



**Valentine Gold Mine: 2024 Surface  
Water Follow-up Monitoring Program  
– Annual Report**

Final Report

March 27, 2025

Prepared for:  
Calibre Mining Corporation – Valentine Gold  
Project  
7 Queensway  
Grand Falls-Windsor, NL A2B 1K9

Prepared by:  
Stantec Consulting Ltd.

File Number:  
121418426

## Limitations and Sign-off

The conclusions in the Report titled Valentine Gold Mine: 2024 Surface Water Follow-up Monitoring Program – Annual Report are Stantec’s professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient’s own risk.

Stantec has assumed all information received from Calibre Mining Corp. (the “Client”) and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec’s contract with the Client. While the Report may be provided by the Client to applicable authorities having jurisdiction and to other third parties in connection with the project, Stantec disclaims any legal duty based upon warranty, reliance or any other theory to any third party, and will not be liable to such third party for any damages or losses of any kind that may result.

Prepared by: \_\_\_\_\_  
Signature  
Alanna Flynn, GIT  
\_\_\_\_\_  
Printed Name and Title

\_\_\_\_\_  
Signature  
Nicole Bell, EIT  
\_\_\_\_\_  
Printed Name and Title

Reviewed by: \_\_\_\_\_  
Signature  
Andrew Sinclair, PhD, P.Eng.  
\_\_\_\_\_  
Printed Name and Title

Approved by: \_\_\_\_\_  
Signature  
Sheldon Smith, MES, P.Geo.  
\_\_\_\_\_  
Printed Name and Title



# Table of Contents

<b>Limitations and Sign-off</b> .....	<b>i</b>
<b>Acronyms / Abbreviations</b> .....	<b>iv</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Program Design Considerations .....	1
1.2 Activities Undertaken During Reporting Year .....	2
<b>2 Methods</b> .....	<b>3</b>
2.1 Locations .....	3
2.2 Surface Water Quality .....	6
2.2.1 Certificate of Approval Monitoring .....	7
2.3 Surface Water Quantity .....	11
2.3.1 Station Inspection and Maintenance .....	12
2.3.2 Stage and Discharge Measurements .....	12
2.3.3 Rating Curve Development .....	13
2.3.4 Quality Assurance and Quality Control (QA/QC) .....	14
<b>3 Results</b> .....	<b>15</b>
3.1 Water Quality .....	15
3.1.1 Sedimentation Events .....	15
3.1.2 Certificate of Approval Monitoring .....	16
3.1.3 Results QA/QC .....	22
3.2 Water Quantity .....	22
<b>4 Discussion</b> .....	<b>27</b>
4.1 Conformity with Assessment predictions .....	27
4.1.1 Water Quality .....	27
4.1.2 Water Quantity .....	28
4.2 Adaptive Management .....	28
<b>5 Summary and Conclusions</b> .....	<b>29</b>
<b>6 References</b> .....	<b>30</b>



**List of Tables**

Table 2-1	2024 Surface Water Quality Monitoring Locations .....	4
Table 2-2	2024 Surface Water Quantity Monitoring Locations.....	5
Table 2-3	Monitoring Site Types and Monitoring Frequency.....	7
Table 2-4	Monitoring Parameters, Guideline Values and Regulatory Criteria .....	8
Table 3-1	2024 Sediment Loading Events .....	16
Table 3-2	Surface Water Quality Stations Measured in 2024 .....	16
Table 3-3	Onsite Meteorological Station Daily Total Precipitation Amounts Preceding and During Sampling Events .....	18
Table 3-4	Summary of Inspections and Measurements .....	23
Table 3-5	Preliminary Rating Curves for Hydrometric Stations .....	25
Table B1	Summary of Surface Water Analytical Results .....	Appendix B
Table B2-1	Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station NF02YN0047 (Victoria River Outlet) .....	Appendix B
Table B2-2	Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station NF02YN0048 (Valentine River Outlet) .....	Appendix B
Table B2-3	Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station NF02YN0049 (Roebucks Brook).....	Appendix B
Table B2-4	Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station NF02YN0050 (Victoria River Tributary).....	Appendix B
Table B2-5	Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station NF02YN0051 (Victoria River at Beothuk).....	Appendix B
Table B2-6	Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station NF02YN0052 (Frozen Ears Lake Outlet) .....	Appendix B

**List of Figures**

Figure A-1	Marathon Complex Surface Water Monitoring Locations.....	Appendix A
Figure A-2	Leprechaun Complex Surface Water Monitoring Locations.....	Appendix A
Figure A-3	TMF and Processing Plant Complex Surface Water Monitoring Locations .....	Appendix A
Figure A-4	Beothuk Lake and Long Lake Reference Surface Water Monitoring Location .....	Appendix A

**List of Appendices**

Appendix A	Site Maps
Appendix B	Surface Water Quality Results
Appendix C	Hydrometric Station Summaries



## Acronyms / Abbreviations

ADV	acoustic doppler velocimeter
Al	aluminum
As	arsenic
Bq/L	Becquerel per litre
BV	Bureau Veritas Laboratory
CaCO <sub>3</sub>	calcium carbonate
CCME	Canadian Council of Ministers of the Environment
CEAA	Canadian Environmental Assessment Act
Cd	cadmium
CFU	Coliform forming unit
CN <sup>-</sup>	cyanide
CN <sup>-</sup> WAD	weak acid dissociable cyanide
Cu	copper
CWQG-FAL	Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life
DO	dissolved oxygen
DQO	data quality objective
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
ECWSR	Environmental Control Water and Sewage Regulations
EIS	Environmental Impact Statement
EPP	Environmental Protection Plan
ESC	erosion and sediment control
FDP	Final Discharge Point
Fe	iron
Hg	mercury
HYDAT	National Water Data Archive
IAAC	Impact Assessment Agency of Canada
IR	Information Requirements
kg	kilogram
m	metre
mm	millimetre
m/s	metre per second



**Valentine Gold Mine: 2024 Surface Water Follow-up Monitoring Program – Annual Report**  
**Acronyms / Abbreviations**  
 March 27, 2025

m <sup>3</sup> /s	cubic metre per second
MBq	MegaBecquerel
MDMER	<i>Metal and Diamond Mining Effluent Regulations</i>
mg/L	milligrams per litre
NA	not applicable
ND	no data
NL	Newfoundland and Labrador
NLDECC	Newfoundland and Labrador Department of Environment and Climate Change
NO <sub>2</sub> -N	nitrite as nitrogen
NO <sub>3</sub> -N	nitrate as nitrogen
NTU	nephelometric turbidity unit
Pb	lead
POPC	Parameters Of Potential Concern
QA/QC	quality assurance and quality control
RDL	Reportable Detection Limit
RQP	Reference Quality Point
RQFP	Reference Quality and Flow Point
SCC	Standards Council of Canada
Se	selenium
SO <sub>4</sub>	Sulphate
SWFMP	Surface Water Follow-up Monitoring Program
TCU	true color unit
TMF	tailings management facility
TDS	total dissolved solids
TSS	total suspended solids
VGM	Valentine Gold Mine
WFP	Water Flow Point
WQP	Water Quality Point
WQFP	Water Quality Flow Point
°C	degrees Celsius
µg/L	micrograms per litre



# 1 Introduction

Stantec Consulting Ltd. (Stantec) was retained by Calibre Mining Corp. (Calibre)<sup>1</sup> (formerly Marathon Gold Corporation) to report on the surface water (SW) follow-up monitoring program (FUP) for the Valentine Gold Project Environmental Impact Statement (EIS) and the Berry Pit Expansion Environmental Registration / Environmental Assessment (Valentine Gold Project) Update (Marathon Gold 2022). The combined approved projects are now referred to as the Calibre Valentine Gold Mine (VGM) (the Project). The VGM is located in central Newfoundland, approximately 57 km south of Buchans, and is comprised of open pits, disposal piles, crushing and stockpiling areas, site infrastructure, a tailings management facility, and mine site haul and access roads. Production capacity is estimated at 10,960 tonnes per day of high- and low-grade ore, with an operation life of approximately 14 years. The mine site is accessed by an existing gravel road, approximately 82 km in length, which extends south from Millertown to the VGM.

This report documents the implementation of the SWFMP for the Project during the 2024 construction period of January 1, 2024, to December 31, 2024 (reporting period).

## 1.1 Program Design Considerations

The Surface Water FUP was implemented in the fall of 2022 for the construction phase of the Project to verify accuracy of the environmental assessment (EA) and determine effectiveness of proposed mitigation measures. The SW FUP program was developed in accordance with the EA Conditions, Metal and Diamond Mine Effluent Regulations (MDMER) requirements and Certificate of Approval (CoA) AA22-095690 requirements. The objectives of the annual report are to:

- Provide a response to EA Approval Condition 3.17, 3.17.2, 3.17.3 and 3.17.5
- Provide annual monitoring results reporting as part of Section 22 requirements of the MDMER. This did not apply in 2024, as the Project was not subject to the MDMER.
- Provide annual monitoring results reporting as per CoA AA22-095690 requirements

The results of the surface water monitoring activities will be reviewed, analyzed and presented in an annual report to document the following:

1. Results of the monitoring program including, monitored parameters, dates, locations (latitude and longitude) and detection limits
2. Mean annual concentration for each final discharge point (FDP) of Mercury (Hg) and Selenium (Se)<sup>2</sup>

---

<sup>1</sup> In January 2024, Marathon Gold Corporation and the Valentine Gold Project was acquired by Calibre and is now referenced as Calibre Valentine Gold Mine (VGM).

<sup>2</sup> The FDPs did not discharge during the reporting period, therefore the mean annual concentrations for Hg and Se were not calculated for the annual report.



3. Methods used to conduct sampling at monitoring locations
4. Description of quality assurance/quality control (QA/QC) measures implemented and applicable results data for water quality and quantity monitoring activities
5. Conformity with specified water quality thresholds
6. Causes of non-conformity results and planned or implemented remedial measures
7. Relative trends of parameters with discussion of significance of findings
8. Effectiveness of the surface water quality mitigation measures
9. Additional mitigation measures employed, if required

## **1.2 Activities Undertaken During Reporting Year**

Construction activities for the Project have been ongoing since October 2022 and continued throughout 2024. In 2023, NL Hydro completed a transmission line from the Star Lake generating station to the Process Plant site substation and in 2024, power was distributed locally to the accommodations camp and water intake, and poles have been erected and lines strung to other Project infrastructure to be brought online in 2025. Other construction activities in 2024 included:

- Completion of Stage 1 and 2 of the Tailings Management Facility (TMF);
- Completion of the TMF Seepage Pond and associated Phase 2 ditching;
- Completion of four permanent sedimentation ponds and partial completion of associated ditching;
- Installation of a 130 m communications tower;
- Continuation of tree clearing and grubbing of organic material at various locations across the Project site (e.g., waste rock stockpiles, haul roads, permanent sedimentation ponds, and diffuser line);
- Continuation of stripping and grubbing of organics, and topsoil and overburden removal at the Leprechaun, Marathon and Berry pits to permit development (blast/load/haul) of construction rock for earthworks;
- Continuation of haul road construction around the open pits and associated stockpiles;
- Further development of the Marathon and Leprechaun overburden stockpiles;
- Development of the rock pads for the security trailer, explosives storage facility, Run of Mine pad, and continuation of the rock pad for the High-Grade Ore Stockpile;
- Continuation of the Process Plant construction and associated components (e.g., conveyors, leaching tanks and mechanically stabilized earth (MSE) wall and crusher);
- Partial completion of the TMF tailings line and reclaim water line;
- Partial construction of Explosives Building and Security Building; and
- Site access road upgrades including the completion of the TMF road re-alignment and other minor road realignments, ditching, and culvert installation and replacement.

All construction activities included construction water management and environmental monitoring, where appropriate.



## 2 Methods

### 2.1 Locations

Surface water quality was monitored at 17 locations in 2024 (Table 2-1; Appendix A). The sites are grouped by project area – Leprechaun Complex, Marathon Complex, and Processing Plant and TMF Complex with additional monitoring locations operated by the Province of Newfoundland and Labrador Water Resources Management Division (NLDECC-WRMD) (Provincial Monitoring Locations) and reference sites for the Project. Construction of Berry Complex began in 2024; however, no additional surface water quality and quantity monitoring sites are required in this area. As described in the SWFMP the reference sites are located upstream from the Project Area and are not expected to be affected by Project activities. The Provincial Real-Time Water Quality Monitoring (RTWQM) sites were established in between 2022 and 2024 for continuous water level and water quality monitoring by the NLDECC-WRMD. The Provincial RTWQM sites are monitored four times per year no less than 30 days apart for analytical water quality by Calibre staff.



**Table 2-1 2024 Surface Water Quality Monitoring Locations**

Project Area	Site	Easting	Northing	Stream Name
Leprechaun Complex	LP-WQFP-03 <sup>A</sup>	486687.54	5355082.23	Stream VIC-16
	LP-WFP-01	488458.32	5356252.94	Stream VIC-26
	LP-WQP-02	488027.70	5354703.96	Victoria Lake Reservoir
	LP-WQP-05	486193.47	5355586.50	Pond VIC-P2
Marathon Complex	MA-WQFP-45 <sup>A</sup>	493334.24	5361264.10	Stream VIC-8
	MA-WQP-01A	491120.07	5359877.09	Stream VAL-2
	MA-WQP-01B	491561.50	5360151.09	Stream VAL-3
	MA-WQP-03	492001.96	5361525.82	Stream VIC-6
	WFP-HS8 <sup>E5</sup>	494351.62	5361700.61	Stream VIC-9
	WFP-HS9 <sup>E1</sup>	489876.26	5359593.40	Pond VAL-P3 Outlet
Processing Plant and TMF Complex	PP-WQP-01	490681.13	5355379.57	Victoria Lake Reservoir
	PP-WQP-02	489700.22	5357083.08	Pond L2
Reference Sites and Provincial Real-Time Water Quality Monitoring Sites	NLECC-VL-Outflow <sup>E2</sup>	494167.78	5363518.75	Valentine Lake Outlet (Stream VIC-35)
	NLECC-VR-Pit <sup>E3</sup>	494648.42	5361532.40	Victoria River
	RQP-VAL01 <sup>B</sup>	488960.12	5359582.96	Valentine Lake
	RQP-VIC01 <sup>C</sup>	485630.31	5353775.64	Victoria Lake
	RQFP-34 <sup>D4</sup>	499052.01	5376755.39	Unnamed tributary to Beothuk Lake
	WFP-HS8 <sup>BE5</sup>	494351.62	5361700.61	Stream VIC-9
	NLECC-VR-VRB <sup>E6</sup>	489874.13	5359592.37	Victoria River at Beothuk Lake
	WFP-HS9 <sup>B,E7</sup>	489876.26	5359593.40	Frozen Ears Lake Outlet

Note:

- <sup>A</sup> – Pre-construction monitoring station
- <sup>B</sup> – Marathon Reference Water Quality Station
- <sup>C</sup> – Leprechaun Reference Water Quality Station
- <sup>D</sup> – Victoria River/ Beothuk Lake Watershed Reference Water Quality Station
- <sup>E</sup> – Provincial Real-Time Water Quality Station
- <sup>1</sup> – Referred to as NF02YN0052 by the NLDECC real-time monitoring network (NLDECC 2024)
- <sup>2</sup> – Referred to as NF02YN0048 by the NLDECC real-time monitoring network (NLDECC 2024)
- <sup>3</sup> – Referred to as NF02YN0047 by the NLDECC real-time monitoring network (NLDECC 2024)
- <sup>4</sup> – Referred to as NF02YN0049 by the NLDECC real-time monitoring network (NLDECC 2024)
- <sup>5</sup> – Referred to as NF02YN0050 by the NLDECC real-time monitoring network (NLDECC 2024)
- <sup>6</sup> – Referred to as NF02YN0051 by the NLDECC real-time monitoring network (NLDECC 2024)
- <sup>7</sup> – Referred to as NF02YN0052 by the NLDECC real-time monitoring network (NLDECC 2024)

Surface water quantity is measured at 12 Water Flow Points (WFP), Water Quality Flow Points (WQFP) and Reference Quality Flow Points (RQFP) sites (Table 2-2; Appendix A). The sites are grouped by project area – Leprechaun Complex, Marathon Complex and Processing Plant and TMF Complex. Construction of Berry Complex began in 2024; however, no additional surface water monitoring sites are required in this area. A majority of the monitoring locations were installed in September 2022 with two WFP sites, WFP-05 and WFP-35, installed on October 25, 2023. An additional monitoring location, RQFP-34, was installed upstream of the Project by the Province of Newfoundland and Labrador Water Resource Management Division (Provincial Monitoring Location) on November 5, 2022, and is used as a reference station for the SWFMP.



The following real-time surface water monitoring stations were installed at and in the vicinity of the Project site between 2022 and 2024:

- NF02YN0047 (Victoria River Outlet) – installed November 2022
- NF02YN0048 (Valentine River Outlet) – installed November 2022
- NF02YN0049 (Roebucks Brook) – installed November 2022
- NF02YN0050 (Victoria River Tributary) – installed November 2023
- NF02YN0051 (Victoria River at Beothuk Lake) – installed June 2024
- NF02YN0052 (Frozen Ears Lake Outlet) – installed June 2024

**Table 2-2 2024 Surface Water Quantity Monitoring Locations**

Project Area	Site	Easting	Northing	Water System	Period of Available Data <sup>A</sup>
Leprechaun Complex	LP-WQFP-03	486687.54	5355082.23	Stream VIC-16	September 7, 2022 to December 31, 2024
	WFP-HS4	486569.30	5355176.20	Stream VIC-17	September 7, 2022 to December 31, 2024
	WFP-HS5	486757.17	5355149.18	Stream VIC-15	September 7, 2022 to December 31, 2024
	WFP-26	488295.65	5354906.95	VIC-26	September 7, 2022 to December 31, 2024
Marathon Complex	MA-WQFP-45	493334.24	5361264.10	Stream VIC-8	September 8, 2022 to December 31, 2024
	WFP-05	490803.88	5361504.65	Stream VAL-5	October 23, 2023 to December 31, 2024
	WFP-35	490568.27	5362789.98	Valentine Lake outflow	October 23, 2023 to December 31, 2024
	WFP-HS8 <sup>4</sup>	494351.62	5361700.61	Victoria River Tributary	November 2023 to December 31, 2024
	WFP-HS9 <sup>6</sup>	489876.26	5359593.40	Frozen Ears Lake Outlet	June 2024 to December 31, 2024
Processing Plant and TMF Complex	WFP-HS7	491128.63	5357376.11	VIR-32	September 8, 2022 to December 31, 2024
	WFP-33	493093.82	5358131.87	VIR-34	September 7, 2022 to December 31, 2024
Provincial Real-Time	NLECC-NR-Pit <sup>1</sup>	494648.42	5361532.40	Victoria River Outlet	November 2022 to December 31, 2024



**Table 2-2 2024 Surface Water Quantity Monitoring Locations**

Project Area	Site	Easting	Northing	Water System	Period of Available Data <sup>A</sup>
Water Quality Monitoring Sites <sup>7</sup>	NLECC-VL-Outflow <sup>2</sup>	494167.78	5363518.75	Valentine River Outlet	November 2022 to December 31, 2024
	RQFP-34 <sup>3</sup>	499052.01	5376755.39	Beothuk Lake	November 5, 2022 to December 31, 2024
	NLECC-VR-VRB <sup>5</sup>	489874.13	5359592.37	Victoria River at Beothuk Lake	June 2024 to December 31, 2024

<sup>A</sup> Data available at the time of report issue. Stations remain active, and monitoring is ongoing.

<sup>1</sup> – Referred to as NF02YN0047 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>2</sup> – Referred to as NF02YN0048 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>3</sup> – Referred to as NF02YN0049 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>4</sup> – Referred to as NF02YN0050 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>5</sup> – Referred to as NF02YN0051 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>6</sup> – Referred to as NF02YN0052 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>7</sup> – Flow monitoring only conducted at RQFP-34

## 2.2 Surface Water Quality

There are three components to the SWFMP water quality monitoring program:

- In situ / field water quality monitoring
- Four times per year monitoring of WQP, WQFPs, and RQFPs.
- Monitoring of FDPs.

Four permanent sedimentation ponds were constructed in 2024 and FDPs for each were registered under the MDMER. However, there was no effluent discharge from the FDPs in 2024.

Annual reporting for the accommodations camp sanitary wastewater influent and treated effluent monitoring to Regulators is not part of this annual report. The Process Plant sanitary wastewater management design has changed and will not require monitoring. Sanitary wastewater will be stored in a tank and periodically trucked to the accommodations camp for treatment.

As discussed in the SWFMP water quality measurements are compared against the following criteria:

- Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL)
- The baseline and predicted water quality information as identified in the EIS and EIS Information Request (IR) responses
- Water quality concentrations at Reference stations



### 2.2.1 Certificate of Approval Monitoring

Calibre conducts water quality monitoring including grab water samples and in situ water quality measurements four times per calendar year (per the CoA AA22-095690).

The following tables (Table 2-3 and Table 2-4) lists the monitoring site types, frequency and parameter package applicable to each site monitored in 2024.

**Table 2-3 Monitoring Site Types and Monitoring Frequency**

Point Type	Parameter Package <sup>1</sup>	Sampling Frequency	Frequency Limitation
WQPs/WQFPs (water quality points/water quality flow points)	NL Certificate of Approval - Typical	Four times per calendar year	≥ 30 days apart between samples
	EIS Parameters of Potential Concern	Four times per calendar year	≥ 30 days apart between samples
RQPs/RQFPs (reference quality points/reference quality flow points)	NL Certificate of Approval - Typical	Four times per calendar year	≥ 30 days apart between samples
	EIS Parameters of Potential Concern	Four times per calendar year	≥ 30 days apart between samples

Note:

<sup>1</sup> Table 4.7 of SWFMP (Marathon Gold 2022) lists the specific parameters, detection limits and threshold criteria for each parameter package



**Table 2-4 Monitoring Parameters, Guideline Values and Regulatory Criteria**

Parameters	Units	Reportable Detection Limit (RDL)	CWQG-FAL Guidelines		Newfoundland and Labrador ECWSR	Federal Wastewater Systems Effluent Regulations Maximum Quarterly Mean Concentration (<2,500 m3/day discharge)	MDMER Effluent Criteria at Final Discharge Points		
			Short-term	Long-term			Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
<b>NL Certificate of Approval - Typical</b>									
Field Temperature <sup>1</sup>	°C	±0.5	-	-	<32				
Nitrate (as N) (NO <sub>3</sub> -N)	µg/L	50	550,000	13,000	10				
Nitrite	µg/L		-	60					
Field pH <sup>1</sup>	-	NA	-	6.5 – 9.0	MDMER				
Total Suspended Solids (TSS) <sup>1</sup>	mg/L	1	-	Narrative <sup>a</sup>	MDMER*				
Colour	TCU	5	-	Narrative <sup>b</sup>	-				
Total Ammonia (as N) (NH <sub>3</sub> Tot as N) <sup>1</sup>	mg/L	0.05	-	Table <sup>c</sup>	2				
Chloride (Cl)	mg/L	60	640	120	-				
Turbidity	NTU		-	Narrative <sup>d</sup>					
Total Phosphorus (as P) (TP) <sup>3</sup>	µg/L	4	-	Guidance Framework <sup>e</sup>	0.5				
Total Dissolved Solids (calculated)	mg/L	1	-	-	1,000				
Phenolics	mg/L	0.0015	-	-	0.1				
Dissolved Oxygen (DO)	mg/L	0.05	-	Variable <sup>f</sup>	-				
Total Aluminum (Al) <sup>2</sup>	µg/L	5	-	Variable <sup>g</sup>	-				
Total Arsenic (As) <sup>1,2</sup>	mg/L	0.001	-	0.005	MDMER				
Total Barium (Ba)	µg/L	1	-	-	5,000				
Total Boron (B)	µg/L	50	29,000	1,500	5,000				
Total Cadmium (Cd) <sup>2</sup>	µg/L	0.017	Equation <sup>h</sup>	Equation <sup>i</sup>	50				
Total Chromium (Cr)	µg/L	1	-	(Cr III) – 8.9; (Cr VI) – 1	Cr (VI) – 50; Cr (III) – 1,000				
Total Copper (Cu) <sup>1, 2</sup>	mg/L	0.001	-	Equation <sup>j</sup>	MDMER				
Total Iron (Fe) <sup>2</sup>	µg/L	50	-	300	10,000				
Total Lead (Pb) <sup>1, 2</sup>	mg/L	0.0005	-	Equation <sup>k</sup>	MDMER				
Total Manganese (Mn) <sup>3</sup>	µg/L	2	Equation <sup>l</sup>	Variable <sup>m</sup>	-				
Total Mercury (Hg)	µg/L	0.013	-	0.026	5				
Total Molybdenum (Mo)	µg/L	36.5	-	73	-				
Total Nickel (Ni) <sup>1</sup>	mg/L	2	-	Equation <sup>n</sup>	MDMER				
Total Silver (Ag)	µg/L	0.1	No Reportable Guideline	0.25	50				
Total Thallium (Tl)	µg/L	0.4	-	0.8	-				
Total Uranium (Ur)	µg/L	0.1	33	15	-				



**Table 2-4 Monitoring Parameters, Guideline Values and Regulatory Criteria**

Parameters	Units	Reportable Detection Limit (RDL)	CWQG-FAL Guidelines		Newfoundland and Labrador ECWSR	Federal Wastewater Systems Effluent Regulations Maximum Quarterly Mean Concentration (<2,500 m3/day discharge)	MDMER Effluent Criteria at Final Discharge Points		
			Short-term	Long-term			Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Total Zinc (Zn) <sup>1</sup>	mg/L	0.005	Equation <sup>o</sup>	Equation <sup>p</sup>	MDMER				
<b>Environmental Impact Statement (EIS) Parameters of Potential Concern (Marathon 2020a)</b>									
Weak Acid Dissociable Cyanide (CN <sup>-</sup> WAD) <sup>3</sup>	µg/L	1	-	5 (as Free CN <sup>-</sup> )	25				
Total Fluoride (F) <sup>3</sup>	µg/L	60	-	120	-				
Nitrite (as N) (NO <sub>2</sub> <sup>-</sup> N) <sup>2</sup>	µg/L	10	-	60	-				

Notes:

“-“ – No value

CWQG-FAL – CCME Water Quality Guidelines for the Protection of Aquatic Life, Freshwater

ECWSR – Environmental Control Water and Sewage Regulations, Schedule A

MDMER – Metal and Diamond Mining Effluent Regulations

\*The TSS method meets the MDMER suspended solids analytical requirements.

<sup>1</sup> – MDMER Schedule 4, Table 1

<sup>2</sup> – EIS baseline surface water quality program CWQG-FAL exceedance parameter (EIS Chapter 7, Section 7.3.5.2 (Marathon 2020a)).

<sup>3</sup> – EIS mine effluent characterization CWQG-FAL exceedance parameter (EIS Chapter 7, Section 7.3.5.2 (Marathon 2020a)).

<sup>a</sup> – Clear Flow: Maximum increase of 25 mg/L from background levels for any short-term exposure (e.g., 24 hours). Maximum average increase of 5 mg/L from background levels for longer term exposures (e.g., between 24 hours and 30 days). High Flow: Maximum increase of 25 mg/L from background levels at any time when background levels are between 25 mg/L and 250 mg/L. Should not increase more than 10% of background levels when background is ≥250 mg/L.

<sup>b</sup> – The mean absorbance of filtered water samples at 456 nm shall not be significantly higher than the seasonally adjusted expected value for the system under construction.

<sup>c</sup> – Total ammonia as N is temperature and pH dependent. Measurements of total ammonia in the aquatic environment are often expressed as mg/L-N NH<sub>3</sub>. The present guideline values (mg/L NH<sub>3</sub>) can be converted to mg/L-N NH<sub>3</sub> by multiplying the corresponding guideline value by 0.8224.

<sup>d</sup> – Clear Flow: Maximum increase of 8 NTU from background levels for a short-term exposure (e.g., 24 hours). Maximum average increase of 2 NTU from background levels for longer term exposures (e.g., 30 days). High Flow or Turbid Waters: Maximum increase of 8 NTU from background levels at any one time when background levels are between 8 NTU and 80 NTU. Should not increase more than 10% of background levels when background is >80 NTU.

<sup>e</sup> – Trigger Ranges: Ultra-oligotrophic <4 µg/L; Oligotrophic 4 µg/L to 10 µg/L; Mesotrophic 10 µg/L to 20 µg/L; Meso-eutrophic 20 µg/L to 35 µg/L; Eutrophic 35 µg/L to 100 µg/L; Hyper-eutrophic >100 µg/L.

<sup>f</sup> – Lowest acceptable DO concentrations: for warm water biota (early life stages) 6 mg/L; for warm water biota (other life stages) 5.5 mg/L; for cold water biota (early life stages) 9.5 mg/L; for cold water biota (other life stages) 6.5 mg/L.

<sup>g</sup> – 5 µg/L if pH <6.5; 100 µg/L if pH ≥6.5.

<sup>h</sup> – If water hardness is 0 mg/L to <5.3 mg/L, the short-term guideline is 0.11 µg/L. If water hardness is ≥3.5 mg/L to ≤360 mg/L, the short-term guideline is calculated using the equation  $10^{(1.016(\log[\text{hardness}]) - 171)}$ . If water hardness is >360 mg/L, the short-term guideline is 7.7 µg/L.

<sup>i</sup> – If water hardness is 0 mg/L to <17 mg/L, the long-term guideline is 0.04 µg/L. If water hardness is ≥17 mg/L to ≤280 mg/L, the long-term guideline is calculated using the equation  $10^{(0.83(\log[\text{hardness}]) - 2.46)}$ . If water hardness is >280 mg/L, the long-term guideline is 0.37 µg/L.

<sup>j</sup> – If water hardness is 0 mg/L to <82 mg/L, the long-term guideline is 2 µg/L. If water hardness is ≥82 mg/L to ≤180 mg/L, the long-term guideline is calculated using the equation  $0.2 * e^{(0.8545(\ln[\text{hardness}]) - 1.465)}$ . If water hardness is >180 mg/L, the long-term guideline is 4 µg/L. If water hardness is unknown, the long-term guideline is 2 µg/L.

<sup>k</sup> – If water hardness is 0 mg/L to ≤60 mg/L, the long-term guideline is 1 µg/L. If water hardness is >60 mg/L to ≤180 mg/L, the long-term guideline is calculated using the equation  $e^{(1.273(\ln[\text{hardness}]) - 4.705)}$ . If water hardness is >180 mg/L, the long-term guideline is 7 µg/L. If water hardness is unknown, the long-term guideline is 1 µg/L.

<sup>l</sup> – The short-term guidelines is expressed as dissolved manganese and is calculated using the CCME benchmark calculator in Appendix B of the Scientific Criteria Document of the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life: Manganese or the equation  $\exp(0.878[\ln(\text{hardness})] + 4.76)$ .

<sup>m</sup> – The long-term guideline is calculated using the CCME benchmark calculator in Appendix B of the Scientific Criteria Document of the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life: Manganese.

<sup>n</sup> – If water hardness is 0 mg/L to ≤60 mg/L, the long-term guideline is 25 µg/L. If water hardness is >60 mg/L to ≤180 mg/L, the long-term guideline is calculated using the equation  $e^{(0.76(\ln[\text{hardness}]) + 1.06)}$ . If water hardness is >180 mg/L, the long-term guideline is 150 µg/L. If water hardness is unknown, the long-term guideline is 25 µg/L.

<sup>o</sup> – The short-term guideline is calculated using the equation  $\exp(0.833[\ln(\text{hardness})] + 0.240[\ln(\text{DOC})] + 0.526)$  and is valid between water hardness of 13.8 mg/L and 250.5 mg/L and DOC of 0.3 mg/L and 17.3 mg/L. Where sample concentrations are total zinc, first compare to the dissolved zinc benchmark, and where there is an exceedance, re-sample for a dissolved concentration. Short-term guidelines are expressed as two significant figures.

<sup>p</sup> – The long-term guideline is calculated using the equation  $\exp(0.947[\ln(\text{hardness})] - 0.815[\text{pH}] + 0.398[\ln(\text{DOC})] + 4.625)$  and is valid between water hardness of 23.4 mg/L and 399 mg/L, pH of 6.5 and 8.13, and DOC of 0.3 mg/L and 22.9 mg/L. Where sample concentrations are total zinc, first compare to the dissolved zinc benchmark, and where there is an exceedance, re-sample for a dissolved concentration. Long-term guidelines are expressed as two significant figures.



### **2.2.1.1 Field Monitoring Methods**

When collecting water samples at the monitoring sites, calibrated multi-parameter digital water quality meter measurements (i.e., pH, conductivity, water temperature, DO) are recorded at the time of collection. Samples are collected in clean laboratory-prepared containers specific to each analysis and stored and shipped in coolers at approximately 4 °C. The water samples collected at WQPs, WQFPs, RQPs and RQFPs are submitted to a Standards Council of Canada (SCC) accredited laboratory following chain of custody protocols for analysis. The field and laboratory analysis method detection limits meet the requirements presented in Table 2.4.

Only grab samples are to be collected at WQPs, WQFPs, RQPs and RQFPs.

Field sampling includes the following general steps:

- Field verification of water sampling locations. Note: Monitoring activities are not conducted when there is no water flow (during fully frozen/dry conditions) or during unsafe conditions.
- Measurement of in situ water quality parameters using a multi-parameter water digital quality meter
- Completion of the field data sheet, including visual observations at the time of analytical sample collection
- Shipping of water samples to the accredited laboratory with storage at 4°C until analysis

Field monitoring QA/QC included the following measures:

- Calibration of the multi-parameter digital water quality meter with certified standard solutions per manufacturer maintenance manual guidance
- Use of pre-cleaned and pre-labeled bottles and nitrile gloves for sample collection to minimize cross-contamination
- Monitoring conducted by trained and experienced sampling technician team
- Preservation of water samples on site with preservatives provided by the laboratory
- Submission of samples to the laboratory within recommended hold times to allow for laboratory analysis
- Routine random duplicate samples representing a minimum of 10% of the samples collected
- Completion of primary Chain of Custody form, with secondary review by alternate sampling technician
- Follow the appropriate shipping protocols to maintain integrity of the samples received at the lab



Field duplicates are collected to determine field precision by measuring the difference between the collected field data and its field duplicate using relevant percent difference (RPD) calculations. The data quality objective (DQO) for field precision is met when the RPD is within 25% for concentrations at least five times above the analytical detection limit. This RPD value is in line with recommendations by Canadian Council of Ministers of the Environment (CCME) *Protocols Manual for Water Quality Sampling in Canada* (2011).

### **2.2.1.2 Laboratory Methods**

Water quality samples will be submitted to Bureau Veritas (BV), a SCC accredited laboratory in St. John's, NL for analysis, which includes an accredited QA/QC program. Received laboratory analysis results will include QA/QC program results (e.g., laboratory duplicate samples, calibration control results, detection limits).

Laboratory quality control programs include analysis of certified reference materials, laboratory control samples, laboratory duplicates, method blanks and matrix spikes to determine accuracy and precision of instrumentation and methods. Data reports submitted by BV were reviewed upon receipt. In instances where method recovery was not accurately calculated due to matrix interferences, detection limits were adjusted to prevent influence on analytical results.

## **2.3 Surface Water Quantity**

Surface water quantity was monitored at 12 WFP, WQFP, and RQFP locations during the reporting period. Monitoring stations consist of a Solinst Levellogger® that records stage and water temperature in the monitored watercourses at 15-minute intervals. Except for RQFP-34, each monitoring location has a Levellogger® installed in an ABS stilling well pipe secured to channel banks and beds with t-bars or steel rods. Levellogger® data is corrected for changes in atmospheric pressure by one of four Barologgers® installed across the Project site. The accuracy of Levelloggers® deployed at site is  $\pm 0.0025$  m and Barologgers® is  $\pm 0.005$  m resulting in a total accuracy of barometrically corrected stage series of  $\pm 0.0075$  m (Solinst 2023). Real-time monitoring stations NLECC-VR-Pit (NF02YN0047), NLECC-VL-Outflow (NF02YN0048), RQFP-34 (NF02YN0049), WFP-HS8 (NF02YN0050), NLECC-VR-VRB (NF02YN0051), and WFP-HS9 (NF02YN0052) are setup and managed by the NLDECC WRMD and based on available setup information uses an OTT compact bubble sensor unit to monitor water level as described in the NLDECC Mobile Environmental Monitoring Platform Principles of Operation document.

The methodology used for the reporting period for the collection of manual stage and discharge measurements to validate equipment accuracy and preliminary calibration of stage-discharge relationships (rating curves) at each surface water quantity monitoring location is presented in the following sections. The purpose of the manual stage and discharge monitoring program is to develop rating curves that can be used to convert stage series data into discharge series.



### 2.3.1 Station Inspection and Maintenance

Routine station inspections and maintenance include:

- Data downloads from archiving loggers (Levellogger®, and Barologger®)
- Inspection of instrumentation, including checking for damage, and servicing as necessary
- Verifying sensor readings with manual stage measurements referenced to staff gauges
- Cleaning the sensors as needed

Except for the provincial real-time stations, NLECC-VR-Pit, NLECC-VL-Outflow, RQFP-34, WFP-HS8, WFP-HS9, and NLECC-VR-VRB, inspections and maintenance are conducted by Calibre staff in conjunction with the collection of manual discharge measurements. The provincial real-time station operation and maintenance are managed by the NLDECC WRMD. Manual flow measurements are taken at standardized cross-sections adjacent to the real-time stations for RQFP-34 and WFP-HS8 to develop rating curves.

The WFP-HS9 provincial real-time station is within the Frozen Ear Pond waterbody, which has an old wooden dam controlling flow to the outflow channel. As the WFP-HS9 water level sensor is monitoring a waterbody instead of the outflow channel, Calibre installed a hydrometric station downstream of WFP-HS9 in the Frozen Ear Pond outflow channel in the Fall of 2024. The downstream Calibre WFP-HS9 hydrometric station is maintained by Calibre staff. Data for the provincial real-time stations is collected through data requests to WRMD; however, Calibre collects manual discharge measurements and water levels at its hydrometric station for the purpose of developing a rating curve.

### 2.3.2 Stage and Discharge Measurements

Manual stage measurements are collected through observation of staff gauges installed at each surface water quantity monitoring location during site inspections and recorded in field notes. It should be noted that manual discharge measurements and site inspections are not conducted during fully frozen/dry (no flow) water conditions or unsafe conditions.

Measurement precision is rounded to the nearest cm and manual stage measurement accuracy is  $\pm 0.01$  m. Stage time-series data is offset to match manual stage measurements. The datum is local and is set to the bottom of the staff gauge being 0.000 m. Where differences between the manual stage measurements and the stage series exist, offsets to the time series are applied that reduce the differences between measurements.



Manual discharge measurements were collected using an acoustic doppler velocimeter (ADV). The ADV is a handheld instrument used when instream depth and velocity are low enough for the operator to wade across a watercourse channel safely. Depth and velocity are measured at 20 or more positions (panels) within a cross-section of a watercourse to calculate total discharge in meters cubed per second (m<sup>3</sup>/s) using the mid-section method. Accuracies are calculated by the instrument and are dependent on the variance of velocities, the number of positions measured across the channel and acoustic signal strength. Measurement procedures follow the Water Survey of Canada's (WSC) standard operating procedures for ADV measurements, including for under-ice measurements (WSC 2015).

### **2.3.3 Rating Curve Development**

Rating curves are currently in development for the WFP, WQFP and RQFP monitoring sites. The minimum number of measurements needed to establish a rating curve is six streamflow measurements, however a minimum of ten measurements is recommended for a range of flow events (WSC 2016).

Rating curves based on discharge measurements and sensor stage values are developed using Aquarius Timeseries (Aquarius) software with the rating curve toolbox. The toolbox uses paired stage-discharge measurements as inputs and determines rating descriptor points (rating points). This software provides a platform to develop rating curves using quantitative error measures to account for stage and discharge measurement uncertainty and visual fit to rating points. Aquarius is also used to convert the continuous water level data into discharge for each of the monitoring stations. Aquarius is the hydrometric software used by the WSC in data analysis of the National Water Data Archive (HYDAT) stream gauging network.

Rating curves follow the Power Law form to relate discharge (Q) to sensor stage (S):

$$Q(S) \approx a(S + c)^b$$

The coefficients a and b are related to the channel hydraulics and are determined from analysis of measured stage and discharge, while c is the minimum control height, known as the point of zero flow, corrected for the sensor elevation (WSC 2016; WMO 2010). The development of rating curves and discharge time series is an iterative process, and rating curves are subject to change as the number of rating points increases. The WSC recommends that rating curves are developed with a minimum of 10-15 rating points for a fully developed multi-segment rating curve (WSC 2016). The addition of rating points over time improves the statistical confidence of the rating curve and tracks physical changes to the channel at or near the station.

When a stage record has clear indications of ice effect, the data is graded with “Ice” for that period (Appendix C). This grade will be passed on through to the discharge series, and since the stage-discharge relationship no longer applies during ice-affected periods, new rating curves specific to ice cover periods will be developed.



### 2.3.4 Quality Assurance and Quality Control (QA/QC)

Protocols for data QA/QC using Aquarius software for data management, processing, and analysis. QA/QC procedures include:

- Onsite inspection of sensors
- Removal of stage discontinuities related to sensor download and maintenance and replacement with interpolated data
- Flagging data anomalies and indicating affected in the grade bar beneath stage series plots indicating data is Unspecified (grey), Estimated (purple), Ice Affected (blue), or Edited (yellow).
- Comparison of sensor records to manual stage measurements
- Detailed error analyses and error estimates for discharge measurements
- Determining the suitability of individual discharge measurements for rating curve development
- Comparison and correlation of stage and discharge series to identify anomalies or erroneous values and allow corrections to be made
- Finalizing data sets by denoting each data point as Approved (green) or Working (red), indicated by the “Approvals” beneath the stage series (Appendix C)



## 3 Results

### 3.1 Water Quality

#### 3.1.1 Sedimentation Events

In 2024, water management measures were employed based on the Water Management Plan, the Environmental Protection Plan (EPP), the SWFMP and contractor implementation plans for Erosion and Sedimentation Control (ESC). These measures applied four basic principles:

- Direct runoff away from active work areas before construction commences, reducing the volume of sediment-laden water to be managed.
- Limit the amount and timing of exposed soil to reduce the potential for erosion.
- Protect sensitive receptors from sediment-laden runoff by directing untreated runoff away from these areas.
- Control sediment-laden runoff leaving the site, following ESC measures put in place for the construction of the Project.

Regular inspection (minimum of once per week, and after a significant storm event) of construction activities and installed ESC measures were conducted throughout 2024. Repairs, modifications or implementation of additional measures were conducted as required. Examples of the standard construction ESC measures and strategies implemented included:

- perimeter ditching with check dams to redirect and dissipate the energy of water around work fronts;
- temporary settling basins;
- pumping water from settling basins to increase capacity during precipitation events and redirecting sediment laden water to vegetated areas or dewatering bags; and
- sediment fencing, straw bales, filter fabric, and turbidity curtains.

Despite the ESC measures implemented, site construction activities occasionally resulted in runoff containing sediment entering down gradient watercourses. These occurrences took place at various locations at the Project Site and were experienced primarily as a result of singular heavy precipitation events or extended periods of rainfall in the spring. Downstream effects included increased turbidity in natural waterbodies, including waters frequented by fish. The increased sediment was identified downstream of the areas of active construction listed in Table 3.1 on the specified days, and the issues remained until the sediment naturally settled out of the receiving water. As such, and as outlined in Condition 2.4.1 of the *Fisheries Act* Authorization issued for the Project (DFO File No. 21-HNFL-00717), these events were reported to Department of Fisheries and Oceans (DFO), NLDECC and Impact Assessment Agency of Canada (IAAC).



**Table 3-1 2024 Sediment Loading Events**

Date	Locations
March 30, 2024	Tailings Management Facility Marathon Pit Marathon Overburden Stockpile
April 14, 2024	Tailings Management Facility Marathon Overburden Stockpile
June 9, 2024	Tailings Management Facility Marathon Overburden Stockpile

Since the events in the spring of 2024, four permanent sedimentation ponds have been constructed (LP-SP-01A, LP-SP-03C, MA-SP-01B, and PP-SP-01) and provide additional retention capacity. There was no discharge from the associated FDPs in 2024. The TMF seepage collection pond was also completed in 2024 and provided retention capacity for retained surface water runoff from that construction area. The ponds did not discharge to the environment in 2024. There were no other reportable sedimentation events in 2024.

### 3.1.2 Certificate of Approval Monitoring

Surface water monitoring locations were sampled four times per the 2024 calendar year (per the CoA) as detailed in Table 3-2 from the Leprechaun Complex, Marathon Complex, and Processing Plant Complex and Reference sites. The surface water quality monitoring results are presented in Appendix B-1 including duplicate (lab and field) and field blank sample results, with comparison to Table 2-4 threshold criteria and CWQG-FAL values. The in situ water quality monitoring results are presented in Appendix B-1 with comparison to CWQG-FAL. The monitoring frequency is sufficient to characterize the natural seasonal variability in surface water and the temporal and spatial variability throughout the construction of the mine in comparison to baseline conditions.

**Table 3-2 Surface Water Quality Stations Measured in 2024**

Surface Water Monitoring Station	May 2024	June 2024	August 2024	October / November 2024
<b>Leprechaun Complex</b>				
LP-WQFP-03	✓	✓	✓	✓
LP-WQP-01	✓	✓	✓	✓
LP-WQP-02	✓	✓	✓	✓
LP-WQP-05	✓	✓	✓	✓



**Table 3-2 Surface Water Quality Stations Measured in 2024**

Surface Water Monitoring Station	May 2024	June 2024	August 2024	October / November 2024
<b>Marathon Complex</b>				
MA-WQFP-45	✓	✓	✓	✓
MA-WQP-01A	✓	✓	✓	✓
MA-WQP-01B	✓	✓	✓	✓
MA-WQP-03	✓	✓	✓	✓
WFP-HS8 <sup>1</sup>	✓	✓	✓	✓
WFP-HS9 <sup>2</sup>	✓	✓	✓	✓
<b>Processing Plant and TMF Complex</b>				
PP-WQP-01	✓	✓	✓	✓
PP-WQP-02	✓	✓	✓	✓
<b>Reference Sites and Provincial Real-Time Water Quality and Quantity Points</b>				
NLECC-VL-Outflow <sup>3</sup>	✓	✓	✓	✓
NLECC-VR-Pit <sup>4</sup>	✓	✓	✓	✓
RQP-VAL01	✓	✓	✓	✓
RQP-VIC01	✓	✓	✓	✓
RQFP-34 <sup>5</sup>	✓	✓	✓	✓

Notes:

<sup>1</sup> – Referred to as NF02YN0050 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>2</sup> – Referred to as NF02YN0052 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>3</sup> – Referred to as NF02YN0048 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>4</sup> – Referred to as NF02YN0047 by the NLDECC real-time monitoring network (NLDECC 2024)

<sup>5</sup> – Referred to as NF02YN0049 by the NLDECC real-time monitoring network (NLDECC 2024)

Table 3-3 presents the precipitation amounts for each of the monthly monitoring events using the on-site meteorological station (NLENCL0014). The amount of precipitation preceding and during the sampling events has the potential to affect the water quality results. As shown in Table 3-3, there were no high flow events (>15 mm) during the 2024 monitoring events.



**Table 3-3 Onsite Meteorological Station Daily Total Precipitation Amounts Preceding and During Sampling Events**

Date	Daily Total Precipitation (mm) Station ID: NLENCL0014		
	Preceding 48 Hours	Preceding 24 Hours	On Sampling Date
May 4, 2024	11	3	0
May 5, 2024	3	0	0
May 6, 2024	0	0	1
June 22, 2024	0.2	0.2	0
June 23, 2024	0.4	0	0.2
August 17, 2024	0	0	0
August 18, 2024	0	0	0
August 31, 2024	0.4	0	0
October 26, 2024	0.02	2.9	0.2
October 27, 2024	2.9	0.2	0.07
November 3, 2024	0.3	0.02	0

### 3.1.2.1 Reference Sites and Provincial Real-Time Water Quality Results

In 2024, three reference sites (RQP-VAL01, RQP-VIC01, RQFP-34) and two provincial real-time sites (NLECC-VR-Pit, NLECC-VL-Outflow) were sampled (Appendix A). During the 2024 monitoring program, a comprehensive suite of field measurements was taken including DO, conductivity, pH, temperature, TDS, and turbidity. Reference site RQP-VIC01 reported in situ pH values below the CWQG-FAL lower limit of 6.5 during the May 2024 (6.39) and June 2024 (6.40) monitoring events. The other reference sites and provincial real-time sites reported in situ pH values within acceptable CWQG-FAL range of 6.5 to 9.0. In general, in situ pH measurements ranged from 6.39 (RQP-VIC01; May 2024) to 7.27 (RQP-VIC01; August 2024).

Total suspended solids (TSS) values ranged from less than the laboratory detection limit (1.0 mg/L) to 11 mg/L. The maximum value of 11 mg/L was reported at the RQFP-34 reference site during the October 2024 monitoring event. Total alkalinity (as CaCO<sub>3</sub>) ranged from 2.7 mg/L (RQP-VIC01; May 2024 / June 2024 / August 2024) to 23 mg/L (RQFP-34; August 2024). Low total alkalinity values (i.e., less than 100 mg/L) suggest limited acid buffering potential in streams.



During the 2024 monitoring program, the reference sites and provincial real-time sites reported CWQG-FAL exceedances of four parameters—pH (in situ), aluminum, iron, and zinc. Total aluminum, total iron, and total zinc were identified in baseline studies as naturally occurring above CWQG-FAL criteria and have been identified as PoPC (Marathon 2020a). In situ pH was not reported for local surface water quality in the baseline studies, however in situ pH exceedances reported at RQP-VIC01 (May and June 2024) are within range of the regional water quality in situ pH reported in the baseline studies (Marathon 2020a). The remaining parameters for general chemistry and metals had concentrations below the CWQG-FAL guidelines and were comparable to baseline concentrations (Appendix B-1).

The monthly results at the RTWQM (NLECC-VR-Pit, NLECC-VL-Outflow, RQFP-34, and NLECC-VR-VRB) are found in Appendix B-2.

### **3.1.2.2 Leprechaun Complex Water Quality Results**

The four Leprechaun Complex sites sampled in 2024 were LP-WQFP-03, LP-WQP-01, LP-WQP-02, and LP-WQP-05 (Appendix A). In situ DO and water temperature results for the four sites were found to be consistent with baseline monitoring results. In situ pH values for the Leprechaun Complex samples ranged from 5.73 to 7.39, which is within the range of the baseline water quality results. TSS values ranged from less than the laboratory detection limit (1.0 mg/L) to 130 mg/L. The maximum concentration of 130 mg/L was reported at LP-WQFP-03 during the October 2024 monitoring event and is the only TSS value in exceedance of the NL ECWSR guideline of 30 mg/L. During the October event, no sedimentation ponds or other works were actively discharging upstream of the LP-WQFP-03 site. Calibre staff will investigate further if high TSS concentrations are observed during the next monitoring event in 2025. Total alkalinity (as CaCO<sub>3</sub>) ranged from less than the laboratory detection limit (1.0 mg/L) to 80 mg/L. Low alkalinity values (i.e., less than 100 mg/L) indicates limited acid buffering potential.

During the 2024 monitoring program, there were exceedances of CWQG-FAL criteria for 13 parameters—aluminum, arsenic, cadmium, copper, cyanide, DO, iron, manganese, nitrate (as N), nitrite (as N), pH (in situ), and TSS. The remaining general chemistry and metals parameters reported concentrations below the CWQG-FAL criteria and were comparable to baseline concentrations, except for ammonia (as N), hardness (as CaCO<sub>3</sub>), TDS (calculated), turbidity, beryllium, bismuth, calcium, cobalt, magnesium, potassium, sodium, and strontium which reported concentrations higher than those observed in baseline studies (Appendix B-1).

Aluminum and iron were identified in the baseline studies as naturally occurring above CWQG-FAL criteria and have been identified as PoPC (Marathon Gold 2020a). During the 2024 monitoring program, eight samples (from each of the four sites) exceeded the CWQG-FAL for aluminum. Nine samples (for three sites, except LP-WQP-02) exceeded the CWQG-FAL for iron. The 2024 concentration results for aluminum and iron are consistent with background water quality monitoring.



Arsenic, cadmium, and copper were also identified in the baseline report as having concentrations exceeding the CWQG-FAL. There were two exceedances of CWQG-FAL for arsenic during 2024, which occurred at LP-WQFP-03 (5.5 µg/L; October 2024) and LP-WQP-01 (7.8 µg/L; June 2024). There was one exceedance of CWQG-FAL for cadmium during 2024, which occurred at LP-WQP-05 (0.356 µg/L; October 2024). There were four exceedances of CWQG-FAL for copper during 2024, which occurred at LP-WQFP-03 (6.66 µg/L; October 2024), LP-WQP-01 (16 µg/L; June 2024), and LP-WQP-05 (2.2 µg/L and 4.81 µg/L; June 2024 and October 2024). The exceedances of arsenic, cadmium, and copper were higher than the 75th percentile values reported during the baseline studies, but lower than the maximum concentrations reported during baseline conditions.

CWQG-FAL exceedances of WAD cyanide, nitrate (as N), nitrite (as N), and manganese were also reported at LP-WQFP-03; WAD cyanide was reported during the May 2024 (0.015 mg/L) monitoring event, nitrate (as N) and nitrite (as N) were reported during the May 2024 (9.1 mg/L and 0.22 mg/L, respectively) and June 2024 (5.8 mg/L and 0.063 mg/L, respectively) monitoring events, and manganese was reported during the June 2024 (530 µg/L) and August 2024 (1,400 µg/L) monitoring events. An exceedance of manganese (900 µg/L) was also reported at LP-WQP-01 during the June 2024 monitoring event. Exceedances of cadmium (0.356 µg/L) and manganese (1,130 µg/L) were reported at LP-WQP-05 during the October 2024 monitoring event, which is upstream of LP-WQFP-03 that had no observed cadmium and manganese exceedances.

### **3.1.2.3 Marathon Complex Water Quality Results**

Six Marathon Complex sites were sampled in 2024: MA-WQFP-45, MA-WQP-01A, MA-WQP-01B, MA-WQP-03, WFP-HS8, and WFP-HS9 (Appendix A). The in situ pH values for the Marathon Complex sampled ranged from 6.18 (MA-WQP-03; June 2024) to 8.08 (MA-WQP-01A; August 2024). In situ pH values measured at MA-WQP-03 during the May 2024 (6.35) and June 2024 (6.18) monitoring events were below the CWQG-FAL lower limit of 6.5. The other in situ pH values for the Marathon Complex samples were within acceptable CWQG-FAL range. TSS values ranged from less than the laboratory detection limit (1.0 mg/L) to 14 mg/L. The maximum value of 14 mg/L was reported at MA-WQP-01A during the August and September 2024 monitoring events. Total alkalinity (as CaCO<sub>3</sub>) values ranged from 3.9 mg/L (MA-WQP-03; May 2024) to 96 mg/L (MA-WQFP-45; August 2024). Low alkalinity values (i.e., less than 100 mg/L) suggest limited acid buffering potential.

During the 2024 monitoring program, there were exceedances of CWQG-FAL criteria for 10 parameters—aluminum, arsenic, copper, DO, iron, lead, manganese, nitrate (as N), and pH (in situ). The remaining general chemistry and metals parameters reported concentrations below the CWQG-FAL criteria and were comparable to baseline concentrations, except for turbidity (in situ), conductivity, nitrate + nitrite (as N), sulphate, TDS (calculated), turbidity, beryllium, bismuth, boron, magnesium, phosphorus, potassium, and strontium which reported concentrations higher than those observed in baseline studies (Appendix B-1).



Aluminum and iron were identified in the baseline study as naturally occurring above CWQG-FAL guidelines. During the 2024 monitoring program, 12 samples from five sites (except MA-WQFP-45) exceeded the CWQG-FAL guideline for aluminum. For iron, 14 samples from MA-WQP-01A, MA-WQP-01B, and WFP-HS9 exceeded the CWQG-FAL guideline for iron, which are located on the same unnamed tributary to Valentine Lake. The 2024 results for aluminum and iron are consistent with background water quality monitoring.

Arsenic, copper, and lead were also identified in the baseline study as having concentrations exceeding CWQG-FAL guidelines. There were 12 exceedances of CWQG-FAL for arsenic during 2024, which occurred at four of six sites (MA-WQP-01A, MA-WQP-01A, MA-WQP-03, and WFP-HS9). There were 10 exceedances of CWQG-FAL for copper during 2024, which occurred at three of six sites (MA-WQP-01A, MA-WQP-01B, and WFP-HS9). There were two exceedances of CWQG-FAL for lead during 2024, which occurred at MA-WQP-01A (1.4 µg/L; May 2024) and WFP-HS9 (1.1 µg/L; May 2024). The 2024 results for arsenic, copper, and lead are generally higher than the concentrations reported during background conditions.

CWQG-FAL exceedances of nitrate (as N) and manganese were also reported at MA-WQP-01A (6.8 mg/L; October 2024) and MA-WQFP-45 (380 µg/L; June 2024), respectively. The nitrate (as N) exceedance was higher than the mean and maximum nitrate (as N) values reported during the baseline studies. The manganese exceedance was higher than the 75<sup>th</sup> percentile value reported during baseline studies, but did not exceed the maximum manganese value reported.

The monthly results of the Real-Time Water Quality Monitoring Stations (WFP-HS8 and WFP-HS9) are found in Appendix B-2.

#### **3.1.2.4 Process Plant and TMF Complex Water Quality Results**

In 2024, two Processing Plant and TMF Complex sites (PP-WQP-01 and PP-WQP-02) were sampled (Appendix A). The in situ pH values for the Processing Plant and TMF Complex samples ranged from 6.47 (PP-WQP-01; June 2024) to 7.46 (PP-WQP-02; August 2024). The minimum in situ pH value (6.47) is the only value below the CWQG-FAL lower limit of 6.5. TSS values ranged from less than the laboratory reportable detection limit (1.0 mg/L) to 16 mg/L (PP-WQP-02; June 2024). Total alkalinity (as CaCO<sub>3</sub>) ranged from 3.1 mg/L (PP-WQP-01; May 2024 / August 2024) to 90 mg/L (PP-WQP-02; August 2024). Low alkalinity values (less than 100 mg/L) indicate limited acid buffering potential.

Except for in situ pH, there were no reported exceedances of CWQG-FAL guidelines for PP-WQP-01 during the 2024 monitoring program. For PP-WQP-02, exceedances of aluminum and copper were reported. There were two CWQG-FAL exceedances of aluminum during June 2024 (110 µg/L) and October 2024 (116 µg/L). There was one CWQG-FAL exceedance of copper during June 2024 (3.9 µg/L). Aluminum and copper were identified in the baseline study as naturally occurring above the CWQG-Fal guidelines (Appendix B-1).



### **3.1.3 Results QA/QC**

For the 2024 monitoring program, there were nine laboratory replicates for the May monitoring event, eight laboratory replicates for the June monitoring event, six laboratory replicates for the August monitoring event, and 10 laboratory replicates for the October / November monitoring event. A total of 33 laboratory duplicates were analyzed during the 2024 monitoring program, with no significant variation amongst the samples.

A field duplicate was collected at LP-WQP-01 (August 2024), LP-WQP-02 (May 2024), MA-WQFP-45 (May 2024), RQP-VAL01 (October 2024), WFP-HS8 (June 2024 and August 2024). For LP-WQP-01, the results of the RPD assessment identified two parameters that differed more than 20% with values greater than five times the RDL from the parent sample—TDS (calculated) (45%) and sodium (132%). For LP-WQP-02, there were no RPD calculations above 20% with values greater than five times the RDL from the parent sample. For MA-WQFP-45, one parameter differed more than 20% with values greater than five times the RDL from the parent sample—manganese (44%). For RQP-VAL01, one parameter differed more than 20% with values greater than five times the RDL from the parent sample—barium (46%). For WFP-HS8, there were no RPD calculations above 20% with values greater than five times the RDL from the parent sample. For the remaining parameters, the small RPD values indicate that the QA/QC protocols for water sampling are adequate for the SWFMP.

Two field blank and two trip blank samples were analyzed in August 2024. For both the field blanks and trip blanks, metals parameters were below the CWQG-FAL guideline values. For general chemistry parameters, values were below the CWQG-FAL guidelines. For the field blanks, all metals parameters were less than the laboratory reportable detection limit except for aluminum (1.02 µg/L), lead (0.0064 µg/L), phosphorus (2.5 µg/L), and zinc (0.25 µg/L). For the trip blanks, metals parameters were less than the laboratory detection limit except for strontium (0.153 µg/L), thallium (0.0021 µg/L), and zinc (0.30 µg/L).

## **3.2 Water Quantity**

Manual stage and discharge measurements and discharge and stage series for 12 WFP, WQFP and RQFP stations are summarized in Appendix C. Water quantity measurements are not available for reference sites NLECC-VL-Outflow, NLECC-VR-Pit, or RQP-VAL01 and therefore are not included in Appendix C or Table 3-4. Summaries include location, site photos, channel characteristics, drainage area, installation dates and other pertinent station information. Also, included in Appendix C, are plots of stage series for each WFP, WQFP and RQFP site, along with manual stage measurements and daily precipitation series data. Precipitation data used to assess the annual flow regime is from the WRMD climate station Marathon Gold MET NLENCL0014 located at the Project site.

Table 3-4 is a summary of the site inspections, manual stage and discharge measurements collected, and notes on the data for the reporting period.



Valentine Gold Mine: 2024 Surface Water Follow-up Monitoring Program – Annual Report  
Section 3 Results  
March 27, 2025

**Table 3-4 Summary of Inspections and Measurements**

Watercourse (Station ID)	# of Manual Water Level/Stage and Discharge Measurements (2024)	Data Collected	Notes
RQFP-34	4	Continuous stage and water temperature, manual discharge measurements	Stage data for this station comes from WRMD station NF02YN0049. Discharge measurements ranged between 0.123 and 1.735 m <sup>3</sup> /s.
WFP-33	3	Levellogger® continuous stage, water temperature, and manual stage and flow measurements.	Levellogger did not record between December 9, 2023 and June 2, 2024. Discharge measurements ranged between 0.000 and 0.064 m <sup>3</sup> /s. No flow in the channel observed during July 29, 2024 site visit.
WFP-HS4	3	Levellogger® continuous stage, water temperature, and manual stage and flow measurements.	Discharge measurements ranged between 0.000 and 0.008 m <sup>3</sup> /s. The channel is potentially ephemeral and may be dewatered during low-flow periods. No flow in the channel observed during September 7, 2024 site visit. Site conditions prevented one discharge measurement to be taken as there was no flow in the channel.
WFP-HS5	2	Levellogger® continuous stage, water temperature, and manual stage and flow measurements.	Discharge measurements ranged between 0.000 and 0.031 m <sup>3</sup> /s. The channel is potentially ephemeral and may be dewatered during low-flow periods. No flow in the channel observed during July 28 and September 7, 2024 site visits.
WFP-HS7	4	Levellogger® continuous stage, water temperature, Barologger® continuous barometric pressure and air temperatures, and manual stage and flow measurements.	Discharge measurements ranged between 0.000 and 0.051 m <sup>3</sup> /s.



Valentine Gold Mine: 2024 Surface Water Follow-up Monitoring Program – Annual Report  
Section 3 Results  
March 27, 2025

**Table 3-4 Summary of Inspections and Measurements**

Watercourse (Station ID)	# of Manual Water Level/Stage and Discharge Measurements (2024)	Data Collected	Notes
WFP-26	1	Levelogger® continuous stage, water temperature, and manual stage and flow measurements.	During most site inspections, the channel had no flow or very little flow. The only discharge measurement able to be recorded in 2024 was in June with a flow of 0.001 m <sup>3</sup> /s. The channel is potentially ephemeral and may be dewatered during low-flow periods.
MA-WQFP-45	4	Levelogger® continuous stage, and water, temperature, Barologger® continuous barometric pressure and air temperatures, and manual stage and flow measurements.	Discharge measurements ranged between 0.001 and 0.189 m <sup>3</sup> /s.
LP-WQFP-03	4	Levelogger® continuous stage, and water, temperature, Barologger® continuous barometric pressure and air temperatures, and manual stage and flow measurements.	Discharge measurements ranged between 0.003 and 0.056 m <sup>3</sup> /s.
WFP-05	0	Levelogger® continuous stage, and water, temperature, Barologger® continuous barometric pressure and air temperatures, and manual stage and flow measurements.	No discharge measurements were obtained in 2024 as the site was not able to be safely accessed by Calibre staff. The logger also stopped recording on February 3, 2024. The logger was reset on February 11, 2025.
WFP-35	0	Levelogger® continuous stage, water temperature, and manual stage and flow measurements.	No discharge measurements or staff gauge readings were obtained in 2024 as the site was not able to be safely accessed by Calibre staff.
WFP-HS9	1	Levelogger® continuous stage, water temperature, and manual stage and flow measurements.	This station was installed on October 1, 2024. No discharge measurements have been taken to date at this location.
WFP-HS8	1	Levelogger® continuous stage, water temperature, and manual stage and flow measurements.	This station was installed on October 1, 2024. No discharge measurements have been taken to date at this location.



The hydrometric monitoring stations from 2022 to 2024 have one to eight manual ice-free condition flow measurements conducted to support rating curve development. As rating curves require a minimum of six and a recommended 10 or more measurements, preliminary rating curves only were developed in 2024 for ice-free conditions at seven of 11 stations. The following table presents the rating curve equations for the seven stations with the corresponding R<sup>2</sup> value (coefficient of fit), where Q is the flow rate (m<sup>3</sup>/s) and WL is the water level (m).

**Table 3-5 Preliminary Rating Curves for Hydrometric Stations**

Station	Equation	R <sup>2</sup>
LP-WQFP-03	$Q = 7.0923(WL)^{3.1836}$	0.89
WFP-HS4	$Q = 1.3052(WL)^{7.6004}$	0.92
WFP-HS5	$Q = 0.3708(WL)^{2.2775}$	0.97
MA-WQFP-45	$Q = 1.7012(WL)^{2.8938}$	0.99
WFP-HS7	$Q = 261.57(WL)^{5.5564}$	0.98
WFP-33	$Q = 4.7578(WL)^{2.9414}$	0.92
RQFP-34	$Q = 0.081(WL)^{11.483}$	0.93

The other five WFP and WQFP stations will have rating curve development continue through 2025 with rating curves and discharge series provided upon availability for future reporting. Preliminary ice-free rating curves for LP-WQFP-03, WFP-HS4, WFP-HS5, RQFP-34, WFP-HS7, WFP-33, and MA-WQFP-45 monitoring locations, were able to be established using data collected since 2022.

For the WFP-HS4, WFP-HS5, and WFP-33 monitoring sites, the levellogger was removed in late December 2023, and re-installed during the June 1, 2024 site visit, therefore the period of record for these sites was limited to June 1 to December 31, 2024. Additionally, the levellogger at WFP-05 experienced a malfunction upon installation in February 2024, and no data was available at this site for 2024.

The WFP and WQFP sites present similar trends in their stage series, of low baseline stage through January to March, followed by a rising stage peaking in mid-April, dropping again through July to September and beginning to rise again during October to December (Appendix C). This reflects the hydrologic regime of the watersheds where peak flows occur in the spring due to snow melt, and lower flows during summers, due to lower precipitation rates, and in the winter due to precipitation storage in the snowpack.

WFP-26 is a small channel that is potentially ephemeral. Flows were too low to reliably measure with the ADV on several of the site visits in 2024. A drop in stage on September 9, 2024, appears to indicate when the channel was cleared of mud which was impacting the sensor when the stream was dry.



**Valentine Gold Mine: 2024 Surface Water Follow-up Monitoring Program – Annual Report**  
**Section 3 Results**  
March 27, 2025

There was a significant shift in water level data at WFP-HS7 on June 1, 2024 when the site was visited for the first time of the year. Field notes do not indicate adverse site conditions, and the staff gauge reading matches well with the readings for the remainder of 2024. This shift was likely due to movement of the sensor when it was downloaded (i.e., the logger shifted in the pipe during the download process).

Ice events were identified at all locations across the Project site. Icing typically has the effect of causing rises in stage data, often in a spurious data spike that is unrealistic for natural hydrologic processes; however, for WFP-HS4, WFP-35 and WFP-HS5, ice affected periods are associated with sudden drops in stage, which may be due to dewatering of the sensors or frozen channel bottom conditions.



## 4 Discussion

### 4.1 Conformity with Assessment predictions

#### 4.1.1 Water Quality

##### 4.1.1.1 FDP Monitoring

Four permanent sedimentation ponds were constructed in 2024 and FDPs for each were registered under the MDMER. However, there was no effluent discharge from the FDPs in 2024. Therefore, no comparison to MDMER Schedule 4 Table 1 parameter criteria or CoA effluent criteria was conducted for the watercourse and waterbody monitoring data.

##### 4.1.1.2 Certificate of Approval Monitoring

The Newfoundland and Labrador Environmental Control Water and Sewage Regulations (ECWSR) threshold criteria (Table 2-4) was exceeded at one site during the 2024 monitoring program:

- LP-WQFP-03: TSS (130 mg/L) – October 2024

During the October event, no sedimentation ponds or other works were actively discharging upstream of the LP-WQFP-03 site. Calibre staff will investigate further if high TSS concentrations are observed during the next monitoring event in 2025

The 2024 surface water quality monitoring program observed results that exceeded CWQG-FAL thresholds (Table 2-4) for total aluminum, total arsenic, total cadmium, total copper, WAD cyanide, DO, total iron, total lead, total manganese, nitrate (as N), nitrite (as N), pH (in situ), and total zinc. In baseline monitoring, exceedances of total aluminum, total arsenic, total cadmium, total copper, total iron, total lead, and total zinc were observed and noted to have naturally elevated concentrations in the water systems in the Project Area (Marathon 2020a,b). Therefore, the CWQG-FAL exceedances of total aluminum, total arsenic, total cadmium, total copper, total iron, total lead, and total zinc were expected and had concentrations within the range of baseline conditions, and no measurable change to water quality from the Project are observed.

One exceedance of the CWQG-FAL for WAD cyanide was observed during the May 2024 monitoring event at the Leprechaun Complex (LP-WQFP-03). A total of three exceedances of nitrate (as N) were observed between the Leprechaun Complex (LP-WQFP-03; May and June 2024) and the Marathon Complex (MA-WQP-01A; October 2024). Two exceedances of nitrite (as N) were observed during the May 2024 and June 2024 monitoring events at the Leprechaun Complex (LP-WQFP-03). A total of five exceedances of total manganese were observed between the Leprechaun Complex (LP-WQFP-03 [June and August 2024], LP-WQP-01 [June 2024], LP-WQP-05 [October 2024]) and the Marathon Complex (MA-WQFP-45; June 2024).



The determination of trends through statistical methods will be applied when more data has been collected.

#### **4.1.2 Water Quantity**

The discharge series developed from the rating curves do not show evidence of project-related impacts to the watercourses. Discharge was dependent on precipitation events throughout 2024, and very low flows were observed in the smaller streams (i.e., WFP-HS4, WFP-HS5). Visual comparison of the discharge series at each site between 2023 and 2024 was completed to assess changes to the hydrologic regime. Flows in 2023 and 2024 follow a similar pattern of peaking during spring freshet, with very little flow during the summer months. No significant changes were observed between years.

Preliminary rating curves were developed for seven of the 15 sites across the Project site. The preliminary rating curves have good measure of fit ( $R^2$ ) values ranging between 0.82 and 0.99. The dry summer conditions, particularly in the months of July and August prevented discharge measurements to be taken at WFP-HS26, WFP-33, WFP- HS5, and WFP-HS4. Rating curve development will continue to occur through 2025 for the remaining five sites with rating curves and discharge series provided upon availability for future reporting.

From the water level (stage) series, no significant decreases in water levels were observed in 2024 due to Project-related impacts. Dry conditions were observed periodically at the smaller streams (WFP-HS26, WFP-HS4, WFP-HS5, WFP-33, WFP-HS7) during times of low precipitation, which aligns with baseline monitoring in 2022 and 2023. Stage series from the WFP and WQFP stations observe an earlier rise in stage in response to warming temperatures and snow melt when compared to RQFP-34. This may be due to smaller watershed areas with shorter flow response times, and susceptibility to ice effects with smaller channels. The RQFP-34 stage series peaks in the hydrograph related to precipitation events align with those observed at the Project stations.

### **4.2 Adaptive Management**

There were three sedimentation events during 2024 that resulted in an adaptive management response in 2024 (Section 3.1.1).



## 5 Summary and Conclusions

In 2024, surface water quality was monitored four times at 17 sites across the Project area as required by the CoA. Although FDPs were registered under the MDMER for four permanent sedimentation ponds constructed at the VGM in 2024, the surface water sampling program did not include monitoring at FDP locations as there was no discharge. Therefore, the MDMER criteria do not apply to the 2024 monitoring program results. In 2024 in situ and laboratory surface water quality monitoring results from the 17 sites were generally consistent with baseline water quality conditions presented in the EIS (Marathon 2020a) and there were no water quality exceedances identified as a result of Project activities.

Surface water quantity was monitored at 12 WFP, WQFP, and RQFP locations, throughout the reporting period. Water level (stage) sensors (Solinst Leveloggers®) measure and records stage at the monitoring locations to create a stage time-series (series). In situ stage and discharge were measured periodically by Calibre staff. Stantec uses paired stage discharge measurements to develop stage-discharge relations (rating curves), which were then used to estimate a discharge series based off the stage series.

Surface water quantity monitoring sites LP-WQFP-03, WFP-26, MA-WQFP-45, WFP-HS7, and RQFP-34 have continuous stage data from January 1, 2023, to December 31, 2024. WFP-HS8 and WFP-HS9 were installed on October 1, 2024, and stage data is continuous to the end of the reporting period (December 31, 2024). For the WFP-HS4, WFP-HS5, and WFP-33 monitoring sites, the levelogger was removed in late December 2023, and re-installed on June 1, 2024 site visit, therefore the period of record for these sites was limited to June 1 to December 31, 2024. Additionally, the levelogger at WFP-05 experienced a malfunction upon installation in February 2024, and as a result, no data was available at this site for 2024.

Limited site access prevented discharge measurements to be taken at WFP-05 and WFP-35 in 2024. There were not an adequate number of ice-free manual flow measurements collected at WFP-05, WFP-35, WFP-HS26, WFP-HS8, and WFP-HS9 as of 2024 to develop rating curves for these sites. Preliminary rating curves were developed for LP-WQFP-03, WFP-HS4, WFP-HS5, WFP-HS7, WFP-33, and MA-WQFP-45. Manual flow measurements will continue to be conducted in 2025 to further develop and improve station rating curves, particularly for high-flow events.

A copy of this report will be provided to NLECC in accordance with conditions of EA release for the Valentine Gold Project and Berry Pit Expansion.



## **6 References**

Canadian Council of Ministers of the Environment (CCME). 2011. Protocols Manual for Water Quality Sampling in Canada. PN 1461. ISBN 978-1-896997-7-0.

Solinst Canada Ltd. (Solinst). 2023. Levellogger 5 Series: Model 3001 Data Sheet.

Marathon Gold Corporation (Marathon Gold). 2020a. Valentine Gold Project Baseline Study Appendix 3: Water Resources. September 2020.

Marathon Gold Corporation (Marathon Gold). 2020b. Valentine Gold Project Environmental Impact Statement. September 2020.

Marathon Gold Corporation (Marathon Gold). 2022. Valentine Gold Project: Surface Water Follow-up Monitoring Program. September 2022.

World Meteorological Organization (WMO). 2010. Manual on Stream Gauging- Volume II- Computation of Discharge World Meteorological Organization No. 1044

Water Survey of Canada (WSC). 2015. Measuring Discharge with FlowTracker Acoustic Doppler Velocimeters.

Water Survey of Canada (WSC). 2016. Hydrometric Manual – Data Computations: Stage-Discharge Model Development and Maintenance.

\\Ca0151-ppfss01\work\_group\1214\active\121418426\100.200 - Surface Water\05\_report\_deliv\deliverable\fnl\_rpt\_121418426\_sw\_annual\_fup\_2024\_20250327.docx



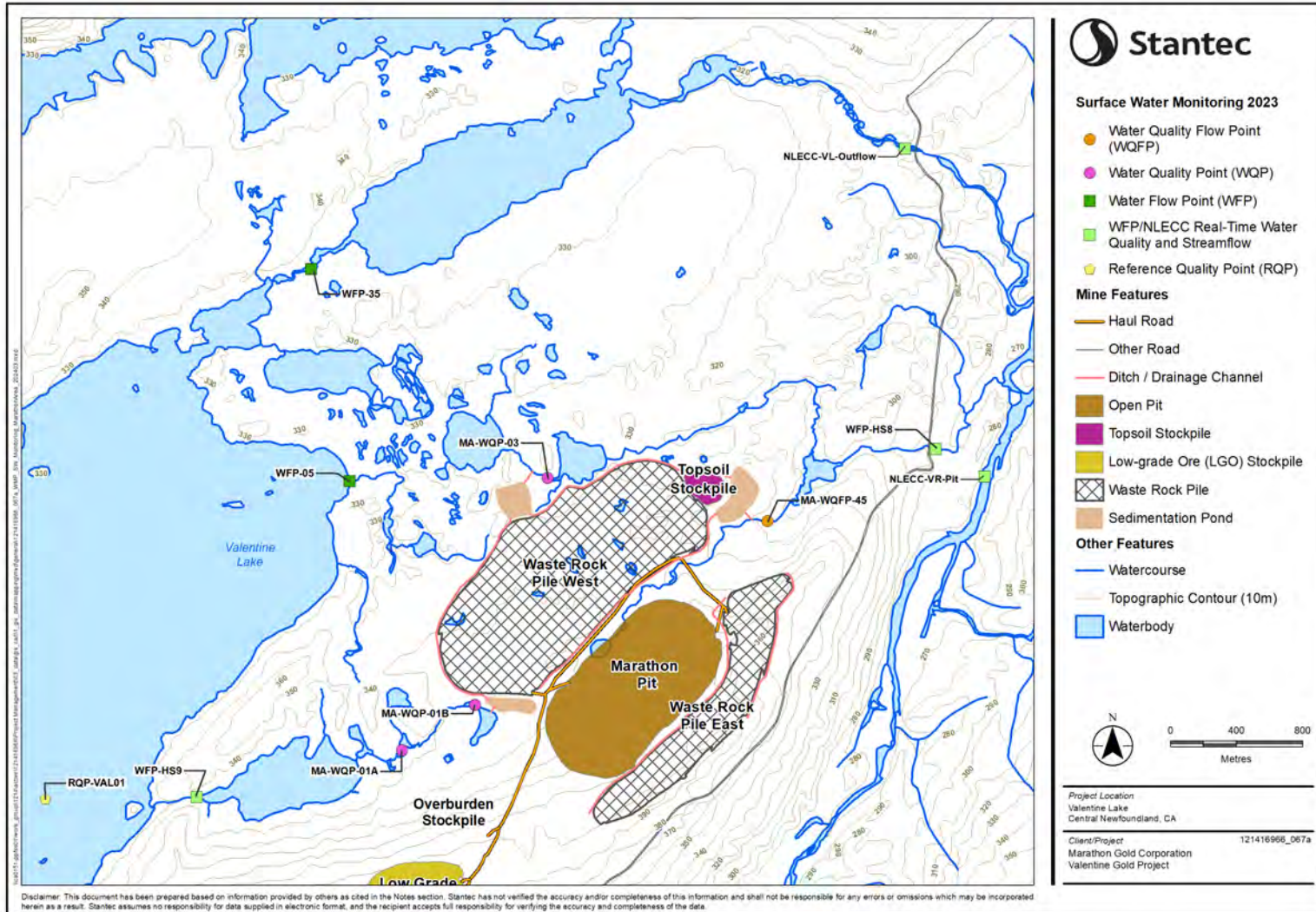
# Appendices



## Appendix A      Site Maps



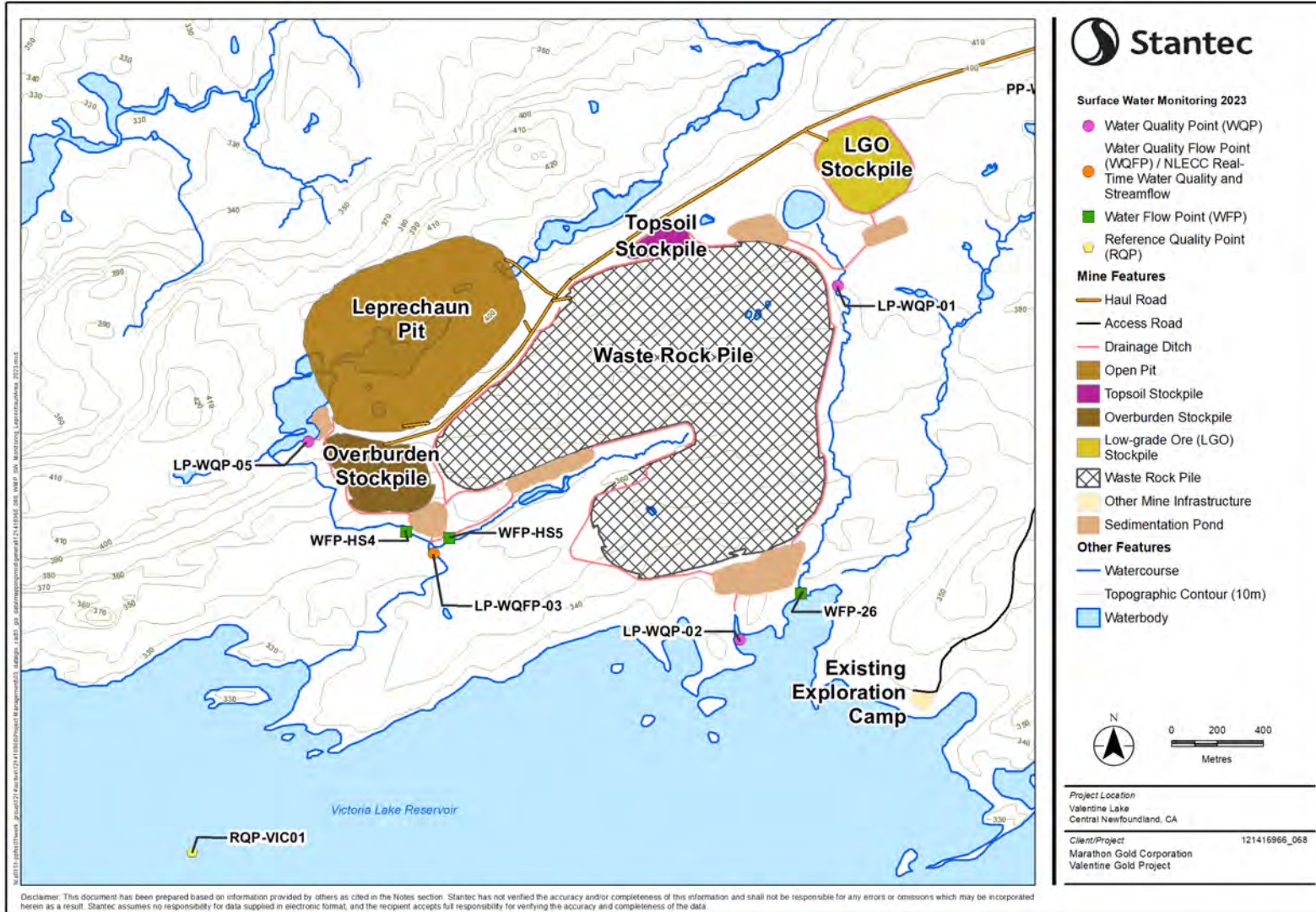
**Valentine Gold Project: Annual Surface Water Follow-Up Monitoring Program - Construction 2023**  
**Appendix A – Surface Water Monitoring Locations**



**Figure A-1 Marathon Complex Surface Water Monitoring Locations**



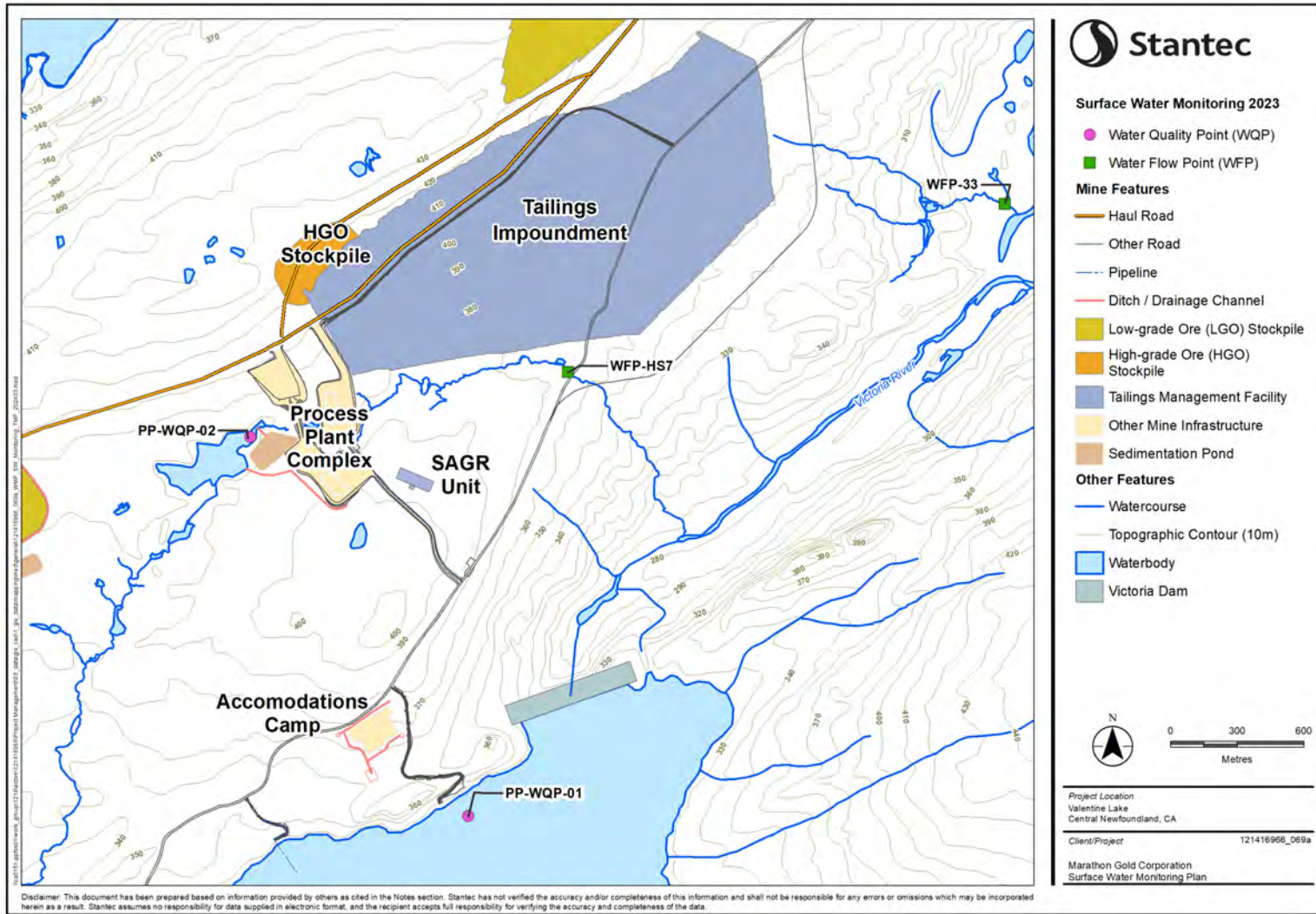
**Valentine Gold Project: Annual Surface Water Follow-Up Monitoring Program - Construction 2023**  
**Appendix A – Surface Water Monitoring Locations**



**Figure A-2 Leprechaun Complex Surface Water Monitoring Locations**



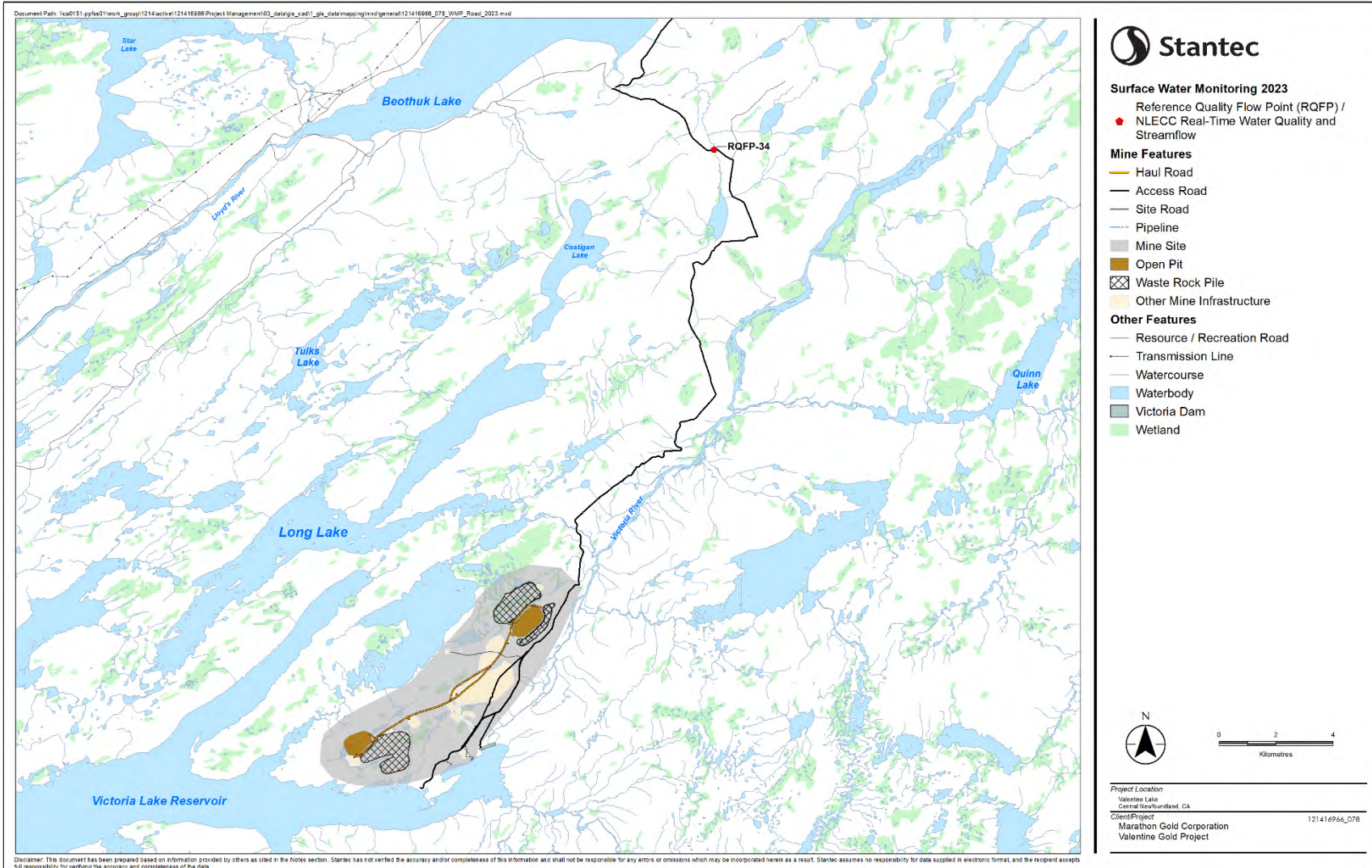
**Valentine Gold Project: Annual Surface Water Follow-Up Monitoring Program - Construction 2023**  
**Appendix A – Surface Water Monitoring Locations**



**Figure A-3 TMF and Processing Plant Complex Surface Water Monitoring Locations**



**Valentine Gold Project: Annual Surface Water Follow-Up Monitoring Program - Construction 2023**  
**Appendix A – Surface Water Monitoring Locations**



**Figure A-4 Beothuk Lake and Long Lake Reference Surface Water Monitoring Location**



## **Appendix B      Surface Water Quality Results**



**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	LP-WQFP-03										
				4-Dec-22	19-Jun-23	30-Sep-23	25-Nov-23	25-Nov-23 Lab-Dup	5-May-24	22-Jun-24	22-Jun-24 Lab-Dup	17-Aug-24	27-Oct-24	
Sample ID				LP-WQFP-03	LP-WQFP-03	LP-WQFP-03	LP-WQFP-03	LP-WQFP-03 Lab-Dup	LP-WQFP-03	LP-WQFP-03	LP-WQFP-03 Lab-Dup	LP-WQFP-03	LP-WQFP-03	
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	
Laboratory				C2AB852	C3I4396	C3U6705	C3AQ228	C3AQ228	C4D8761	C4J3748	C4J3748	C4Q0869	C4Y2292	
Laboratory Work Order				UNQ127	WER140	XEK737	XTF816	XTF816	ZCU141	ZOE998	ZOE998	AAQX62	AHLX53	
Laboratory Sample ID								Lab Replicate			Lab Replicate			
Sample Type														
<b>Field Parameters</b>														
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	84.0	-	-	-	-	
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	21.54	9.86	8.65	12.39	-	-	8.4	-	2.79 <sup>B</sup>	11.16	
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	101.7	
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	7.34	7.12	-	6.91	7.01	
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	214.9	247.3	-	224.5	-	
Temperature, Field	deg C	n/v	32 <sup>C</sup>	0.990	10.5	13.4	0.387	-	8.1	18.1	-	20.4	6.3	
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	5.99	-	-	-	-	
<b>General Chemistry</b>														
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	<1.0	
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	5.1	16	16	21	-	34	76	77	80	22	
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	0.64	0.072	1.6	1.6	2.6	0.19	-	0.13	0.35	
Anion Sum	me/L	n/v	n/v	0.200	0.990	0.370	1.15	-	1.82	2.69	-	2.39	1.43	
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	5.1	16	16	21	-	34	75	-	80	22	
Cation Sum	me/L	n/v	n/v	0.350	1.05	0.430	1.33	-	2.05	2.81	-	2.49	1.51	
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.4	2.2	1.5	1.3	-	3.0	3.6	-	5.0	3.7	
Color	color unit (CU)	SN <sup>B</sup>	n/v	47	24	150	42	-	27	21	-	42	39	
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	0.00077	0.0089 <sup>B</sup>	-	0.015 <sup>B</sup>	0.00067	-	0.00070	0.0012	
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	7.8	5.6	13	8.1	-	5.7	6.1	-	11	9.7	
Electrical Conductivity, Lab	µS/cm	n/v	n/v	32	120	36	150	-	230	300	310	240	160	
Hardness (as CaCO3)	mg/L	n/v	n/v	13	43	18	50.4	-	81	130	-	110	60.3	
Ion Balance % Difference	%	n/v	n/v	27.3	2.94	7.50	7.26	-	5.94	2.18	-	2.05	2.72	
Langelier Index (at 20 C)	none	n/v	n/v	-2.91	-1.64	-2.21	-1.56	-	-0.833	-0.0530	-	-0.328	-1.44	
Langelier Index (at 4 C)	none	n/v	n/v	-3.17	-1.89	-2.46	-1.81	-	-1.08	-0.303	-	-0.579	-1.69	
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.079	3.1 <sup>B</sup>	<0.050	4.3 <sup>B</sup>	-	9.1 <sup>B</sup>	5.8 <sup>B</sup>	-	0.99	2.8	
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.079	3.2	<0.050	4.4	-	9.4	5.8	-	1.0	2.8	
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	0.058	<0.010	0.055	-	0.22 <sup>B</sup>	0.063 <sup>B</sup>	-	0.016	0.021	
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	<0.010	
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	7.03	7.33	7.07	7.25	-	7.55	7.80	7.73	7.59	7.29	
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	0.0018	-	<0.0010	<0.0010	-	<0.0010	<0.0010	
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	0.016	-	-	-	-	-	0.080	
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.6	2.6	1.7	3.9	-	3.9	5.6	-	7.2	4.3	
Saturation pH (at 20 C)	none	n/v	n/v	9.94	8.97	9.28	8.81	-	8.39	7.86	-	7.92	8.73	
Saturation pH (at 4 C)	none	n/v	n/v	10.2	9.22	9.53	9.06	-	8.64	8.11	-	8.17	8.98	
Sulfate	mg/L	n/v	n/v	<2.0	18	<2.0	18	-	18	32	-	27	33	
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	-	<0.020	<0.020	
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>1</sub> <sup>C</sup>	16	67	21	82	-	130	170	-	140	97	
Total Organic Carbon	mg/L	n/v	n/v	7.7	5.6	14	9.4	-	5.3	6.4	-	12	14 ERT	
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>1</sub> <sup>C</sup>	<1.0	<1.3	2.8	7.2	-	<1.0	<1.0	-	4.5	130 <sup>C</sup>	
Turbidity, Lab	NTU	n/v	n/v	0.67	0.72	1.2	14	-	1.3	0.42	-	3.6	91	
<b>Metals</b>														
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	71	32	52	540 <sup>B</sup>	-	57	13	-	99	1,780 <sup>B</sup>	
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	0.042	-	<1.0	<1.0	-	<1.0	0.112	
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	1.3	1.3	2.92	2.92	-	1.3	1.6	-	4.2	5.50 <sup>B</sup>	
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	1.6	2.2	1.9	7.43	-	7.6	7.3	-	12	19.4	
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	0.014	-	<0.10	<0.10	-	<0.10	0.044	
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	<0.10	-	<2.0	<2.0	-	<2.0	0.013	
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	<10	-	<50	<50	-	<50	<10	
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	<0.010	0.0290	-	<0.010	<0.010	-	0.019	0.0760	
Calcium	µg/L	n/v	n/v	4,200	14,000	6,300	16,100	-	27,000	44,000	-	35,000	18,600	
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	0.49	-	<1.0	<1.0	-	<1.0	2.07	
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	0.654	-	<0.40	0.45	-	<0.40	1.89	
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	0.76	<0.50	2.05 <sup>B</sup>	-	0.89	0.63	-	1.1	6.66 <sup>B</sup>	
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	120	84	470 <sup>B</sup>	953 <sup>B</sup>	-	140	71	-	460 <sup>B</sup>	2,640 <sup>B</sup>	
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	0.430	-	<0.50	<0.50	-	<0.50	0.921	
Lithium	µg/L	n/v	n/v	-	-	-	<0.50	-	-	-	-	-	1.23	
Magnesium	µg/L	n/v	n/v	650	1,900	450	2,460	-	3,100	4,300	-	4,800	3,370	
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	44	45	12	375	-	240	530 <sup>B</sup>	-	1,400 <sup>B</sup>	361	
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	<0.013	<0.013	-	<0.013	<0.013	-	<0.013	<0.013	
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	0.274	-	<2.0	<2.0	-	<2.0	0.425	
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	0.68	-	<2.0	<2.0	-	<2.0	2.57	
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	30.2	-	<100	<100	-	<100	82.2	
Potassium	µg/L	n/v	n/v	170	710	<100	1,650	-	2,100	1,900	-	2,700	1,810	
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	0.090	-	<0.50	<0.50	-	<0.50	0.160	
Silicon	µg/L	n/v	n/v	-	-	-	2,620	-	-	-	-	-	3,870	
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	<0.10	0.011	-	<0.10	<0.10	-	<0.10	0.021	
Sodium	µg/L	n/v	n/v	1,900	2,900	1,200	2,970	-	4,300	5,100	-	5,700	3,240	
Strontium	µg/L	n/v	n/v	14	40	15	41.8	-	96	150	-	110	70.5	
Sulfur	µg/L	n/v	n/v	-	-	-	5,840	-	-	-	-	-	10,600	
Sulfur	mg/L	n/v	n/v	-	-	-	5.8	-	-	-	-	-	-	
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	<0.10	<0.10	0.0050	-	<0.10	<0.10	-	<0.10	0.0100	
Tin	µg/L	n/v	n/v	<2.0	<2.0	<2.0	<0.20	-	<2.0	<2.0	-	<2.0	<0.20	
Titanium	µg/L	n/v	n/v	<2.0	<2.0	<2.0	21.2	-	<2.0	<2.0	-	<2.0	42.5	
Uranium	µg/L	33 <sup>A</sup> 15 <sup>B</sup>	n/v	<0.10	<0.10	<0.10	0.202	-	0.48	1.1	-	0.50	0.543	
Vanadium	µg/L	n/v	n/v	<2.0	<2.0	<2.0	1.41	-	<2.0	<2.0	-	<2.0	4.34	
Zinc	µg/L	37 <sub>EQ1</sub> <sup>A</sup> 7.0 <sub>EQ2</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<5.0	<5.0	5.8	2.9	-	<5.0	<5.0	-	<5.0	11.5	
Zirconium	µg/L	n/v	n/v	-	-	-	0.13	-	-	-	-	-	0.22	
<b>Radionuclides</b>														
Radium-226	Bq/L	n/v	0.37 <sup>C</sup>	-	<0.010	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	<0.010	

See notes on last page.

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	4-Dec-22	19-Jun-23	30-Sep-23	30-Sep-23	26-Nov-23	26-Nov-23	5-May-24	LP-WQP-01		17-Aug-24	17-Aug-24	31-Aug-24		31-Aug-24	27-Oct-24	27-Oct-24
				LP-WQP-01	LP-WQP-01	LP-WQP-01	LP-WQP-01 Lab-Dup	LP-WQP-01	LP-WQP-01 Lab-Dup	LP-WQP-01	LP-WQP-01 Lab-Dup	LP-WQP-01	LP-WQP-01	LP-WQP-01	LP-WQP-01 Lab-Dup	SW DUP 8	SW DUP 8 Lab-Dup	LP-WQP-01	LP-WQP-01 Lab-Dup
Sample ID				Marathon Gold BV C2AB852 UNQ125	Marathon Gold BV C3I4396 WER138	Marathon Gold BV C3U6705 XEK734	Marathon Gold BV C3U6705 XEK734 Lab Replicate	Marathon Gold BV C3AQ228 XTF824	Marathon Gold BV C3AQ228 XTF824 Lab Replicate	Calibre Mining BV C4D8761 ZCU139	Calibre Mining BV C4J3748 ZOE996	Calibre Mining BV C4Q0869 AAQX61	Calibre Mining BV C4Q0869 AAQX61 Lab Replicate	Calibre Mining BV C4R5798 ABWP54	Calibre Mining BV C4R5798 ABWP54 Lab Replicate	RPD (%)	Calibre Mining BV C4R5798 ABWP54 Lab Replicate	Calibre Mining BV C4Y2292 AHLX51	Calibre Mining BV C4Y2292 AHLX51 Lab Replicate
<b>Field Parameters</b>																			
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	87.0	-	-	-	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	24.06	10.03	8.58	-	12.55	-	-	8.38	8.36	-	-	-	-	-	11.65	-
Electrical Conductivity, Field	µS/cm	-	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75.5	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	7.39	6.82	6.96	-	-	-	-	-	7.18	-
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	46.7	64.5	103	-	-	-	-	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.40	10.6	13.2	-	2.04	-	10.1	16.6	15.2	-	-	-	-	-	5.5	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	10.05	-	-	-	-	-	-	-	-	-
<b>General Chemistry</b>																			
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	nc	-	<1.0	-	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	6.0	14	27	28	14	-	15	31	54	-	3.9	nc	-	22	-	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	0.075	0.084	-	0.34	-	0.063	<0.050	<0.050	-	<0.050	nc	-	<0.050	-	-
Anion Sum	me/L	n/v	n/v	0.210	0.400	0.630	-	0.370	-	0.370	0.700	1.17	-	0.190	nc	-	0.750	-	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	6.0	14	27	-	14	-	15	31	54	-	3.9	nc	-	22	-	-
Cation Sum	me/L	n/v	n/v	0.270	0.500	0.750	-	0.600	-	0.520	0.850	1.23	-	0.480	nc	-	0.690	-	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.4	2.1	2.5	-	1.3	-	2.2	2.3	2.6	-	2.1	nc	-	3.5	-	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	85	66	69	-	96	-	78	40	18	-	27	7%	-	70	-	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	0.0011	-	0.0022	-	<0.0001	0.0011	0.00070	-	0.00091	nc	-	0.00076	-	-
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	12	10	15	-	14	-	9.0	11	7.8	-	4.0	0%	-	14	-	14
Electrical Conductivity, Lab	µS/cm	n/v	n/v	24	51	75	74	57	-	53	85	120	-	19	0%	-	73	-	-
Hardness (as CaCO3)	mg/L	n/v	n/v	9.4	19	30	-	21.7	-	19	34	52	-	5.06	1%	-	26.8	-	-
Ion Balance % Difference	%	n/v	n/v	12.5	11.1	8.70	-	23.7	-	16.9	9.68	2.50	-	43.3	nc	-	4.17	-	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.37	-2.17	-1.52	-	-2.20	-	-2.07	-1.18	-0.596	-	-3.76	nc	-	-1.89	-	-
Langelier Index (at 4 C)	none	n/v	n/v	-3.62	-2.42	-1.77	-	-2.45	-	-2.32	-1.43	-0.848	-	-4.01	nc	-	-2.14	-	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	0.84	0.18	-	0.82	-	0.12	0.085	0.13	-	0.056	nc	-	0.58	-	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	0.86	0.18	-	0.83	-	0.13	0.085	0.13	-	0.056	nc	-	0.59	-	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	0.025	<0.010	-	0.013	-	0.013	<0.010	<0.010	-	<0.010	nc	-	0.015	-	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	-	<0.010	-	<0.010	<0.010	<0.010	-	<0.010	nc	-	<0.010	-	-
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.70	7.24	7.40	7.41	7.14	-	7.27	7.61	7.80	-	6.77	nc	-	7.16	-	-
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	-	<0.0010	-	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	nc	-	<0.0010	-	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	0.009	-	-	-	-	-	<0.004	nc	-	0.012	-	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.2	0.83	3.0	-	3.6	-	2.2	18	3.1	-	1.3	nc	-	3.3	-	-
Saturation pH (at 20 C)	none	n/v	n/v	10.1	9.41	8.93	-	9.34	-	8.93	8.79	8.39	-	10.5	nc	-	9.05	-	-
Saturation pH (at 4 C)	none	n/v	n/v	10.3	9.66	9.18	-	9.59	-	9.59	9.04	8.64	-	10.8	nc	-	9.31	-	-
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	-	2.5	nc	-	7.9	-	-
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	<0.020	-	<0.020	-	<0.020	<0.020	<0.020	-	<0.020	nc	<0.020	<0.020	-	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>51</sub> <sup>C</sup>	14	25	37	-	29	-	24	58	63	-	19	45%	-	45	-	-
Total Organic Carbon	mg/L	n/v	n/v	13	10	15	-	15	-	9.3	11	8.0	-	4.1	2%	-	15	-	-
Total Suspended Solids	mg/L	n/v	30 <sub>11</sub> <sup>C</sup>	1.4	<1.3	<1.0 SP	-	2.4	4.0	1.2	1.4	4.8	-	<1.0	nc	-	3.4	-	-
Turbidity, Lab	NTU	n/v	n/v	1.1	1.3	0.47	-	5.5	-	3.0	0.27	1.3	-	0.49	nc	-	8.1	-	-
<b>Metals</b>																			
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	93	90	25	-	142 <sup>B</sup>	-	110 <sup>B</sup>	170 <sup>B</sup>	57	-	42.4	3%	-	195 <sup>B</sup>	-	-
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	0.024	-	<1.0	<1.0	<1.0	-	<0.020	nc	-	0.023	-	-
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	2.0	2.8	4.9	-	3.39	-	4.4	7.8 <sup>B</sup>	4.4	-	0.614	11%	-	3.83	-	-
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	2.5	2.5	2.4	-	5.24	-	2.8	9.5	4.0	-	2.32	2%	-	4.59	-	-
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	-	0.011	-	<0.10	<0.10	<0.10	-	<0.010	nc	-	<0.010	-	-
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<0.010	-	<2.0	<2.0	<2.0	-	<0.0050	nc	-	<0.010	-	-
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	-	13	-	<50	<50	<50	-	<5.0	nc	-	<10	-	-
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TG</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	<0.010	-	0.0168	-	<0.010	0.017	<0.010	-	<0.0050	nc	-	0.0110	-	-
Calcium	µg/L	n/v	n/v	2,700	5,300	8,700	-	6,510	-	6,000	11,000	16,000	-	1,460	1%	-	7,940	-	-
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	0.24	-	<1.0	<1.0	<1.0	-	0.13	nc	-	0.31	-	-
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	-	0.225	-	<0.40	0.61	<0.40	-	0.0342	19%	-	0.245	-	-
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	0.59	<0.50	-	1.11	-	0.83	16 <sup>B</sup>	0.75	-	0.187	nc	-	1.14	-	-
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	270	210	330 <sup>B</sup>	-	479 <sup>B</sup>	-	400 <sup>B</sup>	780 <sup>B</sup>	240	-	44.4	5%	-	489 <sup>B</sup>	-	-
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	0.186	-	<0.50	<0.50	<0.50	-	0.0084	nc	-	0.146	-	-
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	-	-	-	-	-	<0.50	nc	-	0.56	-	-
Magnesium	µg/L	n/v	n/v	650	1,300	1,900	-	1,310	-	1,100	1,800	3,200	-	345	0%	-	1,700	-	-
Manganese	µg/L	3,600 <sub>EO3</sub> <sup>A</sup> 430 <sub>EO4</sub> <sup>B</sup>	n/v	52	79	120	-	121	-	43	900 <sup>B</sup>	300	-	14.1	5%	-	145	-	-
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	<0.013	-	<0.013	-	<0.013	<0.013	<0.013	-	<0.013	nc	-	<0.013	-	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	-	0.097	-	<2.0	<2.0	<2.0	-	<0.050	nc	-	0.133	-	-
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	-	0.28	-	<2.0	<2.0	<2.0	-	0.120	13%	-	0.40	-	-
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	-	11.4	-	<100	<100	<100	-	<2.0	nc	-	13.8	-	-
Potassium	µg/L	n/v	n/v	<100	570	990	-	1,220	-	1,200	1,200	1,200	-	187	nc	-	1,360	-	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	0.114	-	<0.50	<0.50	<0.50	-	<0.040	nc	-	0.064	-	-
Silicon	µg/L	n/v	n/v	-	-	-	-	2,040	-	-	-	-	-	585	1%	-			

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date				4-Dec-22	4-Dec-22	18-Jun-23	30-Sep-23	27-Nov-23	LP-WQP-02				23-Jun-24	31-Aug-24	3-Nov-24
Sample ID				LP-WQP-02	LP-WQP-02 Lab-Dup	LP-WQP-02	LP-WQP-02	LP-WQP-02	5-May-24	5-May-24	DUP A		LP-WQP-02	LP-WQP-02	LP-WQP-02
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV		Calibre Mining BV	Calibre Mining BV	Calibre Mining BV
Laboratory				C2AB852	C2AB852	C314396	C3U6705	C3AQ228	C4D8761	C4D8761	C4D8761		CAJ3748	C4R5798	C4Z1933
Laboratory Work Order				UNQ126	UNQ126	WER139	XEK735	XTF827	ZCU140	ZCU140	ZCU152		ZOE997	ABWP47	AIGO34
Laboratory Sample ID															
Sample Type	Units	CCME	NL ECWSR									RPD (%)			
<b>Field Parameters</b>															
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	89.7	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	23.42	-	10.70	9.21	12.2	-	-	-	-	10.23	9.47	12.10
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	18.9
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	6.37 <sup>B</sup>	-	-	-	6.21 <sup>B</sup>	7.03	6.70
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	19.9	-	-	-	15.5	17.2	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	2.45	-	13.1	13.9	2.19	5.9	-	-	-	14.5	18.0	3.8
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	5.52	-	-	-	-	-	-
<b>General Chemistry</b>															
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	<1.0	<1.0	<1.0	<1.0	-	<1.0	nc	<1.0	<1.0	<1.0
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	3.4	-	3.6	2.9	4.5	2.7	-	3.7	nc	3.3	2.7	9.2
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	-	<0.050	<0.050	<0.050	<0.050	-	<0.050	nc	0.12	<0.050	<0.050
Anion Sum	me/L	n/v	n/v	0.150	-	0.160	0.130	0.140	0.160	-	0.140	nc	0.150	0.170	0.340
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	3.4	-	3.5	2.9	4.5	2.7	-	3.7	nc	3.3	2.7	9.2
Cation Sum	me/L	n/v	n/v	0.210	-	0.220	0.190	0.200	0.180	-	0.190	nc	0.180	0.180	0.290
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	2.6	2.6	3.0	2.7	1.4	2.8	1.9	2.3	nc	2.7	2.1	2.8
Color	color unit (CU)	SN <sup>B</sup>	35	35	35	30	34	41	42	35	16%	35	29	37	
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	<0.00050	0.00063	<0.00050	<0.00050	-	<0.00050	nc	0.00073	<0.00050	0.00050
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	4.8	-	4.5	4.2	4.8	4.8	-	4.9	2%	4.3	4.0	5.7
Electrical Conductivity, Lab	µS/cm	n/v	n/v	19	-	22	22	24	23	-	23	0%	21	19	30
Hardness (as CaCO3)	mg/L	n/v	n/v	5.9	-	6.3	5.3	6.06	5.1	-	5.7	11%	5.0	5.09	9.04
Ion Balance % Difference	%	n/v	n/v	16.7	-	15.8	18.8	17.7	5.88	-	15.2	nc	9.09	2.86	7.94
Langelier Index (at 20 C)	none	n/v	n/v	-3.84	-	-3.83	-3.91	-3.67	-4.07	-	-4.00	nc	-3.98	-3.95	-2.91
Langelier Index (at 4 C)	none	n/v	n/v	-4.09	-	-4.09	-4.16	-3.92	-4.32	-	-4.26	nc	-4.23	-4.20	-3.16
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.10	-	0.070	<0.25	0.15	0.11	-	0.095	nc	0.072	0.056	0.11
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.10	0.10	0.070	<0.25	0.16	0.12	0.095	0.095	nc	0.072	0.056	0.11
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	<0.010	<0.010	0.012	0.011	<0.010	<0.010	nc	<0.010	<0.010	<0.010
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	0.019	<0.010	<0.010	nc	<0.010	<0.010	<0.010
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.64	-	6.61	6.71	6.69	6.59	-	6.48 <sup>B</sup>	nc	6.61	6.72	6.97
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	nc	<0.0010	<0.0010	<0.0010
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	<0.004	-	-	-	-	nc	-	<0.004	<0.004
Reactive Silica (SiO2)	mg/L	n/v	n/v	1.6	1.4	1.6	1.4	1.3	2.0	1.6	1.7	nc	2.1	1.3	2.3
Saturation pH (at 20 C)	none	n/v	n/v	10.5	-	10.4	10.6	10.4	10.7	-	10.5	nc	10.6	10.7	9.88
Saturation pH (at 4 C)	none	n/v	n/v	10.7	-	10.7	10.9	10.6	10.9	-	10.7	nc	10.8	10.9	10.1
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	<2.0	<2.0	<2.0	2.2	<2.0	<2.0	nc	<2.0	2.6	3.4
Sulfide	mg/L	n/v	n/v	<0.020	-	<0.020	<0.020	<0.020	<0.020	-	<0.020	nc	<0.020	<0.020	<0.020
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>1</sub> <sup>C</sup>	11	-	10	11	10	11	-	11	9%	11	12	20
Total Organic Carbon	mg/L	n/v	n/v	4.8	-	4.9	4.2	5.2	4.6	-	4.9	6%	4.9	4.0	5.8
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>1</sub> <sup>C</sup>	3.0	-	2.0	<2.0 ASF	-	<1.0	-	<1.0	nc	<1.0	<1.0	1.0
Turbidity, Lab	NTU	n/v	n/v	0.59	-	0.85	0.33	1.4	0.40	-	0.70	nc	0.31	0.36	0.98
<b>Metals</b>															
Aluminum	µg/L	5 <sup>100</sup> <sub>VAR1</sub> <sup>B</sup>	n/v	110 <sup>B</sup>	-	77	49	63.4	60	-	63 <sup>B</sup>	5%	55	41.2	60.9
Antimony	µg/L	n/v	n/v	<1.0	-	<1.0	<1.0	<0.020	<1.0	-	<1.0	nc	<1.0	<0.020	0.029
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	-	<1.0	<1.0	0.728	<1.0	-	<1.0	nc	<1.0	0.549	2.02
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	2.5	-	2.6	2.3	2.60	2.0	-	2.4	nc	2.4	2.28	3.94
Beryllium	µg/L	n/v	n/v	<0.10	-	<0.10	<0.10	<0.010	<0.10	-	<0.10	nc	<0.10	<0.010	<0.010
Bismuth	µg/L	n/v	n/v	<2.0	-	<2.0	<2.0	<0.010	<2.0	-	<2.0	nc	<2.0	<0.0050	<0.0050
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	-	<50	<50	<10	<50	-	<50	nc	<50	<5.0	<5.0
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	-	<0.010	<0.010	<0.0050	<0.010	-	<0.010	nc	<0.010	<0.0050	<0.0050
Calcium	µg/L	n/v	n/v	1,800	-	1,900	1,790	1,500	1,800	-	1,400	6%	1,400	1,470	2,770
Chromium	µg/L	n/v	n/v	<1.0	-	<1.0	<1.0	0.24	<1.0	-	<1.0	nc	<1.0	0.14	0.16
Cobalt	µg/L	n/v	n/v	<0.40	-	<0.40	<0.40	0.037	<0.40	-	<0.40	nc	<0.40	0.0283	0.135
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.99	-	<0.50	<0.50	0.32	<0.50	-	<0.50	nc	<0.50	0.199	0.314
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	180	-	100	59	84.0	80	-	85	nc	53	42.1	193
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	<0.50	0.057	<0.50	-	<0.50	nc	<0.50	0.0097	0.0212
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	-	-	-	-	-	<0.50	<0.50
Magnesium	µg/L	n/v	n/v	360	-	410	370	390	340	-	380	nc	330	344	519
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	17	-	11	8.6	9.82	8.2	-	9.4	nc	11	13.4	47.0
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	-	<0.013	<0.013	<0.013	<0.013	-	<0.013	nc	<0.013	<0.013	<0.013
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	-	<2.0	<2.0	<0.050	<2.0	-	<2.0	nc	<2.0	<0.050	0.055
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	-	<2.0	<2.0	0.19	<2.0	-	<2.0	nc	<2.0	0.137	0.238
Phosphorus	µg/L	n/v	n/v	<100	-	<100	<100	5.3	<100	-	<100	nc	<100	3.0	4.9
Potassium	µg/L	n/v	n/v	200	-	210	160	<250	160	-	190	nc	190	181	631
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	<0.50	0.075	<0.50	-	<0.50	nc	<0.50	<0.040	0.056
Silicon	µg/L	n/v	n/v	-	-	-	-	808	-	-	-	-	-	589	1,090
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	-	<0.10	<0.10	<0.010	<0.10	-	<0.10	nc	<0.10	<0.0050	<0.0050
Sodium	µg/L	n/v	n/v	1,700	-	1,800	1,800	1,500	1,700	-	1,600	13%	1,600	1,750	1,950
Strontium	µg/L	n/v	n/v	5.1	-	5.6	5.5	5.49	4.8	-	5.0	nc	5.0	5.02	7.89
Sulfur	µg/L	n/v	n/v	-	-	-	-	<600	-	-	-	-	-	<3,000	<3,000
Sulfur	mg/L	n/v	n/v	-	-	-	-	<3.0	-	-	-	-	-	-	-
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	-	<0.10	<0.10	<0.0020	<0.10	-	<0.10	nc	<0.10	<0.0020	<0.0020
Tin	µg/L	n/v	n/v	<2.0	-	<2.0	<2.0	<2.0	<2.0	-	<2.0	nc	<2.0	<2.0	<2.0
Titanium	µg/L	n/v	n/v	7.6	-	2.9	<2.0	<2.0	<2.0	-	<2.0	nc	<2.0	<2.0	0.86
Uranium	µg/L	33 <sup>A</sup> 15 <sup>B</sup>	n/v	<											

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	LP-WQP-05									
				4-Dec-22	19-Jun-23	19-Jun-23	30-Sep-23	27-Nov-23	5-May-24	5-May-24	22-Jun-24	17-Aug-24	27-Oct-24
Sample ID				LP-WQP-05	LP-WQP-05	LP-WQP-05 Lab-Dup	LP-WQP-05	LP-WQP-05	LP-WQP-05	LP-WQP-05 Lab-Dup	LP-WQP-05	LP-WQP-05	LP-WQP-05
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV
Laboratory				C2AB852	C314396	C314396	C3U6705	C3AQ228	C4D8761	C4D8761	C4J3748	C4Q0869	C4Y2292
Laboratory Work Order				UNQ128	WER141	WER141	XEK738	XTF828	ZCU142	ZCU142	ZOE999	AAQX63	AHLX52
Laboratory Sample ID						Lab Replicate				Lab Replicate			
Sample Type													
<b>Field Parameters</b>													
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	89.4	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	26.57	10.75	-	6.76	12.22	-	-	9.44	0.08 <sup>B</sup>	12.04
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	112.9
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	6.12 <sup>B</sup>	-	6.75	6.6	5.73 <sup>B</sup>
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	55.0	-	46.8	88.3	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.03	10.8	-	16.1	1.76	8.9	-	19.1	21.0	5.4
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	13.18	-	-	-	-
<b>General Chemistry</b>													
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	3.7	9.2	-	9.5	6.3	5.5	-	12	36	<1.0
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	-	0.058	0.094	0.060	<0.050	<0.050	<0.050	0.18
Anion Sum	me/L	n/v	n/v	0.170	0.240	-	0.250	0.150	0.220	-	0.380	0.900	1.55
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	3.7	9.2	-	9.5	6.3	5.5	-	12	36	<1.0
Cation Sum	me/L	n/v	n/v	0.370	0.320	-	0.430	0.360	0.290	-	0.460	1.00	1.49
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.3	1.9	-	2.0	<1.0	1.4	-	1.8	2.7	2.6
Color	color unit (CU)	SN	n/v	76	30	-	26	88	23	-	31	18	35
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	0.00052	0.00050	<0.00050	-	<0.00050	<0.00050	<0.00050
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	10	7.0	-	8.3	12	5.3	-	7.7	11	9.0
Electrical Conductivity, Lab	µS/cm	n/v	n/v	33	30	-	42	29	33	-	48	95	180
Hardness (as CaCO3)	mg/L	n/v	n/v	14	13	-	17	11.9	11	-	19	41	66.4
Ion Balance % Difference	%	n/v	n/v	37.0	14.3	-	26.5	41.2	13.7	-	9.52	5.26	1.97
Langelier Index (at 20 C)	none	n/v	n/v	-2.92	-2.61	-	-2.27	-3.28	-3.08	-	-2.17	-0.983	NC
Langelier Index (at 4 C)	none	n/v	n/v	-3.17	-2.86	-	-2.52	-3.53	-3.33	-	-2.42	-1.24	NC
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	<0.050	-	<0.050	0.30	<0.050	-	<0.050	<0.050	0.41
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	<0.050	-	<0.050	0.30	<0.050	-	<0.050	<0.050	0.41
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	-	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	-	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	7.12	7.09	-	7.29	6.63	6.91	-	7.23	7.64	5.33 <sup>BC</sup>
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	-	<0.0010	0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	0.012	-	-	-	-	0.018
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.1	<0.50	-	0.57	2.6	1.2	-	<0.50	<0.50	4.8
Saturation pH (at 20 C)	none	n/v	n/v	10.0	9.70	-	9.56	9.91	9.99	-	9.40	8.63	NC
Saturation pH (at 4 C)	none	n/v	n/v	10.3	9.95	-	9.81	10.2	10.2	-	9.65	8.88	NC
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<2.0	3.2	-	3.9	4.7	69
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	-	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	15	14	-	17	15	15	-	22	49	110
Total Organic Carbon	mg/L	n/v	n/v	10	7.2	7.2	8.4	13	5.1	-	7.8	12	11
Total Suspended Solids	mg/L	n/v	30 <sub>11</sub> <sup>C</sup>	1.6	1.5	-	1.4	-	5.4	-	1.8	12	15
Turbidity, Lab	NTU	n/v	n/v	1.1	0.55	-	0.88	23	4.3	4.3	1.0	2.4	23
<b>Metals</b>													
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	120 <sup>B</sup>	49	-	42	520 <sup>B</sup>	230 <sup>B</sup>	-	99 <sup>B</sup>	160 <sup>B</sup>	904 <sup>B</sup>
Antimony	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	0.086	<1.0	-	<1.0	<1.0	0.073
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	<1.0	-	<1.0	2.46	1.4	-	1.9	2.4	1.82
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	4.2	2.4	-	3.4	8.66	6.0	-	5.9	9.3	35.5
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	-	<0.10	0.015	<0.10	-	<0.10	<0.10	0.119
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<0.010	<2.0	-	<2.0	<2.0	<0.010
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	-	<50	<10	<50	-	<50	<50	<10
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	-	<0.010	0.0269	<0.010	-	<0.010	0.011	0.356 <sup>B</sup>
Calcium	µg/L	n/v	n/v	4,500	4,000	-	4,500	3,650	3,500	-	6,100	13,000	22,100
Chromium	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	0.57	<1.0	-	<1.0	<1.0	0.64
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	-	<0.40	0.887	<0.40	-	<0.40	<0.40	7.11
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.62	0.79	-	<0.50	3.85 <sup>B</sup>	0.93	-	2.2 <sup>B</sup>	1.5	4.81 <sup>B</sup>
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	130	88	-	99	924 <sup>B</sup>	330 <sup>B</sup>	-	470 <sup>B</sup>	490 <sup>B</sup>	938 <sup>B</sup>
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	0.823	<0.50	-	<0.50	<0.50	0.395
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	-	-	-	-	0.81
Magnesium	µg/L	n/v	n/v	650	580	-	800	660	500	-	760	2,000	2,730
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	38	14	-	21	99.0	19	-	89	150	1,130 <sup>B</sup>
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	0.013	<0.013	-	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	-	<2.0	0.247	<2.0	-	<2.0	<2.0	0.118
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	-	<2.0	1.05	<2.0	-	<2.0	<2.0	6.79
Phosphorus	µg/L	n/v	n/v	<100	<100	-	<100	13.9	<100	-	<100	<100	19.3
Potassium	µg/L	n/v	n/v	230	160	-	250	330	160	-	300	510	570
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	0.143	<0.50	-	<0.50	<0.50	0.087
Silicon	µg/L	n/v	n/v	-	-	-	-	1,990	-	-	-	-	2,720
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	-	<0.10	<0.010	<0.10	-	<0.10	<0.10	0.024
Sodium	µg/L	n/v	n/v	1,900	1,500	-	1,800	1,610	1,200	-	1,600	3,400	2,290
Strontium	µg/L	n/v	n/v	33	40	-	52	24.6	35	-	66	150	246
Sulfur	µg/L	n/v	n/v	-	-	-	-	<600	-	-	-	-	22,500
Sulfur	mg/L	n/v	n/v	-	-	-	-	<3.0	-	-	-	-	22.5
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	<0.10	-	<0.10	0.0048	<0.10	-	<0.10	<0.10	0.0130
Tin	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<0.20	<2.0	-	<2.0	<2.0	<0.20
Titanium	µg/L	n/v	n/v	2.1	<2.0	-	<2.0	9.5	4.3	-	<2.0	6.7	11.8
Uranium	µg/L	33 <sup>A</sup> 15 <sup>B</sup>	n/v	<0.10	<0.10	-	<0.10	0.223	<0.10	-	<0.10	0.14	0.997
Vanadium	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	1.33	<2.0	-	<2.0	<2.0	1.08
Zinc	µg/L	37 <sub>EQ1</sub> <sup>A</sup> 7.0 <sub>EQ2</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<5.0	<5.0	-	<5.0	4.7	<5.0	-	<5.0	<5.0	51.7
Zirconium	µg/L	n/v	n/v	-	-	-	-	0.46	-	-	-	-	<0.10
<b>Radionuclides</b>													
Radium-226	Bq/L	n/v	0.37 <sup>C</sup>	-	<0.010	-	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010

See notes on last page.

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	5-Dec-22	5-Dec-22	18-Jun-23	1-Oct-23	26-Nov-23	26-Nov-23	MA-WQFP-45		6-May-24	6-May-24	RPD (%)	22-Jun-24	31-Aug-24	26-Oct-24
				MA-WQFP-45	MA-WQFP-45 Lab-Dup	MA-WQFP-45	MA-WQFP-45	MA-WQFP-45	MA-WQFP-45 Lab-Dup	MA-WQFP-45	MA-WQFP-45 Lab-Dup	DUP B	MA-WQFP-45		MA-WQFP-45	MA-WQFP-45	
Sample ID				Marathon Gold BV C2AB852 UNQ124	Marathon Gold BV C2AB852 UNQ124 Lab Replicate	Marathon Gold BV C3I4396 WER137	Marathon Gold BV C3U6705 XEK733	Marathon Gold BV C3AQ228 XTF822	Marathon Gold BV C3AQ228 XTF822 Lab Replicate	Calibre Mining BV C4D8761 ZCU138	Calibre Mining BV C4D8761 ZCU138 Lab Replicate	Field Duplicate		Calibre Mining BV C4J3748 ZOE995	Calibre Mining BV C4R5798 ABWP49	Calibre Mining BV C4Y2292 AHLX44	
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV		Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	
Laboratory				C2AB852	C2AB852	C3I4396	C3U6705	C3AQ228	C3AQ228	C4D8761	C4D8761	C4D8761		C4J3748	C4R5798	C4Y2292	
Laboratory Work Order				UNQ124	UNQ124	WER137	XEK733	XTF822	XTF822	ZCU138	ZCU138	ZCU138		ZOE995	ABWP49	AHLX44	
Laboratory Sample ID																	
Sample Type					Lab Replicate				Lab Replicate	Lab Replicate	Lab Replicate	Field Duplicate					
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	86.2	-	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	25.15	-	10.00	9.59	13.29	-	-	-	-	-	8.78	9.47	11.46	
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	42.2	
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	7.85	-	-	-	7.38	7.99	7.13	
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	105.7	-	-	-	155.7	195.3	-	
Temperature, Field	deg C	n/v	32 <sup>C</sup>	0.560	-	11.6	11.8	0.458	-	8.1	-	-	-	17.0	16.5	6.3	
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	10.90	-	-	-	-	-	-	
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	-	<1.0	nc	<1.0	1.2	<1.0	
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	7.6	-	21	46	22	22	37	37	38	3%	72	96	13	
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	-	<0.050	0.86	0.50	-	<0.050	-	<0.050	nc	<0.050	<0.050	<0.050	
Anion Sum	me/L	n/v	n/v	0.320	-	0.500	1.21	0.560	-	0.970	-	1.00	nc	1.77	2.45	0.610	
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	7.6	-	21	46	22	-	37	-	38	3%	71	95	13	
Cation Sum	me/L	n/v	n/v	0.340	-	0.600	1.33	0.730	-	1.08	-	1.16	nc	1.91	2.37	0.620	
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	5.9	-	2.5	2.5	1.4	1.3	2.5	-	2.0	nc	2.9	3.8	3.5	
Color	color unit (CU)	SN	n/v	47	-	33	23	47	47	33	-	30	10%	29	14	89	
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	0.0013	0.00069	-	<0.00050	-	<0.00050	nc	0.00093	<0.00050	<0.00050	
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	7.2	-	7.3	6.6	8.1	8.0	5.2	-	5.2	0%	6.1	4.1	14	
Electrical Conductivity, Lab	µS/cm	n/v	n/v	31	-	58	140	80	80	120	120	130	8%	210	230	64	
Hardness (as CaCO3)	mg/L	n/v	n/v	13	-	24	52	27.9	-	46	-	49	6%	84	102	24.0	
Ion Balance % Difference	%	n/v	n/v	3.03	-	9.09	4.72	13.2	-	5.37	-	7.41	nc	3.80	1.66	0.810	
Langelier Index (at 20 C)	none	n/v	n/v	-2.78	-	-1.64	-0.665	-1.70	-	-0.951	-	-0.821	nc	-0.146	0.196	-2.25	
Langelier Index (at 4 C)	none	n/v	n/v	-3.04	-	-1.89	-0.916	-1.95	-	-1.20	-	-1.07	nc	-0.397	-0.0540	-2.50	
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	-	<0.050	2.2	1.2	-	1.4	-	1.4	0%	1.9	3.0	1.1	
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	-	<0.050	2.2	1.2	1.2	1.4	-	1.4	0%	1.9	3.0	1.1	
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	-	<0.010	0.040	0.012	0.012	0.021	-	<0.010	nc	<0.010	<0.010	<0.010	
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	-	<0.010	<0.010	<0.010	<0.010	<0.010	-	<0.010	nc	<0.010	<0.010	<0.010	
pH, Lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	7.03	-	7.46	7.81	7.35	7.44	7.68	7.70	7.78	nc	7.95	8.12	7.08	
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	-	<0.0010	<0.0010	0.0014	-	<0.0010	-	<0.0010	nc	0.0010	<0.0010	<0.0010	
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	<0.004	<0.004	-	-	-	-	-	-	<0.004	0.011	
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.6	-	2.4	4.6	3.3	3.4	3.7	-	3.5	6%	2.7	4.3	2.8	
Saturation pH (at 20 C)	none	n/v	n/v	9.82	-	9.09	8.47	9.05	-	8.64	-	8.60	nc	8.10	7.93	9.33	
Saturation pH (at 4 C)	none	n/v	n/v	10.1	-	9.34	8.72	9.30	-	8.89	-	8.85	nc	8.35	8.18	9.58	
Sulfate	mg/L	n/v	n/v	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	-	4.2	nc	5.7	9.6	8.2	
Sulfide	mg/L	n/v	n/v	<0.020	-	<0.020	<0.020	<0.020	-	<0.020	-	<0.020	nc	<0.020	<0.020	<0.020	
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>1</sub> <sup>C</sup>	20	-	29	74	37	-	61	-	61	5%	99	130	40	
Total Organic Carbon	mg/L	n/v	n/v	7.3	7.2	7.1	6.6	8.8	-	5.0	-	5.5	10%	6.3	4.2	14	
Total Suspended Solids	mg/L	n/v	30 <sub>1</sub> <sup>C</sup>	<1.0	-	<1.0	<1.0	1.4	-	<1.0	-	<1.0	nc	<1.0	1.2	2.0	
Turbidity, Lab	NTU	n/v	n/v	0.54	-	0.17	1.2	1.7	-	0.45	-	1.6	nc	0.20	0.39	2.2	
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	44	-	36	15	143 <sup>B</sup>	-	34	37	42	21%	11	4.18	95.5	
Antimony	µg/L	n/v	n/v	<1.0	-	<1.0	<1.0	0.022	-	<1.0	<1.0	<1.0	nc	<1.0	0.024	<0.020	
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	1.1	-	2.1	2.7	2.43	-	1.6	1.7	2.0	nc	2.5	2.00	1.76	
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	<1.0	-	<1.0	1.7	1.64	-	1.2	1.1	1.4	nc	1.9	0.673	1.50	
Beryllium	µg/L	n/v	n/v	<0.10	-	<0.10	<0.10	<0.010	-	<0.10	<0.10	<0.10	nc	<0.10	<0.010	<0.010	
Bismuth	µg/L	n/v	n/v	<2.0	-	<2.0	<2.0	<0.010	-	<2.0	<2.0	<2.0	nc	<2.0	<0.0050	<0.010	
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	-	<50	<50	<10	-	<50	<50	<50	nc	<50	<5.0	<10	
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	-	<0.010	<0.010	0.0056	-	<0.010	<0.010	<0.010	nc	<0.010	<0.0050	0.0090	
Calcium	µg/L	n/v	n/v	3,800	-	7,400	16,000	8,090	-	13,000	14,000	7%	25,000	28,300	7,080		
Chromium	µg/L	n/v	n/v	<1.0	-	<1.0	<1.0	0.22	-	<1.0	<1.0	<1.0	nc	<1.0	0.15	0.20	
Cobalt	µg/L	n/v	n/v	<0.40	-	<0.40	0.47	0.309	-	<0.40	<0.40	<0.40	nc	<0.40	0.252	0.132	
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	<0.50	1.12	-	<0.50	0.56	0.53	nc	<0.50	0.502	0.95	
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	87	-	93	140	312 <sup>B</sup>	-	95	98	120	nc	98	45.3	192	
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	<0.50	0.130	-	<0.50	<0.50	<0.50	nc	<0.50	0.0126	0.063	
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	-	-	-	-	-	-	0.51	<0.50	
Magnesium	µg/L	n/v	n/v	730	-	1,300	3,200	1,860	-	3,200	3,200	3,500	9%	5,400	7,680	1,540	
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	18	-	62	250	140	-	64	63	100	44%	380 <sup>B</sup>	82.0	138	
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	-	<0.013	<0.013	<0.013 MNP	-	<0.013	-	<0.013	nc	<0.013	<0.013	<0.013	
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	-	<2.0	<2.0	0.258	-	<2.0	<2.0	<2.0	nc	<2.0	1.54	0.137	
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	-	<2.0	<2.0	0.50	-	<2.0	<2.0	<2.0	nc	<2.0	0.159	0.19	
Phosphorus	µg/L	n/v	n/v	<100	-	<100	<100	8.2	-	<100	<100	<100	nc	<100	4.1	13.7	
Potassium	µg/L	n/v	n/v	120	-	410	1,700	940	-	960	1,000	4%	1,300	1,790	1,300		
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	<0.50	0.044	-	<0.50	<0.50	<0.50	nc	<0.50	0.055	0.049	
Silicon	µg/L	n/v	n/v	-	-	-	-	1.970	-	-	-	-	-	-	2,180	1,360	
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	-	<0.10	<0.10	<0.010	-	<0.10	<0.10	<0.10	nc	<0.10	<0.0050	<0.010	
Sodium	µg/L	n/v	n/v	1,900	-	2,500	4,200	2,430	-	3,100	3,300	6%	4,500	6,460	2,290		
Strontium	µg/L	n/v	n/v	9.6	-	20	51	21.8	-	42	43	46	9%	88			

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	5-Dec-22	18-Jun-23	18-Jun-23	1-Oct-23	26-Nov-23	26-Nov-23	MA-WQP-01A		22-Jun-24	22-Jun-24	31-Aug-24	31-Aug-24	26-Oct-24	26-Oct-24
				MA-WQP-01A	MA-WQP-01A	MA-WQP-01A Lab-Dup	MA-WQP-01A	MA-WQP-01A	MA-WQP-01A Lab-Dup	MA-WQP-01A	MA-WQP-01A Lab-Dup	MA-WQP-01A	MA-WQP-01A Lab-Dup	MA-WQP-01A	MA-WQP-01A Lab-Dup	MA-WQP-01A	MA-WQP-01A Lab-Dup
Sample ID				Marathon Gold BV C2AB852 UNQ121	Marathon Gold BV C3I4396 WER134	Marathon Gold BV C3I4396 WER134 Lab Replicate	Marathon Gold BV C3U6705 XEK730	Marathon Gold BV C3AQ228 XTF819	Marathon Gold BV C3AQ228 XTF819 Lab Replicate	Calibre Mining BV C4D8761 ZCU135	Calibre Mining BV C4D8761 ZCU135 Lab Replicate	Calibre Mining BV C4J3748 ZOE992	Calibre Mining BV C4J3748 ZOE992 Lab Replicate	Calibre Mining BV C4R5798 ABWP52	Calibre Mining BV C4R5798 ABWP52 Lab Replicate	Calibre Mining BV C4Y2292 AHLX47	Calibre Mining BV C4Y2292 AHLX47 Lab Replicate
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	74.8	-	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	15.50	8.42	-	5.41 <sup>B</sup>	11.49	-	-	-	8.02	-	10.16	-	10.35	-
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	96.9	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	6.90	-	6.9	-	8.08	-	6.99	-
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	96.7	-	69.8	-	72.6	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	2.91	13.6	-	13.7	0.730	-	9.2	-	19.2	-	22.2	-	8.1	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	155.38	-	-	-	-	-	-	-
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	4.4	11	-	25	10	-	22	-	33	-	34	-	23	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	-	0.11	<0.050	-	<0.050	-	<0.050	-	<0.050	-	<0.050	-
Anion Sum	me/L	n/v	n/v	0.230	0.280	-	0.620	0.280	-	0.570	-	0.720	-	0.810	-	1.47	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	4.4	11	-	25	10	-	22	-	33	-	34	-	23	-
Cation Sum	me/L	n/v	n/v	0.280	0.370	-	0.820	0.430	-	0.910	-	0.830	-	0.820	-	1.44	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	4.8	2.5	-	3.5	1.5	-	2.0	-	2.3	-	2.1	-	3.6	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	84	92	-	110	120	-	89	-	66	-	35	-	110	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	0.00090	0.00050	-	<0.00050	-	0.00098	-	<0.00050	-	0.0017	-
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	11	14	-	20	17 EZ	-	11	-	12	-	9.8	-	18	-
Electrical Conductivity, Lab	µS/cm	n/v	n/v	120	35	-	78	48	-	75	-	86	-	74	-	150	150
Hardness (as CaCO3)	mg/L	n/v	n/v	9.6	13	-	29	15.7	-	33	-	36	-	33.0	-	56.4	-
Ion Balance % Difference	%	n/v	n/v	9.80	13.9	-	13.9	21.1	-	23.0	-	7.10	-	0.610	-	1.03	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.50	-2.66	-	-1.57	-2.72	-	-1.59	-	-1.12	-	-0.969	-	-1.77	-
Langelier Index (at 4 C)	none	n/v	n/v	-3.76	-2.92	-	-1.82	-2.98	-	-1.85	-	-1.22	-	-1.22	-	-2.03	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.095	<0.050	-	0.32	0.46	-	0.33	-	<0.050	-	0.093	-	6.8 <sup>B</sup>	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.095	<0.050	-	0.32	0.46	-	0.33	-	<0.050	-	0.093	-	6.8	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	-	<0.010	-	<0.010	-	0.031	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	-
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.66	6.97	-	7.40	6.86	-	7.38	-	7.61	-	7.79	-	6.98	7.10
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	0.0010	<0.0010	<0.0010	<0.0010	-	0.0010	-	<0.0010	-	<0.0010	-	<0.0010	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	0.006	-	-	-	-	-	-	0.012	-	0.038	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.6	0.80	-	4.9	3.4	-	3.2	-	8.4	-	<0.50	-	4.0	-
Saturation pH (at 20 C)	none	n/v	n/v	10.2	9.64	-	8.97	9.59	-	8.97	-	8.73	-	8.76	-	8.76	-
Saturation pH (at 4 C)	none	n/v	n/v	10.4	9.89	-	9.22	9.84	-	9.22	-	8.98	-	9.01	-	9.01	-
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<2.0	-	<2.0	-	<2.0	-	<2.0	-	2.0	-
Sulfide	mg/L	n/v	0.5 <sup>C</sup>	<0.020	<0.020	-	<0.020	<0.020	-	<0.020	-	<0.020	-	<0.020	-	<0.020	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	16	17	-	42	22	-	41	-	42	-	42	-	100	-
Total Organic Carbon	mg/L	n/v	n/v	11	13	-	20 EZ	13	-	11 EZ	-	12	-	10	-	19 EZ	-
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>11</sub> <sup>C</sup>	<1.0	1.2	-	1.0	-	-	13	-	3.2	-	14	11	14	-
Turbidity, Lab	NTU	n/v	n/v	0.63	1.7	-	6.2	0.95	-	53	-	2.6	-	4.9	-	66	-
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	89	180 <sup>B</sup>	-	340 <sup>B</sup>	334 <sup>B</sup>	337 <sup>B</sup>	1,600 <sup>B</sup>	1,600 <sup>B</sup>	140 <sup>B</sup>	150 <sup>B</sup>	96.3	-	1,190 <sup>B</sup>	-
Antimony	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	0.029	0.024	<1.0	<1.0	<1.0	<1.0	0.040	-	0.098	-
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	2.3	6.4 <sup>B</sup>	-	11 <sup>B</sup>	3.27	3.33	16 <sup>B</sup>	16 <sup>B</sup>	7.9 <sup>B</sup>	8.7 <sup>B</sup>	9.42 <sup>B</sup>	-	10.7 <sup>B</sup>	-
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	1.4	1.7	-	4.1	3.45	3.55	11	10	2.5	2.7	1.25	-	11.1	-
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	-	<0.10	0.013	0.014	<0.10	<0.10	<0.10	<0.10	<0.010	-	0.031	-
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<0.010	<0.010	<2.0	<2.0	<2.0	<2.0	<0.0050	-	0.017	-
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	-	<50	<10	<10	<50	<50	<50	<50	<50	-	<10	-
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>10</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	-	<0.010	0.0077	0.0094	0.022	0.019	<0.010	<0.010	0.0060	-	0.0230	-
Calcium	µg/L	n/v	n/v	2,900	4,000	-	8,600	4,750	9,700	8,600	9,700	12,000	13,000	10,100	-	16,500	-
Chromium	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	0.26	0.30	2.1	2.2	<1.0	<1.0	0.20	-	1.71	-
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	-	0.40	0.345	0.347	2.0	1.9	<0.40	<0.40	0.183	-	1.79	-
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	2.5 <sup>B</sup>	-	2.6 <sup>B</sup>	1.76	1.84	8.4 <sup>B</sup>	8.2 <sup>B</sup>	2.5 <sup>B</sup>	2.7 <sup>B</sup>	1.78	-	6.58 <sup>B</sup>	-
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	190	380 <sup>B</sup>	-	860 <sup>B</sup>	606 <sup>B</sup>	614 <sup>B</sup>	3,100 <sup>B</sup>	3,000 <sup>B</sup>	440 <sup>B</sup>	480 <sup>B</sup>	420 <sup>B</sup>	-	2,130 <sup>B</sup>	-
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	0.225	0.226	1.4 <sup>B</sup>	1.4 <sup>B</sup>	<0.50	<0.50	0.166	-	0.998	-
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	<0.50	-	-	-	-	<0.50	-	1.41	-
Magnesium	µg/L	n/v	n/v	580	720	-	1,800	930	930	2,100	2,100	1,600	1,800	1,880	-	3,660	-
Manganese	µg/L	3,600 <sub>EO3</sub> <sup>A</sup> 430 <sub>EO4</sub> <sup>B</sup>	n/v	52	84	-	130	73.6	74.8	300	290	230	250	99.8	-	115	-
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	-	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	-	<0.013	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	-	<2.0	0.078	0.086	<2.0	<2.0	<2.0	<2.0	0.700	-	0.467	-
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	-	<2.0	0.57	0.57	3.6	3.6	<2.0	<2.0	0.353	-	2.36	-
Phosphorus	µg/L	n/v	n/v	<100	<100	-	<100	12.9	11.4	<100	<100	<100	<100	10.6	-	38.9	-
Potassium	µg/L	n/v	n/v	<100	310	-	1,900	640	<100	1,400	1,500	740	810	522	-	2,150	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	<0.040	<0.040	<0.50	<0.50	<0.50	<0.50	0.083	-	0.162	-
Silicon	µg/L	n/v	n/v	-	-	-	2,170	2,220	2,220	-	-	-	-	248	-	3,240	-
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	-	<0.10	<0.010	<0.010	<0.10	<0.10	<0.10	<0.10	<0.0050	-	0.018	-
Sodium	µg/L	n/v	n/v	1,800	2,000	-	3,500	1,850	-	2,400	2,400	2,000	2,200	2,960	-	4,140	-
Strontium	µg/L	n/v	n/v	6.9	11	-	21	10.2	10.5	22	23	28					

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	5-Dec-22	18-Jun-23	18-Jun-23	1-Oct-23	26-Nov-23	26-Nov-23	MA-WQP-01B		22-Jun-24	22-Jun-24	31-Aug-24	31-Aug-24	26-Oct-24	26-Oct-24
				MA-WQP-01B	MA-WQP-01B	MA-WQP-01B Lab-Dup	MA-WQP-01B	MA-WQP-01B	MA-WQP-01B Lab-Dup	MA-WQP-01B	MA-WQP-01B Lab-Dup	MA-WQP-01B	MA-WQP-01B Lab-Dup	MA-WQP-01B	MA-WQP-01B Lab-Dup	MA-WQP-01B	MA-WQP-01B Lab-Dup
Sample ID				Marathon Gold BV C2AB852 UNQ122	Marathon Gold BV C3I4396 WER135	Marathon Gold BV C3I4396 WER135 Lab Replicate	Marathon Gold BV C3U6705 XEK731	Marathon Gold BV C3AQ228 XTF820	Marathon Gold BV C3AQ228 XTF820 Lab Replicate	Calibre Mining BV C4D8761 ZCU136	Calibre Mining BV C4D8761 ZCU136 Lab Replicate	Calibre Mining BV C4J3748 ZOE993	Calibre Mining BV C4J3748 ZOE993 Lab Replicate	Calibre Mining BV C4R5798 ABWP51	Calibre Mining BV C4R5798 ABWP51 Lab Replicate	Calibre Mining BV C4Y2292 AHLX46	Calibre Mining BV C4Y2292 AHLX46 Lab Replicate
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type				Marathon Gold BV C2AB852 UNQ122	Marathon Gold BV C3I4396 WER135	Marathon Gold BV C3I4396 WER135 Lab Replicate	Marathon Gold BV C3U6705 XEK731	Marathon Gold BV C3AQ228 XTF820	Marathon Gold BV C3AQ228 XTF820 Lab Replicate	Calibre Mining BV C4D8761 ZCU136	Calibre Mining BV C4D8761 ZCU136 Lab Replicate	Calibre Mining BV C4J3748 ZOE993	Calibre Mining BV C4J3748 ZOE993 Lab Replicate	Calibre Mining BV C4R5798 ABWP51	Calibre Mining BV C4R5798 ABWP51 Lab Replicate	Calibre Mining BV C4Y2292 AHLX46	Calibre Mining BV C4Y2292 AHLX46 Lab Replicate
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	102.8	-	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	22.55	9.10	-	1.47 <sup>B</sup>	9.37	-	-	-	9.32	-	10.83	-	10.87	-
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	44.9	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	6.86	-	7.26	-	7.85	-	7.11	-
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	71.9	-	88.7	-	115.3	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.06	12.8	-	14.0	1.82	-	9.9	-	19.0	-	24.7	-	7.4	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	39.87	-	-	-	-	-	-	-
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	4.2	8.4	-	29	11	10	14	-	55	-	52	-	7.2	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	-	0.25	0.057	-	<0.050	0.050	<0.050	-	<0.050	-	0.25	-
Anion Sum	me/L	n/v	n/v	0.150	0.240	-	0.790	0.330	-	0.360	-	1.17	-	1.15	-	0.380	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	4.2	8.4	-	29	11	-	14	-	52	-	52	-	7.2	-
Cation Sum	me/L	n/v	n/v	0.280	0.410	-	1.04	0.630	-	0.610	-	1.22	-	1.28	-	0.720	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	1.9	2.7	-	4.1	1.6	-	1.9	1.9	2.1	-	1.6	-	2.6	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	75	160	-	160	200	-	78	76	71	-	56	-	83	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	0.0014	0.00074	-	<0.00050	-	0.0011	-	0.00060	-	0.0012	-
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	11	17	-	24 EZ	22 EZ	-	9.0	-	13	-	12	-	15	-
Electrical Conductivity, Lab	µS/cm	n/v	n/v	30	32	-	96	54	54	49	-	110	-	100	-	39	-
Hardness (as CaCO3)	mg/L	n/v	n/v	9.9	14	-	36	23.5	-	23	-	51	-	55.4	-	25.6	-
Ion Balance % Difference	%	n/v	n/v	30.2	26.2	-	13.7	31.3	-	25.8	-	2.09	-	5.35	-	30.9	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.59	-2.91	-	-1.53	-2.68	-	-2.03	-	-0.549	-	-0.656	-	-3.06	-
Langelier Index (at 4 C)	none	n/v	n/v	-3.84	-3.16	-	-1.78	-2.93	-	-2.28	-	-0.801	-	-0.907	-	-3.31	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.17	<0.050	-	0.75	0.79	-	0.32	-	0.058	-	<0.050	-	0.42	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.18	<0.050	-	0.75	0.80	-	0.32	0.33	0.058	-	<0.050	-	0.42	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	0.010	<0.010	-	<0.010	0.011	-	<0.010	<0.010	<0.010	-	<0.010	-	<0.010	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	<0.010	<0.010	-	<0.010	-	<0.010	-
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.59	6.81	-	7.29	6.70	6.69	7.27	7.24	7.81	-	7.70	-	6.51	-
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	-	<0.0010	-	<0.0010	-	<0.0010	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	0.007	-	-	-	-	-	-	0.011	-	0.040	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.0	1.1	-	5.3	2.3	-	2.0	1.6	1.4	-	0.86	-	1.6	-
Saturation pH (at 20 C)	none	n/v	n/v	10.2	9.72	-	8.82	9.38	-	9.30	-	8.36	-	8.35	-	9.56	-
Saturation pH (at 4 C)	none	n/v	n/v	10.4	9.98	-	9.07	9.63	-	9.55	-	8.62	-	8.60	-	9.82	-
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	-	2.1	<2.0	-	<2.0	<2.0	<2.0	-	2.8	-	6.6	-
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	-	<0.020	<0.020	-	<0.020	<0.020	<0.020	-	<0.020	-	<0.020	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>1</sub> <sup>C</sup>	13	18	-	54	27	-	26	-	61	-	32	-	32	-
Total Organic Carbon	mg/L	n/v	n/v	10	17	-	24 EZ	21	-	9.1 EZ	-	13	-	13	-	17	17
Total Suspended Solids	mg/L	n/v	30 <sub>1</sub> <sup>C</sup>	<1.0	4.4	7.6	8.4	-	-	9.6	-	3.2	5.6	1.4	-	13	-
Turbidity, Lab	NTU	n/v	n/v	0.61	7.9	-	20	6.8	-	33	33	31	-	4.0	-	7.3	-
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	91	550 <sup>B</sup>	-	910 <sup>B</sup>	374 <sup>B</sup>	-	1,000 <sup>B</sup>	-	1,300 <sup>B</sup>	-	105 <sup>B</sup>	-	1,460 <sup>B</sup>	-
Antimony	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	0.037	-	<1.0	-	<1.0	-	0.057	-	0.080	-
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	1.5	13 <sup>B</sup>	-	18 <sup>B</sup>	4.09	-	6.8 <sup>B</sup>	-	12 <sup>B</sup>	-	13.5 <sup>B</sup>	-	10.8 <sup>B</sup>	-
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	<1.0	3.6	-	9.5	3.52	-	7.2	-	12	-	2.63	-	9.75	-
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	-	<0.10	0.014	-	<0.10	-	<0.10	-	<0.010	-	0.045	-
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<0.010	-	<2.0	-	<2.0	-	<0.0050	-	0.019	-
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	-	<50	<10	-	<50	-	<50	-	5.8	-	<10	-
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>1TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	0.013	-	0.010	0.0128	-	0.012	-	0.016	-	0.0058	-	0.0270	-
Calcium	µg/L	n/v	n/v	2,900	4,200	-	11,000	7,180	-	7,000	-	16,000	-	17,800	-	7,460	-
Chromium	µg/L	n/v	n/v	<1.0	1.1	-	1.4	0.29	-	1.4	-	1.4	-	0.11	-	2.01	-
Cobalt	µg/L	n/v	n/v	<0.40	0.46	-	0.90	0.328	-	0.86	-	0.92	-	0.109	-	1.64	-
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.68	4.5 <sup>B</sup>	-	6.1 <sup>B</sup>	1.97	-	5.1 <sup>B</sup>	-	6.4 <sup>B</sup>	-	2.08 <sup>B</sup>	-	6.80 <sup>B</sup>	-
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	130	1,300 <sup>B</sup>	-	1,900 <sup>B</sup>	683 <sup>B</sup>	-	1,700 <sup>B</sup>	-	1,700 <sup>B</sup>	-	392 <sup>B</sup>	-	2,610 <sup>B</sup>	-
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	0.61	-	2.0 <sup>B</sup>	0.309	-	0.67	-	0.66	-	0.120	-	0.935	-
Lithium	µg/L	n/v	n/v	-	-	-	-	0.58	-	-	-	-	-	<0.50	-	1.41	-
Magnesium	µg/L	n/v	n/v	630	800	-	2,200	1,360	-	1,300	-	2,500	-	2,660	-	1,700	-
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	11	41	-	74	73.9	-	76	-	120	-	33.6	-	127	-
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	-	<0.013	<0.013	-	<0.013	-	<0.013	-	<0.013	-	<0.013	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	-	<2.0	0.170	-	<2.0	-	<2.0	-	0.866	-	0.198	-
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	-	2.0	0.52	-	<2.0	-	<2.0	-	0.352	-	2.71	-
Phosphorus	µg/L	n/v	n/v	<100	<100	-	<100	13.6	-	<100	-	<100	-	10.3	-	40.4	-
Potassium	µg/L	n/v	n/v	<100	440	-	2,600	740	-	640	-	1,100	-	609	-	690	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	0.061	-	<0.50	-	<0.50	-	0.078	-	0.079	-
Silicon	µg/L	n/v	n/v	-	-	-	-	1,960	-	-	-	-	-	199	-	2,780	-
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	-	<0.10	<0.010	-	<0.10	-	<0.10	-	<0.0050	-	0.013	-
Sodium	µg/L	n/v	n/v	1,700	1,900	-	4,000	2,530	-	1,700	-	2,400	-	3,250	-	1,900	-
Strontium	µg/L	n/v	n/v														

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date				5-Dec-22	18-Jun-23	18-Jun-23	1-Oct-23	26-Nov-23	MA-WQP-03 6-May-24	6-May-24	22-Jun-24	31-Aug-24	26-Oct-24	26-Oct-24	
Sample ID				MA-WQP-03	MA-WQP-03	MA-WQP-03 Lab Dup	MA-WQP-03	MA-WQP-03	MA-WQP-03	MA-WQP-03 Lab Dup	MA-WQP-03	MA-WQP-03	MA-WQP-03	MA-WQP-03 Lab Dup	
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	
Laboratory				C2AB852	C3I4396	C3I4396	C3U6705	C3AQ228	C4D8761	C4D8761	C4J3748	C4R5798	C4Y2292	C4Y2292	
Laboratory Work Order				UNQ123	WER136	WER136 Lab Replicate	XEK732	XTF821	ZCU137	ZCU137 Lab Replicate	ZOE994	ABWP50	AHLX45	AHLX45 Lab Replicate	
Laboratory Sample ID															
Sample Type	Units	CCME	NL ECWSR												
<b>Field Parameters</b>															
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	78.5	-	-	-	-	-	
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	26.80	9.13	-	7.62	9.79	-	-	8.54	3.53 <sup>B</sup>	5.72	-	
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	18.7	-	
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	6.35 <sup>B</sup>	-	6.18 <sup>B</sup>	6.61	6.53	-	
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	52.0	-	-	28.3	88.1	-	
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.22	14.1	-	13.5	0.294	10.5	-	18.5	18.6	7.6	-	
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	583.90	-	-	-	-	-	
<b>General Chemistry</b>															
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	-	
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	3.6	5.0	-	43	3.3	3.9	-	8.9	46	5.5	-	
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	-	0.072	<0.050	<0.050	-	<0.050	<0.050	<0.050	-	
Anion Sum	me/L	n/v	n/v	0.180	0.160	-	1.37	0.0700	0.110	-	0.230	1.02	0.280	-	
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	3.6	5.0	-	42	3.3	3.9	-	8.9	45	5.5	-	
Cation Sum	me/L	n/v	n/v	0.240	0.220	-	1.39	0.250	0.520	-	0.280	1.03	0.300	-	
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.7	2.0	2.0	2.3	<1.0	1.2	1.1	1.7	2.2	2.8	2.3	
Color	color unit (CU)	SN <sup>B</sup>	n/v	110	84	82	24	110	84	79	83	62	140	160	
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	0.00066	<0.00050	<0.00050	-	0.00078	<0.00050	0.00059	-	
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	12	8.5	-	6.3	13	5.6	-	9.3	8.6	20	-	
Electrical Conductivity, Lab	µS/cm	n/v	n/v	21	19	-	160	22	15	-	28	93	25	-	
Hardness (as CaCO3)	mg/L	n/v	n/v	8.0	8.5	-	61	8.16	20	-	12	45.6	11.3	-	
Ion Balance % Difference	%	n/v	n/v	14.3	15.8	-	0.720	56.3	65.1	-	9.80	0.490	3.45	-	
Langelier Index (at 20 C)	none	n/v	n/v	-3.98	-3.30	-	-0.805	-4.15	-3.28	-	-2.70	-0.763	-3.67	-	
Langelier Index (at 4 C)	none	n/v	n/v	-4.23	-3.56	-	-1.06	-4.41	-3.53	-	-2.95	-1.02	-3.93	-	
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	<0.050	-	2.0	0.066	<0.050	-	<0.050	<0.050	<0.050	-	
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	<0.050	<0.050	2.0	0.066	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.30 <sup>B</sup>	6.79	-	7.60	6.16 <sup>B</sup>	6.62	-	7.01	7.69	6.28 <sup>B</sup>	-	
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	-	<0.0010	0.0012	<0.0010	-	
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	<0.004	<0.004	-	-	-	0.014	0.013	-	
Reactive Silica (SiO2)	mg/L	n/v	n/v	1.3	<0.50	<0.50	4.9	1.9	0.58	0.52	0.55	7.5	1.4	1.5	
Saturation pH (at 20 C)	none	n/v	n/v	10.3	10.1	-	8.40	10.3	9.90	-	9.71	8.45	9.95	-	
Saturation pH (at 4 C)	none	n/v	n/v	10.5	10.3	-	8.66	10.6	10.2	-	9.96	8.70	10.2	-	
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	<2.0	15	<2.0	<2.0	<2.0	<2.0	2.1	4.5	-	
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	-	<0.020	<0.020	<0.020	-	<0.020	<0.020	<0.020	-	
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>1</sub> <sup>C</sup>	12	9.0	-	84	10	15	-	13	60	18	-	
Total Organic Carbon	mg/L	n/v	n/v	11	8.8	-	6.4	13	6.1	-	10	8.9	22	-	
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>1</sub> <sup>C</sup>	<1.0	1.2	-	<1.0	-	2.0	2.8	2.4	1.0	6.8	-	
Turbidity, Lab	NTU	n/v	n/v	0.99	0.67	-	0.44	0.58	3.2	-	1.0	0.97	6.9	-	
<b>Metals</b>															
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	59	63	-	12	113 <sup>B</sup>	110 <sup>B</sup>	-	52	11.7	89.3	-	
Antimony	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	0.027	<1.0	-	<1.0	<0.020	<0.020	-	
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	4.8	6.3 <sup>B</sup>	-	1.8	3.96	4.5	-	8.0 <sup>B</sup>	30.2 <sup>B</sup>	11.9 <sup>B</sup>	-	
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	1.4	1.4	-	2.5	3.05	2.3	-	1.6	4.32	2.08	-	
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	-	<0.10	<0.010	<0.10	<0.10	<0.10	<0.010	<0.010	-	
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<0.010	<2.0	-	<2.0	<0.0050	<0.010	-	
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	-	<50	<10	<50	-	<50	<10	<10	-	
Cadmium	µg/L	1.0 <sub>TB1</sub> <sup>B</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	-	<0.010	0.0057	<0.010	-	<0.010	<0.0050	0.0100	-	
Calcium	µg/L	n/v	n/v	2,700	3,000	-	20,000	2,670	6,100	-	4,100	16,200	3,880	-	
Chromium	µg/L	n/v	n/v	<1.0	<1.0	-	<1.0	<0.10	<1.0	-	<1.0	0.10	0.16	-	
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	-	<0.40	0.412	<0.40	-	<0.40	0.0422	0.093	-	
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.81	0.72	-	<0.50	0.46	0.77	-	0.50	0.134	0.34	-	
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	270	200	-	99	712 <sup>B</sup>	390 <sup>B</sup>	-	230	592 <sup>B</sup>	451 <sup>B</sup>	-	
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	0.125	<0.50	-	<0.50	0.0865	0.339	-	
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	-	-	-	<0.50	<0.50	-	
Magnesium	µg/L	n/v	n/v	300	270	-	2,600	360	1,100	-	340	1,220	380	-	
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	21	15	-	240	395 <sup>B</sup>	42	-	19	10.5	31.6	-	
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	-	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013	-	
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	-	<2.0	<0.050	<2.0	-	<2.0	0.394	0.152	-	
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	-	<2.0	0.21	<2.0	-	<2.0	0.054	0.14	-	
Phosphorus	µg/L	n/v	n/v	<100	<100	-	<100	8.1	<100	-	<100	6.0	12.9	-	
Potassium	µg/L	n/v	n/v	<100	<100	-	970	<250	<1,100	-	<100	122	<250	-	
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	-	<0.50	0.044	<0.50	-	<0.50	0.047	0.064	-	
Silicon	µg/L	n/v	n/v	-	-	-	-	1,000	-	-	-	3,810	701	-	
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	-	<0.10	<0.010	<0.10	-	<0.10	<0.0050	<0.010	-	
Sodium	µg/L	n/v	n/v	1,500	1,100	-	3,300	1,430	2,000	-	1,000	2,130	1,350	-	
Strontium	µg/L	n/v	n/v	6.3	7.1	-	57	7.07	14	-	9.9	55.5	9.38	-	
Sulfur	µg/L	n/v	n/v	-	-	-	-	<600	-	-	-	<3,000	<600	-	
Sulfur	mg/L	n/v	n/v	-	-	-	-	<3.0	-	-	-	<3.0	<3.0	-	
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	<0.10	-	<0.10	<0.0020	<0.10	-	<0.10	<0.0020	0.0020	-	
Tin	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<0.20	<2.0	-	<2.0	<0.20	<0.20	-	
Titanium	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	<2.0	3.2	-	<2.0	<0.50	<2.0	-	
Uranium	µg/L	33 <sup>A</sup> 15 <sup>B</sup>	n/v	<0.10	<0.10	-	<0.10	0.0060	<0.10	-	<0.10	0.0074	0.0100	-	
Vanadium	µg/L	n/v	n/v	<2.0	<2.0	-	<2.0	0.25	<2.0	-	<2.0	<0.20	0.34	-	
Zinc	µg/L	37 <sub>EQ1</sub> <sup>A</sup> 7.0 <sub>EQ2</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<5.0	<5.0	-	<5.0	1.9	<5.0	-	<5.0	0.71	2.7	-	
Zirconium	µg/L	n/v	n/v	-	-	-	-	<0.10	-	-	-	<0.10	<0.10	-	
<b>Radionuclides</b>															
Radium-226	Bq/L	n/v	0.3												

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date				4-Dec-22 NLECC-VL- OUTFLOW	4-Dec-22 NLECC-VL- OUTFLOW Lab- Dup	26-Mar-23 NLECC-VL- OUTFLOW	26-Mar-23 NLECC-VL- OUTFLOW Lab- Dup	19-Jun-23 NLECC-VL- OUTFLOW	2-Oct-23 NLECC-VL- OUTFLOW	NLECC-VL-OUTFLOW		4-May-24	23-Jun-24	17-Aug-24	17-Aug-24 NLECC-VL- OUTFLOW Lab- Dup	26-Oct-24 NLECC-VL- OUTFLOW	26-Oct-24 NLECC-VL- OUTFLOW Lab- Dup
Sample ID				Marathon Gold BV C2AB852 UNQ136	Marathon Gold BV C2AB852 UNQ136 Lab Replicate	Marathon Gold BV C390564 VKZ193	Marathon Gold BV C390564 VKZ193 Lab Replicate	Marathon Gold BV C314396 WER149	Marathon Gold BV C3U6705 XEK746	Marathon Gold BV C3U6705 XEK746 Lab Replicate	Marathon Gold BV C3AQ228 XTF814	Calibre Mining BV C4D8761 ZCU150	Calibre Mining BV CAJ3748 ZOF007	Calibre Mining BV C4Q0869 AAQX69	Calibre Mining BV C4Q0869 AAQX69 Lab Replicate	Calibre Mining BV C4Y2292 AHLX40	Calibre Mining BV C4Y2292 AHLX40 Lab Replicate
Sampling Company	Units	CCME	NL ECWSR														
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	99.8	-	-	-	-	-	90.0	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	26.40	-	14.18	-	10.49	9.82	-	8.26	-	9.11	8.24	-	12.13	-
Electrical Conductivity, Field	µS/cm		n/v	-	-	735.4	-	-	-	-	-	-	-	-	-	18.1	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	6.72	-	-	-	-	-	6.98	7.19	7.2	-	7.20	-
Specific Conductance, Field	µS/cm		n/v	-	-	25.9	-	-	-	-	-	21.7	21.4	26.3	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.32	-	1.01	-	11.8	13.2	-	0.489	6.2	20.1	24.1	-	6.0	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	0.22	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	0.29	-	-	-	-	-	3.42	-	-	-	-	-
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	-	<1.0	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	5.7	-	7.2	-	15	7.9	-	6.8	5.9	6.1	7.9	-	6.0	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	-	<0.050	-	<0.050	<0.050	0.060	<0.050	0.066	<0.050	<0.050	-	<0.050	-
Anion Sum	me/L	n/v	n/v	0.180	-	0.180	-	0.370	0.210	-	0.140	0.170	0.180	0.210	-	0.280	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	5.7	-	7.2	-	15	7.9	-	6.8	5.9	6.1	7.9	-	6.0	-
Cation Sum	me/L	n/v	n/v	0.240	-	0.240	-	0.240	0.260	-	0.250	0.230	0.240	0.260	-	0.300	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	2.2	-	1.4	-	2.5	2.2	-	<1.0	1.7	1.9	1.7	-	2.5	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	14	-	13	-	10	10	-	22	13	13	11	-	60	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	-	-	<0.00050	-	<0.00050	<0.00050	0.00091	<0.00050	-	0.00059	0.00059
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	3.8	-	3.7	-	3.2	3.4	-	4.8	3.6	3.5	3.4	-	10	-
Electrical Conductivity, Lab	µS/cm		n/v	23	-	26	-	23	27	-	28	25	26	27	-	28	-
Hardness (as CaCO3)	mg/L	n/v	n/v	8.8	-	8.7	-	8.5	9.6	-	8.99	8.3	8.4	9.6	-	10.8	-
Ion Balance % Difference	%	n/v	n/v	14.3	-	14.3	-	21.3	10.6	-	28.2	15.0	14.3	10.6	-	3.45	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.05	-	-2.90	-	-2.71	-2.67	-	-2.93	-3.05	-3.02	-2.72	-	-3.15	-
Langelier Index (at 4 C)	none	n/v	n/v	-3.31	-	-3.15	-	-2.96	-2.93	-	-3.18	-3.30	-3.27	-2.97	-	-3.40	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	-	<0.050	-	<0.050	<0.050	-	0.11	<0.050	<0.050	<0.050	-	0.11	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	-	<0.050	-	<0.050	<0.050	-	0.12	<0.050	<0.050	<0.050	-	0.11	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	-	<0.010	-	<0.010	<0.010	-	0.013	<0.010	<0.010	<0.010	-	<0.010	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	-	<0.010	-	<0.010	<0.010	-	<0.010	<0.010	<0.010	<0.010	-	<0.010	-
pH, Lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	7.00	-	7.06	-	6.94	7.21	-	7.04	7.01	7.02	7.14	-	6.81	-
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	-	-	-	<0.004	-	-	-	-	0.010	0.008
Reactive Silica (SiO2)	mg/L	n/v	n/v	0.94	-	0.99	-	0.67	0.71	-	0.80	0.72	0.51	0.76	-	1.8	-
Saturation pH (at 20 C)	none	n/v	n/v	10.1	-	9.96	-	9.65	10.1	-	9.97	10.1	10.0	9.86	-	9.96	-
Saturation pH (at 4 C)	none	n/v	n/v	10.3	-	10.2	-	9.91	10.1	-	10.2	10.3	10.3	10.1	-	10.2	-
Sulfate	mg/L	n/v	n/v	<2.0	-	<2.0	-	<2.0	<2.0	-	<2.0	<2.0	<2.0	<2.0	-	4.0	4.2
Sulfide	mg/L	n/v	n/v	<0.020	-	<0.020	-	<0.020	<0.020	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	11	-	12	-	17	11	-	11	11	12	12	-	19	-
Total Organic Carbon	mg/L	n/v	n/v	3.8	-	3.4	3.4	3.2	3.7	-	4.9	3.5	3.7	3.4	-	11	-
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>11</sub> <sup>C</sup>	<1.0	-	<1.0	-	<1.0	<1.0	-	3.4	<1.2	3.0	<2.0	-	3.3	-
Turbidity, Lab	NTU	n/v	n/v	0.35	-	0.20	-	0.13	0.54	-	5.7	0.32	0.37	0.48	-	2.4	-
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	17	-	14	-	18	9.3	-	39.7	20	64	8.5	-	71.9	73.3
Antimony	µg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	<1.0	-	0.027	<1.0	<1.0	<1.0	-	<0.020	<0.020
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	-	<1.0	-	<1.0	<1.0	-	0.466	<1.0	<1.0	<1.0	-	0.659	0.648
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	4.9	-	4.6	-	4.7	4.6	-	6.23	4.9	6.0	3.6	-	9.58	9.59
Beryllium	µg/L	n/v	n/v	<0.10	-	<0.10	-	<0.10	<0.10	-	<0.010	<0.10	<0.10	<0.10	-	<0.010	0.013
Bismuth	µg/L	n/v	n/v	<2.0	-	<2.0	-	<2.0	<2.0	-	<0.010	<2.0	<2.0	<2.0	-	<0.0050	<0.0050
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	-	<50	-	<50	<50	-	<10	<50	<50	<50	-	<5.0	<5.0
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TG</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	-	<0.010	-	<0.010	<0.010	-	0.0071	<0.010	<0.010	<0.010	-	0.0147	0.0118
Calcium	µg/L	n/v	n/v	2,900	-	2,800	-	2,800	3,100	-	2,910	2,700	2,800	3,200	-	3,440	-
Chromium	µg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	-	0.14	0.13
Cobalt	µg/L	n/v	n/v	<0.40	-	<0.40	-	<0.40	<0.40	-	0.058	<0.40	<0.40	<0.40	-	0.0827	0.0820
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.60	-	<0.50	-	<0.50	<0.50	-	0.30	<0.50	<0.50	<0.50	-	0.368	0.408
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	<50	-	<50	-	<50	<50	-	112	<50	<50	<50	-	179	180
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	-	<0.50	<0.50	-	0.058	<0.50	<0.50	<0.50	-	0.0696	0.0661
Lithium	µg/L	n/v	n/v	-	-	-	-	-	-	-	<0.50	-	-	-	-	<0.50	<0.50
Magnesium	µg/L	n/v	n/v	400	-	390	-	380	440	-	420	370	360	400	-	538	-
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	8.7	-	7.8	-	12	16	-	67.5	9.8	93	11	-	106	107
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	-	<0.013	<0.013	<0.013	<0.013	-	<0.013 MNP	<0.013	<0.013	<0.013	-	<0.013	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	-	<2.0	-	<2.0	<2.0	-	<0.050	<2.0	<2.0	<2.0	-	<0.050	<0.050
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	-	<2.0	-	<2.0	<2.0	-	0.11	<2.0	<2.0	<2.0	-	0.206	0.238
Phosphorus	µg/L	n/v	n/v	<100	-	<100	-	<100	<100	-	8.4	<100	<100	<100	-	6.6	7.4
Potassium	µg/L	n/v	n/v	140	-	110	-	130	100	-	<250	140	170	140	-	297	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	-	<0.50	<0.50	-	0.050	<0.50	<0.50	<0.50	-	0.051	0.044
Silicon	µg/L	n/v	n/v	-	-	-	-	-	-	-	526	-	-	-	-	836	861
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	-	<0.10	-	<0.10	<0.10	-	<0.010	<0.10	<0.10	<0.10	-	<0.0050	<0.0050
Sodium	µg/L	n/v	n/v	1,400	-	1,400	-	1,500	1,500	-	1,440	1,300	1,300	1,500	-	1,660	-
Strontium	µg/L	n/v	n/v	6.9	-	7.4	-	6.9	6.6	-	7.03	6.2	7.3	8.2	-	8.52	8.40
Sulfur																	

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	NLECC-VR-PIT													
				4-Dec-22	26-Mar-23	19-Jun-23	2-Oct-23	2-Oct-23	26-May-24	23-Jun-24	23-Jun-24	17-Aug-24	26-Oct-24	26-Oct-24			
Sample ID				NLECC-VR-PIT	NLECC-VR-PIT	NLECC-VR-PIT	NLECC-VR-PIT	DUP		NLECC-VR-PIT	NLECC-VR-PIT	NLECC-VR-PIT	NLECC-VR-PIT Lab-Dup	NLECC-VR-PIT	NLECC-VR-PIT	NLECC-VR-PIT Lab-Dup	
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV		Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV Lab-Dup	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV Lab-Dup	
Laboratory				C2AB852	C390564	C314396	C3U6705	C3U6705		C3AQ228	C4D8761	C4J3748	C4J3748	C4Q0869	C4Y2292	C4Y2292	
Laboratory Work Order				UNQ137	VKZ194	WER150	XEK747	XEK748		XTF823	ZCU151	ZOF008	ZOF008	AAQX70	AHLX43	AHLX43	
Laboratory Sample ID																	
Sample Type								Field Duplicate	RPD (%)				Lab Replicate			Lab Replicate	
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	89.6	-	-	-	-	-	89.8	-	-	-	-	-	
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	26.18	13.9	10.39	9.74	-	-	13.32	-	9.74	-	9.24	11.33	-	
Electrical Conductivity, Field	µS/cm	-	n/v	-	733.5	-	-	-	-	-	-	-	-	-	31.8	-	
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	6.17 <sup>B</sup>	-	-	-	-	-	6.84	7.03	-	7.04	6.83	-	
Specific Conductance, Field	µS/cm	n/v	n/v	-	34.9	-	-	-	-	-	22.0	20.5	-	41.1	-	-	
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.31	0.220	11.6	12.4	-	-	1.49	5.5	18.7	-	22.7	6.2	-	
Total Dissolved Solids, Field	g/L	n/v	n/v	-	0.02	-	-	-	-	-	-	-	-	-	-	-	
Turbidity, Field	NTU	n/v	n/v	-	0.67	-	-	-	-	-	13.52	-	-	-	-	-	
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	nc	<1.0	<1.0	<1.0	-	<1.0	<1.0	-	
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	4.3	17	5.5	6.9	7.1	nc	5.1	5.3	6.5	-	22	8.4	-	
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	0.053	<0.050	<0.050	<0.050	nc	<0.050	<0.050	0.051	<0.050	<0.050	<0.050	<0.050	
Anion Sum	me/L	n/v	n/v	0.150	0.390	0.180	0.180	0.190	nc	0.110	0.160	0.180	-	0.480	0.480	-	
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	4.3	17	5.5	6.9	7.1	3%	5.1	5.3	6.5	-	22	8.4	-	
Cation Sum	me/L	n/v	n/v	0.240	0.390	0.260	0.250	0.250	nc	0.260	0.250	0.250	-	0.380	0.490	-	
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	2.3	1.6	2.3	1.4	1.6	nc	<1.0	1.8	1.8	-	1.6	3.1	-	
Color	color unit (CU)	SN <sup>B</sup>	n/v	43	48 EZ	45	41	40	2%	52	60	48	-	25	72	-	
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	<0.00050	<0.00050	nc	0.00052	<0.00050	<0.00050 MI	-	<0.00050	0.0012	-	
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	6.6	5.2	5.8	5.6	5.8	4%	7.8	6.5	5.7	-	4.3	12	-	
Electrical Conductivity, Lab	µS/cm	n/v	n/v	21	38	23	26	26	0%	25	25	26	-	38	52	-	
Hardness (as CaCO3)	mg/L	n/v	n/v	8.0	15	9.2	9.0	9.1	1%	8.85	8.8	8.8	-	15	18.6	-	
Ion Balance % Difference	%	n/v	n/v	23.1	0.00	18.2	16.3	13.6	nc	40.5	22.0	16.3	-	11.6	1.03	-	
Langelier Index (at 20 C)	none	n/v	n/v	-3.43	-2.33	-3.21	-3.00	-2.98	nc	-3.32	-3.24	-3.01	-	-2.01	-2.75	-	
Langelier Index (at 4 C)	none	n/v	n/v	-3.69	-2.58	-3.46	-3.25	-3.23	nc	-3.57	-3.49	-3.26	-	-2.26	-3.00	-	
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	0.097	0.080	0.054	0.080	nc	0.15	0.075	<0.050	-	<0.050	0.73	-	
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	0.097	0.080	0.054	0.080	nc	0.16	0.075	<0.050	-	<0.050	0.73	-	
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	nc	0.010	<0.010	<0.010	-	<0.010	<0.010	-	
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	nc	<0.010	<0.010	<0.010	-	<0.010	<0.010	-	
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.84	7.06	6.88	7.01	7.02	nc	6.83	6.88	7.02	-	7.28	6.86	-	
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	nc	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	-	
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	-	nc	<0.004	-	-	-	0.014	-	-	
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.3	4.4	2.1	1.7	1.7	nc	1.9	2.2	1.7	-	1.9	3.5	-	
Saturation pH (at 20 C)	none	n/v	n/v	10.3	9.39	10.1	10.0	10.0	nc	10.2	10.1	10.0	-	9.29	9.61	-	
Saturation pH (at 4 C)	none	n/v	n/v	10.5	9.64	10.3	10.3	10.2	nc	10.4	10.4	10.3	-	9.54	9.86	-	
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	<2.0	<2.0	<2.0	nc	<2.0	<2.0	<2.0	-	<2.0	8.1	-	
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	<0.020	<0.020	<0.020	nc	<0.020	<0.020	<0.020	-	<0.020	<0.020	-	
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	12	24	13	13	13	0%	11	12	12	-	24	33	-	
Total Organic Carbon	mg/L	n/v	n/v	6.6	5.2	5.9	5.6	5.9	5%	8.4	6.7	5.8	-	4.4	13	-	
Total Suspended Solids	mg/L	n/v	30 <sub>11</sub> <sup>C</sup>	<1.0	<1.0	1.0	1.0	<2.0 ASF	nc	-	1.0	<1.0	-	1.4	2.4	-	
Turbidity, Lab	NTU	n/v	n/v	0.52	0.66	0.20	0.44	0.59	nc	2.4	1.6	0.36	-	1.2	5.3	-	
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	81	71	81	51	50	2%	124 <sup>B</sup>	100	61	-	31	176 <sup>B</sup>	176 <sup>B</sup>	
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	nc	<0.020	<1.0	<1.0	-	<1.0	<0.020	0.021	
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	1.4	1.7	1.3	1.5	1.5	nc	1.87	1.4	1.4	-	1.8	1.88	1.89	
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	1.2	1.8	1.4	1.1	1.1	nc	1.64	1.4	1.1	-	1.2	3.38	3.54	
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	<0.10	<0.10	nc	<0.010	<0.10	<0.10	-	<0.10	0.010	0.012	
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	<2.0	<2.0	nc	<0.010	<2.0	<2.0	-	<2.0	<0.010	<0.010	
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	<50	<50	nc	19	<50	<50	-	<50	<10	<10	
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TID</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	<0.010	<0.010	<0.010	nc	0.0057	<0.010	<0.010	-	<0.010	0.0080	0.0080	
Calcium	µg/L	n/v	n/v	2,300	2,700	2,700	2,600	2,550	4%	2,700	2,700	2,700	-	4,600	5,710	-	
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	nc	0.23	<1.0	<1.0	-	<1.0	0.38	0.35	
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	<0.40	<0.40	nc	0.066	<0.40	<0.40	-	<0.40	0.189	0.184	
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.96	<0.50	<0.50	<0.50	<0.50	nc	0.48	<0.50	<0.50	-	<0.50	1.21	1.19	
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	110	240	120	110	110	nc	216	160	98	-	98	286	282	
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	0.61	<0.50	nc	0.088	<0.50	<0.50	-	<0.50	0.089	0.097	
Lithium	µg/L	n/v	n/v	-	-	-	-	-	nc	<0.50	-	-	-	<0.50	<0.50	-	
Magnesium	µg/L	n/v	n/v	540	830	580	600	600	0%	600	530	520	-	880	1,060	-	
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	26	94	36	26	27	4%	23.7	23	47	-	43	58.9	59.2	
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	<0.013	<0.013	<0.013	nc	<0.013 MNP	<0.013	<0.013	-	<0.013	<0.013	-	
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	<2.0	<2.0	nc	0.067	<2.0	<2.0	-	<2.0	0.068	0.069	
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	<2.0	<2.0	nc	0.41	<2.0	<2.0	-	<2.0	0.67	0.73	
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	<100	<100	nc	9.4	<100	<100	-	<100	14.1	14.2	
Potassium	µg/L	n/v	n/v	210	280	240	220	230	nc	270	260	270	-	330	930	-	
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	<0.50	<0.50	nc	0.117	<0.50	<0.50	-	<0.50	0.054	0.068	
Silicon	µg/L	n/v	n/v	-	-	-	-	-	nc	1,210	-	-	-	-	1,760	1,740	
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	<0.10	<0.10	<0.10	nc	<0.010	<0.10	<0.10	-	<0.10	<0.010	<0.010	
Sodium	µg/L	n/v	n/v	1,500	1,600	1,500	1,400	1,400	0%	1,560	1,400	1,300	-	1,600	1,840	-	
Strontium	µg/L	n/v	n/v	5.7	10	6.3	6.0	6.3	nc	5.94	5.9	5.9	-	11	12.8	12.9	

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date				6-Dec-22	6-Dec-22	18-Jun-23	18-Jun-23	30-Sep-23	27-Nov-23	PP-WQP-01 27-Nov-23	5-May-24	5-May-24	23-Jun-24	23-Jun-24	31-Aug-24	3-Nov-24
Sample ID				PP-WQP-01	PP-WQP-01 Lab-Dup	PP-WQP-01	PP-WQP-01 Lab-Dup	PP-WQP-01	PP-WQP-01	PP-WQP-01 Lab-Dup	PP-WQP-01	PP-WQP-01 Lab-Dup	PP-WQP-01	PP-WQP-01 Lab-Dup	PP-WQP-01	PP-WQP-01
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type	Units	CCME	NL ECWSR	Marathon Gold BV C2AB852 UNQ129	Marathon Gold BV C2AB852 UNQ129 Lab Replicate	Marathon Gold BV C3I4396 WER142	Marathon Gold BV C3I4396 WER142 Lab Replicate	Marathon Gold BV C3I6705 XEK739	Marathon Gold BV C3AQ228 XTF825	Marathon Gold BV C3AQ228 XTF825 Lab Replicate	Calibre Mining BV C4D8761 ZCU143	Calibre Mining BV C4D8761 ZCU143 Lab Replicate	Calibre Mining BV C4J3748 ZOF000	Calibre Mining BV C4J3748 ZOF000 Lab Replicate	Calibre Mining BV C4R5798 ABWP48	Calibre Mining BV C4Z1933 AIGO35
<b>Field Parameters</b>																
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	-	85.1	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	18.63	-	11.87	-	9.04	11.46	-	-	-	10.13	-	9.06	11.59
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	15.5
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	-	6.56	-	6.47 <sup>B</sup>	-	7.02	6.87
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	18.3	-	15.5	-	17.3	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	2.58	-	6.68	-	14.1	4.69	-	3	-	15.7	-	19.0	7.2
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	-	5.44	-	-	-	-	-
<b>General Chemistry</b>																
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	<1.0
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	2.3	-	3.5	-	3.2	3.0	-	3.1	-	3.5	-	3.1	3.8
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	-	<0.050	-	<0.050	<0.050	-	<0.050	-	<0.050	-	<0.050	<0.050
Anion Sum	me/L	n/v	n/v	0.180	-	0.160	-	0.130	0.0600	-	0.130	-	0.150	-	0.180	0.180
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	2.3	-	3.5	-	3.2	3.0	-	3.1	-	3.5	-	3.1	3.8
Cation Sum	me/L	n/v	n/v	0.190	-	0.190	-	0.180	0.180	-	0.180	-	0.180	-	0.180	0.220
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	2.7	-	3.1	-	2.1	<1.0	-	2.3	-	2.7	-	2.1	2.3
Color	color unit (CU)	SN <sup>B</sup>	n/v	37	-	30	-	37	44	-	37	-	35	-	28	28
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	-	<0.00050	<0.00050	-	<0.00050	-	<0.00050	-	0.00050	<0.00050
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	5.2	-	4.3	-	4.5	5.6	-	4.4	-	4.5	-	4.0	4.3
Electrical Conductivity, Lab	µS/cm	n/v	n/v	18	-	19	-	22	21	-	29	-	22	-	21	21
Hardness (as CaCO3)	mg/L	n/v	n/v	5.5	-	5.0	-	5.1	5.15	-	4.9	-	5.0	-	5.02	6.53
Ion Balance % Difference	%	n/v	n/v	2.70	-	8.57	-	16.1	50.0	-	16.1	-	9.09	-	0.00	10.0
Langelier Index (at 20 C)	none	n/v	n/v	-4.11	-	-4.07	-	-3.88	-4.08	-	-3.97	-	-3.92	-	-3.87	-3.64
Langelier Index (at 4 C)	none	n/v	n/v	-4.36	-	-4.32	-	-4.13	-4.34	-	-4.23	-	-4.17	-	-4.12	-3.90
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.095	-	<0.050	-	0.071	<0.050	-	0.065	-	0.070	-	0.060	0.076
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.095	-	<0.050	-	0.071	<0.050	-	0.078	-	0.070	-	0.060	0.076
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	-	<0.010	-	<0.010	0.011	-	0.013	-	<0.010	-	<0.010	<0.010
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	-	<0.010	-	<0.010	<0.010	-	<0.010	-	<0.010	-	<0.010	<0.010
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.61	-	6.50	-	6.71	6.53	-	6.65	-	6.65	-	6.74	6.77
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	-	<0.0010	-	<0.0010	<0.0010	-	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	-	<0.004	-	-	-	-	-	<0.004	<0.004
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.1	-	1.8	-	1.4	1.4	-	1.6	-	5.4	-	1.6	1.6
Saturation pH (at 20 C)	none	n/v	n/v	10.7	-	10.6	-	10.6	10.6	-	10.6	-	10.6	-	10.6	10.4
Saturation pH (at 4 C)	none	n/v	n/v	11.0	-	10.8	-	10.8	10.9	-	10.9	-	10.8	-	10.9	10.7
Sulfate	mg/L	n/v	n/v	2.6	-	<2.0	-	<2.0	<2.0	-	<2.0	-	<2.0	-	2.4	1.7
Sulfide	mg/L	n/v	n/v	<0.020	-	<0.020	-	<0.020	<0.020	-	<0.020	-	<0.020	-	<0.020	<0.020
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	13	-	11	-	10	7.0	-	14	-	14	-	12	13
Total Organic Carbon	mg/L	n/v	n/v	5.3	-	4.3	-	4.6	6.6	-	4.7	-	4.8	-	4.1	4.3
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>11</sub> <sup>C</sup>	<1.0	-	<1.0	-	<1.0	-	-	<1.0	-	1.4	-	<1.0	<1.0
Turbidity, Lab	NTU	n/v	n/v	0.56	-	0.17	-	0.42	1.5	-	0.35	-	<0.10	-	0.38	0.74
<b>Metals</b>																
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	76	75	64	-	61	76.0	72.8	69	-	56	55	42.6	54.3
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<1.0	<0.020	<0.020	<1.0	-	<1.0	<1.0	<0.020	0.037
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	<1.0	<1.0	-	<1.0	0.685	<1.0	<1.0	-	<1.0	<1.0	0.462	0.625
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	2.4	2.4	2.3	-	2.4	2.42	2.37	2.2	-	2.1	2.1	2.32	2.71
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	-	<0.10	<0.010	<0.010	<0.10	-	<0.10	<0.10	<0.010	<0.010
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<2.0	<0.010	<0.010	<2.0	-	<2.0	<2.0	<0.0050	<0.0050
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	-	<50	<10	<10	<50	-	<50	<50	<5.0	<5.0
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	<0.010	-	<0.010	<0.0050	<0.0050	<0.010	-	<0.010	<0.010	<0.0050	<0.0050
Calcium	µg/L	n/v	n/v	1,600	1,600	1,400	-	1,500	1,460	-	1,400	-	1,400	1,400	1,450	1,900
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<1.0	0.16	0.15	<1.0	-	<1.0	<1.0	0.15	0.14
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	-	<0.40	0.030	0.028	<0.40	-	<0.40	<0.40	0.0140	0.0638
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	<0.50	0.27	0.22	<0.50	-	<0.50	<0.50	0.190	0.313
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	100	100	62	-	84	122	121	93	-	52	52	35.8	82.9
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	<0.50	0.050	0.048	<0.50	-	<0.50	<0.50	0.0082	0.0185
Lithium	µg/L	n/v	n/v	-	-	-	-	-	<0.50	<0.50	-	-	-	-	<0.50	<0.50
Magnesium	µg/L	n/v	n/v	370	370	360	-	350	370	-	340	-	350	340	342	432
Manganese	µg/L	3,600 <sub>EO3</sub> <sup>A</sup> 430 <sub>EO4</sub> <sup>B</sup>	n/v	9.4	9.4	5.8	-	9.1	10.4	10.0	11	-	3.7	3.6	7.45	22.7
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	-	<0.013	-	<0.013	<0.013	-	<0.013	-	<0.013	<0.013	<0.013	<0.013
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	-	<2.0	<0.050	<0.050	<2.0	-	<2.0	<2.0	<0.050	<0.050
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	-	<2.0	0.18	0.17	<2.0	-	<2.0	<2.0	0.131	0.147
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	-	<100	6.6	5.8	<100	-	<100	<100	2.9	2.7
Potassium	µg/L	n/v	n/v	190	190	180	-	180	<250	-	160	-	180	170	182	226
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	<0.50	0.045	<0.040	<0.50	-	<0.50	<0.50	0.040	0.057
Silicon	µg/L	n/v	n/v	-	-	-	-	-	871	-	857	-	-	-	625	739
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	<0.10	-	<0.10	<0.010	<0.010	<0.10	-	<0.10	<0.10	<0.0050	<0.0050
Sodium	µg/L	n/v	n/v	1,800	1,800	1,730	-	1,800	1,730	-	1,600	-	1,700	1,690	1,830	1,830
Strontium	µg/L	n/v	n/v	5.0	5.0	4.9	-	5.0	4.90	4.65	4.6	-	5.1	5.1	4.97	6.18
Sulfur	µg/L	n/v	n/v	-	-	-	-	-	<600	-	-	-	-	-	<3,000	<3,000
Sulfur	mg/L	n/v	n/v	-	-	-	-	-	<3.0	-	-	-	-	-	-	-
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	<0.10	<0.10	-	<0.10	<0.0020	<0.0020	<0.10	-	<0.10	<0.10	<0.0020	<0.0020
Tin	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<								

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	5-Dec-22	20-Jun-23	2-Oct-23	27-Nov-23	PP-WQP-02		23-Jun-24	17-Aug-24	27-Oct-24	27-Oct-24
				PP-WQP-02	PP-WQP-02	PP-WQP-02	PP-WQP-02	PP-WQP-02 Lab-Dup	PP-WQP-02	PP-WQP-02	PP-WQP-02	PP-WQP-02	PP-WQP-02
Sample ID				Marathon Gold BV C2AB852 UNQ130	Marathon Gold BV C3I4396 WER143	Marathon Gold BV C3U6705 XEK740	Marathon Gold BV C3AQ228 XTF829	Marathon Gold BV C3AQ228 XTF829 Lab Replicate	Calibre Mining BV C4D8761 ZCU144	Calibre Mining BV C4J3748 ZOF001	Calibre Mining BV C4Q0869 AAQX64	Calibre Mining BV C4Y2292 AHLX50	Calibre Mining BV C4Y2292 AHLX50 Lab Replicate
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV
Laboratory				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV
Laboratory Work Order				C2AB852	C3I4396	C3U6705	C3AQ228	C3AQ228	C4D8761	C4J3748	C4Q0869	C4Y2292	C4Y2292
Laboratory Sample ID				UNQ130	WER143	XEK740	XTF829	XTF829	ZCU144	ZOF001	AAQX64	AHLX50	AHLX50
Sample Type								Lab Replicate					Lab Replicate
<b>Field Parameters</b>													
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	93.1	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	22.05	9.18	5.10 <sup>B</sup>	11.38	-	-	8.62	7.45	9.23	-
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	69.9	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	7.04	7.34	7.46	7.16	-
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	89.7	123.8	180.6	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.65	10.0	10.8	1.88	-	10.6	18.3	18.9	6.0	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	17.34	-	-	-	-
<b>General Chemistry</b>													
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	4.4	30	30	15	-	23	47	90	27	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	0.76	0.064	0.064	-	<0.050	0.078	<0.050	<0.050	-
Anion Sum	me/L	n/v	n/v	0.240	1.13	1.24	0.430	-	0.650	1.37	2.05	1.00	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	4.4	29	15	15	-	23	47	89	27	-
Cation Sum	me/L	n/v	n/v	0.290	1.22	1.54	0.700	-	0.870	1.49	2.08	0.950	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.1	3.2	3.4	1.7	-	2.3	2.5	2.7	3.5	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	66	61	120	94	-	84	63	27	65	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	0.00085	0.00058	-	0.00054	0.00062	<0.00050	0.0014	-
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	10	11	15	12	-	8.2	5.6	11	13	-
Electrical Conductivity, Lab	µS/cm	n/v	n/v	23	130	140	69	-	89	160	200	98	-
Hardness (as CaCO3)	mg/L	n/v	n/v	8.5	47	62	26.8	-	36	63	90	38.5	-
Ion Balance % Difference	%	n/v	n/v	9.43	3.83	10.8	23.9	-	14.5	4.20	0.730	2.56	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.62	-1.23	-1.46	-2.28	-	-1.32	-0.573	0.0210	-1.47	-
Langelier Index (at 4 C)	none	n/v	n/v	-3.87	-1.48	-1.71	-2.53	-	-1.57	-0.825	-0.230	-1.73	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	1.6	2.5	1.2	-	1.8	2.7	0.75	1.8	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	1.7	2.6	1.2	-	1.8	2.7	0.75	1.8	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	0.074 <sup>B</sup>	0.022	<0.010	-	0.012	0.024	<0.010	<0.010	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	<0.010	-	<0.010	0.026	<0.010	<0.010	-
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.61	7.46	7.09	6.92	-	7.56	7.77	7.95	7.34	-
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	0.0010	<0.0010	<0.0010	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	0.011	0.010	-	-	-	0.013	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	3.4	3.0	3.6	4.1	-	1.2	1.1	1.1	3.4	-
Saturation pH (at 20 C)	none	n/v	n/v	10.2	8.69	8.55	9.20	-	8.88	8.34	7.93	8.81	-
Saturation pH (at 4 C)	none	n/v	n/v	10.5	8.94	8.80	9.45	-	9.13	8.59	8.18	9.06	-
Sulfate	mg/L	n/v	n/v	3.4	16	17	<2.0	-	<2.0	7.5	6.0	11	-
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	0.073	<0.020	-	<0.020	<0.020	<0.020	<0.020	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>1</sub> <sup>C</sup>	19	72	85	34	-	42	81	110	61	-
Total Organic Carbon	mg/L	n/v	n/v	10	11	16	13	-	7.9	11	11	14	-
Total Suspended Solids	mg/L	n/v	30 <sub>1</sub> <sup>C</sup>	12	4.2	20	2.4	3.6	1.0	16	3.6	4.6	-
Turbidity, Lab	NTU	n/v	n/v	2.8	7.5	2.0	8.4	-	0.98	1.3	1.2	5.3	5.3
<b>Metals</b>													
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	220 <sup>B</sup>	370 <sup>B</sup>	68	216 <sup>B</sup>	-	68	110 <sup>B</sup>	33	116 <sup>B</sup>	-
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	0.044	-	<1.0	<1.0	<1.0	0.040	-
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	9.0 <sup>B</sup>	4.4	2.8	1.63	-	1.6	3.3	3.1	2.17	-
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	2.0	5.2	3.2	3.97	-	1.8	2.7	1.7	2.98	-
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	0.016	-	<0.10	<0.10	<0.10	<0.10	-
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	<0.010	-	<2.0	<2.0	<2.0	<0.010	-
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	<10	-	<50	<50	<50	<10	-
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	0.015	<0.010	0.0091	-	<0.010	0.020	<0.010	0.0060	-
Calcium	µg/L	n/v	n/v	2,600	15,000	20,000	8,520	-	12,000	21,000	29,000	12,000	-
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	0.30	-	<1.0	<1.0	<1.0	0.26	-
Cobalt	µg/L	n/v	n/v	<0.40	0.65	<0.40	0.277	-	<0.40	<0.40	<0.40	0.202	-
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	0.79	10 <sup>B</sup>	0.90	1.91	-	0.75	3.9 <sup>B</sup>	0.84	1.12	-
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	1,000 <sup>B</sup>	690 <sup>B</sup>	210	377 <sup>B</sup>	-	140	260	91	252	-
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	0.165	-	<0.50	<0.50	<0.50	0.138	-
Lithium	µg/L	n/v	n/v	-	-	-	<0.50	-	-	-	-	<0.50	-
Magnesium	µg/L	n/v	n/v	490	2,300	2,800	1,350	-	1,500	2,700	4,000	2,070	-
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	110	210	58	110	-	12	80	45	35.0	-
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	0.015	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013	<0.013	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	0.167	-	<2.0	<2.0	<2.0	0.256	-
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	0.55	-	<2.0	<2.0	<2.0	0.31	-
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	12.7	-	<100	<100	<100	13.0	-
Potassium	µg/L	n/v	n/v	310	2,200	3,100	1,200	-	1,100	1,500	1,600	1,260	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	0.119	-	<0.50	<0.50	<0.50	0.069	-
Silicon	µg/L	n/v	n/v	-	-	-	2,440	-	-	-	-	1,700	-
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	<0.10	<0.010	-	<0.10	<0.10	<0.10	<0.010	-
Sodium	µg/L	n/v	n/v	1,800	3,400	5,000	2,700	-	2,700	4,200	5,500	3,170	-
Strontium	µg/L	n/v	n/v	6.3	32	58	19.1	-	25	48	67	28.9	-
Sulfur	µg/L	n/v	n/v	-	-	-	750	-	-	-	-	3,320	-
Sulfur	mg/L	n/v	n/v	-	-	-	<3.0	-	-	-	-	3.3	-
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	<0.10	<0.10	0.0020	-	<0.10	<0.10	<0.10	0.0020	-
Tin	µg/L	n/v	n/v	<2.0	<2.0	<2.0	<0.20	-	<2.0	<2.0	<2.0	<0.20	-
Titanium	µg/L	n/v	n/v	14	20	2.4	3.2	-	<2.0	2.7	<2.0	3.0	-
Uranium	µg/L	33 <sup>A</sup> 15 <sup>B</sup>	n/v	<0.10	<0.10	<0.10	0.0687	-	0.13	0.22	0.43	0.102	-
Vanadium	µg/L	n/v	n/v	<2.0	<2.0	<2.0	0.36	-	<2.0	<2.0	<2.0	0.24	-
Zinc	µg/L	37 <sub>EQ1</sub> <sup>A</sup> 7.0 <sub>EQ2</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<5.0	<5.0	<5.0	1.9	-	<5.0	<5.0	<5.0	1.7	-
Zirconium	µg/L	n/v	n/v	-	-	-	0.12	-	-	-	-	<0.10	-
<b>Radionuclides</b>													
Radium-226	Bq/L	n/v	0.37 <sup>C</sup>	-	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010	<0.010	-

See notes on last page.

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	4-Dec-22	4-Dec-22	26-Mar-23	26-Mar-23	19-Jun-23	19-Jun-23	RQFP-34		25-Nov-23	4-May-24	23-Jun-24	17-Aug-24	26-Oct-24	26-Oct-24
				RQFP-34	RQFP-34 Lab-Dup	RQFP-34	RQFP-34 Lab-Dup	RQFP-34	RQFP-34 Lab-Dup	RQFP-34	RQFP-34 Lab-Dup	RQFP-34	RQFP-34 Lab-Dup	RQFP-34	RQFP-34	RQFP-34	RQFP-34
Sample ID				Marathon Gold BV UNQ135	Marathon Gold BV UNQ135 Lab Replicate	Marathon Gold BV VKZ192	Marathon Gold BV VKZ192 Lab Replicate	Marathon Gold BV WER148	Marathon Gold BV C314396 WER148 Lab Replicate	Marathon Gold BV C314396 WER148 Lab Replicate	Marathon Gold BV C3U6705 XEK745 Lab Replicate	Marathon Gold BV C3AQ228 XTF813	Calibre Mining BV C4D8761 ZCU149	Calibre Mining BV C4J3748 ZOF006	Calibre Mining BV C4Q0869 AAQX68	Calibre Mining BV C4Y2292 AHLX41	Calibre Mining BV C4Y2292 AHLX41 Lab Replicate
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV
Laboratory				C2AB852	C2AB852	C390564	C390564	C314396	C314396	C314396	C3U6705	C3AQ228	C4D8761	C4J3748	C4Q0869	C4Y2292	C4Y2292
Laboratory Work Order				UNQ135	UNQ135	VKZ192	VKZ192	WER148	WER148	WER148	XEK745	XFK745	ZCU149	ZOF006	AAQX68	AHLX41	AHLX41
Laboratory Sample ID																	
Sample Type					Lab Replicate		Lab Replicate		Lab Replicate	Lab Replicate	Lab Replicate						Lab Replicate
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	96.4	-	-	-	-	-	-	86.0	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	25.09	-	14.03	-	10.03	-	9.56	-	12.82	-	8.81	7.55	11.21	-
Electrical Conductivity, Field	µS/cm		n/v	-	-	738.4	-	-	-	-	-	-	-	-	-	20.7	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	6.45 <sup>B</sup>	-	-	-	-	-	-	6.77	7.08	6.89	6.51	-
Specific Conductance, Field	µS/cm		n/v	-	-	36.8	-	-	-	-	-	-	20.0	25.4	60.5	-	-
Temperature, Field	deg C		n/v	1.48	-	0.150	-	11.5	-	13.1	-	0.608	5.6	21.0	23.1	6.7	-
Total Dissolved Solids, Field	g/L		n/v	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU		n/v	-	-	2.02	-	-	-	-	-	-	5.49	-	-	-	-
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	2.4	-	24	-	3.8	-	9.4	-	4.7	4.2	9.4	23	5.6	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	-	<0.050	-	<0.050	-	0.052	-	0.057	<0.050	<0.050	<0.050	<0.050	-
Anion Sum	me/L	n/v	n/v	0.150	-	0.530	-	0.110	-	0.240	-	0.110	0.120	0.220	0.520	0.290	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	2.4	-	24	-	3.8	-	4.7	-	4.2	4.2	9.3	23	5.6	-
Cation Sum	me/L	n/v	n/v	0.270	-	0.380	-	0.280	-	0.440	-	0.270	0.240	0.310	0.590	0.350	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.2	-	1.5	-	1.2	-	1.9	-	<1.0	1.0	1.3	2.5	-	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	55	-	37	-	55	-	52	-	63	70	44	19	54	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	-	-	-	0.00055	-	0.00050	<0.00050	<0.00050	<0.00050	0.00059	-
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	8.9	-	6.1	-	10	-	13	13	12	7.8	9.3	6.7	12	-
Electrical Conductivity, Lab	µS/cm		n/v	24	-	37	-	23	-	42	-	25	23	30	59	32	32
Hardness (as CaCO3)	mg/L	n/v	n/v	9.5	-	15	-	10	-	17	-	9.38	8.1	12	24	12.3	-
Ion Balance % Difference	%		n/v	28.6	-	16.5	-	43.6	-	29.4	-	42.1	33.3	17.0	6.31	9.38	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.81	-	-2.14	-	-3.29	-	-2.37	-	-3.55	-3.49	-2.64	-1.42	-3.28	-
Langelier Index (at 4 C)	none	n/v	n/v	-4.07	-	-2.39	-	-3.54	-	-3.81	-	-3.74	-2.90	-1.67	-3.53	-	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.15	-	0.17	-	<0.050	-	<0.050	-	0.23	0.089	<0.050	0.25	0.37	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.15	-	0.17	-	<0.050	-	<0.050	-	0.23	0.089	<0.050	0.25	0.37	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	<0.010	<0.010	<0.010	<0.010	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	-	<0.010	-	<0.010	-	<0.010	-	<0.010	<0.010	<0.010	<0.010	<0.010	-
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.61	-	7.11	-	6.90	-	7.19	-	6.59	6.76	7.08	7.63	6.69	6.69
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	-	<0.0010	-	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	-	-	-	-	<0.004	-	-	-	0.015	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.7	-	4.2	-	1.1	-	3.0	-	2.1	1.7	0.62	1.2	2.1	-
Saturation pH (at 20 C)	none	n/v	n/v	10.4	-	9.25	-	10.2	-	9.57	-	10.1	10.2	9.72	9.04	9.97	-
Saturation pH (at 4 C)	none	n/v	n/v	10.7	-	9.50	-	10.4	-	9.82	-	10.4	10.5	9.98	9.30	10.2	-
Sulfate	mg/L	n/v	n/v	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	-
Sulfide	mg/L	n/v	n/v	<0.020	-	<0.020	-	<0.020	-	<0.020	-	<0.020	<0.020	<0.020	<0.020	<0.020	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>51</sub> <sup>C</sup>	14	-	19	-	10	-	11	-	11	10	14	20	20	-
Total Organic Carbon	mg/L	n/v	n/v	8.8	-	5.9	5.9	11	-	13	14	11	8.3	9.9	6.7	13	-
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>11</sub> <sup>C</sup>	1.6	-	<1.0	-	2.2	-	2.4	-	2.2	3.2	2.8	<2.0	11	12
Turbidity, Lab	NTU	n/v	n/v	1.3	-	1.7	-	0.71	-	1.4	-	1.9	3.7	2.0	0.65	9.1	-
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	190 <sup>B</sup>	-	100	-	140 <sup>B</sup>	-	67	-	170 <sup>B</sup>	190 <sup>B</sup>	65	19	168 <sup>B</sup>	-
Antimony	µg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<0.020	<1.0	<1.0	<1.0	0.025	-
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	-	<1.0	-	<1.0	-	<1.0	-	0.457	<1.0	<1.0	<1.0	0.548	-
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	1.9	-	1.6	-	1.4	-	1.3	-	1.73	1.7	1.0	1.1	2.99	-
Beryllium	µg/L	n/v	n/v	<0.10	-	<0.10	-	<0.10	-	<0.10	-	<0.010	<0.10	<0.10	<0.10	<0.010	-
Bismuth	µg/L	n/v	n/v	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<0.010	<2.0	<2.0	<2.0	<0.0050	-
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	-	<50	-	<50	-	<50	-	<10	<50	<50	<50	<5.0	-
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>1TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	-	<0.010	-	0.024	-	<0.010	-	0.0095	<0.010	<0.010	<0.010	0.0207	-
Calcium	µg/L	n/v	n/v	2,900	-	4,600	-	3,100	-	5,500	-	2,830	2,500	3,800	7,600	3,660	-
Chromium	µg/L	n/v	n/v	<1.0	-	<1.0	-	<1.0	-	<1.0	-	<1.0	<1.0	<1.0	<1.0	0.23	-
Cobalt	µg/L	n/v	n/v	<0.40	-	<0.40	-	<0.40	-	<0.40	-	0.121	<0.40	<0.40	<0.40	0.162	-
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	1.3	-	0.77	-	1.0	-	0.74	-	0.74	0.99	0.78	0.71	1.11	-
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	250	-	310 <sup>B</sup>	-	260	-	350 <sup>B</sup>	-	362 <sup>B</sup>	320 <sup>B</sup>	280	77	251	-
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	-	0.61	-	<0.50	-	<0.50	-	0.146	<0.50	<0.50	<0.50	0.243	-
Lithium	µg/L	n/v	n/v	-	-	-	-	-	-	-	-	<0.50	-	-	<0.50	-	-
Magnesium	µg/L	n/v	n/v	550	-	770	-	580	-	910	-	560	480	590	1,200	765	-
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	25	-	32	-	40	-	59	-	31.8	26	70	57	67.4	-
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	-	<2.0	-	<2.0	-	<2.0	-	<0.050	<2.0	<2.0	<2.0	0.104	-
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	-	<2.0	-	<2.0	-	<2.0	-	0.31	<2.0	<2.0	<2.0	0.395	-
Phosphorus	µg/L	n/v	n/v	<100	-	<100	-	<100	-	<100	-	10.9	<100	<100	<100	15.6	-
Potassium	µg/L	n/v	n/v	140	-	120	-	<100	-	200	-	<250	130	230	393	-	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	-	<0.50	-	<0.50	-	<0.50	-	0.048	<0.50	<0.50	<0.50	0.052	-
Silicon	µg/L	n/v	n/v	-	-	-	-	-	-	-	-	1.430	-	-	-	1.140	-
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	-	<0											

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	5-Dec-22	18-Jun-23	18-Jun-23	26-Jun-23	1-Oct-23	26-Nov-23	RQP-VAL01		22-Jun-24	22-Jun-24	18-Aug-24	26-Oct-24	26-Oct-24	26-Oct-24
				RQP-VAL01	RQP-VAL01	RQP-VAL01 Lab-Dup	RQP-VAL-01	RQP-VAL01	RQP-VAL01	RQP-VAL01 Lab-Dup	RQP-VAL01	RQP-VAL01	RQP-VAL01 Lab-Dup	RQP-VAL01	RQP-VAL01 Lab-Dup	RQP-VAL01	SW DUP A
Sample ID				Marathon Gold BV C2AB852 UNQ131	Marathon Gold BV C3I4396 WER144	Marathon Gold BV C3I4396 WER144 Lab Replicate	Marathon Gold BV C3I4396 WGJ238	Marathon Gold BV C3I6705 XEK741	Marathon Gold BV C3AQ228 XTF817	Marathon Gold BV C3AQ228 XTF817 Lab Replicate	Calibre Mining BV C4D8761 ZCU145	Calibre Mining BV C4J3748 ZOF002	Calibre Mining BV C4J3748 ZOF002 Lab Replicate	Calibre Mining BV C4Q0869 AAQX65	Calibre Mining BV C4Y2292 AHLX49	Calibre Mining BV C4Y2292 AHMY76 Field Duplicate	RPD (%)
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	
Laboratory				C2AB852	C3I4396	C3I4396	C3I4396	C3I6705	C3AQ228	C3AQ228	C4D8761	C4J3748	C4J3748	C4Q0869	C4Y2292	C4Y2292	
Laboratory Work Order				UNQ131	WER144	WER144	WGJ238	XEK741	XTF817	XTF817	ZCU145	ZOF002	ZOF002	AAQX65	AHLX49	AHMY76	
Laboratory Sample ID																	
Sample Type						Lab Replicate				Lab Replicate			Lab Replicate		Field Duplicate		Lab Replicate
<b>Field Parameters</b>																	
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	-	91.7	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	24.66	10.45	-	-	9.39	12.98	-	-	9.3	-	9.02	11.61	-	-
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	21.4	-	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	-	6.84	6.8	-	6.94	6.84	-	-
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	25.9	20.5	-	23	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	0.0300	12.5	-	-	13.9	0.972	-	6.7	17.6	-	21.7	7.6	-	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	-	9.04	-	-	-	-	-	-
<b>General Chemistry</b>																	
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	-	-	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	<1.0	<1.0	nc
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	6.1	7.2	-	-	6.1	7.0	-	7.0	7.1	-	7.2	3.5	5.0	nc
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	0.054	-	<0.050	<0.050	-	<0.050	<0.050	-	<0.050	0.13	<0.050	nc
Anion Sum	me/L	n/v	n/v	0.180	0.220	-	-	0.210	0.140	-	0.190	0.210	-	0.190	0.250	0.270	nc
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	6.1	7.2	-	-	6.1	7.0	-	7.0	7.0	-	7.2	3.5	5.0	nc
Cation Sum	me/L	n/v	n/v	0.240	0.260	-	-	0.230	0.240	-	0.320	0.230	-	0.240	0.300	0.310	nc
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	2.1	2.6	-	-	1.6	<1.0	-	1.8	2.1	-	1.7	3.1	2.7	nc
Color	color unit (CU)	SN <sup>B</sup>	n/v	11	17	-	-	9.6	10	-	21	17	-	9.0	39	38	3%
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	-	<0.00050	<0.00050	-	<0.00050	<0.00050	-	0.00070	<0.00050	0.00059	nc
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	3.9	3.9	-	-	3.0	3.6	-	4.2	3.0	-	2.9	9.9	9.7	2%
Electrical Conductivity, Lab	µS/cm	n/v	n/v	23	28	-	-	26	28	-	30	26	-	26	32	33	3%
Hardness (as CaCO3)	mg/L	n/v	n/v	8.7	9.3	-	-	8.5	8.78	-	11	8.5	-	9.0	10.4	11.3	8%
Ion Balance % Difference	%	n/v	n/v	14.3	8.33	-	-	4.55	26.3	-	25.5	4.55	-	11.6	9.09	6.90	nc
Langelier Index (at 20 C)	none	n/v	n/v	-2.95	-2.84	-	-	-2.93	-2.91	-	-2.81	-2.87	-	-2.88	-3.46	-3.20	nc
Langelier Index (at 4 C)	none	n/v	n/v	-3.20	-3.16	-	-	-3.18	-3.16	-	-3.06	-3.13	-	-3.13	-3.71	-3.45	nc
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	0.050	-	-	<0.050	<0.050	-	<0.050	0.10	-	<0.050	<0.050	<0.050	nc
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	0.050	-	-	<0.050	<0.050	-	<0.050	0.10	-	<0.050	<0.050	<0.050	nc
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	-	-	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	<0.010	<0.010	nc
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	-	-	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	<0.010	<0.010	nc
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	7.08	7.08	-	-	7.10	7.05	-	7.06	7.09	-	7.05	6.75	6.82	nc
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	-	-	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	<0.0010	<0.0010	nc
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	-	<0.004	-	-	-	-	-	0.008	0.009	nc
Reactive Silica (SiO2)	mg/L	n/v	n/v	1.1	0.61	-	-	<0.50	0.68	-	1.2	0.72	-	0.66	2.8	2.8	0%
Saturation pH (at 20 C)	none	n/v	n/v	10.0	9.92	-	-	10.0	9.96	-	9.87	9.97	-	9.93	10.2	10.0	nc
Saturation pH (at 4 C)	none	n/v	n/v	10.3	10.2	-	-	10.3	10.2	-	10.1	10.2	-	10.2	10.5	10.3	nc
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	-	-	<2.0	<2.0	-	<2.0	<2.0	-	<2.0	4.6	4.6	nc
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	nc
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	12	13	-	-	12	13	-	14	12	-	12	19	19	0%
Total Organic Carbon	mg/L	n/v	n/v	4.1	4.2	-	-	2.8	3.8	-	4.3	3.1	-	2.9	10	10	0%
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sub>11</sub> <sup>C</sup>	1.6	-	-	1.2	<1.0	2.2	-	3.6	<2.0	-	2.0	1.0	2.6	nc
Turbidity, Lab	NTU	n/v	n/v	0.58	1.1	-	-	0.78	0.64	-	9.3	0.38	-	0.87	1.5	1.6	6%
<b>Metals</b>																	
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	57	98	96	-	12	62.6	-	360 <sup>B</sup>	29	-	15	109 <sup>B</sup>	119 <sup>B</sup>	9%
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<1.0	0.037	-	<1.0	<1.0	-	<1.0	0.021	0.037	nc
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	<1.0	<1.0	-	<1.0	0.739	-	2.9	<1.0	-	0.807	0.802	1%	
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	1.4	1.5	1.6	-	1.0	1.41	-	3.9	1.4	-	1.1	1.75	2.79	46%
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	-	<0.10	<0.010	-	<0.10	<0.10	-	<0.10	<0.010	<0.010	nc
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<2.0	<0.010	-	<2.0	<2.0	-	<2.0	<0.010	<0.010	nc
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	-	<50	<50	-	<50	<50	-	<50	<10	<10	nc
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TG</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	0.020	-	<0.010	0.0075	-	<0.010	<0.010	-	<0.010	0.0050	0.0080	nc
Calcium	µg/L	n/v	n/v	2,900	3,100	3,000	-	2,800	2,860	-	3,600	2,800	-	3,000	3,650	10%	
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	0.24	0.22	nc
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	-	<0.40	0.078	-	<0.40	<0.40	-	<0.40	0.071	0.080	12%
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	11 <sup>B</sup>	11 <sup>B</sup>	-	<0.50	0.39	-	1.9	<0.50	-	<0.50	0.80	0.93	15%
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	74	120	110	-	<50	99.0	-	610 <sup>B</sup>	<50	-	<50	124	133	7%
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	<0.50	0.052	-	<0.50	<0.50	-	<0.50	0.039	0.069	nc
Lithium	µg/L	n/v	n/v	-	-	-	-	-	<0.50	-	-	-	-	<0.50	<0.50	<0.50	nc
Magnesium	µg/L	n/v	n/v	380	400	410	-	370	400	-	580	360	-	530	540	nc	
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	16	22	22	-	9.0	23.8	-	29	8.9	-	7.3	15.4	17.4	12%
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	-	-	<0.013	<0.013 MNP	-	<0.013	<0.013	-	<0.013	<0.013	<0.013	nc
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	-	<2.0	<0.050	-	<2.0	<2.0	-	<2.0	<0.050	<0.050	nc
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	-	<2.0	0.20	-	<2.0	<2.0	-	0.23	0.33	nc	
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	-	<100	9.5	-	<100	<100	-	<100	9.7	28.4	nc
Potassium	µg/L	n/v	n/v	<100	220	<100	-	<100	<250	-	<100	130	-	<100	<250	<250	nc
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	<0.50	0.047	-	<0.50	<0.50	-	<0.50	0.044	0.047	nc
Silicon	µg/L	n/v	n/v	-	-	-	-	-	370	-	-	-</					

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date				6-Dec-22	18-Jun-23	30-Sep-23	30-Sep-23	27-Nov-23	5-May-24	RQP-VIC01 5-May-24	23-Jun-24	23-Jun-24	31-Aug-24	31-Aug-24	3-Nov-24	3-Nov-24
Sample ID				RQP-VIC01	RQP-VIC01	RQP-VIC01	RQP-VIC01 Lab-Dup	RQP-VIC-01	RQP-VIC01	RQP-VIC01 Lab-Dup	RQP-VIC01	RQP-VIC01 Lab-Dup	RQP-VIC01	RQP-VIC01 Lab-Dup	RQFP-VIC01	RQFP-VIC01 Lab-Dup
Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type	Units	CCME	NL ECWSR	Marathon Gold BV C2AB852 UNQ132	Marathon Gold BV C3I4396 WER145	Marathon Gold BV C3U6705 XEK742	Marathon Gold BV C3U6705 XEK742 Lab Replicate	Marathon Gold BV C3AQ228 XTF826	Calibre Mining BV C4D8761 ZCU146	Calibre Mining BV C4D8761 ZCU146 Lab Replicate	Calibre Mining BV C4J3748 ZOF003	Calibre Mining BV C4J3748 ZOF003 Lab Replicate	Calibre Mining BV C4R5798 ABWP46	Calibre Mining BV C4R5798 ABWP46 Lab Replicate	Calibre Mining BV C4Z1933 AIGO33	Calibre Mining BV C4Z1933 AIGO33 Lab Replicate
<b>Field Parameters</b>																
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	85.3	-	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	18.57	11.68	9.11	-	11.40	-	-	10.6	-	9.14	-	11.77	-
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	13.7	-
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	6.39 <sup>B</sup>	-	6.4 <sup>B</sup>	-	7.27	-	6.86	-
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	19.0	-	14.8	-	17.0	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	3.11	7.85	13.9	-	5.03	3	-	13.7	-	18.3	-	6.4	-
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	5.62	-	-	-	-	-	-	-
<b>General Chemistry</b>																
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<1.0	<1.0	-	<1.0	-	<1.0	-	<1.0	-
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	3.2	3.2	4.3	-	3.1	2.7	-	2.7	-	2.7	-	7.1	-
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	<0.050	-	<0.050	<0.050	-	<0.050	-	0.054	-	<0.050	-
Anion Sum	me/L	n/v	n/v	0.140	0.150	0.180	-	0.170	0.130	-	0.130	-	0.180	-	0.250	-
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	3.2	3.2	4.3	-	3.1	2.7	-	2.7	-	2.7	-	7.1	-
Cation Sum	me/L	n/v	n/v	0.190	0.190	0.170	-	0.180	0.170	-	0.180	-	0.240	-	0.210	-
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	2.5	3.0	2.8	-	1.2	2.4	-	2.6	-	2.4	-	2.4	-
Color	color unit (CU)	SN <sup>B</sup>	n/v	26	30	28	-	30	33	-	34	-	29	-	27	-
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	<0.00050	-	<0.00050	<0.00050	-	<0.00050	-	<0.00050	-	0.00050	-
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	4.4	4.4	3.9	-	4.4	4.4	-	4.2	4.3	4.0	-	4.0	-
Electrical Conductivity, Lab	µS/cm	n/v	n/v	21	19	21	-	22	22	-	21	-	19	-	19	-
Hardness (as CaCO3)	mg/L	n/v	n/v	5.2	4.9	4.9	-	5.06	4.7	-	4.8	-	4.96	-	5.82	-
Ion Balance % Difference	%	n/v	n/v	15.2	11.8	2.86	-	2.86	13.3	-	16.1	-	14.3	-	8.70	-
Langelier Index (at 20 C)	none	n/v	n/v	-3.87	-4.10	-3.75	-	-3.98	-4.06	-	-4.05	-	-3.96	-	-3.45	-
Langelier Index (at 4 C)	none	n/v	n/v	-4.12	-4.35	-4.01	-	-4.23	-4.32	-	-4.30	-	-4.21	-	-3.70	-
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	0.057	0.052	0.16	-	0.18	0.075	-	0.089	-	0.070	-	0.089	-
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	0.057	0.063	0.16	-	0.18	0.075	-	0.089	-	0.070	0.063	0.089	-
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	0.011	<0.010	-	<0.010	<0.010	-	<0.010	-	<0.010	<0.010	<0.010	-
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	-	<0.010	<0.010	-	<0.010	-	<0.010	<0.010	<0.010	-
pH, lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.71	6.52	6.72	-	6.64	6.63	-	6.66	-	6.72	-	6.74	-
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	-	<0.0010	<0.0010	-	<0.0010	-	<0.0010	-	<0.0010	-
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	<0.004	-	-	<0.004	-	<0.004	-	0.005	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	1.4	1.6	1.4	-	1.3	1.3	-	5.3	-	1.6	1.4	1.6	-
Saturation pH (at 20 C)	none	n/v	n/v	10.6	10.6	10.5	-	10.6	10.7	-	10.7	-	10.7	-	10.2	-
Saturation pH (at 4 C)	none	n/v	n/v	10.8	10.9	10.7	-	10.9	11.0	-	11.0	-	10.9	-	10.4	-
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	<2.0	-	2.7	<2.0	-	<2.0	-	2.5	-	1.6	1.7
Sulfide	mg/L	n/v	n/v	<0.020	<0.020	<0.020	-	<0.020	<0.020	-	<0.020	-	<0.020	-	<0.020	-
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>51</sub> <sup>C</sup>	10	11	11	-	12	9.0	-	14	-	13	-	15	-
Total Organic Carbon	mg/L	n/v	n/v	4.2	4.5	4.0	-	4.6	4.8	4.6	4.5	-	4.0	-	4.2	-
Total Suspended Solids	mg/L	n/v	30 <sub>11</sub> <sup>C</sup>	<1.0	<1.0	<1.0	-	<1.0	<1.0	-	1.0	-	<1.0	-	2.2	-
Turbidity, Lab	NTU	n/v	n/v	0.27	0.11	0.62	-	0.61	0.91	-	0.40	-	0.36	0.20	1.3	-
<b>Metals</b>																
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	56	61	45	-	54.8	59	-	57	-	50.7	49.7	97.1	-
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	<0.020	<1.0	-	<1.0	-	<0.020	<0.020	0.022	-
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<1.0	<1.0	<1.0	-	0.432	<1.0	-	<1.0	-	0.408	0.408	0.990	-
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	2.5	2.3	2.4	-	2.54	2.5	-	2.4	-	2.31	2.34	2.94	-
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	-	<0.010	<0.10	-	<0.10	-	<0.010	<0.010	<0.010	-
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<0.010	<2.0	-	<2.0	-	<0.0050	<0.0050	<0.0050	-
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	-	11	<50	-	<50	-	<5.0	<5.0	<5.0	-
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	0.011	<0.010	-	0.0090	<0.010	-	<0.010	-	<0.0050	<0.0050	<0.0050	-
Calcium	µg/L	n/v	n/v	1,500	1,500	1,400	-	1,450	1,300	-	1,430	-	1,430	-	1,690	-
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	-	0.13	<1.0	-	<1.0	-	0.17	0.16	0.18	-
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	-	0.020	<0.40	-	<0.40	-	0.0143	0.0119	0.313	-
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	0.26	<0.50	-	0.63	-	0.185	0.185	0.448	-
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	59	63	<50	-	62.3	68	-	50	-	35.7	35.3	196	-
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	0.026	<0.50	-	<0.50	-	0.0077	0.0084	0.0566	-
Lithium	µg/L	n/v	n/v	-	-	-	-	<0.50	-	-	-	-	<0.50	<0.50	<0.50	-
Magnesium	µg/L	n/v	n/v	350	360	330	-	350	340	-	330	-	338	-	391	-
Manganese	µg/L	3,600 <sub>EO3</sub> <sup>A</sup> 430 <sub>EO4</sub> <sup>B</sup>	n/v	6.5	5.6	7.3	-	7.13	6.7	-	3.7	-	6.79	6.76	62.4	-
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	-	<0.013	<0.013	<0.013	<0.013	<0.013	-
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	-	<0.050	<2.0	-	<2.0	-	<0.050	0.050	<0.050	-
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	-	0.15	<2.0	-	<2.0	-	0.152	0.179	0.281	-
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	-	5.1	<100	-	<100	-	3.6	3.1	6.8	-
Potassium	µg/L	n/v	n/v	180	180	150	-	<250	150	-	230	-	179	-	238	-
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	-	0.067	<0.50	-	<0.50	-	<0.040	<0.040	0.048	-
Silicon	µg/L	n/v	n/v	-	-	-	-	751	-	-	-	-	597	592	742	-
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	<0.10	-	<0.010	<0.10	-	<0.10	-	<0.0050	<0.0050	<0.0050	-
Sodium	µg/L	n/v	n/v	1,700	1,800	1,600	-	1,800	1,600	-	1,700	-	2,940	-	1,790	-
Strontium	µg/L	n/v	n/v	4.8	4.8	5.1	-	4.91	4.6	-	4.8	-	4.94	4.91	5.44	-
Sulfur	µg/L	n/v	n/v	-	-	-	-	<600	-	-	-	-	<3,000	-	<3,000	-
Sulfur	mg/L	n/v	n/v	-	-	-	-	<3.0	-	-	-	-	-	-	-	-
Thallium	µg/L	0.8 <sup>B</sup>	n/v	<0.10	<0.10	<0.10	-	<0.0020	<0.10	-	<0.10	-	<0.0020	<0.0020	<0.0020	-
Tin	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<2.0	<2.0	-	<2.0	-	<2.0	<2.0	<2.0	-
Titanium	µg/L	n/v	n/v	<2.0	<2.0	<2.0	-	<2.0	<2.0	-	<2.0	-	<0.50	<0.50	3.69	-

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	4-Dec-22	19-Jun-23	2-Oct-23	25-Nov-23	4-May-24	4-May-24	23-Jun-24	23-Jun-24	23-Jun-24	17-Aug-24	17-Aug-24	17-Aug-24	26-Oct-24
				WFP-HS8	WFP-SH8	WFP-HS8	WFP-HS8	WFP-HS8	WFP-HS8 Lab-Dup	WFP-SH8	DUPLICATE	DUPLICATE Lab-Dup	WFP-HS8	WFP-HS8 Lab-Dup	DUP A	WFP-HS8
Sample ID				Marathon Gold BV C2AB852 UNQ133	Marathon Gold BV C3I4396 WER146	Marathon Gold BV C3U6705 XEK743	Marathon Gold BV C3AQ228 XTF815	Calibre Mining BV C4D8761 ZCU147	Calibre Mining BV C4D8761 ZCU147 Lab Replicate	Calibre Mining BV C4J3748 ZOF004	Calibre Mining BV C4J3748 ZOF009 Field Duplicate	RPD (%)	Calibre Mining BV C4J3748 ZOF009 Lab Replicate	Calibre Mining BV C4Q0869 AAQX66 Lab Replicate	Calibre Mining BV C4Q0869 AAQX71 Field Duplicate	RPD (%)
Sampling Company				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV		Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	
Laboratory				Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Marathon Gold BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	Calibre Mining BV		Calibre Mining BV	Calibre Mining BV	Calibre Mining BV	
Laboratory Work Order				C2AB852	C3I4396	C3U6705	C3AQ228	C4D8761	C4D8761	C4J3748	C4J3748		C4J3748	C4Q0869	C4Q0869	
Laboratory Sample ID				UNQ133	WER146	XEK743	XTF815	ZCU147	ZCU147	ZOF004	ZOF009		ZOF009	AAQX66	AAQX66	
Sample Type									Lab Replicate	Field Duplicate	Field Duplicate		Lab Replicate	Lab Replicate	Field Duplicate	
<b>Field Parameters</b>																
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	88.9	-	-	-	-	-	-	-	-
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	25.36	9.99	9.99	13.37	-	-	9.02	-	-	8.07	-	-	12.10
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	28.2
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	7.51	-	7.68	-	-	7.51	-	-	6.94
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	47.3	-	72.8	-	-	141.3	-	-	-
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.06	10.6	11.2	0.887	5.6	-	18.5	-	-	19.2	-	-	6.3
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	3.76	-	-	-	-	-	-	-	-
<b>General Chemistry</b>																
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	nc	-	<1.0	-	<1.0
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	5.6	13	32	8.7	14	-	33	33	0%	-	72	-	72
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	<0.050	0.19	0.15	0.067	-	<0.050	<0.050	nc	-	<0.050	-	<0.050
Anion Sum	me/L	n/v	n/v	0.210	0.310	0.760	0.200	0.370	-	0.740	0.740	nc	-	1.62	-	1.63
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	5.6	13	32	8.7	14	-	33	33	3%	-	72	-	72
Cation Sum	me/L	n/v	n/v	0.320	0.430	0.830	0.410	0.540	-	0.850	0.850	nc	-	1.75	-	1.62
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	3.5	1.8	2.5	<1.0	1.9	-	2.1	2.0	nc	-	3.1	3.1	3.2
Color	color unit (CU)	SN	n/v	74	50	46	86	68	-	35	36	3%	-	11	10	87
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	0.00069	0.00057	<0.00050	-	0.00057	<0.00050	nc	-	<0.00050	-	<0.00050
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	9.1	7.3	7.9	11	6.7	-	6.7	6.7	0%	-	4.1	4.1	4.1
Electrical Conductivity, Lab	µS/cm	n/v	n/v	28	40	88	39	54	-	92	93	1%	-	160	-	160
Hardness (as CaCO3)	mg/L	n/v	n/v	12	17	34	14.9	22	-	36	36	0%	-	76	-	71
Ion Balance % Difference	%	n/v	n/v	20.8	16.2	4.40	34.4	18.7	-	6.92	6.92	nc	-	3.86	-	0.310
Langelier Index (at 20 C)	none	n/v	n/v	-2.98	-2.15	-1.13	-2.63	-1.89	-	-1.05	-0.990	nc	-	-0.197	-	-0.249
Langelier Index (at 4 C)	none	n/v	n/v	-3.23	-2.40	-1.38	-2.89	-1.24	-	-1.30	-1.24	nc	-	-0.448	-	-0.501
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	<0.050	0.78	0.36	0.40	-	0.40	0.36	11%	-	0.14	-	0.14
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	<0.050	0.79	0.36	0.40	-	0.40	0.36	11%	-	0.14	0.14	0.14
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	<0.010	0.012	<0.010	<0.010	-	<0.010	<0.010	nc	-	<0.010	<0.010	<0.010
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	<0.010	<0.010	<0.010	<0.010	-	<0.010	<0.010	nc	-	<0.010	<0.010	<0.010
pH, Lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.97	7.27	7.65	7.04	7.42	-	7.69	7.74	nc	-	7.92	-	7.90
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	-	<0.0010	<0.0010	nc	-	<0.0010	-	<0.0010
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	<0.004	-	-	-	-	-	-	-	-	-
Reactive Silica (SiO2)	mg/L	n/v	n/v	6.3	1.5	3.4	2.4	2.0	-	5.8	1.3	nc	-	2.4	2.4	2.8
Saturation pH (at 20 C)	none	n/v	n/v	9.95	9.42	8.78	9.67	9.31	-	8.74	8.73	nc	-	8.11	-	8.15
Saturation pH (at 4 C)	none	n/v	n/v	10.2	9.67	9.03	9.93	9.56	-	8.99	8.98	nc	-	8.36	-	8.40
Sulfate	mg/L	n/v	n/v	<2.0	<2.0	<2.0	<2.0	<2.0	-	<2.0	<2.0	nc	-	3.7	3.7	4.2
Sulfide	mg/L	n/v	0.5 <sup>C</sup>	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	<0.020	nc	-	<0.020	-	<0.020
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	19	20	45	17	25	-	46	41	11%	-	86	-	85
Total Organic Carbon	mg/L	n/v	n/v	8.8	7.3	8.1	12	6.6	-	6.7	6.5	3%	6.4	4.3	-	4.4
Total Suspended Solids	mg/L	SN <sup>B</sup>	30 <sup>C</sup>	<1.0	1.6	<1.0	<2.0	<1.3	-	<1.0	9.0	nc	-	1.8	-	<2.0
Turbidity, Lab	NTU	n/v	n/v	0.49	1.2	0.91	4.1	0.59	-	0.37	0.44	nc	-	0.37	0.49	0.21
<b>Metals</b>																
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	66	50	21	183 <sup>B</sup>	58	-	24	23	nc	-	14	-	13
Antimony	µg/L	n/v	n/v	<1.0	<1.0	<1.0	<0.020	<1.0	-	<1.0	<1.0	nc	-	<1.0	-	<1.0
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	2.6	3.3	4.8	4.03	2.3	-	3.8	3.9	nc	-	3.4	-	3.1
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	<1.0	<1.0	1.3	1.28	<1.0	-	<1.0	<1.0	nc	-	1.1	-	<1.0
Beryllium	µg/L	n/v	n/v	<0.10	<0.10	<0.10	<0.010	<0.10	-	<0.10	<0.10	nc	-	<0.10	-	<0.10
Bismuth	µg/L	n/v	n/v	<2.0	<2.0	<2.0	<0.010	<2.0	-	<2.0	<2.0	nc	-	<2.0	-	<2.0
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	<50	<50	<50	<50	-	<50	<50	nc	-	<50	-	<50
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	<0.010	<0.010	0.0065	<0.010	-	<0.010	<0.010	nc	-	<0.010	-	<0.010
Calcium	µg/L	n/v	n/v	3,800	5,600	11,000	4,580	6,500	-	11,000	11,000	0%	-	23,000	-	21,000
Chromium	µg/L	n/v	n/v	<1.0	<1.0	<1.0	0.13	<1.0	-	<1.0	<1.0	nc	-	<1.0	-	<1.0
Cobalt	µg/L	n/v	n/v	<0.40	<0.40	<0.40	0.187	<0.40	-	<0.40	<0.40	nc	-	<0.40	-	<0.40
Copper	µg/L	2/4 <sub>TBC1</sub> <sup>B</sup>	300 <sub>2</sub> <sup>C</sup>	<0.50	2.8 <sup>B</sup>	<0.50	0.80	<0.50	-	<0.50	<0.50	nc	-	<0.50	-	<0.50
Iron	µg/L	300 <sup>B</sup>	10,000 <sub>2</sub> <sup>C</sup>	180	140	160	442 <sup>B</sup>	130	-	90	86	nc	-	<50	-	<50
Lead	µg/L	1/7 <sub>TBC1</sub> <sup>B</sup>	200 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	3.1 <sup>B</sup>	0.123	<0.50	-	<0.50	<0.50	nc	-	<0.50	-	<0.50
Lithium	µg/L	n/v	n/v	-	-	-	<0.50	-	-	-	-	-	-	-	-	<0.50
Magnesium	µg/L	n/v	n/v	540	780	1,800	830	1,300	-	1,900	1,900	0%	-	4,400	-	4,100
Manganese	µg/L	3,600 <sub>EQ3</sub> <sup>A</sup> 430 <sub>EQ4</sub> <sup>B</sup>	n/v	18	28	26	31.2	18	-	17	17	0%	-	16	-	11
Mercury	µg/L	0.026 <sup>B</sup>	5 <sub>2</sub> <sup>C</sup>	<0.013	<0.013	<0.013	<0.013 MNP	<0.013	<0.013	<0.013	<0.013	nc	-	<0.013	-	<0.013
Molybdenum	µg/L	73 <sup>B</sup>	n/v	<2.0	<2.0	<2.0	0.113	<2.0	-	<2.0	<2.0	nc	-	<2.0	-	<2.0
Nickel	µg/L	25/150 <sub>TBC1</sub> <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	<2.0	<2.0	<2.0	0.34	<2.0	-	<2.0	<2.0	nc	-	<2.0	-	<2.0
Phosphorus	µg/L	n/v	n/v	<100	<100	<100	11.2	<100	-	<100	<100	nc	-	<100	-	<100
Potassium	µg/L	n/v	n/v	<100	200	670	410	440	-	570	570	0%	-	880	-	830
Selenium	µg/L	1 <sup>B</sup>	10 <sub>2</sub> <sup>C</sup>	<0.50	<0.50	<0.50	0.049	<0.50	-	<0.50	<0.50	nc	-	<0.50	-	<0.50
Silicon	µg/L	n/v	n/v	-	-	-	1,450	-	-	-	-	-	-	-	-	1,240
Silver	µg/L	0.25 <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.10	<0.10	<0.10	<0.010	<0.10	-	<0.10	<0.10	nc	-	<0.10	-	<0.10
Sodium	µg/L	n/v	n/v	1,800	1,800	2,600	1,690	2,000	-	2,300	2,300	0%	-	4,600	-	4,300
Strontium	µg/L	n/v	n/v	8.1	13	27	10.1	18	-	32	32	0%	-	60	-	

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Sample Location Sample Date	Units	CCME	NL ECWSR	WFP-HS9												FIELD BLANK		FIELD BLANK		FIELD BLANK		TRIP BLANK		TRIP BLANK		TRIP BLANK	
				5-Dec-22 WFP-HS9	5-Dec-22 WFP-HS9 Lab-Dup	25-Mar-23 WFP-HS9	18-Jun-23 WFP-HS9	1-Oct-23 WFP-HS9	26-Nov-23 WFP-HS9	4-May-24 WFP-HS9	22-Jun-24 WFP-HS9	18-Aug-24 WFP-HS9	26-Oct-24 WFP-HS9	17-Aug-24 FIELD BLANK	17-Aug-24 FIELD BLANK Lab-Dup	31-Aug-24 FIELD BLANK	27-Nov-23 TRIP BLANK	17-Aug-24 TRIP BLANK	17-Aug-24 TRIP BLANK Lab-Dup	31-Aug-24 TRIP BLANK	31-Aug-24 TRIP BLANK Lab-Dup						
Sample ID				Marathon Gold BV UNQ134	Marathon Gold BV C2AB852 UNQ134 Lab Replicate	Marathon Gold BV C390564 VKZ191	Marathon Gold BV C34396 WER147	Marathon Gold BV C3U6705 XEK744	Marathon Gold BV C3AQ228 XTF818	Calibre Mining BV C4D8761 ZCU148	Calibre Mining BV C4J3748 ZOF005	Calibre Mining BV C4Q0869 AAQX67	Calibre Mining BV C4Y2292 AHLX48	Calibre Mining BV C4Q0869 AAQX73 Field Blank	Calibre Mining BV C4Q0869 AAQX73 Lab Replicate	Calibre Mining BV C4R5798 ABWP55 Field Blank	Marathon Gold BV C3AQ228 XTF830 Trip Blank	Calibre Mining BV C4Q0869 AAQX72 Trip Blank	Calibre Mining BV C4Q0869 AAQX72 Lab Replicate	Calibre Mining BV C4R5798 ABWP56 Trip Blank	Calibre Mining BV C4R5798 ABWP56 Lab Replicate						
<b>Field Parameters</b>																											
Dissolved Oxygen (%), Field	%	n/v	n/v	-	-	-	-	-	-	91.1	-	-	-	-	-	-	-	-	-	-	-	-					
Dissolved Oxygen, Field	mg/L	>5.5/6.5/9.5 <sub>VAR</sub> <sup>B</sup>	n/v	22.86	-	8.08	9.90	9.52	12.70	-	9.01	10.09	11.48	-	-	-	-	-	-	-	-	-					
Electrical Conductivity, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	-	-	-	36.6	-	-	-	-	-	-	-	-	-					
pH, Field	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	-	-	-	-	-	-	7.04	7.14	7.32	7.46	-	-	-	-	-	-	-	-	-					
Specific Conductance, Field	µS/cm	n/v	n/v	-	-	-	-	-	-	34.4	48.5	78.4	-	-	-	-	-	-	-	-	-	-					
Temperature, Field	deg C	n/v	32 <sup>C</sup>	1.27	-	1.03	13.8	12.6	0.890	8.1	20.8	26.4	7.3	-	-	-	-	-	-	-	-	-					
Total Dissolved Solids, Field	g/L	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
Turbidity, Field	NTU	n/v	n/v	-	-	-	-	-	-	29.90	-	-	-	-	-	-	-	-	-	-	-	-					
<b>General Chemistry</b>																											
Alkalinity, Carbonate (as CaCO3)	mg/L	n/v	n/v	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	<1.0	<1.0	-	<1.0	-					
Alkalinity, Total (as CaCO3)	mg/L	n/v	n/v	7.6	6.5	29	8.4	16	9.6	11	17	30	20	<2.0	<1.0	<2.0	<2.0	<2.0	-	<1.0	-	-					
Ammonia (as N)	mg/L	1.83/190 <sub>TBC2</sub> <sup>B</sup>	n/v	<0.050	-	0.072	<0.050	<0.050	<0.050	<0.050	0.27	0.17	0.20	<0.050	<0.050	0.067	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050					
Anion Sum	me/L	n/v	n/v	0.270	-	0.650	0.240	0.400	0.250	0.250	0.410	0.700	0.580	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Bicarbonate(as CaCO3, Calculated)	mg/L	n/v	n/v	7.6	-	10	8.4	16	9.6	10	17	30	20	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0					
Cation Sum	me/L	n/v	n/v	0.390	-	0.440	0.320	0.490	0.530	0.540	0.570	0.680	0.560	0.00	-	0.0100	0.00	0.00	0.00	0.00	0.00	0.00					
Chloride	mg/L	640 <sup>A</sup> 120 <sup>B</sup>	n/v	4.3	-	2.5	2.5	2.3	1.1	1.2	2.1	2.0	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0					
Color	color unit (CU)	n/v	n/v	60	-	41	44	38	54	46	38	18	24	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0					
Cyanide (Weak Acid Dissociable)	mg/L	0.005 <sup>B</sup>	0.025 <sup>C</sup>	-	-	-	-	0.00070	0.00066	<0.00050	0.00091	0.00053	0.0010	<0.00050	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050					
Dissolved Organic Carbon (DOC)	mg/L	n/v	n/v	9.3	9.3	6.3	8.0	9.9	11	6.2	7.6	7.1	8.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50					
Electrical Conductivity, Lab	µS/cm	n/v	n/v	34	33	44	30	50	41	39	59	66	53	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3					
Hardness (as CaCO3)	mg/L	n/v	n/v	13	-	17	11	19	18.5	18	22	28	21.3	<1.0	<0.50	<0.50	<1.0	<1.0	<1.0	<0.50	<0.50	<0.50					
Ion Balance % Difference	%	n/v	n/v	18.2	-	19.3	14.3	10.1	35.9	36.7	16.3	1.45	1.75	-	-	100	-	-	-	-	-	-					
Langelier Index (at 20 C)	none	n/v	n/v	-2.87	-	-2.10	-2.77	-1.93	-2.51	-2.32	-1.71	-1.25	-1.85	NC	NC	NC	NC	NC	NC	NC	NC	NC					
Langelier Index (at 4 C)	none	n/v	n/v	-3.12	-	-2.36	-2.18	-2.18	-2.76	-2.57	-1.96	-1.50	-1.85	NC	NC	NC	NC	NC	NC	NC	NC	NC					
Nitrate (as N)	mg/L	124 <sup>A</sup> 3.0 <sup>B</sup>	n/v	<0.050	-	0.079	<0.050	0.16	0.30	0.14	<0.050	<0.050	0.072	<0.050	<0.050	<0.050	0.065	<0.050	<0.050	<0.050	<0.050	<0.050					
Nitrate + Nitrite (as N)	mg/L	n/v	n/v	<0.050	-	0.079	<0.050	0.16	0.30	0.14	<0.050	<0.050	0.072	<0.050	<0.050	<0.050	0.065	<0.050	<0.050	<0.050	<0.050	<0.050					
Nitrite (as N)	mg/L	0.06 <sup>B</sup>	n/v	<0.010	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010					
Orthophosphate (as P)	mg/L	n/v	n/v	<0.010	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010					
pH, Lab	S.U.	6.5-9.0 <sup>B</sup>	5.5-9.0 <sup>C</sup>	6.94	7.02	7.00	7.03	7.36	7.05	7.24	7.49	7.63	7.33	5.79 <sup>B</sup>	-	5.74 <sup>B</sup>	6.23 <sup>B</sup>	5.76 <sup>B</sup>	-	5.82 <sup>B</sup>	-	-					
Phenols-4AAP	mg/L	n/v	0.1 <sup>C</sup>	<0.0010	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	-	<0.0010	-	<0.0010	<0.0010	-	-	-					
Phosphorus, Total	mg/L	n/v	n/v	-	-	-	-	0.013	-	-	-	-	0.016	-	-	<0.004	-	<0.004	-	<0.004	-	<0.004					
Reactive Silica (SiO2)	mg/L	n/v	n/v	2.8	-	4.2	1.3	2.1	1.9	2.3	1.8	0.81	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50					
Saturation pH (at 20 C)	none	n/v	n/v	9.81	-	9.11	9.80	9.29	9.56	9.57	9.20	8.88	9.18	NC	NC	NC	NC	NC	NC	NC	NC	NC					
Saturation pH (at 4 C)	none	n/v	n/v	10.1	-	9.36	10.0	9.54	9.81	9.82	9.45	9.14	9.43	NC	NC	NC	NC	NC	NC	NC	NC	NC					
Sulfate	mg/L	n/v	n/v	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0					
Sulfide	mg/L	n/v	0.5 <sup>C</sup>	<0.020	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	-	<0.020	-	<0.020	<0.020	-	-	-					
Total Dissolved Solids (Calculated)	mg/L	n/v	1,000 <sub>91</sub> <sup>C</sup>	19	-	33	15	24	21	22	26	33	37	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0					
Total Organic Carbon	mg/L	n/v	n/v	9.1	-	7.8	8.5	10	12	7.2 <sup>IA</sup>	7.8	7.3	8.2	<0.50	<0.50	0.68	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50					
Total Suspended Solids	mg/L	n/v	30 <sub>11</sub> <sup>C</sup>	4.2	-	<1.0	1.2	1.6	1.5	1.2	1.0	<2.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0					
Turbidity, Lab	NTU	n/v	n/v	2.9	2.9	0.32	1.0	0.97	24	38	2.9	0.95	17	<0.10	-	0.12	17	0.28	0.17	<0.10	<0.10	<0.10					
<b>Metals</b>																											
Aluminum	µg/L	5/100 <sub>VAR1</sub> <sup>B</sup>	n/v	340 <sup>B</sup>	-	65	110 <sup>B</sup>	38	730 <sup>B</sup>	1,500 <sup>B</sup>	200 <sup>B</sup>	28	386 <sup>B</sup>	<5.0	-	1.02	1.81	<5.0	-	<0.50	-	<0.50					
Antimony	µg/L	n/v	n/v	<1.0	-	<1.0	<1.0	<1.0	0.059	<1.0	<1.0	<1.0	0.040	<1.0	-	<0.020	<0.020	<1.0	-	<0.020	-	<0.020					
Arsenic	µg/L	5 <sup>B</sup>	500 <sub>2</sub> <sup>C</sup>	3.4	-	1.6	2.2	3.5	7.11 <sup>B</sup>	12 <sup>B</sup>	4.0	3.4	4.35	<1.0	-	<0.020	<0.020	<1.0	-	<0.020	-	<0.020					
Barium	µg/L	n/v	5,000 <sub>2</sub> <sup>C</sup>	3.3	-	2.1	1.4	1.3	5.87	9.6	3.0	6.2	3.54	<1.0	-	<0.020	0.029	<1.0	-	<0.020	-	<0.020					
Beryllium	µg/L	n/v	n/v	<0.10	-	<0.10	<0.10	<0.10	0.021	<0.10	<0.10	0.012	0.012	<0.10	-	<0.010	<0.010	<0.10	-	<0.010	-	<0.010					
Bismuth	µg/L	n/v	n/v	<2.0	-	<2.0	<2.0	<2.0	0.012	<2.0	<2.0	<2.0	<0.010	<2.0	-	<0.0050	<0.0050	<2.0	-	<0.0050	-	<0.0050					
Boron	µg/L	29,000 <sup>A</sup> 1,500 <sup>B</sup>	5,000 <sub>2</sub> <sup>C</sup>	<50	-	<50	<50	<50	<10	<50	<50	<50	<50	<50	-	<5.0	<5.0	<50	-	<5.0	-	<5.0					
Cadmium	µg/L	1.0 <sub>STB</sub> <sup>A</sup> 0.09 <sub>TD</sub> <sup>B</sup>	50 <sub>2</sub> <sup>C</sup>	<0.010	-	<0.010	<0.010	<0.010	0.0130	0.014	<0.010	<0.010	0.0100	<0.010	-	<0.0050	<0.0050	<0.010	-	<0.0050	-	<0.0050					
Calcium	µg/L	n/v	n/v	3,900	-	5,300	6,200	5,000	5,440	7,000	5,000	6,700	6,570	<50	<50	<50	<50	<50	<50	<50	<50	<50					
Chromium	µg/L	n/v	n/v	<1.0	-	<1.0	<1.0	<1.0	0.78	2.0	<1.0	<1.0	0.63	<1.0	-	<0.10	0.18	<1.0	-	<0.10	-	<0.10					
Cobalt	µg/L	n/v	n/v	<0.40	-	<0.40	<0.40	<0.40																			

**Table B1**  
**Summary of Surface Water Analytical Results**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

**Notes:**

CCME	Canadian Council of Ministers of the Environment
A	Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life - Freshwater Aquatics Short Term
B	Canadian Environmental Quality Guidelines, Canadian Water Quality Guidelines for the Protection of Aquatic Life - Freshwater Aquatics Long Term
NL ECWSR	Newfoundland and Labrador Regulation 65/03 - Environmental Control Water and Sewage Regulations, 2003 under the Water Resources Act (O.C. 2003-231) Amended by: 23/09.
C	Schedule A - Maximum Content in sewage or effluent discharge into a body of water.
<b>6.5<sup>A</sup></b>	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
<b>&lt;0.50</b>	Laboratory reporting limit was greater than the applicable standard.
<0.03	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
EQ1	The short-term benchmark is for dissolved zinc and is calculated using the following equation: Benchmark = $\exp(0.833[\ln(\text{hardness mg-L}^{-1})] + 0.240[\ln(\text{DOC mg-L}^{-1})] + 0.526)$ . The value in the table is for surface water of 50 mg CaCO <sub>3</sub> -L <sup>-1</sup> hardness and 0.5 mg-L <sup>-1</sup> dissolved organic carbon (DOC). The benchmark equation is valid between hardness 13.8 and 250.5 mg CaCO <sub>3</sub> -L <sup>-1</sup> and DOC 0.3 and 17.3 mg-L <sup>-1</sup> .
EQ2	The long-term CWQG is for dissolved zinc and is calculated using the following equation: $\text{CWQG} = \exp(0.947[\ln(\text{hardness mg-L}^{-1})] - 0.815[\text{pH}] + 0.398[\ln(\text{DOC mg-L}^{-1})] + 4.625)$ . The value in the table is for surface water of 50 mg CaCO <sub>3</sub> -L <sup>-1</sup> hardness, pH of 7.5 and 0.5 mg-L <sup>-1</sup> DOC. The CWQG equation is valid between hardness 23.4 and 399 mg CaCO <sub>3</sub> -L <sup>-1</sup> , pH 6.5 and 8.13 and DOC 0.3 to 22.9 mg-L <sup>-1</sup> .
EQ3	The short-term benchmark is calculated using the benchmark calculator in Appendix B of the Scientific Criteria Document for the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life. Manganese or the following equation: Benchmark = $\exp(0.878[\ln(\text{hardness})] + 4.76)$ where the benchmark is expressed in dissolved manganese concentration (µg/L), and hardness is measured as CaCO <sub>3</sub> equivalents in mg/L. The value in the table is for surface water of 50 mg/L hardness. The benchmark equation is valid between hardness 25 and 250 mg/L.
EQ4	The long-term CWQG is found using the look-up table (see Table 5) or the CWQG and benchmark calculator is Appendix B of CCME (2019). The value in the table is for surface water of 50 mg/L hardness and pH of 7.5. The CWQG table is valid between hardness 25 and 670 mg/L and pH 5.8 and 8.4.
LTG	The CWQG for cadmium (i.e. long-term guideline) of 0.09 µg-L <sup>-1</sup> is for waters of 50 mg CaCO <sub>3</sub> -L <sup>-1</sup> hardness. The CWQG for cadmium is related to water hardness (as CaCO <sub>3</sub> ): When the water hardness is > 0 to < 17 mg/L, the CWQG is 0.04 µg/L; at hardness ≥ 17 to ≤ 280 mg/L, the CWQG is calculated using this equation ( $\text{CWQG } (\mu\text{g/L}) = 10^{(0.83(\log[\text{hardness}]) - 2.46)}$ ); At hardness > 280 mg/L, the CWQG is 0.37 µg/L.
s1	If water is being abstracted from a water course, used, treated and subsequently returned to the same water course, these solids data mean that the effluent should not contain more than 1000 or 30 milligrams per litre more than was in the water originally abstracted.
s2	All metal results should be the total of the particulate and the dissolved fractions of that metal and the maximum content is the amount in excess of the background level as determined upstream of the discharge.
SN	see Narrative
STB	The short-term benchmark concentration of 1.0 µg L <sup>-1</sup> is for waters of 50 mg CaCO <sub>3</sub> -L <sup>-1</sup> hardness. The short-term benchmark for cadmium is related to water hardness (as CaCO <sub>3</sub> ): When the water hardness is 0 to < 5.3 mg/L, the short-term benchmark is 0.11 µg/L, At hardness ≥ 5.3 to ≤ 360 mg/L, the short-term benchmark is calculated using this equation ( $\text{Short-term benchmark } (\mu\text{g/L}) = 10^{(1.016(\log[\text{hardness}]) - 1.71)}$ ); At hardness > 360 mg/L, the short-term benchmark is 7.7 µg/L.
TBC1	Value is minimum value available. Sample-specific value to be calculated (equation).
TBC2	To be calculated (equation), then the present guideline values (mg/L NH <sub>3</sub> ) can be converted to mg/L total ammonia-N by multiplying the corresponding guideline value by 0.8224.
VAR	Lowest acceptable dissolved oxygen concentration: for warm water biota: early life stages = 6000 µg/L; for warm water biota: other life stages = 5500 µg/L; for cold water biota: early life stages = 9500 µg/L; for cold water biota: other life stages = 6500 µg/L.
VAR1	Variable, 5 µg/L if pH < 6.5 and 100 µg/L if pH > 6.5
ASF	Sample aliquot was slow filtering possibly due to sample matrix, DL was raised accordingly.
ERT	Elevated reporting limit due to turbidity.
EZ	Elevated reporting limit due to sample matrix.
IA	Reporting limit was increased due to turbidity.
MI	Detection limits raised due to matrix interference.
MNP	Mercury analysis was performed on a nitric acid preserved sample aliquot.
NC	Not calculated.
SP	Sample was preserved at the laboratory
RPD	Relative Percent Difference.
<b>61%</b>	RPD exceeds data quality objective of 40%.
nc	RPD is not calculated if one or more values is non detect or if one or more values is less than five times the reportable detection limit.

**Table B2-1**  
**Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station**  
**NF02YN0047 (Victoria River Outlet)**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Parameter		Month					
		Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024
Water Temperature, °C	Avg	16.1	21.19	20.39	15.56	8.63	4.87
	Min	11.5	15.21	14.20	10.47	4.58	2.43
	Max	24.1	27.24	26.39	21.01	12.62	7.71
pH	Avg	6.63	6.77	7.21	7.37	7.18	6.82
	Min	6.46	6.42	6.90	6.85	6.60	6.74
	Max	6.83	7.35	7.50	7.61	7.49	6.89
Specific Conductance, µS/cm	Avg	26.41	27.12	36.41	51.71	47.90	25.62
	Min	21.17	22.29	26.02	37.70	22.59	23.55
	Max	42.56	33.43	48.26	65.25	76.71	29.3
Dissolved Oxygen, mg/L	Avg	9.91	8.86	8.85	9.95	11.51	12.76
	Min	8.76	7.34	7.31	8.00	10.24	11.82
	Max	10.74	10.22	10.61	11.33	12.95	13.65
Percent Saturation, %	Avg	100.5	99.7	98.0	99.7	98.6	99.5
	Min	91.1	87	85.2	84.0	88.0	97.7
	Max	107.9	115.6	117.3	110.6	110.4	102.7
Turbidity, NTU	Avg	-0.51	-1.04	0.43	-0.17	1.01	1.51
	Min	-1.37	-1.64	-0.02	-0.87	-0.49	1.23
	Max	3.03	0.7	1.07	1.89	7.10	2.10
Total Dissolved Solids, g/L	Avg	0.02	0.02	0.02	0.03	0.03	0.02
	Min	0.01	0.01	0.02	0.02	0.01	0.02
	Max	0.03	0.02	0.03	0.04	0.05	0.02

Notes:

Deployment Period – June 4 to November 12, 2024

**Table B2-2**  
**Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station**  
**NF02YN0048 (Valentine River Outlet)**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Parameter		Month					
		Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024
Water Temperature, °C	Avg	17.11	21.71	20.31	15.17	8.06	3.52
	Min	11.83	15.51	13.08	8.90	2.33	0.88
	Max	25.42	28.61	27.15	22.59	13.46	7.08
pH	Avg	6.97	7.07	7.36	7.29	7.02	6.84
	Min	6.79	6.76	7.11	6.78	5.85	6.80
	Max	7.09	7.45	7.92	7.79	7.85	6.87
Specific Conductance, µS/cm	Avg	23.58	25.16	27.73	27.56	28.79	26.09
	Min	22.31	23.52	25.66	25.53	25.83	25.50
	Max	24.85	27.31	30.47	29.19	32.27	26.52
Dissolved Oxygen, mg/L	Avg	9.75	8.86	8.84	9.90	11.58	13.13
	Min	8.33	7.64	7.82	8.55	9.90	11.84
	Max	10.81	10.08	10.49	11.57	13.86	14.18
Percent Saturation, %	Avg	100.9	100.6	97.6	98.2	97.6	98.8
	Min	99.3	95.0	93.1	92.0	90.8	97.2
	Max	103.6	103.8	104.5	108.1	110.3	100.8
Turbidity, NTU	Avg	-0.26	-0.20	0.24	0.24	0.94	0.46
	Min	-0.34	-0.35	-0.06	-0.09	-0.10	0.37
	Max	-0.19	1.14	40.36	0.80	363.3	0.67
Total Dissolved Solids, g/L	Avg	0.02	0.02	0.02	0.02	0.02	0.02
	Min	0.01	0.02	0.02	0.02	0.02	0.02
	Max	0.02	0.02	0.02	0.02	0.02	0.02

Notes:

Deployment Period – June 4 to November 12, 2024

**Table B2-3**  
**Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station**  
**NF02YN0049 (Roebucks Brook)**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Parameter		Month					
		Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024
Water Temperature, °C	Avg	17.24	21.18	18.62	13.48	8.83	-
	Min	12.22	14.71	10.77	6.93	4.98	-
	Max	25.69	29.11	26.53	21.72	12.41	-
pH	Avg	6.78	7.05	13.40	9.36	7.18	-
	Min	6.39	6.77	7.13	6.84	6.33	-
	Max	7.02	7.30	15.25	14.32	7.41	-
Specific Conductance, µS/cm	Avg	21.43	34.39	54.91	55.91	47.87	-
	Min	17.11	21.30	44.38	50.14	40.35	-
	Max	27.95	46.43	84.95	82.60	66.92	-
Dissolved Oxygen, mg/L	Avg	9.38	8.47	8.44	9.52	11.05	-
	Min	7.87	6.97	6.45	7.66	9.99	-
	Max	10.43	9.77	10.49	11.34	12.37	-
Percent Saturation, %	Avg	97.3	95.1	90.1	91.1	95.1	-
	Min	92.0	82.4	69.4	77.6	90.2	-
	Max	101.7	102.1	107.0	107.1	104.1	-
Turbidity, NTU	Avg	3.98	3.87	4.54	3.52	4.01	-
	Min	1.62	0.17	0.16	0.12	0.40	-
	Max	43.44	1,545	637.7	319.1	423.7	-
Total Dissolved Solids, g/L	Avg	0.02	0.02	0.04	0.04	0.03	-
	Min	0.01	0.02	0.03	0.03	0.03	-
	Max	0.02	0.03	0.06	0.05	0.04	-

Notes:

Deployment Period – June 4 to October 22, 2024

**Table B2-4**  
**Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station**  
**NF02YN0050 (Victoria River Tributary)**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Parameter		Month					
		Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024
Water Temperature, °C	Avg	17.09	20.51	18.54	13.92	7.77	3.57
	Min	11.22	14.33	12.25	8.63	1.80	0.03
	Max	27.30	26.02	23.84	18.49	11.83	8.42
pH	Avg	7.54	7.72	7.91	7.93	7.57	7.29
	Min	7.25	7.54	7.66	7.35	6.65	6.65
	Max	7.72	8.02	8.04	8.05	7.94	7.48
Specific Conductance, µS/cm	Avg	71.32	129.47	161.72	171.44	142.33	89.27
	Min	34.19	82.02	136.75	15.341	37.31	37.31
	Max	111.85	168.18	189.31	186.72	184.07	129.78
Dissolved Oxygen, mg/L	Avg	9.62	8.50	8.57	9.75	11.65	13.27
	Min	7.64	7.02	7.24	8.29	10.11	10.11
	Max	10.94	10.17	10.36	11.24	14.18	14.66
Percent Saturation, %	Avg	99.4	94.3	91.3	94.2	97.5	99.8
	Min	95.1	81.1	80.6	87.9	93.2	93.2
	Max	102.4	101.3	99.0	100.2	102.3	101.9
Turbidity, NTU	Avg	0.41	-0.56	-3.51	-1.00	7.14	34.36
	Min	0.12	-3.79	-3.77	-3.65	-0.02	-0.02
	Max	1.53	1.28	-0.42	1.02	4,524	4,799
Total Dissolved Solids, g/L	Avg	0.05	0.08	0.11	0.11	0.09	0.06
	Min	0.02	0.05	0.09	0.10	0.02	0.02
	Max	0.07	0.11	0.12	0.12	0.12	0.08

Notes:

Deployment Period – June 4 to November 12, 2024

**Table B2-5**  
**Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station**  
**NF02YN0051 (Victoria River at Beothuk)**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Parameter		Month					
		Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024
Water Temperature, °C	Avg	19.50	21.62	20.55	15.65	8.76	3.79
	Min	16.11	9.87	13.94	10.31	3.88	1.66
	Max	25.69	33.29	26.26	23.25	14.23	6.17
pH	Avg	7.08	7.41	7.45	7.55	7.37	6.93
	Min	6.94	-3.84	7.22	7.32	6.54	6.85
	Max	7.21	16.53	7.73	7.71	7.66	6.98
Specific Conductance, µS/cm	Avg	24.44	20.92	34.62	34.41	36.59	25.95
	Min	22.52	0.00	31.30	29.54	25.87	25.29
	Max	27.20	39.32	39.14	41.17	44.39	26.81
Dissolved Oxygen, mg/L	Avg	9.88	9.21	9.15	10.09	11.72	13.26
	Min	8.69	7.40	8.26	8.86	10.38	12.43
	Max	10.65	11.48	10.54	11.27	13.53	14.01
Percent Saturation, %	Avg	107.4	104.2	101.5	101.2	100.6	100.5
	Min	105.6	86.0	97.0	97.2	96.7	98.9
	Max	110.1	114.9	106.5	106.5	103.4	102.3
Turbidity, NTU	Avg	0.19	1.94	0.30	-0.13	0.54	0.80
	Min	0.04	-0.09	0.10	-0.64	-0.45	0.69
	Max	0.46	15.21	4.72	0.82	3.39	0.99
Total Dissolved Solids, g/L	Avg	0.02	0.01	0.02	0.03	0.03	0.02
	Min	0.01	0.00	0.02	0.02	0.02	0.02
	Max	0.02	0.03	0.03	0.03	0.03	0.02

Notes:

Deployment Period – June 13 to November 12, 2024

**Table B2-6**  
**Summary of Water Quality Statistics for 2024 Deployment Period of NLDECC Real-Time Monitoring Station**  
**NF02YN0052 (Frozen Ears Lake Outlet)**  
**Valentine Gold Project: Surface Water Follow-up Monitoring Program**  
**Calibre Mining**

Parameter		Month					
		Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024
Water Temperature, °C	Avg	19.08	22.11	19.95	14.66	8.01	3.34
	Min	15.70	15.09	10.38	6.95	2.27	0.68
	Max	26.60	32.01	30.81	25.88	15.43	6.42
pH	Avg	7.13	7.35	7.40	7.35	7.31	7.21
	Min	6.84	6.93	6.92	6.98	5.85	7.03
	Max	7.53	8.49	8.53	7.96	7.84	7.31
Specific Conductance, µS/cm	Avg	51.20	58.89	66.17	63.93	63.82	70.99
	Min	47.86	53.22	56.00	51.35	53.15	64.14
	Max	54.57	70.19	78.24	76.38	71.57	74.58
Dissolved Oxygen, mg/L	Avg	9.37	8.66	7.90	8.67	11.01	12.87
	Min	7.84	5.19	3.83	5.83	7.76	11.81
	Max	10.41	11.13	11.96	12.31	12.82	13.61
Percent Saturation, %	Avg	101.2	99.5	87.5	85.8	92.9	96.4
	Min	84.1	59.4	42.8	59.8	68.9	91.7
	Max	118.5	133.7	148.6	143.3	120.4	102.4
Turbidity, NTU	Avg	4.58	0.74	0.65	0.22	3.14	7.32
	Min	2.08	0.15	0.24	-0.41	-0.36	5.18
	Max	9.87	3.12	7.10	3.14	66.28	9.10
Total Dissolved Solids, g/L	Avg	0.03	0.04	0.04	0.04	0.04	0.05
	Min	0.03	0.03	0.04	0.03	0.03	0.04
	Max	0.04	0.05	0.05	0.05	0.05	0.05

Notes:

Deployment Period – June 11 to November 13, 2024

## **Appendix C      Hydrometric Station Summaries**



### Hydrometric Monitoring Station Summary

Station ID	WFP-HS9	Instruments Serial #	n/a
Location	Frozen Ear Lake Outlet	Measurements	Temperature, Water level
Installation Date	1-Oct-24	Spot Measurements	Water Quality, Flow
GPS Coordinates	489876.26 E, 5359593.40 N	Main Channel:	Rocky with moving bed
Access	Trail Access	Channel Bottom	Large cobbles, gravel and Silty substrate
Drainage Area	1.59 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Alders, low vegetation with Black spruce
Period of Record	Oct 1, 2024 to present	Comments:	This is the NLDECC Real Time Station NF02YN0052
Active	Year Round		



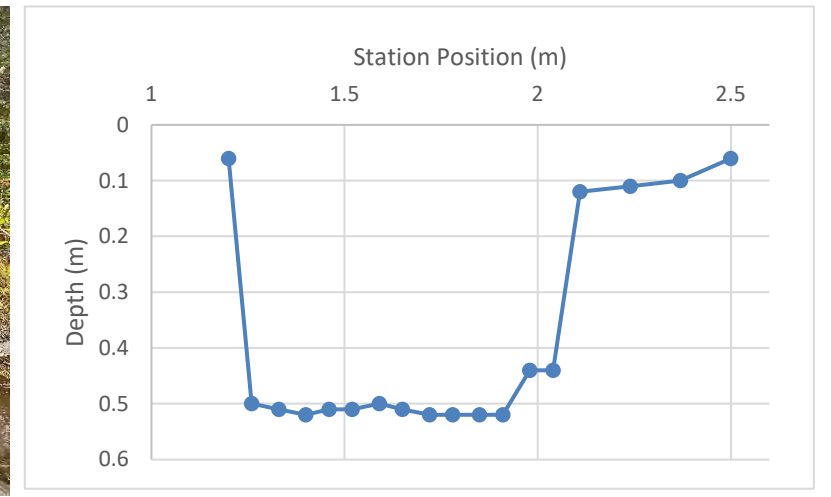
Map: Location



Photo 1: Looking Upstream



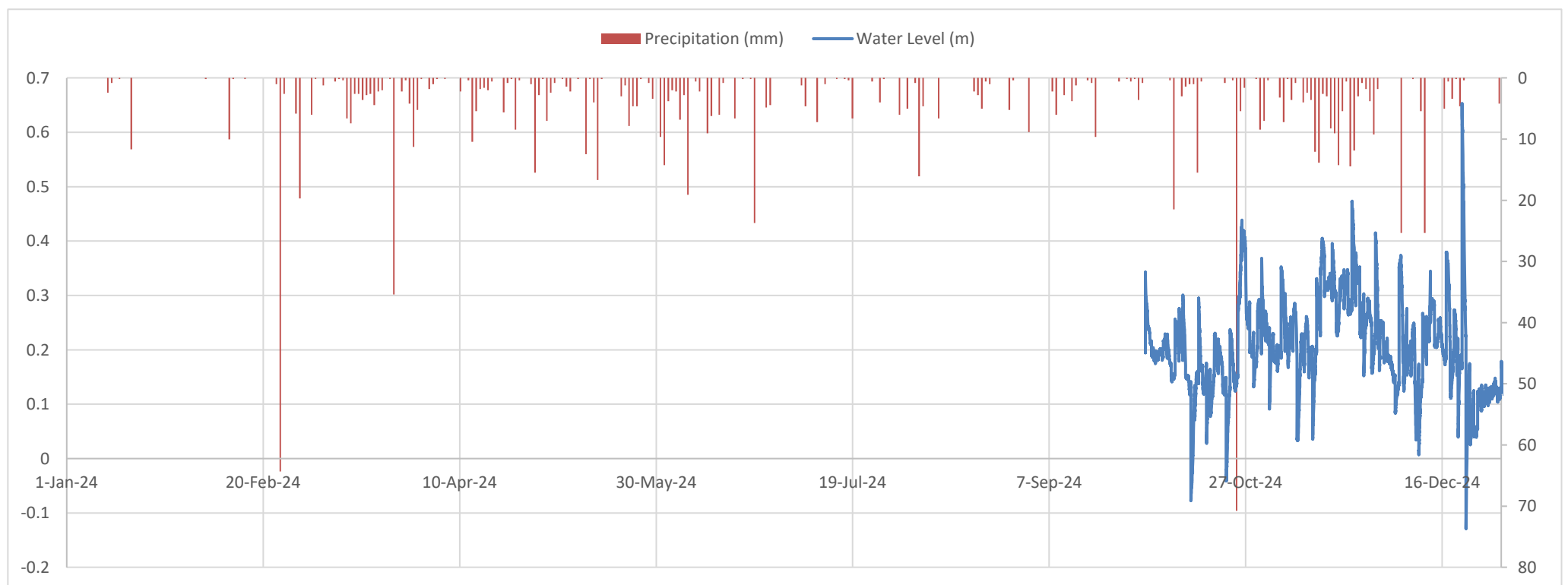
Photo 2: Looking Downstream



Cross Section Profile

#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
10/27/2024 12:48	-	0.062	4.9



### Hydrometric Monitoring Station Summary

Station ID	WFP-HS8	Instruments Serial #	n/a
Location	Victoria River Tributary	Measurements	Temperature, Water level
Installation Date	30-Sep-24	Spot Measurements	Water Quality, Flow
GPS Coordinates	494351.62 E, 5361700.61 N	Main Channel:	Rocky, moving bed
Access	Bridge on Main access Road	Channel Bottom	Gravel and cobbles with fines
Drainage Area		Flood Plain:	Grass and low vegetation, alders
Period of Record	9/30/2024 - present	Comments:	This station is the NLDECC Provincial Real Time Station NFO2YN0050
Active	Year Round		



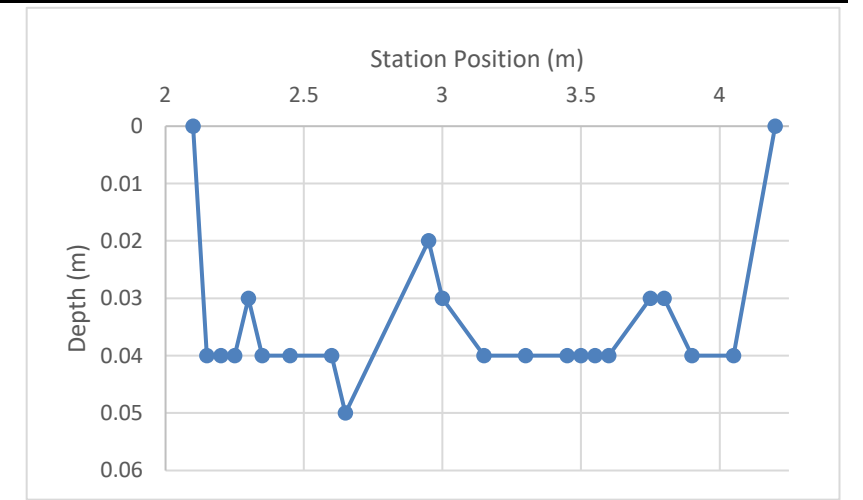
Map: Location



Photo 1: Looking Upstream



Photo 2: Looking Downstream



Cross Section Profile

#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
9/30/2024 16:45	-	0.005	3.8

### Hydrometric Monitoring Station Summary

Station ID	WFP-HS4	Instruments Serial #	Levellogger 02-2161602
Location	Leprechaun Pit Complex	Measurements	Temperature, Water Level
Installation Date	7-Sep-22	Spot Measurements	Water Quality, Flow
GPS Coordinates	48.34927011670 N, -57.18018510000 W	Main Channel:	Straight
Access	Marked 1 km trail south of existing access road at Leprechaun pit area	Channel Bottom	Thick mud
Drainage Area	1.00 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Wetland, short shrubs
Period of Record	9/7/2022 - Present	Comments:	Downstream of Leprechaun Pit and overburden stockpile. FlowTracker will sink in the mud if not held up at channel bed surface.
Active	Year Round		



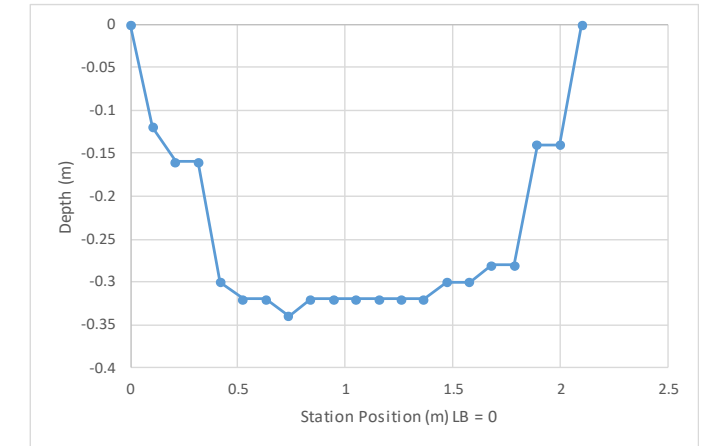
Map: Location



Photo 1: Looking Upstream



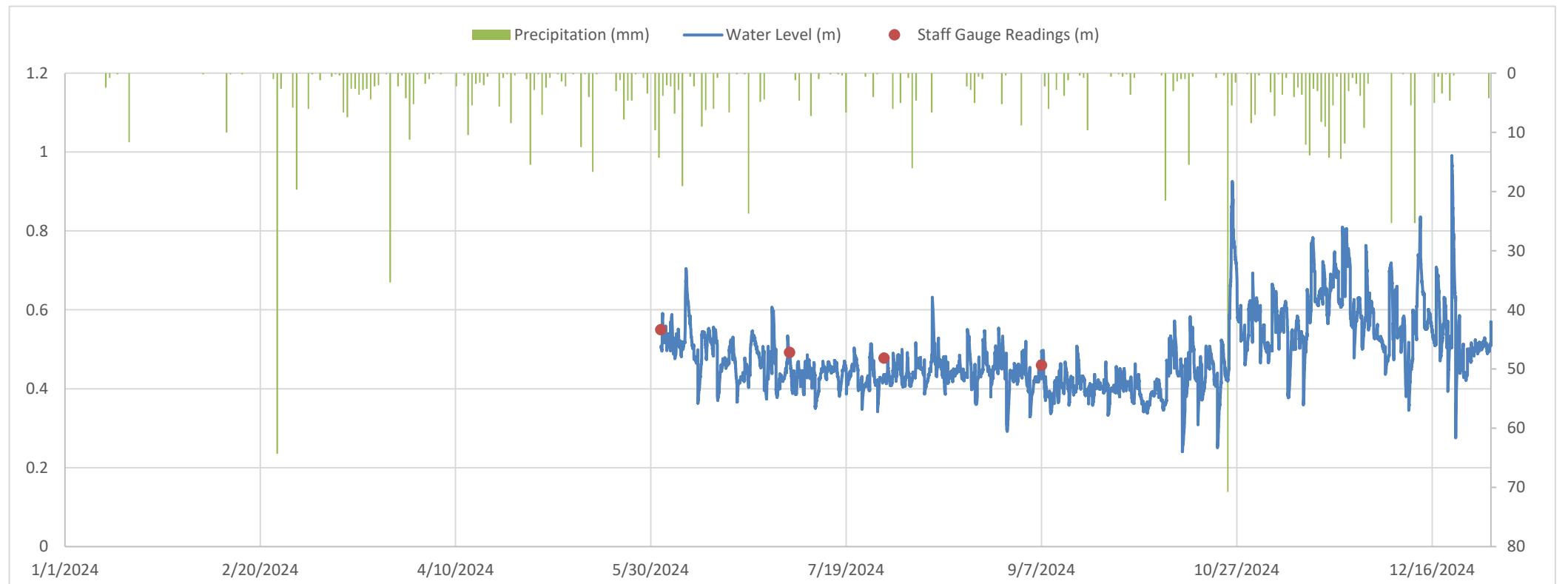
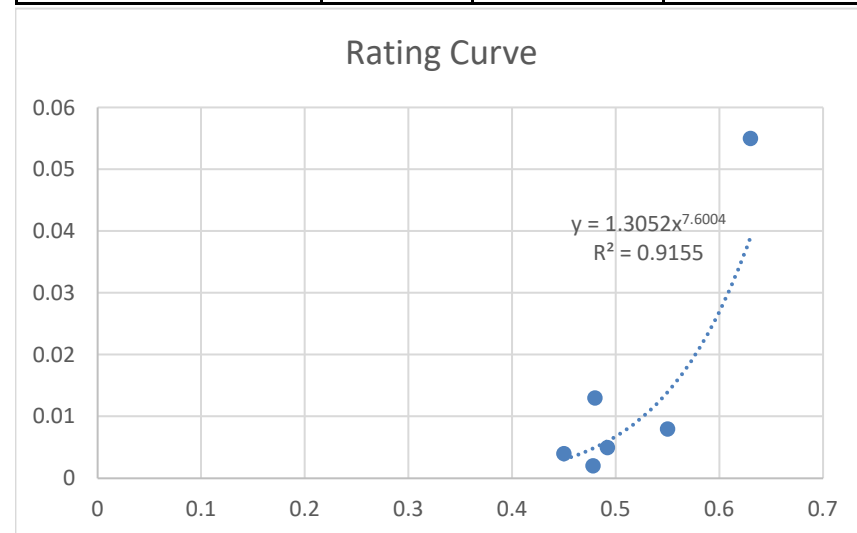
Photo 2: Looking Downstream



Cross Section Profile

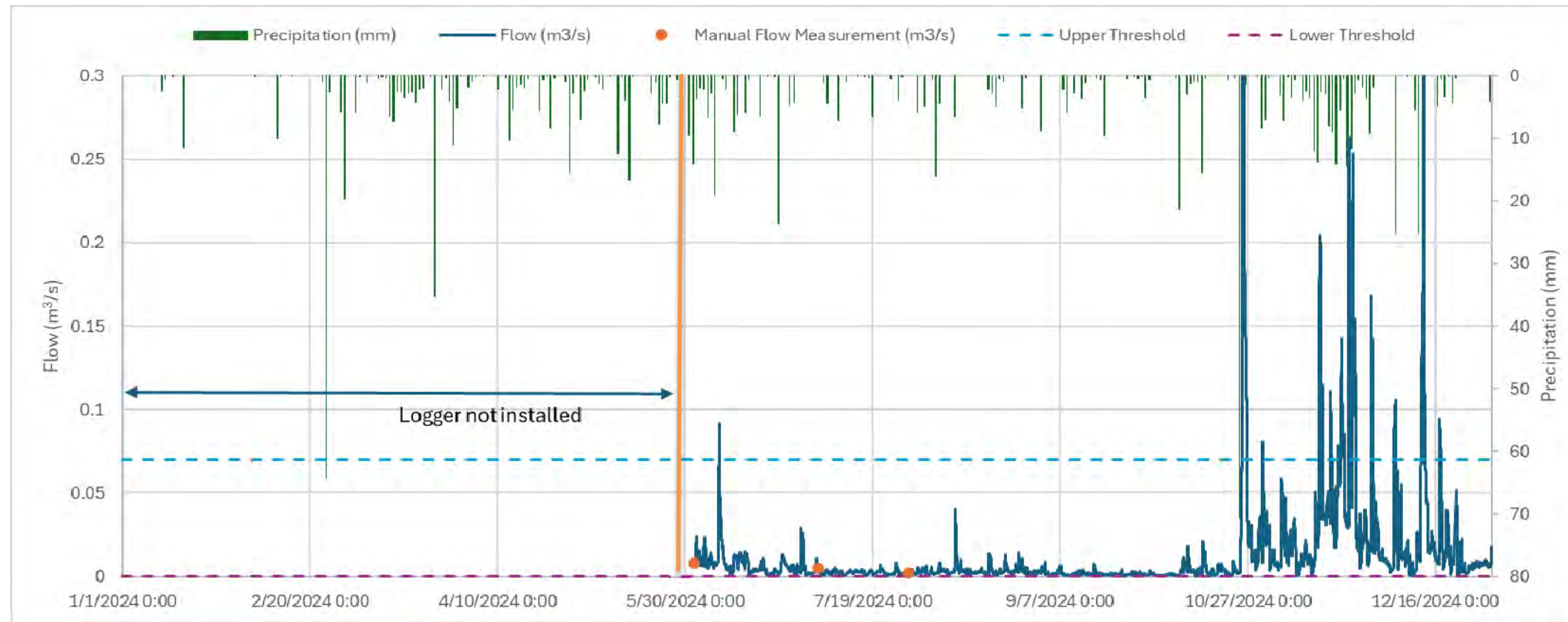
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/1/2024 12:32	0.55	0.008	
7/4/2024 12:10	0.492	0.005	
7/28/2024	0.478	0.002	
9/7/2024 0:00	0.46	no flow	-



### Hydrometric Monitoring Station Summary

Station ID	WFP-HS4 (continued)	Instruments Serial #	Levellogger 02-2161602
Location	Leprechaun Pit Complex	Measurements	Temperature, Water Level
Installation Date	7-Sep-22	Spot Measurements	Water Quality, Flow
GPS Coordinates	48.34927011670 N, -57.18018510000 W	Main Channel:	Straight
Access	Marked 1 km trail south of existing access road at Leprechaun pit area	Channel Bottom	Thick mud
Drainage Area	1.00 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Wetland, short shrubs
Period of Record	9/7/2022 - Present	Comments:	Downstream of Leprechaun Pit and overburden stockpile. FlowTracker will sink in the mud if not held up at channel bed surface.
Active	Year Round		



### Hydrometric Monitoring Station Summary

Station ID	MA-WQFP-45	Instruments Serial #	Levelogger 002-2161810
Location	Marathon Pit Complex	Measurements	Temperature, Water level
Installation Date	8-Sep-22	Spot Measurements	Water Quality, Flow
GPS Coordinates	48.40470791290 N, -57.09028006360 W	Main Channel:	Straight
Access	Exploration Access Road	Channel Bottom	Rock
Drainage Area	2.07 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Forested
Period of Record	9/8/2022 - Present	Comments:	Downstream of Marathon pit and waste rock storage areas
Active	Year Round		



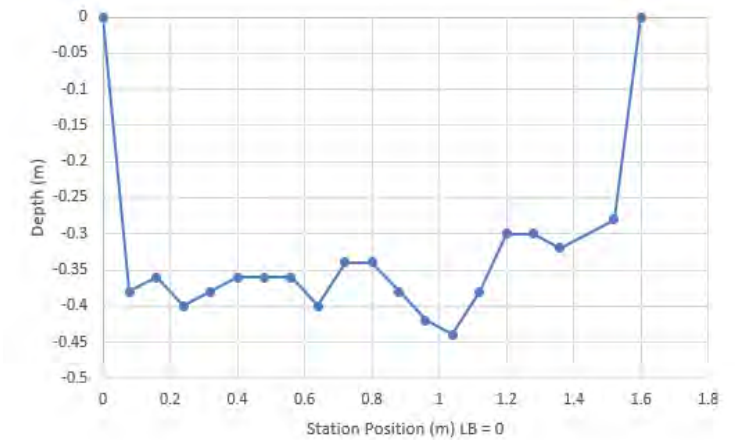
Map: Location



Photo 1: Looking Upstream



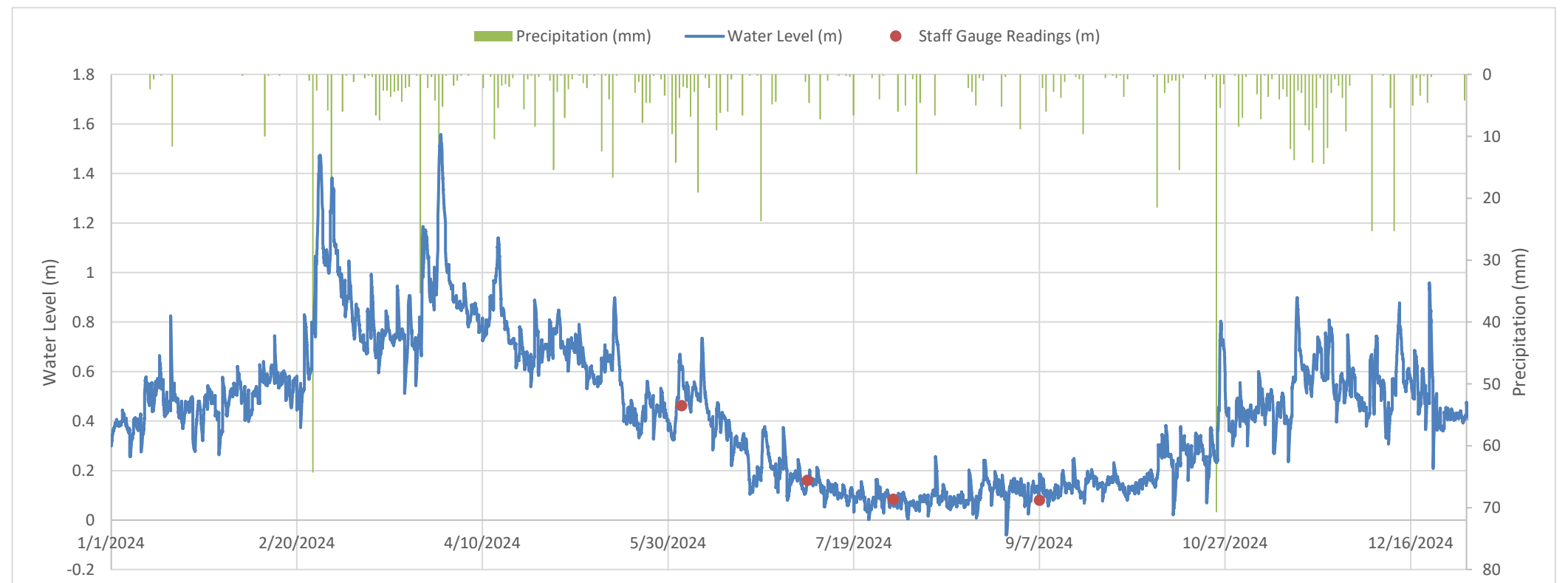
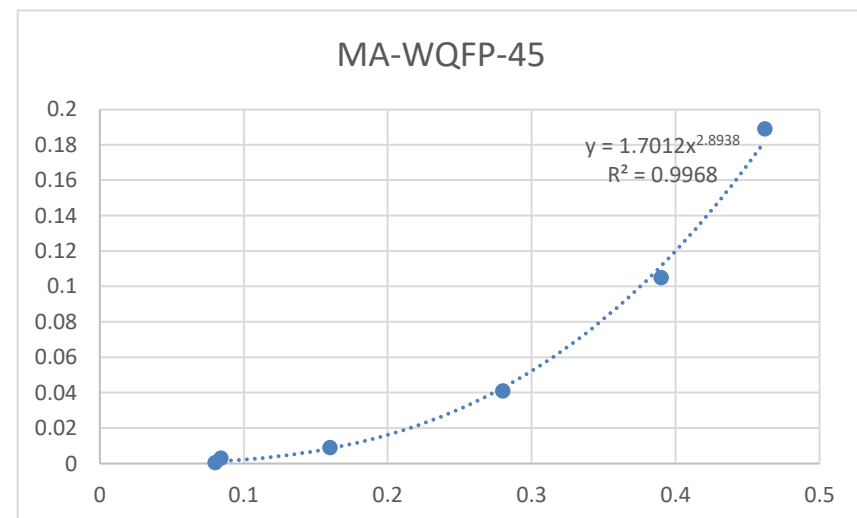
Photo 2: Looking Downstream



Cross Section Profile

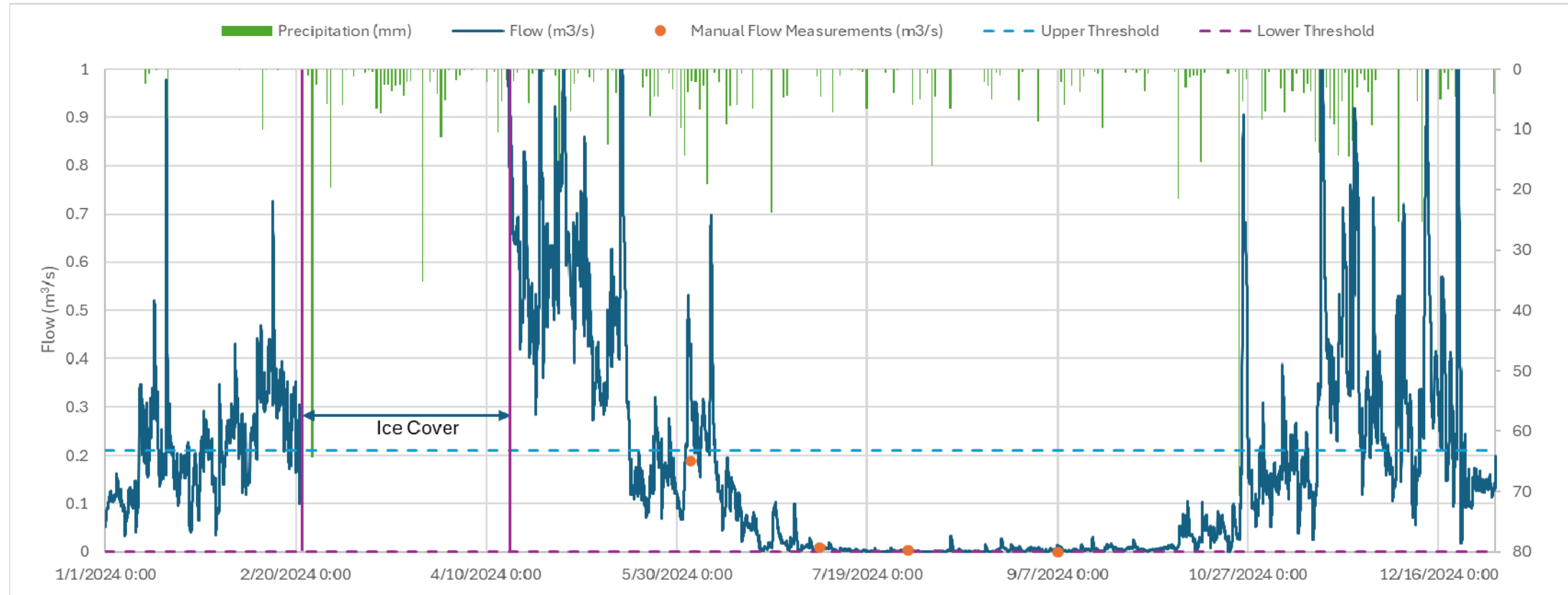
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/2/2024 15:40	0.462	0.189	4.88
7/6/2024 11:30	0.16	0.009	5.29
7/29/2024 16:15	0.084	0.003	6.33
9/7/2024	0.08	0.0005	9.21



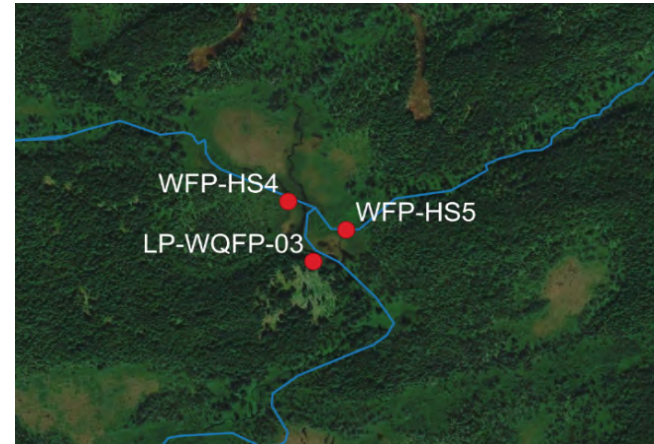
### Hydrometric Monitoring Station Summary

<b>Station ID</b>	MA-WQFP-45 (continued)	<b>Instruments Serial #</b>	Levellogger 002-2161810
<b>Location</b>	Marathon Pit Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	8-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.40470791290 N, -57.09028006360 W	<b>Main Channel:</b>	Straight
<b>Access</b>	Exploration Access Road	<b>Channel Bottom</b>	Rock
<b>Drainage Area</b>	2.07 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Forested
<b>Period of Record</b>	9/8/2022 - Present	<b>Comments:</b>	Downstream of Marathon pit and waste rock storage areas
<b>Active</b>	Year Round		



### Hydrometric Monitoring Station Summary

Station ID	WFP-HS5	Instruments Serial #	Levelogger 002-2161619
Location	Leprechaun Pit Complex	Measurements	Temperature, Water level
Installation Date	7-Sep-22	Spot Measurements	Water Quality, Flow
GPS Coordinates	48.3490236167 N, -57.17945030000 W	Main Channel:	Straight
Access	Marked 1 km trail south of existing access road at Leprechaun pit area	Channel Bottom	Rock
Drainage Area	0.99 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Wetland, short shrubs
Period of Record	9/7/2022 - Present	Comments:	Downstream of Leprechaun wasterock storage area
Active	Year Round		



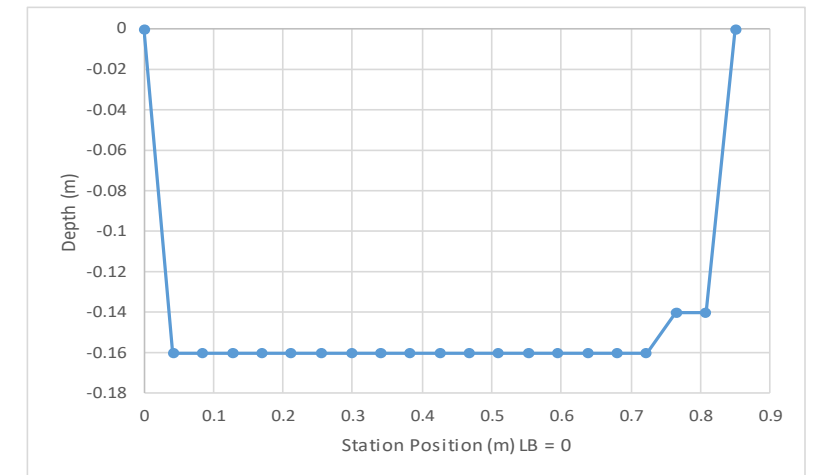
Map: Location



Photo 1: Looking Upstream



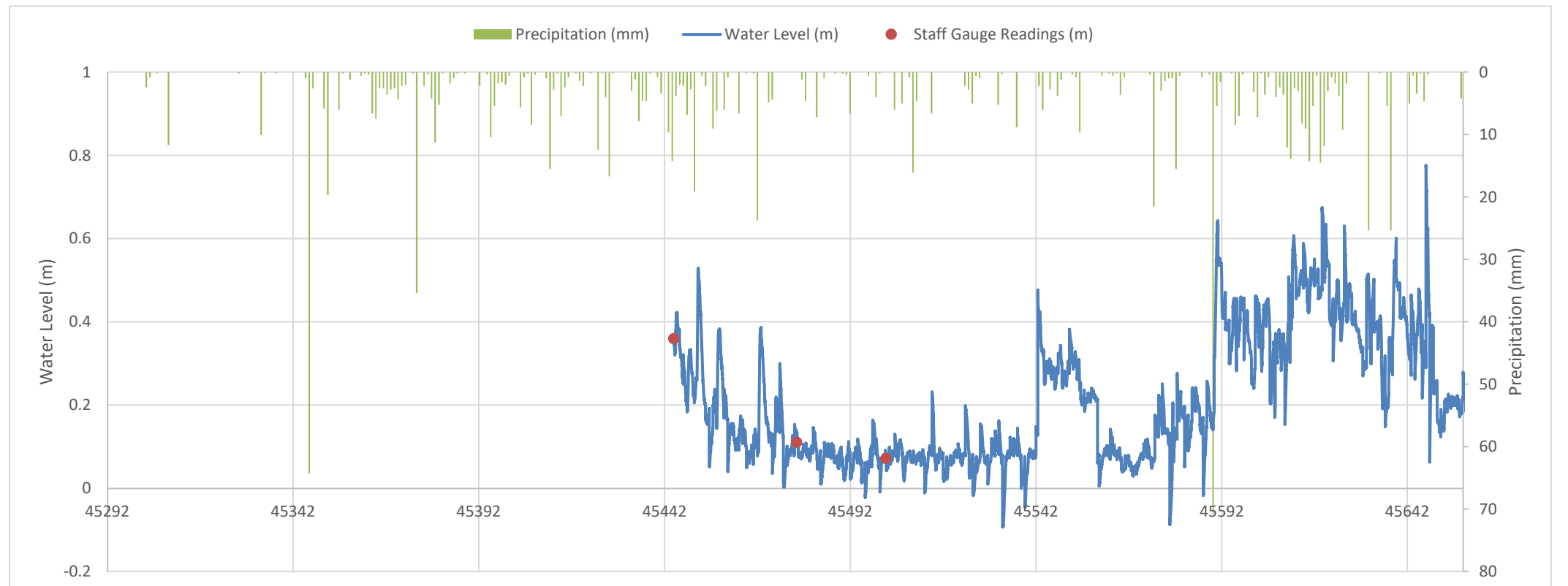
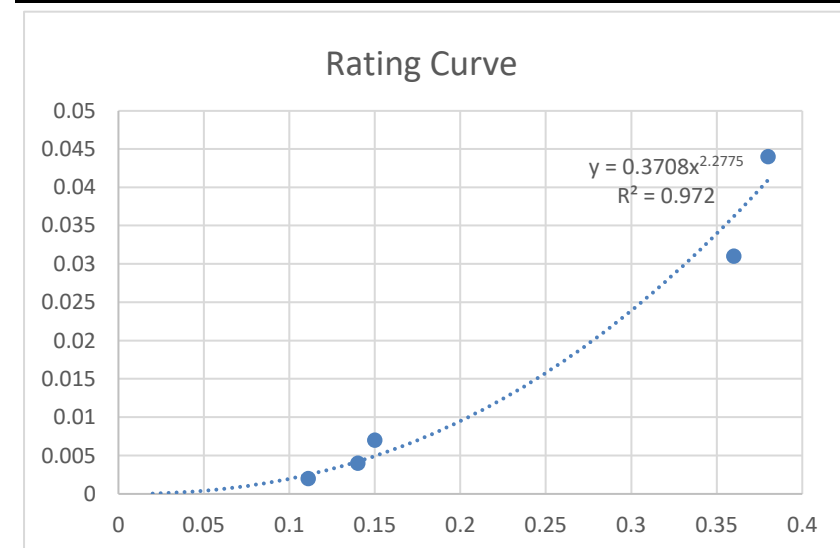
Photo 2: Looking Downstream



Cross Section Profile

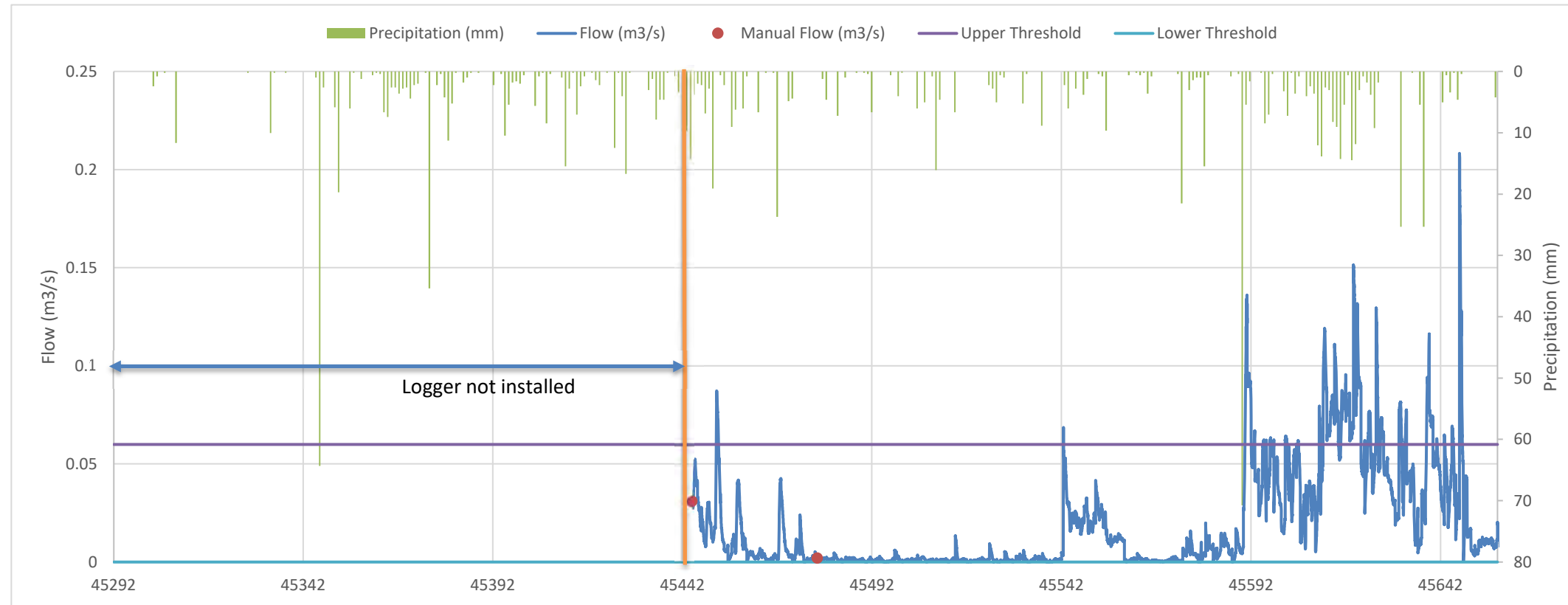
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	Uncertainty +/-
6/1/2024 11:44	0.36	0.031	
7/4/2024 13:55	0.111	0.002	
7/28/2024 14:30	0.0722	no flow	
9/7/2024	0.02	no flow	



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	WFP-HS5 (continued)	<b>Instruments Serial #</b>	Levellogger 002-2161619
<b>Location</b>	Leprechaun Pit Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	7-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.3490236167 N, -57.17945030000 W	<b>Main Channel:</b>	Straight
<b>Access</b>	Marked 1 km trail south of existing access road at Leprechaun pit area	<b>Channel Bottom</b>	Rock
<b>Drainage Area</b>	0.99 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Wetland, short shrubs
<b>Period of Record</b>	9/7/2022 - Present	<b>Comments:</b>	Downstream of Leprechaun wasterock storage area
<b>Active</b>	Year Round		



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	LP-WQFP-03	<b>Instruments Serial #</b>	Levelogger 002-2161619
<b>Location</b>	Leprechaun Pit Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	7-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.34874705000N, -57.17986563330W	<b>Main Channel:</b>	Straight
<b>Access</b>	Marked 1 km trail south of existing access road at Leprechaun pit area	<b>Channel Bottom</b>	Rock
<b>Drainage Area</b>	2.29 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Wetland, short shrubs
<b>Period of Record</b>	9/7/2022 - Present	<b>Comments:</b>	Downstream of Leprechaun pit, overburden stockpile and waste rock storage area
<b>Active</b>	Year Round		



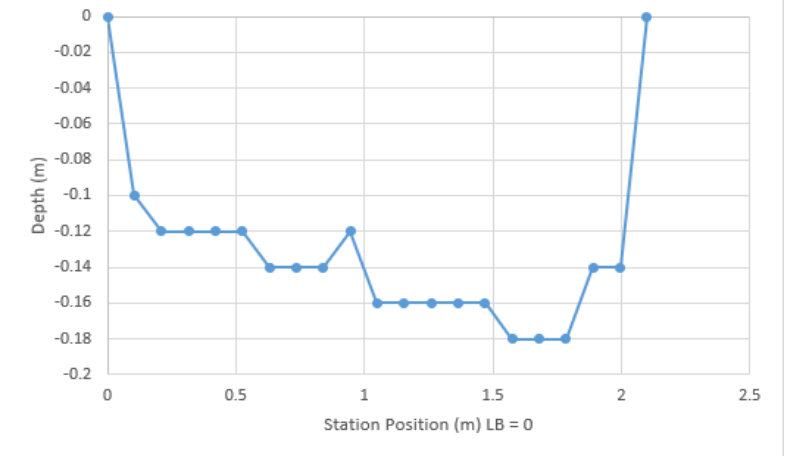
Map: Location



Photo 1: Looking Upstream



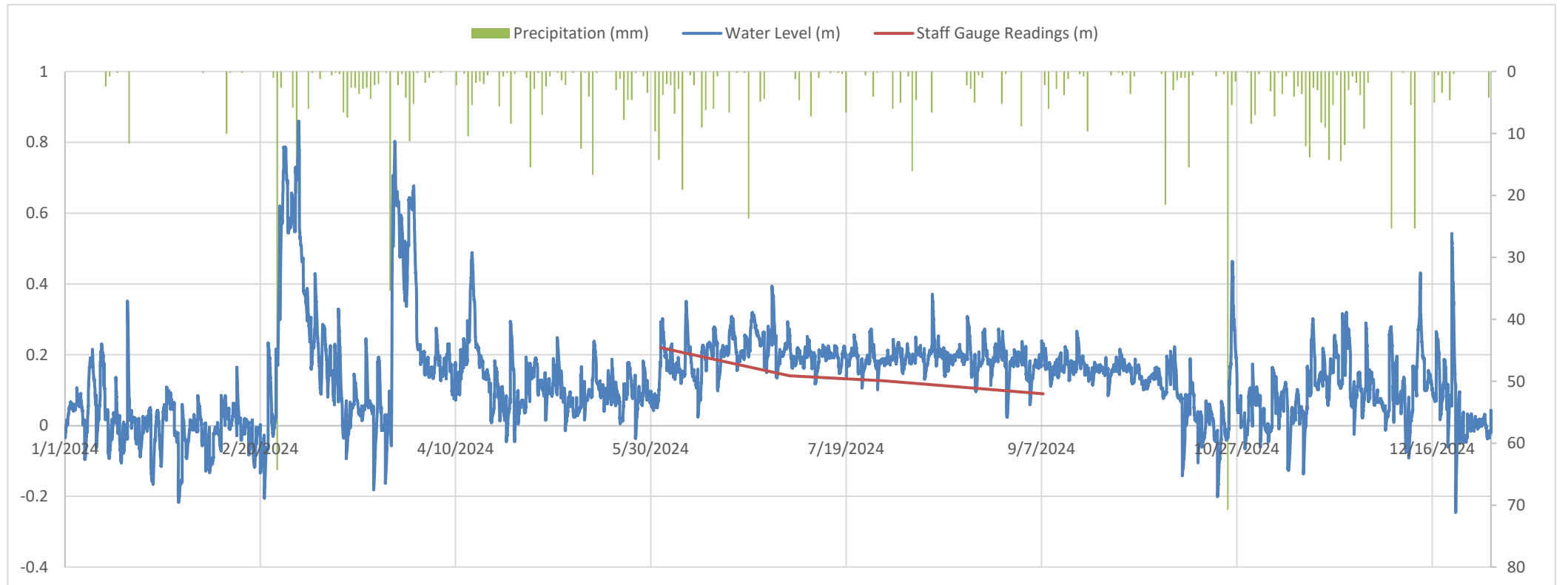
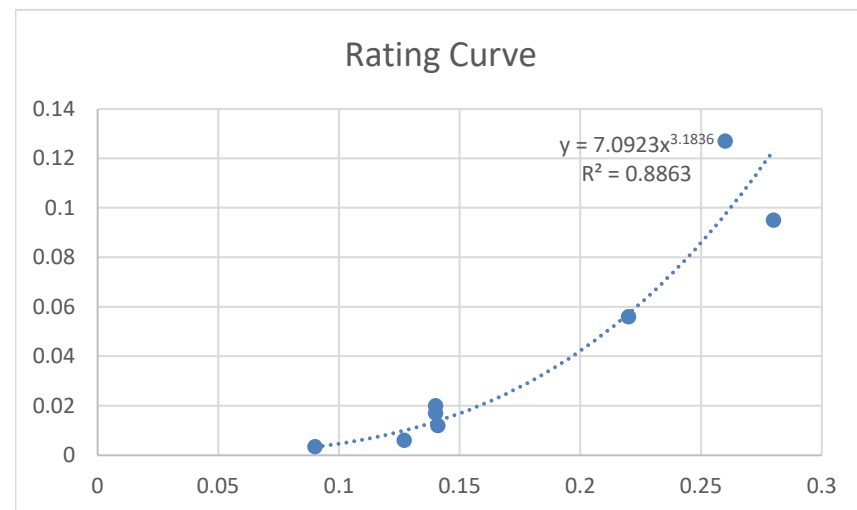
Photo 2: Looking Downstream



Cross Section Profile

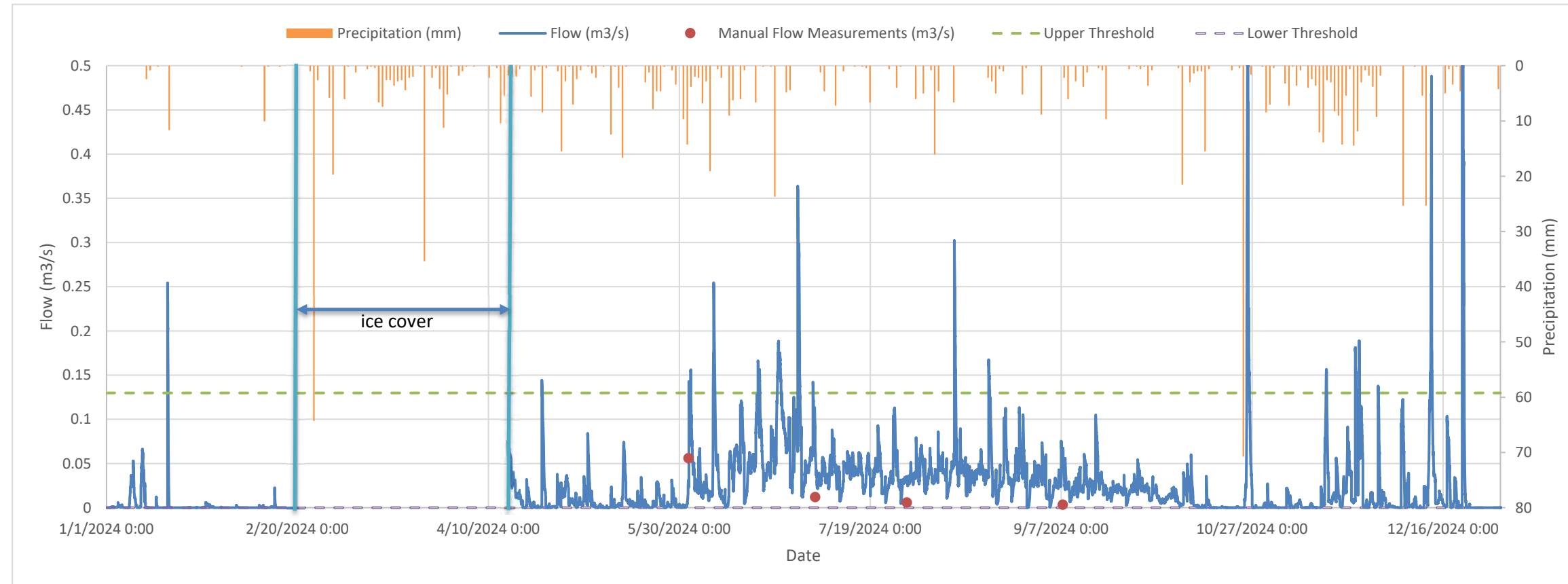
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/1/2024 10:26	0.22	0.056	4.96
7/4/2024	0.141	0.012	3.45
7/28/2024 13:30	0.127	0.006	4.32
9/7/2024 10:00	0.09	0.0035	4.46



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	LP-WQFP-03 (combined)	<b>Instruments Serial #</b>	Levellogger 002-2161619
<b>Location</b>	Leprechaun Pit Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	7-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.34874705000N, -57.17986563330W	<b>Main Channel:</b>	Straight
<b>Access</b>	Marked 1 km trail south of existing access road at Leprechaun pit area	<b>Channel Bottom</b>	Rock
<b>Drainage Area</b>	2.29 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Wetland, short shrubs
<b>Period of Record</b>	9/7/2022 - Present	<b>Comments:</b>	Downstream of Leprechaun pit, overburden stockpile and waste rock storage area
<b>Active</b>	Year Round		



### Hydrometric Monitoring Station Summary

Station ID	WFP-26	Instruments Serial #	Levelogger 002-2161620
Location	Leprechaun Pit Complex	Measurements	Temperature, Water level
Installation Date	9-Sep-22	Spot Measurements	Water Quality, Flow
GPS Coordinates	48.3479334831 N, -57.15796112130 W	Main Channel:	Straight/jagged
Access	Existing access road from Marathon exploration camp to Leprechaun pit area	Channel Bottom	Rocky
Drainage Area	1.17 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Rocky terraine with tall shrubs/trees
Period of Record	9/9/2022 - Present	Comments:	Downstream of Leprechaun waste rock storage area, low-grade ore stockpile and topsoil stockpile
Active	Year Round		



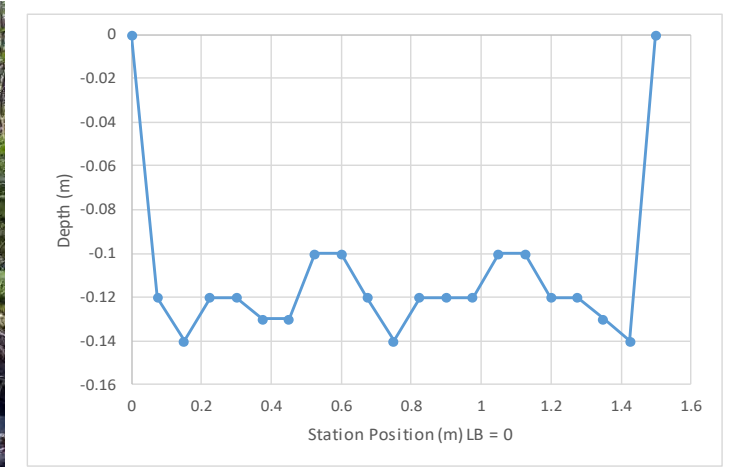
Map: Location



Photo 1: Looking Upstream



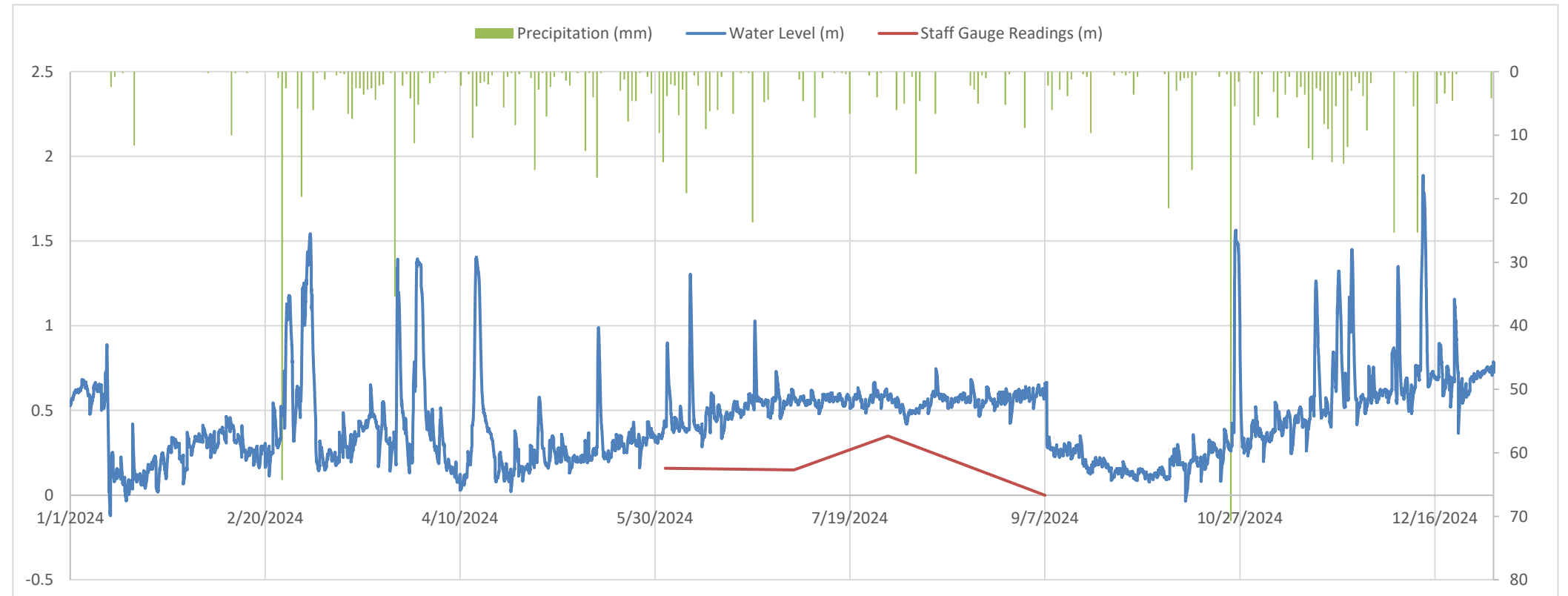
Photo 2: Looking Downstream



Cross Section Profile

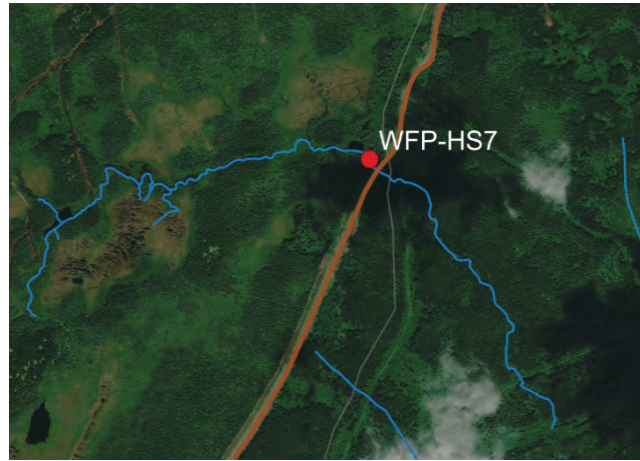
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/1/2024 14:30	0.16	0.001	6.35
7/4/2024 14:45	0.149	no flow	-
7/28/2024 17:30	0.35	no flow	-
9/7/2024	0	no flow	-



### Hydrometric Monitoring Station Summary

Station ID	WFP-HS7	Instruments Serial #	Levelogger 002-2161235
Location	Tailings Management Facility Complex	Measurements	Temperature, Water level
Installation Date	8-Sep-22	Spot Measurements	Water Quality, Flow
GPS Coordinates	48.3696392411 N, -57.11982568090W	Main Channel:	Straight/jagged
Access	Main access road to Marathon Area	Channel Bottom	Rocky
Drainage Area	1.59 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Rocky terrain with tall shrubs/trees
Period of Record	9/8/2022 - Present	Comments:	EIS flow monitoring station location
Active	Year Round		



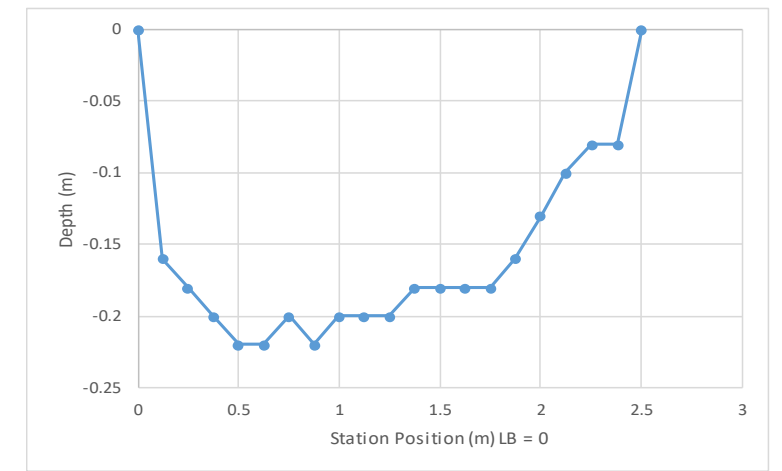
Map: Location



Photo 1: Looking Upstream



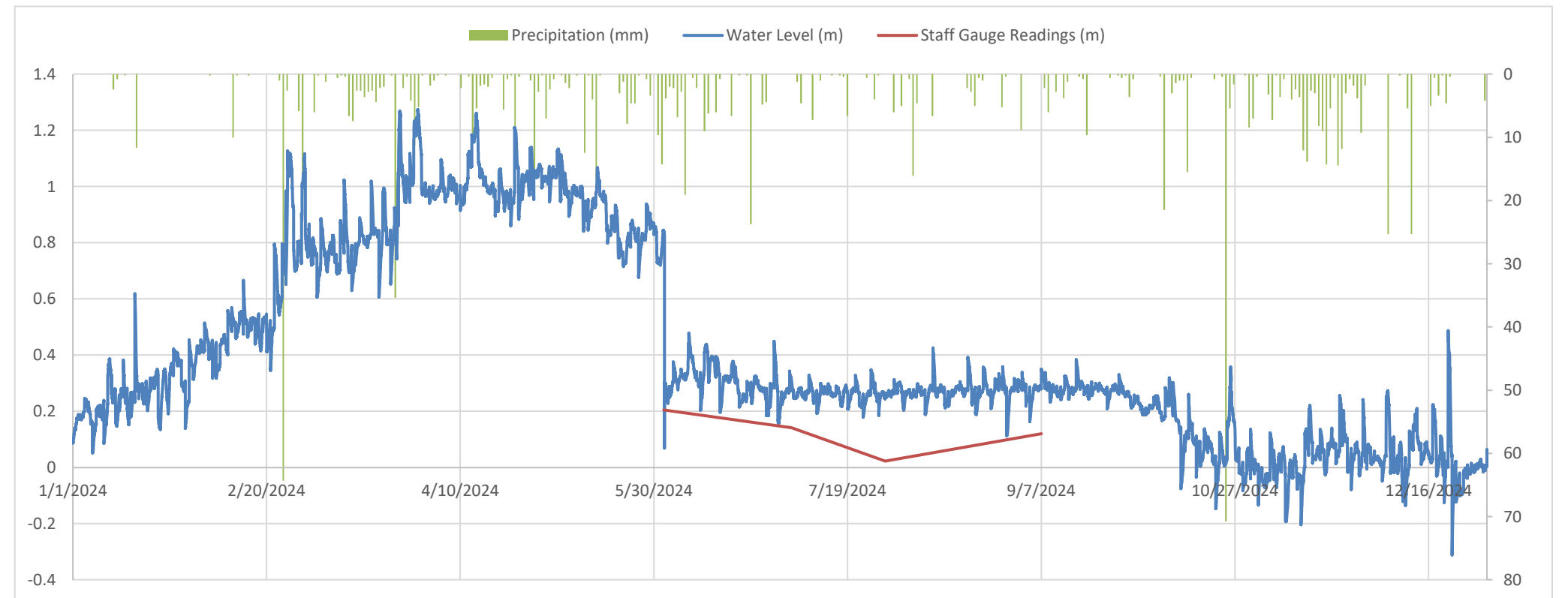
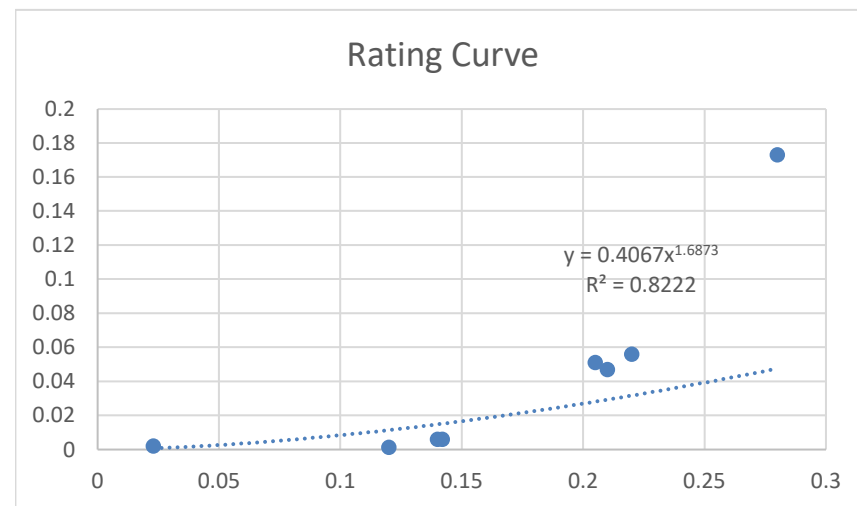
Photo 2: Looking Downstream



Cross Section Profile

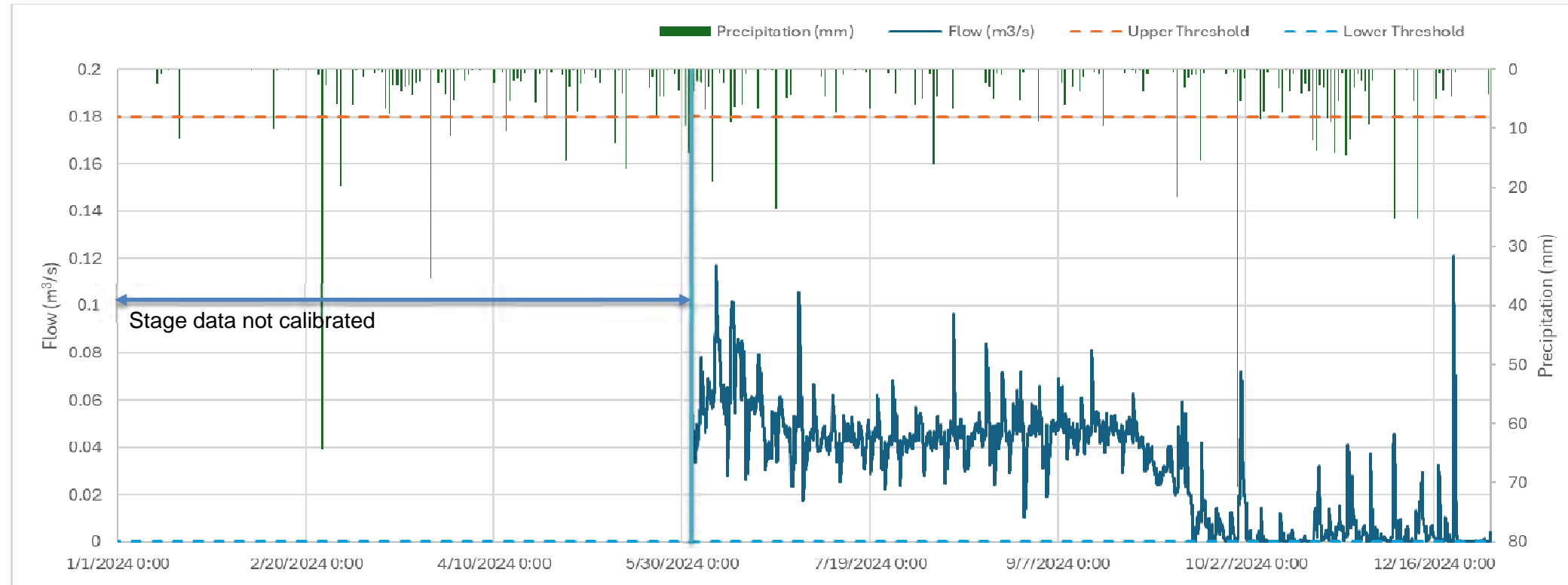
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/1/2024 16:07	0.205	0.051	3.29
7/3/2024 17:00	0.142	0.006	5.66
7/30/2024 8:45	0.023	0.002	4.82
9/7/2024 9:22	0.12	0.0013	6.14



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	WFP-HS7 (continued)	<b>Instruments Serial #</b>	Levelogger 002-2161235
<b>Location</b>	Tailings Management Facility Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	8-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.3696392411 N, -57.11982568090W	<b>Main Channel:</b>	Straight/jagged
<b>Access</b>	Main access road to Marathon Area	<b>Channel Bottom</b>	Rocky
<b>Drainage Area</b>	1.59 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Rocky terrain with tall shrubs/trees
<b>Period of Record</b>	9/8/2022 - Present	<b>Comments:</b>	EIS flow monitoring station location
<b>Active</b>	Year Round		



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	WFP-33	<b>Instruments Serial #</b>	Levelogger 002-2161604
<b>Location</b>	Tailings Management Facility Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	9-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.3764148181 N, -57.09359419480 W	<b>Main Channel:</b>	Straight
<b>Access</b>	Quad trail south of the main access road to Marathon, or quad trail from Victoria Lake Reservoir -	<b>Channel Bottom</b>	Rocky
<b>Drainage Area</b>	1.16 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Alders along the channel, grass in the flood plain
<b>Period of Record</b>	9/9/2022 - Present	<b>Comments:</b>	Meandering channel in a floodplain
<b>Active</b>	Year Round		



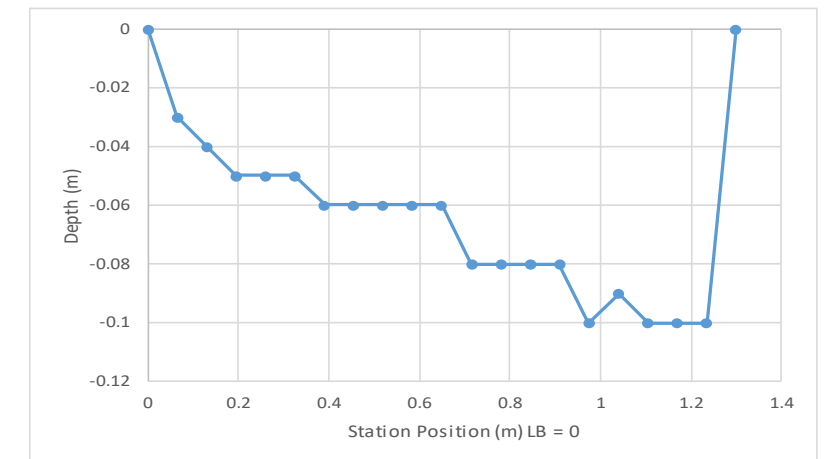
Map: Location



Photo 1: Looking Upstream



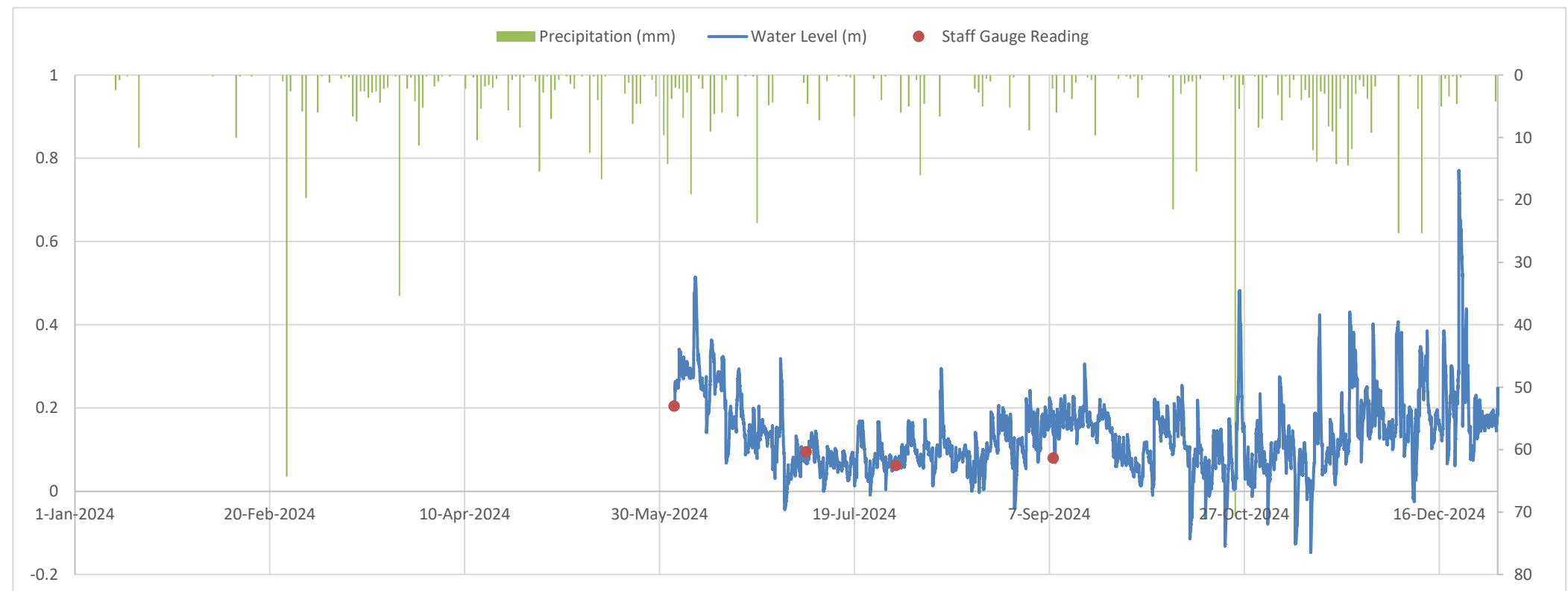
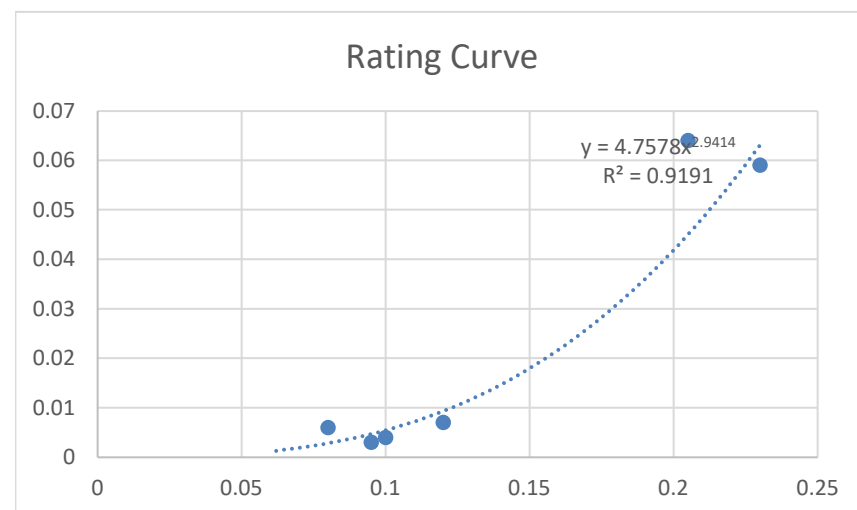
Photo 2: Looking Downstream



Cross Section Profile

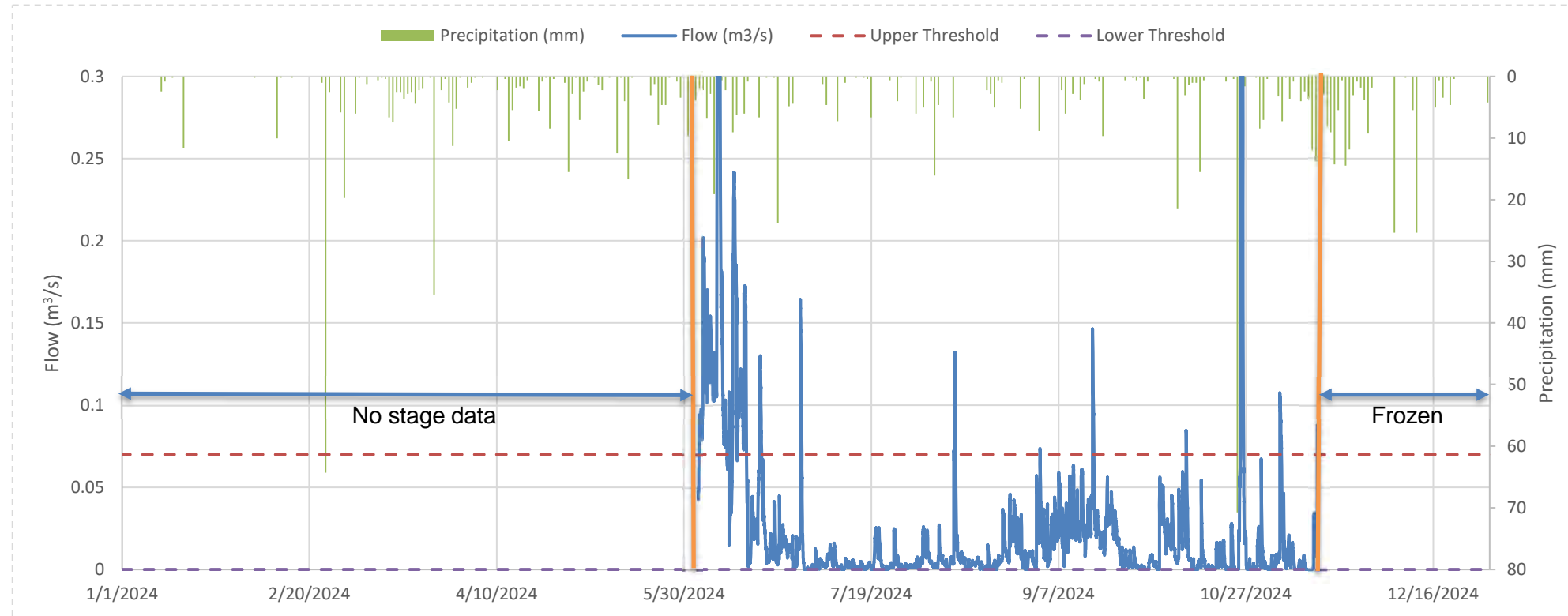
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/2/2024 17:15	0.205	0.064	4.55
7/6/2024 13:25	0.095	0.003	7.62
7/29/2024 14:50	0.062	no flow	-
8-Sep-24	0.08	0.006	6.95



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	WFP-33 (continued)	<b>Instruments Serial #</b>	Levelogger 002-2161604
<b>Location</b>	Tailings Management Facility Complex	<b>Measurements</b>	Temperature, Water level
<b>Installation Date</b>	9-Sep-22	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	48.3764148181 N, -57.09359419480 W	<b>Main Channel:</b>	Straight
<b>Access</b>	Quad trail south of the main access road to Marathon, or quad trail from Victoria Lake Reservoir -	<b>Channel Bottom</b>	Rocky
<b>Drainage Area</b>	1.16 km <sup>2</sup> (Existing Conditions)	<b>Flood Plain:</b>	Alders along the channel, grass in the flood plain
<b>Period of Record</b>	9/9/2022 - Present	<b>Comments:</b>	Meandering channel in a floodplain
<b>Active</b>	Year Round		



### Hydrometric Monitoring Station Summary

Station ID	RQFP-34	Instruments Serial #	n/a
Location	Reference watercourse site	Measurements	Temperature, dissolved oxygen, conductivity, turbidity, pH, water level
Installation Date	Future Installation Site	Spot Measurements	Water Quality, Flow
GPS Coordinates	499052E, 5376755N	Main Channel:	Straight
Access	Main access road to Marathon	Channel Bottom	Rocky
Drainage Area	22.85 km <sup>2</sup>	Flood Plain:	Forested
Period of Record	2023 to present	Comments:	NLDECC Real Time Monitoring Station ID: NF02YN0049
Active	Year Round for Water Level, Seasonal for Temperature/Water Quality		



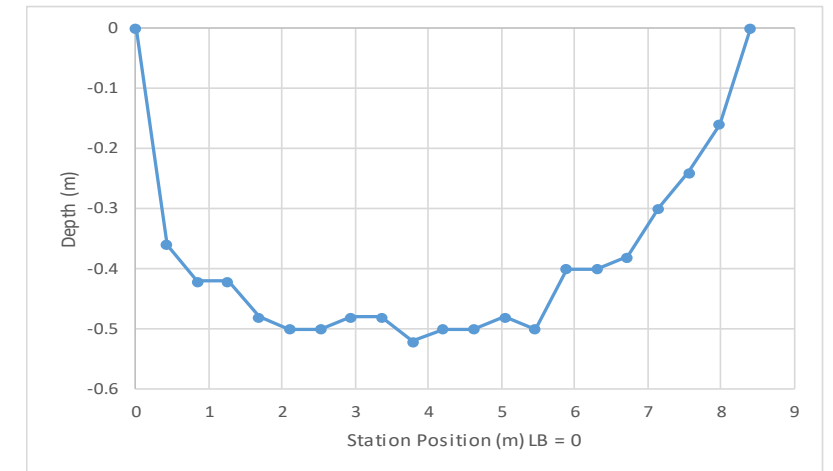
Map: Location



Photo 1: Looking Upstream



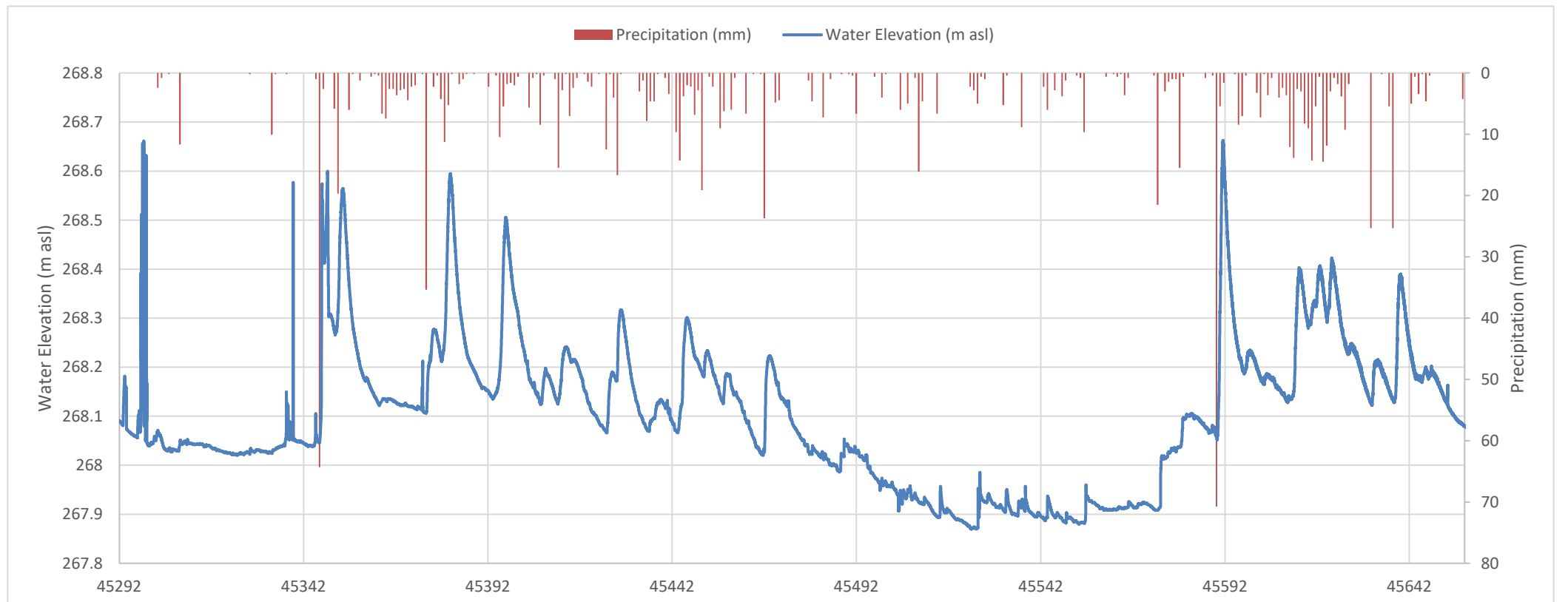
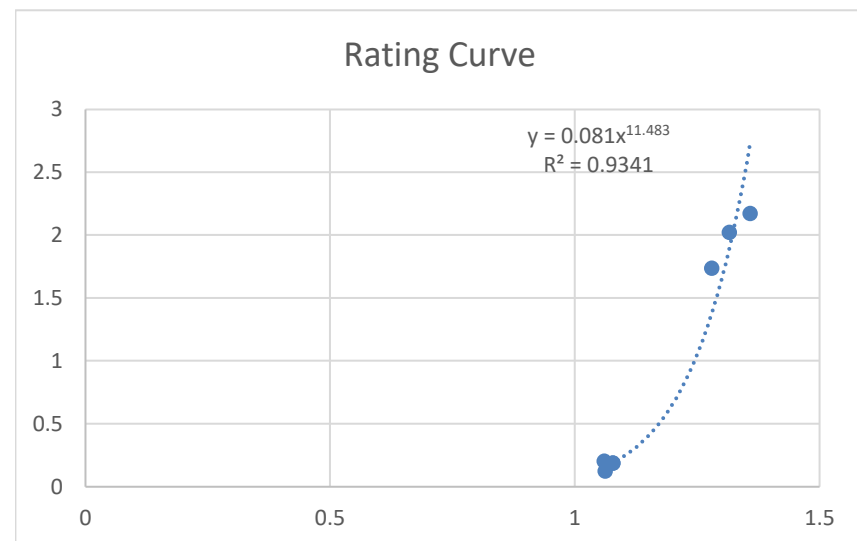
Photo 2: Looking Downstream



Cross Section Profile

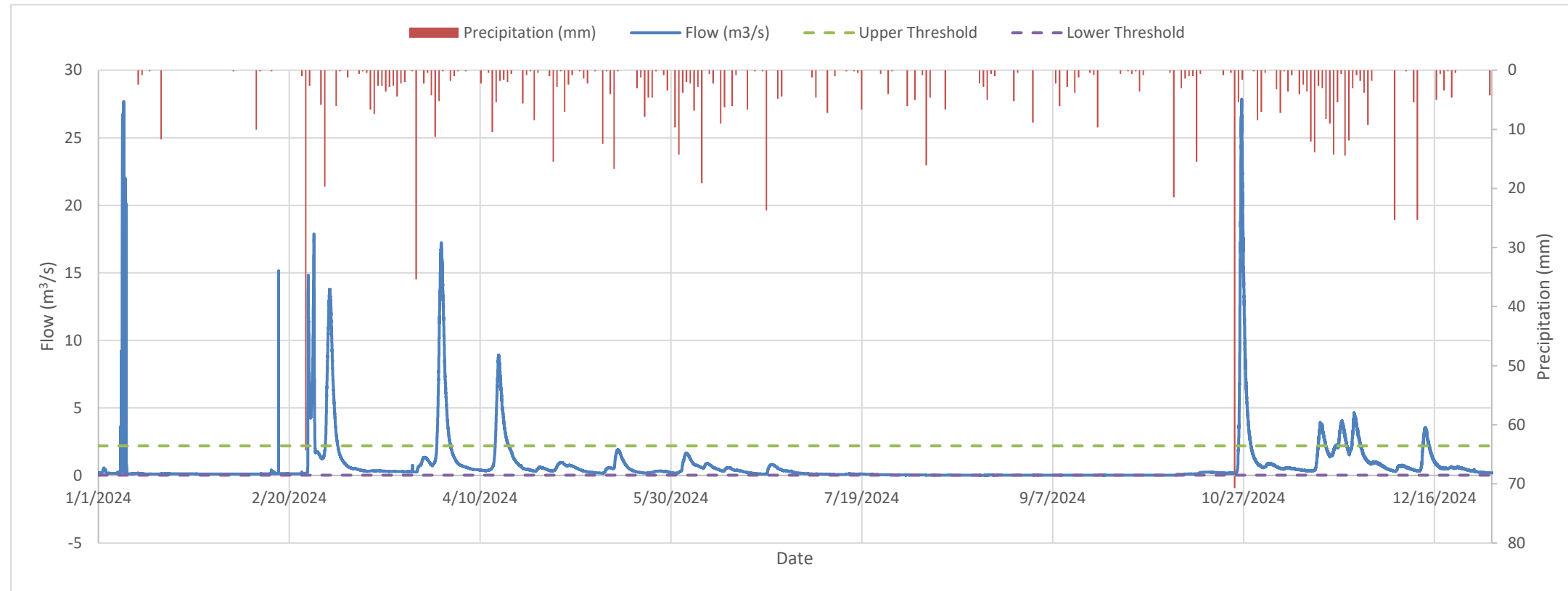
#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
6/2/2024 13:07	-	1.735	2.8
7/3/2024 14:00	-	0.123	6.4
10/23/2024 13:06	-	0.187	3.5



### Hydrometric Monitoring Station Summary

<b>Station ID</b>	RQFP-34 (continued)	<b>Instruments Serial #</b>	n/a
<b>Location</b>	Reference watercourse site	<b>Measurements</b>	Temperature, dissolved oxygen, conductivity, turbidity, pH, water level
<b>Installation Date</b>	Future Installation Site	<b>Spot Measurements</b>	Water Quality, Flow
<b>GPS Coordinates</b>	499052E, 5376755N	<b>Main Channel:</b>	Straight
<b>Access</b>	Main access road to Marathon	<b>Channel Bottom</b>	Rocky
<b>Drainage Area</b>	22.85 km <sup>2</sup>	<b>Flood Plain:</b>	Forested
<b>Period of Record</b>	2023 to present	<b>Comments:</b>	NLDECC Real Time Monitoring Station ID: NF02YN0049
<b>Active</b>	Year Round for Water Level, Seasonal for Temperature/Water Quality		



### Hydrometric Monitoring Station Summary

Station ID	WFP-05	Instruments Serial #	Levelogger 002-2161611 & Barologger 2161548
Location	North of and adjacent to waste rock pile from Marathon Pit. Northeast end Valentine Lake	Measurements	Stage, Water Temperature, Atmospheric Pressure, Air Temperature
Installation Date	25-Oct-23	Spot Measurements	Stage, Flow
GPS Coordinates	490803.88E 5361504.65N	Main Channel:	Meandering trapezoidal with steep vegetated banks
Access		Channel Bottom	Gravel
Drainage Area	0.8 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Hummocky grassland
Period of Record	10/25/2023 to present	Comments:	Relatively small channel flowing into Valentine Lake
Active	Year Round		



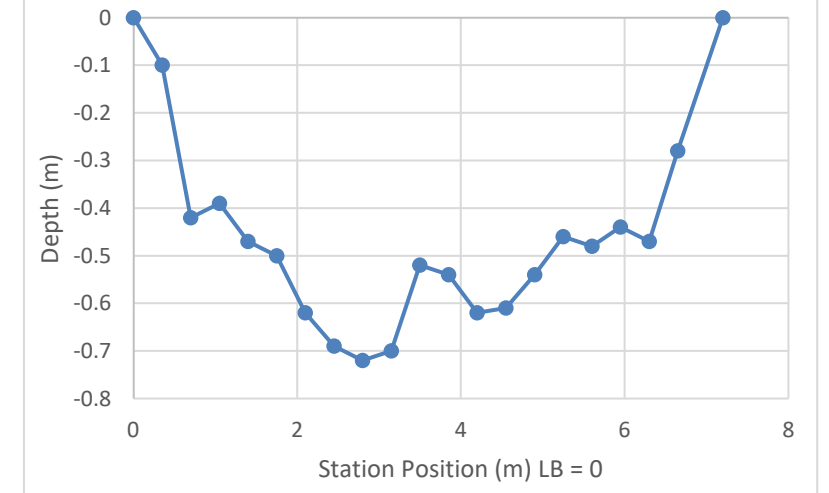
Map: Location



Photo 1: Looking Upstream



Photo 2: Looking Downstream



Cross Section Profile

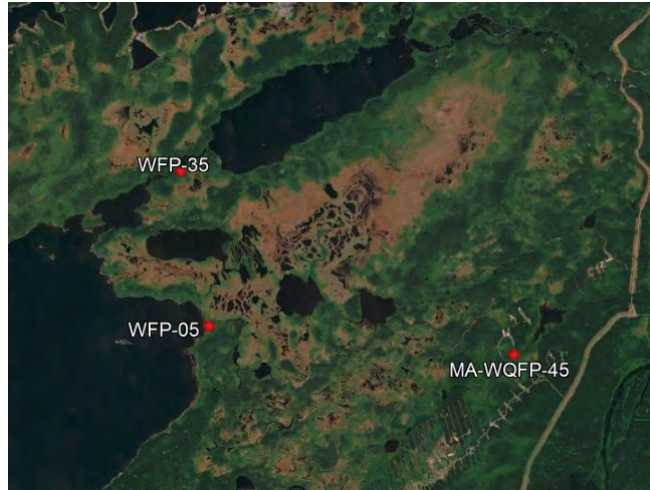
**2024 Manual Measurements**

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
No discharge or stage measurements taken in 2024			

No Water Level record for 2024

### Hydrometric Monitoring Station Summary

Station ID	WFP-35	Instruments Serial #	Levelogger 002-2161603
Location	Reference outflow from Valentine Lake	Measurements	Stage, Water Temp
Installation Date	25-Oct-23	Spot Measurements	Stage, Flow
GPS Coordinates	490568.27E 5362789.98N	Main Channel:	Straight trapezoidal channel
Access	Via Valentine Lake	Channel Bottom	Gravel armoured with cobbles and boulders
Drainage Area	28.5 km <sup>2</sup> (Existing Conditions)	Flood Plain:	Forrested
Period of Record	10/25/2023 to present	Comments:	
Active	Year Round		



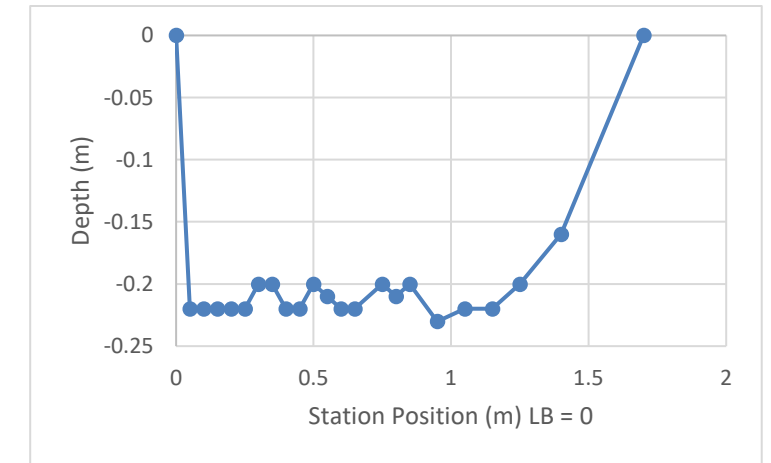
Map: Location



Photo 1: Looking Upstream



Photo 2: Looking Downstream



Cross Section Profile

#### 2024 Manual Measurements

Date Time	Stage (m)	Discharge (m <sup>3</sup> /s)	uncertainty (%)
No discharge or stage measurements taken in 2024			

