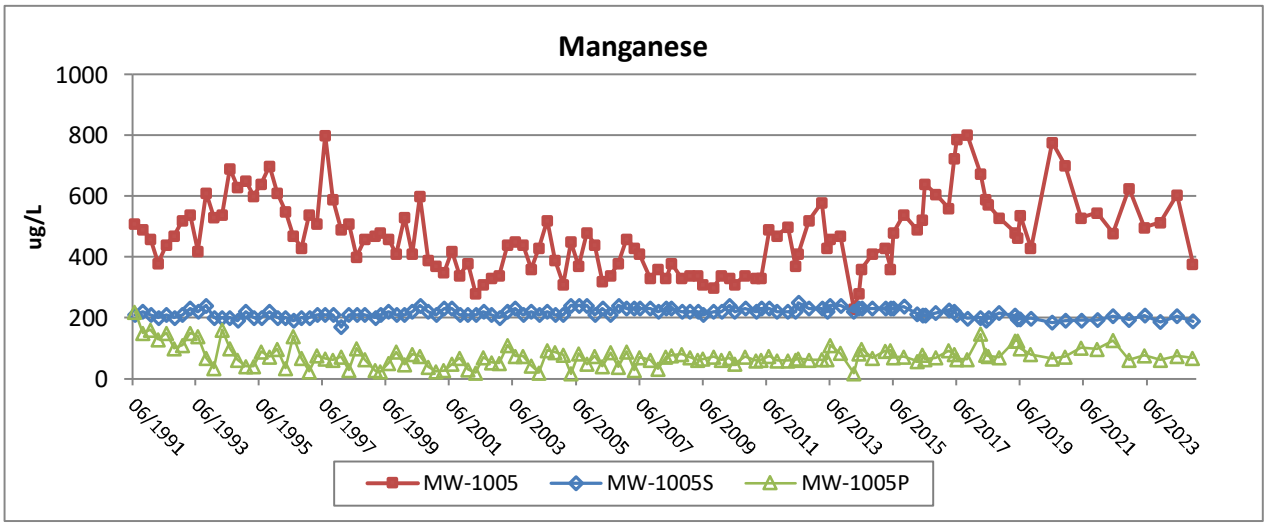
FLAMBEAU MINING COMPANY

Figure B-4a
Groundwater Trend Graphs - Semi-Annual Results
MW-1005/MW-1005S/MW-1005P

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: Iron trend graphs are displayed on a logarithmic scale so the trend patterns of MW-1005, MW-1005S and MW-1005P are visible at different concentration scales.

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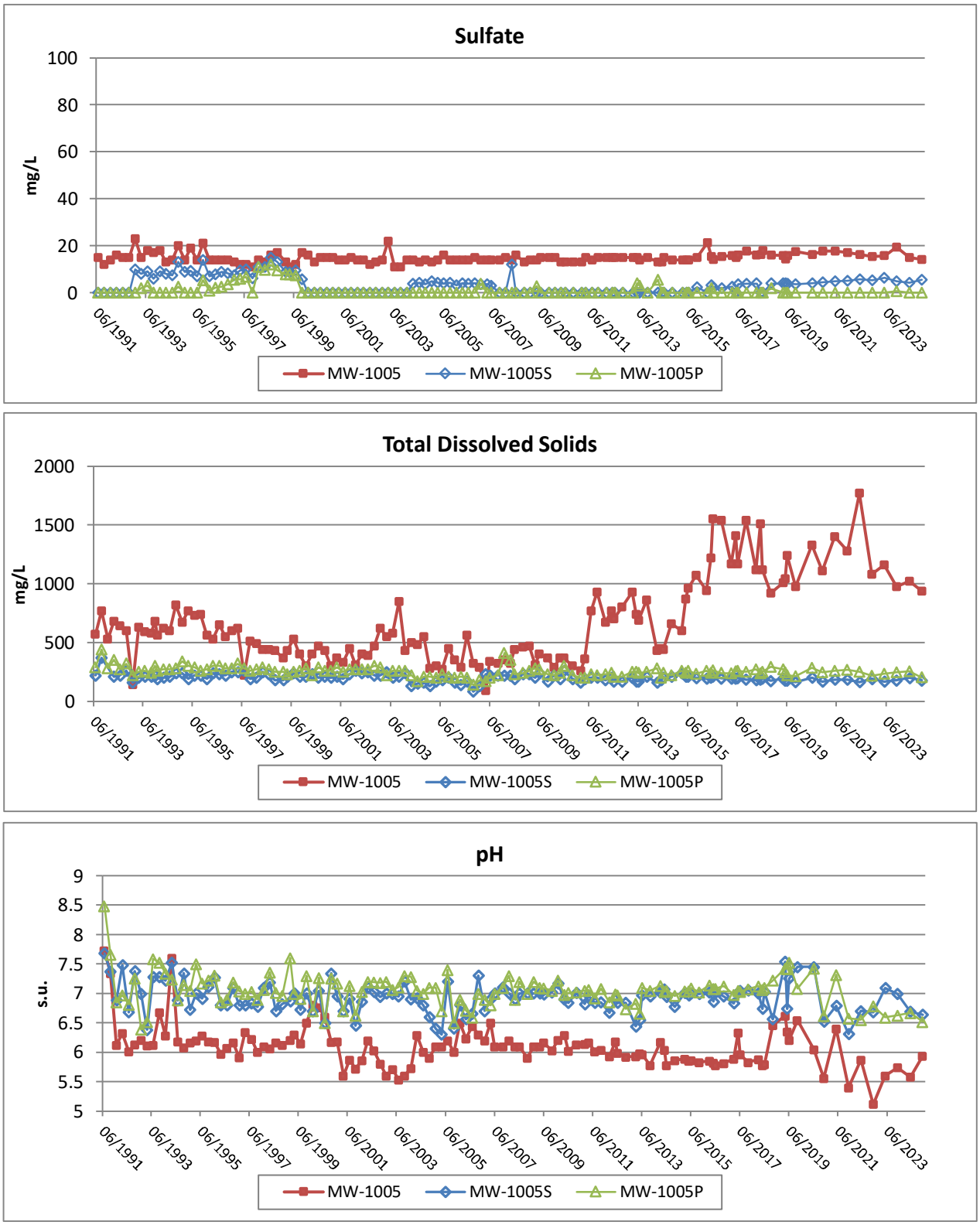
Figure B-4b
Groundwater Trend Graphs - Semi-Annual Results
MW-1005/MW-1005S/MW-1005P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25



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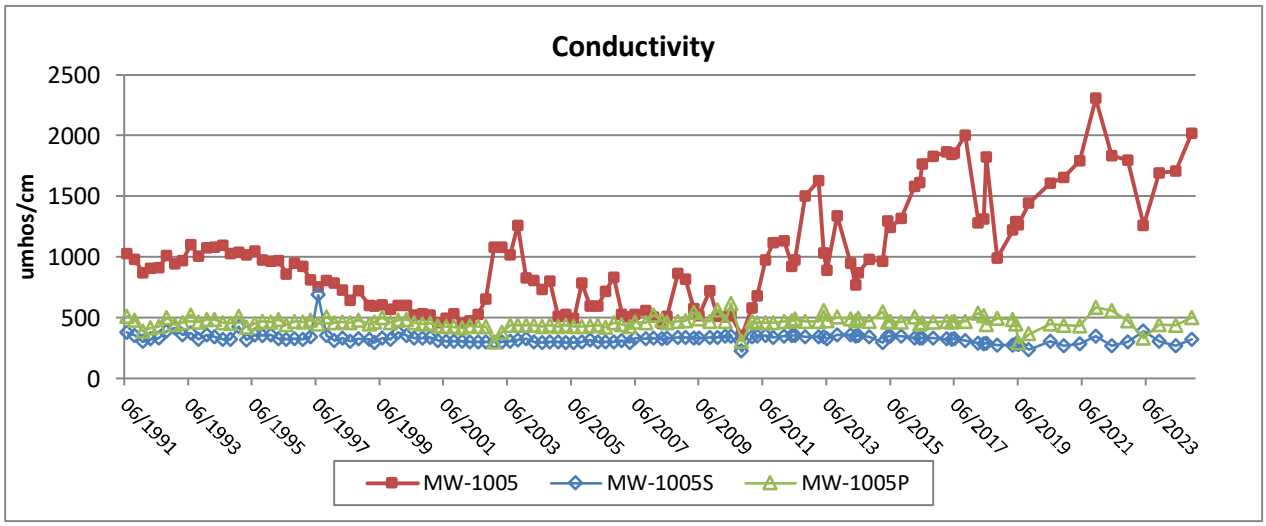
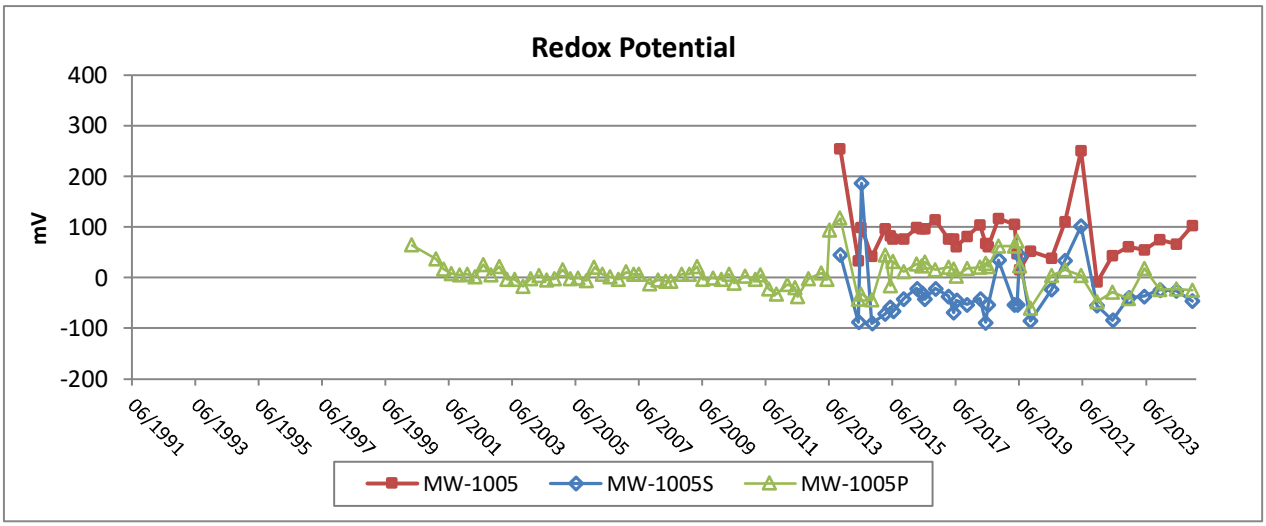
FLAMBEAU MINING COMPANY

Figure B-4c
Groundwater Trend Graphs - Semi-Annual Results
MW-1005/MW-1005S/MW-1005P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





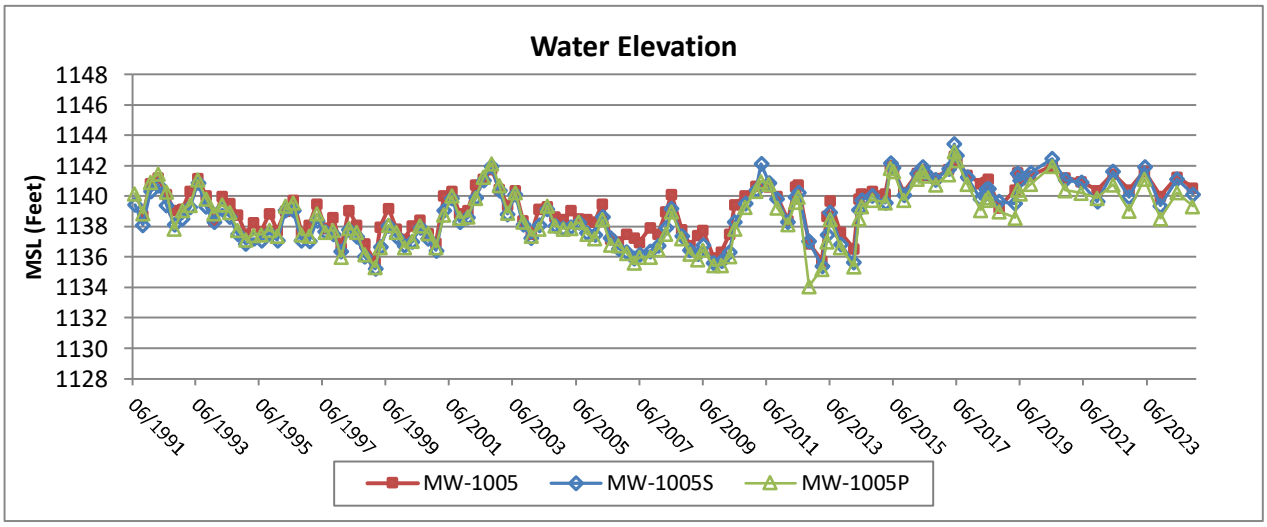


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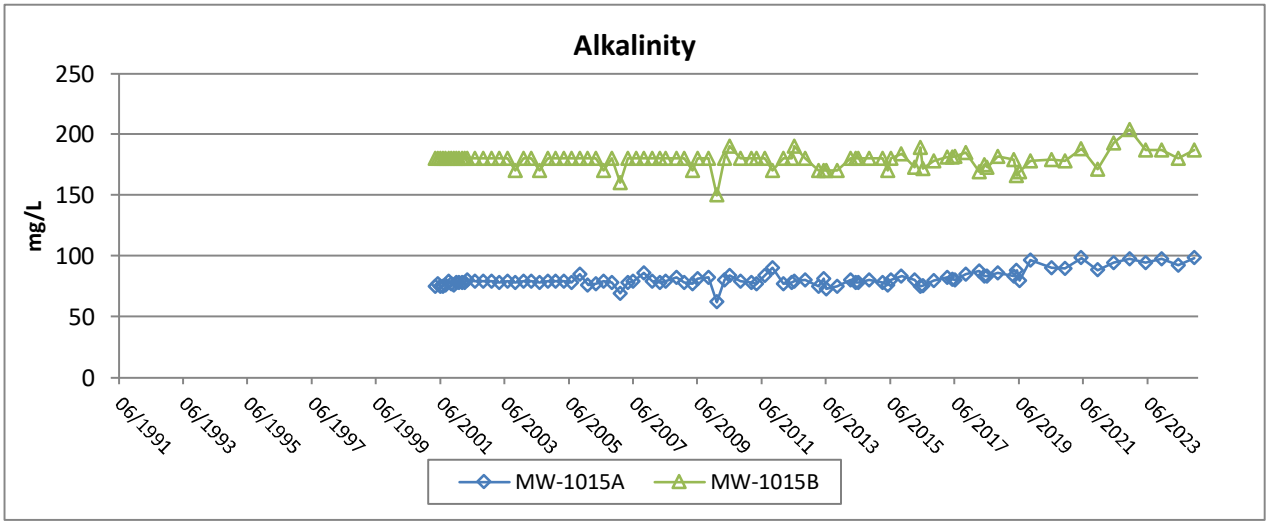
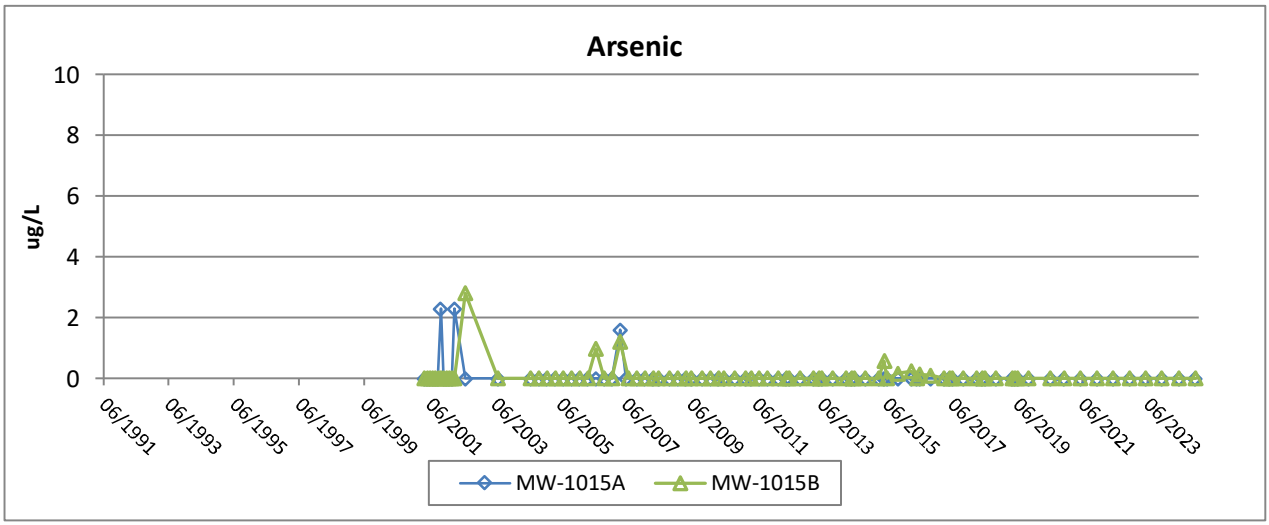
Figure B-4d
Groundwater Trend Graphs - Semi-Annual Results
MW-1005/MW-1005S/MW-1005P

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





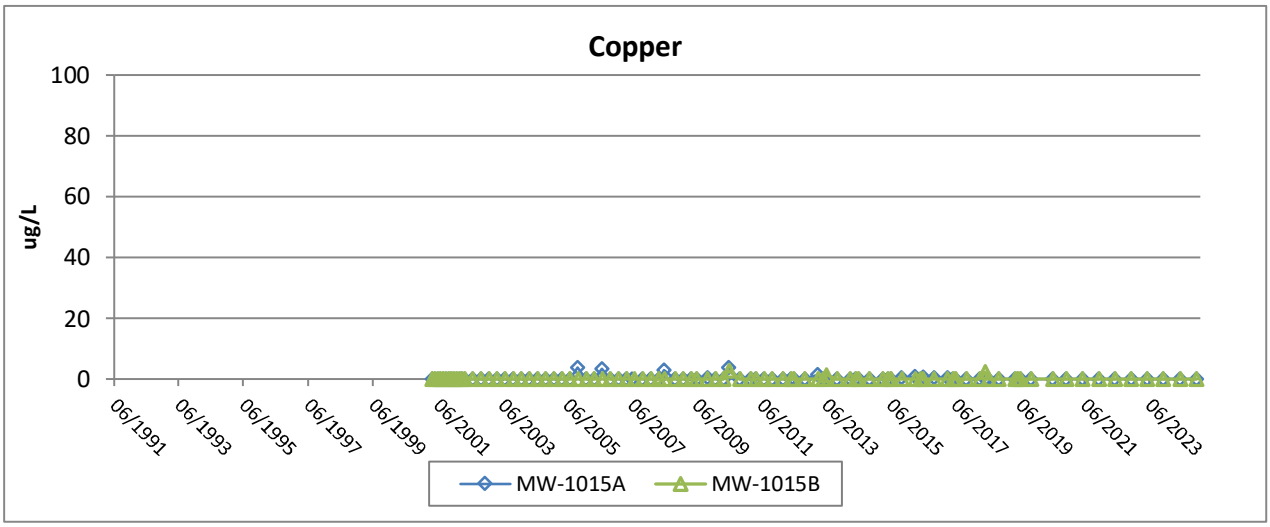


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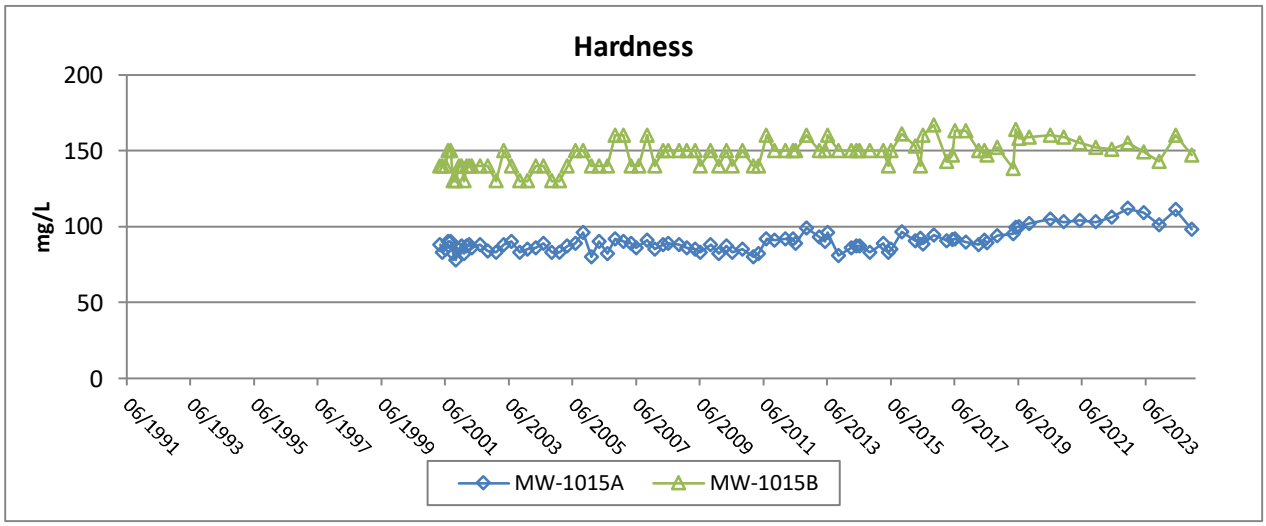
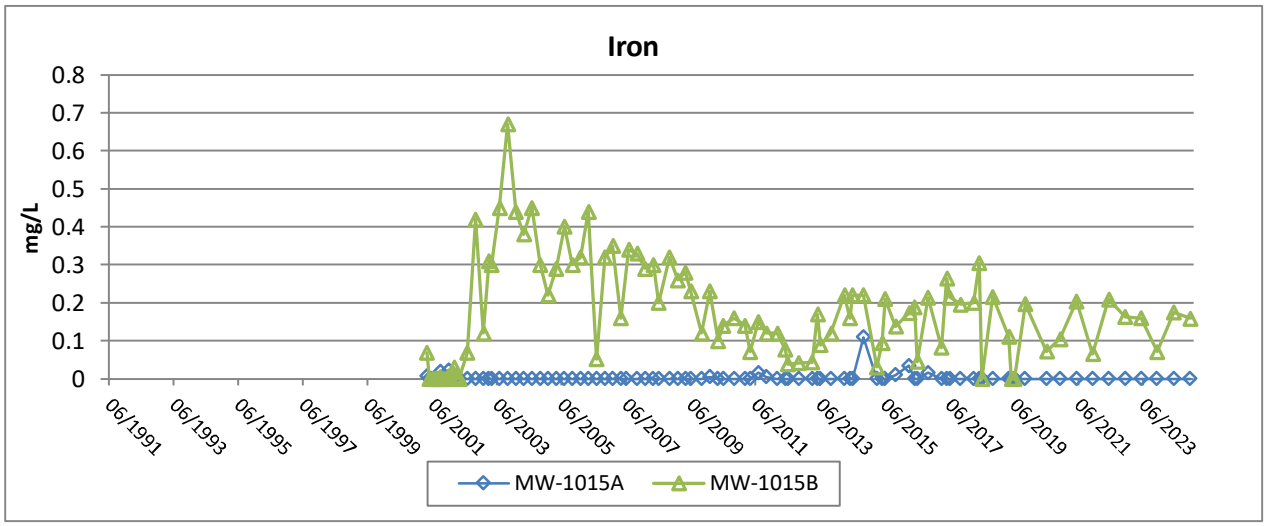
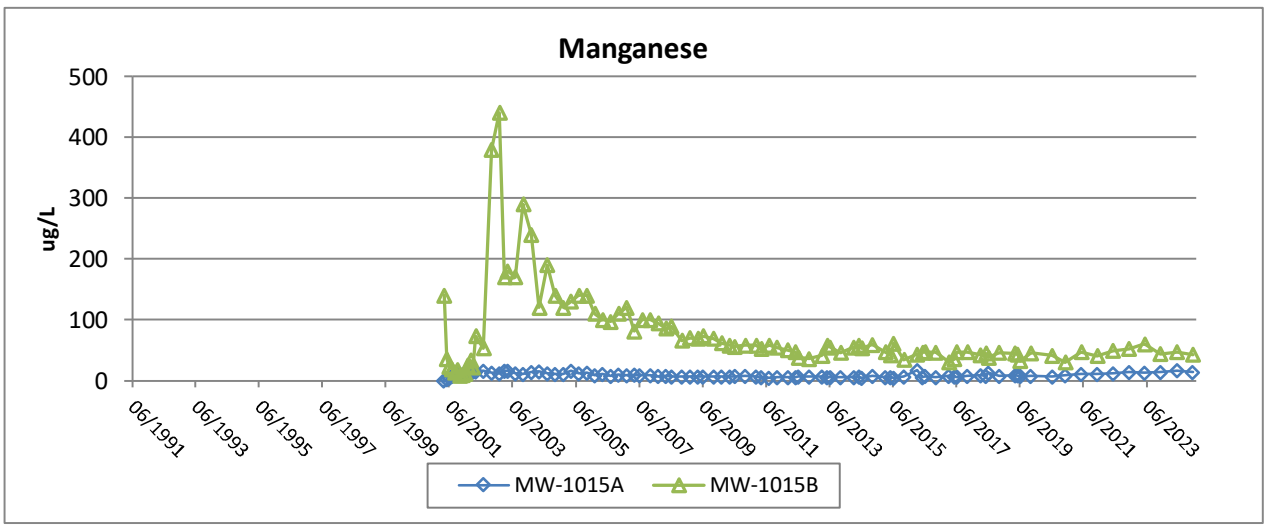
Figure B-5a
Groundwater Trend Graphs - Semi-Annual Results
MW-1015A/MW-1015B

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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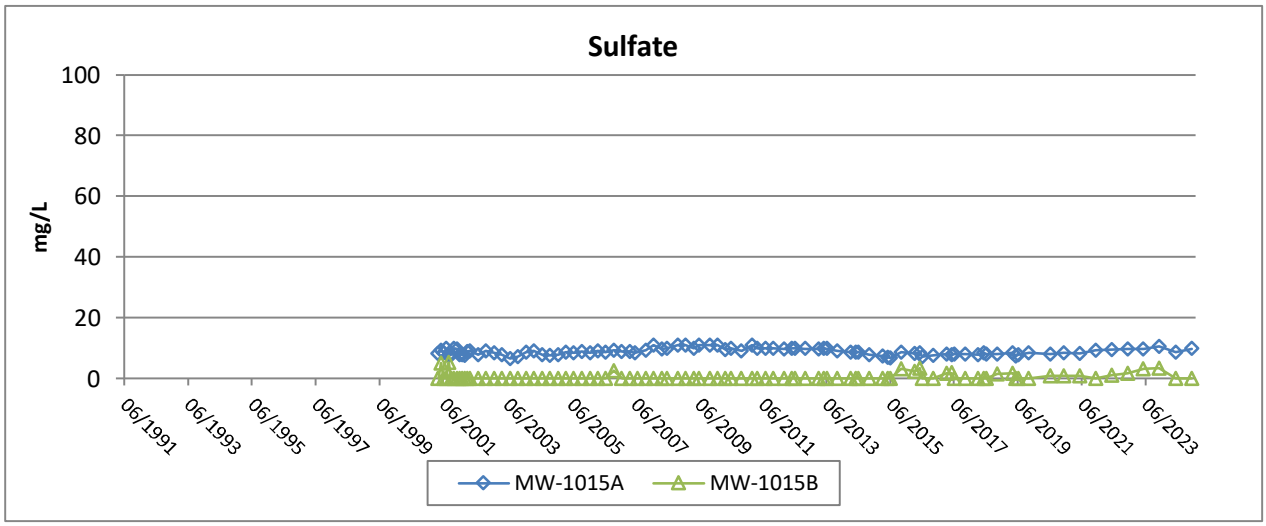
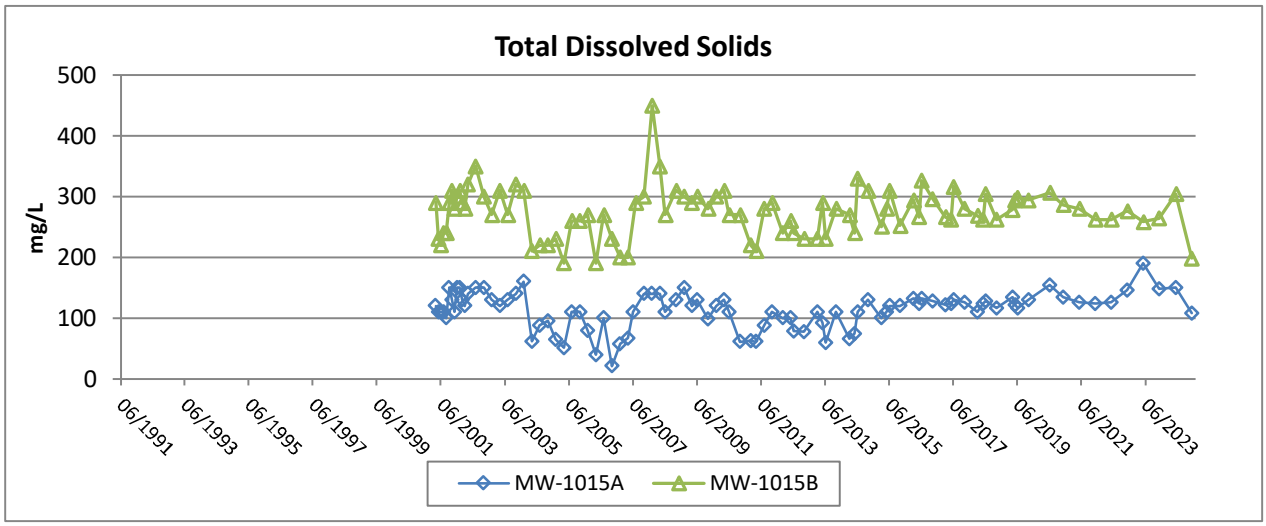
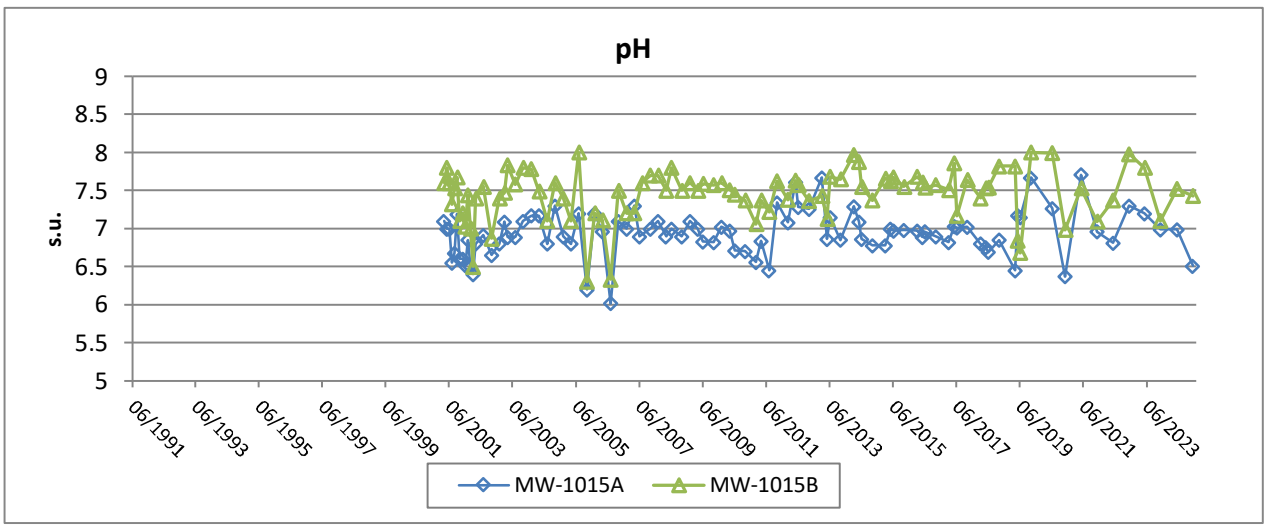
FLAMBEAU MINING COMPANY

Figure B-5b
Groundwater Trend Graphs - Semi-Annual Results
MW-1015A/MW-1015B

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: May 2023 pH result is from lab analysis since a malfunction occurred with the pH field meter.

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Figure B-5c
Groundwater Trend Graphs - Semi-Annual Results
MW-1015A/MW-1015B

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

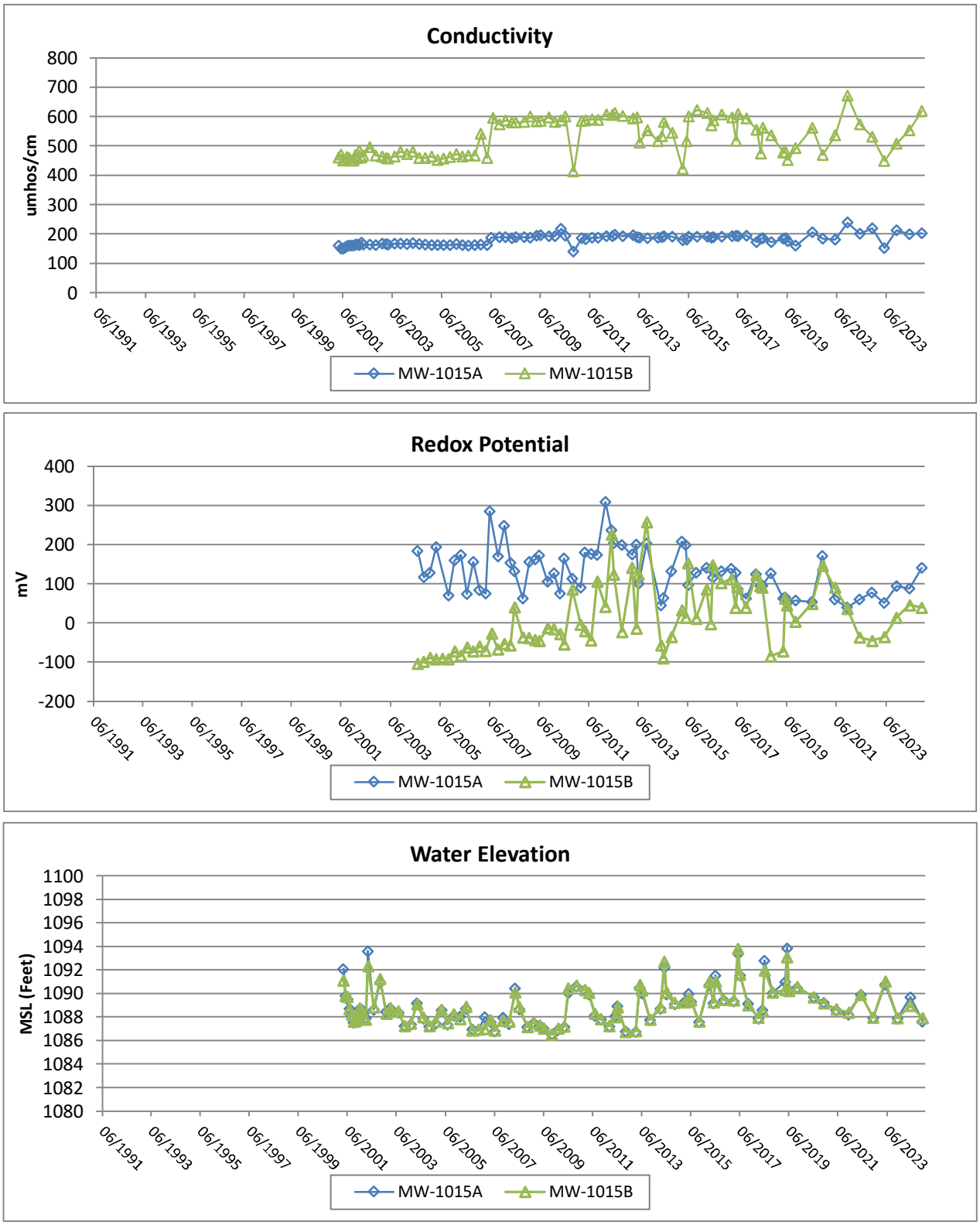

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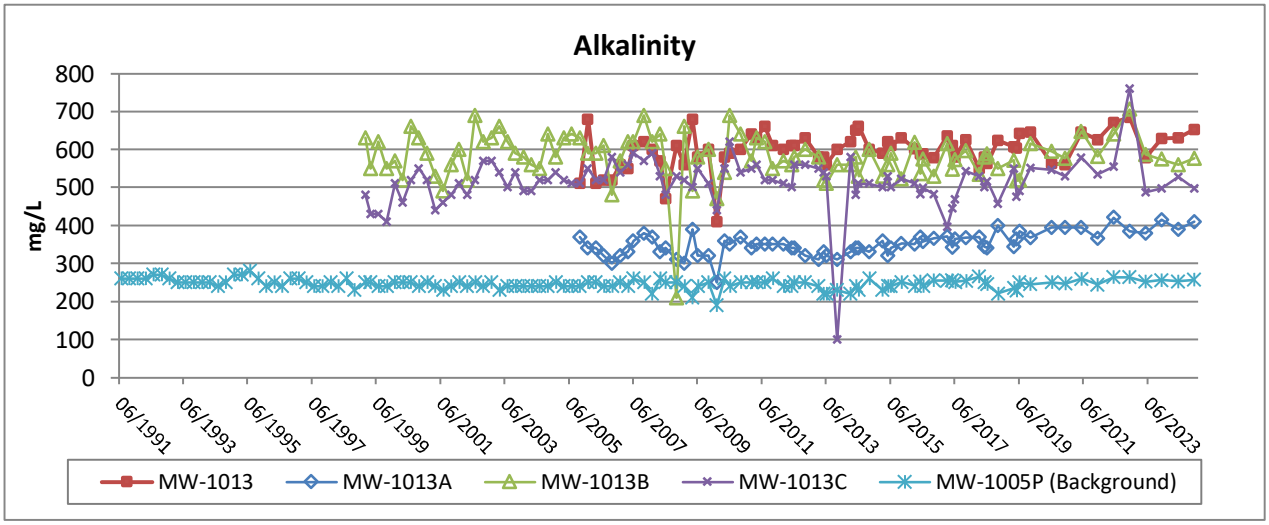
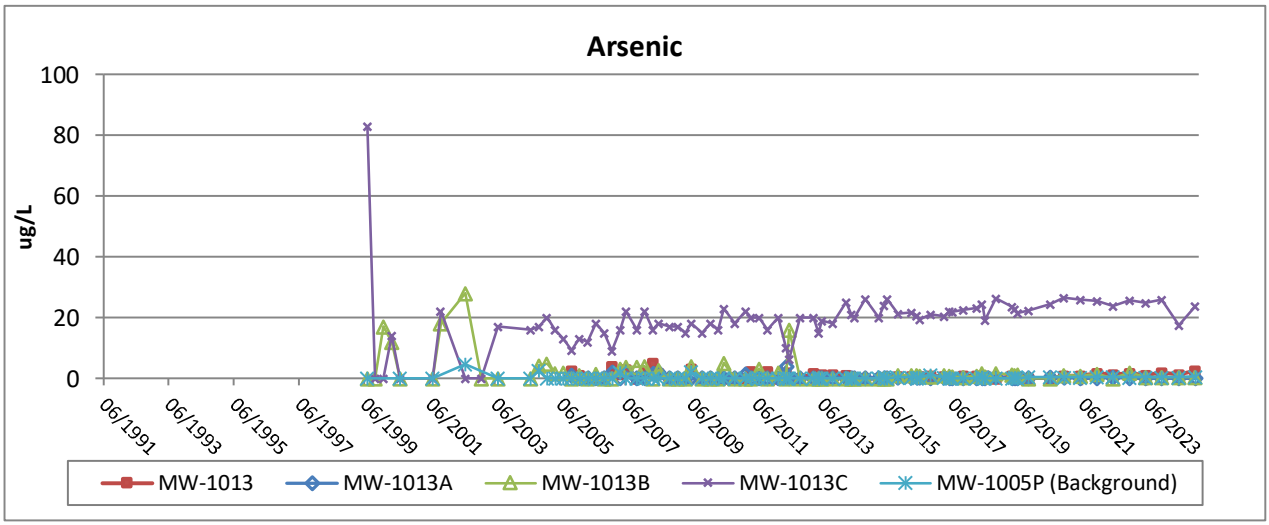
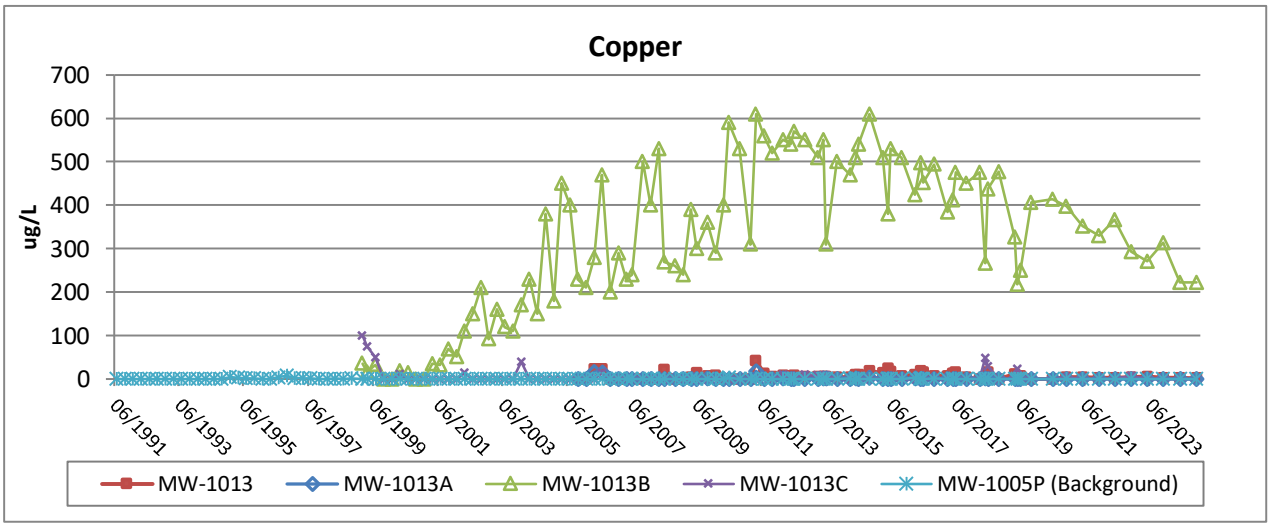
Figure B-5d
Groundwater Trend Graphs - Semi-Annual Results
MW-1015A/MW-1015B

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: Fourth quarter 2005 was the first time MW-1013 had sufficient water recovery for sampling.

Foth

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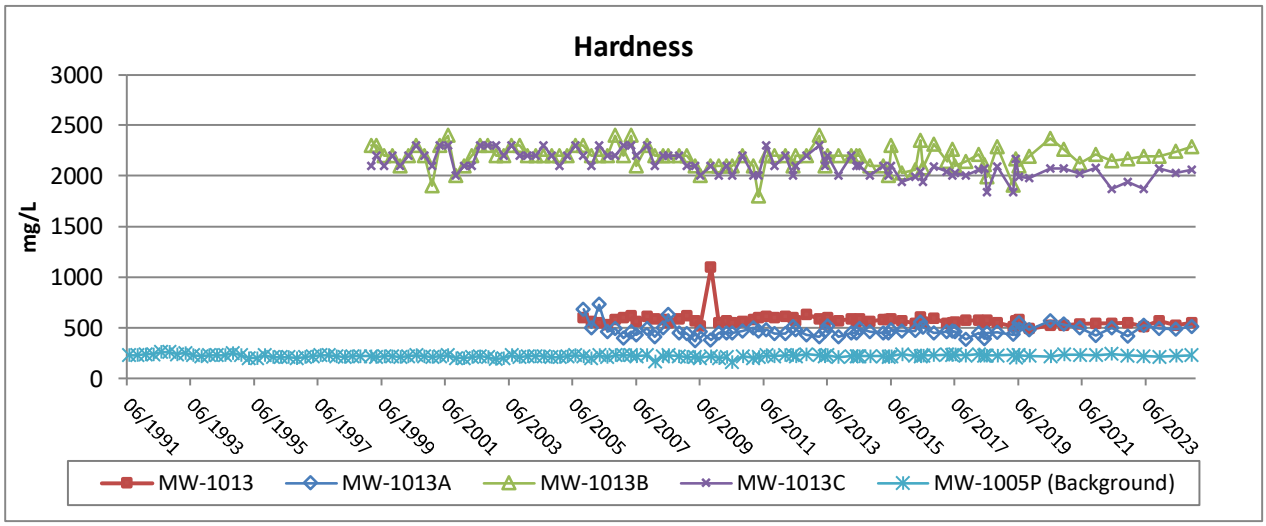
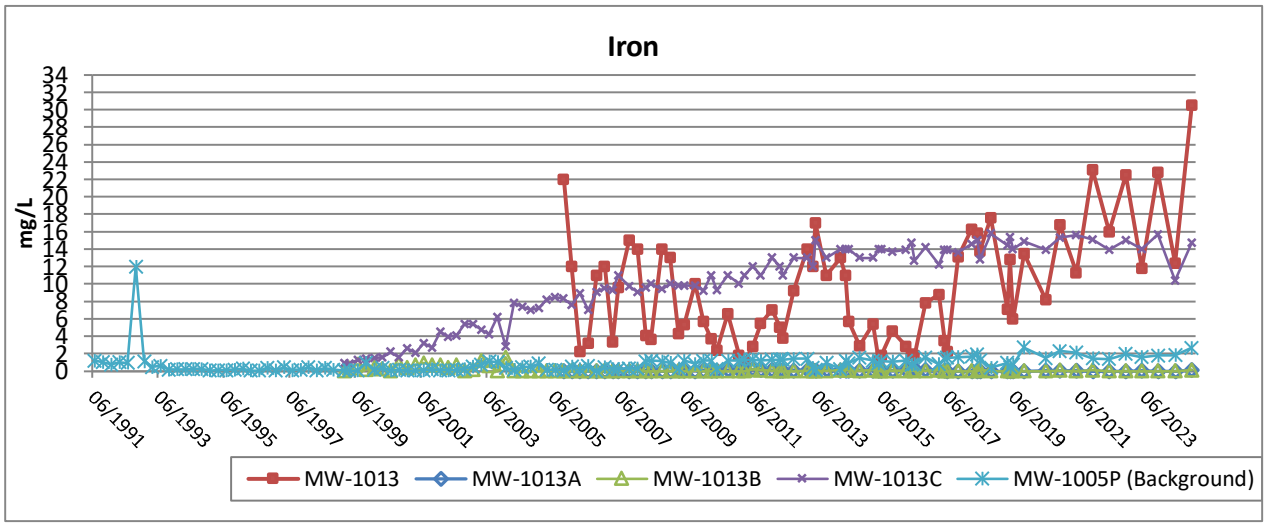
Figure B-6a

Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells)
MW-1013/MW-1013A/MW-1013B/MW-1013C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





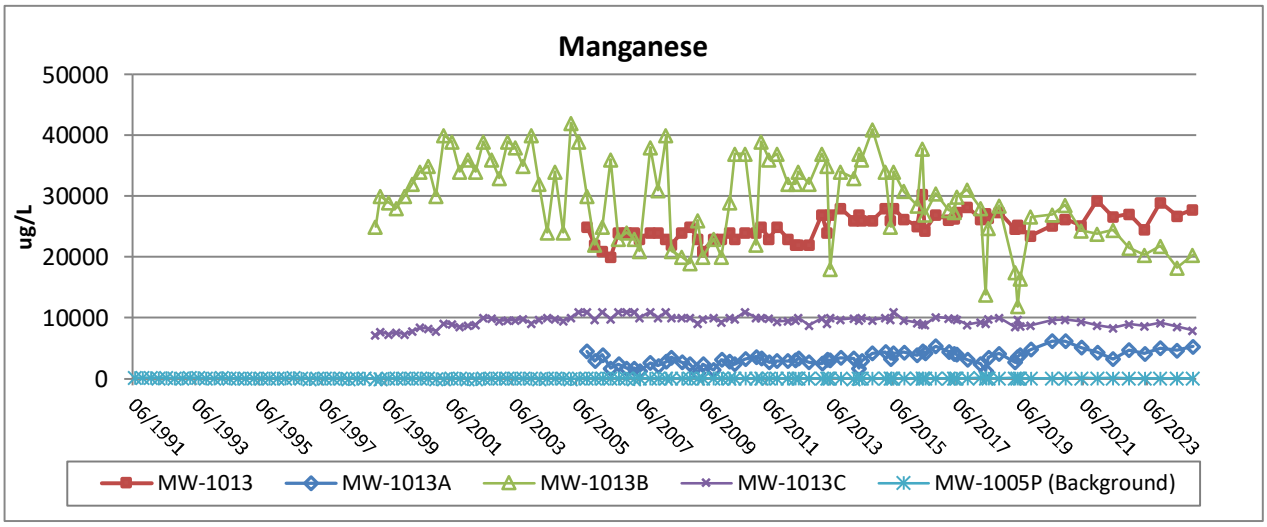


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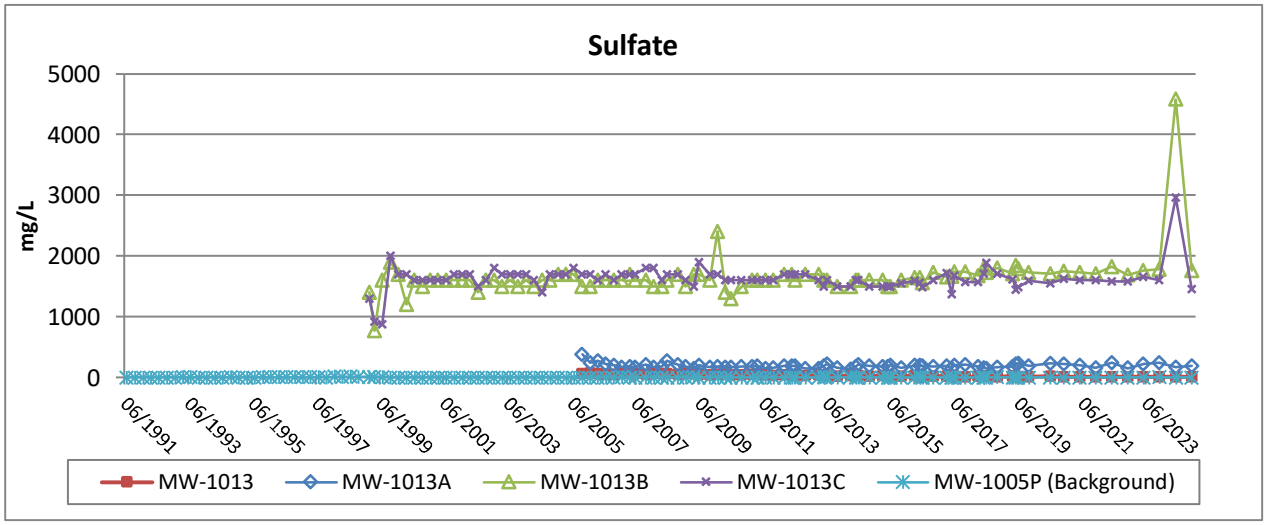
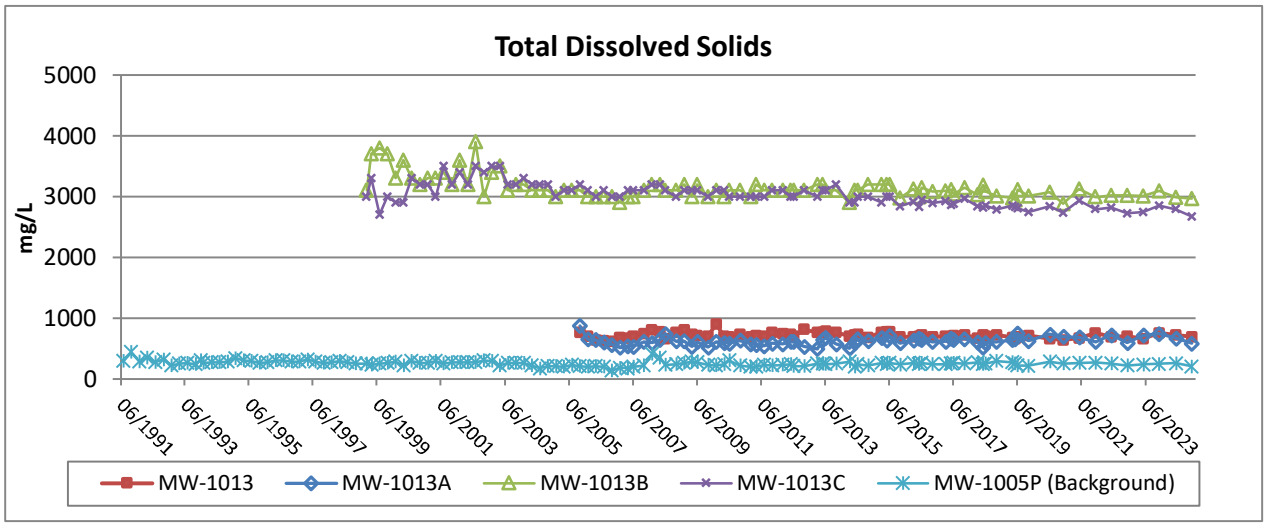
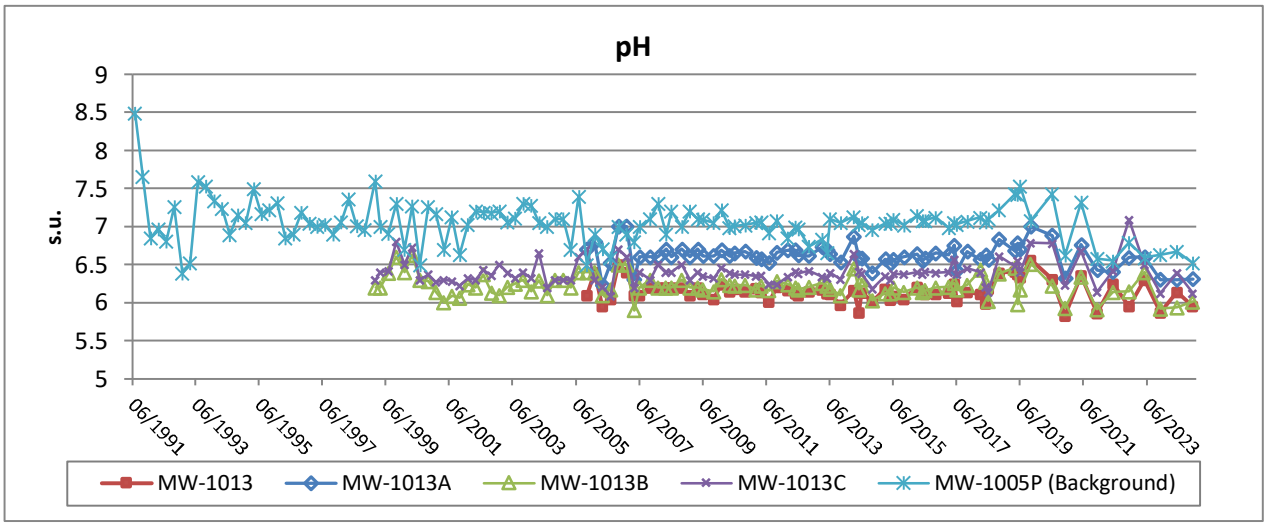
Figure B-6b

Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells)
MW-1013/MW-1013A/MW-1013B/MW-1013C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: May 2023 pH result is from lab analysis since a malfunction occurred with the pH field meter.

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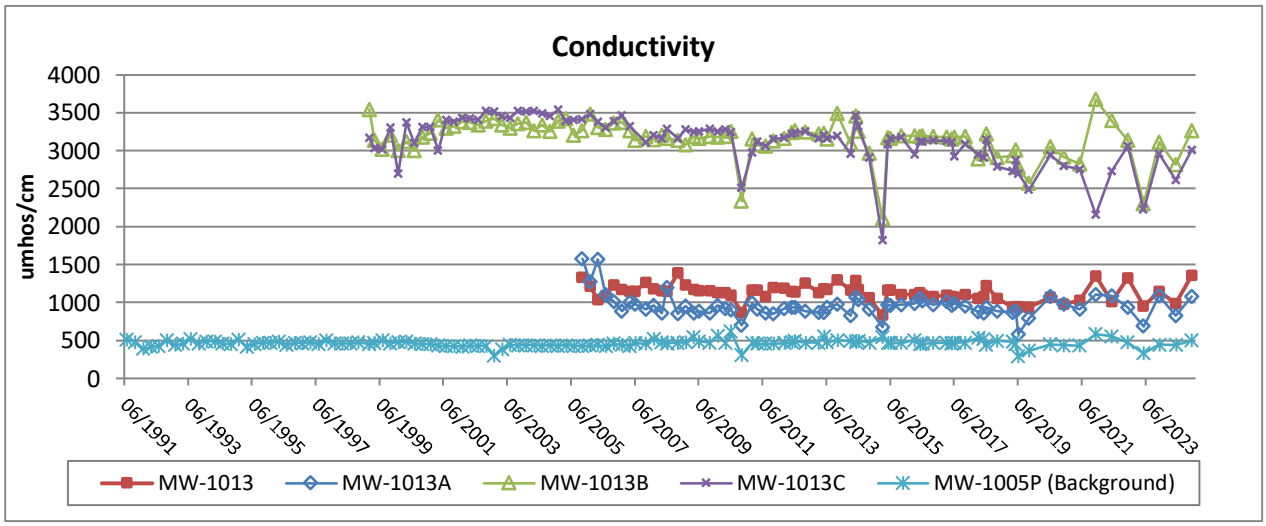
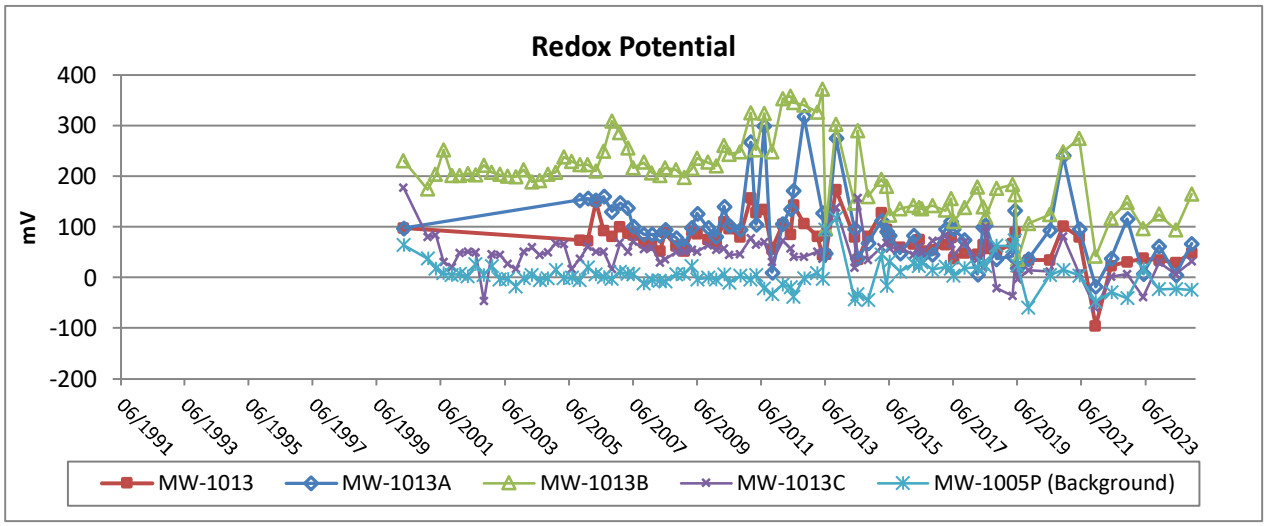
Figure B-6c

Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells)
MW-1013/MW-1013A/MW-1013B/MW-1013C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





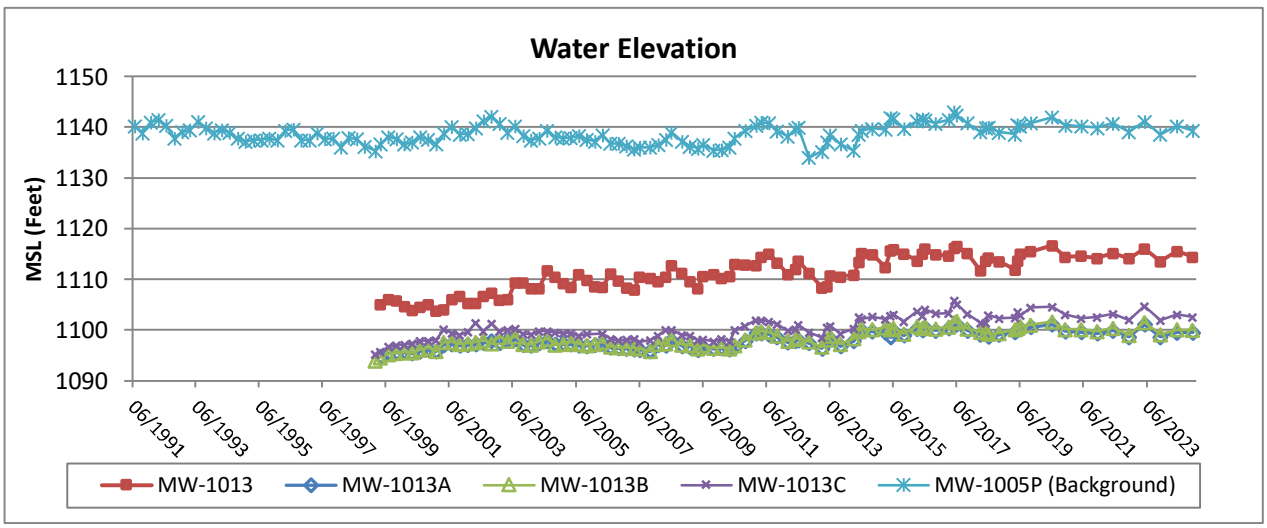


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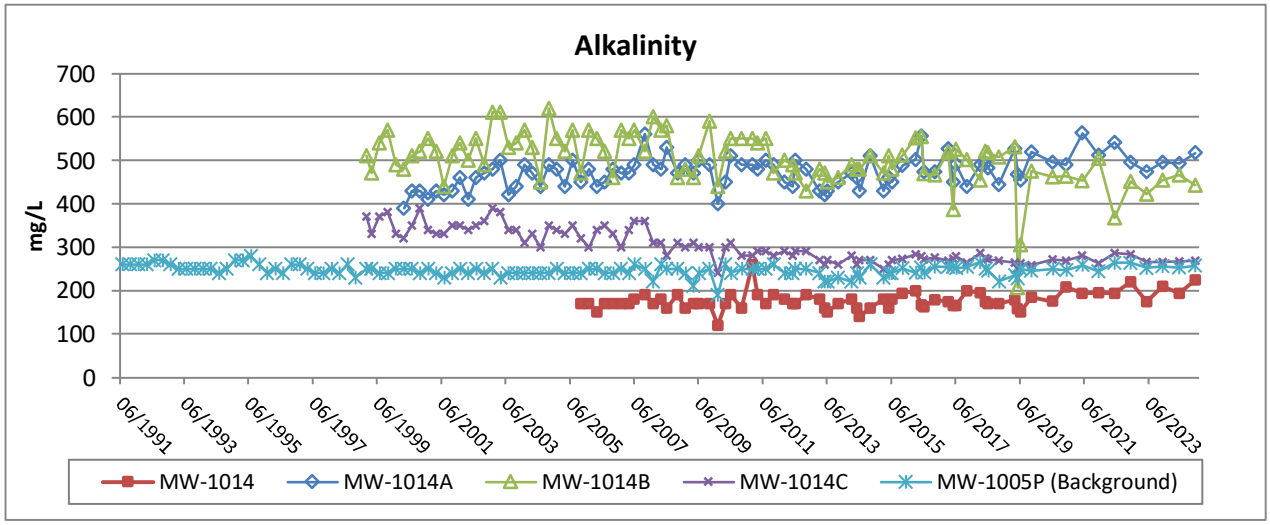
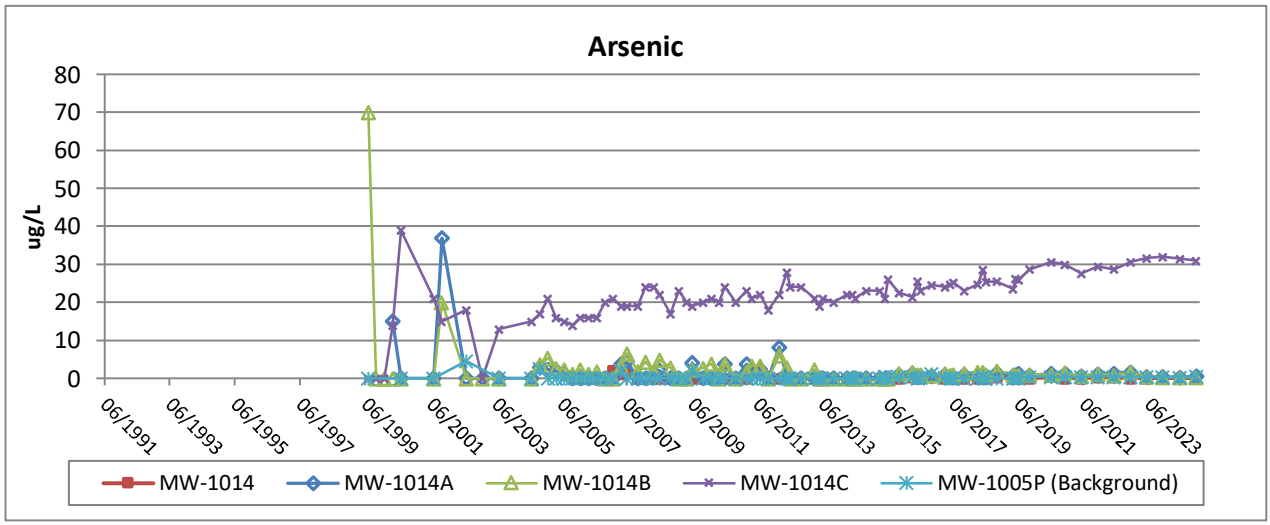
Figure B-6d

Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells)
MW-1013/MW-1013A/MW-1013B/MW-1013C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





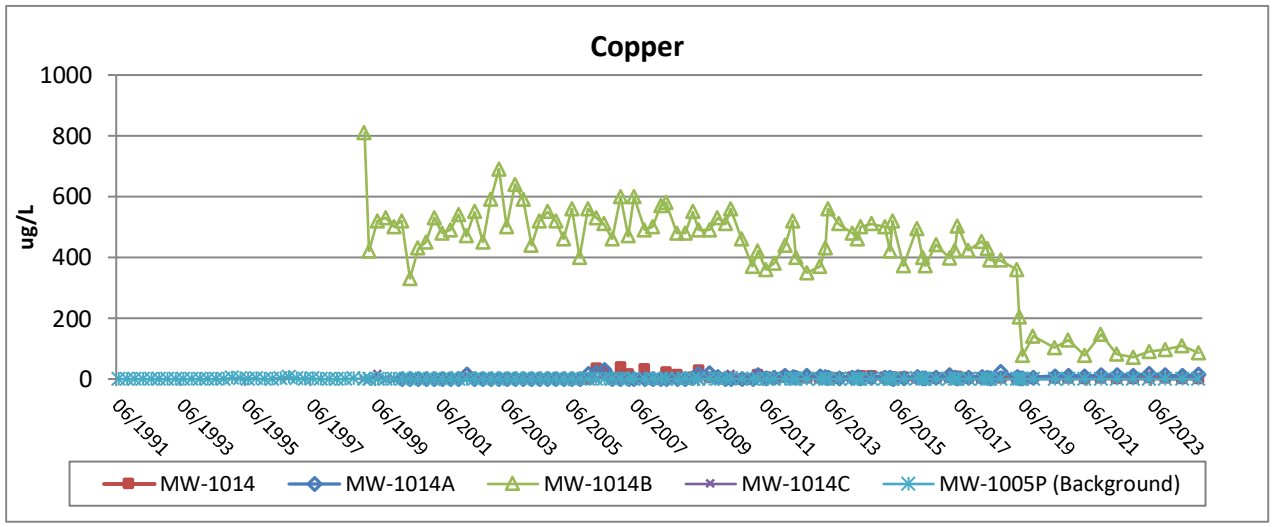


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Figure B-7a

Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells)
MW-1014/MW-1014A/MW-1014B/MW-1014C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

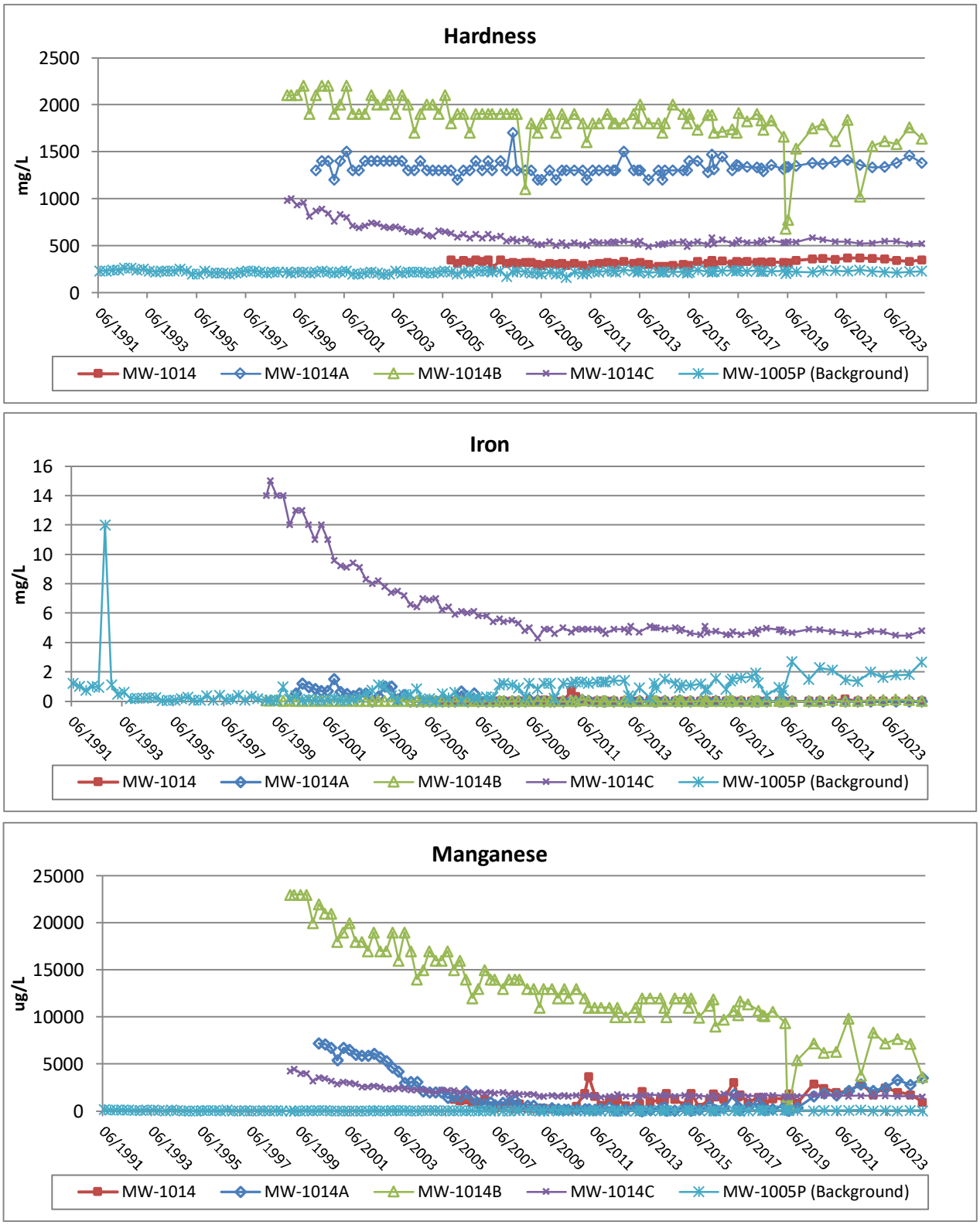

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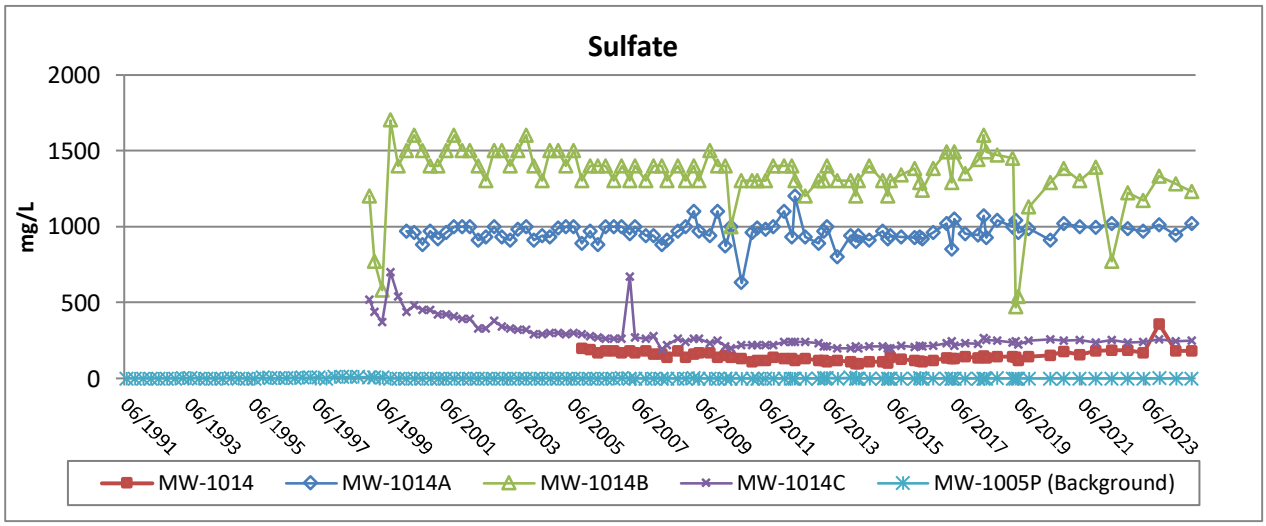
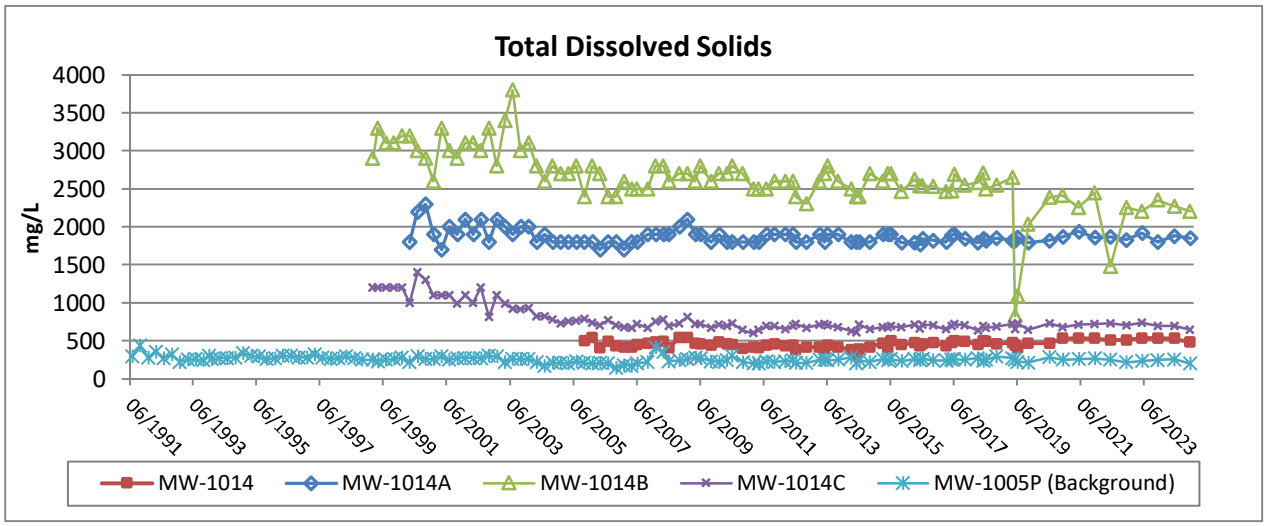
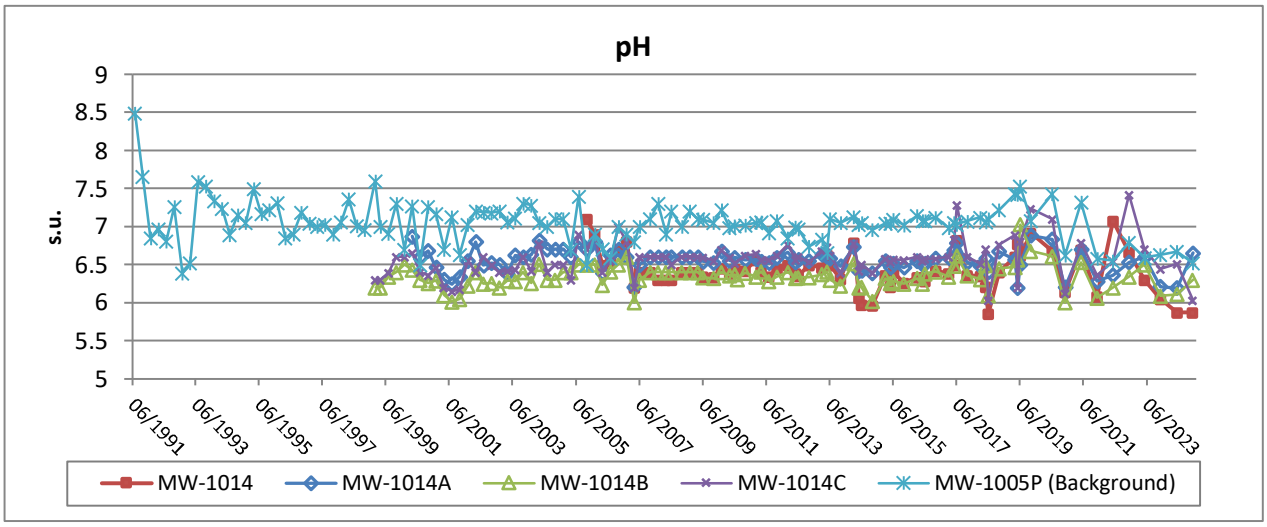
Figure B-7b Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells) MW-1014/MW-1014A/MW-1014B/MW-1014C		
Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







Note: May 2023 pH result is from lab analysis since a malfunction occurred with the pH field meter.

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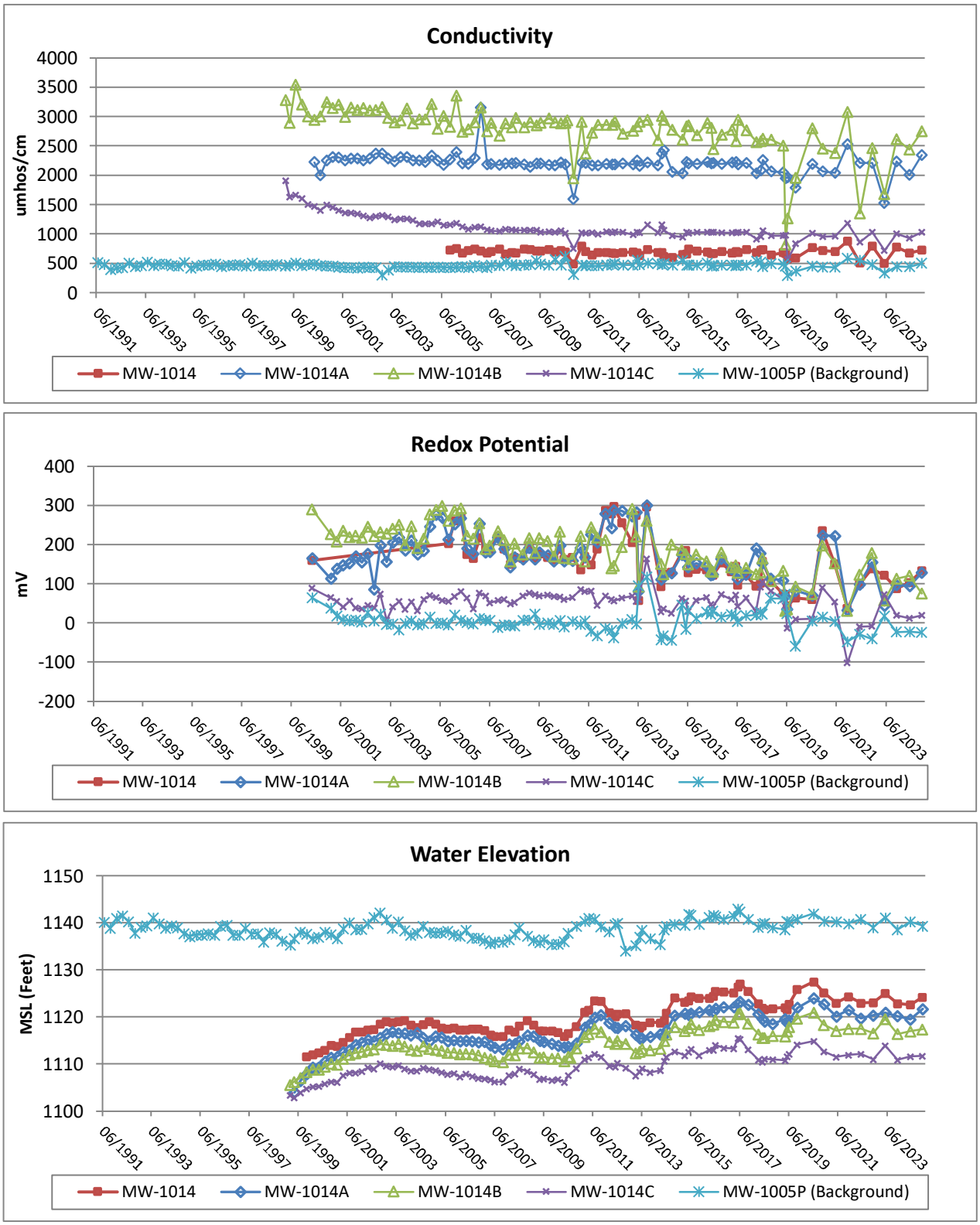
FLAMBEAU MINING COMPANY

Figure B-7c

Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells)
MW-1014/MW-1014A/MW-1014B/MW-1014C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25



FLAMBEAU MINING COMPANY		
Figure B-7d Groundwater Trend Graphs - Semi-Annual Results (In-Pit Wells) MW-1014/MW-1014A/MW-1014B/MW-1014C		
Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

2024 Groundwater Results - Semi-Annual Parameters

Sample Date (yyyy-mm)	Location		Water Elevation ft	Alkalinity as CaCO3 mg/l	Arsenic ug/l	Copper ug/l	Hardness mg/l	Iron mg/l	Manganese ug/l	Sulfate mg/l	Total Dissolved Solids mg/l	pH s.u.	Conductivity umhos/cm	Redox Potential mV
2024-05	MW-1000PR		1090.65	219	17.5	2.1	374	1.63	1820	179	500	6.41	668.00	75.5
2024-05	MW-1000R		1092.24	21.1	< 0.28	3.5	37.6	< 0.0580	11.4	21.8	86.0	5.86	144.00	104.9
2024-05	MW-1002		1092.41	41.0	< 0.28	< 1.9	49.5	< 0.0580	< 1.2	2.5	92.0	5.62	107.00	94.9
2024-05	MW-1002G		1092.17	122	< 0.28	< 1.9	167	< 0.0580	< 1.2	8.0	230	6.10	337.00	81.3
2024-05	MW-1002G	Dup.		125	< 0.28	< 1.9	167	< 0.0580	< 1.2	33.1	244			
2024-05	MW-1004		1110.97	23.3	< 0.28	3.3	35.1	< 0.0580	3.2	8.0	78.0	7.23	67.00	90.0
2024-05	MW-1004P		1107.95	169	0.74	< 1.9	155	0.568	147	< 2.2	186	6.99	287.00	85.0
2024-05	MW-1004S		1111.18	40.3	< 0.28	1.9	68.0	< 0.0580	< 1.2	23.6	106	6.02	129.00	110.1
2024-05	MW-1005		1141.28	63.1	1.4	< 1.9	578	20.8	605	15.0	1020	5.58	1707.00	66.5
2024-05	MW-1005P		1140.24	253	0.30	< 1.9	223	1.81	74.7	< 0.44	256	6.67	439.00	-22.8
2024-05	MW-1005S		1141.11	146	2.7	< 1.9	141	3.87	205	4.3	198	6.69	269.00	-25.8
2024-05	MW-1010P		1089.69	163	20.3	< 1.9	191	< 0.0580	82.6	38.5	236	7.33	335.00	74.7
2024-05	MW-1013		1115.51	630	1.3	3.5	522	12.4	26800	9.1	724	6.14	982.00	28.9
2024-05	MW-1013A		1099.49	389	< 0.28	< 1.9	485	< 0.0580	4650	173	666	6.30	824.00	4.9
2024-05	MW-1013B		1100.08	559	0.34	222	2240	< 0.0580	18200	4580	2980	5.94	2811.00	93.7
2024-05	MW-1013C		1103	527	17.5	< 1.9	2030	10.4	8600	2960	2790	6.39	2613.00	6.3
2024-05	MW-1014		1122.6	194	< 0.28	2.5	334	< 0.0580	1750	182	530	5.87	671.00	102.3
2024-05	MW-1014A		1119.46	492	0.29	11.6	1460	< 0.0580	2760	943	1880	6.19	2001.00	94.0
2024-05	MW-1014B		1116.93	466	0.33	110	1760	0.0812	7160	1280	2270	6.11	2431.00	119.8
2024-05	MW-1014C		1111.61	267	31.5	< 1.9	515	4.46	1620	244	694	6.51	929.00	11.8
2024-05	MW-1014C	Dup.		266	31.6	< 1.9	513	4.41	1600	240	696			
2024-05	MW-1015A		1089.71	92.1	< 0.28	< 1.9	111	< 0.0580	17.0	8.6	150	6.99	199.00	87.5
2024-05	MW-1015B		1088.95	180	< 0.28	< 1.9	160	0.175	46.7	< 2.2	304	7.52	553.00	45.4
2024-11	MW-1000PR		1087.81	216	12.4	6.2	379	0.747	1750	183	478	5.99	764.00	93.9
2024-11	MW-1000R		1088.91	212	< 0.28	33.1	286	< 0.0580	177	95.6	380	5.95	644.00	177.1
2024-11	MW-1002		1090.45	61.1	< 0.28	< 1.9	64.3	< 0.0580	< 1.2	4.4	76.0	5.66	160.00	191.4
2024-11	MW-1002G		1090.3	133	< 0.28	< 1.9	174	< 0.0580	< 1.2	9.5	230	5.85	403.00	179.6
2024-11	MW-1002G	Dup.		133	< 0.28	< 1.9	171	< 0.0580	< 1.2	9.4	220			
2024-11	MW-1004		1107.79	39.3	< 0.28	3.7	46.4	< 0.0580	< 1.2	15.0	34.0	6.14	118.00	191.6
2024-11	MW-1004P		1105.87	173	< 0.28	< 1.9	139	< 0.0580	57.4	2.9	98.0	6.30	324.00	-13.0
2024-11	MW-1004S		1107.84	40.8	< 0.28	2.0	51.3	< 0.0580	< 1.2	20.1	< 8.7	5.94	132.00	125.0
2024-11	MW-1005		1140.54	59.2	0.65	< 1.9	417	9.65	378	14.2	938	5.94	2015.00	103.0
2024-11	MW-1005P		1139.34	257	0.54	< 1.9	229	2.67	68.3	< 2.2	202	6.52	499.00	-24.7
2024-11	MW-1005S		1140.12	156	2.3	< 1.9	136	3.5	188	5.5	178	6.64	321.00	-46.3
2024-11	MW-1010P		1087.57	168	19.1	< 1.9	198	0.0583	85.7	40.7	208	6.96	379.00	94.3
2024-11	MW-1013		1114.36	653	2.5	2.2	552	30.5	27800	6.5	692	5.95	1358.00	48.0
2024-11	MW-1013A		1099.49	409	< 0.28	< 1.9	512	0.107	5280	187	582	6.31	1077.00	66.7
2024-11	MW-1013B		1100.04	576	0.41	222	2290	0.102	20300	1760	2960	6.01	3262.00	164.7
2024-11	MW-1013C		1102.51	498	23.7	< 1.9	2060	14.7	7960	1450	2670	6.12	3011.00	32.0
2024-11	MW-1014		1124.22	225	< 0.28	2.6	350	< 0.0580	963	182	480	5.87	727.00	133.4
2024-11	MW-1014A		1121.68	517	0.49	15.7	1380	< 0.0580	3510	1020	1850	6.65	2339.00	127.8
2024-11	MW-1014B		1117.41	442	0.30	85.8	1640	< 0.0580	3620	1230	2200	6.30	2750.00	75.0
2024-11	MW-1014C		1111.69	269	30.9	< 1.9	522	4.79	1530	247	642	6.03	1029.00	19.0
2024-11	MW-1014C	Dup.		272	31.9	< 1.9	537	4.87	1580	246	614			
2024-11	MW-1015A		1087.64	98.4	< 0.28	< 1.9	98.1	< 0.0580	14.2	9.8	108	6.51	203.00	141.0
2024-11	MW-1015B		1087.9	187	< 0.28	< 1.9	147	0.159	42.7	< 2.2	198	7.43	619.00	39.0

Attachment 2

Groundwater - Annual Parameters

Trend Analysis

Trend Graphs

2024 Data

Trend Analysis Results - Groundwater (Annual Parameters)
Year Ending 2024

	Calcium	Chloride	Lead	Magnesium	Potassium	Zinc
MW-1000PR						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-7	-1	-2	3	-2	8
p-Level	0.159	1.000	0.816	0.650	0.816	0.084
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	30	24	30	30	22	38
Mann-Kendall S	-354	-66	41	-358	-63	-466
p-Level	0.000	0.108	0.478	0.000	0.080	0.000
Trend	-			-		-
MW-1000R						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-6	-6	-4	-6	-6	0
p-Level	0.234	0.234	0.484	0.234	0.234	1
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	14	14	14	14	14	14
Mann-Kendall S	-43	21	-7	-45	-52	-7
p-Level	0.02	0.28	0.748	0.014	0.004	0.748
Trend					-	
MW-1010P						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	2	5	-2	8	-1	0
p-Level	0.816	0.359	0.816	0.084	1.000	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	30	24	30	30	22	38
Mann-Kendall S	321	139	24	313	-1	54
p-Level	0.000	0.000	0.685	0.000	1.000	0.508
Trend	+	+		+		
MW-1002						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	0	0	0	-1	-2	0
p-Level	1.000	1.000	1.000	1.000	0.816	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	25	21	26	25	21	36
Mann-Kendall S	72	124	1	75	30	0
p-Level	0.098	0.000	1.000	0.084	0.386	1.000
Trend		+				
MW-1002G						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	3	8	0	5	4	0
p-Level	0.650	0.084	1.000	0.359	0.484	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	25	21	26	25	21	36
Mann-Kendall S	214	166	0	218	65	-25
p-Level	0.000	0.000	1.000	0.000	0.052	0.746
Trend	+	+		+		

Trend Analysis Results - Groundwater (Annual Parameters)
Year Ending 2024

	Calcium	Chloride	Lead	Magnesium	Potassium	Zinc
MW-1004						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	0	-2	0	0	-4	0
p-Level	1	0.816	1	1	0.484	1
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	14	14	14	14	14	14
Mann-Kendall S	-40	31	-3	-45	-6	-3
p-Level	0.031	0.1	0.914	0.014	0.789	0.914
Trend						
MW-1004S						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	0	-4	0	-2	0	0
p-Level	1.000	0.484	1.000	0.816	1.000	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	28	22	28	28	22	37
Mann-Kendall S	60	-139	4	29	-55	0
p-Level	0.246	0.000	0.954	0.583	0.128	1.000
Trend		-				
MW-1004P						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-6	-2	0	-2	-6	0
p-Level	0.234	0.816	1.000	0.816	0.234	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	28	22	28	28	22	37
Mann-Kendall S	139	76	0	110	18	0
p-Level	0.006	0.033	1.000	0.030	0.636	1.000
Trend	+					
MW-1005						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	1	2	0	2	4	0
p-Level	1.000	0.816	1.000	0.816	0.484	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	25	21	26	25	21	36
Mann-Kendall S	147	135	-3	155	146	19
p-Level	0.000	0.000	0.966	0.000	0.000	0.808
Trend	+	+		+	+	
MW-1005S						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	6	6	0	6	2	0
p-Level	0.234	0.234	1.000	0.234	0.816	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	25	21	26	25	21	36
Mann-Kendall S	-105	70	11	-88	-79	0
p-Level	0.015	0.036	0.828	0.042	0.017	1.000
Trend						

Trend Analysis Results - Groundwater (Annual Parameters)
Year Ending 2024

	Calcium	Chloride	Lead	Magnesium	Potassium	Zinc
MW-1005P						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	2	1	2	2	0	4
p-Level	0.816	1.000	0.816	0.816	1.000	0.484
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	26	21	26	26	21	36
Mann-Kendall S	52	75	25	58	15	58
p-Level	0.264	0.024	0.600	0.212	0.676	0.440
Trend						
MW-1015A						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	5	10	0	7	6	0
p-Level	0.359	0.016	1.000	0.159	0.234	1.000
Trend		+				
Trend Results for All Data Since Oct. 1997						
Sample Size	25	20	35	25	20	40
Mann-Kendall S	146	105	15	175	1	0
p-Level	0.000	0.000	0.844	0.000	0.987	1.000
Trend	+	+		+		
MW-1015B						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-2	-2	0	0	0	0
p-Level	0.816	0.816	1.000	1.000	1.000	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	25	20	35	25	20	40
Mann-Kendall S	143	35	11	147	3	0
p-Level	0.000	0.274	0.888	0.000	0.949	1.000
Trend	+			+		
MW-1013						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-3	-4	0	-2	2	0
p-Level	0.650	0.484	1.000	0.816	0.816	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	20	20	20	20	19	20
Mann-Kendall S	-52	-154	-66	-22	-51	1
p-Level	0.098	0.000	0.034	0.500	0.080	0.987
Trend		-				
MW-1013A						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-6	8	0	0	-2	0
p-Level	0.234	0.084	1.000	1.000	0.816	1.000
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	20	20	20	20	19	20
Mann-Kendall S	10	13	-25	38	-20	-11
p-Level	0.774	0.701	0.441	0.234	0.512	0.749
Trend						

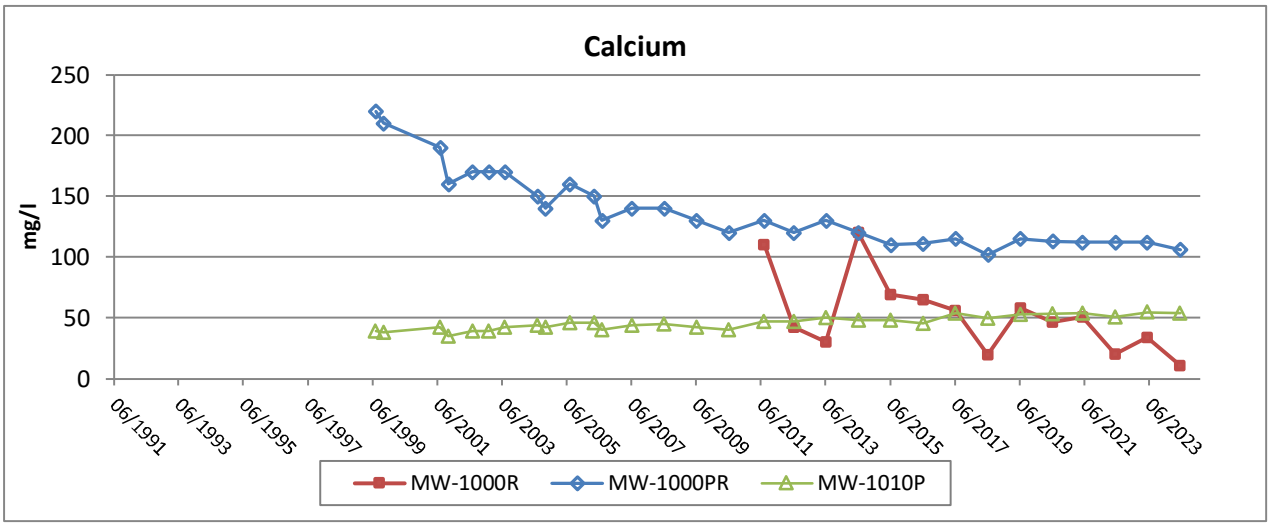
Trend Analysis Results - Groundwater (Annual Parameters)
Year Ending 2024

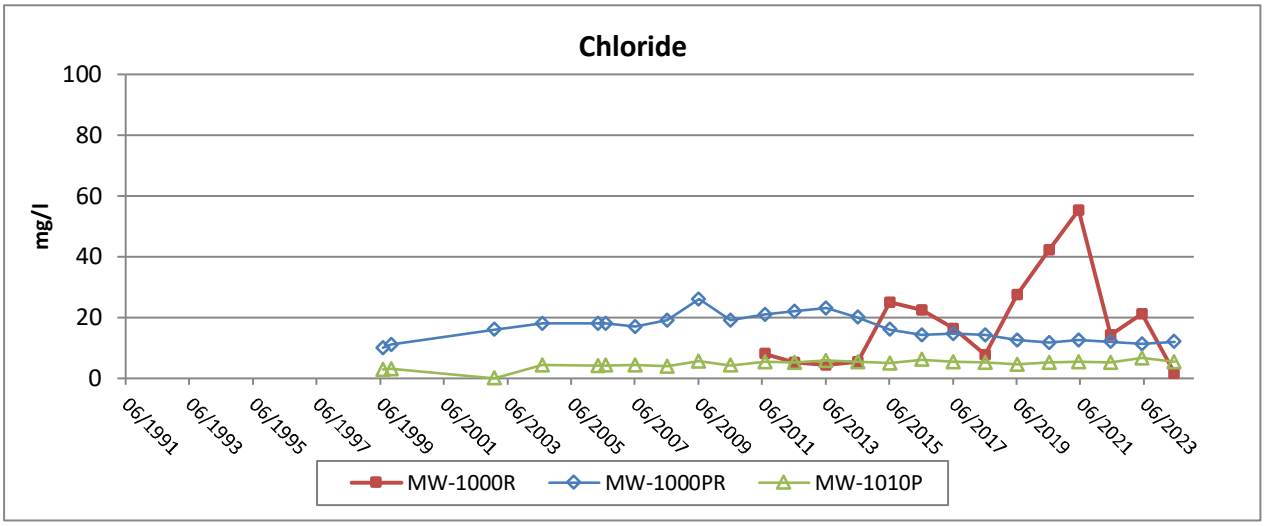
	Calcium	Chloride	Lead	Magnesium	Potassium	Zinc
MW-1013B						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-2	-3	0	2	0	-4
p-Level	0.816	0.650	1.000	0.816	1.000	0.484
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	33	27	32	33	25	40
Mann-Kendall S	-129	26	12	-40	-128	177
p-Level	0.047	0.606	0.860	0.548	0.002	0.039
Trend					-	
MW-1013C						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-3	0	0	-1	-4	-8
p-Level	0.650	1.000	1.000	1.000	0.484	0.084
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	33	27	32	33	25	40
Mann-Kendall S	-97	-43	45	-295	-97	-438
p-Level	0.138	0.384	0.478	0.000	0.024	0.000
Trend				-		-
MW-1014						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-6	-9	0	-2	-2	0
p-Level	0.234	0.050	1.000	0.816	0.816	1.000
Trend		-				
Trend Results for All Data Since Oct. 1997						
Sample Size	20	20	20	20	19	20
Mann-Kendall S	66	75	-5	79	-5	-63
p-Level	0.034	0.015	0.898	0.011	0.890	0.043
Trend						
MW-1014A						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	2	-1	-2	4	-2	10
p-Level	0.816	1.000	0.816	0.484	0.816	0.016
Trend						+
Trend Results for All Data Since Oct. 1997						
Sample Size	30	24	29	30	22	37
Mann-Kendall S	-2	38	15	31	-71	301
p-Level	0.986	0.362	0.795	0.596	0.048	0.000
Trend						+
MW-1014B						
Trend Results for Most Recent 5 Years						
Sample Size	4	5	5	5	5	5
Mann-Kendall S	-4	-6	0	2	2	-2
p-Level	0.334	0.234	1.000	0.816	0.816	0.816
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	32	26	32	33	25	40
Mann-Kendall S	-277	-11	35	-357	-143	-574
p-Level	0.000	0.828	0.585	0.000	0.000	0.000
Trend	-			-	-	-

Trend Analysis Results - Groundwater (Annual Parameters)
Year Ending 2024

	Calcium	Chloride	Lead	Magnesium	Potassium	Zinc
MW-1014C						
Trend Results for Most Recent 5 Years						
Sample Size	5	5	5	5	5	5
Mann-Kendall S	-7	-5	0	-6	-8	-8
p-Level	0.159	0.359	1.000	0.234	0.084	0.084
Trend						
Trend Results for All Data Since Oct. 1997						
Sample Size	33	27	32	33	25	40
Mann-Kendall S	-315	199	-7	-408	-136	-744
p-Level	0.000	0.000	0.923	0.000	0.002	0.000
Trend	-	+		-	-	-

Notes: Overall increasing trend denoted by "+".
Overall decreasing trend denoted by "-"
Long term trend tests performed at a Type I (two-tailed) error rate of 0.01.
5-Year Trend tests performed at a Type I (two-tailed) error rate of 0.05.
N/A - No trend test performed due to insufficient data.





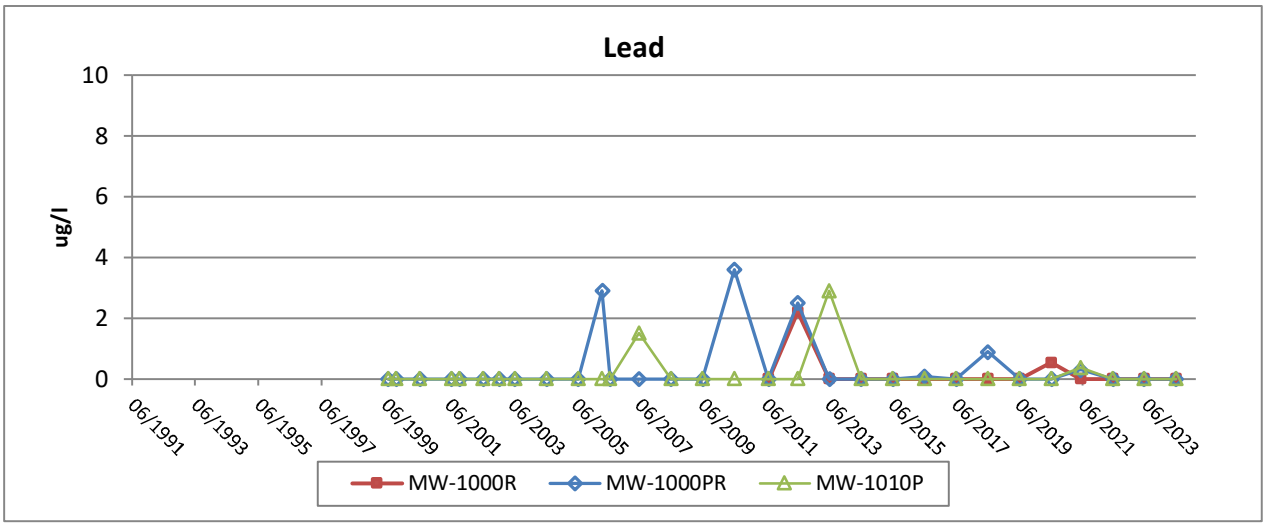


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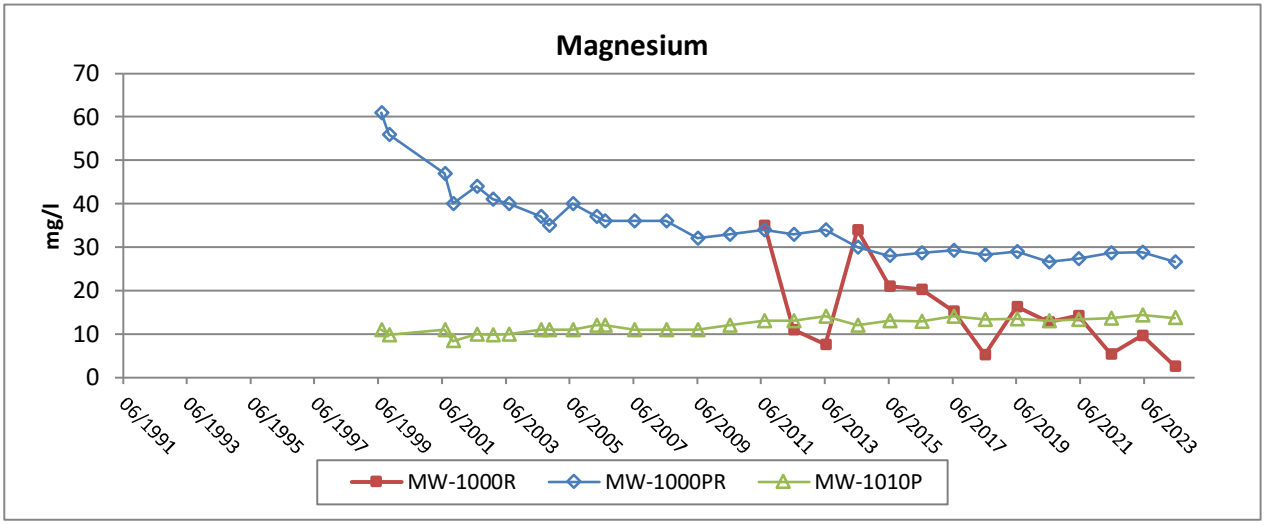
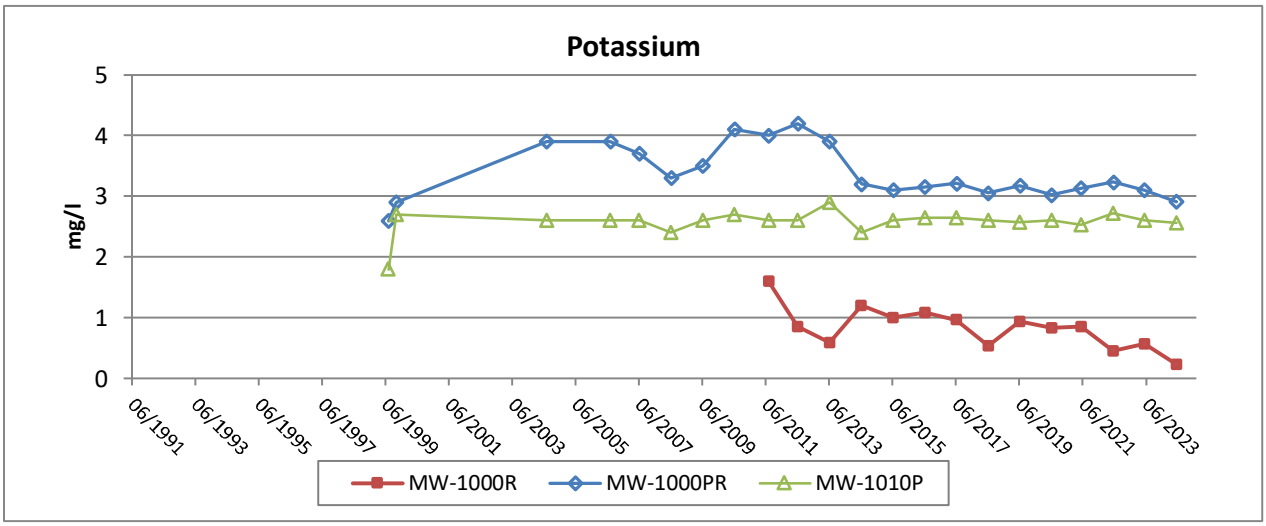
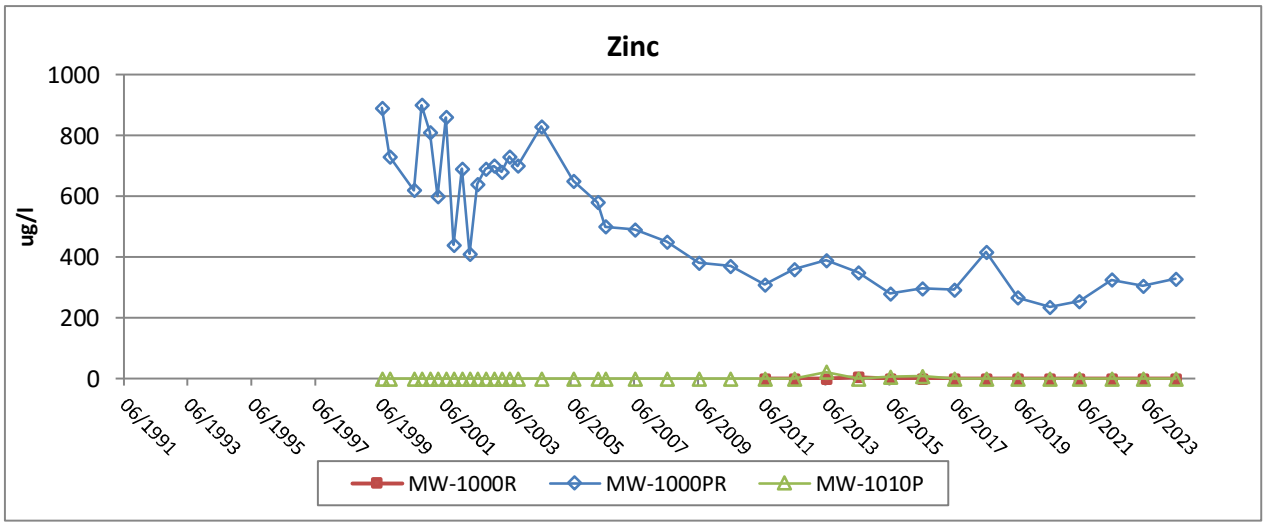
Figure B-8a
Groundwater Trend Graphs - Annual Results
MW-1000R/MW-1000PR/MW-1010P

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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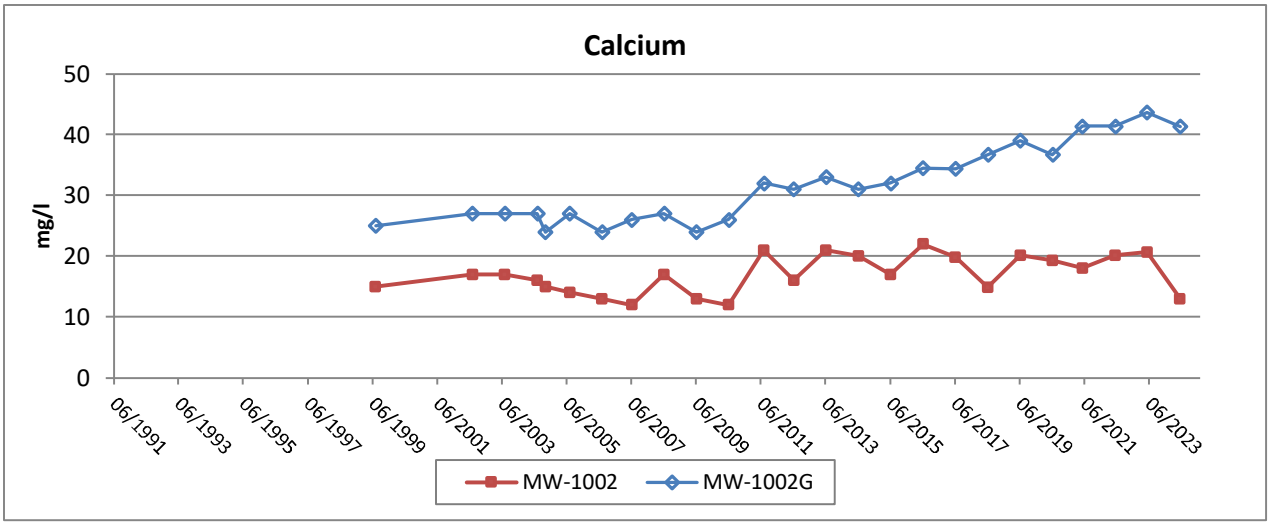
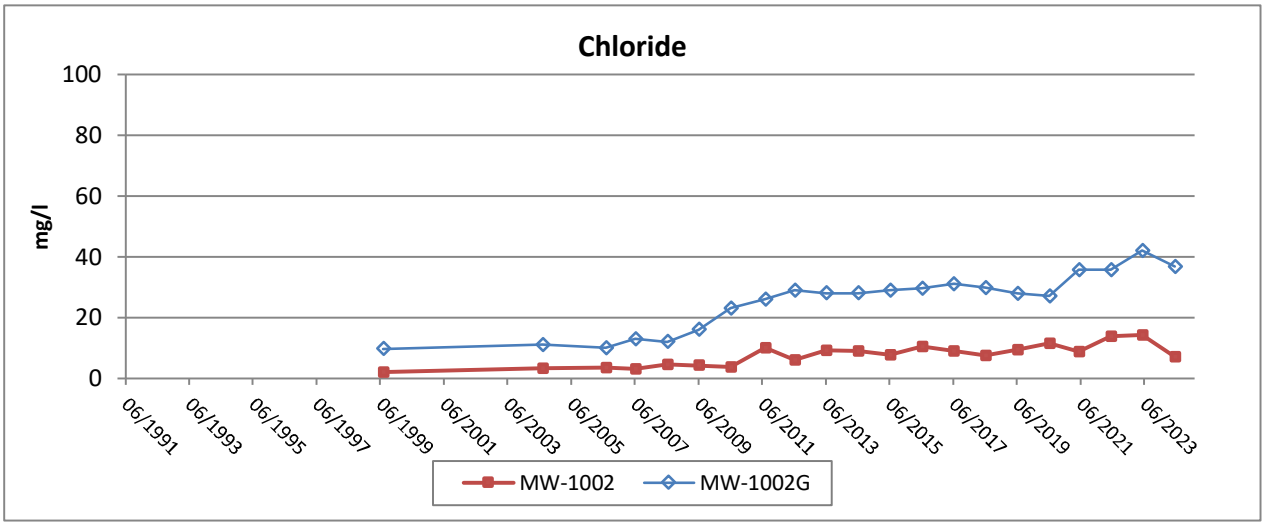
FLAMBEAU MINING COMPANY

Figure B-8b
Groundwater Trend Graphs - Annual Results
MW-1000R/MW-1000PR/MW-1010P

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





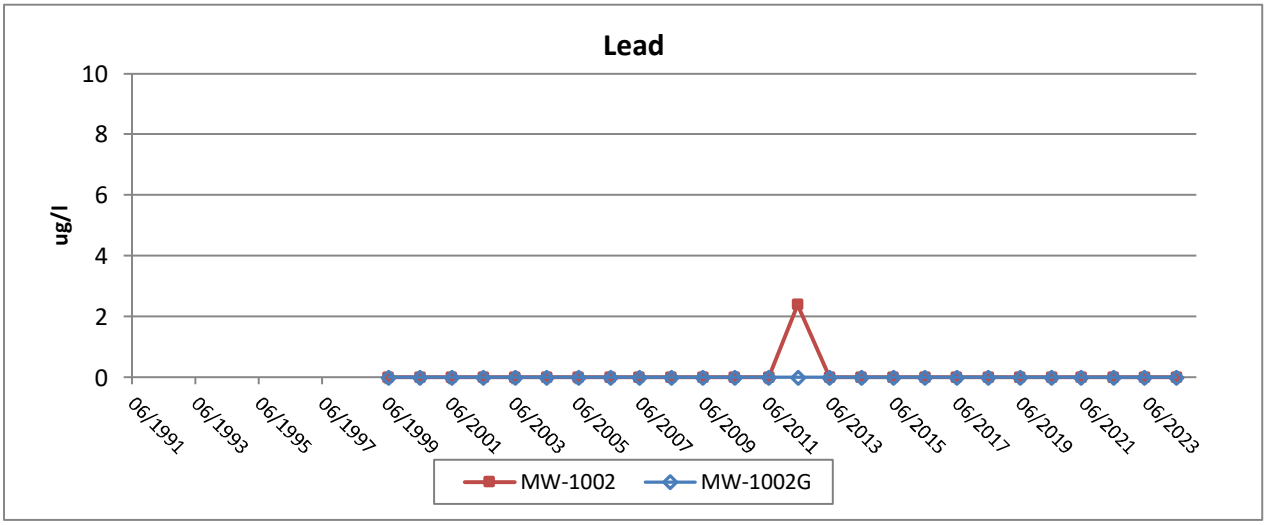


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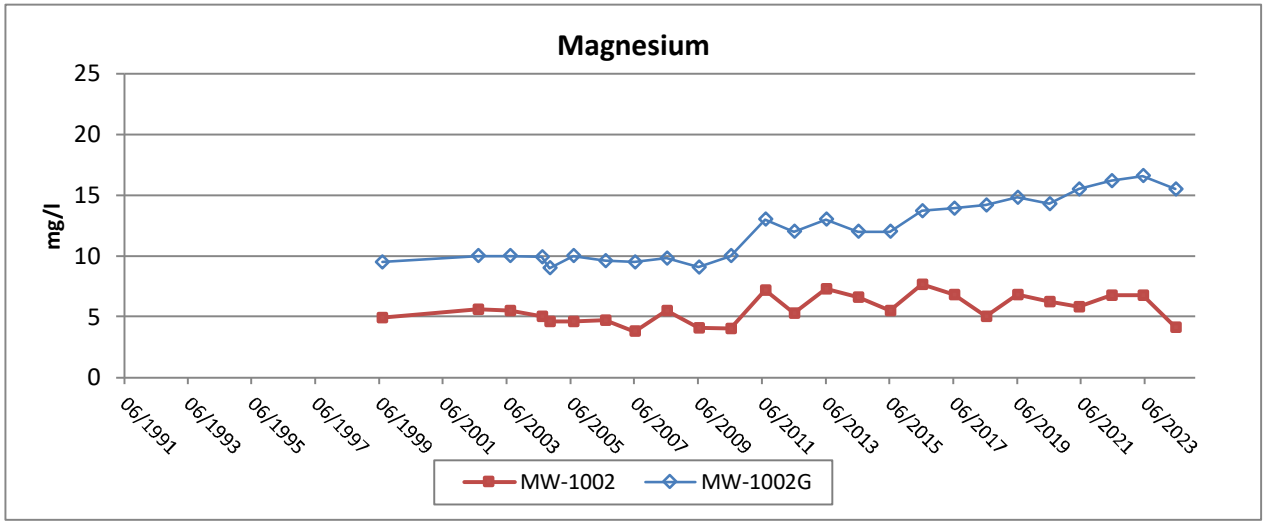
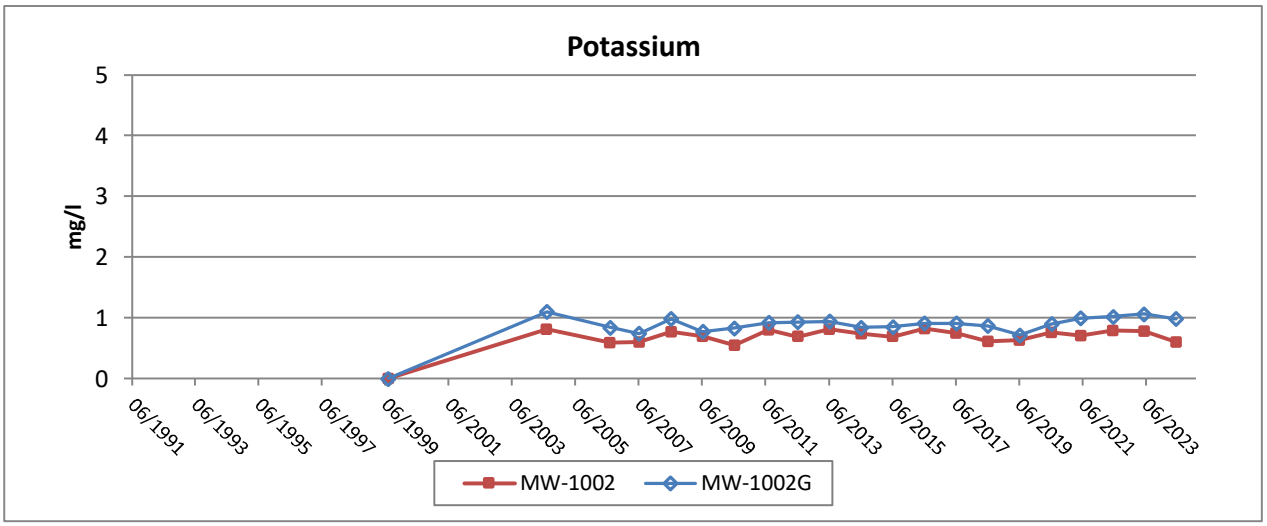
Figure B-9a
Groundwater Trend Graphs - Annual Results
MW-1002/MW-1002G

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





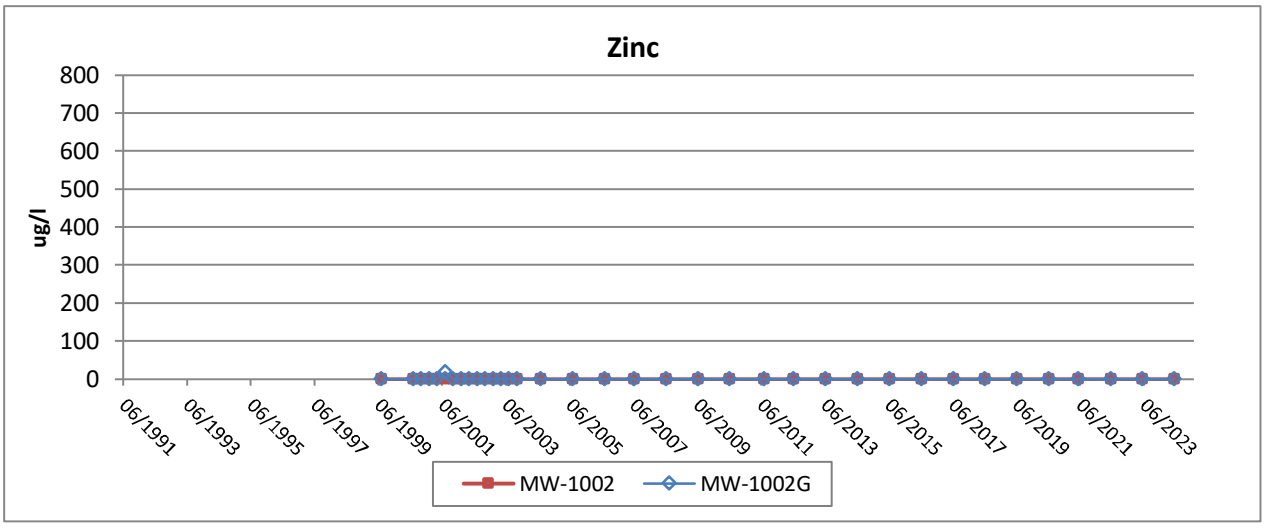


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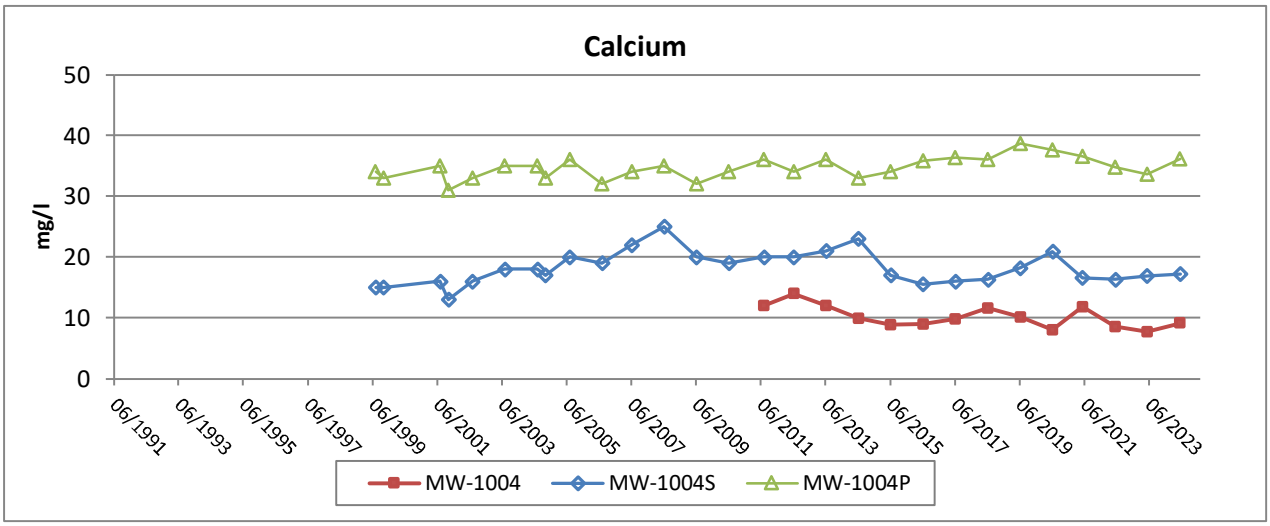
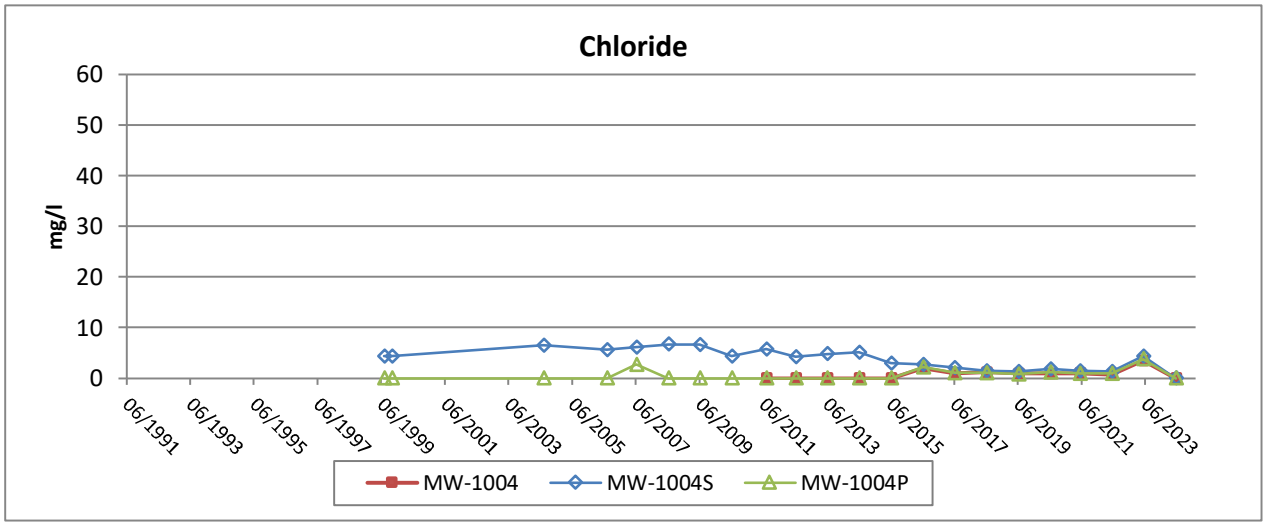
Figure B-9b
Groundwater Trend Graphs - Annual Results
MW-1002/MW-1002G

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





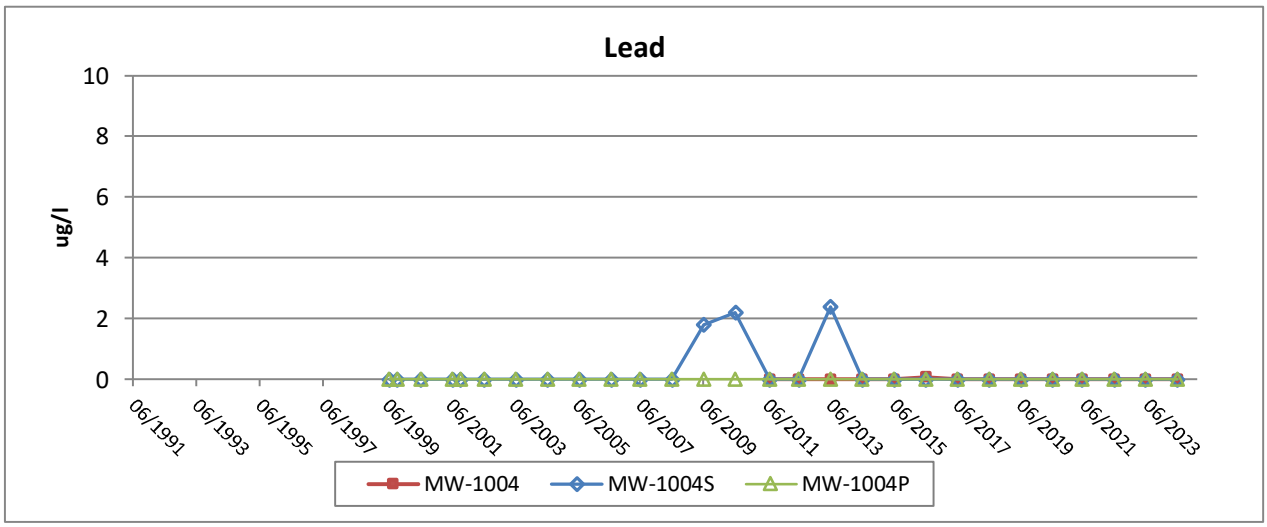


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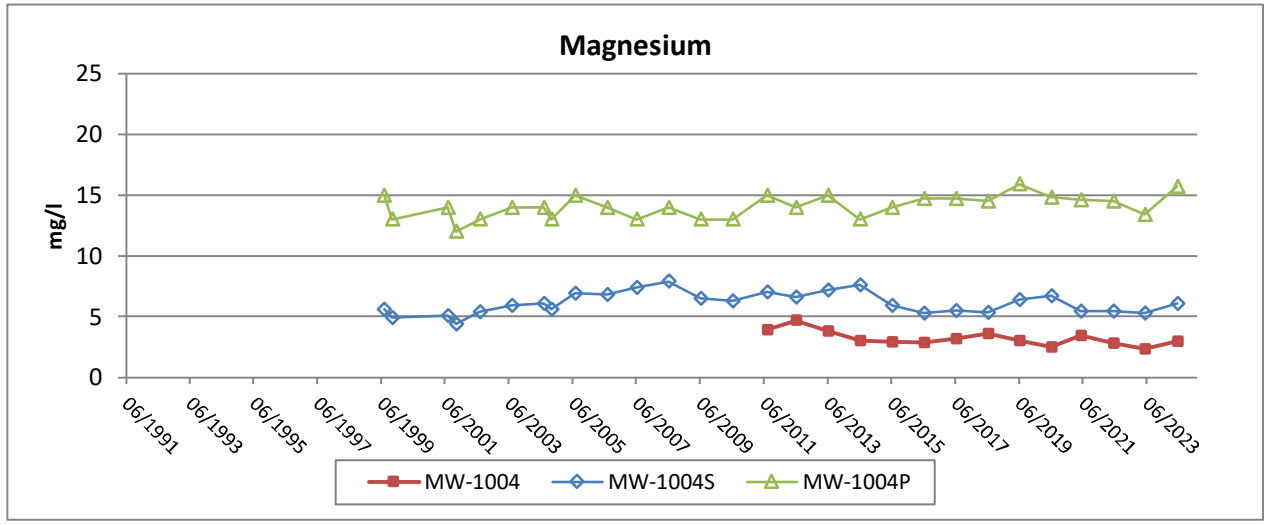
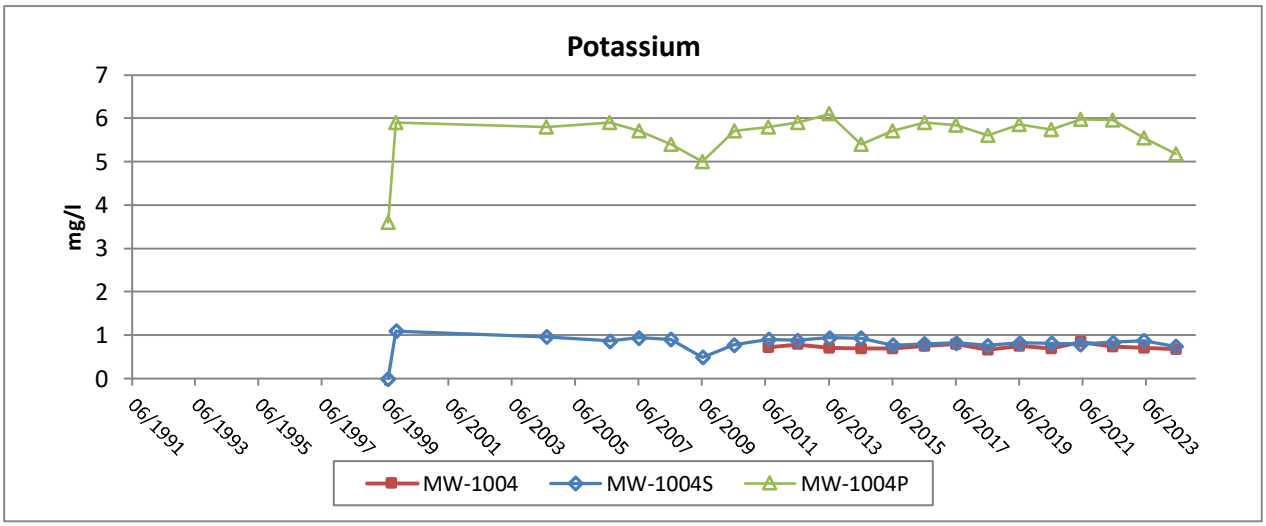
Figure B-10a
Groundwater Trend Graphs - Annual Results
MW-1004/MW-1004S/MW-1004P

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





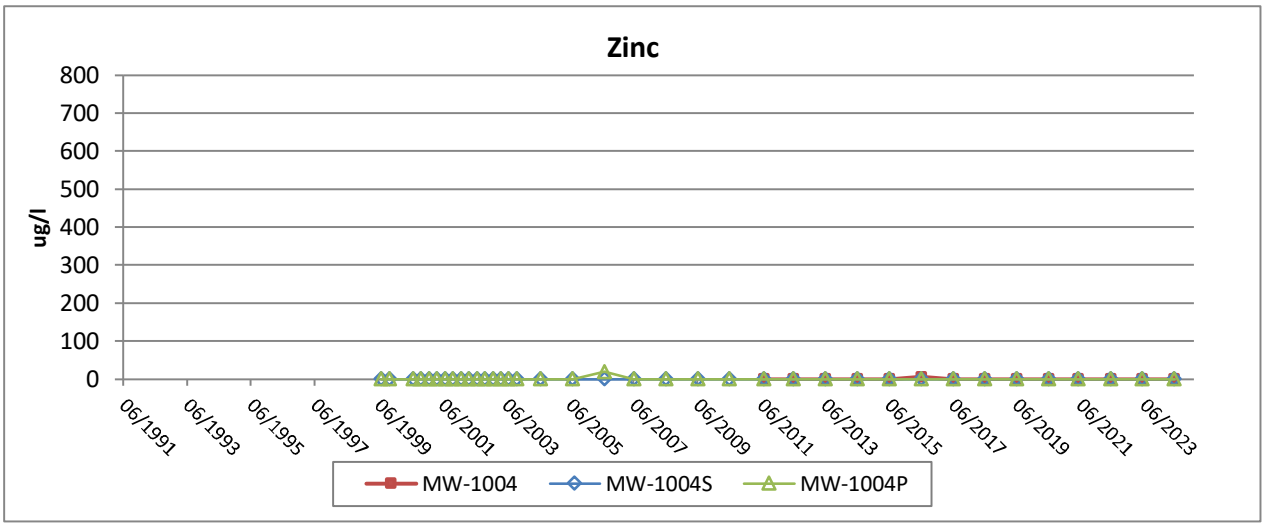


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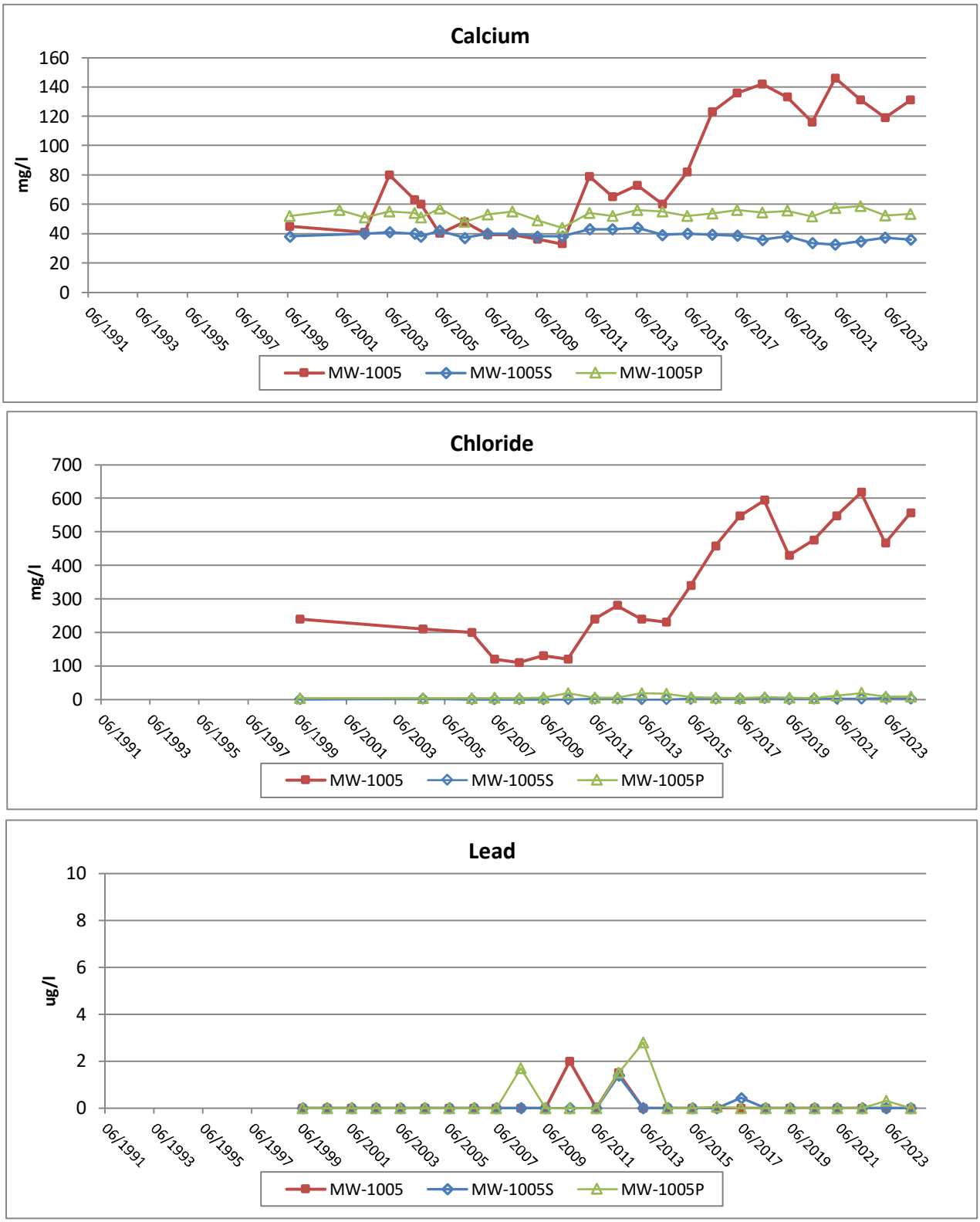
Figure B-10b
Groundwater Trend Graphs - Annual Results
MW-1004/MW-1004S/MW-1004P

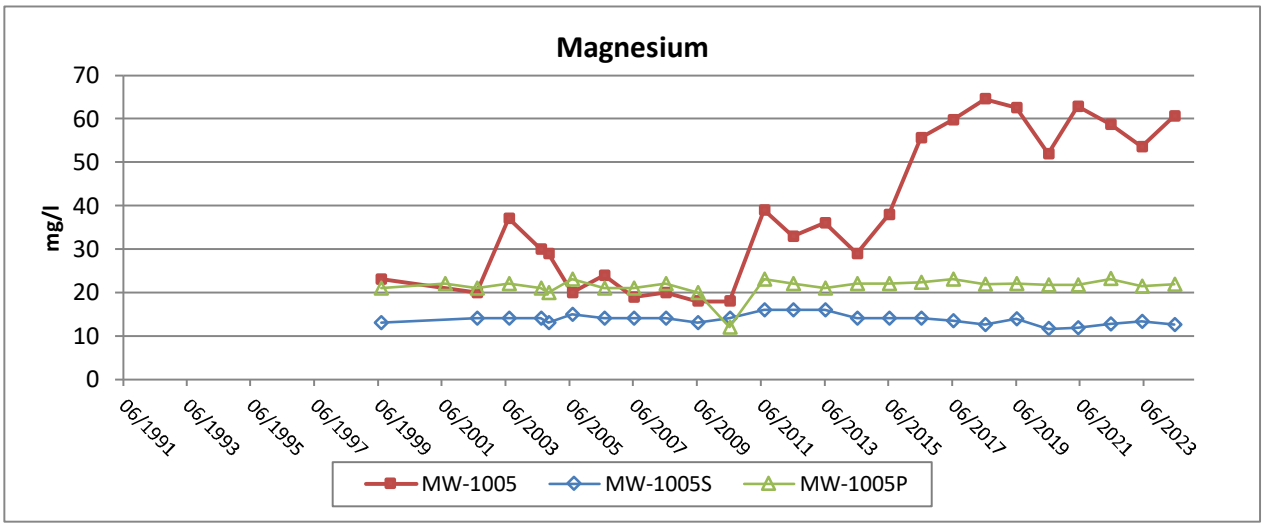
Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

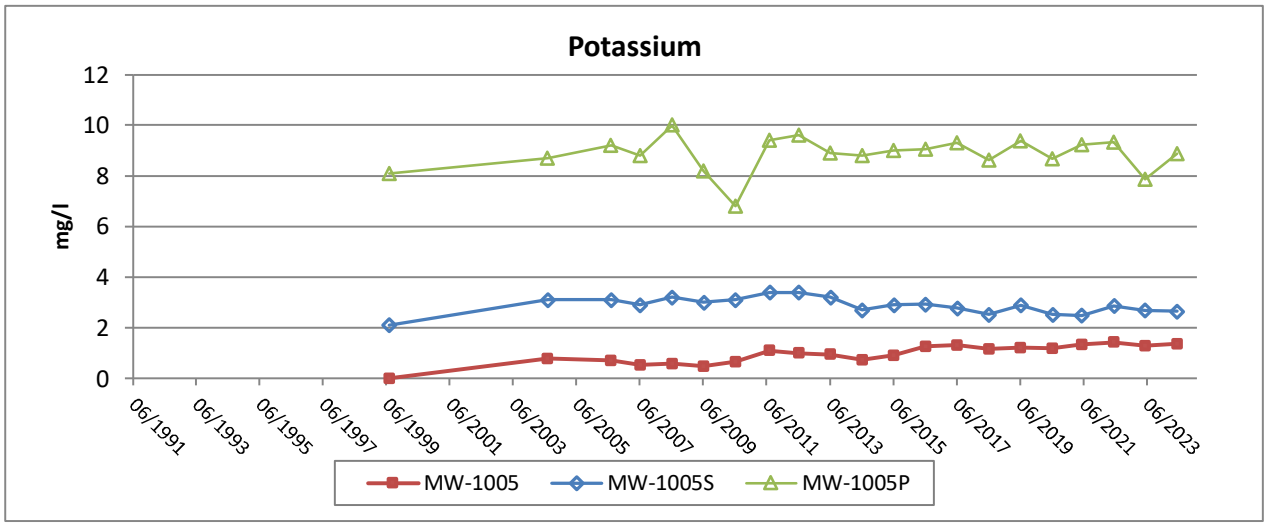


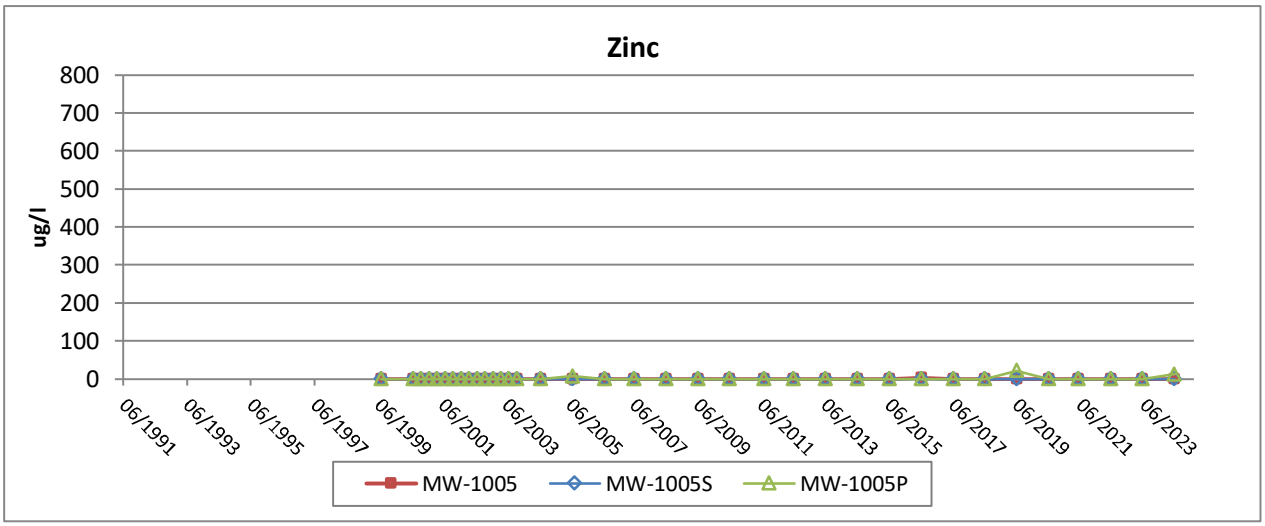
FLAMBEAU MINING COMPANY

Figure B-11a
Groundwater Trend Graphs - Annual Results
MW-1005/MW-1005S/MW-1005P

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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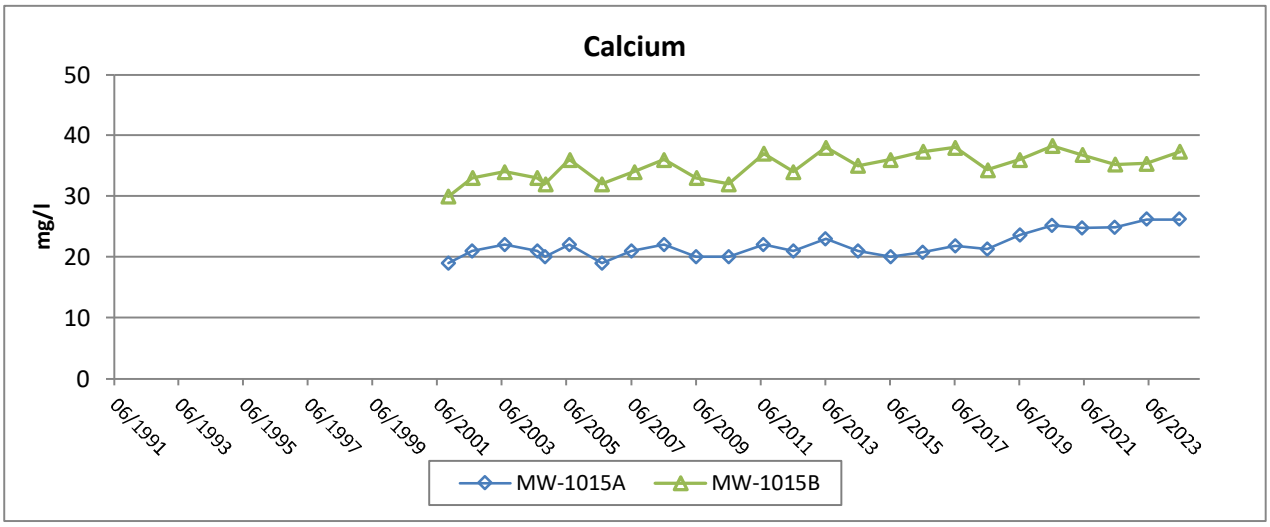
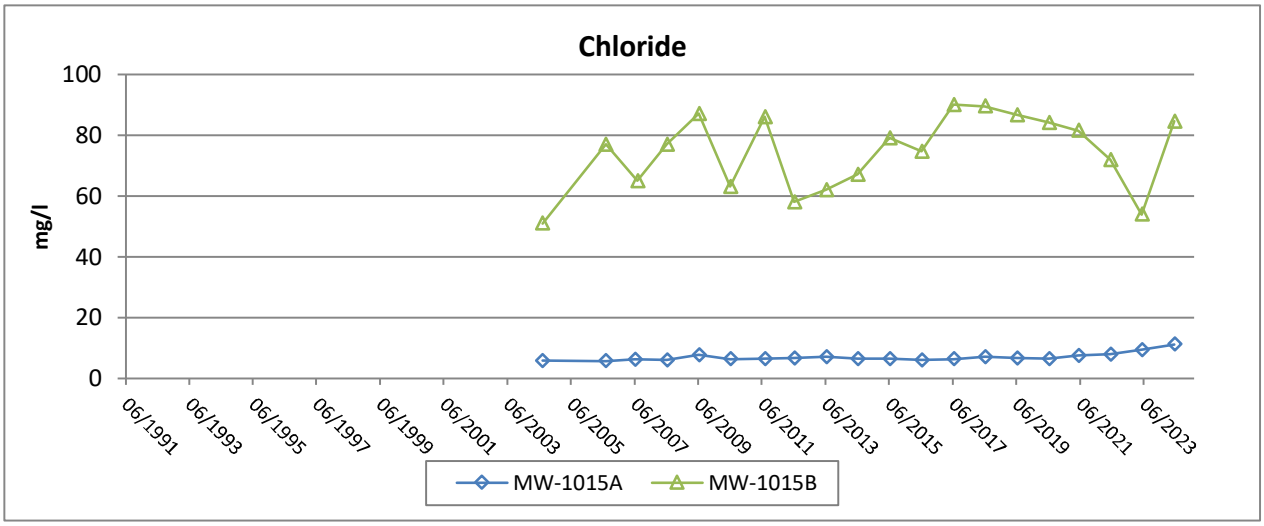
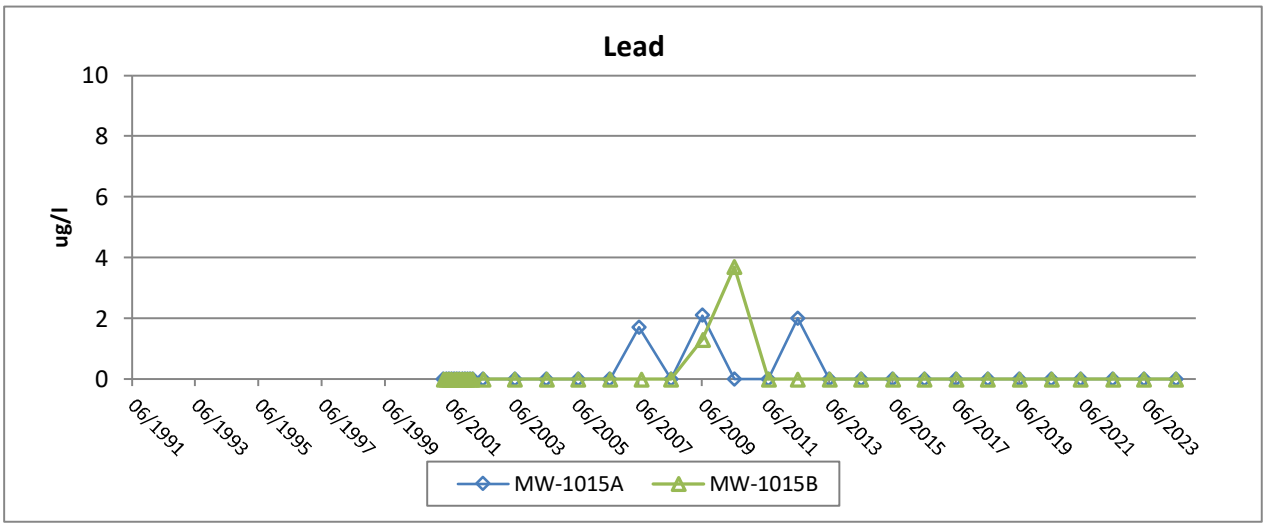
FLAMBEAU MINING COMPANY

Figure B-11b
Groundwater Trend Graphs - Annual Results
MW-1005/MW-1005S/MW-1005P

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





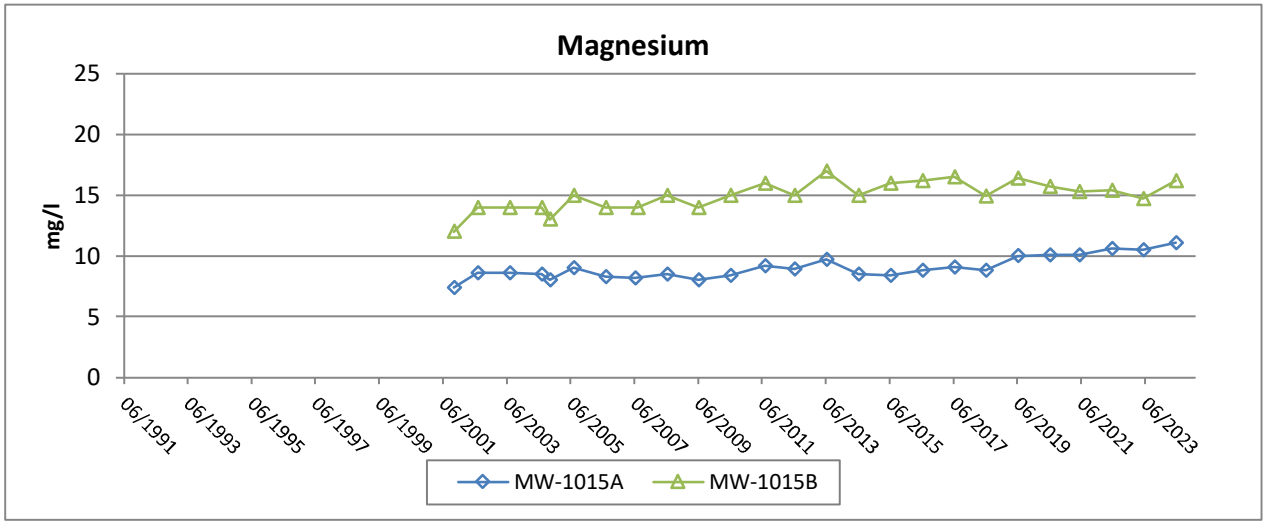


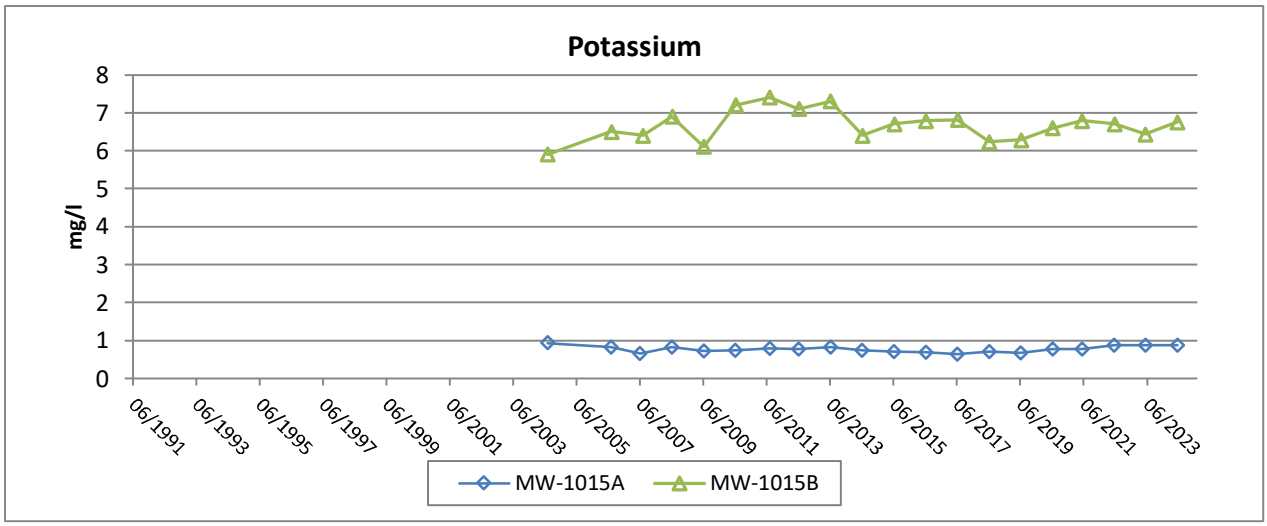
Foth

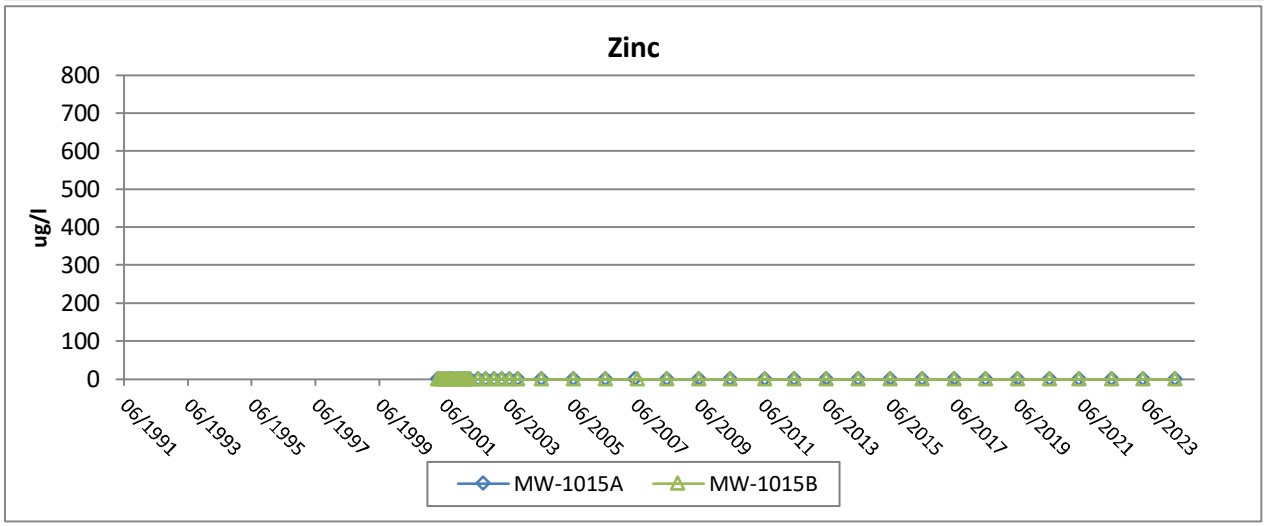
FLAMBEAU MINING COMPANY

Figure B-12a
Groundwater Trend Graphs - Annual Results
MW-1015A/MW-1015B

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





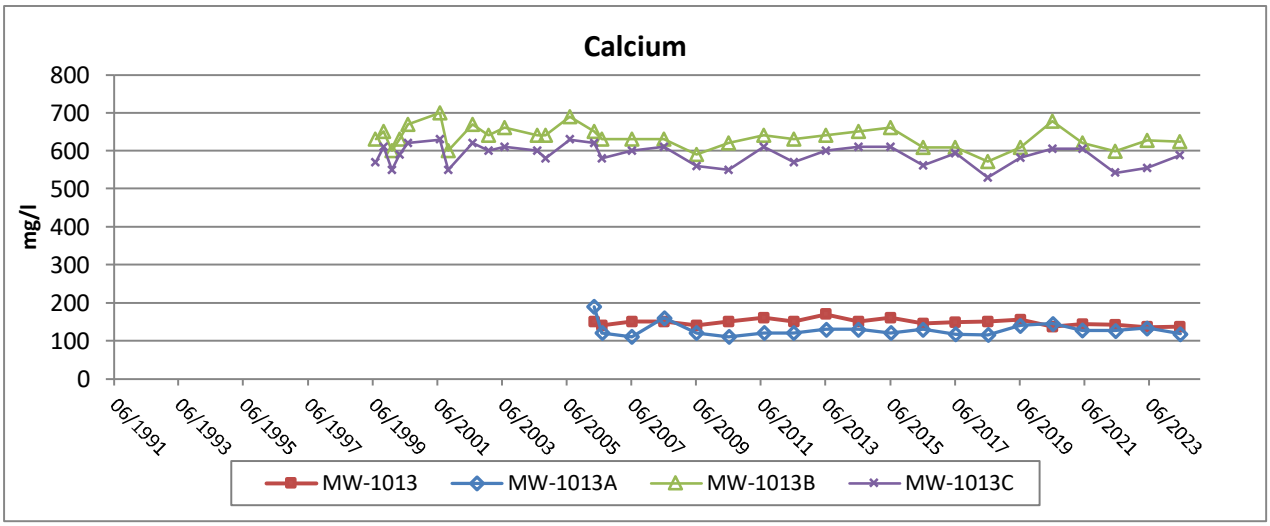


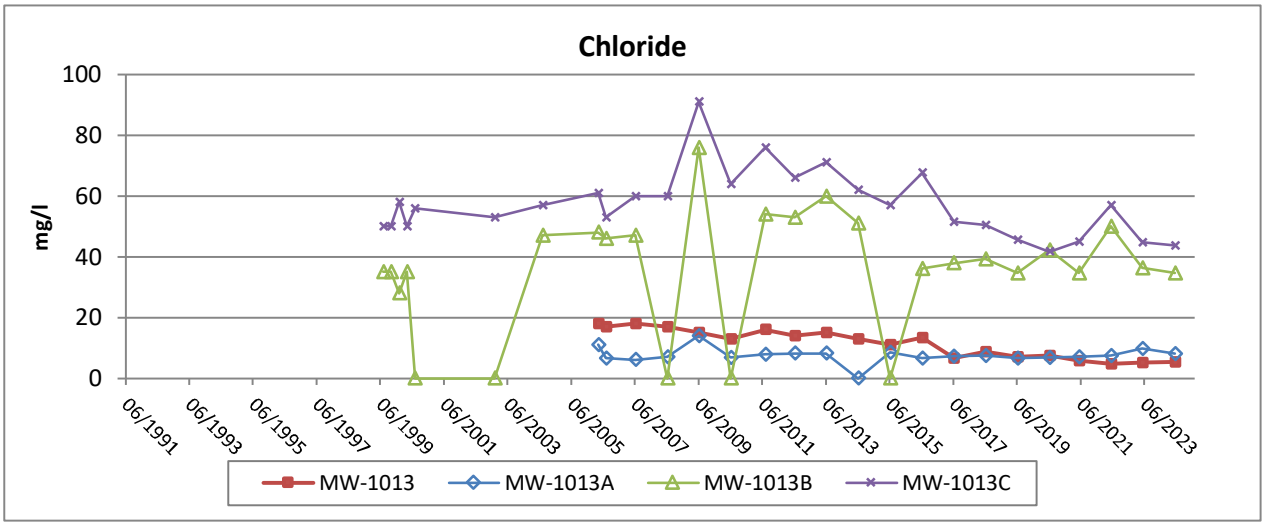
Foth

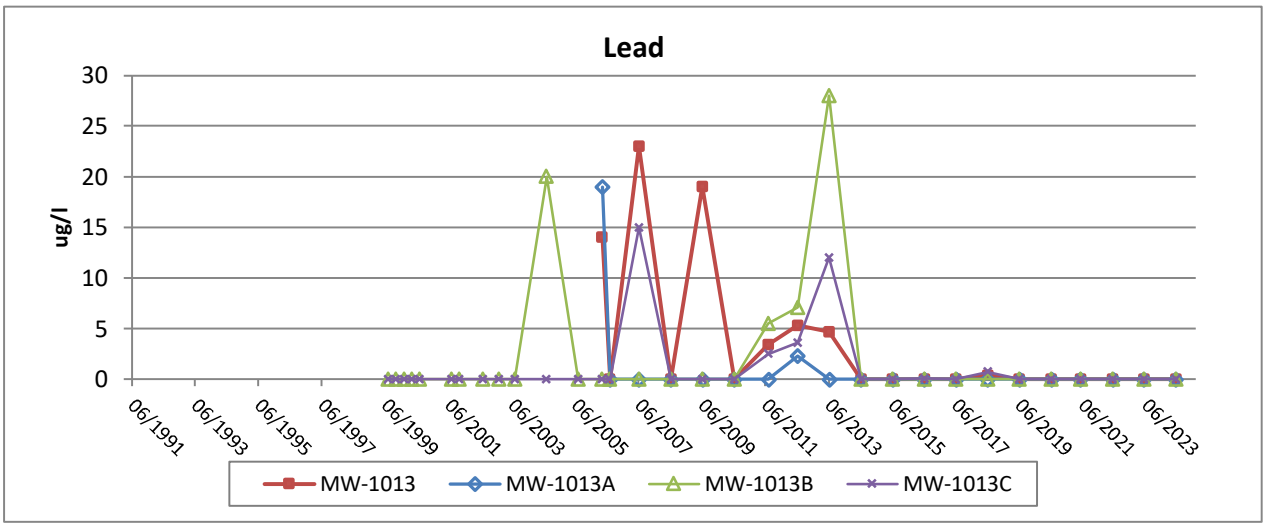
FLAMBEAU MINING COMPANY

Figure B-12b
Groundwater Trend Graphs - Annual Results
MW-1015A/MW-1015B

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





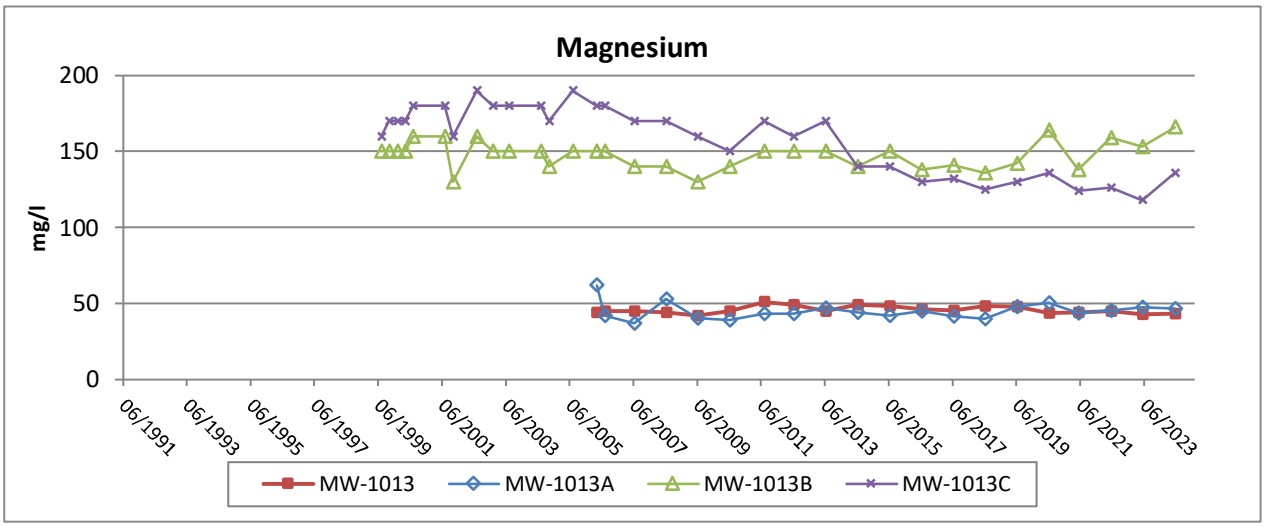


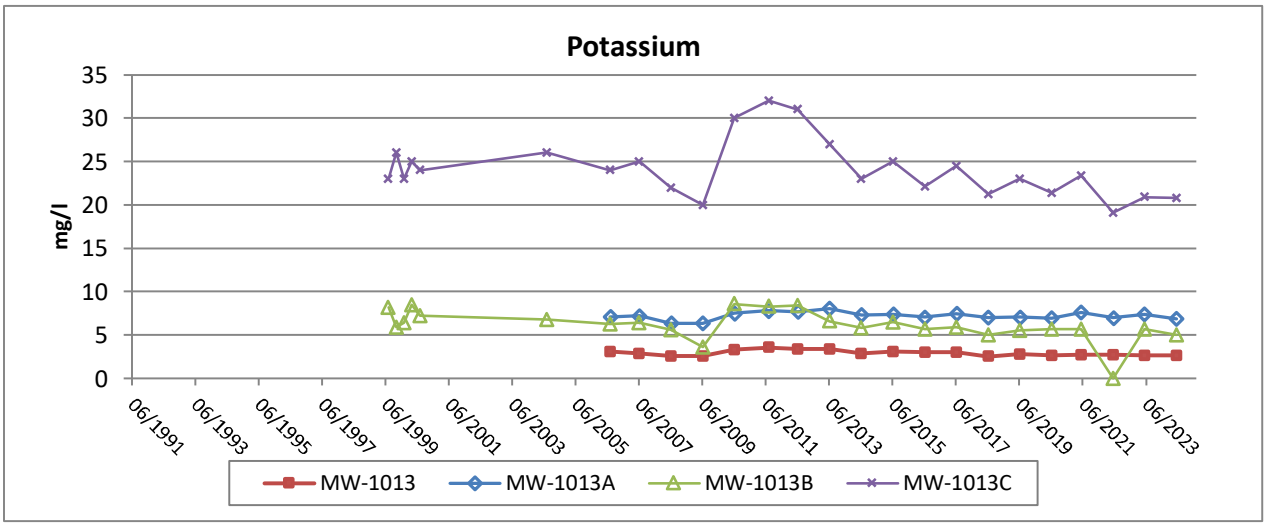
Foth

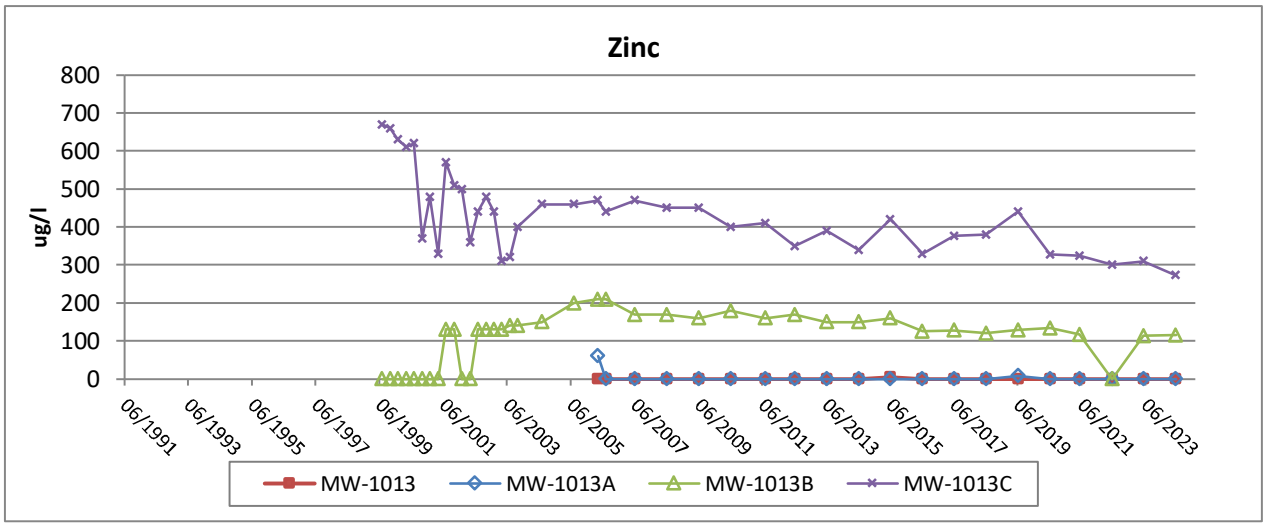
FLAMBEAU MINING COMPANY

Figure B-13a
Groundwater Trend Graphs - Annual Results (In-Pit Wells)
MW-1013/MW-1013A/MW-1013B/MW-1013C

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





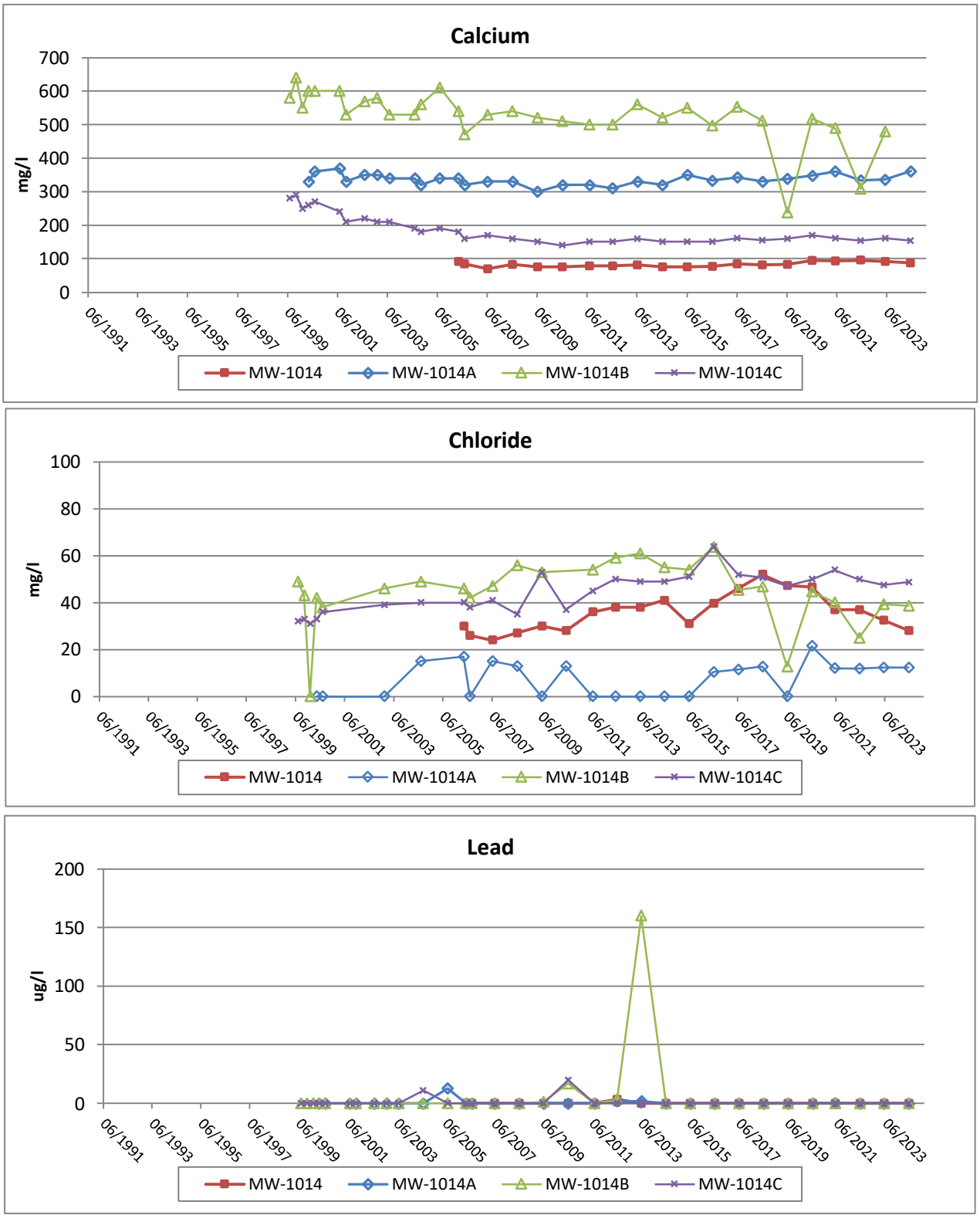


Foth

FLAMBEAU MINING COMPANY

Figure B-13b
Groundwater Trend Graphs - Annual Results (In-Pit Wells)
MW-1013/MW-1013A/MW-1013B/MW-1013C

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25



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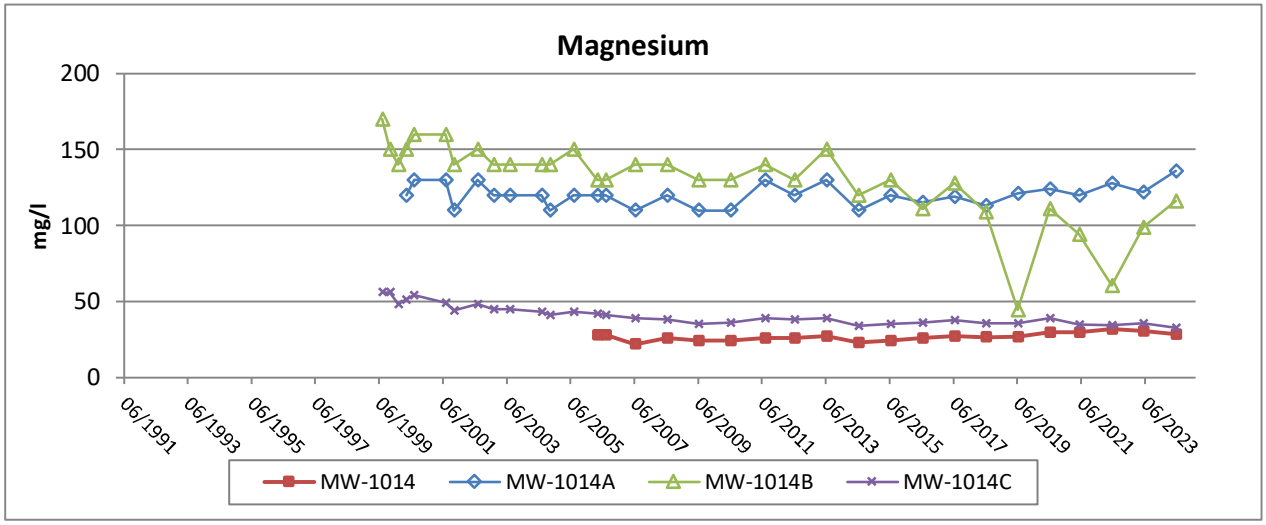
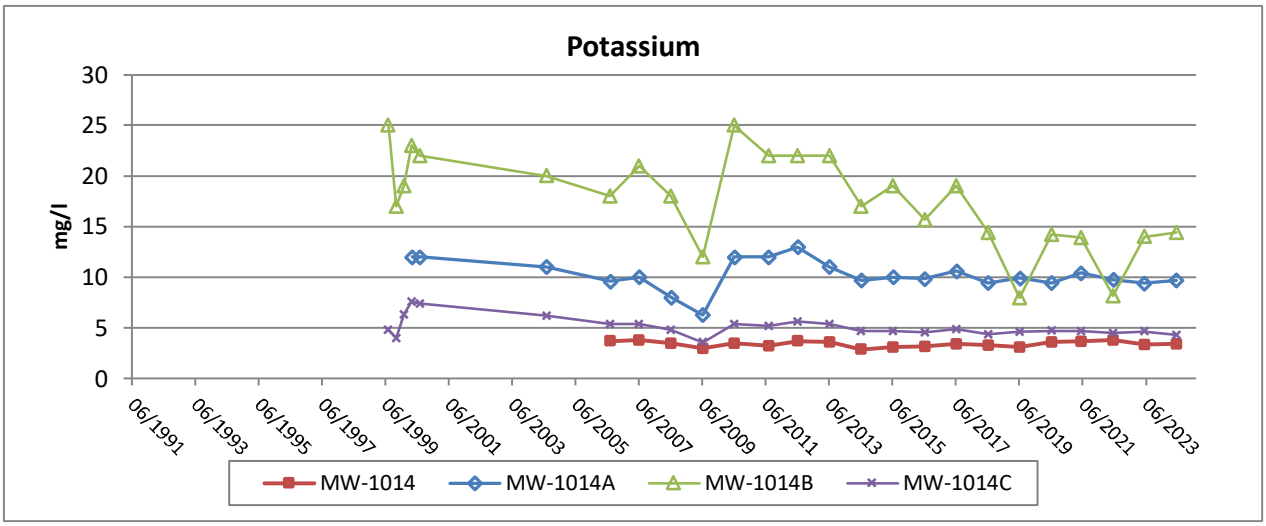
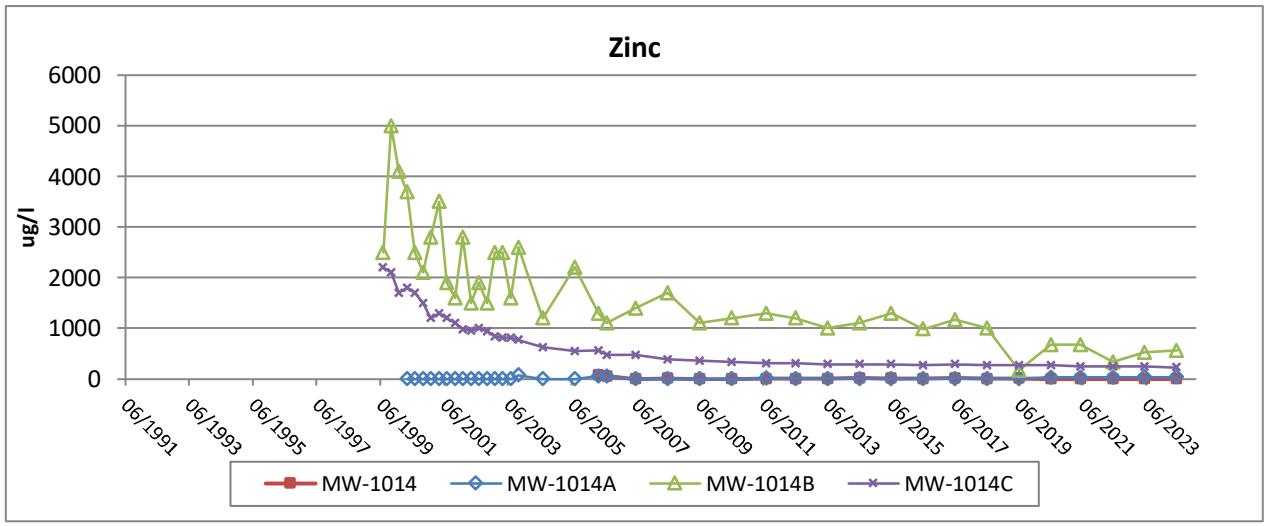
FLAMBEAU MINING COMPANY

Figure B-14a
Groundwater Trend Graphs - Annual Results (In-Pit Wells)
MW-1014/MW-1014A/MW-1014B/MW-1014C

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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FLAMBEAU MINING COMPANY

Figure B-14b
Groundwater Trend Graphs - Annual Results (In-Pit Wells)
MW-1014/MW-1014A/MW-1014B/MW-1014C

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

2024 Groundwater Results - Annual Parameters

Sample Date (yyyy-mm)	Location		Calcium mg/l	Chloride mg/l	Lead ug/l	Magnesium mg/l	Potassium mg/l	Zinc ug/l
2024-05	MW-1000PR		106	12.0	< 0.24	26.6	2.91	328
2024-05	MW-1000R		10.8	1.6	< 0.24	2.59	0.237	< 10.3
2024-05	MW-1002		13	7.0	< 0.24	4.15	0.599	< 10.3
2024-05	MW-1002G		41.3	36.7	< 0.24	15.5	0.981	< 10.3
2024-05	MW-1002G	Dup.	40.9	37.6	< 0.24	15.9	1	< 10.3
2024-05	MW-1004		9.13	< 3.0	< 0.24	2.99	0.679	< 10.3
2024-05	MW-1004P		36.1	< 3.0	< 0.24	15.7	5.18	< 10.3
2024-05	MW-1004S		17.2	< 3.0	< 0.24	6.1	0.74	< 10.3
2024-05	MW-1005		131	556	< 0.24	60.7	1.36	< 10.3
2024-05	MW-1005P		53.4	7.7	< 0.24	21.9	8.87	12.3
2024-05	MW-1005S		35.8	1.6	< 0.24	12.6	2.65	< 10.3
2024-05	MW-1010P		53.8	5.3	< 0.24	13.7	2.56	< 10.3
2024-05	MW-1013		137	5.4	< 0.24	43.3	2.67	< 10.3
2024-05	MW-1013A		118	8.1	< 0.24	46.5	6.86	< 10.3
2024-05	MW-1013B		624	34.7	< 0.24	166	5.05	115
2024-05	MW-1013C		589	43.6	< 0.24	136	20.8	273
2024-05	MW-1014		87.1	28.1	< 0.24	28.3	3.42	< 10.3
2024-05	MW-1014A		361	12.4	< 0.24	136	9.69	37.3
2024-05	MW-1014B			38.6	< 0.24	116	14.4	566
2024-05	MW-1014C		153	48.8	< 0.24	32.6	4.3	228
2024-05	MW-1014C	Dup.	152	48.1	< 0.24	32.3	4.26	232
2024-05	MW-1015A		26.2	11.2	< 0.24	11.1	0.873	< 10.3
2024-05	MW-1015B		37.3	84.6	< 0.24	16.2	6.75	< 10.3

Attachment 3

Surface Water

Trend Analysis

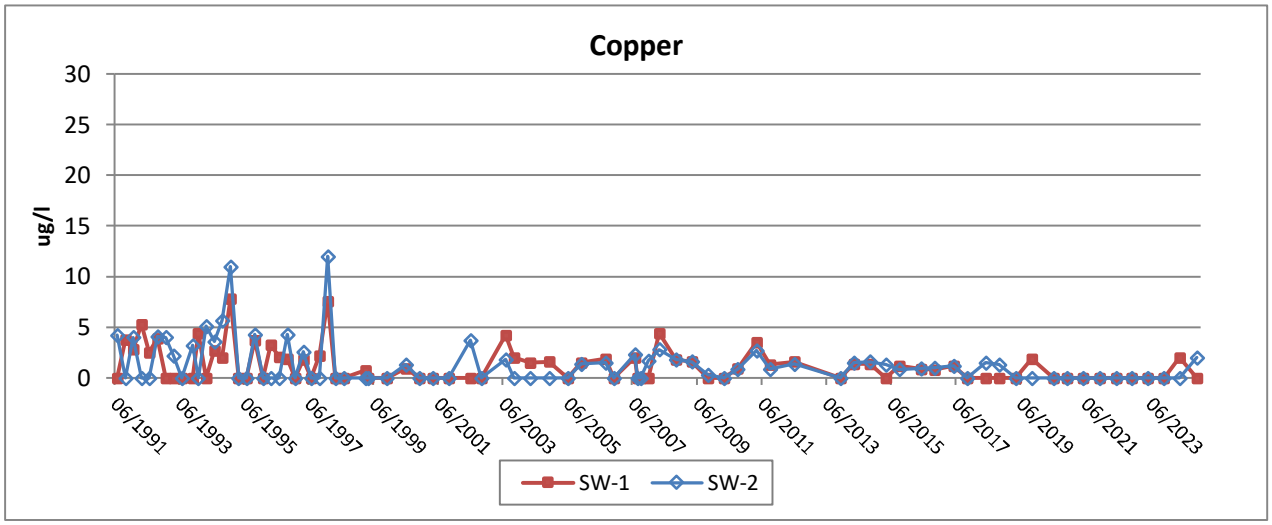
Trend Graphs

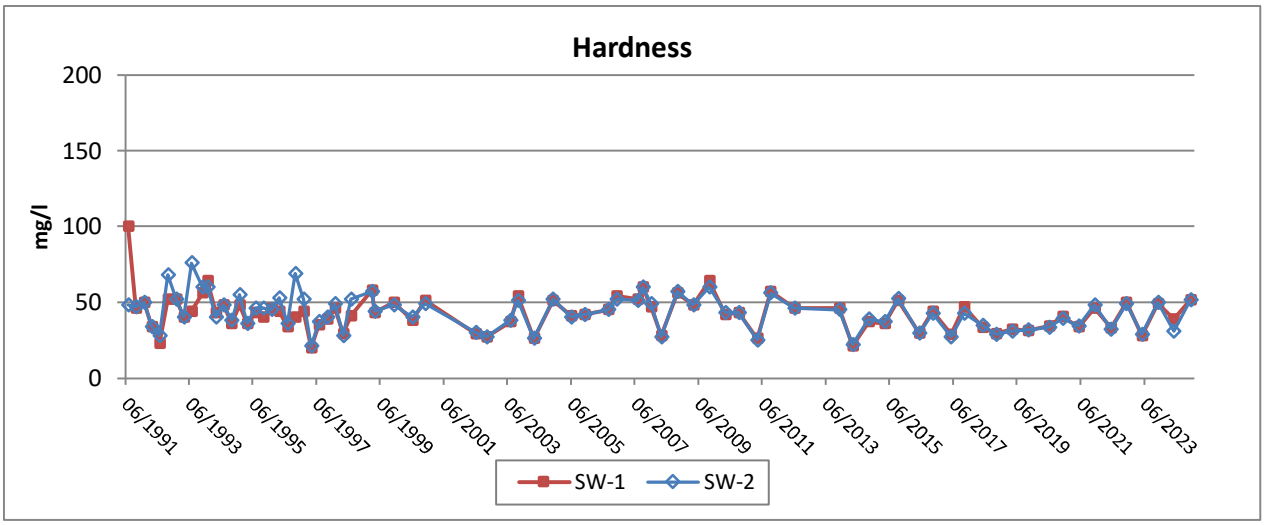
2024 Data

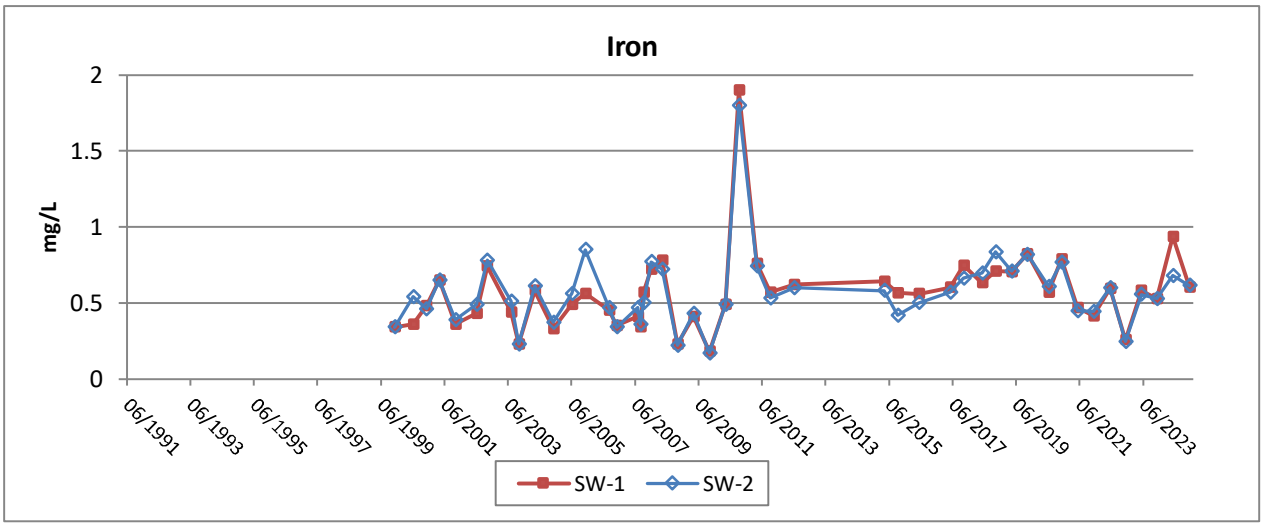
Trend Analysis Results - Surface Water
Year Ending 2024

	Conductivity (Field) (umhos/cm)	pH(Field) (su)	Copper	Hardness	Iron	Manganese	Zinc	Dissolved Oxygen	Redox Potential	Total Suspended Solids
SW-1										
Trend Results for Most Recent 5 Years										
Sample Size	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	8	-5	7	11	7	23	0	7	-5	11
p-Level	0.542	0.728	0.600	0.380	0.600	0.046	1.000	0.600	0.728	0.380
Trend										
Trend Results for All Data Since Oct. 1997										
Sample Size	55	54	57	54	47	44	55	28	20	31
Mann-Kendall S	-342	-183	-210	-126	282	12	-192	78	-16	-44
p-Level	0.013	0.174	0.115	0.351	0.010	0.911	0.083	0.130	0.630	0.468
Trend					+					
SW-2										
Trend Results for Most Recent 5 Years										
Sample Size	10	10	10	10	10	10	10	10	10	10
Mann-Kendall S	7	-9	9	9	1	19	0	-7	-3	1
p-Level	0.600	0.484	0.484	0.484	1.000	0.108	1.000	0.600	0.862	1.000
Trend										
Trend Results for All Data Since Oct. 1997										
Sample Size	55	54	57	54	47	44	55	28	20	31
Mann-Kendall S	-377	-29	-38	-194	177	-55	-118	42	-46	-80
p-Level	0.006	0.834	0.781	0.150	0.106	0.585	0.298	0.422	0.146	0.181
Trend	-									

Notes: Overall increasing trend denoted by "+".
Overall decreasing trend denoted by "-"
All trend tests performed at a Type I (two-tailed) error rate of 0.01.





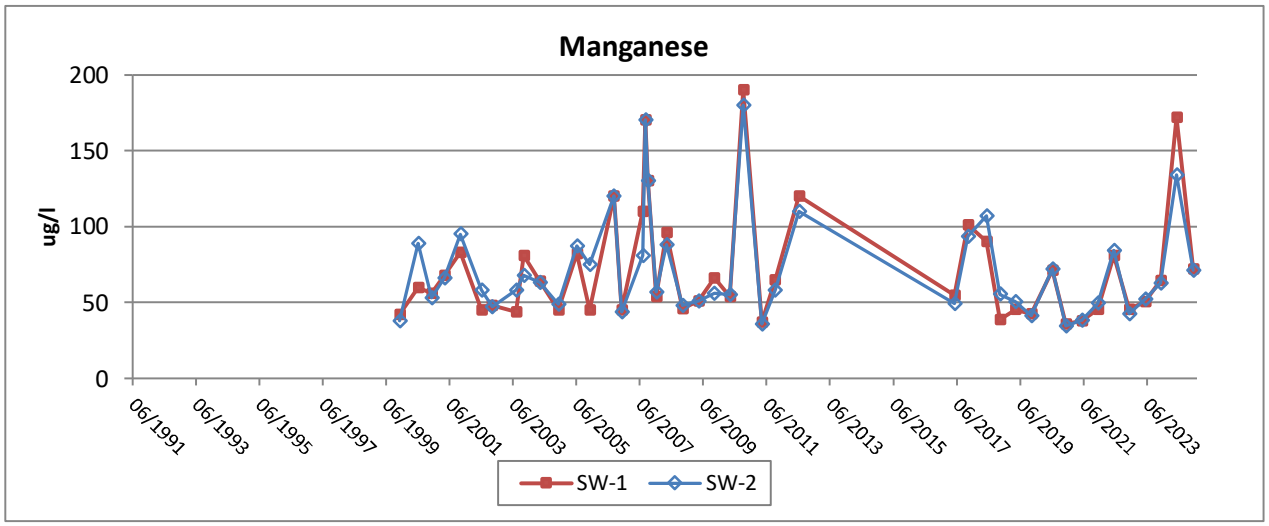


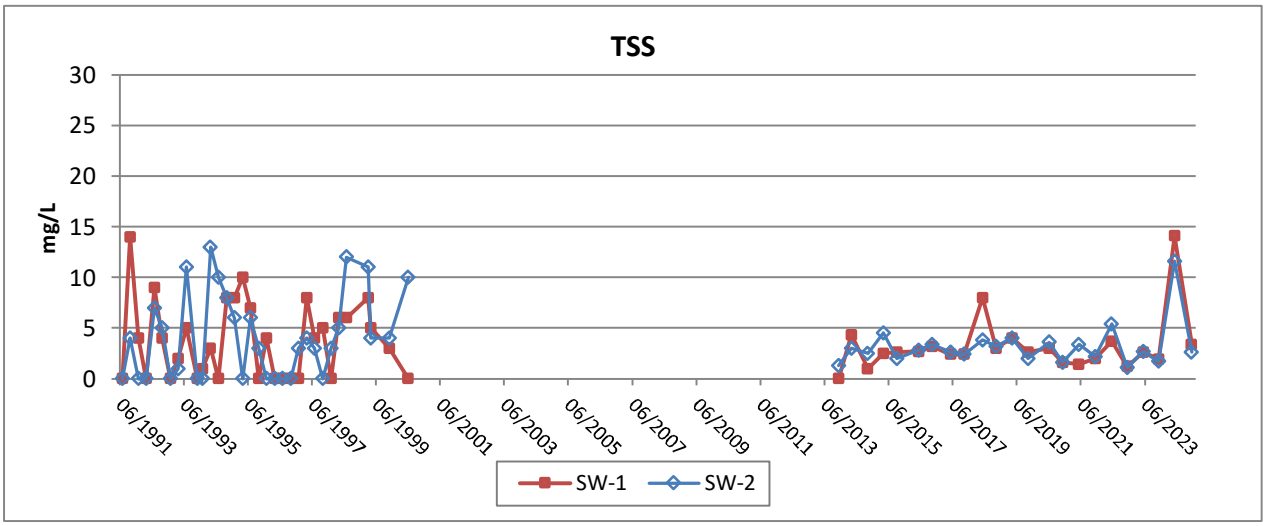
Foth

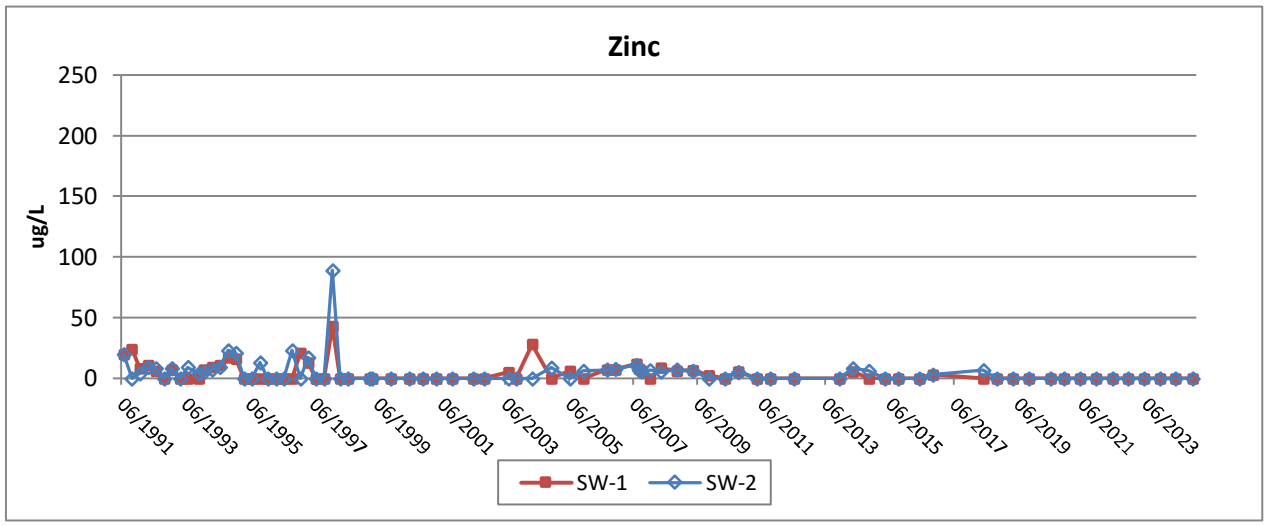
FLAMBEAU MINING COMPANY

Figure B-15a
Surface Water Trend Graphs
SW-1/SW-2

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





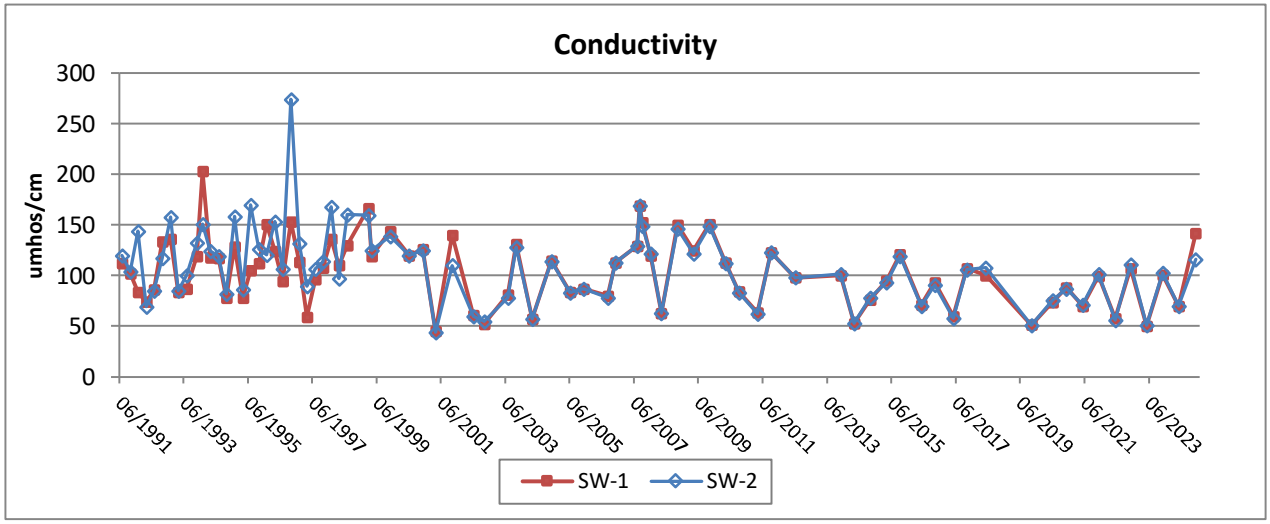


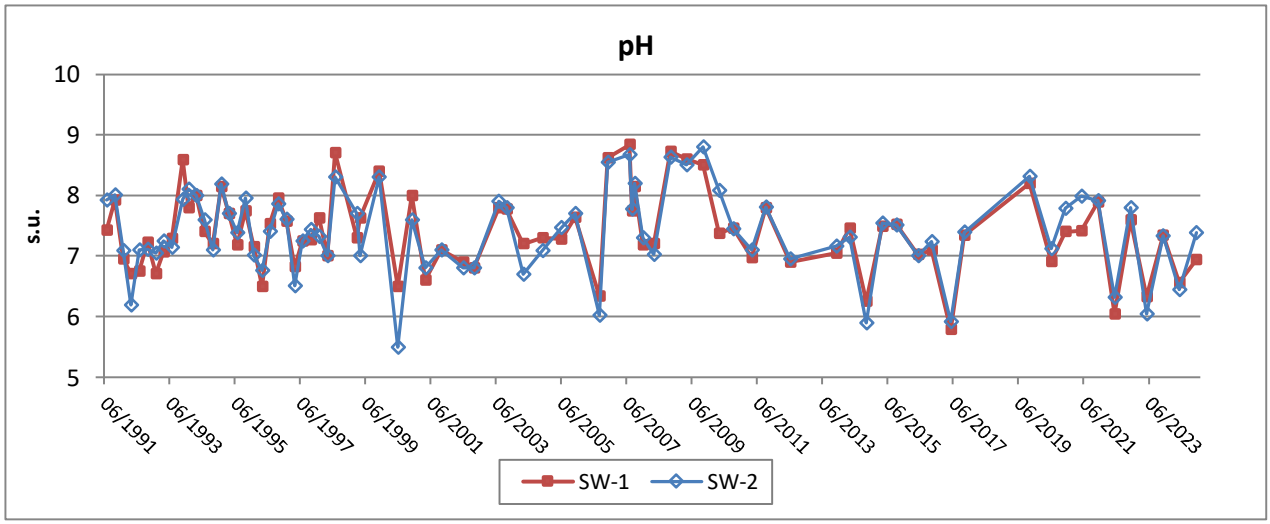
Foth

FLAMBEAU MINING COMPANY

Figure B-15b
Surface Water Trend Graphs
SW-1/SW-2

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





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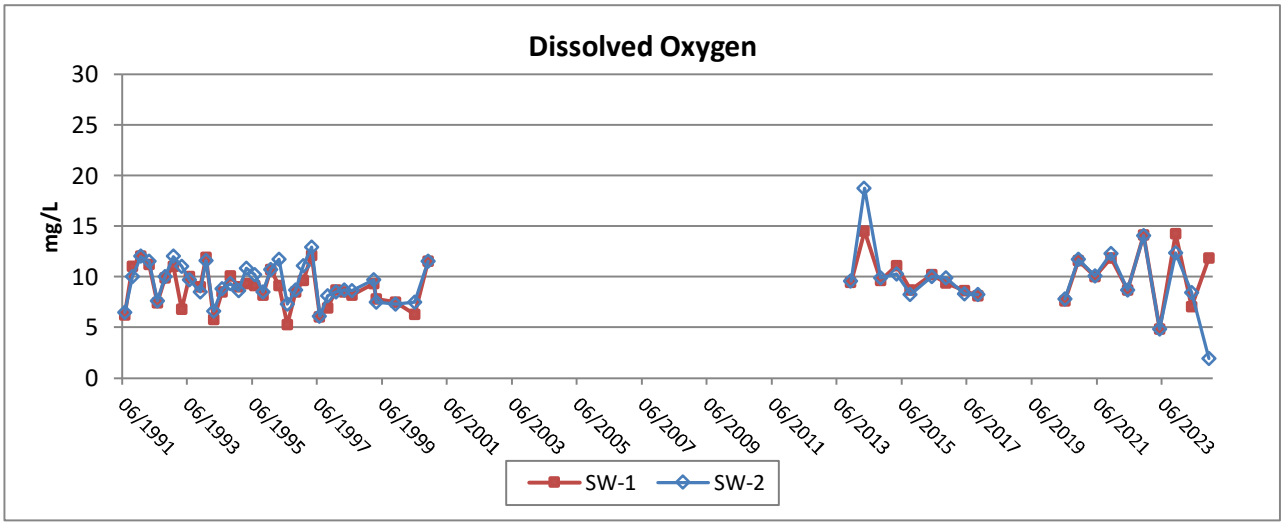
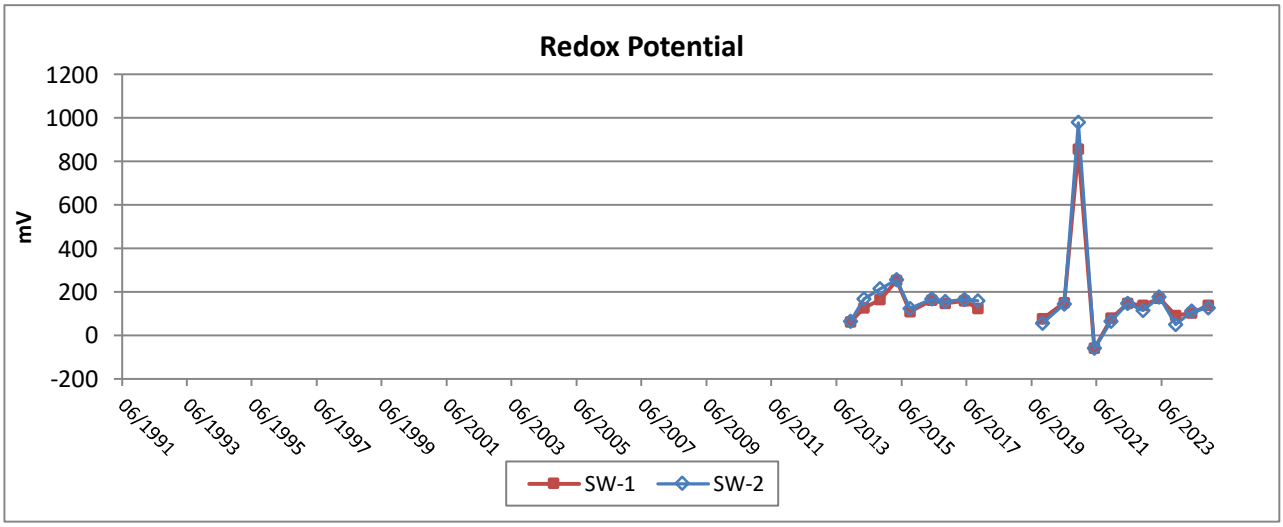
FLAMBEAU MINING COMPANY

Figure B-15c
Surface Water Trend Graphs
SW-1/SW-2

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





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FLAMBEAU MINING COMPANY

Figure B-15d
Surface Water Trend Graphs
SW-1/SW-2

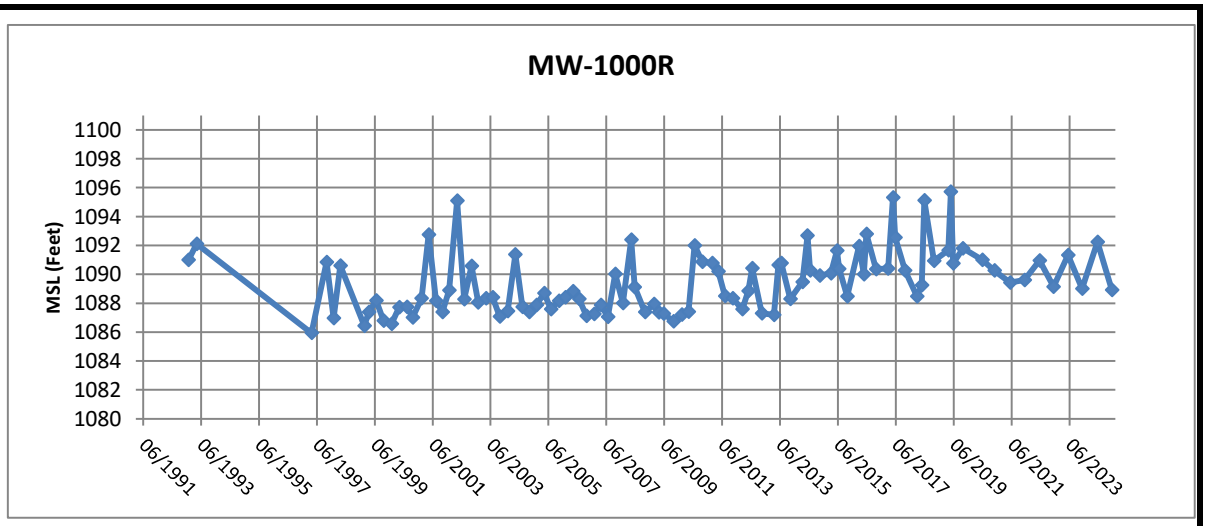
Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

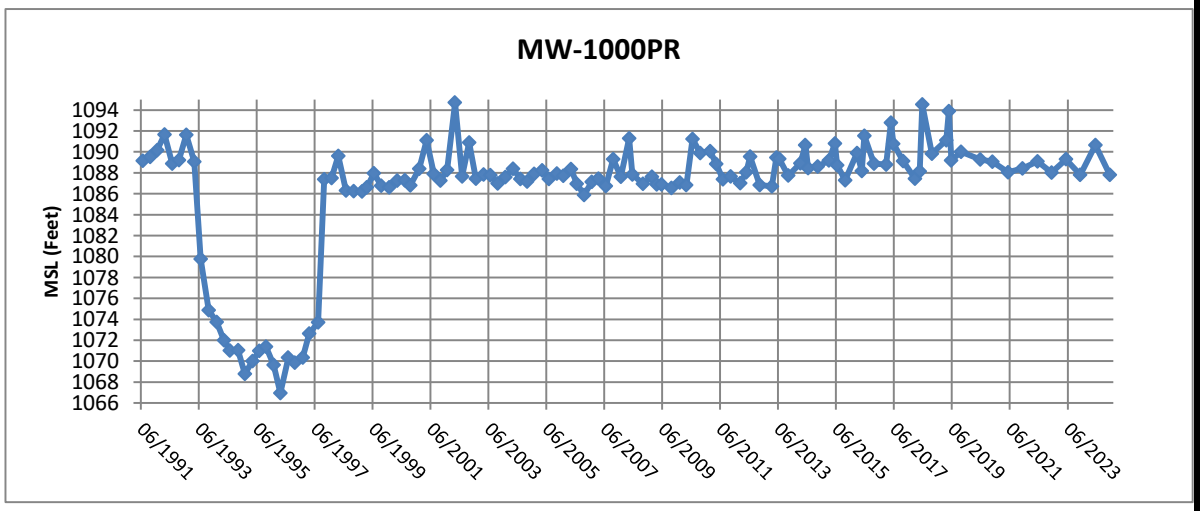
2024 Surface Water Results

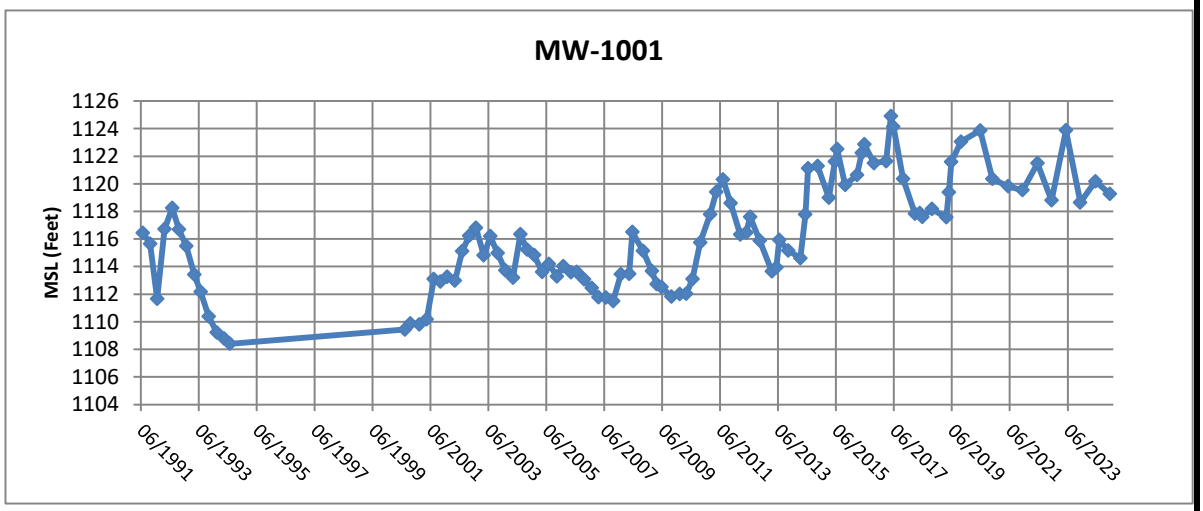
Sample Date (yyyy-mm)	Location		Conductivity (Field) umhos/cm	pH (Field) s.u.	Copper ug/l	Hardness mg/l	Iron mg/l	Manganese ug/l	Zinc ug/l	Dissolved Oxygen mg/l	Redox Potential mV	Total Suspended Solids mg/l
2024-05	SW-1		70	6.56	2.0	38.7	0.936	172	< 10.3	7.04	103.0	14.1
2024-05	SW-1	Dup.			< 1.9	37.3	0.831	162	< 10.3			13.3
2024-05	SW-2		70	6.45	< 1.9	30.7	0.679	134	< 10.3	8.43	109.5	11.6
2024-11	SW-1		142	6.94	< 1.9	51.6	0.602	72.1	< 10.3	11.86	136.9	3.4
2024-11	SW-1	Dup.			< 1.9	52.1	0.606	74.5	< 10.3			2.9
2024-11	SW-2		116	7.38	2.0	51.4	0.614	71.1	< 10.3	1.93	126.3	2.6

Attachment 4

Hydrographs and Groundwater Elevation Data





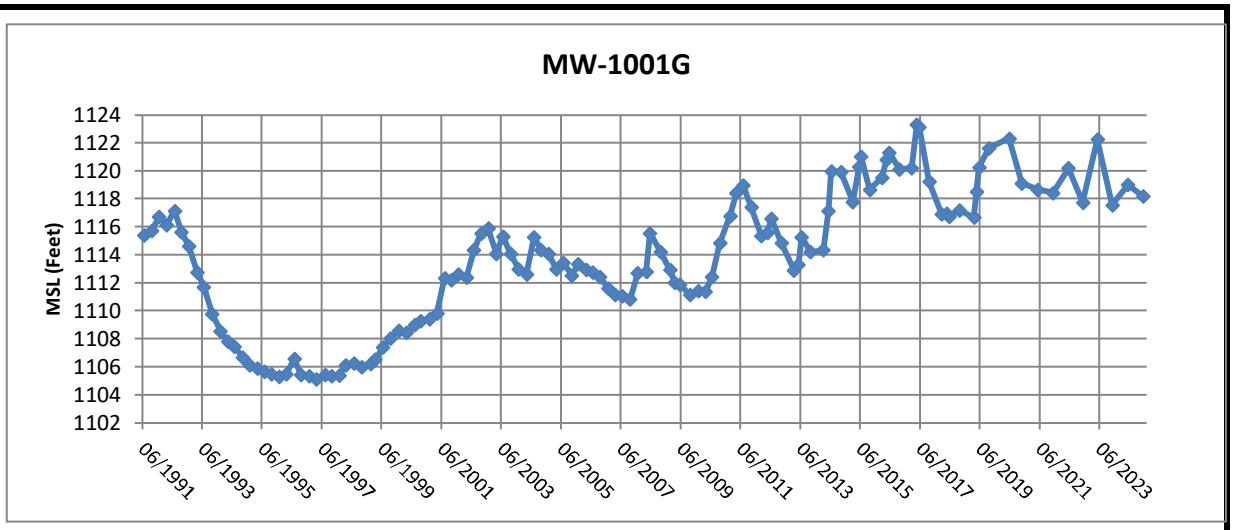


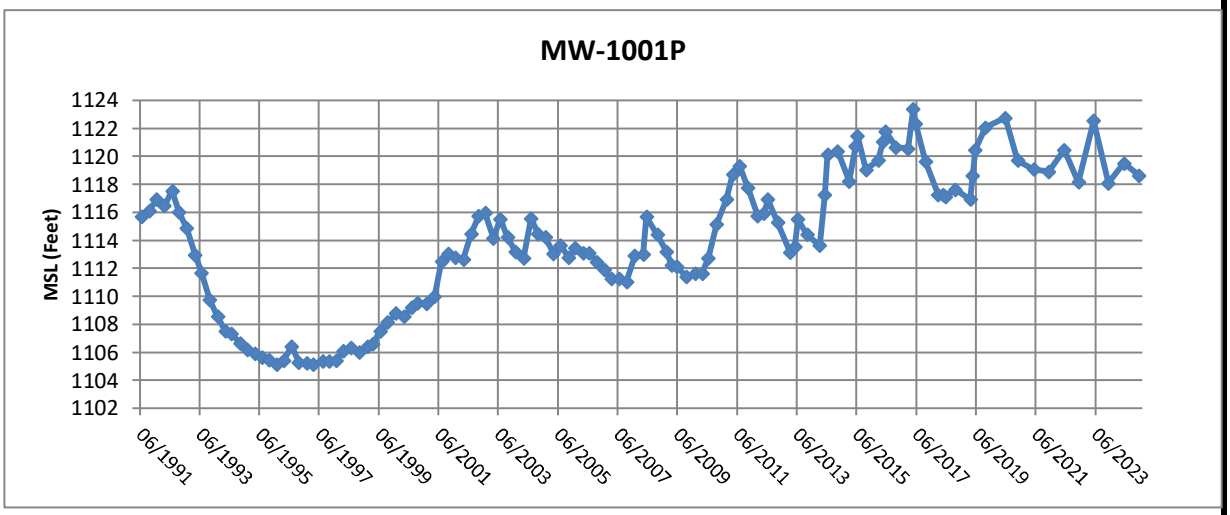
Foth

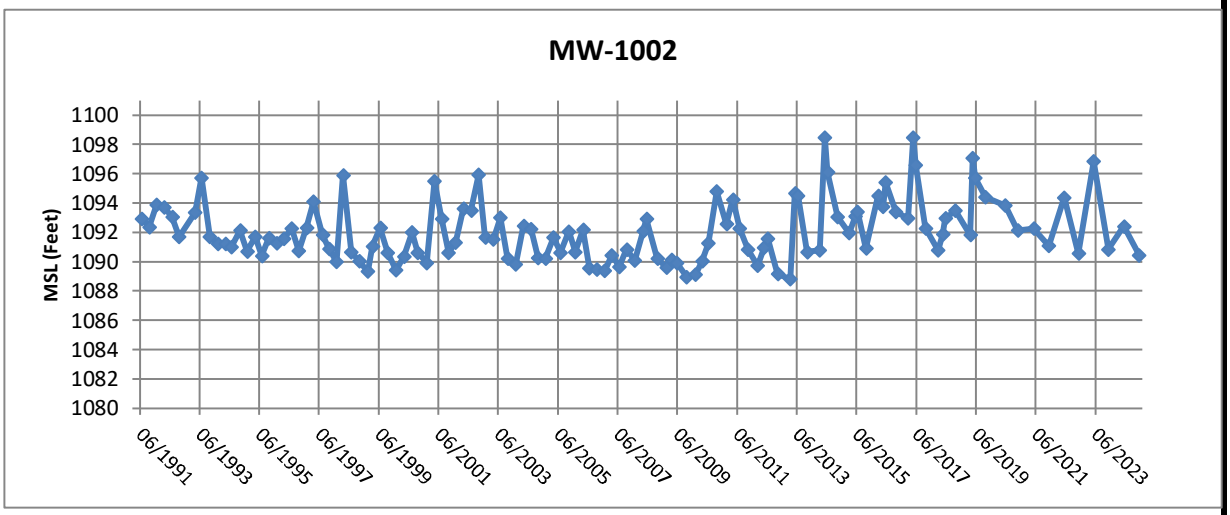
FLAMBEAU MINING COMPANY

Figure B-16a
Hydrographs

Scale: NA	Date: January 2025
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





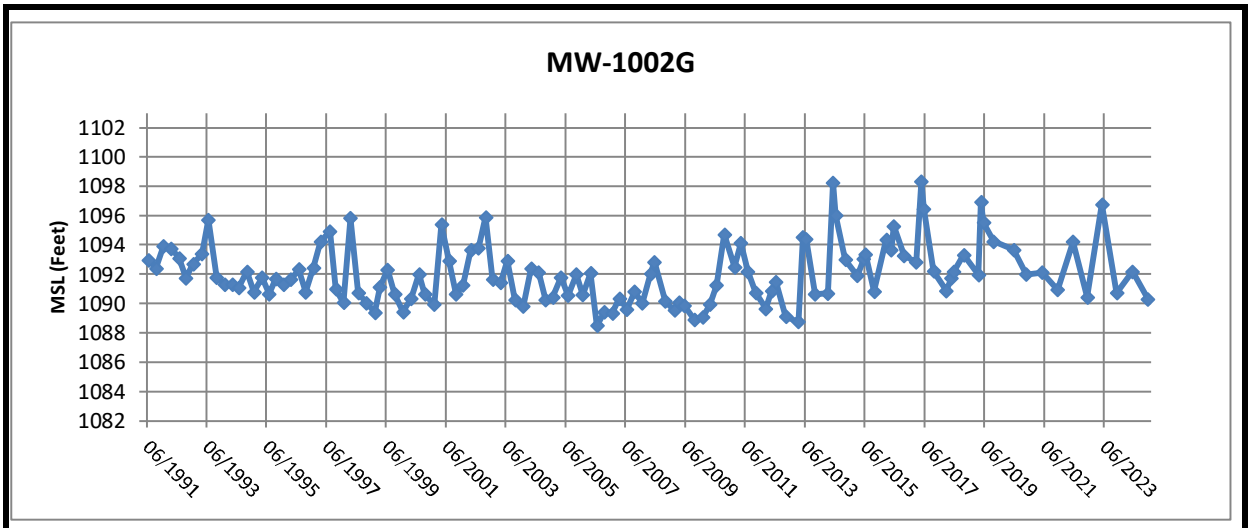


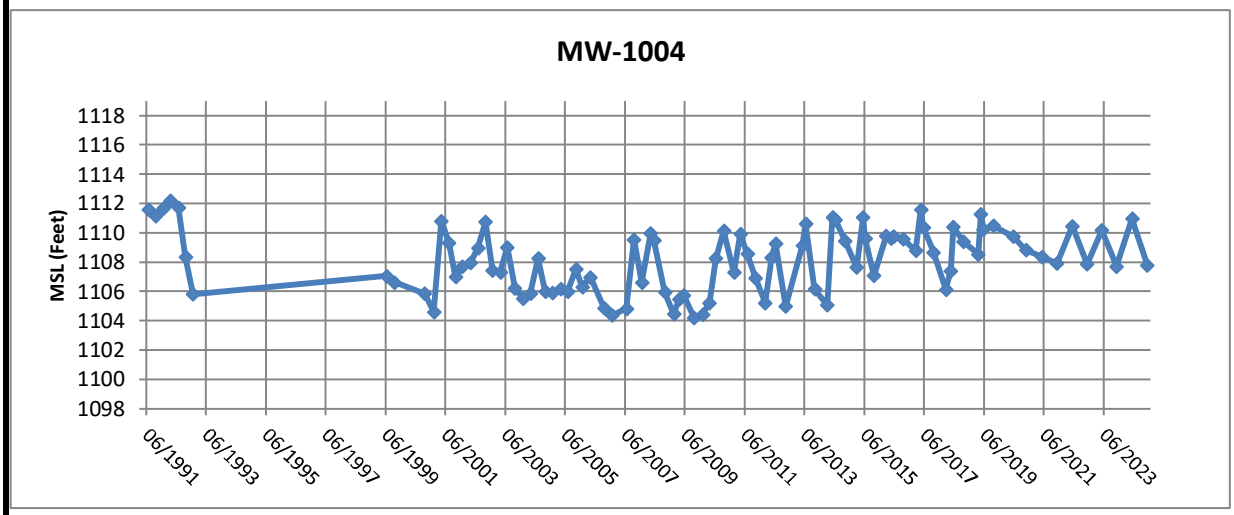
Foth

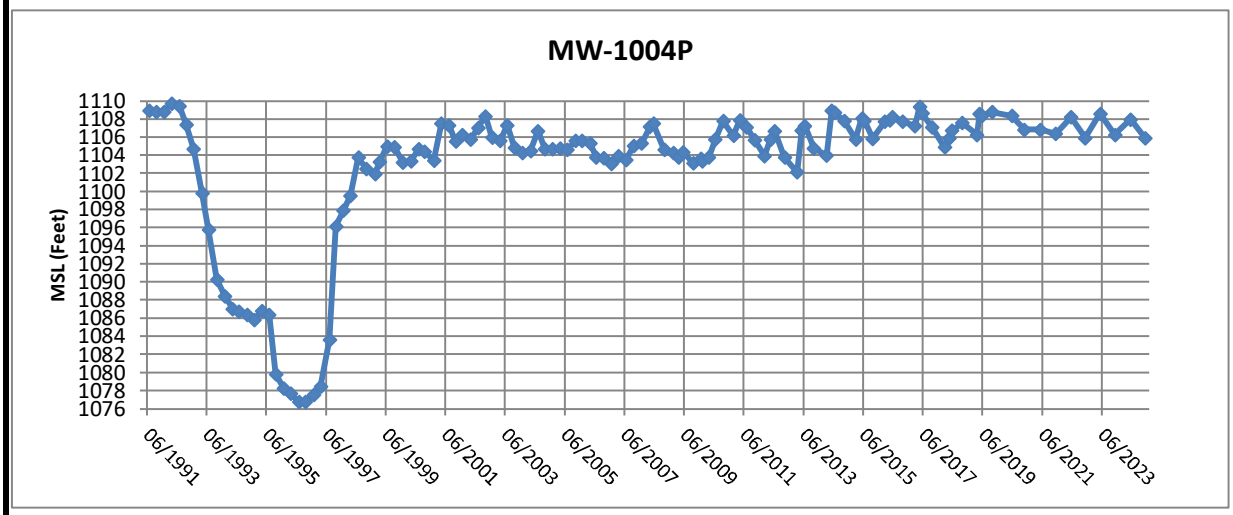
FLAMBEAU MINING COMPANY

Figure B-16b
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





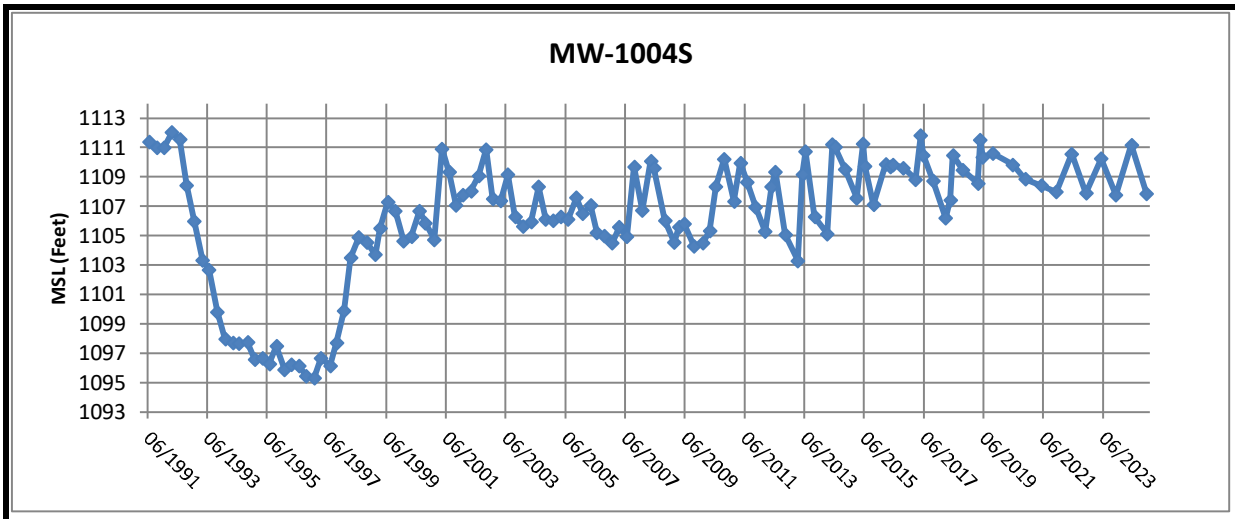


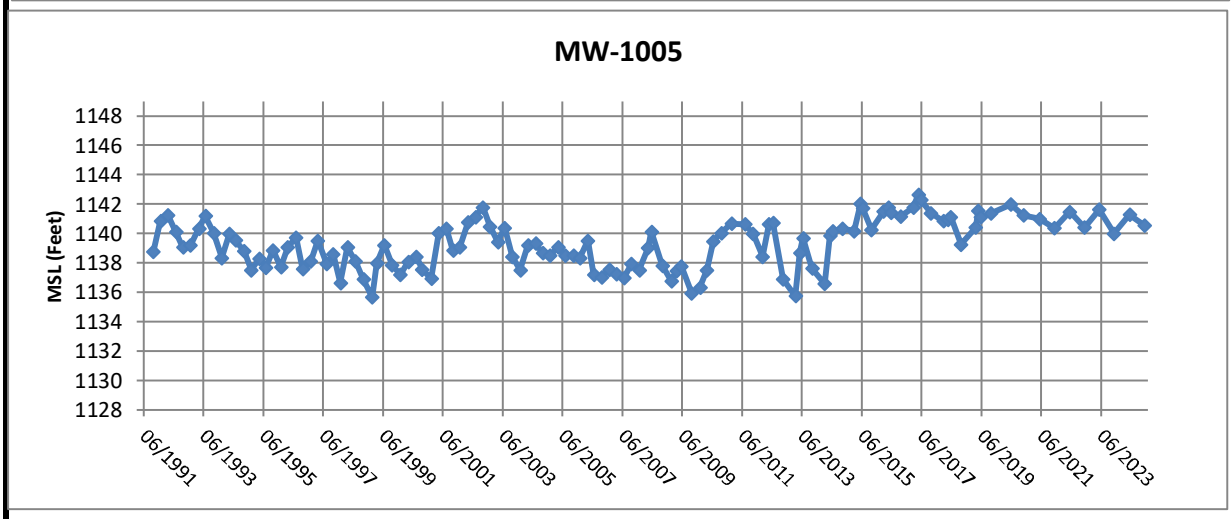
Foth

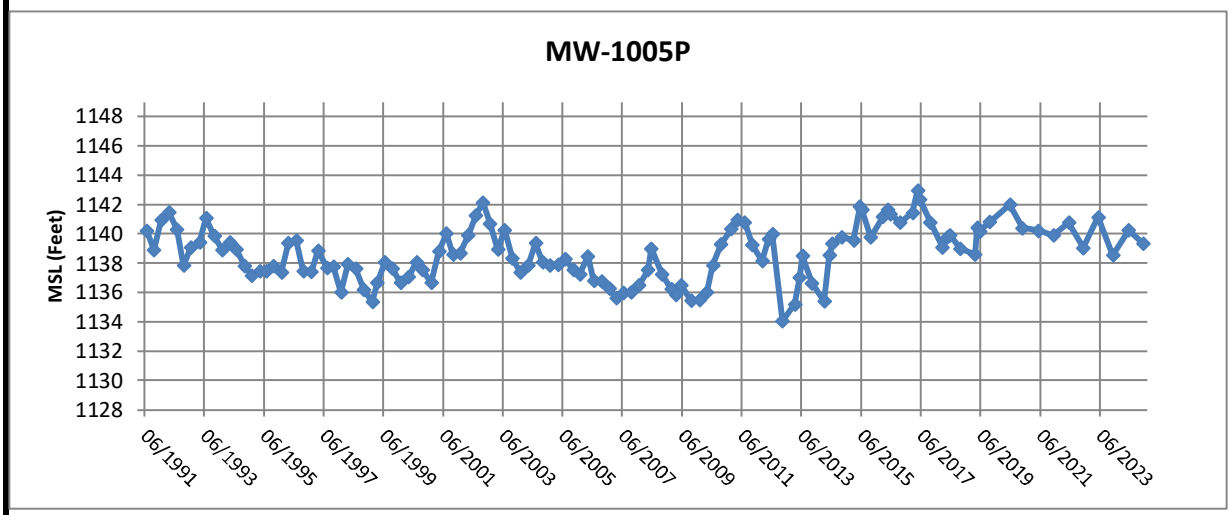
FLAMBEAU MINING COMPANY

Figure B-16c
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





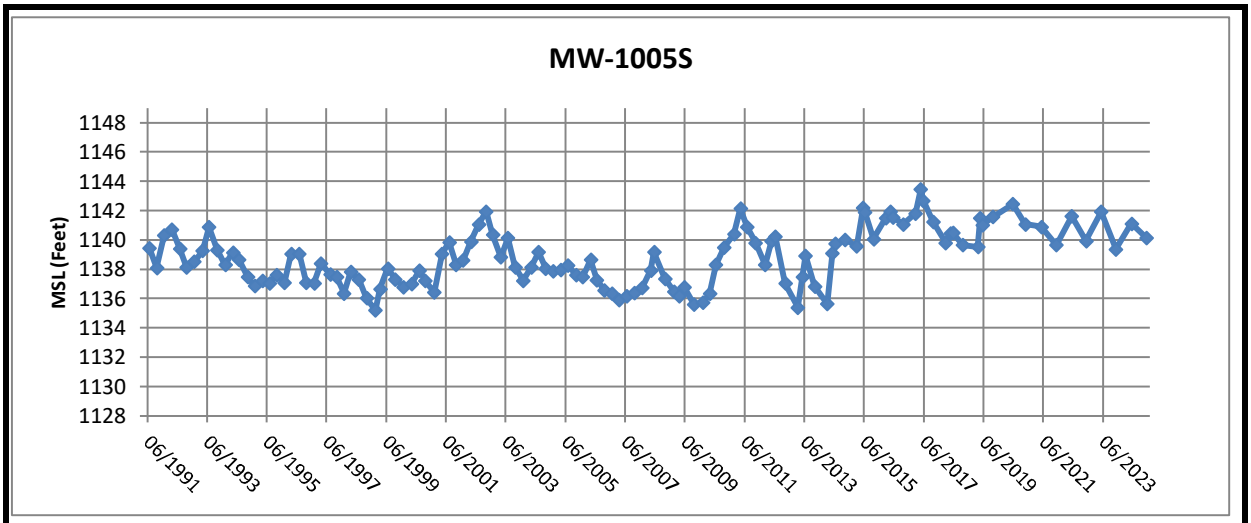


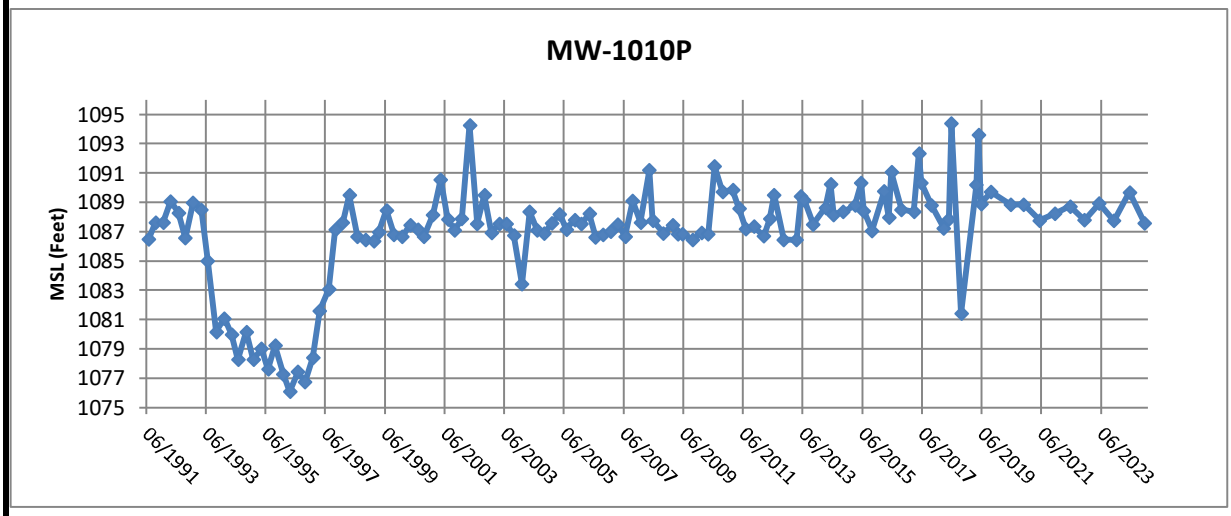
Foth

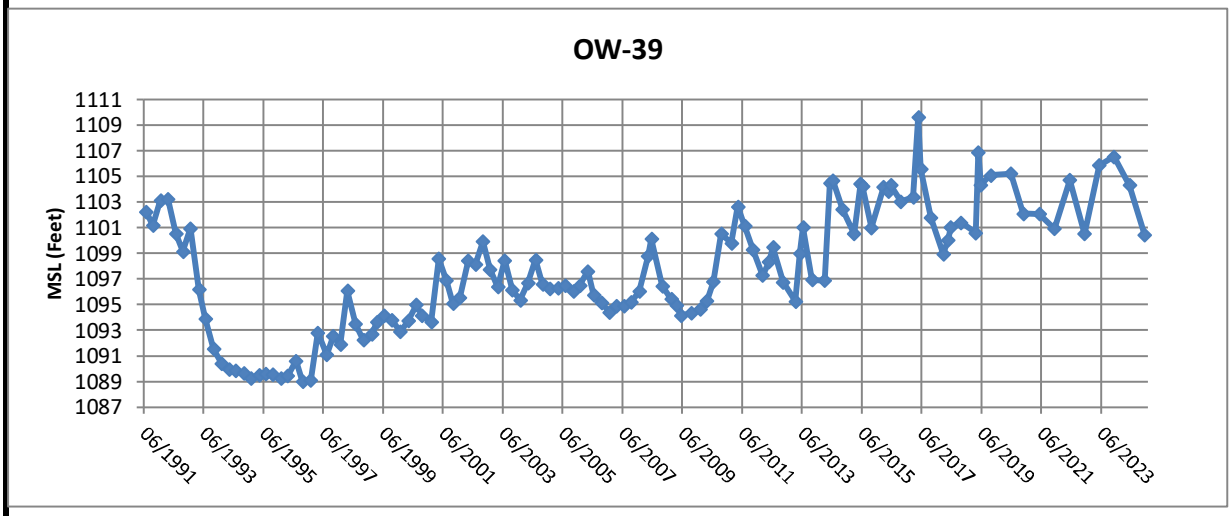
FLAMBEAU MINING COMPANY

Figure B-16d
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





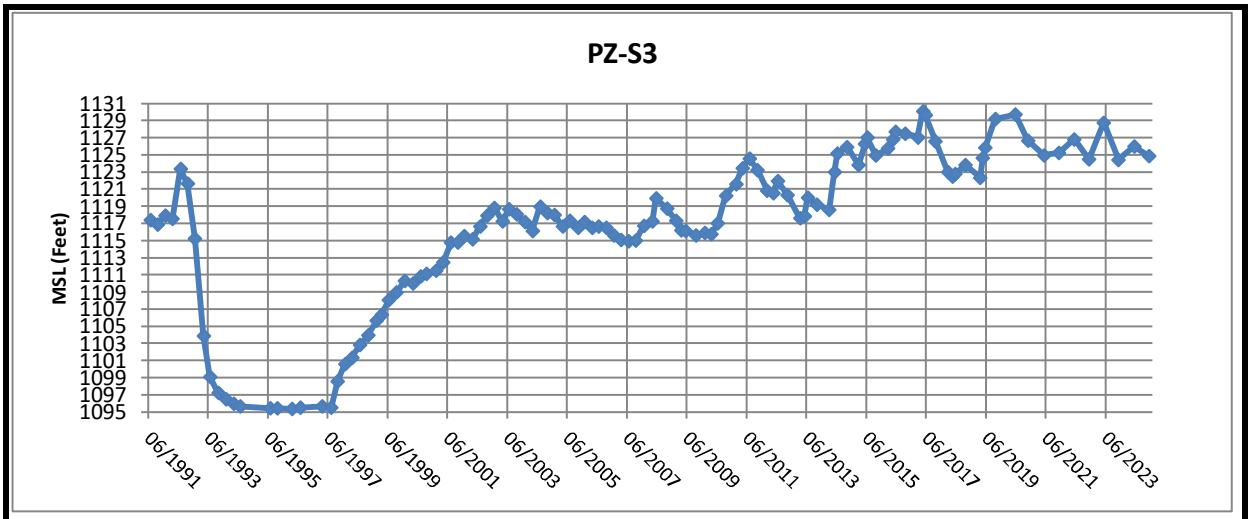


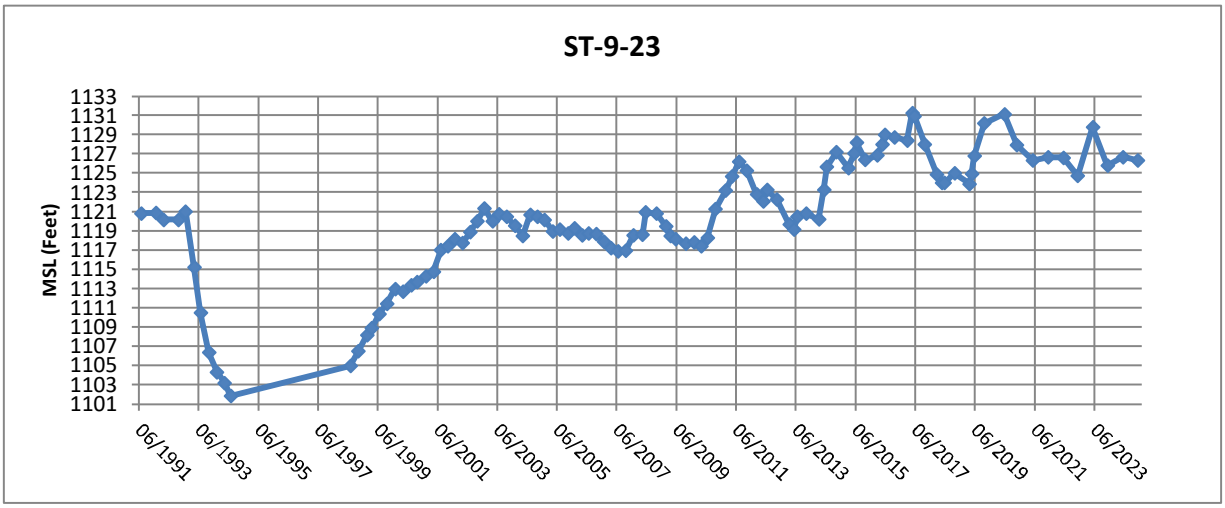
Foth

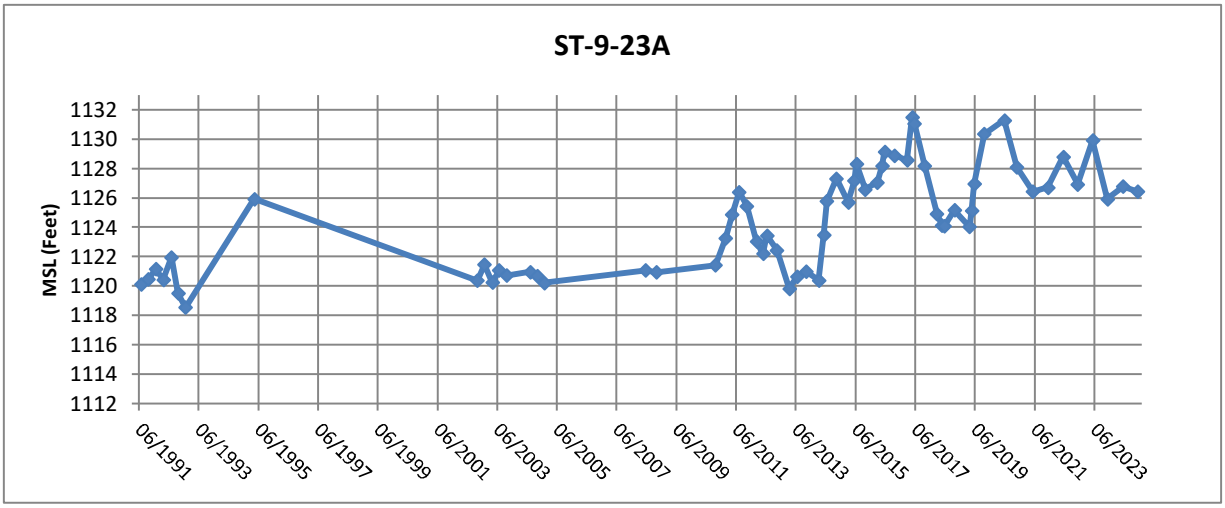
FLAMBEAU MINING COMPANY

Figure B-16e
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





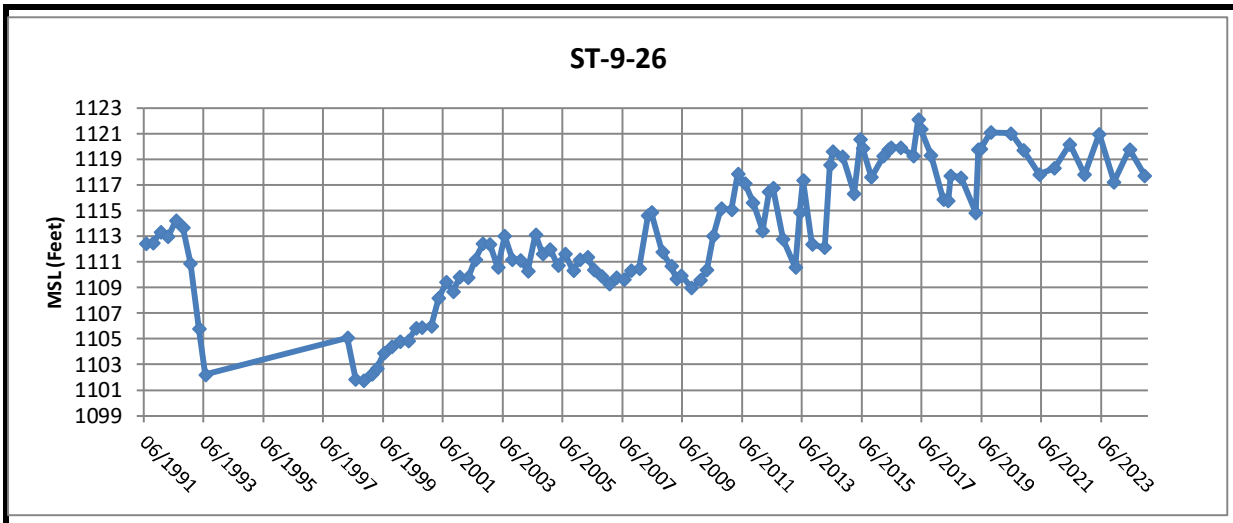


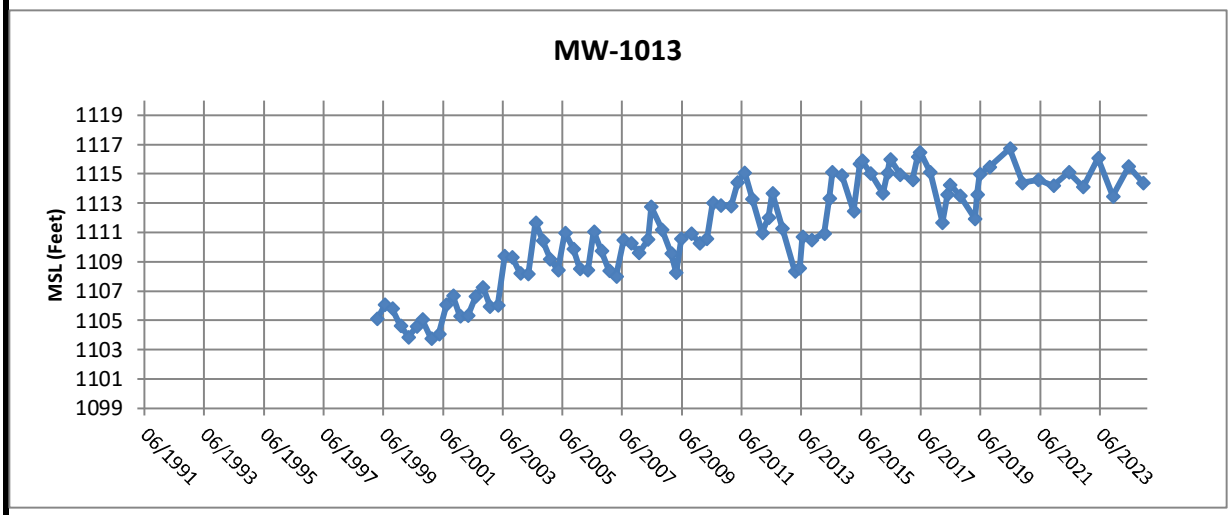
Foth

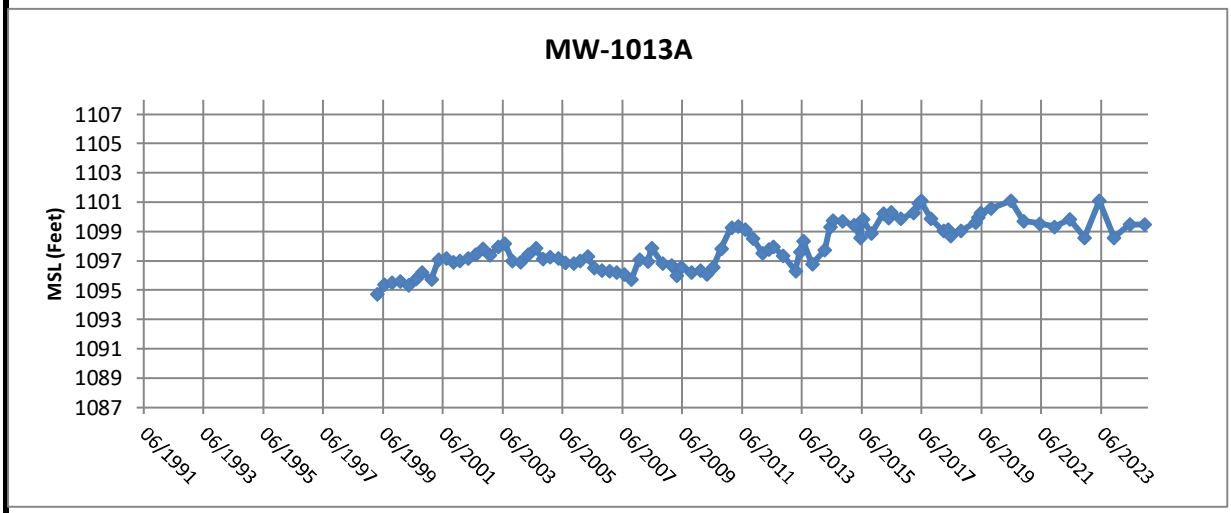
FLAMBEAU MINING COMPANY

Figure B-16f
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





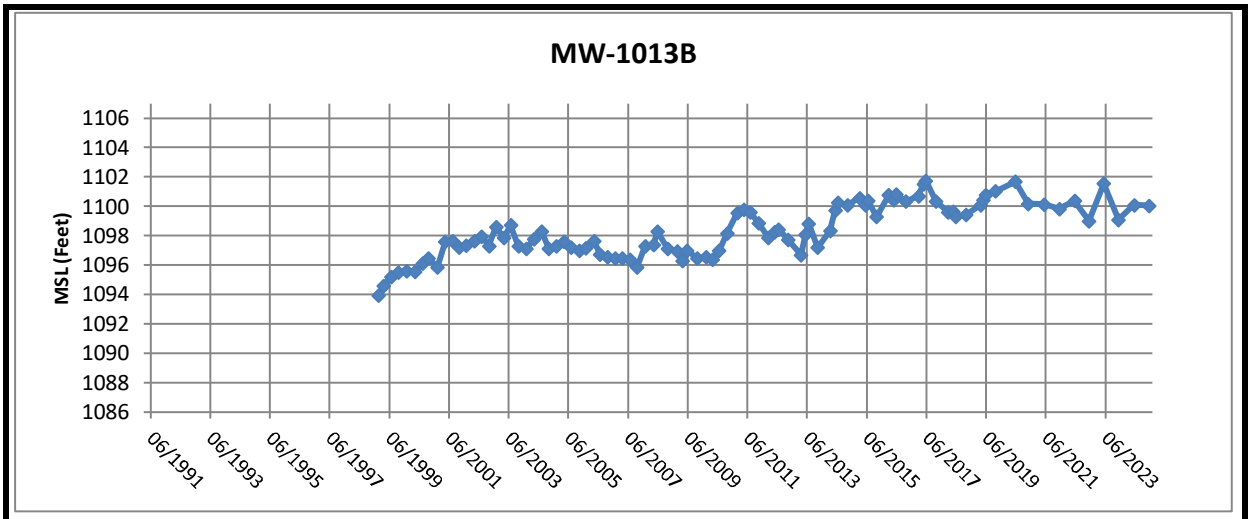


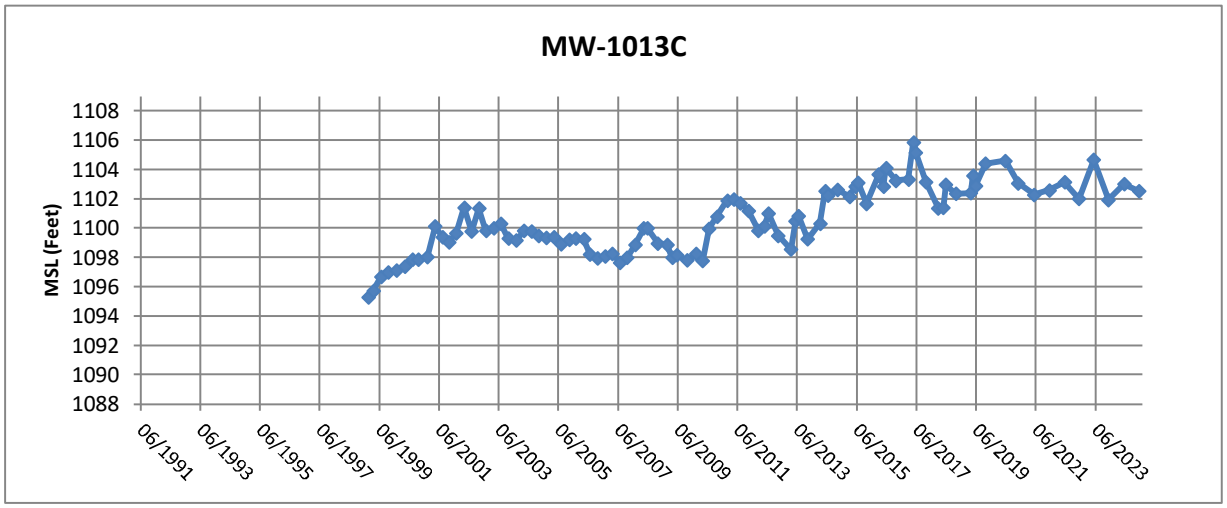
Foth

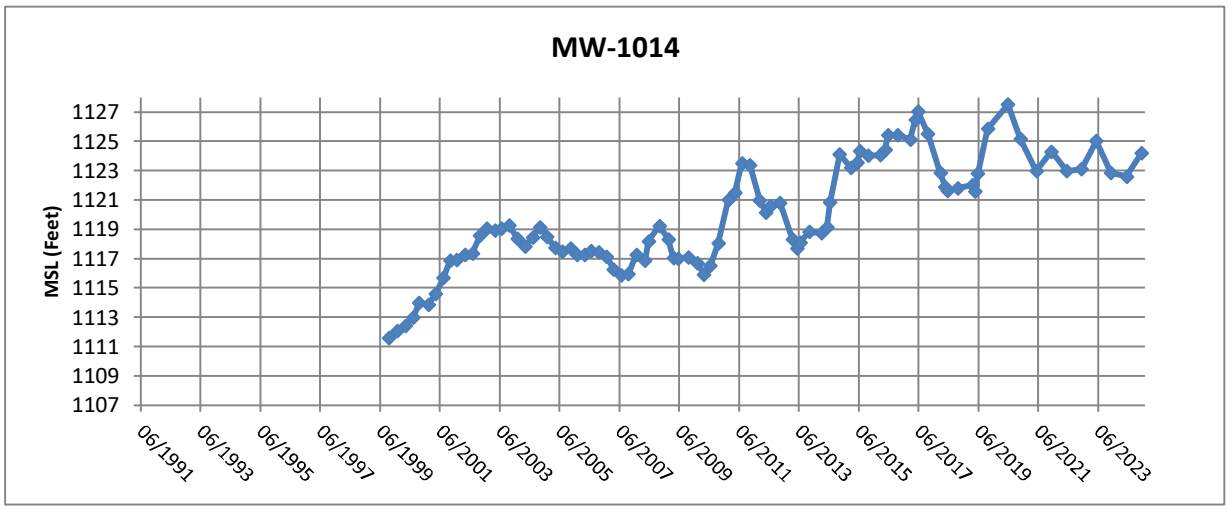
FLAMBEAU MINING COMPANY

Figure B-16g
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25







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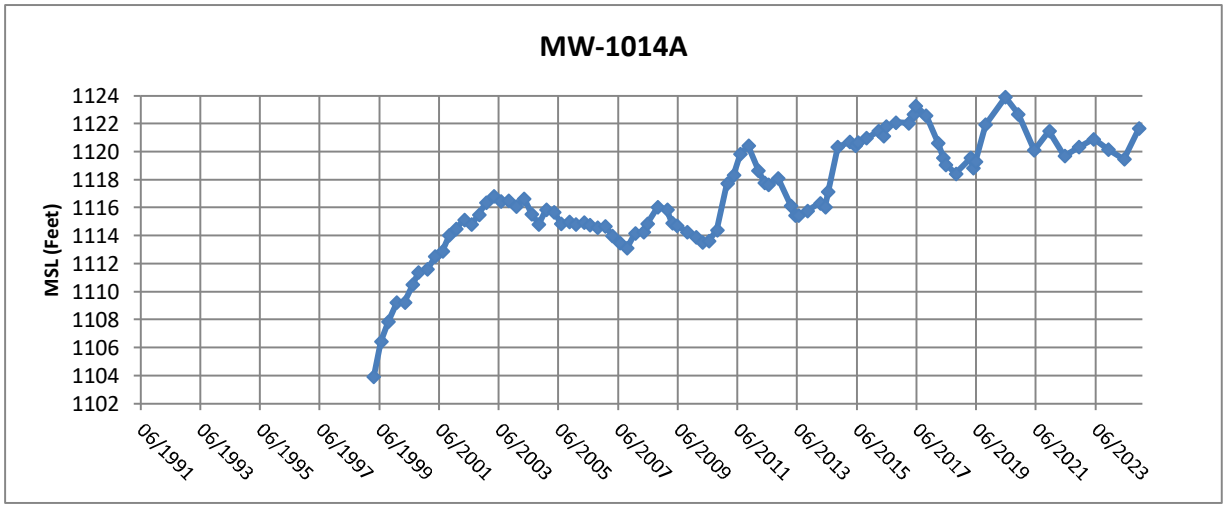
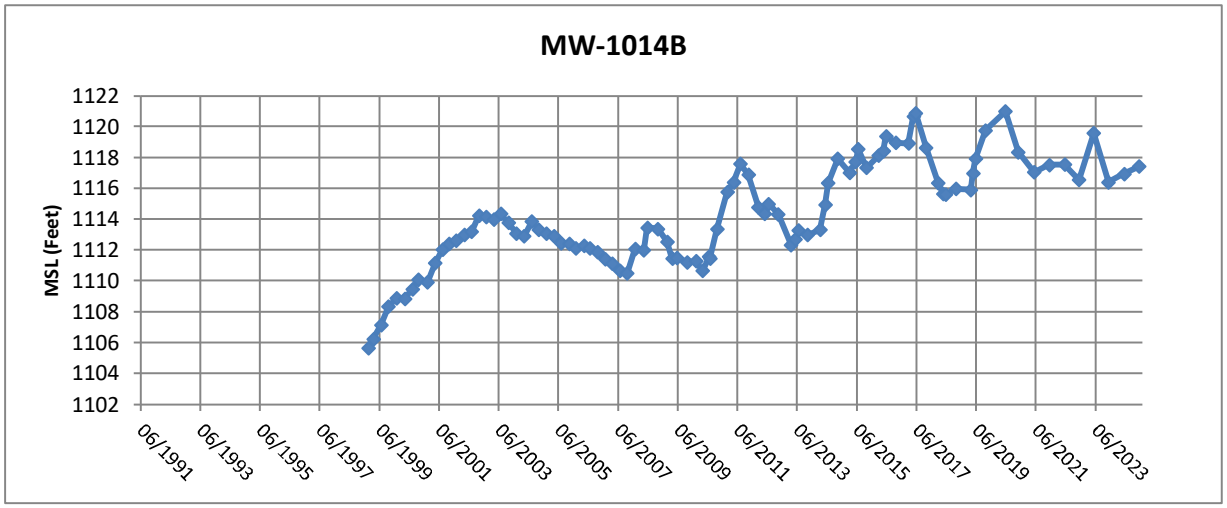
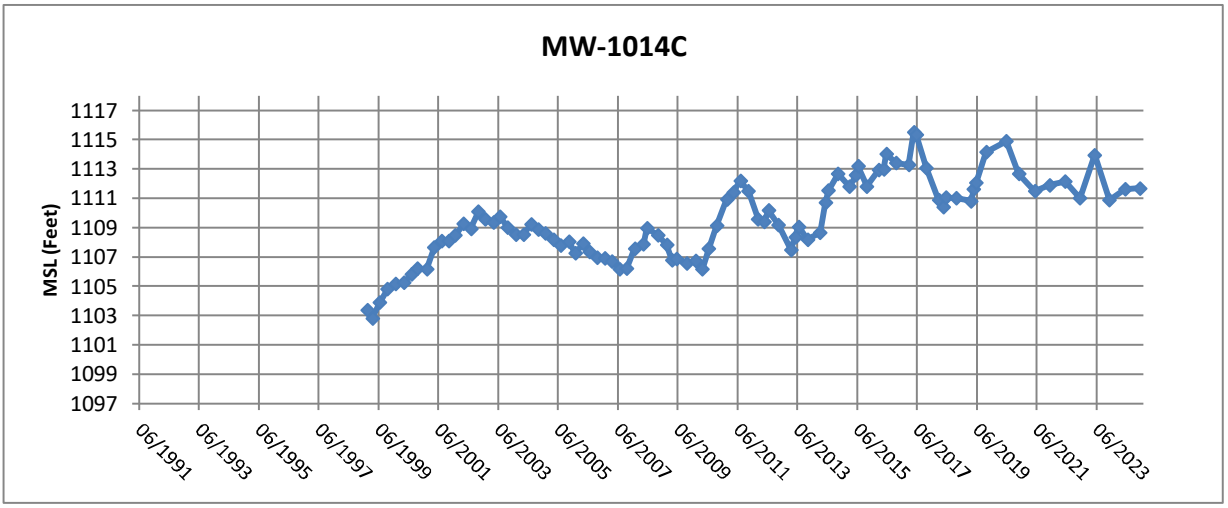
FLAMBEAU MINING COMPANY

Figure B-16h
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





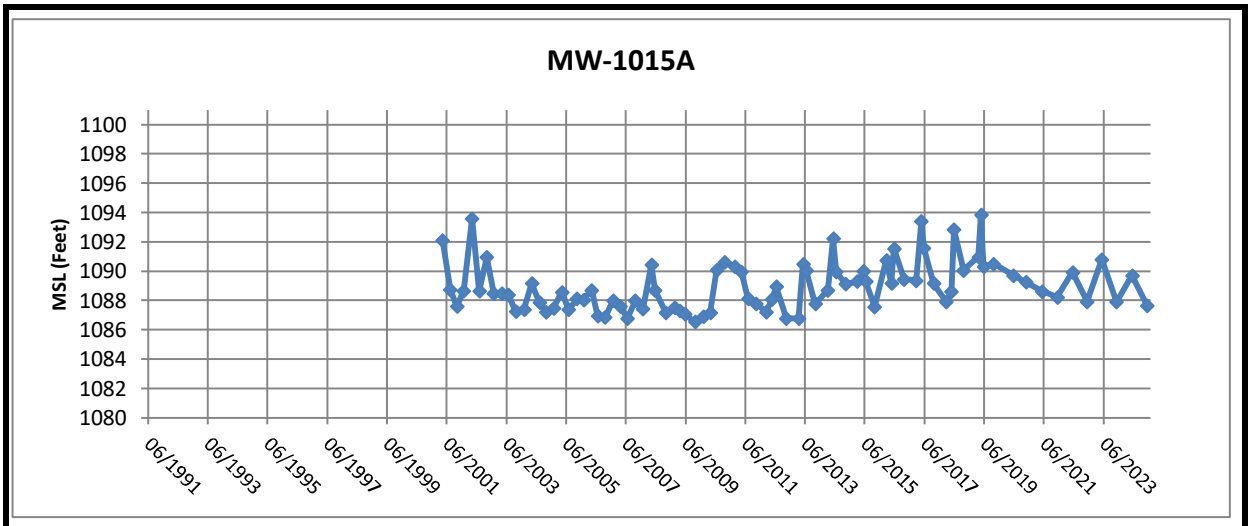


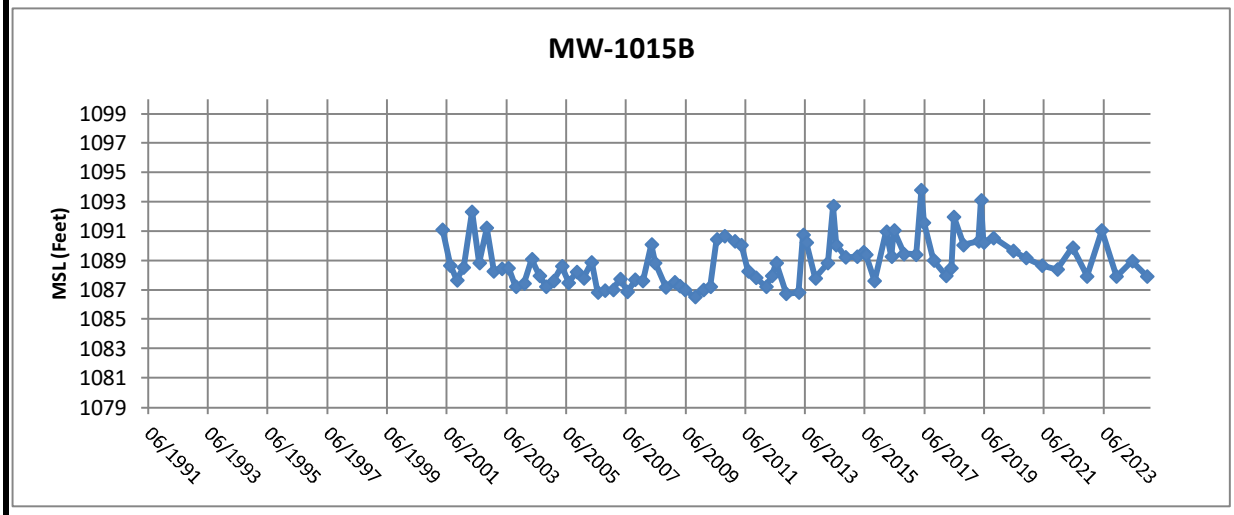
Foth

FLAMBEAU MINING COMPANY

Figure B-16i
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25





Foth

FLAMBEAU MINING COMPANY

Figure B-16j
Hydrographs

Scale: NA	Date: January 2025	
Prepared By: SGL	Checked By: NMG1	Project: 17F777.25

2024 Groundwater Elevation Results

Location	Sample Date	Elevation Ft. (MSL)		Sample Date	Elevation Ft. (MSL)
MW-1000PR	5/22/2024	1090.65		11/20/2024	1087.81
MW-1000R	5/22/2024	1092.24		11/20/2024	1088.91
MW-1001	5/22/2024	1120.18		11/20/2024	1119.27
MW-1001G	5/22/2024	1119.00		11/20/2024	1118.17
MW-1001P	5/22/2024	1119.51		11/20/2024	1118.64
MW-1002	5/22/2024	1092.41		11/20/2024	1090.45
MW-1002G	5/22/2024	1092.17		11/20/2024	1090.30
MW-1004	5/22/2024	1110.97		11/20/2024	1107.79
MW-1004P	5/22/2024	1107.95		11/20/2024	1105.87
MW-1004S	5/22/2024	1111.18		11/20/2024	1107.84
MW-1005	5/22/2024	1141.28		11/20/2024	1140.54
MW-1005P	5/22/2024	1140.24		11/20/2024	1139.34
MW-1005S	5/22/2024	1141.11		11/20/2024	1140.12
MW-1010P	5/22/2024	1089.69		11/20/2024	1087.57
MW-1013	5/22/2024	1115.51		11/20/2024	1114.36
MW-1013A	5/22/2024	1099.49		11/20/2024	1099.49
MW-1013B	5/22/2024	1100.08		11/20/2024	1100.04
MW-1013C	5/22/2024	1103.00		11/20/2024	1102.51
MW-1014	5/22/2024	1122.60		11/20/2024	1124.22
MW-1014A	5/22/2024	1119.46		11/20/2024	1121.68
MW-1014B	5/22/2024	1116.93		11/20/2024	1117.41
MW-1014C	5/22/2024	1111.61		11/20/2024	1111.69
MW-1015A	5/22/2024	1089.71		11/20/2024	1087.64
MW-1015B	5/22/2024	1088.95		11/20/2024	1087.90
OW-39	5/22/2024	1104.32		11/20/2024	1100.42
PZ-S3	5/22/2024	1125.96		11/20/2024	1124.85
ST-9-23	5/22/2024	1126.68		11/20/2024	1126.32
ST-9-23A	5/22/2024	1126.76		11/20/2024	1126.42
ST-9-26	5/22/2024	1119.78		11/20/2024	1117.72

Attachment B

SW-3 2024 Data Table

SW-3 2024 Data Table
Flambeau Mining Company

Date	Analyte	Conductivity	Dissolved Oxygen	pH	Redox Potential	Copper	Hardness	Iron	Manganese	Total Suspended Solids	Zinc
	Units	umhos/cm	mg/l	s.u.	mV	ug/l	mg/l	mg/l	ug/l	mg/l	ug/l
	Location	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3	SW-3
5/22/2024		70.0	7.17	6.62	102.6	<1.9	37.8	0.783	145	10.9	<10.3
11/20/2024		116.0	11.11	7.4	89	<1.9	50.9	0.614	55.3	1.9	<10.3

mg/l - milligrams per liter
mV = millivolts
s.u. = standard units
ug/l = micrograms per liter
umhos/cm - micromohs per centimeter

Prepared by: NMG1
Checked by: MCC2