Valentine Gold Mine: Annual Report for the Federal Environmental Assessment – 2024 Reporting Period

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Abbreviations

AAQFMP	Ambient Air Quality Follow-up Monitoring Program
AFMP	Avifauna Follow-up Monitoring Program
AMPRP	Accidents and Malfunctions Prevention and Response Plan
ARD	Acid Rock Drainage
ARD/MLMP	Acid Rock Drainage and Metal Leaching Management Plan
ARU	Autonomous Recording Units
CCME	Canadian Council of Ministers of the Environment
CEAA	Canadian Environmental Assessment Act
CFFMP	Country Foods Follow-up Monitoring Program
CIM	Canadian Institute of Mining, Metallurgy, and Petroleum
CPEEMP	Caribou Protection and Environmental Effects Monitoring Plan
CWQG	Canadian Water Quality Guidelines
CWS	Canadian Wildlife Services
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
ECCC	Environment and Climate Change Canada
EEM	Environmental Effects Monitoring
EIS	Environmental Impact Statement
ENGO	Environmental Non-governmental Organizations
EP4	Equator Principles
EPA	Environmental Protection Act
EPP	Environmental Protection Plan
ERMA	Environment Resources Management Association
ERP	Emergency Response Plan
ESA	Environment Site Assessment
ESC	Erosion and Sediment Control
ESMS	Environmental and Social Management System
ESSR	Environment, Sustainability and Social Responsibility
FAA	Fisheries Act Authorization
FFHFMP	Fish and Fish Habitat Follow-up Monitoring Program
FRP	Fish Rescue Plan
GEMTEC	GEMTEC Consulting Engineers and Scientist Limited
GHG	Greenhouse Gas
GHGEFMP	Greenhouse Gas Emissions Follow-up Monitoring Program
GWFMP	Groundwater Follow-up Monitoring Program
ha	Hectares
HADD	Harmful Alteration, Disruption or Destruction
HGO	High Grade Ore

IAAC	Impact Assessment Agency of Canada
ICMI	International Cyanide Management Institute
ITRB	Independent Tailings Review Board
km	Kilometre
L	Litre
LGO	Low Grade Ore
LOM	Life of Mine
MAC	Mining Association of Canada
MDMER	Metal and Diamond Mining Effluent Regulations
MFN	Miawpukek First Nation
mg/l	Milligrams per litre
ML	Metal Leaching
NFMP	Noise Follow-up Monitoring Program
NGO	Non-Governmental Organization
NL	Newfoundland and Labrador
NLDECC	Newfoundland and Labrador Department of Environment and Climate Change
NLDFFA	Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture
NL DIET	Newfoundland and Labrador Department of Industry, Energy and Technology
NLOA	Newfoundland and Labrador Outfitters Association
OEEMP	Outfitters Environmental Effects Monitoring Plan
OWFMP	Other Wildlife Follow-up Monitoring Program
PAG	Potentially Acid Generating
PM	Particulate Matter
Q	Quarter
QFN	Qalipu Mi'kmaq First Nation
RAA	Regional Assessment Area
RCP	Rehabilitation and Closure Plan
SAGR®	Submerged Attached Growth Reactor
SAR	Species at Risk
SEA	Socio-Economic Agreement
SEM	Sikumiut Environmental Management Ltd.
SOCC	Species of Conservation Concern
SWFMP	Surface Water Follow-up Monitoring Program
TMF	Tailings Management Facility
TMP	Traffic Management Plan
TSM	Towards Sustainable Mining
TSS	Total Suspended Solids
WMP	Water Management Plan
WRDC	Women in Resource Development Corporation
WRMD	Water Resources Management Division
ZOI	Zone of Influence

Executive Summary – English

On January 24, 2024, Calibre Mining Corporation (Calibre) acquired Marathon Gold (Marathon) and the Valentine Gold Mine, Marathon thereafter becoming a wholly owned subsidiary of Calibre. Pursuant to Condition 2.15, on February 14, 2024, the Impact Assessment Agency of Canada (IAAC) was advised of the completion of this transaction. All permits including the Environmental Assessment (EA) release are being held under Marathon Gold. In this report, all subsequent references to “Marathon” have been replaced with “Calibre” where appropriate.

An Environmental Impact Statement (EIS) was submitted for the Valentine Gold Mine to IAAC and the EA Division of the Newfoundland and Labrador Department of Environment and Climate Change (NLDECC) in 2020. The Project was released from the provincial and federal EA processes, with conditions, on March 17, 2022 and August 24, 2022, respectively. Calibre subsequently proposed a change to the Designated Project, with the addition of the Berry Pit Expansion (the Project Expansion), which includes development of a third open pit (Berry pit) on the site and other associated infrastructure changes. On August 13, 2023, Marathon submitted the Berry Pit Expansion Environmental Registration / Environmental Assessment Update to NLDECC and IAAC to satisfy requirements under the provincial and federal Environmental Assessment Regulations and proposed changes to the Designated Project. Following regulatory review and a 30-day public comment period, the provincial Minister of Environment and Climate Change released the Project Expansion from the EA process, subject to conditions of release, on October 27, 2023. Final approval from IAAC for the Berry Pit Expansion was received on July 29, 2024.

Calibre is developing an open pit gold mine near Valentine Lake in central Newfoundland. The VGM will consist primarily of three open pits, waste rock piles, crushing and stockpiling areas, conventional milling and processing facilities (the mill), a tailings management facility (TMF), personnel accommodations, and supporting infrastructure including roads, on-site power lines, buildings, and water and effluent management facilities. The Project is in a rural region, with the nearest communities of Millertown and Buchans located approximately 49 km and 60 km straight-line distance from the mine site, respectively.

Construction activities for the VGM began in October 2022 and continued throughout 2024. Construction of the Berry Pit Expansion began in late 2024 with operation scheduled for the second quarter (Q2) of 2025. The estimated mine operation life is 14.4 years (an increase in mine life of 1.4 years from the Berry Pit Expansion). The VGM will operate 24 hours a day, seven days a week on a 12-hour shift basis. Upon cessation of mining, the operation will be closed, and the site components will be rehabilitated and monitored in accordance with applicable regulations at the time of closure.

Following the EA process, the Environment, Sustainability and Social Responsibility (ESSR) Team focused on regulatory consultation (for permits, approvals, and authorizations) and engagement with stakeholders, Qalipu Mi’kmaq First Nation (QFN), and Miawpukek First Nation (MFN). The engagement process was guided by Calibre’s engagement strategy, developed to ensure that those whose interests

may be affected by the Project are appropriately informed and meaningfully engaged regarding the company's ongoing and planned activities.

Through engagement with QFN and MFN, and consultation with regulatory agencies (e.g., Fisheries and Oceans Canada, ECCC), environmental management plans and follow-up monitoring programs, designed to guide implementation of Project compliance requirements and commitments, were developed for implementation. The associated plans and programs have been and continue to be implemented as appropriate, based on the Project schedule, and reviewed and updated as per the review cycles described in the individual follow-up monitoring plans.

This report describes activities undertaken at the Valentine Gold Mine to comply with each of the Conditions set out in the Decision Statement during the reporting period of January 1 through December 31, 2024, to fulfill annual reporting requirements as outlined under Condition 2.10 of the Decision Statement.

Executive Summary – French

Résumé – Français

Le 24 janvier 2024, Calibre Mining Corporation (Calibre) a fait l'acquisition de Marathon Gold (Marathon) de même que de la mine d'or Valentine, Marathon devenant par la suite une filiale à part entière de Calibre. Conformément à la condition 2.15, le 14 février 2024, l'Agence d'évaluation d'impact du Canada (AEIC) a été avisée de la conclusion de cette transaction. Tous les permis, y compris l'approbation issue de l'évaluation environnementale, sont détenus par Marathon Gold. Dans le présent rapport, toute mention de « Marathon » ci-dessous a été remplacée par « Calibre » là où il y a lieu.

En 2020, une étude d'impact environnemental (EIE) a été soumise pour la mine d'or Valentine à l'AEIC et à la division des évaluations environnementales du ministère de l'Environnement et du Changement climatique de Terre-Neuve-et-Labrador (NLDECC). Le projet a été approuvé à l'issue des processus provincial et fédéral d'évaluation environnementale, sous conditions, le 17 mars 2022 et le 24 août 2022, respectivement. Calibre a ensuite proposé un changement au projet désigné avec l'expansion de la fosse Berry (le « projet d'expansion»), qui prévoyait l'ajout d'une troisième fosse à ciel ouvert (fosse Berry) sur le site, ainsi que les changements à l'infrastructure connexe. Le 13 août 2023, Marathon a soumis le document Berry Pit Expansion Environmental Registration / Environmental Assessment Update (mise à jour sur l'enregistrement environnemental et l'évaluation environnementale pour l'expansion de la fosse Berry) au NLDECC et à l'AEIC afin de satisfaire aux exigences énoncées dans les règlements provinciaux et fédéraux en matière d'évaluation environnementale, en plus des changements proposés au projet désigné. Au terme d'un examen réglementaire et d'une période de commentaires publics de 30 jours, le ministre provincial de l'Environnement et du Changement climatique a approuvé le projet d'expansion dans le cadre du processus d'évaluation environnementale, sous réserve des conditions d'approbation, le 27 octobre 2023. L'approbation finale de l'expansion de la fosse Berry a été reçue de l'AEIC le 29 juillet 2024.

Calibre prépare actuellement une mine d'or à ciel ouvert près du lac Valentine dans le centre de Terre-Neuve (voir la figure 1.1). La mine d'or Valentine consistera principalement en trois fosses à ciel ouvert, des amas de stériles, des zones de concassage et de stockage, des installations conventionnelles de broyage et de traitement (l'usine), une installation de gestion des résidus (IGR), des logements pour le personnel et des infrastructures de soutien, notamment des routes, des lignes électriques sur le site, des bâtiments et des installations de gestion de l'eau et des effluents. Le projet se situe en région rurale, les communautés les plus près – Millertown et Buchans – se trouvant environ à 49 km et à 60 km en ligne droite du site minier, respectivement.

Les travaux de construction pour la mine d'or Valentine ont commencé en octobre 2022 et se sont poursuivis jusqu'en 2024. Pour ce qui est de l'expansion de la fosse Berry, la construction s'est amorcée fin 2024, et les activités d'exploitation devraient commencer au deuxième trimestre (T2) de 2025. La durée d'exploitation de la mine est estimée à 14,4 ans (ce qui représente une augmentation de la durée de vie de la mine de 1,4 an découlant de l'expansion de la fosse Berry). La mine d'or Valentine sera en exploitation 24 heures sur 24, 7 jours sur 7, selon des quarts de travail de 12 heures. Lorsque cesseront

les activités d'exploitation minière, le site sera fermé et les éléments du site seront remis en état et surveillés conformément à la réglementation applicable au moment de la fermeture.

Une fois le processus d'évaluation environnementale terminé, le groupe de l'environnement, de la durabilité et de la responsabilité sociale a porté son attention sur la consultation réglementaire (pour les permis, les approbations et les autorisations) ainsi que sur la mobilisation des parties prenantes, de la Première Nation Qalipu Mi'kmaq et de la Première Nation de Miawpukek. Le processus de mobilisation s'appuyait sur la stratégie de mobilisation de Calibre, laquelle visait à s'assurer que les groupes dont les intérêts pouvaient être touchés par le projet seraient informés adéquatement et qu'ils s'impliqueraient de manière significative en ce qui a trait aux activités en cours et prévues de l'entreprise.

À travers ce travail de mobilisation auprès de la Première Nation Qalipu Mi'kmaq et de la Première Nation de Miawpukek et la consultation des organismes de réglementation (p. ex. Pêches et Océans Canada, ECCC), des plans de gestion environnementale et des programmes de suivi, conçus pour guider le respect des exigences de conformité et des engagements du projet, ont été élaborés en vue de leur mise en œuvre. Les plans et programmes associés ont été mis en œuvre et continuent de l'être selon le cas, en fonction du calendrier du projet, et sont examinés et mis à jour selon les cycles d'examen décrits dans les plans de suivi individuels.

Le présent rapport traite des activités menées à la mine d'or Valentine dans le but d'assurer le respect de chacune des conditions énoncées dans la déclaration de décision durant la période visée du 1er janvier au 31 décembre 2024, et conformément aux exigences en matière de déclaration annuelle telles qu'elles sont établies à la condition 2.10 de la déclaration de décision.

1.0 INTRODUCTION

Calibre Mining Corporation (Calibre), previously the Marathon Gold Corporation (Marathon) is developing an open pit gold mine near Valentine Lake in central Newfoundland (Figure 1-1). The main components of the Valentine Gold Mine (the Project) include three open pits, waste rock piles, crushing and stockpiling areas, conventional milling and processing facilities (the process plant), a tailings management facility (TMF), personnel accommodations, and supporting infrastructure including roads, explosives storage facility, on-site power lines, buildings, and water and effluent management facilities. The mine site will encompass an approximate footprint of 2,130 ha (not including the existing access road).

The Project is located in a rural region, with a history of mining exploration and development activities and other land and resource uses, including commercial forestry, hydroelectric developments, outfitting, and recreational land use. The mine site is accessed by an existing public access, gravel road that extends approximately 88 kilometres (km) south from Millertown to Calibre's existing exploration camp. Calibre is upgrading and maintaining the access road from a turnoff approximately 8 km southwest of Millertown to the mine site (i.e., a distance of approximately 76 km).

Construction of the Valentine Gold Mine (the Designated / Approved Project) commenced in October 2022, with expected completion in 2025, and an estimated life of mine (LOM) of 17 years, including construction and closure. Upon cessation of mining, the operation will be closed, and the site components will be rehabilitated and monitored in accordance with applicable regulations at the time of closure. An Environmental Assessment (EA) was completed for the Project under the *Canadian Environmental Assessment Act, 2012* (*CEAA* 2012) and the Newfoundland and Labrador (NL) *Environmental Protection Act* (*EPA* 2002). In 2020, an Environmental Impact Statement (EIS)(Marathon 2020) was submitted for the Valentine Gold Mine (the Project) to the Impact Assessment Agency of Canada (IAAC) and to the Environmental Assessment (EA) Division of the Newfoundland and Labrador of Environment and Climate Change (NLDECC) in 2020. The Project was released from the provincial and federal EA processes, with conditions, on March 17, 2022, and August 24, 2022, respectively. Calibre subsequently proposed a change to the Designated Project, with the addition of the Berry Pit Expansion (the Project Expansion), which includes development of a third open pit (Berry pit) on the site and other associated infrastructure changes. On August 13, 2023, Calibre submitted the Berry Pit Expansion Environmental Registration / Environmental Assessment (Valentine Gold Mine) Update (Marathon 2023) to NLDECC and IAAC to satisfy requirements under the provincial and federal Environmental Assessment Regulations and proposed changes to the Designated Project.

Following regulatory review and a 30-day public comment period, the provincial Minister of Environment and Climate Change released the Project Expansion from the EA process, subject to conditions of release, on October 27, 2023. Final approval from IAAC for the Berry Pit Expansion was received on July 29, 2024.

In January 2024, Marathon and the Valentine Gold Project was acquired by Calibre and is now referenced as Valentine Gold Mine (VGM) throughout this document. In this Report, all subsequent

references to Marathon will be renamed as “Calibre”, “the Company” or “Valentine Gold Mine” as appropriate.

This report has been prepared to fulfill the annual reporting requirements as outlined under Condition 2.10 of the Decision Statement issued by the Federal Minister of ECCC, and describes activities undertaken by Calibre to comply with each of the conditions in the Decision Statement during the 2024 reporting period (January 1 to December 31, 2024).

1.1 CHANGES TO THE DESIGNATED PROJECT

As stated above, the Berry Pit Expansion was released from the Federal EA process in July 2024. The proposed changes have been incorporated into the Amended Decision Statement (IAAC 2024). Any future changes to the designated project will be addressed through the proper EA and/or permitting processes.

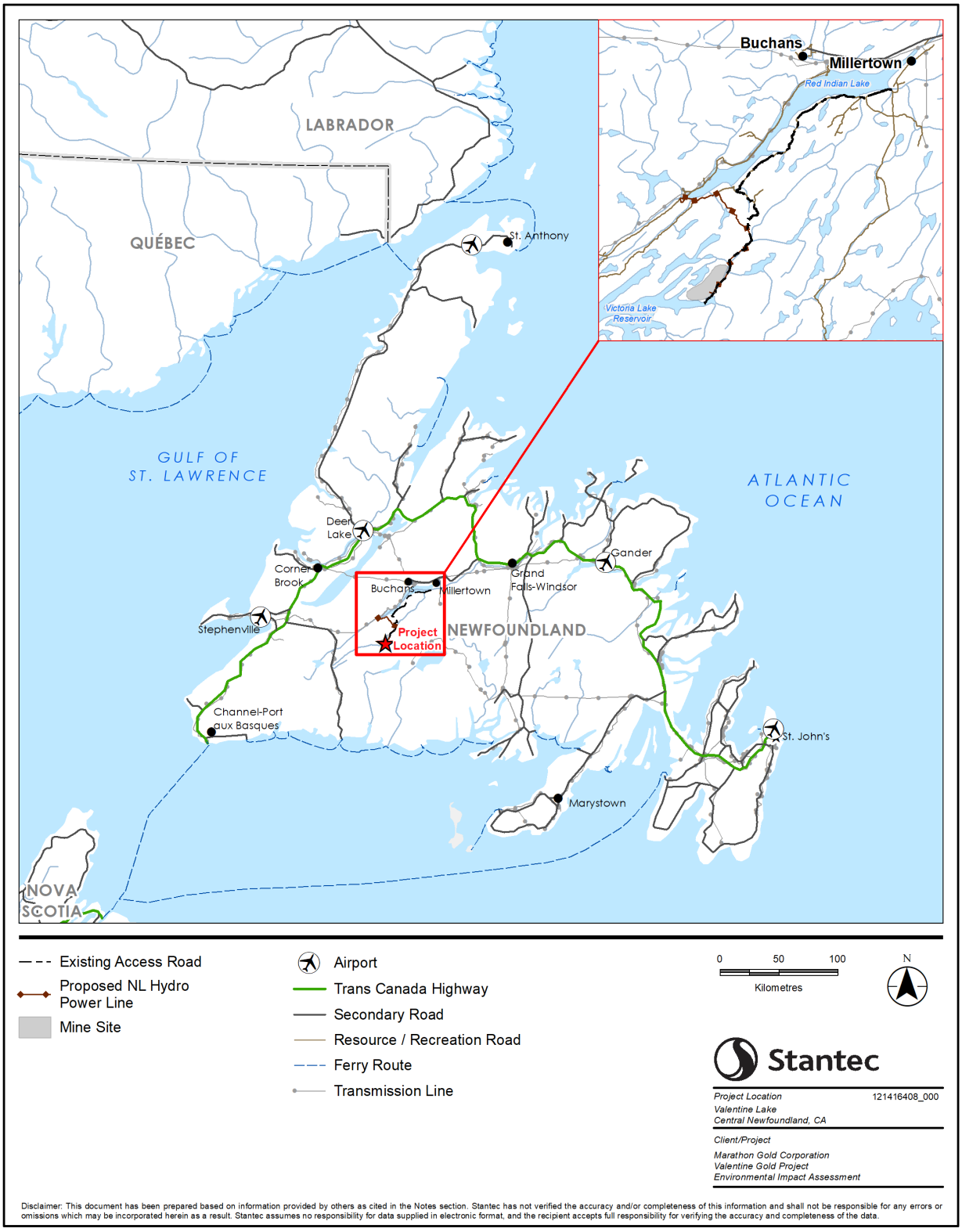

Figure 1-1 Project Location

2.0 REPORT SCOPE AND REQUIREMENTS

The scope of this *Valentine Gold Mine: Annual Report for the Federal Environmental Assessment: 2024 Reporting Period* (Annual Report) is to provide details on how Calibre complied with Conditions of the Decision Statement issued under Section 54 of CEAA, 2012. This report covers the Project activities undertaken during the period from January 1, 2024, through December 31, 2024 (herein referred to as the "reporting period").

Pursuant to Condition 2.15, IAAC was advised (on February 14, 2024) that Calibre and Marathon announced the completion (on January 24, 2024) of the transaction in which Calibre acquired Marathon and the Valentine Gold Project.

Condition 2.10 of the Decision Statement outlines the Annual Report information requirements for the Project. Table 2-1 outlines the section references within this document that demonstrate concordance with these requirements.

Table 2-1 Annual Report Information Requirements and Calibre Concordance

Condition	Location of Information
2.10: The Proponent shall prepare an annual report that sets out, for each reporting year:	
2.10.1: the activities undertaken by the Proponent to comply with each of the Conditions set out in this Decision Statement;	Appendix A presents a list of all the Decision Statement Conditions and either describes the activities taken by Calibre in the reporting period to comply with each Condition or references the applicable section of this report where the information is located.
2.10.2: how the Proponent complied with Condition 2.1;	In addition to Appendix A, further information is provided in Section 4 (Approach to Compliance Management).
2.10.3: for Conditions set out in this Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation;	In addition to Appendix A, further information is provided in Section 5 (Consultation and Engagement) and Appendix B (Indigenous Engagement Summary).

Condition	Location of Information
2.10.4: the information referred to in Conditions 2.5 for each follow-up program and any update to that information made pursuant to Condition 2.6;	In addition to Appendix A, further information is provided in Section 6 (Follow-Up Programs) and Appendix B.
2.10.5: the results of the follow-up program requirements identified in Conditions 3.17, 3.18, 4.8, 4.9 and 6.1;	In addition to Appendix A, further information is provided in Section 6 (Follow-Up Programs).
2.10.6: for any plan that is a requirement of a Condition set out in this Decision Statement, any update(s) to the plan that have been made during the reporting year; and	In addition to Appendix A, further information is provided in Section 7 (Plans).
2.10.7: any modified or additional mitigation measure implemented or proposed to be implemented by the Proponent, as determined pursuant to Condition 2.8.	In addition to Appendix A, further information is provided in Section 6 (Follow-Up Programs).

3.0 PROJECT UPDATE

This section provides a brief overview of various activities related to the Project that took place during the reporting period.

3.1 ENVIRONMENTAL REGULATORY APPROVALS

The proposed Berry Pit Expansion (the Project Expansion) required notification to IAAC as per Conditions 2.16 and 2.17 of the original decision statement as it was considered a new undertaking under the provincial EA process. A single document – the Berry Pit Expansion Environmental Registration / EA (Valentine Gold Project) Update – was developed to satisfy the requirements under both EA regimes and submitted on August 11, 2023.

The Berry Pit Expansion was released from Provincial EA in October 2023 and an amended EA Federal Decision Statement was issued by the Federal Minister of ECCC in July 2024, to include a third pit.

The following federal regulatory approvals / authorizations were issued during the reporting period:

- Amendment to the Letter of Advice for fording the Quinn Lake Outflow Stream. (Fisheries and Oceans Canada [DFO]).

Key provincial regulatory approvals / permits obtained during the reporting period include the following:

- Approval of the Amended (Berry Expansion) Life of Mine Development Plan (Newfoundland and Labrador Department of Industry, Energy and Technology [NL DIET]).
- Approval of the Amended (Berry Expansion) Rehabilitation and Closure Plan (NL DIET).
- Permit to Alter a Body of Water associated with the TMF Stage 3 Dam construction and excavation and infilling of wetlands associated with Berry Pit (NLDECC – Water Resources Management Division (WRMD)).
- Building Accessibility and National Building Code Review approvals for the Process Plant, Assay Lab and Temporary Camp Expansion.

3.2 CONSTRUCTION

The updated construction schedule is provided in Appendix C. 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 TMF.
- Completion of the TMF Seepage Pond and associated ditching.
- Completion of four permanent sedimentation ponds and associated final discharge points (MA-FDP-01AB, LP-FDP-01A, LP-FDP-03C and PP-FDP-01) 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 diffusor line).
- Continuation of stripping and grubbing of organics, and topsoil and overburden removal at the Leprechaun and Marathon pits and commencement of initial work at the Berry pit to allow development (blast/load/haul) of construction rock for earthworks and initial ore stockpiling for mill commissioning in 2025.
- 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 building, explosives building, Run of Mill, and continuation of the rock pad for the High-Grade Ore (HGO) Stockpile.
- Continuation of the Process Plant construction and associated components (e.g., conveyors, leaching tanks and Mechanically Stabilized Earth wall and crusher).
- Partial completion of the TMF tailings line and reclaim water line.
- Partial construction of Explosives Building and Security Building.
- 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, as appropriate.

4.0 APPROACH TO COMPLIANCE

The careful and precautionary approach Calibre employed for the EA and project planning and design phases has been carried into the construction phase and will continue throughout all phases and aspects of the Project. The same diligence is being employed to maintain compliance with regulatory requirements and commitments. This section outlines this approach to continued fulfillment of Condition 2.1:

> *The Proponent shall ensure that its actions in meeting the Conditions set out in this Decision Statement during all phases of the Designated Project are considered in a careful and precautionary manner, promote sustainable development, are informed by the best information and knowledge including community and Indigenous knowledge, available at the time the Proponent takes action, are based on methods and models that are recognized by standard-setting bodies, are undertaken by qualified individuals, and have applied the best available economically and technically feasible technologies.*

4.1 STRUCTURE

To manage compliance with regulatory requirements and conditions of approval, and conformance with additional internal and external commitments, a Project Commitment Register has been developed for the Valentine Gold Mine, which forms the basis for the Environmental and Social Management System (ESMS). Using a structured approach, actions are identified to address each of the commitments and regulatory requirements, and these are incorporated into management plans or programs for implementation and monitoring. An annual check is conducted to determine if the components of the ESMS (e.g., policies, plans, procedures, and resources) have sufficiently facilitated compliance / conformance. Deficiencies or opportunities for improvement are addressed in support of continual improvement. In 2024, the implementation of the chosen regulatory software (Nimonik) has been ongoing.

4.2 TEAM

Calibre employs a team of qualified individuals, supported by industry-leading leading consultants and subject matter experts from companies such as Stantec Consulting Ltd. (Stantec), GEMTEC Consulting Engineers and Scientists Limited (GEMTEC), WSP, Sikumiut Environmental Management Ltd. (SEM), and others, to develop mitigation measures and management plans, to design and implement the various follow-up and monitoring programs, and to undertake the detailed Project design. Field programs, studies, and engineering designs follow accepted and applicable standards and practices using recognized methods and models, which will lead to the construction and operation of a mine that complies with regulatory requirements and mitigates potential environmental effects. For Project construction, requirements outlined in the Conditions are incorporated into contract specifications and drawings for implementation by the applicable contractors, who are managed by Calibre and/or Calibre

representatives and monitored for compliance. This diligent approach will continue throughout all Project phases.

4.3 ENGAGEMENT AND CONSULTATION

As required by the Conditions and consistent with its approach to Indigenous and stakeholder engagement, Calibre has consulted, and will continue to consult, with relevant authorities and engage with Indigenous groups, stakeholders, communities, fish and wildlife associations, other affected parties and the public to solicit input and to identify issues and concerns. The information and knowledge gathered through engagement and consultation is considered and incorporated as applicable into the various measures, plans and programs required by the Conditions. Calibre's adaptive management approach facilitates the identification and implementation of changes that may be required, based on ongoing consultation and engagement (in tandem with monitoring), to reduce adverse effects of the Project and support continuous improvement.

4.4 INDUSTRY STANDARDS

As a member of the Mining Association of Canada (MAC), Calibre is currently working to meet the requirements of MAC's Towards Sustainable Mining (TSM) initiative in advance of implementation in 2025. Established in 2004, TSM is a globally recognized program that has been developed to manage environmental and social risks associated with mining. TSM is framed around MAC performance assessments and a MAC letter-grade system ranging from C (no systems in place) to AAA (excellence and leadership is demonstrated and validated by external, independent assessments). The grades indicate performance within areas of sustainability, including Biodiversity Conservation Management, Climate Change, Indigenous and Community Relationships, Tailings Management, Water Stewardship, and Mine Closure Framework, among others.

As cyanide will be used to process the gold, Calibre intends to align with the International Cyanide Management Institute's (ICMI) Principles and the associated Standards of Practice within each Principle. In 2024, an assessment was completed by an external consultant to determine actions required to align with the Cyanide Code, with an implementation plan developed and assigned for implementation into 2025.

The ESMS in place at VGM meets requirements of the Equator Principles (EP4) risk management structure. In accordance with EP4 requirements (for Projects classed as Category A), an ESMS has been developed and implemented for the Valentine Gold Mine. In 2024, a software, Nimonik, was identified to support the ESMS and early stages of the software implementation began. In accordance with the adaptive management process, the document review comments are assessed and implemented, as appropriate.

The planning and design for the tailings management facility has been completed by an expert third party and independently peer-reviewed by an Independent Tailings Review Board (ITRB). Calibre is committed to following the Canadian Dam Association's Dam Safety Guidelines and the Mining Association of

Canada's Guide to the Management of Tailings Facilities over the life of the Project. Construction of the TMF is ongoing under the guidance of WSP, the Engineer of Record, who has completed monitoring and inspections throughout the year. In addition, the ITRB recommendations from the 2023 inspection have been addressed by WSP and were deemed closed. The ITRB was back onsite in the fall of 2024 following the Stage 2 construction for a site inspection. WSP is currently addressing recommendations from the site visit.

4.5 TECHNOLOGY

In 2023, Calibre reassessed the planned treatment system for process effluent. The Approved Project design included a polishing pond as a component of the TMF used to treat excess process water and TMF effluent. As part of the Project Expansion, Calibre proposed to replace the polishing pond with a submerged attached growth reactor unit (SAGR®), as the last stage of treatment prior to discharge into the environment. Calibre received approval for Project changes, including the amendment for the SAGR unit, from federal and provincial governments in July 2024 and October 2023, respectively. The SAGR unit is a much smaller footprint than the polishing pond and reduces opportunities for birds to congregate adjacent to the processing site.

SAGR® is a newer technology that is smaller, can operate in colder temperatures, and can more effectively remove nitrogen species, thereby expediting treatment and shortening retention time. As an overview, free cyanide (if remaining in solution after treatment through the mill's cyanide destruction circuit and natural degradation within the TMF), suspended solids and metals are reduced to non-toxic levels through a process (water treatment plant) consisting of chemical treatment for cyanide destruction and metals precipitation, followed by cloth disk filtration to remove the precipitated metals and other suspended solids from the influent prior to treatment via the SAGR®. The suspended solids concentration into the SAGR® is expected to be <5 mg/l on average and no more than 25 mg/l. The compounds entering the SAGR® are primarily bioavailable nitrogen species such as thiocyanate, cyanate and ammonia. Biomass in the SAGR® oxidizes these compounds and reduces overall ammonia to non-toxic levels. Excess biomass created as a byproduct of ammonia detoxification in the SAGR® is aerobically digested within the SAGR®. SAGR® discharge is therefore low in suspended solids, metals, thiocyanate, cyanate, ammonia, and bacteria.

5.0 CONSULTATION AND ENGAGEMENT

The Decision Statement includes multiple Conditions for which consultation and engagement is a requirement. A summary of these is presented in Table 5-1. Where consultation and engagement are required, Conditions 2.3 and 2.4 stipulate the minimum components of the process which must be followed. This section provides a summary of Calibre's approach to consultation and engagement with emphasis upon the key activities undertaken with Indigenous groups during the reporting period as required by the relevant Decision Statement Conditions. At the time of 2023 reporting, Berry Pit expansion was still subject to the IAAC review process and therefore engagement activities were not included in the 2023 report. The sections that follow include details of Berry Pit related consultation activities.

Table 5-1 Summary of Conditions Containing Consultation and Engagement Requirements

Topic	Conditions
General Conditions	2.1, 2.4, 2.16, 2.17
Fish and Fish Habitat	3.17
Acid Rock Drainage and Metal Leaching	3.15, 3.18
Migratory Birds	4.8
Health of Indigenous Peoples	6.1
Current Use of Lands and Resources for Traditional Purposes and Socio-economic Conditions	7.1, 7.2
Cultural Awareness Training	7.3
Physical and Cultural Heritage and Structure, Site or Thing of Historical, Archaeological, Paleontological or Architectural Significance	8.1, 8.2
Accidents and Malfunctions	10.2, 10.3, 10.4, 10.6

Sections 11.1 and 11.2 of the Conditions require the Proponent to submit to both the Agency and Indigenous groups two schedules: an implementation schedule detailing all activities planned to fulfill each Condition, including a commencement and completion date; and a schedule outlining all activities required to carry out all Phases of the Project, including commencement and completion dates and duration of each activity.

As required by section 11.3 of the Conditions, updates to the schedules referred to in sections 11.1 and 11.2 reflecting activities in 2024 have been provided to MFN and QFN concurrent with transmission to the Agency.

5.1 OVERVIEW

Consistent with its corporate values Social and Environmental Responsibility, Safety, Integrity, Teamwork, and Accountability, Calibre is committed to ensuring that those whose interests may be affected by the Project, including Indigenous groups and stakeholders, are appropriately informed and meaningfully engaged regarding the company's ongoing and planned activities. Calibre's approach to engagement is informed by corporate policies such as the Safety, Health, Environment, Sustainability, and Technical (SHEST) Committee Mandate.

A stakeholder engagement strategy has been developed and implemented for the Valentine Gold Mine. The list of stakeholders has been developed through stakeholder mapping and is intended to capture the external individuals, groups and organizations that may be affected by the Project. The list is reviewed on an ongoing basis to ensure it is appropriate.

The principal external stakeholders respecting the environmental and socio-economic aspects of the Project are included below.

- Communities (six communities in reasonable proximity to the Project) including local government institutions, residents, local businesses, and schools.
- Fish and Wildlife Associations, including the Newfoundland and Labrador Outfitters Association (NLOA) and Salmonid Associations (Atlantic Salmon Federation, Environment Resources Management Association [ERMA], Salmonid Association of Eastern Newfoundland, Salmonid Council of Newfoundland).
- Civil Society Organizations, including ENGOs.
- Miawpukek First Nation and Qalipu Mi'kmaq First Nation, including Chief and Council, executive staff, membership, and business development associations.

Calibre's approach to engagement with stakeholders has been developed, consistent with its core corporate values and is based upon the timely and transparent sharing of relevant Project-related information, ongoing opportunities for dialogue, identification and responsiveness to issues and concerns, and consideration of stakeholder input into project planning and design. The method and frequency of engagement adopted by Calibre depends upon the level, interest and influence of the specific stakeholder, consideration of stakeholder capacity, needs and interests, barriers to engagement, required resources to enable meaningful stakeholder participation and prior history with development.

Indigenous and stakeholder engagement activities are tracked using customized software (NetBenefit). Records of Indigenous and stakeholder interactions, including meetings, phone calls, emails, and other

communications are maintained to ensure that issues and concerns are documented and that commitments are honored. Engagement activities are described in internal monthly reports and summarized in quarterly presentations to the Board of Directors. In addition, information respecting Indigenous and stakeholder engagement is a component of Calibre's publicly available annual Sustainability Report and the reports required by the NL Benefits Agreement concluded with the province in 2022. Indigenous and stakeholder engagement is monitored as part of the ESMS.

Consistent with Conditions 2.3 and 2.4, where consultation is required, it is undertaken by the following process. Calibre issues a written request in the form of email or correspondence to the relevant parties, containing a request to the party to provide its views and comments on the information Calibre provides as part of the consultation request. All requests are documented and recorded in the Annual Report, pursuant to Condition 2.10. Calibre will continue to provide written notice respecting the opportunity for consultation to the party or parties as required by, and in accordance with, the timing (e.g., prior to operation start or Project change) specified in the condition(s) identifying the requirement for consultation.

In accordance with Conditions 2.3.3 and 2.3.4, where comments on information relevant to the conditions of approval have been received from a party being consulted, Calibre has undertaken an impartial review and consideration of this information. Where appropriate, the views and information submitted into the final versions of applicable Project processes, plans and programs have been incorporated. Comments provided by parties being consulted, and a description of how each comment has or has not been incorporated together with supporting rationale, are recorded and provided to each party who made the comment within a reasonable time. A record of consultation with MFN and QFN, including the comments / information received, Calibre's response documenting how the views, comments, and information have been considered, and the rationale for Calibre's response, are tracked and consolidated for inclusion in each annual report under Condition 2.10 for the year in which the comments are received (See Appendix B).

In 2023, engagement respecting changes to the Designated Project included the proposed addition of the Communications Tower and the proposed Berry Project Pit Expansion. As detailed in Section 1.1, the proposed addition of Communications Tower was approved in 2023 and the details of the associated engagement were included in the 2023 Annual Report for the Federal Environmental Assessment. The proposed changes associated with the Berry Project Pit Expansion were subject to the ongoing IAAC review process in 2023, and related engagement activities were therefore not included in the 2023 Report. The sections that follow provide details of engagement activities, both general and with respect to the Berry Pit Expansion, with stakeholders and Indigenous groups.

5.2 COMMUNITIES

Since Project registration in 2019, Calibre has worked diligently to ensure that local communities and resident stakeholders are informed of the Project and have the opportunity to identify issues and express concerns. The objectives of community engagement are to ensure consistent, timely and ongoing dialogue with communities in order reduce adverse effects of the Project and to maximize economic and social benefits for adjacent communities, provincial residents and businesses.

Focus has been placed on the six communities of interest located closest to the proposed Project site: the Towns of Buchans, Millertown, Badger, Grand-Falls Windsor and Bishop's Falls and the Local Service District of Buchans Junction.

Examples of key engagement activities with communities during 2024 have included the following:

- Commencement of process of updating Community Cooperation Agreements which were concluded with each of the six communities in 2020.
- A Stakeholder Forum was conducted (and planned to be annual) to provide a Project update, including environmental matters. Seventeen individuals attended representing communities, Indigenous groups, diversity organizations and government agencies.
- Surveys and questionnaires to enable community residents and members of organizations to provide input and feedback following meetings and information sessions.
- Virtual and in-person employment information sessions in Grand Falls- Windsor, Buchans, and St. John's.
- Meetings with local businesses to discuss economic opportunities and attendance at business networking sessions.
- Periodic meetings with local government leadership to provide updates and discuss issues of local concern.
- Attendance at the Beothuk Lake Regional Economic Task Force throughout the fall of 2024.
- Partnership with Women in Resource Development Corporation (WRDC) to deliver STEMforGIRLS programming and site visit by STEMforGIRLS cohort in October.
- Collaboration with WRDC to deliver the Creating Connections project in the Central Region to build digital literacy and career development skills.
- Representation on regional bodies such as the Central Health Community Advisory Committee and attendance at regional economic symposiums and conferences, such as Central Minex, Baie Verte Mining Conference, Annual Conference of the Newfoundland and Labrador Organization of Women Entrepreneurs, Canadian Institute of Mining, Metallurgy, and Petroleum (CIM) – NL Branch Mineral Resources Review, Office to Advance Women Apprentices Annual Awards Event.
- Development and implementation of an internal Local Employment Strategy Update, Diversity Procurement Plan, and Indigenous and Stakeholder Engagement and Communication Strategy.
- Regular and ongoing targeted advance notices of employment and contracting opportunities.

- Provision of annual community financial allotments and other special funding initiatives to promote community capacity, support infrastructure improvements, address health and safety concerns and fund community events.
- Sponsorship of local recreational, cultural and community health and well-being initiatives.

As noted above, all engagement efforts are documented and issues and concerns raised by communities are considered in project planning and execution and through regular engagement activities. A grievance resolution process has been implemented and the 11 grievances which were raised in 2024 were all resolved within 30 days of the grievance being received.

Since the initial Release of the Designated Project from the EA process in 2022, Calibre has continued to engage with each community respecting the progress of the Project. Engagement efforts respecting changes to the Designated Project, including the proposed addition of the Communications Tower were described in the 2023 Annual Report for the Federal Environmental Assessment. Engagement efforts in relation to the proposed Berry Project Pit Expansion (as described in Section 1.1) are described in the following paragraphs.

Calibre has worked diligently with communities in the Central Region to build relationships, to ensure that the communities and residents are informed of the Project and provided with an opportunity to express issues and concerns, and to reduce adverse effects and maximize benefits for local residents and businesses. Particular focus has been placed on the six communities closest to the VGM site: the Towns of Buchans, Millertown, Badger, Grand Falls-Windsor, and Bishop's Falls, and the Local Service District of Buchans Junction. The formal process of community engagement respecting the Project Expansion commenced on March 16, 2023, with the provision of a brief description of the Berry Pit at the monthly meeting of mayors. In April 2023, Calibre and the communities agreed to a series of in-person information sessions in each of the six communities to be held between May 24 – 26 to discuss the Berry Project.

5.3 FISH AND WILDLIFE ASSOCIATIONS / ENGOS

Fish and wildlife associations and environmental non-governmental organizations (ENGOs) which have a recreational, commercial, or environmental interest in natural resources in the Central Region of the province are stakeholders interested in or potentially affected by Calibre's operations. Calibre has engaged with a range of salmonid associations, the NLOA, and a number of environmental non-governmental organizations beginning in 2019 and continuing to the present day. Engagement efforts and activities are commensurate with the interest and influence of each group and are tailored to particular issues of concern. Such efforts include the regular provision of Project-related information, meetings (both in-person and virtual) to provide Project updates and discuss issues of particular relevance to the specific organization, and, where appropriate, incorporation of feedback into project planning, design and execution. Engagement may also include involvement in the implementation of monitoring programs or other environmental initiatives. For example, in 2023 and 2024, the Victoria River Outfitters were awarded the contract for Calibre's fish habitat offsetting work in the Victoria River Steady and in 2024, two outfitters were key participants in the collection of Big Game Samples.

Calibre has also concluded an Outfitters Environmental Effects Monitoring Plan (OEEMP) agreement with the NLOA which provides for ongoing engagement between Calibre and NLOA with respect to the monitoring of the potential effect of the Project upon caribou and other big game as well as other relevant environmental components. The OEEMP also provides a mechanism for compensation for outfitters whose business activities have been directly affected by the Project. No claims for compensation were made in 2024. Pursuant to the terms of the OEEMP, Calibre and NLOA have agreed to work cooperatively over the life of the Project to avoid or minimize adverse effects on outfitting activities. Calibre continues to provide the NLOA and, where appropriate, individual outfitters, with timely information respecting the progress of the Project, including notices of Project-related activity such as road closures, snow clearing or other access-related matters which potentially could affect outfitter activities in the area. Such information may also include information related to Calibre's environmental effects monitoring programs related to fish and wildlife, including caribou, which may impact outfitter activities. Information is provided through regular Project updates as well, and for the past three years, Calibre has delivered a presentation at the Annual General Meeting of the NLOA.

During 2023, Calibre engaged with Fish and Wildlife groups with respect to the proposed Berry Pitt Expansion. In accordance with the OEEMP, on May 8, 2023, Calibre provided the NLOA with a Project Summary describing the Project Expansion for circulation to membership, together with an offer to meet to discuss. The NLOA membership was also invited to attend the community information sessions referenced in the preceding section. An in-person meeting between Calibre and the Executive Director of the NLOA to discuss an engagement process in relation to the Project Expansion was held on May 25, 2023. Calibre met virtually with the NLOA Board on June 14, 2023, to deliver the Power Point presentation describing the Project Expansion, its predicted environmental effects, and associated potential mitigation measures. Subsequently, the NLOA were provided with a copy of the PowerPoint presentation for further review and comment. On June 28, 2023, the NLOA advised Calibre that it had no issues with the Project Expansion as it would take place within the Approved Project footprint. Calibre continued to engage with the NLOA consistent with the provisions of the OEEMP throughout 2024 and has committed to revise the OEEMP as necessary and appropriate to take into account the Project Expansion.

A similar approach was taken with respect to engagement with Salmonid Groups. On May 8, 2023, Calibre provided each organization with the Project Summary for circulation to membership and offered to meet to discuss the Project Expansion, its predicted effects and associated mitigations. The groups were also provided with a copy of the poster detailing the dates, times and locations of the public information sessions held between May 24 and May 26, 2023. No interest was expressed in a meeting with Calibre although a representative of ERMA did attend the public information session held in Bishop's Falls on May 25, 2023. On May 9, a representative of the ASF indicated by email that issues and concerns with the Project Expansion were the same as those that Salmonid Groups had previously expressed in relation to the Approved Project as detailed in the EIS and which related primarily to potential effects upon water quality and fish and fish habitat.

In addition to the engagement efforts described above, Calibre also provided other stakeholders such as environmental NGOs and individuals with the Project Summary and indicated its willingness to meet as

requested with these stakeholders to discuss issues and concerns following the submission of the Environmental Registration/EA Update to regulators.

Consistent with its commitment to ongoing engagement, Calibre has continued to engage with stakeholders following the release of the Berry Expansion from provincial EA and the issuance of the federal Decision Statement. Calibre will continue to engage with stakeholders over the life of the Project, to provide Project-related information, and to identify and address stakeholder issues and concerns.

5.4 INDIGENOUS GROUPS

As noted previously, the Decision Statement includes conditions related to Indigenous consultation and engagement. This section will provide an overview of Calibre's approach to Indigenous engagement and initiatives in relation to changes to the Designated Project, cultural awareness training, physical and cultural heritage, and structures, sites or things of historical, archaeological, paleontological or architectural significance.

5.4.1 OVERVIEW

Calibre acknowledges the unique culture and history of Indigenous peoples in NL and understands that they may have interests and concerns that differ from, or are in addition to, those of communities and other stakeholder groups. Calibre is committed to working constructively and in a spirit of good faith with Indigenous peoples to achieve mutually beneficial outcomes through the identification and management of environmental risks and opportunities and the successful participation of Indigenous persons in the employment and contracting opportunities associated with the Project. Calibre's approach to Indigenous engagement is based upon the promotion of constructive and meaningful ongoing dialogue characterized by the following:

- Timely notification of Project related information and provision of reasonable opportunities to review and provide feedback.
- Respect for community protocols, cultural norms, and engagement preferences.
- Accessibility in terms of language, format, and technology.
- Transparency and flexibility.
- Adherence to commitments.
- Mutual trust and good faith in communications.

The objectives of Indigenous engagement are as follows:

- To ensure that Indigenous groups are provided with opportunities to understand the Project and its potential impacts upon their interests.

- To enable Indigenous groups to provide feedback which will be considered in Project planning and execution.
- To provide a forum to discuss and respond to issues and concerns identified by Indigenous groups.
- To establish positive and constructive relationships over the life of the Project.

Calibre's engagement with Indigenous groups has focused upon two Indigenous groups with populations in proximity to the Project: MFN and QFN. Calibre has worked with each group to develop a culturally appropriate and meaningful engagement process, considering their views as to the type, nature, and frequency of engagement. Since 2019, engagement has been based upon consistent and regular contact (in-person meetings, virtual meetings, conference calls, presentations) and information exchange designed to enable each group to understand the Project and identify potential effects on their communities, activities, and asserted or established Indigenous rights. Considerable efforts have been made to provide each Indigenous group with opportunities to ask questions and provide input regarding the Project and potential effects and to comment on proposed mitigation measures.

Calibre has also concluded agreements with each Indigenous group. In May 2021, a Socio-Economic Agreement (SEA) was concluded with QFN. The QFN SEA provides a formal process for ongoing engagement and establishes joint collaborative committees respecting environmental stewardship, education and training, and procurement. In addition, provision is made for cultural investment which is currently used to support a scholarship program. A supplemental agreement amending the SEA was signed by Qalipu in May 2024. The supplemental agreement provides funding for permit review, enhanced cultural investment, research programs and studies, and the hiring of an Indigenous environmental technician.

Implementation of the QFN SEA is ongoing. The various committees established under the SEA continued to meet periodically throughout 2024 and Calibre personnel met with QFN Chief and Band Manager virtually to provide a Project update in June. Five scholarships were awarded to QFN students in 2024 and a member of QFN is currently employed as an environmental technician. Calibre provided cultural investment funding to support the development of the Missing and Murdered Indigenous Women and Girls Garden and established a tripartite Cultural Initiatives Committee with QFN and MFN to explore opportunities for on-site cultural programming and events. To support QFN's economic interests, Calibre provided QFN with targeted advance notices of employment and business opportunities throughout 2024. Calibre considers Indigeneity as a factor in all recruitment and selection decisions and held a virtual employment information sessions for QFN membership in 2024. Calibre also engaged with QFN respecting participation in certain monitoring programs in 2024. While there was no participation due to capacity limitations, Calibre has committed to consideration of QFN's future participation in environmental monitoring programs.

In May 2023, Calibre entered into an SEA with MFN. The MFN SEA provides a process for ongoing engagement and implementation, funding for the review of permits and other regulatory authorizations, continued funding for the MFN Community Liaison Officer, the establishment of an Environmental

Stewardship Sub-Committee, and funding for education and training, permit review, scholarships and cultural investment, among other matters. Implementation of the SEA is underway, and committees have been established which meet according to the SEA prescribed schedule. In compliance with the SEA, a meeting with Chief and Council and an annual community meeting were held in November 2024. Calibre has also supported a range of cultural initiatives. Cultural investment funding was provided in support of the annual Powwow, St. Anne's Day Celebrations, Indigenous Peoples Day event and Community Christmas Gift Giving. Calibre also established a tripartite Cultural Initiatives Committee with QFN and MFN to explore opportunities for on-site cultural programming and events. Two scholarships were awarded to MFN students in 2024. To support MFN's economic interests, Calibre provided MFN with targeted advance notices of business opportunities throughout 2024. Calibre considers Indigeneity as a factor in all recruitment and selection decisions and held a virtual employment information session with MFN membership in December. Calibre and MFN also engaged in discussions during the first half of 2024 with respect to MFN's participation in certain environmental monitoring programs and while there was no participation due to capacity limitations, Calibre has committed to consideration of MFN's involvement in future monitoring programs.

5.4.2 CHANGES TO THE DESIGNATED PROJECT

Section 2.16 of the Federal Decision Statement requires the Proponent to provide advance notice to the Agency of any proposed changes to the Designated Project, and Section 2.17 further requires the Proponent to submit to the Agency any additional information required by the Agency about the proposed change(s) referred to in Condition 2.16. Additional information referred to in Section 2.17 may include "the results of consultation with Indigenous groups ...on the proposed change(s)...". Two changes to the Designated Project have been proposed: the addition of a communication tower and the proposed Berry Pit expansion. Calibre's engagement efforts with QFN and MFN in relation to the communications tower were described in the 2023 Annual Report for the Federal Environmental Assessment. Engagement efforts relating to the proposed Berry Pitt expansion are described below.

On May 8, 2023, both QFN and MFN were provided with the Project Summary outlining the Project Expansion for review and comment. In the email transmitting the Project Summary, Calibre offered to meet virtually with each group to deliver a power point presentation and discuss the predicted effects of the Project Expansion and associated potential mitigations. Both MFN and QFN were advised that any issues and concerns identified by an Indigenous group, together with Calibre's responses, would be included in the Environmental Registration/EA Update submitted to federal and provincial regulators. Following the transmission of the Project Summary, Calibre contacted each group by phone and email to discuss a meaningful engagement process, which would include the provision of capacity funding.

The engagement process agreed to by Calibre and QFN consisted of two phases: engagement prior to submission Environmental Registration/EA Update to federal and provincial regulators (Phase 1), and engagement following submission of the Environmental Registration/EA Update to federal and provincial regulators (Phase 2). Consistent with this arrangement, in June 2023, Calibre provided QFN with relevant materials (including the Valentine Gold EIS Summary (Marathon 2020), a summary of the proposed

Expansion and a draft table of contents for the Environmental Registration/EA Update to clarify the scope of Phase 2 engagement. During subsequent meetings and in correspondence, Calibre provides information respecting the proposed Expansion Project and predicted effects and associated mitigations. QFN's preliminary comments were transmitted on June 26, 2023 and these comments together with Calibre's responses, were set out in Chapter 3, Table 3.1 of the Berry Pitt Expansion Environmental Registration/Environmental Assessment Update (August 2023).

Phase 2 engagement with QFN commenced with the concurrent submission of the Berry Pitt Expansion Environmental Registration/EA Update to regulators and to QFN in August 2023. Following a review of this documentation, QFN provided comments to Calibre on October 6, 2023. These comments were reviewed by Calibre and on December 15, 2023, Calibre provided responses to QFN which responses are set out in Appendix B. A copy of QFN's concerns together with Calibre's responses was simultaneously provided to regulators.

A similar approach was taken with respect to engagement with MFN. A Project Summary was sent to MFN in May 2023, followed by emails and phone calls to develop an engagement process. Parties agreed that engagement, supported by capacity funding for an external consultant, would be conducted in two phases. As part of Phase 1, Calibre and MFN met virtually in June 2023 to discuss the Berry Pitt Project Expansion, including predicted effects and associated potential mitigations. Following this meeting, MFN advised Calibre that it would defer any comments until submission of the Environmental Registration/EA Update to federal regulators. In August 2023, Calibre provided MFN with a copy of the Berry Pitt Expansion Environmental Registration/EA Update. Following review of this documentation, MFN provided comments on November 8, 2023. These comments were discussed by Calibre and on December 19, 2023, Calibre provided responses to MFN which responses are set out in Appendix B. A copy of MFN's concerns together with Calibre's responses was simultaneously provided to regulators.

Following the issuance of the amended federal Decision Statement respecting Berry Pit expansion, Calibre engaged both QFN and MFN with respect to changes to the various follow-up monitoring plans to incorporate reference to the Berry Pit expansion. As agreed to by both QFN and MFN, Calibre's engagement efforts focused upon those plans requiring any substantive change as a result of the incorporation of the reference to the Berry expansion.

In August 2024, Calibre provided both QFN and MFN with copies of the following plans:

- Ambient Air Quality Follow-up Monitoring Plan (Calibre 2024a).
- Avifauna Follow-up Monitoring Plan (Calibre 2024b).
- Groundwater Follow-up Monitoring Plan (Calibre 2024e).
- Surface Water Follow-up Monitoring Plan (Calibre 2024f).
- Accidents and Malfunctions Prevention and Response Plan (Calibre 2024g).
- Accidents and Malfunctions Indigenous Communications Plan (Calibre 2024h).

On September 4, QFN provided two comments on the various plans. These comments were discussed at the meeting of the SEA Environmental Stewardship Committee meeting on September 10. One comment related to a technical matter (reference to a non-existent appendix) and the other comment requested clarification of the meaning of 'natural in-flows' in the context of tailings. Calibre corrected the appendix reference and reworded a portion of the Surface Water Follow-up Monitoring Plan to revise ambiguous language. MFN provided its response to the various plans on November 8, 2024. No substantive concerns specific to any plan were identified; rather, MFN reiterated its general concerns to ensure adequate environmental monitoring of air, water, wildlife and flora.

5.4.3 CULTURAL AWARENESS TRAINING

Calibre engaged in discussions with both MFN and QFN respecting cultural awareness training in September 2022, in accordance with Condition 7.3:

> *The Proponent shall develop, prior to construction and in consultation with Indigenous groups, cultural awareness training for all employees and contractors associated with the Designated Project. The Proponent shall implement the training prior to the start of construction and during all phases of the Designated Project.*

After a lengthy period of negotiations commencing in September 2022, Calibre and QFN entered into a licensing agreement for the use of these training materials on February 7, 2023, and since then have worked cooperatively and diligently to implement this training for all Calibre employees and contractors. Mandatory online training was implemented on March 31, 2023, and between January and December 2024, 209 Calibre employees (both site and office based) completed training. Training has also been delivered to Calibre's contractors' site-based employees. Training will continue to be implemented over the life of the Designated Project. In addition to mandatory cultural sensitivity training, Calibre employees have also attended cultural sensitivity training offered by third party agencies such as First Light Friendship Centre.

Calibre has committed to working with both MFN and QFN to refine and expand the scope of cultural sensitivity initiatives and to that end has established a tripartite Cultural Initiatives Committee. The purpose of this committee is to explore opportunities for on-site Indigenous awareness activities and events, including the expansion and refinement of cultural training materials. Calibre also sponsors and has participated in events marking days of special significance to Indigenous peoples including National Indigenous Peoples Day, National Day for Truth and Reconciliation and the National Day of Awareness for Missing and Murdered Indigenous Women and Girls and Two-Spirit People. It has provided cultural investment funding to both QFN and MFN to support special events and activities and is a regular participant with QFN and the DFO's Day of Discovery Program for Indigenous youth.

5.4.4 PHYSICAL AND CULTURAL HERITAGE AND STRUCTURE, SITE OR THING OF HISTORICAL, ARCHAEOLOGICAL, PALEONTOLOGICAL OR ARCHITECTURAL SIGNIFICANCE

The protection of historic resources is an important issue for QFN and MFN, and this is reflected in the Conditions of EA Release.

Condition 8.1:

> *For any previously unidentified structures, sites, or things of historical, archaeological, paleontological, or architectural significance discovered within the Designated Project area by the Proponent or brought to the attention of the Proponent by an Indigenous group or another party during any phase of the Designated Project.*

Condition 8.2:

> *The Proponent shall require all employees and contractors associated with the Designated Project to undertake, before they conduct any construction activity within the Designated Project area, an awareness training program about the procedures related to the discovery and protection of structures, sites or things of historical, archaeological, paleontological or architectural significance referred to in Condition 8.1. The proponent shall develop the awareness training program in consultation with Indigenous groups.*

The details of the process for notification of the Provincial Archaeology Office and Indigenous peoples in the event of accidental discoveries are referenced in the Calibre Site General Induction training and in the Environmental Protection Plan (EPP). In addition, employee cultural awareness training materials reference Indigenous historic resources. No accidental discoveries of structures, sites or things of historical, archaeological, paleontological or architectural significance to Indigenous peoples occurred in 2024.

6.0 FOLLOW-UP AND MONITORING PROGRAMS

In general, where a follow-up program has been identified as a requirement of a condition, a follow-up monitoring program has been developed by subject matter experts in accordance with the requirements of Condition 2.0 and all sub-conditions.

Additionally, follow-up programs were developed in consultation with DFO, ECCC, and other relevant authorities (as required) and through engagement with MFN and QFN, as applicable. Each follow-up program contains the information required under Condition 2.5.

As part of the Indigenous engagement process, Calibre worked with each Indigenous group to establish an agreed-upon consultation process (including capacity funding) consistent with the requirements of Condition 2.4. The consultation process implemented for the follow-up monitoring programs associated with the Approved Project was described in the 2022 Annual Report for the Federal Environmental Assessment. The process established with each of QFN and MFN for review of substantive changes to certain follow-up and monitoring plans to incorporate reference to the Berry Pitt Expansion is described in section 5.4.2 of this Report. The follow-up programs have been implemented and will be reported on in accordance with the applicable Decision Statement Conditions from Section 2 (General Conditions). Calibre will continue to engage with each Indigenous group over the life of the follow-up monitoring program in accordance with the requirements of conditions 2.3 and 2.4 and the terms of the specific follow-up programs.

The follow-up programs are living documents that, in accordance with the ESMS, will be reviewed at defined intervals, updated, and improved upon based on the monitoring results, policy changes, and technology changes as the Project progresses through the various phases.

This section provides a summary of activities undertaken during the reporting period related to the follow-up programs required by Conditions 3.17, 3.18, 4.8, 4.9, and 6.1.

The general requirements of all follow-up programs are described in Condition 2.8:

- *2.8.1 – implement the follow-up program according to the information determined pursuant to Condition 2.5;*
- *2.8.2 – conduct monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular Condition and/or to determine the effectiveness of any mitigation measure;*
- *2.8.3 – determine whether modified or additional mitigation measure(s) are required based on the monitoring and analysis undertaken pursuant to Condition 2.8.2; and*
- *2.8.4 – if modified or additional mitigation measure(s) are required pursuant to Condition 2.8.3, develop and implement these mitigation measure(s) in a timely manner and monitor them pursuant to Condition 2.8.2.*

6.1 FISH AND FISH HABITAT FOLLOW-UP MONITORING PROGRAM

6.1.1 PROGRAM OVERVIEW

The Fish and Fish Habitat Follow-up Monitoring Program (FFHFMP) (Marathon 2023a) was developed to verify the accuracy of the EA and determine the effectiveness of the mitigation measures as they pertain to adverse environmental effects of the Designated Project on fish and fish habitat, in accordance with Condition 3.17:

> *The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures as they pertain to adverse environmental effects of the Designated Project on fish and fish habitat.*

The FFHFMP provides a summary of fish species and fish habitat potentially affected by the Project and describes follow-up and monitoring activities for all phases of the Project, based on regulatory compliance requirements and Project approvals and authorizations.

Monitoring activities associated with the FFHFMP include aspects of fish rescue (Fish Rescue Plan), monitoring of offsetting measures to counterbalance habitat alteration, disruption and destruction (HADD) (Offsetting Plan), and Environmental Effects Monitoring (EEM) studies pursuant to the *Metal and Diamond Mining Effluent Regulations* (MDMER). Monitoring requirements for water quality specified in the *Fisheries Act* Authorization or through letter(s) of advice or other approvals issued for the Project are included in the Water Management Plan and the Surface Water Follow-up Monitoring Program.

6.1.2 2024 PROGRAM RESULTS

In 2024, one field program was completed in support of the FFHFMP (in addition to the water monitoring programs [in section 6.4], and the activities in support of the Water Management Plan [section 7.2]). This Program was conducted as per the Valentine Gold Project: Offsetting Plan, which forms part of the *Fisheries Act* Authorization for the Approved Project. The offsetting plan was developed to counterbalance Project-related HADD of fish habitat. The offsetting project involves the restoration of a portion of Victoria River Steady No. 5 via the removal of submerged pulpwood to improve fish habitat for salmonids. The habitat offsetting project began, and was scheduled for completion, in 2023. However, as the volume of submerged pulpwood encountered by field crews was significantly greater than original estimates, pulpwood removal was completed in 2024.

As required under Condition 5.1.1.1 of the *Fisheries Act* Authorization, monitoring was conducted following the initial implementation of the offsetting project, to document the quantity of submerged pulpwood removed from Victoria River Steady No. 5 as well as the area of pulpwood removal. A report summarizing the results of the offsetting measures conducted in 2024 – Valentine Gold Project: Year 1

(2024) As-Built Offsetting Plan Monitoring Report (Stantec 2024) – was submitted to DFO on December 19, 2024.

6.1.3 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

Based on the results of the 2024 as-built monitoring of the offsetting project, it is estimated that 99% of submerged pulpwood has been removed from the restoration area (see section 7.1.2 for additional details). Five post-restoration monitoring reports (2025, 2026, 2027, 2029 and 2030) will document habitat conditions and fish habitat utilization within the area of restoration on Victoria River Steady No. 5 and a reference area.

6.2 ACID ROCK DRAINAGE AND METAL LEACHING FOLLOW-UP MONITORING PROGRAM

6.2.1 PROGRAM OVERVIEW

The Acid Rock Drainage and Metal Leaching (ARD/ML) Management Plan (ARD/MLMP) (Marathon 2023e) was developed to verify the accuracy of the EA and determine the effectiveness of the mitigation measures as they pertain to adverse environmental effects, in accordance with Condition 3.18:

> *The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and the effectiveness of the mitigation measures as they pertain to acid rock drainage and metal leaching into the receiving environment from the Designated Project area, including from the waste rock storage areas, low- grade ore and ore stockpiles, and the tailings management facility. The Proponent shall implement the follow-up program through all phases of the Designated Project.*

The development of this plan also addresses Condition 3.15:

> *The Proponent shall develop procedures to identify and manage all mine rock that has the potential for or is already undergoing acid generation or metal leaching during all phases of the Designated Project in consultation with Environment and Climate Change Canada, Natural Resources Canada and any other relevant authorities, taking into account the Mine Environment Neutral Drainage Program's Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials, and implement these procedures during all phases of the Designated Project.*

The ARD/ML Management Plan was developed during the EA process based on consultation with DFO, ECCC, NRCan, and other relevant authorities (provincial regulatory departments) and through engagement with MFN and QFN. MFN and QFN have been advised as to how their comments were considered, including incorporating the results of those consultations where appropriate per Conditions 2.3 and 2.4. Calibre will continue to engage with each Indigenous group over the life of the follow-up program.

Further, in the second half of 2022 (post-EA release), Calibre has been engaged with the NL Department of Industry, Energy, and Technology (DIET), Mineral Development Division regarding *Mining Act* submissions and approvals. These submissions included the ARD/ML Management Plan, Phase III ARD/ML Report (described below), and how these plans relate to water management, Project design, and proposed rehabilitation and closure planning. The *Mining Act* submissions are issued to DFO and ECCC for review and comment. Comments received during this review/comment/revision process, along with the results from ongoing kinetic ARD/ML test work (humidity cells and field bin tests), were incorporated into the March 2023 update of the ARD/ML Management Plan that was issued to IAAC per Condition 3.5.

The ARD/ML Management Plan describes follow-up and monitoring activities for the construction, operation, and decommissioning/closure phases of the Project, following the Mine Environment Neutral Drainage Program's Prediction Manual and related regulatory compliance requirements and Project approvals and authorizations. The follow-up program was implemented with the commencement of the construction phase and will be followed during all Project phases, in accordance with the applicable Federal EA Conditions from Section 2 (General Conditions).

This Plan includes a summary of the characterization of the ARD/ML potential of overburden, mine waste, open pit wall rock, and rock materials to be used in construction. Note that a separate, Phase III ARD/ML Report has also been completed which contains the details on test work and assessment/modelling completed to date and provides recommendations regarding ongoing and future work. The Mine Environment Neutral Drainage Program has and will continue to be used in the assessment and management of rock and soil materials associated with the development, operation, and closure of the Project.

The Plan details confirmatory ARD and ML test work to be conducted on waste rock and tailings and construction rock during construction and operations, potentially acid-generating (PAG) rock management requirements, and water quality monitoring. The testing and management procedures outlined in the Plan are intended to ensure that acid-generating or potentially acid-generating materials are not used as construction materials (rock fill, crushed rock). The material (rock) management aspects of the plan addresses covering of all acid generating, potentially acid-generating, and potentially metal leaching materials, as well as other management procedures to protect the environment. These material management requirements cover all phases of the project and are incorporated into the Project's *Mining Act* submissions and approvals as noted above, which specify how all materials (PAG and non-PAG) are managed during operations and for rehabilitation and closure such that the ARD/ML risk is managed for post-closure conditions.

6.2.2 2024 PROGRAM RESULTS

Confirmation testing, conducted in accordance with the ARD/ML Management Plan commenced in October 2022 and continued throughout 2024. Confirmatory testing included ARD and ML testing at external laboratories based on the testing rate (samples per number of tonnes) prescribed within the requirements of the ARD/ML Management Plan.

Testing of rock samples collected from blast cuttings during construction activities in 2024 were predominantly well above the minimum criteria (neutralization potential ratio (RPR) must be 2 or greater) confirming the excavated rock to be non-PAG and suitable for use as construction rock. No rock samples collected in the Marathon Pit returned results below the minimum criteria (NPR < 2) in 2024. Out of 624 samples collected, two (2) samples returned results below the minimum criteria, both of which were from Leprechaun Pit. A total of 41 samples were collected at the TMF area 7 of which were returned as PAG. This equated to 5,143 tonnes of PAG material.

Testing results of all low grade ore (LGO) and HGO samples were non-PAG. The overburden samples tested from both the Leprechaun Pit and Marathon Pit were non-PAG, while four overburden samples from Leprechaun Pit returned results below the minimum criteria (NPR < 2) indicating they were PAG.

All PAG material was segregated and stockpiled in the Leprechaun Waste Rock Stockpile area for future blending and encapsulation within the waste rock stockpile in accordance with the ARD/ML Management Plan (Stantec 2023b) and the Development and Rehabilitation and Closure Plan approved by the NL DIET, Mineral Development Division.

6.2.3 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

A revised Plan (*Valentine Gold Project: Acid Rock Drainage and Metal Leaching (ARD/ML) Management Plan*) was finalized in August 2024. The revised document is the active plan to be followed. No additional measures have been or are proposed for implementation at this time.

6.3 AVIFAUNA FOLLOW-UP MONITORING PROGRAM

6.3.1 PROGRAM OVERVIEW

The Avifauna Follow-up Monitoring Program (AFMP) (Calibre 2024b) was developed to verify the accuracy of the EA as it pertains to use by migratory birds of surface water facilities, and to determine the effectiveness of mitigation measures to avoid harm to migratory birds and their eggs and nests, in consultation with Indigenous groups and ECCC – Canadian Wildlife Services (CWS) in accordance with Conditions 4.8 and 4.9.

Condition 4.8:

> *The Proponent shall develop, prior to construction and in consultation with relevant authorities and Indigenous groups, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the use by migratory birds, including migratory birds that are listed species at risk, of surface water facilities.*

Condition 4.9:

> *The Proponent shall develop, prior to construction and in consultation with Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the*

accuracy of the environmental assessment and to determine the effectiveness of all mitigation measures to avoid harm to migratory birds, including migratory birds that are listed species at risk, their eggs, and nests.

The AFMP describes follow-up monitoring activities and actions to be implemented to reduce potential adverse effects on birds, their eggs, and their habitat(s) during the Project, in accordance with regulatory compliance requirements and Project approvals and authorizations.

The AFMP consists of three components: 1) breeding bird monitoring; 2) surface water monitoring; and 3) mortality monitoring.

6.3.2 2024 PROGRAM RESULTS

In accordance with the AFMP, breeding bird monitoring surveys are to be conducted for three consecutive years, beginning in 2023.[1] Mortality monitoring is to occur continuously throughout the Project, and monitoring of surface waterbodies will begin in the first year of the operation phase.

2024 was the second year of construction phase monitoring, and breeding bird surveys were carried out between May 30 and July 6, 2024, to document the bird species present and provide further insight regarding the diversity of forest songbirds in the vicinity of the Project. The surveys consisted of point-count breeding bird surveys and autonomous recording units (ARUs). Point-counts and ARUs were distributed among three defined focal areas: treatment (<1 km from Project activities at the mine site), proximate (1-4 km from the mine site), and reference/control sites (>4 km from the mine site).

Collectively, 68 unique species were identified during the 2024 field program of which 58 were forest birds. A total of three species at risk (SAR) (Olive-Sided Flycatcher, Red Crossbill, Rusty Blackbird) and four species of conservation concern (SOCC) (Bay-breasted Warbler, Cape May Warbler, Blackburnian Warbler, Nashville Warbler) were detected by during the 2024 survey. Red Crossbills were detected at the Project site for the first time in 2024, and were found in a control area. Species richness measures were similar between focal areas, with 56 species identified in the treatment areas, and 55 species identified in both the proximate and control sites.

One avifauna mortality was reported in 2024. On October 1, 2024, an electrical contractor reported a dead bird at the Process Plant E-House which was positively identified as a Downy Woodpecker. This species is not migratory and not considered a SAR or a SOCC.

6.3.3 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

The AFMP was updated in 2024 to include targeted surveys for Short-eared Owl and Common Nighthawk, in accordance with the provincial conditions of EA release for the Project Expansion.

[1] Following which the frequency of additional monitoring will be determined based on the results of the analyses and in consultation with ECCC-CWS.

There were no recorded observations of Short-eared Owl or Common Nighthawk during the 2024 targeted surveys.

6.4 HEALTH OF INDIGENOUS PEOPLES

Calibre has developed four follow-up programs to verify the accuracy of the EA as it pertains to adverse environmental effects of Project-related changes to the quality of air, water, and country foods on the health of Indigenous Peoples, in accordance with Condition 6.1:

> *The Proponent shall develop, prior to construction and in consultation with Indigenous groups and Health Canada and any other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to adverse environmental effects of changes to the quality of air, water and country foods on the health of Indigenous Peoples, taking into account available traditional knowledge provided by Indigenous groups related to current use of lands and resources for traditional purposes.*

The four follow-up programs are described in the following sub-sections.

6.4.1 AMBIENT AIR QUALITY FOLLOW-UP MONITORING PROGRAM

The Ambient Air Quality Follow-up Monitoring Program (AAQFMP) identifies the sources of air contaminant releases during the Project and describes the mitigation measures for reducing gaseous and fugitive dust emissions associated with Project activities. The document also outlines the ambient air quality monitoring to be conducted to meet federal and provincial ambient air quality monitoring standards and criteria.

The objectives of the AAQFMP are to:

- Implement the ambient air quality monitoring program to monitor ambient particulate matter (PM) and trace metals concentrations relative to regulatory ambient air quality criteria.
- Implement mitigation measures to reduce emissions from the Project activities to the extent feasible.
- Use the ambient air quality monitoring results for PM and trace metals to implement adaptive management for fugitive dust emissions, as required.

6.4.1.1 2024 PROGRAM RESULTS

Monitoring equipment was installed late in December 2024 using temporary generator power until permanent electrical power can be provided to the trailer housing the sampling equipment. Air monitor results will be available in 2025 and reported by March 31 of the following year.

6.4.1.2 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

The AAQFMP was updated in October 2024 and included:

- An updated Project Overview to include Berry Pit.
- An update of project emissions to provide additional details for the air quality assessment.
- Update of meteorology content to include the installation of the meteorological station and the measurement parameters.
- Updated air quality methods to include regulatory consultation and monitoring equipment requirements.
- An update of the Guide for Reporting to the National Pollutant Release Inventory to reference 2022 - 2024.

A full listing of the mitigation and management commitments for the VGM can be found in Appendix 2E of the EIS (Marathon 2020). These measures will also be applied to the Berry Pit Expansion, as applicable. No new mitigation measures specifically pertaining to the Project Expansion were identified.

6.4.2 SURFACE WATER FOLLOW-UP MONITORING PROGRAM (SWFMP) PROGRAM

The Surface Water Follow-up Monitoring Program (SWFMP) (Calibre 2024f) was developed to verify the accuracy of the EA as it pertains to potential adverse environmental effects of Project-related changes to water. The primary purpose of the SWFMP is to identify the existing surface conditions, monitor the surface water and describe the management and mitigation measures that will be used to reduce potential effects from the Project.

In addition, the SWFMP will confirm compliance with applicable regulations (e.g., MDMER under the *Fisheries Act*), the site Certificate of Approval issued by NLDECC under the *NL Environmental Protection A*ct and the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL)).

6.4.2.1 2024 PROGRAM RESULTS

In 2024, surface water samples were collected during four sampling events and analyzed in accordance with the SWFMP.

The 2024 *in situ* and laboratory surface water quality monitoring results met the NLDECC Certificate of Approval criteria and were generally consistent with baseline water quality results presented in the EIS

(Marathon 2020a)[2] and there were no water quality exceedances identified as a result of Project activities. Comparison of surface water results to MDMER requirements will commence when the Project becomes subject to the MDMER.

A summary of 2024 monitoring results can be found in the Valentine Gold Mine: Annual Surface Water Follow-up Monitoring Program report (Stantec 2025).

6.4.2.2 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

No additional measures have been or are proposed for implementation at this time.

6.4.3 GROUNDWATER FOLLOW-UP MONITORING PROGRAM

The Groundwater Follow-up Monitoring Program (GWFMP) (Calibre 2024e) was developed to verify the accuracy of the EA as it pertains to adverse environmental effects of Project-related changes to water. The GWFMP defines the monitoring of groundwater levels and groundwater quality at key Project locations. Monitoring data from these locations will be used to validate the predicted effects of the Project on groundwater and to meet regulatory requirements related to specific permits and conditions of approval.

6.4.3.1 2024 PROGRAM RESULTS

In 2024, 51 monitoring wells were monitored for water level measurements and water quality within the Project Area. A total of 33 wells were monitored during four events and one monitoring event was completed for the 18 monitoring wells installed in September and October 2024. Groundwater samples collected in 2024 were analyzed in accordance with the GWFMP, as summarized below.

Groundwater elevation in shallow monitoring wells indicates that the water table is a subdued expression of the topography, with flow generally interpreted to be radially out from the elevated ridge that runs southwest-northeast through the centre of the Project Area towards surface water features. Based on the GWFMP, the trigger threshold for groundwater quantity requiring action is the decline of groundwater level below predicted minimum groundwater level elevations. In 2024, only a single monitoring well reported an exceedance of the groundwater level trigger threshold in one monitoring event. This exceedance is not considered to be Project related and no further action is required. In general, groundwater elevations were lowest during the October monitoring event at most monitoring wells and highest at most locations during November.

Based on 2024 analytical results, groundwater quality at the VGM is considered stable and consistent with baseline chemistry. Water quality parameters exceeded some of the applied criteria, and significantly

[2] Samples from 2024 that had parameters with one or more values above the CCME CWQG-FAL include aluminum, arsenic, copper, iron, nitrate (as N), weak acid dissociated cyanide, pH, and lead. These parameters were also identified as having values above the CWQG-FAL during the Valentine Gold Project Baseline Study Appendix 3: Water Resources (Marathon Gold 2020b).

increasing trends were reported for at least one indicator parameter in several monitoring wells during the reporting period. However, these significantly increasing trends are within baseline conditions and are not considered to be Project related. As a result, no further action is required at this time.

A summary of 2024 monitoring results can be found in the Valentine Gold Mine: 2024 Groundwater Follow-up Monitoring Program – Annual Report (Stantec 2025a).

6.4.3.2 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

Groundwater elevations are relatively stable and within the range of variation expected in a natural hydrological system, and no additional measures are proposed for implementation at this time. Groundwater quality remains consistent with baseline conditions. For monitor wells with elevated concentrations of suspended solids, further development will be carried out to decrease the fine particles within the well bore. .

6.4.4 COUNTRY FOODS FOLLOW-UP MONITORING PROGRAM

The Country Foods Follow-up Monitoring Program (CFFMP) (Calibre 2024d) was developed to verify the accuracy of the EA as it pertains to adverse environmental effects of Project-related changes to country foods on the health of Indigenous peoples. Country foods harvested from within the local assessment area are sampled on an ongoing basis to monitor the quality of terrestrial (plants, small and large mammals) and aquatic (fish) country foods, and soil samples will be collected to confirm that EA predictions are accurate and to address potential Indigenous or public concerns.

A baseline country foods sampling plan was completed in 2020. The results of the chemical analysis were then used to determine concentrations of metals in the environment to establish a baseline against which the Project and cumulative environmental effects will be assessed. Consultant Human Health and Ecological Risk Assessment experience and standard assessment protocols for mining projects, and metals (including mercury), were used to inform the details included in the CFFMP.

6.4.4.1 2024 PROGRAM RESULTS

In accordance with the CFFMP, the one-time sampling required during the Construction Phase was completed in 2024. Two local outfitters were engaged to provide large mammal (caribou, moose) tissue samples (from the fall 2024 hunting season). Seven tissue samples were collected by outfitters in 2024 (six from 2024 and 1 from 2023) but were not received in time to complete laboratory analysis within this reporting year. The results from those samples will be provided in the 2025 Annual Report.

6.4.4.2 PROGRAM UPDATES / ADDITIONAL MITIGATION MEASURES

No additional measures have been or are proposed for implementation at this time.

7.0 PLANS

In general, where a plan has been identified as a requirement of a Condition, a plan has been developed by subject matter experts in accordance with the requirements of Condition 2.0 and all sub-conditions. Additionally, plans were developed in consultation with DFO, ECCC, and other relevant authorities (as required), and through engagement with MFN and QFN. Each plan contains the information required under Condition 2.5.

As part of the Indigenous engagement on these plans, MFN and QFN were provided copies of the required plans for review and comment. Calibre received comments from each group and offered to meet with each group to discuss the plans. MFN and QFN were advised as to how their comments were considered, including incorporating results of engagement where appropriate (as per Conditions 2.3 and 2.4).

These plans have been implemented and will be reported on during all Project phases, in accordance with the applicable Decision Statement Conditions from Section 2 (General Conditions). Calibre will continue to engage with each Indigenous group on these plans over the life of the Project.

The plans are living documents that, in accordance with Calibre's ESMS, will be reviewed at a defined interval, updated, and improved upon based on monitoring results, regulatory or policy changes and technological changes as the Project progresses through the LOM phases.

The following sub-sections present an overview of the plans, and any updates made during the reporting period.

7.1 FISH HABITAT OFFSETTING PLAN

Calibre developed the Valentine Gold Project Offsetting Plan, in accordance with Condition 3.1:

> *The Proponent shall develop, prior to construction and to the satisfaction of Fisheries and Oceans Canada and implement any offsetting plan related to any harmful alteration, disruption or destruction of fish and fish habitat associated with the carrying out of the Designated Project. The Proponent shall submit any offsetting plan approved by Fisheries and Oceans Canada to the Agency before implementing it.*

7.1.1 PLAN OVERVIEW

Calibre developed the Offsetting Plan (Marathon 2022e) in consultation with DFO to fulfil the requirements of the *Fisheries Act* Authorization (FAA) to counterbalance project-related HADD of fish habitat. This plan details the offsetting of HADD through restoring a section of Victoria River Steady No. 5 via the removal of submerged pulpwood to improve fish habitat for salmonids. The intent is that pulpwood removal will facilitate the resuspension of fine sediment, thereby exposing the natural coarser substrates which would have been present prior to log driving in the area. The aim of returning the Steady to its natural coarse substrate is to facilitate the spawning and rearing of salmonids.

The Offsetting Plan was submitted to DFO on May 25, 2022, and approved through issuance of the *Fisheries Act* Authorization on October 18, 2022.

On December 18, 2024, Calibre submitted an amendment to the FAA to include the Berry pit expansion and a proposal to infill additional fish habitat in Stream 14 to meet the required 200 m setback associated with the storage of hydrocarbon materials (oils and lubricants) at the Mine Maintenance Facility area of the Process Plant Complex.

The proposed offsetting opportunity for the amended FAA involves the manual removal of submerged pulpwood from an area upstream of Victoria River Steady No. 5. Consistent with the original offsetting program, the intent of this work is to restore the coarser substrates present prior to log driving to increase suitable salmonoid spawning and rearing habitat.

7.1.2 2024 ACTIVITIES

The objectives of the offsetting measures in Year 1 (2024) were to:

- Manually remove the submerged pulpwood remaining after the 2023 program.
- Document the progress of offsetting activities.
- Estimate the quantity of submerged pulpwood removed.
- Install in situ water level and temperature data loggers to record environmental parameters that may affect flushing of substrates or fish populations on an annual basis.

These objectives were achieved, and the progress of the offsetting measures was documented in the report Valentine Gold Project: Year 1 (2024) As-Built Offsetting Plan Monitoring Report, which was submitted to DFO on December 19, 2024 (Stantec 2024).

The habitat offsetting project began, and was scheduled for completion, in 2023. However, as the volume of submerged pulpwood encountered by field crews was significantly greater than original estimates, pulpwood removal from Victoria River Steady No. 5 continued, and was completed, in 2024. To record environmental parameters that may affect flushing of substrates or fish populations on an annual basis in situ water level and temperature data loggers were deployed in Victoria Steady No. 5 in 2024.

Approximately 138 cords of submerged pulpwood were removed in 2024. The total volume removed since the offsetting program began in 2023 was estimated at 310 (Victoria Outfitters 2024). In some locations it was noted during the 2024 fieldwork, that fines near the shoreline had been flushed away since removal of the pulpwood and coarser substrates were observed.

To date, pulpwood has been removed from approximately 99% of the restoration area. It is anticipated that the removal of the any remaining submerged pulpwood will be undertaken in subsequent years as fine substrates are flushed away if additional pulpwood is exposed. Habitat and biological monitoring will

be completed as described in the offsetting plan to monitor the effectiveness of the offsetting opportunity at providing the intended benefits.

7.1.3 PLAN UPDATES

There were no updates to the current Offsetting Plan during the reporting period. The plan will be maintained and updated as required during all Project phases. Based on the results of the offsetting project as-built monitoring conducted in 2024, the habitat and biological monitoring program will begin in 2025.

On December 18, 2024, as part of the permitting process for the Valentine Gold Mine, a separate Offsetting Plan was submitted to fulfil the requirements of the FAA Amendment application to counterbalance HADD of fish habitat. This offsetting plan proposes to offset HADD resulting from the Berry pit expansion and additional infilling of Stream 14, through the restoration of additional salmonid habitat in Victoria River via the removal of submerged pulpwood (Stantec 2024c).

7.2 WATER MANAGEMENT PLAN

The primary mechanism to reduce erosion and sediment during the Project is the water management infrastructure itself. Marathon developed the Water Management Plan (WMP) (Marathon 2024a), which summarizes specifications for water management infrastructure, and addresses Conditions 3.7 and 3.9.

Condition 3.7:

> *The Proponent shall develop prior to construction and implement during all phases of the Designated Project erosion and sediment control measures in a manner consistent with the fish and fish habitat protection provisions and the pollution prevention provisions of the Fisheries Act taking into account Fisheries and Oceans Canada's Measures to Protect Fish and Fish Habitat. The Proponent shall submit the measures to the Agency prior to implementing them. In doing so, the Proponent shall:*
>
> - *3.7.1 – develop, in consultation with relevant authorities, and implement measures that take into account future climate change scenarios, including periods of high water and wind, elevated snowpack, heavy rainfall and snowfall.*
> - *3.7.2 – maintain and regularly inspect, subject to safety requirements, all erosion and sediment control measures installed within the Designated Project area and document and repair any defective or damaged control measure as soon as technically feasible.*

Condition 3.9:

> *The Proponent shall manage mine effluent before it is deposited into the receiving environment during all phases of the Designated Project. In doing so, the Proponent shall:*

- *3.9.1 – collect effluent, including seepage, from operation through decommissioning, including from the overburden stockpiles, ore stockpiles, waste rock piles, tailings management facility and open pits.*
- *3.9.2 – when collecting effluent pursuant to Condition 3.9.1, construct and maintain contact water collection ditches around overburden stockpiles, ore stockpiles and waste rock piles to collect seepage during all phases of the Designated Project.*
- *3.9.3 – treat effluent collected pursuant to Condition 3.9.1 as required in accordance with the Metal and Diamond Mining Effluent Regulations and the pollution prevention provisions of the Fisheries Act prior to its release into the environment.*

7.2.1 PLAN OVERVIEW

The WMP was developed to reduce operational risks and environmental effects of the Project. The plan objectives include:

- Reduce water inventory requiring management through perimeter berms to divert external non-contact runoff.
- Reduce the number of final discharge points through grading of ditches and construction of diversion channels to combine discharge points into water management ponds.
- Maintain flow to fish bearing streams and wetlands by maintaining pre-development catchments to the extent feasible.
- Reduce water management costs during operation through grading and gravitational drainage and thereby reduce pumping requirements.

The WMP summarizes the design criteria, information sources, project requirements, design calculations and specifications for water management infrastructure associated with the construction phase and incorporates consideration of future climate change scenarios. In addition, erosion and sediment control (ESC) measures have been developed to align with the fish and fish habitat provisions and pollution prevention provisions of the *Fisheries Act* and conditions specified in the FAA.

Erosion and sediment control measures are also described in the EPP, which forms part of the contract documents and work packages, and erosion and sediment control specifications, including objectives, installation and removal procedures and requirements, and inspection and maintenance requirements and checklists. The contractor will update and provide implementation plans for the erosion and sediment control measures prior to the commencement of construction, where applicable.

7.2.2 2024 ACTIVITIES

In 2024, water management measures were employed based on the Water Management Plan, the EPP and contractor implementation plans for ESC.

These measures included 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 carried out as required. Some 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 ladened water to vegetated areas or dewatering bags.
- 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 water courses. 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. 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 DFO, NLDECC and IAAC.

Further to reporting these events, Calibre consulted with regulators regarding existing ESC measures and other mitigation measures which could be utilized to address the sedimentation issues. An example of a direct result of these consultations is the procurement of alternative measures including flocculant blocks and inline treatment systems which were deployed in the spring of 2024 to further aid in the reduction of sediment from construction run off before it enters the surrounding environment.

Between July and November, Calibre also completed construction of the Seepage Pond associated with the TMF and constructed four permanent sedimentation ponds providing a significant increase in runoff holding capacity and retention time.

DFO carried out site inspections in June and September of 2024 and acknowledged the consultations, implementation of additional ESC measures and transparency with positive feedback received both during the visits and in written post-inspection reports. Calibre will continue to consult and report similar issues in the future and is committed to the continued review and improvement of water management to ensure these occurrences are minimized or eliminated.

7.2.3 PLAN UPDATES

A 2023 revised draft WMP was created and submitted to the applicable provincial and federal government departments in August 2023, as part of the Berry Pit Expansion Environmental Registration / Environmental Assessment (Valentine Gold Project) Update. The Project Expansion was approved by federal and provincial governments in July 2024 and October 2023, respectively. The revised WMP was part of the EA submission and is now the active WMP for site use.

The plan will be maintained and updated as required during all Project phases.

7.3 FISH RESCUE PLAN

Calibre developed a Fish Rescue Plan (FRP) (Calibre 2024b), in accordance with Condition 3.10:

> *The Proponent shall, salvage and relocate fish in consultation with Fisheries and Oceans Canada prior to conducting any Designated Project activity requiring the removal of fish habitat in a manner that complies with any authorization issued under the Fisheries Act.*

7.3.1 PLAN OVERVIEW

The FRP was developed and submitted to DFO for approval as a condition of the *Fisheries Act* Authorization. The *Fisheries Act* Authorization was received in October 2022, and the FRP was finalized in September 2022 (Marathon 2022d). The document describes the proposed fish rescue plan which will be conducted prior to dewatering areas of in-water works and following the construction of water management infrastructure, which is predicted to result in the indirect loss of fish habitat and potential fish stranding. The objective of the fish rescue will be to remove as many fish as reasonably practical and transfer them to suitable habitat nearby that will not be affected by the Project. A secondary objective will be to collect biological data from the fish captured (i.e., number, length, weight).

Activities for salvage and relocation of fish will follow the mitigation measures, best management practices, and approval conditions in the *Fisheries Act* Authorization, as well as any requirements in other applicable permits.

Calibre has and will continue to retain an aquatic biologist and will complete the relocation of fish during the fish salvage prior to conducting any work where the removal of fish habitat or dewatering of fish-bearing water is planned to occur, in compliance with the *Fisheries Act* Authorization. These activities will be completed directly prior to installation of project components such as culverts, realignment activities

and instream work, as applicable. An aquatic biologist will obtain and comply with all applicable permits prior to any salvage activities.

7.3.2 2024 ACTIVITIES

In 2024, fish were rescued from pond M1 and stream 8 prior to dewatering and future development of the Marathon pit, to avoid the death of fish, by means other than fishing, as described under Section 34.4 of the *Fisheries Act*. A perched culvert was placed in stream 8 at the downstream extent of the Marathon pit footprint to prevent fish entry into the isolated work area. In total, 185 brook trout and three ouananiche were rescued from pond M1 and stream 8 in June 2024, using fyke nets, minnow traps, seine nets, gill nets, and backpack electrofishing. No sticklebacks were captured or observed. Of the 188 fish captured, 186 were relocated to stream 9 and the outlet of Valentine Lake. There were two fish mortalities (both brook trout) (Stantec 2024b).

7.3.3 PLAN UPDATES

There were no updates to the FRP during the reporting period. The plan will be maintained and updated as required during all Project phases.

7.4 CURRENT USE OF LANDS AND RESOURCES FOR TRADITIONAL PURPOSES INDIGENOUS COMMUNICATIONS PLAN

Calibre has developed the Current Use of Lands and Resources for Traditional Purposes Indigenous Communications Plan ('the Plan') (Marathon 2022g) to meet Conditions 7.1 and 7.2.

Condition 7.1:

> *The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a communication plan to share information with Indigenous groups on the adverse environmental effects of Designated Project activities as they relate to the current use of lands and resources for traditional purposes. The Proponent shall implement and maintain the communication plan during all phases of the Designated Project.*

Condition 7.2:

> *The Proponent shall develop, as part of the communication plan referred to in Condition 7.1 and in consultation with Indigenous groups, procedures for Indigenous groups to communicate to the Proponent their concerns or views about adverse environmental effects caused by the Designated Project related to the current use of lands and resources for traditional purposes, including issues of access, and procedures for the Proponent to document and respond in a timely manner to the concerns received and demonstrate how issues have been addressed, including through the implementation of additional or modified mitigation measures. The Proponent shall implement these procedures during all phases of the Designated Project.*

7.4.1 PLAN OVERVIEW

The Plan establishes a communication protocol which will be observed by Calibre in advance of conducting routine Project activities (either on-site or in the surrounding area) that may have adverse effects of the current use of lands and resources for traditional purposes by MFN or QFN. The Plan is to be read in conjunction with the Accidents and Malfunctions Indigenous Communications Plan (Calibre 2024h), which addresses communication with Indigenous groups in the case of an unplanned event or accident which results in adverse environmental effects.

Calibre has engaged and will continue to engage with both MFN and QFN, respecting the potential adverse effects of the Project upon the current use of lands and resources for traditional purposes.

The Plan consists of two principal components:

- A formalized process for quarterly advance notification of planned Project activities, the nature and magnitude of potential environmental effects of those activities and associated mitigation measures.
- A formalized process for ongoing engagement. Methods of engagement include regular updates on upcoming and ongoing Project activities through e-mail, correspondence, quarterly newsletters, and periodic meetings (either virtual or in-person), transmission of reports including this Annual Report for Federal EA, and Calibre's annual Sustainability Report.

Engagement processes include opportunities for each Indigenous group to identify issues or concerns relating to the potential impact of the Project upon the current use of lands and resources for traditional purposes. These opportunities are provided through periodic meetings, including meetings of joint environmental committees established under a Socio-Economic Agreement or similar agreement to discuss environmental matters. In addition, Calibre will hold an annual meeting with each Indigenous group which will include an overview of the efficacy of programs referenced in EA Condition 7.1.4, and the need for any additional or modified mitigation measures. The annual meeting with MFN was held in December 2024. A meeting with QFN Chief and Band Manager was held in June 2024 but as a result of Band elections, a meeting with Chief and full Council was deferred until March 2025 as a result of their election process. Regular engagement processes will also provide opportunities for Indigenous groups to share traditional knowledge, and Calibre has committed to involving each group in monitoring programs.

In addition to opportunities for Indigenous input provided through this Plan and through agreements Calibre has concluded with Indigenous groups, Calibre has established an external Stakeholder Grievance Mechanism. Individuals or Indigenous representatives may submit complaints to Calibre through multiple avenues (phone, email, oral notification) and such complaints will be addressed within stipulated timeframes. Grievances are tracked and recorded and reported to Calibre's executive team and stakeholders on a periodic basis and monitored as part of the ESMS. An annual Grievance Report is included in Calibre's annual Sustainability Report which is published on Calibre's website and distributed to all stakeholders.

Calibre maintain a tracking document specific to each Indigenous group that will record and document the results of the specific follow-up program, Indigenous issues and concerns, and Calibre's response to address identified issues, including any modified or additional mitigation measures.

7.4.2 2024 ACTIVITIES

In addition to the various engagement activities described in section 5.4, pursuant to Conditions 7.1 and 7.2, and to Section 3.2 of the Plan, Calibre issues quarterly notices to both QFN and MFN of upcoming Project-related activities 14 days in advance of the commencement of the quarter. In the event that notice is provided less than 14 days prior to the commencement of the quarter, the time period for Indigenous comment is extended. Each notice contains the following information:

- The identification of those Project activities that may affect access to or the quality of the experience of Indigenous uses of lands and resources for traditional purposes including hunting, trapping, fishing and/or gathering.
- The location, timing, duration and frequency of these Project activities.
- A preliminary identification of potential effects of the on current use of lands and resources for traditional purposes by Indigenous groups.
- Associated mitigation measures.
- A preliminary assessment of the magnitude of the potential effects (using the various magnitude classifications as contained in the Valentine Project Environmental Impact Statement).

Although the Plan stipulates that Indigenous groups have a minimum of 10 days following receipt to provide comments, Calibre has made every reasonable effort to provide a 14-day period in which to provide comments and, if comments are provided, Calibre has committed to meet with the Indigenous group to discuss.

During 2024, quarterly notices were provided as follows:

- March 13, 2024 – for upcoming activities in quarter (Q) 2 2024.
- June 13, 2024 – for upcoming activities in Q3 2024.
- September 20, 2024 – for upcoming activities in Q4 2024.
- December 17, 2024 – for upcoming activities in Q1 2025.

To date, no comments have been received from either Indigenous group in respect of the notices.

The prospective quarterly notices issued under the Current Use of Lands and Resources for Traditional Purposes Indigenous Communications Plan are supplemented by retrospective reports which Calibre developed and transmitted in 2024. The retrospective reports, which are provided to each First Nation,

detail Project related activities carried out during the preceding quarter and include environment-related project matters such as spills and incidents, wildlife observations on site and environmental monitoring activity.

7.4.3 PLAN UPDATES

There were no updates to the Plan during the reporting period. The Plan will be maintained and updated as required during all Project phases.

7.5 CARIBOU PROTECTION AND ENVIRONMENTAL EFFECTS MONITORING PLAN

The Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP) (Marathon 2022b) was developed, in part, to meet Condition 9.1:

> *The Proponent shall identify, prior to construction and in consultation with relevant authorities, time periods during which Designated Project activities that may adversely impact woodland caribou (Rangifer tarandus caribou) must be carried out in order to protect the species.*

Additionally, based on consultation with the NLDFFA – Wildlife Division, Calibre has developed migration-specific plans since the fall 2022 migration, to supplement the CPEEMP. The migration-specific plans focus on mitigation measures to be employed based on planned construction activities by Calibre within that migratory period, as the site and activities change with time.

7.5.1 PROGRAM OVERVIEW

The CPEEMP was developed in consultation with the NLDFFA – Wildlife Division, Indigenous groups, and the NLOA, to identify risks to caribou that migrate through the area semi-annually or spend time in proximity to the Project, and mitigation and monitoring measures to be implemented to reduce Project-related effects on caribou.

Calibre has been conducting baseline caribou monitoring since 2019 through various means, including web-based telemetry tracking of collared caribou, remote cameras, post-calving aerial surveys, and visual observations. This data, along with historical collar and demographic data provided by the NLDFFA – Wildlife Division, has been used to assess caribou activity and behaviour in proximity to the Project. The resulting information has been used to determine how Project activities may adversely affect caribou and the associated mitigation measures that will be employed over the life of the Project. Since construction began in the fall of 2022, monitoring has been conducted to gather data and to support the implementation of protection and mitigation measures as per the CPEEMP and the migration-specific plans. Near real-time monitoring has been instrumental in determining when to change protection levels based on caribou proximity to project activities and caribou behaviour (e.g., migration, post-calving) (see Table 5.1 in the CPEEMP for details on protection levels).

7.5.2 2024 ACTIVITIES

The CPEEMP was implemented with the start of construction in October 2022. The migration-specific mitigation measures and monitoring activities, first implemented for the fall 2022 migration, were also in place for both spring and fall migrations in 2024 in accordance with the CPEEMP. Caribou monitoring was conducted using collar tracking software / telemetry data, remote cameras, and visual observations via spotting scope and drone. Caribou monitoring outside of the migration periods included collar tracking (telemetry) and a post-calving aerial survey. During the 2024 fall caribou migration, NLDFFA – Wildlife Division personnel spent time on-site. This marked the first time since implementation of the CPEEMP, that they were able to directly participate in caribou monitoring with the Calibre environmental team and observe mitigation activities at the VGM.

7.5.2.1 SPRING AND FALL MIGRATION

Migration-specific plans were developed and implemented for the spring and fall migration periods, focusing on the construction activities planned for those migratory periods and the associated mitigation measures (Calibre 2024j and 2024k). Mitigation measures included employee / contractor communication to increase awareness regarding caribou movement and required mitigations, and the requirement to report caribou sightings, and the preparation for, and implementation of, reduced construction and mining activities, traffic, and speed limits amongst other mitigation measures.

Caribou movement during the migration period is monitored via telemetry software (collar monitoring) for animals approaching and departing the site. While moving through or around the site, caribou movement was observed using direct visual observation from high points, binoculars, spotting scopes and drones.

In the spring, caribou were first observed herding tighter and moving northwest near the end of March 2024, and migratory movement occurred from early-April to early May. Small groups of caribou or singular animals were observed on site post-migration through to early September which occasionally required short-duration suspension of specific and localized site activities (e.g., pit blasts being postponed) until caribou had moved safely away.

For the 2024 fall migratory period, increased monitoring and mitigation measures per the CPEEMP and the fall 2024 specific plan (Calibre 2024j) began in early October. Caribou were observed migrating through the primary migration corridor from late-October to early December, with no caribou observations reported at site after mid-December.

The NLDFFA - Wildlife Division was informed and consulted on caribou movements, protection levels, and mitigation measures throughout the migration periods.

7.5.2.2 AERIAL SURVEY OF CARIBOU CALVING GROUNDS

To meet commitments in the CPEEMP regarding predicted changes to the Buchans and Grey River population, aerial surveys were undertaken from June 11 to June 16, 2024 to obtain herd composition information about the Buchans herd and the Grey River caribou that calve in the zone of influence (ZOI)

of the Project (17-km buffer around the mine site and 4-km buffer along the south side of the Project access road), and to complete a population estimate on the Buchans herd calving ground (outside of the ZOI). Aerial surveys were undertaken in accordance with methods and conditions outlined in Scientific Research Permit WLR2024-39 issued by NLDFFA – Wildlife Division and following direction from NLDFFA – Wildlife Division on the timing and extent of the survey area. A representative of NLDFFA – Wildlife Division also participated in the survey.

The 2024 survey objectives, area, methods and results are summarized in the report Valentine Gold Project: 2024 Aerial Survey of Caribou Calving Grounds. The 2024 Aerial Survey of Caribou Calving Grounds represents the second survey since implementation of the CPEEMP. As per commitments in the CPEEMP, annual surveys will continue throughout the construction phase of the Project.

7.5.2.3 CARIBOU REMOTE CAMERA MONITORING PROGRAM – SPRING AND FALL

Remote camera monitoring of caribou, as specified in the CPEEMP, is to be conducted during the annual spring and fall migration periods for all Project phases. The spring and fall 2024 remote camera monitoring programs were the tenth and eleventh surveys, respectively, in a series of remote camera surveys that began in 2019, and the fourth and fifth surveys during the construction phase of the Project.

The remote cameras were deployed several weeks prior to the typical migrations dates and retrieved several weeks after the migration concludes. The data was processed post-migration, and the objectives, area, methods and results of the camera monitoring are summarized in the reports Valentine Gold Project: Caribou Remote Camera Monitoring Program – Spring 2024 (Construction Phase)(Stantec 2025b) and Valentine Gold Project: Caribou Remote Camera Monitoring Program – Fall 2024 (Construction Phase)[3]. These reports are not intended to provide detailed analyses or comparison with remote camera data collected in previous years or seasons; rather, the data will contribute to further efforts and analyses defined in the CPEEMP. Please see Appendix 10A of the Berry Pit Expansion Environmental Registration / EA Update for an example of data consolidation (baseline data collected from submission of the Valentine Gold Project EIS in September 2020 to shortly before construction began in Fall 2022) (Stantec 2023a).

7.5.3 PLAN UPDATES

Based on consultation with the NLDFFA – Wildlife Division, Calibre had developed a migration plan specific to each migration to supplement the CPEEMP. Similar plans were developed for the Spring 2024 and Fall 2024 migration periods (Calibre 2024j, 2024k). The migration-specific plans focus on mitigation measures required based on the construction activities planned by Calibre within the particular migratory period. During the construction phase and early operations phase, as Project activities and components

[3] Not yet available, as the remote cameras were retrieved (post-migration) on January 3, 2025; data analysis and reporting are ongoing.

will fluctuate in terms of location, intensity and footprint, migration-specific plans will continue to be developed for each migration period.

Calibre continues to consult with the NLDFFA – Wildlife Division with respect to all commitments respecting caribou and the CPEEMP, and review of monitoring and mitigation implementation activity occurs on an ongoing basis, prior to, during and post-migration. Ongoing monitoring, data review and further engagement with respect to the CPEEMP will result in formal updates to the CPEEMP and to the migration-specific plans. A formal update to the CPEEMP is expected in 2025.

7.6 ACCIDENTS AND MALFUNCTIONS PREVENTION AND RESPONSE PLAN

Calibre developed an Accidents and Malfunctions Prevention and Response Plan (AMPRP) (Calibre 2024g) to meet Condition 10.3:

> *The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, an accidents, and malfunctions response plan in relation to the Designated Project.*

7.6.1 PLAN OVERVIEW

The AMPRP was developed to identify potential accidents and malfunctions that may cause adverse environmental effects and outlines mitigation, response measures for each and reporting requirements. The Indigenous Communication Plan (Appendix B) details the procedures that Calibre will employ to notify MFN and QFN upon the occurrence of accidents and malfunctions.

7.6.2 2024 NOTIFICATIONS

In 2024, there were two incidents that required external reporting to regulators.

1. On January 28, 2024, a damaged power steering hose on a haul truck ultimately ignited a fire which lead to the loss of 300L of combined petroleum hydrocarbon-based products (i.e., hydraulic oil, motor oil, diesel) and glycol-based cooling products (i.e., power steering fluid, brake fluid and cooling systems fluids) to the haul road. .

   Once the fire was extinguished and the scene was deemed safe, Calibre initiated remediation of potentially impacted soil in the area. Contaminated materials (soil/rock and absorbent materials) were removed from the area and stored in appropriate containers for proper disposal, in accordance with the AMPRP. Corrective actions were identified and are being implemented to prevent similar, future incidents. Calibre provided notification of the spill to both MFN and QFN on March 12, 2024.

   GEMTEC was retained by Calibre and completed a Phase II Environment Site Assessment (ESA) in response to the event. Based on GEMTEC's findings and recommendations, further

environmental assessment or remediation is not warranted for current and planned future land use (industrial) and groundwater (non-potable) (GEMTEC 2024).

2. On October 2, 2024, during an IAAC compliance inspection, it was discovered that water, containing drill cuttings, was flowing from a temporary drill water retention pit established for a exploration diamond drill. and into the surrounding terrestrial environment. Although potential adverse environmental effects were difficult to define, as the area is designated to be stripped and excavated as part of the Marathon pit development, AMPRP measures were implemented.

   Initial notification to IAAC was completed at the time of inspection on October 2, 2024, and immediate corrective actions were implemented. These corrective actions included:

   - Excavation of drill cuttings outside of containment.
   - Modifying the drill sump to include higher banks and a defined spillway.
   - Deployment of oil absorbent boom in the sump to capture any potential residual hydrocarbons.
   - Realignment of the site ditching directing drill water flow into the main sump.

   Water and soil samples were collected from the sump by Calibre personnel and sent for analysis. Analytical results indicated that soil from the sump potentially contained residual hydrocarbon, at concentrations below applicable.

   To prevent future occurrences, mitigation measures were implemented and included:

   - Development of an exploration drilling procedure.
   - Development of a drill targeted environmental site inspection checklist.
   - Enacting a requirement to remediate inactive drill sumps.

Analytical results and implemented mitigation measures were included in the 90 day follow up report sent to IAAC and the incident has since been closed.

Construction activities resulted in occasional ESC issues which were identified during regular inspections and required additional or alternative mitigations. These events occurred at various locations at the Project Site and were experienced primarily because of heavy precipitation events or extended periods of rainfall. 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 DFO and IAAC.

Further to reporting these events, in 2024 Calibre continued to consult with DFO, and provincial regulators on mitigations currently deployed and on further mitigations needed to help address the issues identified including:

- Construction of additional perimeter ditching with check dams to redirect and dissipate the energy of water around work fronts.
- Construction of additional sediment basins to allow increased retention and sediment settling time.
- Installation of additional pumps in the sediment basins to increase their capacity during heavy precipitation events by redirecting sediment ladened water to vegetated areas.
- Installation of additional erosion and sediment control materials including sediment fencing, straw bales, filter fabric, sediment bags and turbidity curtains to aid in sediment filtering.
- The procurement and deployment of alternative products including flocculant blocks, flocculant in-line reactors and dewatering bags (i.e., Geotubes).

These consultations and additional implementations were acknowledged by DFO during follow-up site inspections with positive feedback received both during the visits and in the follow-up written reports. Calibre will continue to consult and report on any issues experienced and is committed to the continued review and improvement of water management to ensure these types of events are prevented.

7.6.3 PLAN UPDATES

The AMPRP was updated in 2024, primarily to reflect changes in ownership and key personnel for the Project to Calibre and include details and Project changes associated with the Berry Pit Expansion.

The most significant change to the AMPRP was the removal of Appendix A, the Indigenous Communications Plan, which was replaced by a unique document titled, Accidents and Malfunctions Indigenous Communications Plan.

The plan will be maintained and updated as required during all Project phases.

8.0 ADDITIONAL FOLLOW-UP PROGRAMS AND PLANS

In addition to the various follow-up programs and plans that are a requirement of a Condition set out in the Decision Statement described in Sections 6.0 and 7.0, Calibre has also developed other follow-up monitoring programs and plans. Summaries of these programs and plans are presented in Table 8-1 below.

Table 8-1 Summary of Additional Follow-up Monitoring Programs and Plans

Document Title	Document Type	Issue Date	Summary and Purpose of Program/Plan
Greenhouse Gas Emissions Follow-up Monitoring Program	Monitoring Program	2023-01-25	The purpose of the Greenhouse Gas Emissions Follow-up Monitoring Program (GHGEFMP) is to verify predictions and address commitments made in the EIS (Marathon 2020) as well as those developed through Information Requirements received as part of the regulatory review process. This document describes follow-up and monitoring activities for the construction, operation, and decommissioning/closure phases of the Project, based on regulatory compliance requirements and Project approvals and authorizations. In the context of this program, "monitoring" of greenhouse gas (GHG) emissions refers to the quantification of GHG emissions based on activities and estimates associated with the associated releases to the atmosphere, and not the direct measurement of GHG emissions.
Other Wildlife Follow-up Monitoring Program	Monitoring Program	2024-11-20	The purpose of the Other Wildlife Follow-up Monitoring Program (OWFMP) is to verify predictions and address commitments made in the EIS. The EIS is required as per Section 67(3) (a) of the *NL Environmental Protection Act.* This document describes follow-up and monitoring activities for the construction, operation, and decommissioning/closure phases of the Project, based on regulatory compliance requirements and Project approvals and authorizations. For this OWFMP, other wildlife, as defined in the EIS, includes large mammals (except caribou), furbearers and small mammals; separate Plans have been developed specific to avifauna and caribou.
Outfitters Environmental Effects Monitoring Plan	Monitoring Plan	2022-06-29	The OEEMP was requested as a Condition of approval for the Project's EIS. Calibre and the NLOA were required to develop an OEEMP to address outfitters effects monitoring for the construction, operation and rehabilitation, closure, and decommissioning phases of the Project. The OEEMP is intended to establish a program to monitor the effectiveness of measures to mitigate potential adverse effects upon outfitters' land and resource use and associated economic conditions. The OEEMP builds on existing information and commitments made in the EIS as well as information generated through engagement with NLOA and includes: • Mitigation objectives. • Mitigation measures. • Monitoring programs and key performance indicators to confirm that mitigation strategies are meeting mitigation objectives. The OEEMP is intended to apply to all outfitters whose operations may potentially be affected by the Project including those outfitters operating in the Regional Assessment Area (RAA) as well as outfitters operating outside the RAA that can establish a direct link between a Project effect and their business.
Environmental Protection Plan	Management Plan	2024-10-11	The purpose of the EPP is to outline protection and response measures associated with potential environmental effects related to the VGM. This plan also describes practical procedures required of all personnel (i.e., Calibre, employees, contractors, and suppliers) to reduce or eliminate potential adverse environmental effects, as well as instructions for addressing planned and unplanned activities/events associated with VGM construction. To avoid and reduce adverse environmental effects, best management practices will be employed throughout all VGM activities.

Document Title	Document Type	Issue Date	Summary and Purpose of Program/Plan
Noise Follow-up Monitoring Program	Monitoring Program	2023-01-16	The Noise Follow-up Monitoring Program (NFMP) provides an overview of the preliminary acoustic assessment (noise monitoring and noise modeling) conducted to support the preparation of the EIS, and its methodology is based on the findings of the preliminary acoustic assessment and recommendations. The monitoring program has been developed to contribute to the mitigation, management, and monitoring of Project-related effects on sound quality. The program is based on regulatory compliance requirements and approvals and authorizations specific to the Project; however, additional mitigation, management, and monitoring details may be determined upon issuance of regulatory permitting and consultation with regulators.
Construction Traffic Management Plan	Management Plan	2022-04-26	The Construction Traffic Management Plan (TMP) is a component of the EPP. The intent of this plan is to reduce impacts on regional traffic during the construction phase of the Project. This document describes the key aspects of traffic management and controls to be implemented by Calibre associated with site access, traffic routing and management with respect to vehicle and employee transportation during the construction phase for the Project. The requirements under this Plan apply to Calibre's staff, contractors, and consultants. This plan focuses on the primary, public road network for the Project, comprising the mine access road and traffic movement through Buchans Junction and Millertown.
Waste Management Plan	Management Plan	2022-07-25	The purpose of the Waste Management Plan is to ensure that collection, storage, transportation, and disposal of all waste generated by the Project is conducted in a safe, efficient, and environmentally compliant manner. The Waste Management Plan identifies potential waste streams and establishes roles and responsibilities of the various Calibre departments and contractors as well as setting guidelines for storing and processing the waste within the various Waste Management Facilities at the Project site. This Waste Management Plan applies to construction and operations at Valentine Lake Project. All personnel, including site visitors and contractors, are required to follow the requirements outlined in the Waste Management Plan. The plan is reviewed on an annual basis and updated as necessary to accommodate changes in waste streams, or technology.
Emergency Response Plan	Management Plan	2023-01-04	The purpose of the Emergency Response Plan (ERP) is to provide an appropriate and consistent response to any reasonably foreseeable emergency that may occur at the Project. The ERP provides the framework in the event of an emergency for the protection of life, environment, property/equipment and to identify predetermined courses of action during emergency situations at the Project. This plan defines the responsibilities of key personnel and outlines the protocols to be followed when responding to emergencies in a way that will avoid or minimize health and safety risks, reduce trauma, safety hazards, environmental damage, and reputation with efforts to return to normal business.
Rehabilitation and Closure Plan	Management Plan	2024-11-26	A Rehabilitation and Closure Plan (RCP) is a requirement for mining projects under the Newfoundland and Labrador Mining Act. The RCP discusses measures that will be undertaken to restore the Project property as close to its former use or condition as practicable, or to an alternate use or condition that is deemed appropriate and acceptable by the NL Department of Industry, Energy and Technology (NLDIET), NL Department of Environment and Climate Change (NLDECC), and NL Department of Fisheries, Forestry and Agriculture – Wildlife Division (NLDFFA – Wildlife Division). There are three key stages of rehabilitation activities that occur over the life span of the mine, which include: • Progressive rehabilitation - completed throughout the mine operation prior to closure wherever practicable to do so. • Closure rehabilitation – completed after mining operation ceases, to restore and/or reclaim the Project to as close to its pre-mining condition as practicable.

Document Title	Document Type	Issue Date	Summary and Purpose of Program/Plan
			• Post-closure monitoring and treatment – required to show that the rehabilitation has been successful. The RCP considers rehabilitation strategies that are sustainable and compatible with local and regional topography, soil and climatic conditions. The overall objectives of the RCP include: • Restoration of the health and fertility of the land to a self-sustaining, natural state. • Provision of an agreeable habitat for wildlife (including fish) in a balanced and maintenance free ecosystem. • Creation of a landscape which is visually acceptable and compatible with surrounding terrain. • Mitigation and control to within acceptable levels, the potential sources of pollution, fire risk, and public liability. • Provide a safe environment for long term public access.

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10.0 APPENDICES

Appendix A CONDITION IMPLEMENTATION ACTIVITIES

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
2 General Conditions			
General Conditions (2.1 to 2.2)			
2.1	The Proponent shall ensure that its actions in meeting the conditions set out in this Decision Statement during all phases of the Designated Project are considered in a careful and precautionary manner, promote sustainable development, are informed by the best information and knowledge including community and Indigenous knowledge, available at the time the Proponent takes action, are based on methods and models that are recognized by standard-setting bodies, are undertaken by qualified individuals, and have applied the best available economically and technically feasible technologies.	Refer to Section 4.0 of the Annual Report.	Prior to construction and ongoing over the life of the Project.
2.2	The Proponent shall ensure that its actions in meeting the conditions set out in this Decision Statement are taken in a way that is consistent with any applicable recovery strategy and action plans for listed species at risk.	The mitigation measures described in the EIS and in responses to information requests were developed in consideration of applicable recovery strategies and action plans for listed species at risk. These have been incorporated, as applicable, into the Environmental Protection Plan (EPP). The EPP is embedded in Valentine Gold Mine's contractual management process, communicated through the Request for Proposal process, and incorporated into the contract upon award. Through their contracts with Calibre, contractors and sub-contractors are required to implement mitigation measures as directed. The implementation of mitigation measures is, and will continue to be, monitored throughout all Project phases.	
Consultation (2.3 to 2.4)			
2.3	The Proponent shall, where consultation is a requirement of a condition set out in this Decision		
2.3.1	Provide a written notice of the opportunity for the parties being consulted to present their views and information on the subject matter of the consultation.	Refer to these sections of the Annual Report for information related to the following topics: Section 5.4.1 - General overview of consultation and engagement Section 5.4.2 - Consultation respecting proposed Changes to the Designated Project Section 5.4.3 - Engagement respecting the development and implementation of Cultural Awareness Training Materials Section 6.0 - Overview of consultation with respect to Follow-up and Monitoring Programs Section 7.4 - Engagement activities with respect to the implementation of the Current Use of Lands and Resources for Traditional Purposes Indigenous Communication Plan Section 7.6 - Engagement with respect to the Accidents and Malfunctions Prevention and Response Plan	Initiated prior to construction, and ongoing as required by the specific condition.
2.3.2	Provide all information available and relevant to the scope and the subject matter of the consultation and a period of time agreed upon with the parties being consulted, not to be less than 15 days, to prepare their views and information.	Refer to these sections of the Annual Report for information related to the following topics: Section 5.4.1 - General overview of consultation and engagement Section 5.4.2 - Consultation respecting proposed Changes to the Designated Project Section 5.4.3 - Engagement respecting the development and implementation of Cultural Awareness Training Materials Section 6.0 - Overview of consultation with respect to Follow-up and Monitoring Programs Section 7.4 - Engagement activities with respect to the implementation of the Current Use of Lands and Resources for Traditional Purposes Indigenous Communication Plan Section 7.6 - Engagement with respect to the Accidents and Malfunctions Prevention and Response Plan	Initiated prior to construction, and ongoing as required by the specific condition.
2.3.3	Undertake an impartial consideration of all views and information presented by the parties being consulted on the subject matter of the consultation.	Refer to these sections of the Annual Report for information related to the following topics: Section 5.4.1 - General overview of consultation and engagement Section 5.4.2 - Consultation respecting proposed Changes to the Designated Project Section 5.4.3 - Engagement respecting the development and implementation of Cultural Awareness Training Materials Section 6.0 - Overview of consultation with respect to Follow-up and Monitoring Programs Section 7.4 - Engagement activities with respect to the implementation of the Current Use of Lands and Resources for Traditional Purposes Indigenous Communication Plan Section 7.6 - Engagement with respect to the Accidents and Malfunctions Prevention and Response Plan Appendix B	Initiated prior to construction, and ongoing as required by the specific condition.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
2.3.4	Advise in a timely manner the parties being consulted on how the views and information received have, or have not, been integrated into the subject matter of the consultation by the Proponent and provide a justification.	Refer to these sections of the Annual Report for information related to the following topics: Section 5.4.1 - General overview of consultation and engagement Section 5.4.2 - Consultation respecting proposed Changes to the Designated Project Section 5.4.3 - Engagement respecting the development and implementation of Cultural Awareness Training Materials Section 6.0 - Overview of consultation with respect to Follow-up and Monitoring Programs Section 7.4 - Engagement activities with respect to the implementation of the Current Use of Lands and Resources for Traditional Purposes Indigenous Communication Plan Section 7.6 - Engagement with respect to the Accidents and Malfunctions Prevention and Response Plan Appendix B	Initiated prior to construction, and ongoing as required by the specific condition.
2.4	The Proponent shall, where consultation with Indigenous groups is a requirement of a condition set out in this Decision Statement, communicate with each Indigenous group with respect to the manner to satisfy the consultation requirements referred to in condition 2.3, including methods of notification, the type of information and the period of time to be provided when seeking input, the process to be used by the Proponent to undertake impartial consideration of all views and information presented on the subject of the consultation, and the period of time and the means to advise Indigenous groups of how their views and information were considered by the Proponent.	In accordance with Condition 2.4, Calibre has engaged with Miawpukek First Nation (MFN) and Qalipu First Nation (QFN) to satisfy the consultation requirements referred to in Condition 2.3. Refer to section 5.4.1 of the Annual Report for a general overview of consultation and engagement. Calibre will continue in the same manner on an ongoing basis when consultation is a requirement of a condition set out in the Decision Statement.	Initiated prior to construction, and ongoing as required by the specific condition.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
Follow-up programs (2.5 to 2.9)			
2.5 (and all sub-conditions 2.5.1 to 2.5.6)	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement, determine, as part of the development of each follow-up program and in consultation with the parties being consulted during the development, the following information, unless otherwise specified in the condition: • 2.5.1 – the methodology, location, frequency, timing and duration of monitoring associated with the follow-up program; • 2.5.2 – the scope, content and frequency of reporting of the results of the follow-up program to the parties consulted for the development of the follow-up program; • 2.5.3 – the minimum frequency at which the follow-up program must be reviewed and, if necessary, updated; • 2.5.4 – the levels of environmental change relative to baseline that would require the Proponent to implement modified or additional mitigation measure(s), including instances where the Proponent may require Designated Project activities to be stopped; • 2.5.5 – the technically and economically feasible mitigation measures to be implemented by the Proponent if monitoring conducted as part of the follow-up program shows that the levels of environmental change referred to in condition 2.5.4 have been reached or exceeded; and • 2.5.6 – the specific and measurable end points that must be achieved before the follow-up program can end. Those end points should indicate that the accuracy of the environmental assessment has been verified and/or that the mitigation measures are effective.	Development of the follow-up programs included determination, in consultation with the parties being consulted during the development, the information outlined in conditions 2.5.1 to 2.5.6. Refer also to section 6.0 of the Annual Report.	Completed.
2.6	The Proponent shall update the information determined for each follow-up program pursuant to condition 2.5 during the implementation of each follow-up program, at the minimum frequency determined pursuant to condition 2.5.3 and in consultation with the parties consulted during the development of each follow-up program.	Refer to section 6.0 of the Annual Report.	Ongoing throughout the duration of the follow-up program until completion of the program.
2.7	The Proponent shall provide the details of the follow-up programs referred to in conditions 3.17, 3.18, 4.8, 4.9 and 6.1, including the information determined for each follow-up program pursuant to condition 2.5, to the Agency and to the parties consulted during the development of each follow-up program prior to the implementation of each follow-up program. The Proponent shall also provide any update made pursuant to condition 2.6 to the Agency and to the parties consulted during the development of each follow-up program within 30 days of the follow-up program being updated.	Refer to section 6.0 of the Annual Report.	Ongoing throughout the duration of the follow-up program until completion of the program.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
2.8 (and all sub-conditions 2.8.1 to 2.8.5)	The Proponent shall, where a follow-up program is a requirement of a condition set out in this Decision Statement: • 2.8.1 – implement the follow-up program according to the information determined pursuant to condition 2.5; • 2.8.2 – conduct monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measure; • 2.8.3 – determine whether modified or additional mitigation measure(s) are required based on the monitoring and analysis undertaken pursuant to condition 2.8.2; • 2.8.4 – if modified or additional mitigation measure(s) are required pursuant to condition 2.8.3, develop and implement these mitigation measure(s) in a timely manner and monitor them pursuant to condition 2.8.2. The Proponent shall notify the Agency within 24 hours of any modified or additional mitigation measure being implemented. If the Proponent implements any additional or modified mitigation measure not previously submitted to the Agency pursuant to condition 2.5, the Proponent shall submit a detailed description of the measure(s) to the Agency within 7 days of its implementation; and • 2.8.5 – report all results of the follow-up program to the Agency no later than March 31 following each reporting year during which the follow-up program is implemented and, subject to information determined pursuant to 2.5.2, to the parties consulted during the development of the follow-up program.	Refer to section 6.0 of the Annual Report.	Ongoing throughout the duration of the follow-up program until completion of the program.
2.9	Where consultation with Indigenous groups is a requirement of a follow-up program, the Proponent shall discuss the follow-up program with each group and shall determine, in consultation with each group, opportunities for their participation in the implementation of the follow-up program, including the conduct of monitoring, the analysis and reporting of follow-up results and whether modified or additional mitigation measure(s) are required, as set out in condition 2.8.	Refer to these sections of the Annual Report for information related to the following topics: Section 5.4.1 - General overview of consultation and engagement Section 6.0 - Overview of consultation with respect to Follow-Up and Monitoring Plans Appendix B	Initiated prior to construction and ongoing throughout the duration of the follow-up program until completion of the program.
Annual reporting (2.10 to 2.12)			
2.10 (and all sub-conditions 2.10.1 to 2.10.7)	The Proponent shall prepare an annual report that sets out, for each reporting year: • 2.10.1 - the activities undertaken by the Proponent to comply with each of the conditions set out in this Decision Statement; • 2.10.2 - how the Proponent complied with condition 2.1; • 2.10.3 - for conditions set out in this Decision Statement for which consultation is a requirement, how the Proponent considered any views and information that the Proponent received during or as a result of the consultation; • 2.10.4 - the information referred to in conditions 2.5 for each follow-up program and any update to that information made pursuant to condition 2.6; • 2.10.5 - the results of the follow-up program requirements identified in conditions 3.17, 3.18, 4.8, 4.9 and 6.1; • 2.10.6 - for any plan that is a requirement of a condition set out in this Decision Statement, any update(s) to the plan that have been made during the reporting year; and • 2.10.7 - any modified or additional mitigation measure implemented or proposed to be implemented by the Proponent, as determined pursuant to condition 2.8.	This table and the report to which it is appended together constitute the annual report required by condition 2.10.	March 31 each reporting year. Ongoing over the life of the Project.

Calibre	VALENTINE GOLD MINE: ANNUAL REPORT FOR THE FEDERAL ENVIRONMENTAL ASSESSMENT: 2024 REPORTING PERIOD APPENDIX A - CONDITION IMPLEMENTATION ACTIVITIES	Version: 1.0 Date: March 2025

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
2.11	The Proponent shall submit to the Agency the annual report referred to in condition 2.10, including a plain language executive summary in both official languages, no later than March 31 following the reporting year to which the annual report applies.	The plain language executive summary in both official languages is embedded in the Annual Report to which this table is appended.	March 31 each reporting year. Ongoing over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
2.12	The first reporting year for which the Proponent shall prepare an annual report pursuant to condition 2.10 shall start on the day the Minister of the Environment issues the Decision Statement pursuant to subsection 54 (1) of the *Canadian Environmental Assessment Act, 2012* .	The first annual report (for 2022) was submitted in March 2023, for the period beginning the day the Minister of the Environment issued the Decision Statement.	Completed
Information sharing (2.13 to 2.14)			
2.13	The Proponent shall publish on the Internet, or any medium which is publicly available, the annual reports and the executive summaries referred to in condition 2.11 and 2.12, the reports related to accidents and malfunctions referred to in conditions 10.5.4 and 10.5.5, the communication plan for accidents and malfunctions referred to in condition 10.6, the schedules referred to in conditions 11.1 and 11.2, and any update or revision to the above documents, upon submission of these documents to the parties referenced in the respective conditions. The Proponent shall keep these documents publicly available for 25 years following the end of operation, or until the end of decommissioning of the Designated Project, whichever comes first. The Proponent shall notify the Agency and Indigenous groups of the availability of	Final versions of the annual reports and executive summaries referred to in conditions 2.11 and 2.12, the reports related to accidents and malfunctions referred to in conditions 10.5.4 and 10.5.5, the communications plan for accidents and malfunctions referred to in condition 9.6, the schedules referred to in conditions 11.1 and 11.2, and any update or revision to these documents are publicly posted to the Company website (https://calibremining.com/). These documents will be maintained on the website and continue to be made publicly available until the earlier of 25 years following the conclusion of operations or the decommissioning of the Project. Calibre will notify the Agency and MFN and QFN of the availability of these documents within 48 hours of their publication.	Ongoing over the life of the Project, to an estimated 25 years following original posting.
2.14	When the development of any plan is a requirement of a condition set out in this Decision Statement, the Proponent shall submit the final plan to the Agency prior to construction, unless otherwise required through the condition.	All plans required to be developed prior to construction were submitted to the Agency prior to construction (as described in the 2022 Annual Report). Refer to sections 6.0 and 7.0 of the Annual Report for 2023 activities.	Completed.
Change of Proponent (2.15)			
2.15	The Proponent shall notify the Agency and Indigenous groups in writing no later than 30 days after the day on which there is any transfer of ownership, care, control or management of the Designated Project in whole or in part.	Calibre Mining Corporation (Calibre) and Marathon Gold Corporation (Marathon) had announced the completion (on January 24, 2024) of the transaction in which Calibre acquired Marathon and the Valentine Gold Project. The Agency was notified of this transaction on January 24, 2024. MFN and QFN were also notified of the transaction, within 30 days of the transaction.	As applicable over the life of the Project, no later than 30 days after transfer.
Change to the Designated Project (2.16 to 2.17)			
2.16 (and all sub-conditions 2.16.1 to 2.16.3)	If the Proponent is proposing to carry out the Designated Project in a manner other than described in condition 1.8, the Proponent shall notify the Agency in writing in advance of carrying out those proposed activities. As part of the notification, the Proponent shall provide: • 2.16.1 - a description of the proposed change(s) to the Designated Project and the environmental effects that may result from the change(s); • 2.16.2 - any modified or additional measure to mitigate any environmental effect that may result from the change(s) and any modified or additional follow-up requirement; and • 2.16.3 - an explanation of how, taking into account any modified or additional mitigation measure referred to in condition 2.16.2, the environmental effects that may result from the change(s) may differ from the environmental effects of the Designated Project identified during the environmental assessment.	Refer to section 1.1 of the Annual Report.	Ongoing, as applicable over the life of the Project.
2.17	The Proponent shall submit to the Agency any additional information required by the Agency about the proposed change(s) referred to in condition 2.16, which may include the results of consultation with Indigenous groups and relevant authorities on the proposed change(s) and environmental effects referred to in condition 2.16.1 and the modified or additional mitigation measures and follow-up requirements referred to in condition 2.16.2.	Refer to section 1.1, section 5.0, and Appendix B of the Annual Report.	Ongoing, as applicable over the life of the Project.
3 Fish and Fish Habitat			

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
3.1	The Proponent shall develop, prior to construction and to the satisfaction of Fisheries and Oceans Canada, and implement any offsetting plan related to any harmful alteration, disruption or destruction of fish and fish habitat associated with the carrying out of the Designated Project. The Proponent shall submit any offsetting plan approved by Fisheries and Oceans Canada to the Agency before implementing it.	DFO approved the Valentine Gold Mine's proposed offsetting plan as part of the issuance of the Fisheries Act Authorization on October 18, 2022. On December 18, 2024, Calibre submitted an amendment to the FAA to include the Berry pit expansion and a proposal to infill additional fish habitat in Stream 14. Refer also to section 7.1 of the Annual Report.	Ongoing, as applicable over the life of the Project.
3.2	The Proponent shall, for any fish habitat offsetting measure proposed in any offsetting plan referred to in condition 3.1 that may cause adverse environmental effects not considered in the environmental assessment, develop and implement, following consultation with relevant authorities, measures to mitigate those effects. The Proponent shall submit these measures to the Agency before implementing them.	One program as part of Valentine Gold Mine's offsetting plan began in 2023 and was completed in 2024. The program involved the restoration of a portion of Victoria River Steady No. 5 via the removal of submerged pulpwood to improve fish habitat for salmonids. The offsetting plan included the identification of potential adverse effects of the proposed offsetting project on fish and fish habitat, and measures and standards to avoid or mitigate these effects. The ammended offsetting plan which has been submitted for review and approval also includes identification of any other potential adverse effects of the ammended offsetting project on fish and fish habitat, and measures and standards to avoid or mitigate these effects. Refer also to section 7.1 of the Annual Report.	Ongoing, as applicable over the life of the Project.
3.3	The Proponent shall ensure, during all phases of the Designated Project, that existing fish passage is not removed in watercourses frequented by fish as a result of Designated Project activities, including building and upgrading of stream crossings and those activities that may decrease minimum watercourse flows, with the exception of watercourses that will be removed for the construction of Designated Project components as authorized under the *Fisheries Act* .	The requirement to maintain fish passage in watercourses frequented by fish is reflected in the EPP and in applicable DFO letters of advice, which form part of the contract documents and work packages. Project activities are monitored to confirm fish passage is maintained throughout all phases of the Project. Refer also to section 6.1 of the Annual Report.	Initiated at the beginning of construction and continuing on over the life of the Project.
3.4 (and all sub-conditions 3.4.1 to 3.4.3)	The Proponent shall, during operation, withdraw water from lakes in such a way that water withdrawal does not cause adverse effects to fish and fish habitat, except if such adverse effects are otherwise authorized. In doing so, the Proponent shall: • 3.4.1 - establish, prior to construction and in consultation with Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, criteria for determining maximum withdrawal rates taking into account natural flow rates and seasonality; • 3.4.2 - calculate maximum withdrawal rates for each month that withdrawal will be necessary and provide them to the Agency; and • 3.4.3 - implement water withdrawal, such that withdrawal rates remain below the maximum rates for each month calculated pursuant to condition 3.4.2.	Fish and fish habitat will not be adversely affected by water withdrawal from lakes, except as otherwise authorized. The criteria for determining maximum withdrawal rates taking into account natural flow rates and seasonality were established in consultation with DFO during meetings in advance of submittal of the application for Fisheries Act Authorization. Consultations with NL Hydro, who operate Victoria Lake (Hydro) Reservoir from which water for the Project is withdrawn, to ensure that normal and maximum withdrawal rates (and water return rates via effluent discharge) were understood by NL Hydro and could be managed within the operating plan for the reservoir. ECCC will be consulted on operational water withdrawal and process effluent discharge to the reservoir. Monthly maximum withdrawal rates were included in the application upon which the issued Fisheries Act Authorization is based, whereby a flow reduction of >10% mean annual flow is the threshold for potential adverse effects on fish habitat that require counterbalancing via the offsetting plan. Water withdrawal will be monitored during operation via flow meters to assure that the withdrawal rates remain below the maximum calculated rates.	To be implemented prior to water withdrawal and continuing on over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
3.5	The Proponent shall maintain, during all phases of the Designated Project, a buffer zone of undisturbed vegetation along the edge of any water body and watercourse of sufficient width to protect fish and fish habitat resulting from the construction of Designated Project components, unless such adverse effects are otherwise authorized under the *Fisheries Act* .	Except where authorized under the Fisheries Act, Calibre has maintained, and will continue to maintain, a buffer zone of undisturbed vegetation along the edge of waterbodies and watercourses of sufficient width to protect fish and fish habitat. The EPP specifies a 50 m vegetated buffer for Victoria River, and a 30 m vegetated buffer for all other waterbodies. These buffer zones are included in the design drawings provided to the contractor, and the EPP forms part of the contract documents and work packages. Refer also to section 6.1 of the Annual Report.	Initiated at the beginning of construction and continuing on over the life of the Project.
3.6 (and all sub-conditions 3.6.1 to 3.6.2)	The Proponent shall undertake, in consultation with relevant authorities, progressive reclamation of areas disturbed by the Designated Project, including bank and riparian areas. In doing so, the Proponent shall: • 3.6.1 – identify plant species native to the regional assessment areas identified in Figure 3 of the environmental assessment report; and • 3.6.2 – use the plant species identified in 3.6.1 for use in establishing self-sustaining communities	A Rehabilitation and Closure Plan (RCP) is a requirement for mining projects under the Newfoundland and Labrador Mining Act. The RCP describes measures that will be undertaken to restore the Project property as close to its former use or condition as practicable, or to an alternate use or condition that is deemed appropriate and acceptable by the NL Department of Industry, Energy and Technology (NLDIET), NL Department of Environment and Climate Change (NLDECC), and NL Department of Fisheries, Forestry and Agriculture – Wildlife Division (NLDFFA – Wildlife Division). In 2022, Calibre developed a Project RCP that addresses the three key stages of rehabilitation activities that occur over the life span of the mine: progressive rehabilitation, closure rehabilitation, and post-closure monitoring and treatment. The RCP was submitted to NLDIET in November 2022 and and following additional consultation and revision, the RCP was finalized in April 2023. An amendment to the RCP including the Berry Pit Expansion was submitted to NLDIET and was approved November 26, 2024. Calibre will endeavour to source and use these species in establishing self-sustaining communities throughout progressive reclamation of disturbed areas, including bank and riparian areas. A key objective of the rehabilitation and closure program for the Project is to create the necessary conditions for the re-establishment and long-term propagation of indigenous vegetative species in the areas disturbed by Project related construction activities, and natural revegetation will be encouraged throughout the Project area. In 2024, Calibre continued discussions with an Indigenous group regarding seeding and revegetation studies and trials, using native species, however no work was initiated in 2024. Consultation will continue in 2025.	To start at the earliest opportunity for progressive reclamation and continue on over the life of the Project.
3.7 (and all sub-conditions 3.7.1 to 3.7.2)	The Proponent shall develop prior to construction and implement during all phases of the Designated Project erosion and sediment control measures in a manner consistent with the fish and fish habitat protection provisions and the pollution prevention provisions of the *Fisheries Act* taking into account Fisheries and Oceans Canada's Measures to Protect Fish and Fish Habitat. The Proponent shall submit the measures to the Agency prior to implementing them. In doing so, the Proponent shall: • 3.7.1 – develop, in consultation with relevant authorities, and implement measures that take into account future climate change scenarios, including periods of high water and wind, elevated snow pack, heavy rainfall and snowfall; and • 3.7.2 – maintain and regularly inspect, subject to safety requirements, all erosion and sediment control measures installed within the Designated Project area and document and repair any defective or damaged control measure as soon as technically feasible.	Erosion and sediment control measures were developed to align with the fish and fish habitat provisions and pollution prevention provisions of the Fisheries Act and taking into account DFO's Measures to Protect Fish and Fish Habitat. The application for authorization pursuant to the Fisheries Act included erosion and sediment control measures, and applicable conditions are specified in the Fisheries Act Authorization. The primary mechanism to reduce erosion and sediment during the Project is the water management infrastructure itself. The Water Management Plan summarizes the design criteria, information sources, project requirements, design calculations and specifications for water management infrastructure associated with the Project and incorporates consideration of future climate change scenarios. Erosion and sediment control measures are also described in the EPP, which forms part of the contract documents and work packages. The site environmental team employs an inspection checklist and the construction coordinators are completing Construction Daily Activity Reports (CDARs) that highlight sediment and erosion control features that are either in place or installed. The contractors continue to update and provide implementation plans for the erosion and sediment control measures prior to the commencement of construction activities, as applicable. Calibre consults with relevant authorities on an ongoing, as-needed basis and will continue to update the Agency as applicable. Erosion and sediment control measures were implemented at the onset of construction, and are being maintained and regularly inspected, with any defective or damaged control measures documented and repaired as soon as technically feasible. See also section 7.2 of the Annual Report.	Implemented prior to the start of construction and continuing on over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
3.8	The Proponent shall remove all vegetation from the tailings management facility containment zone during construction and prior to filling or flooding to reduce the potential generation of methylmercury.	To reduce the potential for generation of methylmercury, all vegetation is being removed from the tailings management facility (TMF) containment zone during construction, and this will be fully completed prior to filling or flooding the TMF. This mitigation is included in the EPP, which forms part of the contract documents and work packages.	Initiated with development of the TMF; to be completed prior to filling or flooding the TMF containment zone.
3.9 (and all sub-conditions 3.9.1 to 3.9.3)	The Proponent shall manage mine effluent before it is deposited into the receiving environment during all phases of the Designated Project. In doing so, the Proponent shall: • 3.9.1 - collect effluent, including seepage, from operation through decommissioning, including from the overburden stockpiles, ore stockpiles, waste rock piles, tailings management facility and open pits; • 3.9.2 - when collecting effluent pursuant to condition 3.9.1, construct and maintain contact water collection ditches around overburden stockpiles, ore stockpiles and waste rock piles to collect seepage during all phases of the Designated Project; and • 3.9.3 - treat effluent collected pursuant to condition 3.9.1 as required in accordance with the *Metal and Diamond Mining Effluent Regulations*, and the pollution prevention provisions of the	See section 7.2 of the Annual Report.	Initiated during construction and continuing on over the life of the Project.
3.10	The Proponent shall, salvage and relocate fish in consultation with Fisheries and Oceans Canada prior to conducting any Designated Project activity requiring the removal of fish habitat in a manner that complies with any authorization issued under the *Fisheries Act* .	See section 7.3 of the Annual Report.	Implemented prior to Project activity requiring removal of fish habitat per the fish rescue plan, as applicable.
3.11	The Proponent shall conduct any in-water work activities, outside of restricted activity timing windows for fish species in accordance with Fisheries and Oceans Canada's *Timing Windows to Conduct Projects in or Around Water* for Newfoundland and Labrador, unless otherwise permitted by Fisheries and Oceans Canada.	In-water work activities are being scheduled, to the extent practicable, to occur outside of the restricted activity timing windows for fish species located within the watershed. In cases that required work completed during the restricted activity timing window, Calibre consulted DFO; DFO issued a Letter of Advice for this work (see section 3.1 of the Annual Report for details). Knowledgeable staff were on site as required to monitor the watercourse for the presence of redds and/or spawning fish in the area and to relocate fish as applicable.	Ongoing over the life of the Project, as applicable.
3.12	If the Proponent must conduct any in-water work activities related to construction during the restricted activity timing windows, the Proponent shall develop and implement additional mitigation measures, in consultation with Fisheries and Oceans Canada, to protect fish during sensitive life stages, including migration and spawning. The Proponent shall submit these measures to the Agency prior to implementing them.	Following the submission to DFO of a Request for Review for culvert installations that could not avoid the restricted timing window, DFO issued an amended Letter of Advice for Repairs, Upgrades, and Placement of Culverts and Bridges along Access and Haul Roads (on October 27, 2023, and renewed on December 20, 2023). The Letter of Advice includes the requirement to maintain fish passage and specifies the parameters needed to maintain appropriate depth and flow, to which Calibre will adhere.	Ongoing over the life of the Project, as applicable.
3.13	The Proponent shall, prior to construction, install screens on the water supply intake structures taking into account Fisheries and Oceans Canada's *Interim Code of Practice for End-of-Pipe Fish Protection Screens for Small Water Intakes in Freshwater* and in a manner that is consistent with any authorization issued under the *Fisheries Act* and its regulations.	The design of the fish screen size for use during pumping and water intakes is consistent with the *Fisheries Act* authorization and letters of advice issued for the Project, and has been informed by Fisheries and Oceans Canada's *Interim Code of Practice for End-of-Pipe Fish Protection Screens for Small Water Intakes in Freshwater* , which provides national guidance on the design and installation of small end-of-pipe water intake fish screens to prevent entrainment and impingement of fish (updated from the 1995 Freshwater Intake End-of-Pipe Fish Screen Guideline). Installation of the pumps has been / is being monitored during construction to confirm appropriate sizing and placement of screens.	Ongoing over the life of the Project, as applicable.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
3.14	The Proponent shall develop, in consultation with Fisheries and Oceans Canada and any other relevant authorities prior to the start of blasting activities in or near water and implement, during blasting activities in or near water, mitigation measures to avoid adverse effects to fish and fish habitat from the use of explosives taking into account Fisheries and Oceans Canada's *Guidelines for the use of explosives in or near Canadian fisheries waters* and implement the measures in a manner consistent with the *Fisheries Act* and its regulations. The Proponent shall provide these measures to the Agency before implementing them.	No blasting activities occurred in or near water in 2024. Should blasting in or near water be required, mitigation measures will be developed prior to the start of blasting activities in consultation with Fisheries and Oceans Canada and any other relevant authorities and in consideration of Fisheries and Oceans Canada's Guidelines for the Use of Explosives in or near Canadian Fisheries Waters. Measures to avoid adverse effects to fish and fish habitat will be implemented in a manner consistent with the Fisheries Act and its regulations, and the Agency will be provided with any such measures prior to their implementation.	Prior to any blasting activities in or near water and continuing over the life of the Project, as applicable.
3.15 (and all sub-conditions 3.15.1 to 3.15.4)	The Proponent shall develop procedures to identify and manage all mine rock that has the potential for or is already undergoing acid generation or metal leaching during all phases of the Designated Project in consultation with Environment and Climate Change Canada, Natural Resources Canada and any other relevant authorities, taking into account the Mine Environment Neutral Drainage Program's Prediction Manual for Drainage Chemistry from Sulphuric Geologic Materials, and implement these procedures during all phases of the Designated Project. In doing so, the Proponent shall: • 3.15.1 - characterize, prior to construction, the acid rock drainage and metal leaching potential of the overburden and other mine rock to be used for construction; • 3.15.2 - conduct geochemical testing of waste rock and tailings during operation to verify the magnitude and onset of potential acid rock drainage in waste rock and tailings; • 3.15.3 - taking into account the geochemical testing in condition 3.15.2, develop procedures for segregation of potentially acid generating and metal leaching materials and additional mitigation for storage of waste rock, low-grade ore and other ore; • 3.15.4 - cover all acid generating, potentially acid-generating, and potentially metal leaching materials with an oxygen-limiting barrier prior to the onset of acid rock drainage unless not technically or economically feasible. If not technically or economically feasible, the proponent shall develop additional procedures to prevent the contamination of the receiving environment	Refer to section 6.2 of the Annual Report.	Prior to construction and continuing on over the life of the Project.
3.16	The Proponent shall store fuel and hazardous materials a minimum of 200 meters from the tributaries of the Victoria River as identified under Fisheries and Oceans Canada's Newfoundland and Labrador Scheduled Salmon Rivers and 100 meters from all other waterbodies.	The requirement to store fuel and hazardous materials a minimum of 200 meters from the tributaries of the Victoria River as identified under Fisheries and Oceans Canada's Newfoundland and Labrador Scheduled Salmon Rivers and 100 meters from all other waterbodies has been incorporated in the EPP, which forms part of the contract documents and work packages. Fuel and hazardous materials storage is, and will continue to be, monitored during all Project phases to confirm compliance.	Initiated during construction and continuing on over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
3.17 (and all sub-conditions 3.17.1 to 3.17.5)	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and determine the effectiveness of the mitigation measures as they pertain to adverse environmental effects of the Designated Project on fish and fish habitat. The Proponent shall implement the follow-up program during all phases of the Designated Project, taking into account the Monitoring Framework in Section 7.9.1 of the environmental impact statement and section 8.8 of the Berry pit expansion report and including the environmental effects monitoring requirements set out in Schedule 5 of the Metal and Diamond Mining Effluent Regulations. As part of the follow-up program, the Proponent shall: • 3.17.1 - monitor open pits for the development of high hydraulic conductivity zones, as well as groundwater levels and groundwater flows associated with pit dewatering and pit filling to verify long-term hydraulic containment within the pits that may enhance groundwater flow; • 3.17.2 - Monitor, during all phases of the project, surface water and groundwater flows, levels and quality to verify the assessment predictions identified in Appendices 7A, 7B and 7C of the environmental impact statement and Appendix 8A and 8B of the Berry pit expansion report; • 3.17.3 - monitor, during all phases of the Designated Project, in consultation with relevant authorities, and taking into account the Canadian Council of Ministers of the Environment's Canadian Water Quality Guidelines for Protection of Aquatic Life, contaminants of concern prescribed by the Metal and Diamond Mining Effluent Regulations as well as mercury, chromium, nitrogen, and phosphorous at locations identified in Section 7.9.1 of the environmental impact statement, section 8.8 of the Berry pit expansion report, and at offshore locations on Valentine and Victoria lakes to confirm the zone of influence predicted in the assimilative capacity assessment in appendix 7C of the environmental impact statement and Appendix 8B of the Berry pit expansion report; • 3.17.4 - monitor, during decommissioning, and in consultation with Indigenous groups, Environment and Climate Change Canada and other relevant authorities, the water quality of the pit lake during filling to verify that it complies with the pollution prevention provisions of the	Refer to Annual Report sections 6.4.2 and 6.4.3 for surface water and groundwater follow-up monitoring program activities and results. Groundwater levels and flow is being monitored during construction, as applicable. Monitoring during 2024 has indicated that groundwater elevations are relatively stable and within the range of variation expected in a natural hydrological system (see Annual Report section 6.4.3). Monitoring of the open pits for the development of high hydraulic conductivity zones, and of groundwater levels and flows associated with pit dewatering and pit filling (to verify long-term hydraulic containment within the pits that may enhance groundwater flow) will be conducted during the operation phase. Surface water and groundwater flows, levels and quality are being monitored and will continue to be monitored during all Project phases to verify the EIS assessment predictions. Contaminants of concern prescribed by the Metal and Diamond Mining Effluent Regulations, as well as mercury, chromium, nitrogen, and phosphorous, will be monitored at locations agreed-upon with the applicable regulatory authorities, to confirm the zone of influence predicted in the assimilative capacity assessment in the EIS. Water quality of the pit lake during filling will be monitored, during decommissioning and in consultation with Indigenous groups, Environment and Climate Change Canada, and other relevant authorities, to verify that it complies with the pollution prevention provisions of the Fisheries Act prior to connecting it to the receiving environment. If the results of the monitoring referred to in conditions 3.17.1, 3.17.2, 3.17.3 or 3.17.4 demonstrate that modified or additional mitigation measures are required to protect fish and fish habitat from changes to water quality, these will be developed in consultation with Indigenous groups and the relevant authorities and provided to the Agency prior to their implementation.	Initiated prior to construction and continuing on over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
3.18	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, Fisheries and Oceans Canada, Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and the effectiveness of the mitigation measures as they pertain to acid rock drainage and metal leaching into the receiving environment from the Designated Project area, including from the waste rock storage areas, low- grade ore and ore stockpiles, and the tailings management	Refer to section 6.2 and Appendix B of the Annual Report.	Initiated prior to construction and continuing on over the life of the Project.
4 Migratory Birds			
4.1	The Proponent shall carry out the Designated Project, including vegetation clearing and blasting, in a manner that protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. In this regard, the Proponent shall take into account Environment and Climate Change Canada's Guidelines to reduce risk to migratory birds.	Calibre is carrying out the Project, including vegetation clearing and blasting, in such a way that it protects migratory birds and avoids harming, killing or disturbing migratory birds or destroying, disturbing or taking their nests or eggs. Work is being undertaken in compliance with the Migratory Birds Convention Act, 1994, the Migratory Birds Regulations, and the Species at Risk Act. Environment and Climate Change Canada's Guidelines to reduce risk to migratory birds have been taken into account in developing the mitigation measures, which have been incorporated into the migratory birds follow-up monitoring program, and specified in the EPP which forms part of the contract documents and work packages. Refer to Section 6.3 of the Annual Report	Initiated at the beginning of construction and continuing on over the life of the Project.
4.2	The Proponent shall conduct vegetation clearing outside of the applicable regional nesting periods for the Designated Project area, unless not technically feasible. If not technically feasible, the Proponent shall develop and implement additional mitigation measures, in consultation with Environment and Climate Change Canada, including the use of non-intrusive monitoring methods and setbacks. The Proponent shall submit these measures to the Agency prior to their implementation.	The majority of vegetation clearing in 2024 was conducted outside of the regional nesting period for the area (April 15 to August 15), except when not technically feasible. In cases where vegetation clearing was conducted inside the regional nesting period, Calibre implemented additional measures including nest surveys/sweeps by qualified individuals to avoid adverse effects on migratory birds, and their nests and eggs. In areas that nests or breeding bird behaviour was observed, no work was permitted in the area until after the breeding season.	Ongoing over the life of the Project.
4.3	The Proponent shall delineate, prior to the start of tree clearing, the areas in the Designated Project area where tree clearing, including along roads, will take place and shall not undertake any tree clearing outside these areas, unless required for health and safety reasons.	Prior to the start of tree clearing in an area (including along roads), the area to be cleared is delineated, and no tree clearing is permitted outside of the demarcated area (unless required for health and safety reasons). This measure is included in the EPP, which forms part of the contract documents and work packages.	Prior to tree clearing and continuing on over the life of the Project until all tree clearing is completed.
4.4 (and sub-condition 4.4.1)	The Proponent shall, during construction, operation and decommissioning, use and maintain noise- dampening technologies on all vehicles and heavy equipment used in the Designated Project area. In doing so the Proponent shall: • 4.4.1 - keep the technologies in good working order through the implementation of a regular inspection program.	Noise-dampening technologies are being used and maintained on vehicles and heavy equipment during construction and will continue to be used and maintained throughout operation and decommissioning. Equipment is regularly inspected to ensure proper working order of noise dampening technology, and contractors are required to report on maintenance of equipment, including noise dampening technology, to Calibre as part of regular monthly compliance reporting. These requirements are reflected in the EPP, which forms part of the contract documents and work packages.	Initiated at the beginning of construction and continuing on over the life of the Project.
4.5	The Proponent shall establish speed limits in accordance with provincial regulations on temporary and permanent roads located within the Designated Project area and require that all persons abide by these speed limits.	Speed limits have been established in accordance with provincial regulations and industry standards (e.g., for haul roads). During the caribou migration periods, additional speed restrictions (determined in consultation with the NL Department of Fisheries, Forestry and Agriculture [NLDFFA] – Wildlife Division) are posted and communicated to employees and contractors. Project vehicles are required to comply with posted speed limits in all areas, and compliance will continue to be monitored throughout all Project phases.	Initiated at the beginning of construction and continuing on over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
4.6	The Proponent shall control lighting required for the construction, operation and decommissioning of the Designated Project, including direction, timing and intensity, to avoid adverse effects on migratory birds including migratory birds that are listed species at risk, while meeting health and safety requirements.	Project lighting is limited to that which is necessary for safe and efficient activities, with consideration for lighting design guidelines such as the Commission Internationale de L'Éclairage, International Dark Sky Association, and Illuminating Engineering Society. To avoid adverse effects on migratory birds, only the amount of lighting required for safe construction and operation activities is being installed, and exterior lights are low intensity and shielded from above (providing downward illumination), where practicable. Excessive use of mobile flood lighting units is avoided, and these units are turned off when not required. Full cut-off luminaires are being used where practicable to reduce glare, light trespass and sky glow from Project lighting and, to the extent feasible without affecting safe mine operations, operation time of exterior lighting is limited, in particular during sensitive wildlife periods.	Initiated at the beginning of construction and continuing on over the life of the Project.
4.7 (and all sub-conditions 4.7.1 to 4.7.2)	The Proponent shall implement, during all phases of the Designated Project, measures to prevent the killing or harming of migratory birds including migratory birds that are listed species at risk, due to their use of the tailings management facility, including by: • 4.7.1 - maintaining embankments of the tailings management facility and the sedimentation ponds free of vegetation during operation; and • 4.7.2 - installing and operating, during operations, a cyanide destruction circuit to minimize cyanide concentrations in mine effluent.	Calibre will implement measures to prevent the killing or harming of migratory birds due to their use of the tailings management facility. Embankments of the tailings management facility and sedimentation ponds will be maintained free of vegetation during operations to reduce the attractiveness of the facilities to birds, and a cyanide destruction circuit will be installed and operated to minimize cyanide concentrations in mine effluent. Cyanide detoxification within the mill is part of the Project design, which will result in the degradation of cyanide and precipitation of metals prior to discharge to the tailings management facility. Refer to section 6.3.1 of the Annual Report.	To start at the beginning of the operations phase and continue on over the life of the Project.
4.8 (and all sub-conditions 4.8.1 to 4.8.3)	The Proponent shall develop, prior to construction and in consultation with relevant authorities and Indigenous Groups, a follow-up program to verify the accuracy of the environmental assessment as it pertains to the use by migratory birds, including migratory birds that are listed species at risk, of surface water facilities. As a part of the implementation of the follow-up program, the Proponent shall: • 4.8.1 - develop water quality objectives for the protection of migratory birds for surface water facilities in consultation with relevant authorities; • 4.8.2 - monitor the use by migratory birds of open aquatic areas, including the tailings management facility during all phases of the Designated Project until such time that water quality in these structures meet legislative requirements and water quality objectives developed pursuant to condition 4.8.1; and • 4.8.3 - if results of the monitoring pursuant to condition 4.8.2 indicate that migratory birds use these open aquatic areas, develop and implement mitigation measures including but not limited to deterrent measures and/or exclusionary measures.	The Avifauna Follow-up Monitoring Program was developed to verify the accuracy of the environmental assessment as it pertains to use by migratory birds of surface water facilities was developed in consultation with Indigenous groups and Environment and Climate Change Canada – Canadian Wildlife Services. Calibre will continue to engage with each Indigenous group over the life of the follow-up program. Given the linkages between birds and quality of water in the surface water facilities, aspects of the follow-up program are addressed in the Surface Water Follow-up Monitoring Plan; however, the primary migratory bird follow-up and monitoring measures are detailed in the Avifauna Follow-up Monitoring Program, including processes for monitoring bird use of the Project-related surface water facilities, and approaches to adaptive mitigation. Monitoring parameters and schedules for water quality objectives for surface water facilities and protecting receiving waterbodies and, thereby migratory birds, are covered in the Surface Water Follow-up Monitoring Plan (see Annual Report section 6.4.2). The follow-up program has been implemented and will be reported on during all Project phases, in accordance with the applicable Section 2 EA conditions (General Conditions).	Initiated prior to construction and continuing on for the duration of the follow-up program until completion of the program.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
4.9 (and all sub-conditions 4.9.1 to 4.9.2)	The Proponent shall develop, prior to construction and in consultation with Environment and Climate Change Canada and other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of all mitigation measures to avoid harm to migratory birds, including migratory birds that are listed species at risk, their eggs and nests. The follow-up program shall include the mitigation measures used to comply with conditions 4.1 to 4.6. As part of the development of the follow-up program, the Proponent shall identify performance indicators that shall be used by the Proponent to evaluate the effectiveness of mitigation measures. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the follow-up program, the Proponent shall: • 4.9.1 - have a qualified individual conduct surveys within the Designated Project area, every year for three years, from the beginning of construction, to confirm the presence of migratory birds, including migratory birds that are listed as species at risk; and • 4.9.2 - after three years, determine, in consultation with Environment and Climate Change Canada, the frequency of additional surveys based on the results of the surveys conducted pursuant to 4.9.1.	The Avifauna Follow-up Program was developed to verify the accuracy of the environmental assessment and to determine the effectiveness of all mitigation measures to avoid harm to migratory birds and their eggs and nests was developed in consultation with Indigenous groups and Environment and Climate Change Canada – Canadian Wildlife Services. Calibre will continue to engage with each Indigenous group over the life of the follow-up program. The follow-up program has been implemented and will be reported on during all Project phases, in accordance with the applicable Section 2 EA conditions (General Conditions). Refer to Annual Report section 6.3 for avifauna follow-up monitoring program activities and results.	Initiated prior to construction and continuing on for the duration of the follow-up program until completion of the program.
5 Greenhouse Gas Emissions			
5.1	The Proponent shall develop the Designated Project area and optimize activities associated with the operation of the Designated Project so as to minimize transportation and distances required to travel within the Designated Project area.	The Project has been designed (and is being constructed and will be operated) to optimize transportation and distances required to travel, especially as it pertains to the movement of mine haulage trucks. Logistics and transportation planning and management for construction and operations includes utilizing busing for personnel, and efficient load planning and management for materials transport to and from the site along the site access road. Transportation of materials to and from the site is employing a laydown and marshalling yard in Millertown and warehousing/laydown on site to maximize load efficiency in both directions. The Construction Traffic Management Plan is described in Table 8-1 of the Annual Report.	Initiated September 2020 and continuing on over the life of the Project.
5.2	The Proponent shall ensure all equipment and vehicles associated with the Designated Project, including those equipment and vehicles operated by third-party contractors, are serviced and maintained in accordance with the manufacturer's maintenance guidelines.	Equipment and vehicles, including those operated by contractors and sub-contractors, are serviced regularly and maintained in accordance with the manufacturer's maintenance guidelines. Contractors are required to report on maintenance of equipment to Calibre as part of regular monthly compliance reporting. These requirements are reflected in the Calibre EPP, which forms part of the contract documents and work packages.	Initiated at the start of construction and continuing on over the life of the Project.
5.3 (and all sub-conditions 5.3.1 to 5.3.2)	The Proponent shall develop, prior to construction and in consultation with relevant authorities, measures to reduce the fuel consumption of equipment and vehicles associated with the Designated Project, including those operated by the Proponent and other third-party contractors. The Proponent shall apply the measures during all phases of the Designated Project. The measures shall include: • 5.3.1 – the development of no-idling and cold start policies for equipment and vehicles operating in the Designated Project area; and • 5.3.2 – procedures to ensure that any person complies with the policies developed pursuant	No-idling and cold start policies were developed in consultation with relevant authorities and are being implemented for mobile equipment and vehicles operating in the Project area. Monitoring is being conducted to verify conformance with these policies, including by contractors, subject to technical constraints related to the operation of the equipment and vehicles, or constraints related to health or safety.	Initiated prior to construction and continuing on over the life of the Project.
6 Health and Socio-Economic Conditions of Indigenous Peoples			

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
6.1 (and all sub-conditions 6.1.1 to 6.1.4)	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and Health Canada and any other relevant authorities, a follow-up program to verify the accuracy of the environmental assessment as it pertains to adverse environmental effects of changes to the quality of air, water and country foods on the health of Indigenous Peoples, taking into account available traditional knowledge provided by Indigenous groups related to current use of lands and resources for traditional purposes. The Proponent shall implement the follow-up program during all phases of the Designated Project. As part of the implementation of the follow-up program, the Proponent shall: • 6.1.1 – identify the fish species used by Indigenous groups for fish tissue sampling and the surface waters locations used by Indigenous groups where water quality testing and fish tissue sampling will occur; • 6.1.2 – monitor methylmercury, chromium and arsenic in surface water and fish tissue of species identified in 6.1.1 in locations determined pursuant to condition 6.1.1; • 6.1.3 – monitor ambient air concentrations of contaminants of concern, as described in section 5.9 of the EIS, taking into account the standards and criteria set out in the Canadian Council of Ministers of the Environment's Canadian Ambient Air Quality Standards and Newfoundland and Labrador's Air Pollution Control Regulations; and • 6.1.4 – identify additional country foods beyond fish that are being harvested within areas where Designated Project-related contamination of these country foods may occur, as indicated by available traditional knowledge and monitor for contaminants of concern in these country foods at locations identified in consultation with Indigenous groups.	Follow-up programs to verify the accuracy of the environmental assessment as it pertains to adverse environmental effects of Project-related changes to the quality of air, water and country foods on the health of Indigenous Peoples, were developed in consultation with Indigenous groups, Department of Fisheries and Oceans Canada, Environment and Climate Change Canada, and other relevant authorities. The follow-up program will be implemented and reported on during all Project phases, in accordance with the applicable EA conditions from Section 2 (General Conditions) and Calibre will continue to engage with each Indigenous group over the life of the follow-up program. Refer to section 6.0, section 6.4, and Appendix B of the Annual Report.	Initiated prior to construction and continuing on for the duration of the follow-up program until completion of the program.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
7 Current Use of Lands and Resources for Traditional Purposes			
7.1 (and all sub-conditions 7.1.1 to 7.1.4)	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, a communication plan to share information with Indigenous groups on the adverse environmental effects of Designated Project activities as they relate to the current use of lands and resources for traditional purposes. The Proponent shall implement and maintain the communication plan during all phases of the Designated Project. The communication plan shall include: • 7.1.1 – identification of Designated Project activities that may affect the quality of experience of Indigenous uses of lands and resources for traditional purposes, including hunting, trapping, fishing and/or gathering; • 7.1.2 – procedures, including timing and methods, for sharing information on the following: • 7.1.3 – the location and timing of Designated Project activities identified pursuant to condition 7.1.1; and • 7.1.4 – the results of the follow-up programs referred to in conditions 3.17, 3.18, 4.8, 4.9 and 6.1, and the modified or additional mitigation measures developed and implemented by the Proponent pursuant to condition 2.6 for each follow-up program.	Calibre engaged, and will continue to engage, with both MFN and QFN respecting the potential adverse effects of the Project upon the current use of lands and resources for traditional purposes, including the funding of traditional knowledge/traditional land use studies by each Indigenous group. The communication plan, which was developed in consultation with each Indigenous group, is intended to formalize a process to inform Indigenous groups about Project-related activities that may affect opportunities for, or the quality of experience related to, the harvesting of plants, fish and game, including access, and will be implemented during all Project phases. The plan builds upon existing Indigenous engagement strategies and includes the following components: • Purpose and scope of communication plan; • Roles and responsibilities of each party to the communication plan; • Procedures for information-sharing in relation to the matters identified in conditions 7.1.1., 7.1.3 and 7.1.4, including the method, timing and frequency of communications; • Identification of recipients of shared information and contact information; • Procedures to enable Indigenous persons to express concerns and identify issues relating to the current use of land and resources for traditional purposes, including the form, method and timelines for the transmission of such information by Indigenous groups to Calibre; • Procedures to prescribe the communication of Calibre's response to Indigenous concerns, including through the implementation of additional or modified mitigation measures and the form, method and timelines for the transmission of such information by Calibre to the Indigenous groups; • Use of the Project website, social media and print media; • Documentation and maintenance of records; • Periodic consolidation and reporting of communications to Indigenous groups, including through annual community meetings to provide Project; update and report on compliance with conditions; and • Procedures for updating the Indigenous communication plan as required. Refer to section 7.4 of Report	Initiated June 2022 and continuing through rehabilitation and closure.
7.2	The Proponent shall develop, as part of the communication plan referred to in condition 7.1 and in consultation with Indigenous groups, procedures for Indigenous groups to communicate to the Proponent their concerns or views about adverse environmental effects caused by the Designated Project related to the current use of lands and resources for traditional purposes, including issues of access, and procedures for the Proponent to document and respond in a timely manner to the concerns received and demonstrate how issues have been addressed, including through the implementation of additional or modified mitigation measures. The Proponent shall implement these procedures during all phases of the Designated Project.	As noted in the commentary to condition 7.1, the communication plan was developed in consultation with Indigenous groups pursuant to condition 7.1 and describes the methods by which Indigenous groups can provide feedback to Calibre respecting the effects of the Project upon the current use of land and resources for traditional purposes as well as the process by which Calibre will share information and respond to this feedback. All feedback received from Indigenous groups and Calibre's response to feedback is documented and recorded, and shared with Indigenous groups in accordance with the terms of the communication plan. All feedback received during the reporting year and how Calibre has addressed feedback is provided to the Agency as part of the annual report referred to in condition 2.10, including information relating to any additional or modified mitigation measures that Calibre has implemented or plans to implement, or a rationale as to why no additional or modified mitigation measure is required to address the feedback. Refer to section 7.4 of the Annual Report.	Start June 2022 and continuing through rehabilitation and closure.
7.3	The Proponent shall develop, prior to construction and in consultation with Indigenous groups, cultural awareness training for all employees and contractors associated with the Designated Project. The Proponent shall implement the training prior to the start of construction and during all phases of the Designated Project.	In addition to Condition 7.3, Calibre has committed to providing mandatory cultural awareness and cultural sensitivity to all employees and contractors as part of the Benefits Agreement concluded with the Province of Newfoundland and Labrador. Pursuant to this commitment, Calibre engaged in discussions with both QFN and MFN respecting cultural awareness resources and included a commitment to work with each group to develop and deliver appropriate training programs for employees and contractors as part of the Socio-Economic Agreements (SEA) concluded with QFN and MFN. Cultural sensitivity training using materials developed by QFN is mandatory for all employees. Calibre has established a tripartite Cultural Initiatives Committee with representation by both MFN and QFN. The purpose of the Committee is to explore opportunities for on-site programming and activities to increase cultural awareness, including enhanced cultural sensitivity training. Refer to section 5.4.3 of the Annual Report.	Continuing on for the life of the Project.
8 Physical and Cultural Heritage and Structures, Sites or Things of Historical, Archaeological, Paleontological or Architectural Significance			

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
8.1 (and all sub-conditions 8.1.1 to 8.1.5)	For any previously unidentified structures, sites or things of historical, archaeological, paleontological or architectural significance discovered within the Designated Project area by the Proponent or brought to the attention of the Proponent by an Indigenous group or another party during any phase of the Designated Project, the Proponent shall: • 8.1.1 - immediately halt work at the location of the discovery, except for actions required to be undertaken to protect the integrity of the discovery; • 8.1.2 - delineate an area of at least 30 meters around the discovery as a no-work zone; • 8.1.3 - inform the Agency and Indigenous groups within 24 hours of the discovery, and allow Indigenous groups to monitor archaeological works; • 8.1.4 - have a qualified individual, whose expertise pertains to the requirements of Newfoundland and Labrador's *Historic Resources Act* , conduct an assessment of the discovery at the location of the discovery; and • 8.1.5 - consult with Indigenous groups and relevant authorities on the manner by which to comply with all applicable legislative or legal requirements and protocols respecting the	No unidentified structure, site or thing of historical, archaeological, paleontological or architectural significance was discovered within the Project area by Calibre, nor brought to Calibre's attention by an Indigenous group or another party, during 2024. Should this occur, during any Project phase, Calibre will immediately halt work at the location of the discovery and will follow the steps as specified in sub-conditions 8.1.1 to 8.1.5. Refer to section 5.4.4 of the Annual Report.	Initiated at the start of construction and continuing on over the life of the Project.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
8.2	The Proponent shall require all employees and contractors associated with the Designated Project to undertake, before they conduct any construction activity within the Designated Project area, an awareness training program about the procedures related to the discovery and protection of structures, sites or things of historical, archaeological, paleontological or architectural significance referred to in condition 8.1. The proponent shall develop the awareness training program in consultation with Indigenous groups.	All employees and contractors are required to undertake an environmental orientation prior to conducting any work at site. The orientation includes awareness training about the procedures related to the discovery and protection of structures, sites or things of historical, archaeological, paleontological or architectural significance. Through continuing engagement with QFN and MFN, Calibre is aware of the importance of protecting structures, sites and things of historical, archaeologicals, paleontological and architectural significance, and will continue to work with each group in enhacing the awareness training program. Refer to sections 5.4.3 and 5.4.4 of the Annual Report.	Initiated at the start of construction and continuing on over the life of the Project.
9 Species at Risk			
9.1	The Proponent shall identify, prior to construction and in consultation with relevant authorities, time periods during which Designated Project activities that may adversely impact woodland caribou (*Rangifer tarandus* caribou) must be carried out in order to protect the species.	Calibre has been conducting baseline caribou monitoring since 2019, including collaring and tracking, camera traps, and post-calving surveys, and visual observations. Based on this data and historical data provided by the NLDFFA – Wildlife Division, time periods have been identified during which Project Activities may adversely impact caribou. These time periods are identified in the Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP), as well as mitigation measures implemented to protect caribou and reduce potential effects. The CPEEMP was developed in consultation with the NLDFFA – Wildlife Division, Indigenous groups and the NL Outfitters Association. Refer to section 7.5 of the Annual Report.	Completed.
9.2	The proponent shall conduct the activities that may adversely impact woodland caribou (*Rangifer tarandus* caribou) during the time periods identified pursuant to condition 9.1, unless not technically feasible.	Activities that may adversely impact caribou are being conducted during the time periods identified pursuant to condition 9.1 where technically feasible, and avoiding certain activities / locations during sensitive timing windows (e.g., spring and fall migration). Calibre shall continue to conduct activities during the time periods identified in condition 9.1, unless not technically feasible. As the time periods during which Project activities that may adversely impact caribou vary seasonally and annually, Calibre will consult with relevant authorities where activities that must be carried out during the time periods identified in condition 9.1 may require modification. Refer to section 7.5 of the Annual Report for information regarding migration-specific plans, timing of 2024 migration, and associated mitigation measures.	Initiated prior to construction and continuing on over the life of the Project.
9.3	The Proponent shall, during all phases of the Designated Project in consultation with Environment and Climate Change Canada and other relevant authorities, mitigate adverse environmental effects on woodland caribou (*Rangifer tarandus* caribou) and its habitat, including by carrying out Designated project activities during time periods referred to in condition 9.2 for woodland caribou (*Rangifer tarandus* caribou). In doing so, the Proponent shall give preference to avoiding the destruction or alteration of habitat over minimizing the destruction or alteration of habitat, to minimizing the destruction or alteration of habitat over restoring altered or destroyed habitat on-site, and to restoring altered or destroyed habitat on-site over offsetting.	The mitigations developed during the EA process and CPEEMP, and which will be employed during all phases of the Project to reduce adverse effects on caribou, are based on the mitigation hierarchy of 1) avoid; 2) minimize; 3) restore; and 4) offset. The same mitigation hierarchy will also be employed where/if adaptive management measures are required based on follow-up monitoring results, in consultation with Environment and Climate Change Canada, the NLDFFA – Wildlife Division, and other relevant authorities. Refer to section 7.5 of the Annual Report.	Initiated prior to construction and continuing on over the life of the Project.
9.4	The Proponent shall, during all phases of the Designated Project in consultation with Environment and Climate Change Canada and other relevant authorities, mitigate adverse environmental effects on American marten (*Martes americana*) and its habitat. In doing so, the Proponent shall give preference to avoiding the destruction or alteration of habitat over minimizing the destruction or alteration of habitat, to minimizing the destruction or alteration of habitat over restoring altered or destroyed habitat on-site, and to restoring altered or	The mitigations developed during the EA process, and which will be employed during all phases of the Project to reduce adverse effects on American marten, are based on the mitigation hierarchy of 1) avoid; 2) minimize; 3) restore; and 4) offset. The same mitigation hierarchy will also be employed where/if adaptive management measures are required based on follow-up monitoring results, in consultation with Environment and Climate Change Canada, the NLDFFA – Wildlife Division, and other relevant authorities.	Initiated prior to construction and continuing on over the life of the Project.
10 Accidents and Malfunctions			

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
10.1 (and sub-condition 10.1.1)	The Proponent shall take all reasonable measures to prevent accidents and malfunctions that may result in adverse environmental effects and mitigate any adverse environmental effects from accidents and malfunctions that occur. In doing so the Proponent shall: • 10.1.1 - design, construct and operate the tailings management facility dams taking into account the Canadian Dam Association's *Dam Safety Guidelines* and the Mining Association of Canada's *Guide to the Management of Tailings Facilities* .	Proper design, construction and operation of Project components are the key factors in preventing accidents and malfunctions. The planning and design for the tailings management facility has been completed by an expert 3rd party and independently peer-reviewed, and an Independent Tailings Review Board was established in 2021. Calibre is committed to following the Canadian Dam Association's Dam Safety Guidelines and the Mining Association of Canada's Guide to the Management of Tailings Facilities over the life of the Project, including closure and post-closure phases. Refer to section 7.6 of the Annual Report.	Initiated prior to construction and continuing on over the life of the Project.
10.2	The Proponent shall consult with Indigenous groups and relevant authorities, prior to construction, on the measures to be implemented to prevent accidents and malfunctions referred to in condition 10.1 and provide these measures to the Agency prior to implementing them.	The measures to be implemented to prevent accidents and malfunctions referred to in condition 10.1 were incorporated into the Accidents and Malfunctions Prevention and Response Plan (see condition 10.3 below). Calibre consulted with Indigenous groups and relevant authorities on the measures to prevent accidents and malfunctions, and the plan was provided to the Agency on September 22, 2022. Refer to section 7.6 of the Annual Report.	Completed.
10.3 (and all sub-conditions 10.3.1 to 10.3.2)	The Proponent shall develop, prior to construction and in consultation with Indigenous groups and relevant authorities, an accidents and malfunctions response plan in relation to the Designated Project. The accidents and malfunctions plan shall include: • 10.3.1 - a description of the types of accidents and malfunctions that may cause adverse environmental effects during any phase of the Designated Project, including spills, fires, explosions and accidental releases from the tailings management facility; and • 10.3.2 - the measures to be implemented in response to each type of accident and malfunction referred to in condition 10.3.1 to mitigate any adverse environmental effect caused by the accident or malfunction, including: • 10.3.2.1 - measures to conduct water and fish tissue monitoring following an accidental	Calibre's Accidents and Malfunctions Prevention and Response Plan was finalized prior to implementation and in consultation with Indigenous groups and relevant authorities, and addresses all pertinent information per conditions 10.1, 10.3, 10.5 and 10.6. Refer to Annual Report section 7.6 and Appendix B.	Completed.
10.4	The Proponent shall maintain up-to-date the accidents and malfunctions response plan referred to in condition 10.3 during all phases of the Designated Project. The Proponent shall submit any updated accidents and malfunctions response plan to the Agency, Indigenous groups and relevant authorities involved in its implementation within 30 days of the plan being updated.	The Accidents and Malfunctions Prevention and Response Plan will be maintained and updated as required during all Project phases. The plan will be updated if procedures are identified that require amendments or changes based on regulatory changes, procedural changes, or personnel changes that necessitate updates. Calibre will submit any updated accidents and malfunctions plan to the Agency, Indigenous groups and relevant authorities involved in its implementation within 30 days of the plan being updated. Refer to section 7.6 of the Annual Report.	Initiated prior to construction and continuing on over the life of the Project as applicable.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
10.5 (and all sub-conditions 10.5.1 to 10.5.5)	In the event of an accident or malfunction with the potential to cause adverse environmental effects, including an accident or a malfunction referred to in condition 10.3.1, the Proponent shall immediately implement the measures appropriate to the accident or malfunction, including any measure referred to in condition 10.3.2, and shall: • 10.5.1 - implement the communication plan referred to in condition 10.6; • 10.5.2 - notify relevant authorities with responsibilities related to emergency response (including environmental emergencies) in accordance with applicable legislative and regulatory requirements; • 10.5.3 - notify, as soon as possible and pursuant to the communication plan referred to in condition 10.6, Indigenous groups of the accident or malfunction, and notify the Agency in writing no later than 24 hours following the accident or malfunction. When notifying Indigenous groups and the Agency, the Proponent shall specify: • 10.5.3.1 - the date and time when and location where the accident or malfunction occurred within the Designated Project area; • 10.5.3.2 - a summary description of the accident or malfunction; • 10.5.4.2 - a description of the measures that were taken by the Proponent to mitigate the adverse environmental effects caused by the accident or malfunction; • 10.5.4.3 - any view from Indigenous groups and advice from relevant authorities received with respect to the accident or malfunction, its adverse environmental effects and the measures taken by the Proponent to mitigate these adverse environmental effects; • 10.5.4.4 - a description of any residual adverse environmental effect and any modified or additional measure required by the Proponent to mitigate residual adverse environmental effects; and • 10.5.4.5 - details concerning the implementation of the accident or malfunction response plan referred to in condition 10.3. • 10.5.5 - submit a written report to the Agency no later than 90 days after the day on which the accident or malfunction occurred that includes: • 10.5.5.1 - a description of the changes made to avoid a subsequent occurrence of the accident or malfunction; • 10.5.5.2 - the modified or additional measure(s) implemented by the Proponent to mitigate and monitor residual adverse environmental effects and to carry out any required progressive reclamation, taking into account the information submitted in the written report pursuant to	Calibre's Accidents and Malfunctions Prevention and Response Plan addresses all pertinent information required by conditions 10.1, 10.3, 10.5 and 10.6. The plan provides guidance to all personnel on the collection and communication of critical information necessary to respond to the accident or malfunction, notification of and communication with Indigenous groups as required by the communication plan referenced in condition 10.6, the Agency and any other relevant authorities, and reporting requirements, including the report referenced in condition 10.5.5. Refer to section 7.6 and Appendix B of the Annual Report.	Initiated prior to construction and continuing on over the life of the Project, as applicable.
10.6 (and all sub-conditions 10.6.1 to 10.6.3)	The Proponent shall develop, in consultation with Indigenous groups, a communication plan for Designated Project accidents and malfunctions. The Proponent shall develop the communication plan prior to construction and shall implement and keep it up to date during all phases of the Designated Project. The plan shall include: • 10.6.1 - the types of accidents and malfunctions requiring the Proponent to notify the Indigenous groups; • 10.6.2 - the manner by which Indigenous groups shall be notified by the Proponent of an accident or malfunction and of any opportunity for the Indigenous groups to assist in the response to the accident or malfunction; and • 10.6.3 - the names and contact information of the Proponent and Indigenous group representatives for the purposes of notifying pursuant to condition 10.6.2 and communicating about accidents and malfunctions.	Calibre developed a communication plan for accidents and malfunctions, as a component of the Accidents and Malfunctions Prevention and Response Plan, in consultation with MFN and QFN. The communication plan has been implemented and will be updated throughout the phases of the Project, as applicable, including the following components: • A process, including criteria, for the identification of the types of accidents and malfunctions which will be the subject of notification to Indigenous groups; • Reporting process, including method, format, content and timing of Calibre's notification to Indigenous groups; • Identification and contact information of the Calibre and Indigenous group representatives for purposes of notification and communication; and • Procedures for updating the plan. Refer to section 7.5 and Appendix B of the Annual Report.	Initiated prior to construction and continuing on over the life of the Project as applicable.
11 Schedules			

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
11.1	The Proponent shall submit to the Agency and Indigenous groups a schedule for all conditions set out in this Decision Statement no later than 30 days prior to the start of construction. This schedule shall detail all activities planned to fulfill each condition set out in this Decision Statement and the commencement and estimated completion month(s) and year(s) for each of these activities.	The report presenting the schedule for all conditions was submitted to the Agency and Indigenous groups in August 2022, earlier than required 30 days in advance of the planned construction start date. It detailed all activities planned to fulfill each condition, with commencement and estimated completion months and years for each activity.	Completed.
11.2	The Proponent shall submit to the Agency and Indigenous groups a schedule outlining all activities required to carry out all phases of the Designated Project no later than 30 days prior to the start of construction. The schedule shall indicate the commencement and estimated completion month(s) and year(s) and duration of each of these activities.	A schedule outlining all activities required to carry out all phases of the Designated Project was prepared and submitted to the Agency and Indigenous groups in August 2022, earlier than the required 30 days in advance of the planned construction start date. The level of detail and timing for the implementation of specific activities were provided to the extent possible.	Completed.
11.3	The Proponent shall submit to the Agency and Indigenous groups in writing an update to schedules referred to in conditions 11.1 and 11.2 every year no later than March 31, until completion of all activities referred to in each schedule.	Updated schedules referred to in conditions 11.1 and 11.2 were included in the 2022 Annual Report, submitted to the Agency and Indigenous groups in March 2023. For the 2023 Annual Report, this table itself represents the updated schedule required by condition 11.1. With regards to condition 11.2, the LOM Development schedule has remain unchanged from that provided prior to construction; however, the construction activities schedule has been updated and is attached as Appendix C. Updates will continue to be submitted to the Agency and Indigenous groups each year, no later than March 31, until all activities referred to in each schedule are complete. Refer to Appendix C for the updated Project schedule.	March 31 every subsequent year, until completion of all activities referred to in each schedule.

Condition Number	Condition	Condition Implementation Activities Undertaken / Planned	Schedule for Implementation
12 Recordkeeping			
12.1	The Proponent shall maintain all records relevant to the implementation of the conditions set out in this Decision Statement. The Proponent shall retain the records and make them available to the Agency throughout construction and operation and for 25 years following the end of operation or until the end of decommissioning of the Designated Project, whichever comes first. The Proponent shall provide the aforementioned records to the Agency upon demand within a timeframe specified by the Agency.	Records relevant to the implementation of the conditions will be maintained and retained for 25 years following the end of operation, or until the end of decommissioning of the Project, as required. Records will be provided to the Agency upon request.	Ongoing, to continue for 25 years following end of operation or until end of decommissioning.
12.2	The Proponent shall retain all records referred to in condition 12.1 at a facility in Canada and shall provide the address of the facility to the Agency. The Proponent shall notify the Agency at least 30 days prior to any change to the physical location of the facility where the records are retained, and shall provide to the Agency the address of the new location.	All records referred to in condition 12.1 will be retained in Canada at Calibre's corporate office: Suite 1560 – 200 Burrard Street Vancouver BC, Canada V6C 3L6 Calibre will notify the Agency if there is a change to the physical location of the facility retaining the records at least 30 days prior to any change, and the new address will be provided to the Agency.	Ongoing, to continue for 25 years following end of operation or until end of decommissioning.
12.3	The Proponent shall notify the Agency of any change to the contact information of the Proponent.	The Agency will be notified if there is a change to the contact information of the Proponent. No changes are anticipated at this time.	Ongoing, as applicable.

Appendix B INDIGENOUS ENGAGEMENT SUMMARY

Berry Pit Expansion Environmental Registration / Environmental Assessment (Valentine Gold Project) Update

Response to Comments from MFN

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December 19, 2023

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LIST OF APPENDICES

RESPONSE TO COMMENT MFN-1

MFN-1	
Comment Number from MFN Submission	MFN Comment 1 – General Comment
Description from MFN Submission	MFN notes that Marathon plans to backfill the Berry pit with both waste rock and tailings during the operations of the mine. MFN notes that backfilling the pits effectively prevents future expansions of the Berry pit if additional ore is discovered below the pit through future exploration work on site. MFN is concerned that if additional ore is discovered then a very substantial change to the configuration of the mine site (and consequent additional environmental impacts) would be necessary as there is limited additional space for tailings and waste rock in the approved and proposed TSF and waste rock piles.
Request From MFN Submission	MFN requests that Marathon provide information that confirms that there is no risk of increasing the size of the resource in the Berry pit from additional exploration on site that would require a substantial change to the configuration of the site through future amendments to the Project
Marathon Response	The Berry deposit has been explored via a considerable drill program and the pit shell has been selected and the mineable open pit designed based on the appropriate geological factors, mining and milling costs, and the price of gold at the time of the assessment (Updated Feasibility Study, December 2022). Over the life of the Project, fluctuations in gold price, mining and milling costs, and other factors may change the ultimate pit design and associated surface area to a small degree; however, this would not be expected to change the pit or other components to the extent of requiring a reconfiguration of the site components as currently proposed. As per the federal EA Decision Statement Conditions 2.16 and 2.17, should Marathon propose changes to the Designated Project, IAAC must be provided with a description of the proposed changes, environmental effects prediction, modified or additional mitigation measures and follow-up requirements, as well as an explanation of how the environmental effects may differ from those identified during the EA process. Documentation of this change would also be presented to MFN for review and comment per the terms of the Marathon – MFN Socio-Economic Agreement (SEA) and section 3.3 of the Current Use of Land and Resources for Traditional Purposes Indigenous Communications Plan.

RESPONSE TO COMMENT MFN-2

MFN-2	
Comment Number from MFN Submission	MFN Comment 2 - Appendix 8A
Description from MFN Submission	In Table B-6 of the ARD/ML Assessment Report Marathon does not show the analytical results for mercury from the shake flask extraction (SFE) tests despite Section 3.2.1.3 of the report stating that mercury was an analyte in the tests. This seems like a significant considering that Appendix D of the water quantity and quality model report shows that mercury is expected to be elevated above the Canadian Water Quality Guidelines for Protection of Freshwater Aquatic Life (CWQG-FAL) in much of the effluent and porewater throughout the life of mine and in many cases for at least 100 years.
Request from MFN Submission	a. MFN requests that Marathon report the concentrations of mercury found in all SFE tests for the Berry deposit. b. MFN requests that Marathon develop a mercury management and monitoring plan for the project. c. MFN requests that IAAC or the Newfoundland and Labrador Department of Environment and Climate Change impose an effluent quality criterion for mercury that is appropriately protective of aquatic life and developed collaboratively with MFN. d. MFN requests that Marathon provide an information package of all baseline geochemical work done on mercury for the entire Valentine project.
Marathon Response	A) Please see shake flask extraction (SFE) test data in Attachment MFN-2.A. SFE tests were completed for the Berry deposit conglomerate, quartz-tourmaline-pyrite unit (QTP), low-grade ore (LGO) and high-grade ore (HGO) lithologies, and one sample of each quartz porphyry (QEPOR) and mafic dike lithologies prior to humidity cell testing (both samples were below the detection limit). SFE tests were not completed for Berry deposit overburden. Many SFE tests of overburden, mafic dike and QEPOR lithologies were completed for the Marathon and Leprechaun deposits; detectable mercury was only measured in one mafic dike sample and two overburden samples and concentrations were below the the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) guideline. The SFE test results do not affect the source terms used for the water quality model and assessment. Marathon and Leprechaun deposit data were used as an analogue when Berry deposit data was not available. Attachment MFN-2.A includes mercury results for SFE and solid phase total element concentrations for the Berry, Marathon and Leprechaun deposits. Solid phase mercury results for Berry deposit QEPOR, mafic dike and overburden lithologies were all below the detection limit and CWQG-FAL guideline value. B) A mercury-specific management and monitoring plan is not proposed, given the assessments of potential impacts of mercury in the Valentine Gold EIS (Marathon 2020) and the Berry Pit Expansion Environmental Registration / EA Update, the planned mitigation measures, and the scope of the existing monitoring program for the Approved Project (which will be updated, as required, and applied to the Project Expansion). These factors are described below. At various mine stages, some sedimentation pond final discharge points (FDPs) for the Berry pit and the Approved Project (Marathon 2020) are estimated to exceed the CWQG-FAL. The Project Expansion Assimilative Capacity Update Report (Appendix 8B of the Berry Pit Expansion Environmental Registration /

MFN-2	
	EA Update) estimated that mercury concentrations will be below the CWQG-FAL within 100 m of the discharge points into Valentine Lake. Inundating organic soils and vegetation with tailings has the potential to liberate mercury and lead to methylmercury (MeHg) production in the tailings management facility (TMF). The assessment of the potential for MeHg production in the TMF assumed that vegetation and organic soils presently in the TMF footprint would remain. In reality, however, vegetation will be cleared and grubbed, and organic soils removed from within the TMF tailings containment zone as part of site preparation, in compliance with Condition 3.8 of the federal Decision Statement for the Approved Project, which states: "The Proponent shall remove all vegetation from the tailings management facility containment zone during construction and prior to filling or flooding to reduce the potential generation of methylmercury." Without the presence of organic materials, the generation of MeHg is not expected within the TMF. Additionally, a TMF dam seepage collection system, consisting of a series of perimeter ditches and sump pits around the perimeter of the TMF dams, will be in place during operation and early closure. This collection system will allow TMF seepage to be pumped back to the TMF during this period and either reused as reclaim water or treated prior to discharge to Victoria Lake Reservoir, thereby addressing potential operation and early closure phase MeHg water quality concerns. During closure, the seepage collection ditches will be modified into passive treatment systems (e.g., permeable reactive barriers [PRBs]) to treat the parameters of potential concern (POPCs) in the toe seepage to meet CWQG-FAL values. MeHg production is anticipated to decrease to baseline conditions during the closure phase. Mercury is monitored as a parameter as part of the Surface Water Follow-up Monitoring Program (September 2022). Total mercury will be monitored four times per calendar year (with no less than one month between sample periods) at the FDPs, downstream monitoring stations (WQPs/WQFPs), and reference sites (RQPs/RQFPs). Sewage treatment plant discharge will be sampled and analyzed for total mercury on an annual basis. Mercury concentrations at the discharge locations and downstream monitoring stations will be compared to the concentrations at the reference sites and to the CWQG-FAL. The results assessment will be included in the Annual Surface Water Quality and Quantity Report submitted annually during construction and operation of the mine site. C) See details on mercury monitoring and assessment activities that are part of the Approved Project Surface Water Follow-up Monitoring Program (September 2022) described in the response to 2.B. D) Please see available geochemistry data in Attachment MFN-2.A. **References:** Marathon. 2020. Valentine Gold Project: Environmental Impact Statement. Chapter 7. September 2020. Marathon. 2022. Valentine Gold Project: Surface Water Follow-up Monitoring Program. September 2022.

RESPONSE TO COMMENT MFN-3

MFN-3	
Comment Number from MFN Submission	MFN Comment 3 – Appendix 2A, Section 7.0
Description from MFN Submission	Marathon has proposed to develop a passive treatment system for the long-term treatment of effluent from the TMF. MFN notes that passive treatment systems are known to vary widely in their efficacy depending on the effluent chemistry and the climate. In particular, passive systems are known to be less effective in colder climates where biological activity is lower and the reaction kinetics for abiotic reactions are also slower. Marathon has done extremely minimal work to plan for the treatment of TMF effluent in the post closure phase. MFN is very concerned as passive systems typically have lower monitoring frequencies than active treatment systems, the TMF effluent has very high concentrations of some contaminants (8 times the MDMER limit in the case of copper), and the efficacy of the passive systems is a major unknown variable at this point. MFN is being asked to accept a significant risk to the environment and to our rights from the proposed effluent treatment.
Request from MFN Submission	a. MFN would strongly prefer that Marathon commit to constructing an active water treatment system for the closure phase of the mine until TMF effluent meets stringent water quality criteria co-developed with MFN. b. MFN requests that Marathon undertake detailed design and test work to develop the passive treatment system early in the mine life, and obtain consent from MFN for the final design of the passive treatment system based on pilot study results.
Marathon Response	A) To clarify, during mine closure the water from the ponded area in the TMF will be drained and actively treated via the Water Treatment Plant, as a progressive low permeability cap is placed over the tailings. The tailings will eventually be fully covered with the cap, leaving no exposed tailings with which surface runoff could come into contact. Following closure, the only discharge from tailings contact water will be seepage via lateral flow to the seepage collection ditches or into the groundwater system. Further, the TMF will not receive tailings from the process after Year 9, and the permanent closure of the facility will commence in Year 10, providing roughly 4.5 years of closure monitoring prior to commencing full mine closure, which is expected to take an additional 2 years. Operational monitoring and early closure monitoring will be used to confirm the current predictions regarding water quality and support the final closure criteria and post-closure treatment and monitoring requirements, which will be subject to regulatory review, stakeholder, and Indigenous engagement (with MFN via the terms of the SEA), and in NL, subject to Environmental Assessment. Marathon understands MFN's concerns regarding water quality, however, active treatment systems are not expected to be required post-closure and are generally not considered practical due to perpetual operations/maintenance requirements, unless truly necessary long-term, or where water quality is expected to return to acceptable levels within the foreseeable future and the systems can be removed. Passive treatment systems are used effectively at mine sites across Canda to treat mine water to required discharge standards. The Mine Environment Neutral Drainage (MEND) program is directed by a multi-stakeholder committee to develop technologies to prevent and control acid drainage in Canada, including passive treatment systems (https://mend-nedem.org/default). The MEND program has documented the success of passive treatment systems to treat metal and nutrients, as well as acid drainage. Since the late 1990s and

MFN-3	
	early 2000s (MEND 1999, 2000), passive treatment technologies have been a recommended approach for managing acid drainage and associated metal leaching, including the permeable reactive barrier (PRB) and engineered wetland approaches proposed for the Approved Project and Project Expansion. Passive acid drainage and metal leaching treatment systems evaluated to support the MEND manual (2000) were located in Nova Scotia, Colorado, Yukon and Pennsylvania. Yukon College conducted a literature review of passive treatment system studies examined systems operating in the Yukon, British Columbia, Norway, Montana and Quebec (Ness et al. 2014). The review identified that lower temperatures during the winter months slowed biological processes, but that treatment efficiency was not necessarily reduced as chemical processes (sorption, precipitation) continued within the system. Sulphate reducing bioreactors (as are proposed for the Approved Project and Project Expansion) generally have lower sulphate reduction rates during cold temperatures; however, these can still maintain similar or adequate treatment levels if organic substrate is available. Ness et al. (2014) recommended that cold climate adaptations be incorporated into the design, including insulating layers (as proposed in conceptual design for the PRBs and engineered wetlands in the Rehabilitation and Closure Plan (GEMTEC 2022)); starting treatment system during warmer ambient temperatures (spring/summer/fall); and maintaining flow and hydraulic retention times. B) A pilot-scale passive PRB treatment system will be constructed during the operations phase of the mine when one portion of a waste rock pile has reached its storage capacity. The proposed pilot-scale PRB system will use an approximately 100 m long segment of surface runoff and seepage collection ditch at the headwater end of the ditch (e.g., no upstream catchment area and ditch length). Contact seepage will drain into the ditch from the waste rock pile side of the ditch, percolate through the organic layer and seep out the outside ditch face via lateral flow. Piezometers will be installed in the waste rock pile area, ditch segment and downgradient of the outside ditch face to monitor water levels and collect water samples to characterize influent, treatment system and effluent quality. The pilot system would be operated for a one-year period to characterize seasonal treatment performance. The pilot-scale system test results will be assessed with respect to whether the system can adequately treat contact seepage to meet baseline or Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) requirements. If the pilot-scale system is identified to require additional treatment prior to discharge to local receivers, the ditch segment bioreactors will be installed as French drain systems that will convey seepage to downstream engineered wetlands for additional treatment and polishing prior to release to local receivers. The pilot study design and results will be shared through the MFN / Marathon SEA Environmental Stewardship Subcommittee. **References:** GEMTEC. 2022. Rehabilitation and Closure Plan. Valentine Gold Project. Prepared for Marathon Gold Corporation. Submitted to Mineral Development Division. November 4, 2022. Mine Environmental Neutral Drainage (MEND). 1999. Review of Passive Systems for Treatment of Acid Mine Drainage. MEND. 3.14.1 MEND. 2000. MEND Manual Volume 5 – Treatment. MEND. 5.4.2e Ness, I., Janin, A. and K. Stewart. 2014. Passive Treatment of Mine Impacted Water in Cold Climates: A review. Yukon Research Centre, Yukon College.

RESPONSE TO COMMENT MFN-4

MFN-4	
Comment Number from MFN Submission	MFN comment 4
Description from MFN Submission	As has been stated in previous reviews, MFN is extremely concerned that Marathon intends to use Schedule 4 of the MDMER as their Water Quality Objectives (WQOs) for the Project. The MDMER WQOs are the absolute minimum Federal requirement for effluent for all metal and diamond mines in Canada. Many modern mining operations with comparable environmental conditions and geochemistry in Canada meet far more stringent WQOs, often approaching the CWQG-PAL. It is attainable from both a cost and technical perspective for Marathon to meet much more stringent WQOs for effluent discharged from the Project. The usage of MDMER WQOs at the Marathon Project is particularly concerning, as the MDMER WQOs do not take the assimilative capacity of the receiver into consideration. With such small streams serving as the receivers for the FDPs at the Project, effluent discharged could vastly exceed the assimilative capacity of the receivers without exceeding permitted WQOs. This has significant implications for the impacts on the downstream aquatic environment, such as metal accumulation in fish and other aquatic organisms that MFN members harvest and consume. It is also important to distinguish that CWQG-PAL guidelines are designed to be protective of aquatic life assuming chronic exposure to elevated concentrations of metals. Effluent discharge will be ongoing at the FDPs on site for many years, and passive discharge from the mine will continue in perpetuity. With the WQOs at the Project set at the MDMER Schedule 4 concentrations, aquatic life in the receivers is likely to be exposed to chronically elevated levels of metals above the CWQG-PAL for a substantial distance downstream. The fact that the environment downstream of the numerous receivers are currently planned to be permitted to allow for chronic exposure to metals elevated far above CWQG-PAL guidelines poses a significant risk of adverse impacts to our Indigenous rights that Marathon has failed to address through their engagement and consultation with MFN. At most mining operations in Canada, Provincial or Territorial permits set WQOs that incorporate the assimilative capacity and other pertinent characteristics (such as fish species) of the specific receiver(s) to ensure that the operation is protective of the downstream environment. The lack of permitting requirements in NL and the lack of voluntary commitment by Marathon to achieve WQOs in line with modern mining operations in Canada is a major oversight that risks significant potential impact to our Indigenous rights. MFN members continue to exercise our rights in and around the Project area as we have since time immemorial. By allowing lenient WQOs at the Valentine mine, Marathon and the Crown risk adversely impacting our members ability to exercise our inherent Indigenous rights through metal accumulation in fish that our members harvest and consume. Our members are concerned about the possibility of consuming fish that have elevated body burdens of metals that could have health impacts on our members who consume the fish. Our Nation must have an essential role in determining WQOs that will be appropriately protective of the downstream environment in our Traditional Territory where we will continue to exercise our rights for generations.

MFN-4	
Request from MFN Submission	a) Marathon must agree to establishing WQOs specific to each FDP that considers the assimilative capacity of the receiver, the fish species and other aquatic biota in the downstream environment and other relevant variables. These FDPs must be determined in consultation with MFN. Note that the FDP-specific WQOs will include additional parameters beyond those regulated under Schedule 4 of the MDMER. b) Marathon must commit to achieving the FDP specific WQOs agreed to between Marathon and MFN. c) MFN requests that Marathon commit to developing FDP-specific WQOs. Alternatively, MFN may request the Impact Assessment Agency include a condition of approval in the Federal Environmental Assessment that requires the Proponent to obtain formal authorization from MFN for FDP-specific WQOs that ensure that permitted discharges are protective of the downstream environment. d) MFN requests that Marathon provide a table on the total loading of all parameters to Valentine Lake and Frozen Ear Lake from the proposed Project expansion.
Marathon Response	A) Marathon's approach to water quality objectives for the Project Expansion is consistent with that currently in place for the Approved Project, which has already received the required regulatory approvals to initiate construction. Newfoundland and Labrador Regulation 65/03 Environmental Control Water and Sewage Regulations for the metal mining industry (Schedule C) applies the Metal and Diamond Mine Effluent Regulations (MDMER) Schedule 4 to all mining projects in the province. Marathon has developed a suite of Parameters of Potential Concern (POPCs) to be monitored, with parameters identified based on baseline data collected prior to site development, predicted exceedances of Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) values, and MDMER Schedule 4 limits. POPCs that were not MDMER Schedule 4 parameters were assessed in the assimilative capacity study using the estimated 95th percentile value for Mine Years 1 to 9 at the final discharge points (FDPs) (Assimilative Capacity Update Report, Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update). The study provides details on how the concentrations of the POPCs assimilate to or below CCME CWQG-FAL values within 100 to 300 m into Valentine Lake. The POPCs without MDMER limits will be monitored and assessed at the FDPs and downstream of the FDPs (water quality points [WQPs]) as part of the Surface Water Follow-up Monitoring Program (Marathon 2022). The Surface Water Follow-up Monitoring Program will be revised to include the Project Expansion FDPs and related downstream WQP sites. B) As described in Part A, Marathon has identified additional POPC parameters beyond those regulated under Schedule 4 of the MDMER and assessed these in the assimilative capacity of the receiver (the assimilative capacity study for the Valentine Gold Project was updated in consideration of the Project Expansion). These POPC parameters will be monitored as described in the Surface Water Follow-up Monitoring Program (Marathon 2022). Marathon has committed to an adaptive management approach in its FUPs, whereby programs may evolve and change as more data is gathered and potential effects of the Approved Project and Project Expansion are better understood. If monitoring data indicate that a change is necessary, the FUPs will be updated accordingly, based on consultation with regulators and Indigenous groups, and conditions of authorization. Marathon met with MFN during the environmental assessment of the Approved Project to discuss water quality objectives and monitoring parameters and

MFN-4	
	relevant regulatory standards. Since that time, Marathon and MFN have entered into a Socio-Economic Agreement (SEA) which provides for ongoing engagement over the life of the Project. Engagement is generally conducted through the vehicle of committees, including the joint Environmental Stewardship Subcommittee. The Environmental Stewardship Subcommittee meets on a quarterly basis, or more frequently if needed. The SEA Environmental Stewardship Subcommittee is mandated to determine joint environmental monitoring and stewardship priorities; review certain environmental documents; identify business, education and training opportunities relating to the environment; and making recommendations, as appropriate, regarding environmental management and monitoring, testing, studies, and programs related to the environmental effects of the Project and any other matter agreed to by the Parties. The Environmental Stewardship Subcommittee provides a forum through which MFN and Marathon can engage in relevant discussion, such as identifying for consideration specific POPCs or monitoring locations that are not already included in the Surface Water FUP. C) The approach of assigning effluent limits by assessing the maximum concentration as per MDMER and undertaking formal assimilative capacity to determine mixing zone extent and water quality recovery to CCME CWQG-FAL or baseline conditions is the mining industry standard in Canada. This process was used in the assessment of the Project Expansion (as it was for the Approved Project) and is described further in the Assimilative Capacity Update Report (Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update). D) As requested, attached is a series of tables (Attachment MFN-4.A) generated from the water quantity and water quality model effluent quality and load results for each Berry pit complex FDP presenting the annual average effluent concentration and the average annual loads: • BER-FDP-01B, BER-FDP-02 and BER-FDP-05 discharge directly into Valentine Lake. • BER-FDP-06 and BER-FDP-01A discharge into watercourse VAL-P2, which discharges to Valentine Lake. • MA-FDP-01AB, BER-FDP-03 and BER-FDP-04 discharge into Frozen Ear Lake, which discharges into Valentine Lake. The Assimilative Capacity Update Report (Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update) assessed the climate normal flow and dry flow condition scenarios using the predicted FDP 95th percentile concentration for Mine Years 1 to 9 or MDMER limit. The 95th percentile concentrations were highest in Mine Years 1 to 9 (Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update). Additionally, the climate normal flow scenario for Mine Years 1 to 9 for each FDP had the highest average annual flow rate. The assimilative capacity study assessed the life of mine scenarios with the highest parameters of POPC concentrations and flow rates, and therefore assessed the predicted highest daily loading rates into Frozen Ear Lake and Valentine Lake. **References:** Marathon. 2022. Valentine Gold Project: Surface Water Follow-up Monitoring Program. September 2022.

RESPONSE TO COMMENT MFN-5

MFN-5	
Comment Number from MFN Submission	MFN Comment 5
Description from MFN Submission	MFN notes that the sedimentation ponds will be constructed very close to Valentine Lake. In some cases, the ponds appear to be within 50m of the Lake. MFN is concerned with the stability of the ponds being constructed so close to the Lake and are concerned with the possibility that fluctuations in Lake levels may affect the stability of the sedimentation ponds. Failure of the pond embankments would have serious environmental impacts on Valentine Lake and on MFN's rights and interests.
Request from MFN Submission	a) MFN requests that Marathon provide hydrological information on Valentine Lake which shows the maximum and minimum lake heights. b) MFN requests that Marathon provide information on how the sedimentation ponds are being designed to ensure their stability through the life of the project recognizing the natural variability of lake levels in Valentine Lake. c) MFN requests information on storage capacity and residence time of proposed sedimentation ponds. It is important that these ponds maintain adequate residence time for particulates to settle, especially during periods of high flows (e.g. spring freshet).
Marathon Response	A) Lake level monitoring began in October 2023 at the outlet of Valentine Lake, which will help inform maximum and minimum lake elevations in the future. The design of water management infrastructure outlets and the toe of the sedimentation pond dams and outlets considered, and are above, the high-water mark for Valetine Lake. B) The sedimentation ponds were designed such that the outlet of the pond (FDP) discharges above the elevation of the high-water mark for Valentine Lake. C) Sedimentation pond design criteria including storage capacity, residence time, and particle size removal are provided in Section 8.3.1.1 of the Berry Pit Expansion Environmental Registration / EA Update and Section 3.2 of the Water Management Plan Update for the Berry Pit Expansion (Appendix 2A of the Berry Pit Expansion Environmental Registration / EA Update).

RESPONSE TO COMMENT MFN-6

MFN-6	
Comment Number from MFN Submission	MFN Comment 6
Description from MFN Submission	MFN notes that Marathon has not proposed any contingency measures if effluent discharged from the sedimentation or dewatering ponds do not meet the criteria laid out in Schedule 4 of the MDMER. Furthermore, Marathon has not proposed any trigger values to initiate adaptive management measures if water quality is approaching the MDMER. MFN is very concerned with the fact that with the sedimentation ponds operating passively and with no pumping system set up, Marathon will be unable to manage any effluent in exceedance of MDMERs and cause consequent contamination to the receiving environment.
Request from MFN Submission	MFN requests that Marathon commit to installing a system to pump water from the sedimentation ponds to the water treatment plant as a contingency measure. MFN requests that Marathon codevelop a trigger concentration of all parameters of potential concern above which would initiate pumping and treatment in the water treatment plant.
Marathon Response	Section 5.1 of the Surface Water Follow-up Monitoring Program (Marathon 2022) describes the measures that will be taken should a monthly grab sample exceed the prescribed maximum authorized concentration from Schedule 4, Table 1 of the Metal and Diamond Mining Effluent Regulations (MDMER). The maximum authorized concentration is the trigger concentration used across Canada for potential exceedances of MDMER. It is not considered necessary or practical to install a pumping system to connect the sedimentation ponds to the water treatment plant, as a number of these ponds are 2 to 4 km from the treatment plant and would require massive pumps and/or multiple pumping stages to overcome the pressure head on this type of system. It is anticipated that any short-term change in water quality would be associated with sediment, ammonia (pit operations related) or hydrocarbons, all of which can be addressed with relatively quick and simple mitigations using equipment, materials, and personnel that will be on site related to normal mine operations and/or spill / emergency response. Other parameters (e.g., metals) would likely trend over time and thereby allow some time to plan and implement solutions. The sedimentation ponds have been designed to adequately treat runoff from the Project component areas to concentrations below MDMER Schedule 4 criteria. Should an exceedance occur and be confirmed by repeat sampling, further water quality remediation measures (e.g., temporary pumping system to the TMF or water treatment plant, drainage ditch adaptations, other immediate treatment adaptations using flocculant, lime, etc., or containerized water treatment systems) will be implemented in the source zones in consultation with regulatory authorities. Descriptions of the measures will be submitted to the Impact Assessment Agency of Canada before implementation. **References** Marathon. 2022. Valentine Gold Project: Surface Water Follow-up Monitoring Program. September 2022.

RESPONSE TO COMMENT MFN-7

MFN-7	
Comment Number from MFN Submission	MFN Comment 7 - Section 6.0
Description from MFN Submission	In Section 6.2.1 of the water quantity and water quality model report, Marathon notes that exceedances of phosphorous are likely due to the detection limit of samples (110µg/L) being greater than the CWQG-FAL (4µg/L). MFN notes that it is highly inappropriate to use an analytical method that is so far in exceedance of the CWQG-FAL as it makes it effectively impossible to properly assess the impact of phosphorous on the receiving environment. Phosphorous is a nutrient which can enhance biological processes in the receiving environment that, in the presence of elevated sulfates, can accelerate the methylation of mercury in certain environments. Given the high concentrations of sulphate and mercury in the effluent from the project and the abundant wetlands in the receiving environment, the lack of proper assessment of the phosphorous is a significant oversight for understanding the potential impacts of the project.
Request from MFN Submission	a) MFN requests that all future water quality samples collected at the Valentine site use an analytical method with a detection limit below the CQQG-FAL for phosphorous. b) MFN requests that Marathon develop a mercury management and monitoring plan for the project and that IAAC requires the mercury monitoring plan as a condition of approval for the Project.
Marathon Response	A) The Surface Water Follow-up Monitoring Program developed for the Approved Project (September 2022) includes total phosphorus (TP) as a monitoring parameter at the final discharge points (FDPs), water quality monitoring stations downstream of the FDPs (WQPs/WQFPs), and reference monitoring stations (RQPs/RQFPs). The recommended minimum reported detection limit for the program is 4 µg/L. The 4 µg/L detection limit was selected based on professional experience with various accredited laboratories and quality issues with detection limits lower than 4 µg/L. The Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) for total phosphorus is not a specific threshold criteria value of 4 µ/L, but different trophic status classifications representing a range of TP concentrations. For example, a low nutrient environment is classified as oligotrophic with a TP range of 4 to 10 µg/L. Total phosphorus results at FDPs and WQPs/WQFPs as part of the Surface Water Follow-up Monitoring Program will be assessed with respect to changes in trophic status as per the CCME CWQG-FAL trigger ranges, and in comparison to RQPs/RQFP TP concentration results. B) As indicated in the response to Comment MFN-2B, Marathon does not intend to develop a mercury-specific management and monitoring plan for the Project. The Country Foods Follow-up Monitoring Program is focused on metals, including total mercury, in the same country foods and environmental media considered in the baseline assessment. The first sampling event (during construction) will also include analysis of methylmercury (MeHg) in fish tissue to confirm it is reasonable to assume that 100% of total mercury in fish tissue occurs as methylmercury. A mercury-specific management and monitoring plan is not proposed, given the assessments of potential impacts of mercury in the Valentine Gold EIS (Marathon 2020) and the Berry Pit Expansion Environmental Registration / EA Update, the planned mitigation measures, and the scope of the existing

MFN-7	
	monitoring program for the Approved Project (which will be updated, as required, and applied to the Project Expansion). **References:** Marathon. 2022. Valentine Gold Project: Surface Water Follow-up Monitoring Program. September 2022.

RESPONSE TO COMMENT MFN-8

MFN-8	
Comment Number from MFN Submission	MFN Comment 8 – Appendix 2B: Table B-3
Description from MFN Submission	Table B-3 of the ARD/ML Assessment Report shows the mineral mass of the most abundant minerals in waste rock, ore and tailings lithologies. MFN notes that pyrite and pyrrhotite are listed together and are occasionally greater than 1% weight percent of mineral mass. MFN notes that pyrrhotite is not listed in the table despite the fact that it is often present in significant amounts in similar deposits. This is significant given the much higher weathering rate of pyrrhotite than pyrite or marcasite and the consequent greater risk of acid rock drainage in lithologies with high proportions of pyrrhotite as the primary iron sulfide.
Request from MFN Submission	MFN requests that Marathon clarify whether the X-ray diffraction (XRD) analyses in Table B-3 distinguish between pyrite and pyrrhotite. If they do not, MFN requests that Marathon undertake additional mineralogical analyses to assess the proportion of iron sulfides present as pyrrhotite.
Marathon Response	X-ray diffraction (XRD) can distinguish between pyrite, pyrrhotite and marcasite. The pyrite content reported in Table B-3 of the Acid Rock Drainage / Metal Leaching Assessment of the Berry Deposit Report (Appendix 2B of the Berry Pit Expansion Environmental Registration / EA Update) is pyrite; pyrrhotite was not detected. This information is verified by the laboratory performing the XRD analyses (SGS Canada Inc.) and literature (e.g., McDougall et al. 2022). **References:** McDougall, H., Hibberd, M., Tong, A., Neville, S., Peterson, V., and Didier, C. 2022. Preparation of Pyrite Concentrate Powder from the Thackaringa Mine for Quantitative Phase Analysis Using X-ray Diffraction. Journal of Applied Crystallography, 55(6).

RESPONSE TO COMMENT MFN-9

MFN-9	
Comment Number from MFN Submission	MFN Comment 9
Description from MFN Submission	Marathon has noted that the bedrock in the project area is relatively competent and that they expect that groundwater flow from the Berry Pit to Valentine Lake to be very slow. Marathon has argued that this will consequently have limited impact on water quality in Valentine Lake. MFN is concerned with the possibility that there are bedrock fractures that may serve as preferential pathways for groundwater movement from the Berry Pit to Valentine Lake and result in much greater volumes of effluent from the Berry pit reaching Valentine Lake, including water from the monimolimnion.
Request from MFN Submission	a) MFN requests that Marathon provide the geotechnical and geomechanical reports with data from between the Berry Pit and Valentine Lake. If limited work has been conducted, MFN requests additional geotechnical and geomechanical studies to assess whether there are any preferential groundwater flow paths from the Berry pit to Valentine Lake. b) MFN requests that Marathon develop mitigations measures for controlling discharge of Berry pit lake water to Valentine Lake if groundwater flow from the pit lake is substantially worse than anticipated.
Marathon Response	A) Terrane Geoscience Inc. (Terrane) is responsible for the geotechnical design of the Berry pit. Terrane conducted a drilling program in 2022, including 13 drillholes around the perimeter of the Berry deposit. GEMTEC interpreted the results of 69 packer tests and concluded that “there are no substantial hydraulic conductivity variations in rock mass, and the fault zones tested (including the VLTF) did not have substantially higher mean values than the surrounding rock mass. It is not anticipated that faults intersecting or near the Berry pits will be preferred pathways for groundwater flow.” Further details regarding Berry pit geotechnical and geomechanical properties can be found in the Technical Report and Feasibility Study (Valentine Gold Technical Report and Feasibility Study, November 2022) available at: https://marathon-gold.com/site/uploads/2022/12/FINAL-REPORT-Valentine-Gold-43-101-and-FS-Dec-20.pdf Results from a pumping test completed by GEMTEC in the Berry formation will be available in early 2024 to supplement this data. B) Berry pit lake water is predicted to enter Valentine Lake as groundwater flow with concentrations for the parameters of potential concern (POPCs) below the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) (Table 7.8, Section 7.5.2.4, Chapter 7 of the Berry Pit Expansion Environmental Registration / EA Update). See response to Comment MFN-17 for discussion about changes to Table 7.8 results, which do not change predicted groundwater discharge flow quality from the Berry pit lake to Valentine Lake. The Groundwater Follow-Up Monitoring Program, which will be updated for, and apply to, the Project Expansion, provides for an adaptive management approach should a) the POPCs exhibit a statistically significant upward trend or b) an indicator parameter is above guidelines. Monitoring wells are planned to be installed between the Berry waste rock pile and Valentine Lake as part of an update to the Groundwater Follow-Up Monitoring Program (Marathon 2022) for the Approved Project, with regular monitoring and assessment to confirm potential changes in groundwater quality are as predicted for the Project Expansion. If identified changes in POPCs indicate potential Project effects on

MFN-9	
	groundwater seepage quality that may affect Valentine Lake, an investigation will be conducted to confirm the source, including the Berry pit lake. In addition, during operation, Marathon will be able to monitor actual water quality from dewatering of the pit, as well as actual water quality from the tailings. This data will improve confidence in water quality predictions provided in the environmental assessment. This refinement of data will allow Marathon to prepare contingencies in the event that one or more parameters associated with water quality seepage into Valentine Lake does not meet CWQG-FAL. Several mechanisms could be used to mitigate in this case: • Reduction of seepage through measures such as grouting of faults • Improvement of seepage quality through additives such as lime or other reagents The current plan for rehabilitation and closure of the Project Expansion includes permeable reactive barriers (PRB) at the toe of the waste rock pile to treat seepage and improve seepage quality. Given the topography and locations of the pit and waste rock pile, it is predicted that the PRBs will also intercept and treat some seepage from the pit. See the response to Comment MFN-10 with respect to management of pit lake overflow discharge to Valentine Lake. See the response to Comment MFN-17.C. with respect to groundwater seepage assessment to Valentine Lake and the assimilative capacity study. **References:** Marathon. 2022. Valentine Gold Project: Groundwater Follow-Up Monitoring Program.

RESPONSE TO COMMENT MFN-10

MFN-10	
Comment Number from MFN Submission	MFN Comment 10 – Section 6.0
Description from MFN Submission	In Section 6.2.4 of the water quantity and water quality model report note that Marathon plans to discharge water passively from the Bery pit to Valentine Lake post-closure of the mine. MFN note that many parameters are expected to exceed the CWQG-FAL in discharge in the pit lake water. MFN is very concerned with the long-term liability which will be left to our Nation from the permanent discharge of contaminated effluent to Valentine Lake from the Berry Pit, which will likely result in our members avoiding exercising our rights in the area due to perceived contamination of the environment.
Request from MFN Submission	MFN requests that Marathon commit to treatment of Berry Pit Lake water prior to discharge to Valentine Lake.
Marathon Response	The pit lake will be monitored with respect to water quality, as well as its discharge to Valentine Lake. If pit lake water quality is expected to be worse than the outflow concentrations applied in the assimilative capacity study, additional treatment would be applied. Additional treatment could include re-routing the pit lake outflow through a passive treatment system prior to discharge to Valentine Lake. This treatment system could include conversion of the pit lake outflow drain towards the dewatering sedimentation pond BER-SP-05 into an anaerobic permeable reactive barrier French drain. The sedimentation pond would be converted into an anaerobic vertical flow engineered wetland that discharges into the subsurface drain to Valentine Lake.

RESPONSE TO COMMENT MFN-11

MFN-11	
Comment Number from MFN Submission	MFN Comment 11 – Appendix 8A: Figure 4.12
Description from MFN Submission	Figure 4.12 of the water quantity and water quality model report indicates that there may be periods of time during the mine life when the TMF pond volume will exceed the maximum water storage volume of the TMF. MFN is very concerned with this given the exceptionally high concentration of a number of contaminants in the TMF supernatant including cyanide, and the fact that this calculation is based on a 25-year return period annual wet year, which is not a conservative estimate. A more conservative approach to water management in the TMF must be taken to ensure no uncontrolled discharge of highly contaminated TMF supernatant occurs. In addition, the serious under-sizing of the storage capacity could lead to excess overflow that poses a risk to TMF stability, potentially compromising the long-term viability of dam infrastructure.
Request from MFN Submission	MFN requests that Marathon redesign the TMF to accommodate the 100-year return period annual wet year without any discharge to the environment.
Marathon Response	The maximum storage volume presented in Figure 4.12 is an operational maximum storage volume and is smaller than the design storage volume at which the tailings management facility (TMF) would have a release (via its emergency spillway) to the environment. The 25-year wet year is a year-long simulation run of a wet year condition; it is not a TMF design criteria. The hydraulic capacity of the TMF is based on the intensity-duration-frequency (IDF) and hazard consequence classification, which is based on both an extreme wet weather storm and a snowmelt component. The current design criteria adopted for the TMF dams are appropriate for a VERY HIGH hazard consequence classification as defined by the Canadian Dam Association (2021), and therefore 2/3 between the 1000-year return period storm and the probable maximum precipitation (PMP) – a volume much greater than the 25-year return period storm. With such conservative hydraulic capacity, the TMF will have no issues containing and managing the 25-year return period annual wet year, as demonstrated in the model. **References:** Canadian Dam Association (CDA). 2021. Technical Bulletin: Tailings Dam Breach Analysis. https://cda.ca/publications/cda-guidance-documents/tailings-dam-breach-analysis

RESPONSE TO COMMENT MFN-12

MFN-12	
Comment Number from MFN Submission	MFN Comment 12 – Appendix 8A
Description from MFN Submission	As part of the updated Project description, Marathon is replacing the polishing pond is being replaced with a submerged attached growth reactor (SAGR) for effluent treatment. This is being planned to improve breakdown of nitrogenous chemical species in effluent, prior to discharge into the Victoria Reservoir. Unfortunately, there is not sufficient information to determine if this approach is prudent or if it will be capable of adequately treating water from the TMF. Should the SAGR be inadequate, malfunction, or have significant down-time, it could result in untreated effluent being discharged directly to Victoria reservoir.
Request from MFN Submission	MFN requests additional information on the SAGR including: • What is the anticipated lifespan of the SAGR? Is there risk of downtime for issues/maintenance? Does the project have adequate storage to deal with this? • Preliminary research indicates these SAGR systems are designed to reduce ammonia. Will it be capable of treating other contaminants? For example: Al, Ag, As, Cd, Cr, Cu, F, Fe, Hg, Mn, Se, P, Pb, U and Zn. Has SAGR been used in other comparable mining operations? Will biological components be able to maintain function at low temperatures? What are the water requirements of the SAGR?
Marathon Response	With proper adherence to the submerged attached growth reactor (SAGR®) operation manual and maintenance schedule, the system is expected to have a lifespan of 20 years. The system includes three SAGR® beds, one of which can be taken offline at a time without affecting SAGR® performance. Routine maintenance requires approximately one week per SAGR® bed annually. This can be performed from the surface during the warmer months. With this routine maintenance, the risk of unplanned downtime due to a malfunction is considered very low. However, should there be an unexpected malfunction in one of the SAGR® beds, it can be taken offline and repaired without impacting the performance of the other two beds; therefore, additional storage capacity is not needed. The SAGR® will primarily treat free CN, thiocyanate, cyanate and ammonia. By the time effluent arrives at the SAGR®, it will have already been treated to remove metals, as this is performed upstream of the SAGR® at the Water Treatment System. The chemical treatment and filtration system consists of chemical treatment for cyanide destruction and metals precipitation, followed by cloth disk filtration to remove the precipitated metals and other influent solids from the liquid stream. SAGR® is used in other comparable mining operations, such as at Alamos Gold's Young-Davidson Mine near Matachewan, Ontario, where SAGR® treats several mixed flows with high concentrations of cyanate, thiocyanate, and ammonia (notably, ammonia can be in excess of 200 mg/L). More than 100 full-scale SAGR®s operate effectively in locations with sub-zero (Celsius) temperatures for extended periods of time (e.g., 4 months). With regards to water requirements, the SAGR® itself does not require a supply of clean water; water is only required at the water treatment plant, primarily for chemical dosing, most notably for alkalinity makedown.

RESPONSE TO COMMENT MFN-13

MFN-13	
Comment Number from MFN Submission	MFN Comment 13 – Section 2.12.6
Description from MFN Submission	As part of the Project Expansion, Marathon plans to begin storing tailings in the southern basin of the mined-out Berry Pit in Year 10 of operations. This alternative is similar to the approved plan of storing tailings in the Leprechaun pit, which includes the advantages of a permanent water cover and reduces the risks associated with the TMF seepage and malfunctions.
Request from MFN Submission	MFN generally supports the plans to begin storing tailings in the Berry Pit during Year 10 as this reduces the distance needed to transport tailings slurry. This support is contingent on satisfactory responses to the other concerns related to tailings management and the closure of the Berry Pit raised in this report (e.g., Comment #10)
Marathon Response	See response to Comment MFN-10 discussing pit lake water management. Note that the proposed deposition of tailings in year 10 in the Berry pit, replaces the former plans to deposit tailings in the Leprechaun pit and retains the advantages of a permanent water cover over the in-pit deposited tails.

RESPONSE TO COMMENT MFN-14

MFN-14	
Comment Number from MFN Submission	MFN Comment 14 – Section 9.6
Description from MFN Submission	Marathon has estimated that a total of 2,563 m^2 of fish habitat will undergo harmful alteration, disruption or destruction (HADD). This is based on the direct loss of habitat from construction of sediment pond effluent outlets and changes to stream habitat associated with at least a 10% reduction in MAF. These are conservative estimates of HADD, as these affected habitats are likely to maintain some functional habitat throughout most of the year.
Request from MFN Submission	MFN supports the determination of no significant effect on fish and fish habitat from this loss of habitat, contingent on the development of an appropriate Fish Habitat Compensation Plan that results in an *increase* in fish habitat productivity in the region. MFN must be engaged on the development of the new/updated Fish Habitat Compensation Plan.
Marathon Response	The "*Policy for applying measures to offset adverse effects on fish and fish habitat under the Fisheries Act*" (DFO 2019) requires that measures to offset and counterbalance the adverse effects of a proposed work, undertaking or activity should provide ecological benefits that are proportional to the residual effects resulting from the work, undertaking or activity. As described in the Valentine Gold EIS, any offsets required will aim for a net gain of fish habitat. Marathon will engage with MFN via the SEA Environmental Stewardship Subcommittee regarding the HADD associated with the Project Expansion, and on any resulting offsetting requirements.

RESPONSE TO COMMENT MFN-15

MFN-15	
Comment Number from MFN Submission	MFN Comment 15 – Appendix 8B
Description from MFN Submission	Effluent discharges from the Project Expansion to Valentine Lake and tributaries are anticipated to be below CWQG-FAL within 100m – 300m of discharge points during periods of the mine life. These mixing zones are required at several effluent discharge points for the Project to multiple receivers. It is predicted that the Project will result in exceedances of water quality guidelines for several parameters, including some that are known to be highly toxic to fish and/or bioaccumulate (e.g. cadmium, cyanide, unionized ammonia, arsenic and lead). MFN has repeatedly communicated a problem with this approach.
Request from MFN Submission	a) MFN requires that water treatment must be in place to treat any exceedances of MDMER and CWQG-FAL (or background) prior to the point of discharge. b) During operations the Proponent must commit to undertaking a Country Foods survey in collaboration with MFN for evaluating the potential effects of the Project on concentrations of contaminants in fish (and other country foods).
Marathon Response	A) Water treatment is proposed in every pond upstream of every point of final discharge. The ponds have been designed to meet the most stringent water quality criteria including: use of a minimum total suspended solids (TSS) removal efficiency of 80%; particle settling design to capture all particles > 5 µm; 24 hour residence time; use of a permanent pool in a wet pond design; the use of a reversed slope outlet pipe configuration to improve the thermal characteristics of discharge and form a trap to floatables that may enter the pond; and the use of a minimum 2:1 length : width ratio and low flow outlet control to extend baseflow augmentation to receiving water in addition to the ponds' function as flood and erosion control features (Refer to the Water Management Plan Update (Appendix 2A of the Berry Pit Expansion Environmental Registration / EA Update)). The proposed ponds improve water quality through sedimentation, which will reduce the concentration of the metal precipitates and metals bound to mineral particulates, and oxidation of parameters such as iron and sulphide in the form of pyrite to form iron (II) and sulphate. The ponds will host an array of microbes, such as iron and sulphate - reducing bacteria, to microbially mediate the reduction of iron and sulphate. The open water portions of the ponds will allow UV light penetration and volatilization of organic parameters, and the aerobic environment of the wet ponds will enhance completion of processes of ammonification, nitrification and denitrification. In summary, the proposed wet ponds will incorporate multiple water quality treatment functions. As described in the Water Management Plan Update for the Berry Pit Expansion (Appendix 2A of the Berry Pit Expansion Environmental Registration / EA Update), excess water from the tailings management facility (TMF) will also be treated prior to discharge using the water treatment plant and the SAGR® unit, which is part of the water treatment system. The water treatment plant will be situated below the tailings pond and the treatment process will be designed to remove ammonia, total cyanide, and copper. Additions of coagulant polymer will facilitate the removal of colloidal-sized suspended matter. SAGR® unit. The SAGR® unit will further reduce the concentrations of contaminants to below the Metal and Diamond Mining Effluent Regulations (MDMER) effluent limits, via

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	further coagulation and sedimentation of copper and cyanide-metal solids and degradation of ammonia and cyanide. Water will be retained in the SAGR® unit for up to five days, with residence times developed to facilitate settling of coagulated particulate. The water quality treatment train includes the mill cyanide destruction circuit, tailings pond, and water treatment facility with SAGR® unit, the latter of which is designed to provide a final effluent that meets the MDMER effluent water quality criteria. Additionally, the parameters that exceed their corresponding Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) values are not bioaccumulative, therefore, would not be expected to bioconcentrate or bioaccumulate in fish or other aquatic organisms. Bioaccumulative or bioconcentrating parameters, such as cadmium, selenium and mercury, were not detected in the geochemical testing of the ore samples. The mining processes planned for the Approved Project and Project Expansion do not require the use of bioaccumulative or bioconcentrating compounds. In addition, based on the results of the geochemical water quality modelling, the concentrations of these compounds are not expected to exceed CWQG-FAL or MDMER values. Effluent water will meet the MDMER limits for POPCs and as well for acute toxicity, as will be confirmed by acute lethality testing in accordance with MDMER. B) Marathon has committed to a Country Foods Follow-up Monitoring Program that includes collection and analysis of species of fish (ouananiche or Arctic char or brook trout), vegetation (blueberries or partridge berries, Labrador tea), and animal tissues (snowshoe hare). The Country Foods FUP also allows for analysis of tissues from larger mammals (moose, caribou) if arrangements can be made with local hunters to provide tissue samples. The proposed sampling locations and species were informed by information provided by MFN and QFN during engagement activities for the Valentine Gold Project, and ongoing input from MFN regarding target species and locations is welcome. Pursuant to the Socio-Economic Agreement concluded between Marathon and MFN, parties agree to discuss the involvement of MFN in Project-related environmental studies and the execution of monitoring programs, including the Country Foods FUP. The Country Foods FUP describes adaptive management actions, to be triggered if there are changes in soil or water that are not consistent with predictions or changes in country foods that are not consistent with baseline concentrations. Should changes in country foods be identified, this would trigger an evaluation of the change in human health risk, and consultation with the relevant health agencies.

RESPONSE TO COMMENT MFN-16

MFN-16	
Comment Number from MFN Submission	MFN Comment 16 – Appendix B
Description from MFN Submission	During closure it is anticipated that effluent, runoff and seepage from a variety of sources will result in exceedances of CWQG-FAL to a variety of receivers at different times throughout the life of mine and into closure. For example, seepage from the Berry Pit waste rock stockpile will result in exceedances to CWQG-FAL to Valentine Lake during operations and closure. Likewise, overflow from the filled Berry Pit is also expected to exceed CWQG-FAL for some parameters during closure. As with the effluent discharges from FDPs for the Approved Project, Marathon has indicated that these exceedances will mix with lake waters to meet the guidelines within 300m of the shore. MFN does not believe this approach is acceptable and actions should be taken to ensure water meets CWQG-FAL prior to mixing with surface water. Secondly, the timescale for these water quality issues are uncertain and once issues arise, it will be too late to manage them effectively. Taking the wait and see approach to mitigation and/or treatment poses a significant risk as mitigation options (i.e. alternative management for waste rock piles) may become too costly by the time exceedances are observed. Thirdly, it is unclear if assimilative capacity modeling was conducted individually for each FDP or if, overlap and cumulative effects of mixing zones was considered.
Request from MFN Submission	a) MFN requests that Marathon manage waste rock in proximity to Valentine Lake so that less of the pile is remaining at surface during closure and that the size of the buffer zone with the lake is increased. This may require increasing the backfilling of waste rock in the Berry Pit and/or Leprechaun Pit. b) MFN requests that Marathon treat overflow from the Berry Pit to meet CWQG-FAL prior to discharge. c) MFN requests that Marathon undertake modelling of seepage, runoff, and effluent to identify areas where different sources of contamination (e.g. seepage from rock piles and overflow from Berry Pit) may act cumulatively within receiving water bodies (e.g. Valentine Lake) to identify the combined nature of these.
Marathon Response	A) The Berry open pit will be the first of the three pits (including Marathon and Leprechaun pits) that will be mined completely or exhausted. As described in the project description, the Berry Pit is comprised of 3 sub-basins (or smaller pits), and the northeast sub-basin will be completely backfilled with waste rock, the central sub-basin partially (about 2/3) backfilled with waste rock, and the central and southwest basins will then be used for tailings storage (after Year 9). As such, the Berry open pit will be primarily backfilled with mine waste, noting that some of the waste rock that will fill the Berry pit will come from Marathon pit in the latter years of mining, after the Berry pit has been exhausted. Ultimately, the sequence of mining doesn't permit additional Berry pit waste rock to be backfilled into the Berry pit, or the Leprechaun or Marathon open pits. The only option to reduce the volume of waste rock in the Berry waste rock pile would be to relocate a part of the pile at closure. For the waste rock at the toe of the pile adjacent to Valentine Lake, this would mean that progressive rehabilitation could not be completed as required or the design of the pile would need to be completely changed and the resulting pile would have a significantly larger footprint and would either directly or indirectly impact other waterbodies

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	that flow to Valentine Lake and/or would encroach on the primary caribou migration corridor. B) When water overflows from the Berry pit as early as Mine Year 16, the mine will no longer be operating but will be moving toward active closure, and the Metal and Diamond Mining Effluent Regulations (MDMER) will no longer apply. The water quality objective in closure to move towards recognized closed mine status will be the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) or baseline, and therefore the closure passive treatment systems will be designed for CWQG-FAL compliance with respect to the mixing zone within Valentine Lake. C) The Assimilative Capacity Update Report (Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update) simulated effluent quality and quantity from each final discharge point (FDP) or group of FDPs discharging to Valentine Lake, which included toe seepage and runoff from the waste rock pile and other stockpiles, and Berry Pit dewatering flows for the Operation Mine Years 1 to 9. The assimilative capacity models demonstrated that mixing zones within Valentine Lake would not overlap, and thus convergence modelling of the mixing zones was not simulated. The Berry pit lake overflow (BER-FDP-05) during post-closure scenario was not simulated as part of the assimilative capacity study, as its 95th percentile water quality parameter concentrations were lower than the Mine Year 1 to 9 period concentration. Additionally, with active dewatering of the Berry pit, the discharge flows from BER-FDP-05 were predicted to be higher during the operation period (Mine Years 1 to 9) than post-closure (Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update). As a result, the assimilative capacity study simulated the worst-case life of mine loading scenario predicted by the water quantity and water quality model. The predicted groundwater seepage quality to Valentine Lake from the Berry Pit Expansion area, which includes the waste rock pile and pit lake, will have concentrations below the CWQG-FAL as presented in Table 7.8 of the Berry Pit Expansion Environmental Registration / EA Update (refer also to the response to Comment MFN-17 for an update of Table 7.8, which did not change predicted groundwater seepage quality to Valentine Lake from the Berry Pit Expansion area). During operations, toe seepage from the waste rock pile and overburden, low-grade ore, and topsoil stockpiles is conveyed into the surrounding runoff and seepage collection ditches, which transport the flows to the sedimentation ponds for treatment prior to discharge at the FDPs. The water quantity and water quality model was used to predict the quality and quantity of the seepage from the piles to the six sedimentation ponds and their FDPs for the Expansion Project (Appendix 8A of the Berry Pit Expansion Environmental Registration / EA Update). Surface runoff and direct precipitation were also modelled and contributed to the FDP quantity and quality during the various life of mine phases. The predicted FDP flows and quality, which include toe seepage from the waste rock pile and other stockpiles, were then input into the assimilative capacity model to simulate mixing zones within Valentine Lake (Appendix 8B of the Berry Pit Expansion Environmental Registration / EA Update). Including groundwater seepage to Valentine Lake in the assimilative capacity study would not substantially change the predicted results, based on the following: • Valentine Lake water quality in the assimilative capacity study is based on baseline monitoring data, and some baseline parameters of potential concern (POPCs) are above the CCME CWQG-FAL values.

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	• The POPCs predicted in groundwater seepage presented in Table 7.8 (Chapter 7) have similar or lower concentration values than the mean and 75th percentile baseline Valentine Lake water quality (see Comment MFN-17 about changes to Table 7.8, which did not revise predicted groundwater seepage quality to Valentine Lake from the Berry Pit Expansion Area). • Water quality in the receiver that is similar to or worse than that of the predicted groundwater discharge would not substantially change the mixing zone nor the study results. To represent the worst-case discharge quality scenario to Valentine Lake, MDMER parameters in the assimilative capacity study were modelled using MDMER Schedule 4 limit values. These limit values were substantially higher than those predicted at the FDPs by the water quantity and quality model during each life of mine phase (including the post-closure phase when the Berry pit lake is discharging to Valentine Lake) (Appendix 8A of the Berry Pit Expansion Environmental Registration / EA Update).

RESPONSE TO COMMENT MFN-17

MFN-17	
Comment Number from MFN Submission	MFN Comment 17 – Section 9.5.2.2
Description from MFN Submission	Seepage from the TMF to the Victoria River is expected to exceed MDMER for ammonia (unionized), cyanide, and copper. Marathon has stated that: *If follow-up monitoring over the life of the Project confirms this prediction, passive treatment systems will be required to treat TMF seepage to regulated limits. The selection and design of passive treatment system(s) will be based on water chemistry, flow rate, local topography, and/or site characteristics.* *Marathon, 2023, pp 9-46* It is not sufficient to delay planning of treatment until problems are noted. It is necessary to manage tailings during operations to mitigate this issue or at the very least have contingent systems in place so that they are ready to treat contamination at the earliest indication.
Request from MFN Submission	MFN requests that Marathon undertake detailed contingency planning within the immediate future for mitigating and/or treating seepage from the TMF to identify options that are available. These options should be presented to MFN so that preferred options can be selected jointly, then implemented.
Marathon Response	The tailings management facility (TMF) has the following two types of seepage flow to the surrounding environment: 1. Toe seepage – Seepage flow from near the toe or base of the tailings dam that is intercepted and collected in seepage collection ditches and a seepage collection pond along the base of the dam. During operation, toe seepage collected in the ditches will be pumped back into the TMF. During closure the seepage collection ditches will be modified into passive treatment systems (e.g., permeable reactive barriers [PRBs]) to treat the POPCs in the toe seepage to meet Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life (CWQG-FAL) values. 2. Basal seepage – Seepage flow from the tailings impoundment that infiltrates into the ground and eventually the regional groundwater system. Basal seepage from the TMF will eventually discharge into the Victoria River with regional groundwater system flows. The statement “During post-closure, seepage from the TMF to the Victoria River is expected to exceed MDMER for ammonia (unionized), cyanide, and copper" was misworded (Section 9.5.2.2 of the Berry Pit Expansion Environmental Registration / EA Update). Basal seepage directly below the TMF entering the regional groundwater system is predicted to exceed the Metal and Diamond Mining Effluent Regulations (MDMER) criteria for cyanide, un-ionized ammonia, and copper in post-closure directly below the TMF. After the basal seepage mixes with the regional groundwater flow system and travels to the point of discharge to the Victoria River, the concentrations of cyanide, un-ionized ammonia, and copper are predicted to be below MDMER criteria (Table 7.8, Berry Pit Expansion Environmental Registration / EA Update). Note that during preparation of this response, it was identified that the Table 7.8 (Chapter 7 of the Berry Pit Expansion Environmental Registration / EA Update), which provides TMF seepage quality results, inadvertently used the wrong column in the model results output. Attached below is the original Table 7.8 and

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	a revised Table 7.8, which presents updated TMF basal seepage quality discharging to the Victoria River results. The updated Table 7.8 does not change the prediction that the concentrations of cyanide, un-ionized ammonia, and copper will be below MDMER in groundwater at the point of discharge to the Victoria River. Ammonia (unionized), cyanide and copper are predicted to exceed the CWQG-FAL values, while the other assessed parameters are below the CCME CWQG-FAL values in the TMF basal seepage discharge to the Victoria River. These estimated TMF basal seepage quality values and the three potential contaminants of concern identified above the CCME CWQG-FAL values to the Victoria River are similar to those predicted in the Valentine Gold Project EIS (Marathon 2020) for the Approved Project. The statement identified above from Section 9.5.2.2 (pg. 9-46) of the Berry Pit Expansion Environmental Registration / EA Update should be revised to the following: "During post-closure, TMF basal seepage mixes with the regional groundwater flow system and travels to the point of discharge to the Victoria River with concentrations predicted to be below MDMER criteria and above CWQG-FAL guideline values for cyanide, un-ionized ammonia, and copper, and below MDMER and CWQG-FAL guideline values for the other POPCs. Groundwater TMF basal seepage discharge to the Victoria River is predicted to have a 10x dilution factor and return to near baseline or CWQG-FAL concentrations, as was estimated for the Approved Project." Toe seepage from the TMF that will be intercepted by the seepage collection ditches is predicted to have the same quality as the TMF basal seepage to the regional groundwater system during operation, closure and post-closure. During operation, the collected toe seepage will be pumped back to the TMF. To treat TMF toe seepage in closure to background or the CWQG-FAL thresholds, further passive treatment is expected. The Rehabilitation and Closure Plan by GEMTEC (2022) identified feasible passive treatment options to manage site water post-closure for the Approved Project: • Convert TMF seepage collection ditches into anerobic Permeable Reactive Barriers (PRBs). • Convert TMF seepage collection ditches into French drains with an anaerobic PRB to passively intercept and convey site water to anaerobic vertical flow engineered wetlands. See response to Comment MFN-3 for additional information on the passive treatment systems proposed for the Approved Project and Project Expansion. These options will be evaluated and applied for post-closure water management for the TMF. Options will be selected based upon anticipated water quality and results of a pilot study. It is anticipated that a subsurface flow PRB will be sufficient to reduce metal concentrations to below the CWQG-FAL. The pilot study and its results, including recommended passive treatment options, will be presented and discussed with MFN at the appropriate time, via the SEA Environmental Stewardship Subcommittee. **References:** GEMTEC. 2022. Rehabilitation and Closure Plan. Valentine Gold Project. Prepared for Marathon Gold Corporation. Submitted to Mineral Development Division. November 4, 2022. Marathon. 2020. Valentine Gold Project: Environmental Impact Statement. Chapter 7. September 2020. Stantec (Stantec Consulting Ltd.). 2023. Valentine Gold Project – Berry Pit Expansion Project: Hydrogeological Model Update. June 2023.

Table 7.1 Predicted Concentrations POPC in Groundwater Discharge to the Victoria River and Valentine Lake Originating at the TMF and the Backfilled Berry Pit Post Closure (AS PRESENTED IN THE BERRY PIT EXPANSION ENVIRONMENTAL REGISTRATION / EA UPDATE)

Parameter	Units	MDMER Limit[A]	Discharge to Victoria River Originating at:		Discharge to Valentine Lake Originating at:
			TMF	Backfilled Berry Pit	Backfilled Berry Pit
Aluminum	µg/L	-	0.0022	39	3.4
Antimony	µg/L	-	0.000039	0.2	0.017
Arsenic	µg/L	100	0.00011	0.6	0.052
Barium	µg/L	-	0.00023	1.4	0.12
Boron	µg/L	-	0.00092	3.6	0.3
Cadmium	µg/L	-	0.00000055	0.0049	0.00042
Calcium	µg/L	-	0.67	6,900	590
Chromium	µg/L	-	0.000022	0.17	0.015
Copper	µg/L	100	0.0044	2.2	0.19
Iron	µg/L	-	0.0033	24	2
Lead	µg/L	80	0.0000047	0.023	0.002
Magnesium	µg/L	-	0.079	1100	90
Manganese	µg/L	-	0.0033	31	2.6
Mercury	µg/L	-	0.0000018	0.0037	0.00031
Molybdenum	µg/L	-	0.00045	1.3	0.11
Nickel	µg/L	250	0.000042	0.15	0.013
Phosphorus	µg/L	-	0.00094	3.5	0.3
Potassium	µg/L	-	0.13	450	39
Selenium	µg/L	-	0.000014	0.082	0.007
Silver	µg/L	-	0.0000078	0.015	0.0013
Sodium	µg/L	-	2.4	5,100	430
Thallium	µg/L	-	0.000001	0.0072	0.00062
Uranium	µg/L	-	0.000021	0.19	0.016
Zinc	µg/L	400	0.00012	0.5	0.043
Chloride	µg/L	-	0.21	570	49
Nitrate + Nitrite	µg/L	-	0.003	60	5.2
Nitrite	µg/L	-	0.00093	3.5	0.3
Nitrate	µg/L	-	0.003	59	5.1
Ammonia	µg/L	-	0.19	890	76
Unionized Ammonia	µg/L	500	0.0074	34	2.9
$Cyanide_{Total}$	µg/L	500	0.048	270	23
$Cyanide_{WAD}$	µg/L	-	0.0083	27	2.3

Table 7.1 Predicted Concentrations POPC in Groundwater Discharge to the Victoria River and Valentine Lake Originating at the TMF and the Backfilled Berry Pit Post Closure (AS PRESENTED IN THE BERRY PIT EXPANSION ENVIRONMENTAL REGISTRATION / EA UPDATE)

Parameter	Units	MDMER Limit[A]	Discharge to Victoria River Originating at:		Discharge to Valentine Lake Originating at:
			TMF	Backfilled Berry Pit	Backfilled Berry Pit
Sulphate	µg/L	-	4.9	19,000	1,600
Fluoride	µg/L	-	0.0083	37	3.2

Notes:
[A] = MDMER, Schedule 4, Maximum Authorized Monthly Mean Concentration
- = Not applicable

Table 7.2 Predicted Concentrations POPC in Groundwater Discharge to the Victoria River and Valentine Lake Originating at the TMF and the Backfilled Berry Pit Post Closure (REVISED-CHANGES IN BLUE)

Parameter	Units	MDMER Limit[A]	Discharge to Victoria River Originating at:		Discharge to Valentine Lake Originating at:
			TMF	Backfilled Berry Pit	Backfilled Berry Pit
Aluminum	µg/L	-	9.6	39	3.4
Antimony	µg/L	-	0.13	0.2	0.017
Arsenic	µg/L	100	0.15	0.6	0.052
Barium	µg/L	-	0.79	1.4	0.12
Boron	µg/L	-	1.7	3.6	0.3
Cadmium	µg/L	-	0.002	0.0049	0.00042
Calcium	µg/L	-	9400	6,900	590
Chromium	µg/L	-	0.1	0.17	0.015
Copper	µg/L	100	3.1	2.2	0.19
Iron	µg/L	-	18	24	2
Lead	µg/L	80	0.013	0.023	0.002
Magnesium	µg/L	-	1700	1100	90
Manganese	µg/L	-	31	31	2.6
Mercury	µg/L	-	0.0019	0.0037	0.00031
Molybdenum	µg/L	-	0.53	1.3	0.11
Nickel	µg/L	250	0.095	0.15	0.013
Phosphorus	µg/L	-	2.5	3.5	0.3
Potassium	µg/L	-	220	450	39
Selenium	µg/L	-	0.048	0.082	0.007
Silver	µg/L	-	0.0089	0.015	0.0013
Sodium	µg/L	-	2500	5,100	430

Table 7.2 Predicted Concentrations POPC in Groundwater Discharge to the Victoria River and Valentine Lake Originating at the TMF and the Backfilled Berry Pit Post Closure (REVISED-CHANGES IN BLUE)

Parameter	Units	MDMER Limit[A]	Discharge to Victoria River Originating at:		Discharge to Valentine Lake Originating at:
			TMF	Backfilled Berry Pit	Backfilled Berry Pit
Thallium	µg/L	-	0.0027	0.0072	0.00062
Uranium	µg/L	-	0.036	0.19	0.016
Zinc	µg/L	400	0.42	0.5	0.043
Chloride	µg/L	-	240	570	49
Nitrate + Nitrite	µg/L	-	3.6	60	5.2
Nitrite	µg/L	-	0.81	3.5	0.3
Nitrate	µg/L	-	3.6	59	5.1
Ammonia	µg/L	-	730	890	76
Unionized Ammonia	µg/L	500	28	34	2.9
$Cyanide_{Total}$	µg/L	500	20	270	23
$Cyanide_{WAD}$	µg/L	-	5.1	27	2.3
Sulphate	µg/L	-	19000	19,000	1,600
Fluoride	µg/L	-	28	37	3.2

Notes:
[A] = MDMER, Schedule 4, Maximum Authorized Monthly Mean Concentration
- = Not applicable

RESPONSE TO COMMENT MFN-18

MFN-18	
Comment Number from MFN Submission	MFN Comment 18 – Section 10.2.1.3 Caribou Habitat Assessment
Description from MFN Submission	Habitat Value Rankings for caribou have been provided for the existing Project Area but not the Project Expansion area. This is important to provide a better understanding of the potential effects that the Project Expansion may have on caribou.
Request from MFN Submission	MFN requests that the habitat value rankings for Project Expansion areas be shared with MFN.
Marathon Response	Habitat value rankings are provided in Table 10-10 of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update for both the Approved Project and the Project Expansion. As the expansion is almost entirely within the assessed Project Area, there will only be an additional 0.034 km^2 of habitat directly lost. This additional habitat is comprised of 0.017 km^2 of high-value habitat, 0.013 km^2 of moderate-value habitat, and 0.0053 km^2 of low-value habitat for caribou.

RESPONSE TO COMMENT MFN-19

MFN-19	
Comment Number from MFN Submission	MFN Comment 19
Description from MFN Submission	The expansion of the project footprint will result in two additional barriers to wildlife movement: 1) The Berry Waste rockpile presents a barrier to wildlife movement along the northwest side of the mine site, adjacent to Valentine Lake and 2) the Berry Topsoil Stockpile, the Berry Topsoil Stockpile, Berry Pit waste rock pile, and Berry Pit present a barrier to wildlife movement through the mine site between the Tailings Impoundment and Leprechaun Waste Rock Pile. The potential additional physical barriers and increased sensory disturbance linked to the project expansion have the potential to effectively close-off the current core migration route used by the Buchans Herd of Woodland Caribou. Twice a year, during sensitive life stages (i.e. after the low resource availability of the winter, and during post-calving with juveniles in tow), the Buchans herd crosses the isthmus of land between Victoria Lake reservoir and Red Indian Lake. The project expansion design may force some, a majority, or all of herd, to reroute >100km to the east or west through potentially suboptimal movement habitat. If herd members continue to migrate directly through the approved and expansion project areas, they will face significant, high magnitude, adverse and long-term impacts. These will be in the form of physical barriers, sensory disturbances, increased predation, habitat loss and fragmentation, and occasional road mortality. The increased energetic demands of rerouting and the stress from sensory disturbances, will result in degraded body condition for pregnant female caribou arriving at the calving grounds (Ewacha 2016). It is known that diminished adult caribou have lower evolutionary fitness and exhibit multi-generational reduced calf survival (Johnson et al. 2015). This migration disruption is also likely to increase the herd's susceptibility to calf predation. This would occur through a combination of reduced body condition, and an increase in local predator density (Benítez-López et al. 2010). Predator density increase is predicted with the project expansion due to predator movement efficiencies along proposed linear developments (haul roads), and trophic disruptions from proposed habitat loss, fragmentation and degradation (i.e., increased local moose numbers, supporting higher densities of predators, which would in turn predate caribou at a higher rate. Geographic bottlenecking of the Buchans herd due to the proposed project's physical barriers and sensory disturbances, may lead to overgrazing in suboptimal habitat (Environment Canada 2011), increased predation levels, and increased calf mortality.
Request from MFN Submission	The Newfoundland caribou is culturally important to MFN. The Proponent must include significant enhancement to the existing measures to reduce the additional predicted impacts to the Buchans herd associated with the Project Expansion. This should include improved and specific mitigations, enforced work stoppages and more. MFN community members must be included in the planning, execution, and analysis of the caribou monitoring. MFN requests to review the updated caribou modeling and monitoring results to understand how the Project Expansion may impact Caribou movement, and overall health. This should occur annually, at minimum.

MFN-19	
Marathon Response	**Risk to Caribou** Marathon acknowledges that the Project Area and adjacent areas are important habitat for caribou, and that development of the Project Expansion may create risks to the Buchans herd, which migrates through the Project Area twice annually. The potential effect of the Approved Project and Project Expansion as an obstacle to caribou migration was a primary factor in the determination of a significant residual effect for caribou. It is acknowledged that there will be permanent landforms that did not exist prior to the Approved Project and Project Expansion (i.e., waste rock piles and the pits) and other features, such as topsoil stockpiles, that are not permanent but may change the permeability of the site during the Project prior to closure and rehabilitation. Maintaining and understanding on-going connectivity between seasonal caribou ranges is a key component of Marathon's Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP). The CPEEMP assesses the risk for caribou migration through the mine site and along alternate routes, and the potential for caribou to fail to migrate. Potential consequences from the presence of physical barriers, sensory disturbances, changes to caribou habitat, and changes in energetic demands and mortality risk (including for pregnant females and calves) are considered, as are the potential for increased competition for forage due to localized increases in caribou densities, and changes to predator success and abundance. **Risk to Migrating Caribou** The CPEEMP has identified numerous mitigation measures to avoid or reduce potential adverse Project effects on caribou, each with an associated approach to monitoring to determine mitigation effectiveness. The best example of avoidance measures is the change in the location and design of the waste rock pile and stockpiles around the Marathon pit, which occurred during the conduct of the environmental assessment (EA) for the Approved Project. The intent of the redesign, based on consultation with the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (NLDFFA) – Wildlife Division, was to maintain a pathway to the west of Marathon pit to allow caribou to migrate through a portion of the site rather than assume they will avoid the site entirely. Marathon has also committed to substantial reductions in construction and mining activity during the spring and fall migratory periods and, as part of the CPEEMP, this commitment now constitutes a regulatory compliance condition of the Valentine Gold Project. The changes in mining activity are responsive to caribou activity in the area and are intended to facilitate movement within and migration through the site. Prior to construction of the Project Expansion, and in addition to ongoing and future reviews and updates of the CPEEMP associated with the Approved Project, the CPEEMP will be reviewed in consultation with NLDFAA –Wildlife Division to identify the need for revisions to reflect Project Expansion activities. The need to review the CPEEMP prior to construction of the Project Expansion has been identified as a condition of release for the Project Expansion by the provincial government: *The Caribou Protection and Environmental Effects Mitigation Plan is to be reviewed with the Wildlife Division and required mitigations are to be implemented prior to Project construction. The efficacy of mitigations must be reported to the Wildlife Division prior to each migration period, and adaptive management implemented as needed.* Marathon's monitoring of caribou migration during Project construction and operation will help to better understand how caribou respond to the Approved Project and Project Expansion in consideration of the mitigation that will be implemented during migration.

MFN-19	
	Updated Caribou Modelling and Monitoring Results The most recent caribou modelling and monitoring results are presented in the Caribou Baseline Information 2023 Update (Appendix 10-A of the Berry Pit Expansion Environmental Registration / EA Update), which compiles relevant information presented in the Valentine Gold Project EIS, the Caribou Supplemental Information document, and available new data (i.e., from 2021 and 2022) to provide comprehensive updated baseline information for caribou. This includes updated models for the Buchans caribou herd (i.e., dynamic Brownian bridge movement models and net squared displacement analysis of migration timing), the analysis of alternate migration paths identified through the least-cost pathway (LCP), and the results from seasonal remote camera programs and aerial post-calving surveys. **Inclusion of MFN** Marathon has engaged with MFN in relation to the Project Expansion and will continue to engage, consistent with Federal Conditions 2.5.3 and 2.6 for the approved Project and section 3.3 of the Current Use of Land and Resources for Traditional Purposes Indigenous Communications Plan, and in accordance with agreed upon processes, including the terms of the Socio-Economic Agreement (SEA) concluded between Marathon and MFN. The SEA provides for the establishment of a joint Environmental Stewardship Subcommittee The mandate of the SEA Environmental Stewardship Subcommittee includes the timely exchange of information and the discussion of potential environmental matters of concern to MFN. It is anticipated that the SEA Environmental Stewardship Subcommittee will provide the forum for the discussion of follow-up monitoring plans, including any revisions or modifications to mitigation measures. In addition, Marathon has committed to funding a minimum of two qualified Indigenous monitors, at least one of whom shall be a member of MFN, who will be involved in daily monitoring activities at the mine site.

RESPONSE TO COMMENT MFN-20

MFN-20	
Comment Number from MFN Submission	MFN Comment 20 – Section 10.2.2.4 – Spring and Fall Migration Routes
Description from MFN Submission	Marathon has stated that the Berry Pit waste rock pile occurs outside of the core caribou migration route. However, despite this information there is recent monitoring data showing caribou travelling in this area. Collared caribou and camera traps provide insight into migration patterns of individual caribou. Recent monitoring data from these tools show that caribou are moving through the mine site, indicating that changes within the mine site will affect caribou migration behaviors throughout the area. In particular, the creation of the Berry Pit and Berry waste rock pile will create a significant barrier to migration throughout the northern portion of the mine site. Of specific concern are the locations of Cameras 10 and 11. These cameras captured images of 26 (Camera 10) and 12 (Camera 11) caribou in the spring of 2022 (Appendix 10A). The creation of the Berry Waste Rock Pile will undoubtedly impact migratory pathways for caribou throughout the Project Area.
Request from MFN Submission	To better understand the potential effects of the Project Expansion, it is necessary to improve understanding of existing caribou usage in the area. For this reason, MFN requests that the proponent estimate the number of caribou migrating through the proposed Berry Pit and Berry waste rock pile Areas and provide mitigation measures to ensure migration paths through the existing project area are not significantly impacted. If possible, this should include information on how migration routes of collared individuals change over time as development progresses.
Marathon Response	**Caribou Movement Through the Project Area** Marathon has provided available baseline caribou data via the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update. As indicated in the response to Comment MFN-19, the most recent caribou modeling and monitoring results are presented in the Caribou Baseline Information 2023 Update (Appendix 10-A of the Berry Pit Expansion Environmental Registration / EA Update). The updated dynamic Brownian Bridge Movement Model (dBBMM) for the Buchans caribou herd identified one distinct population-level pathway (i.e., primary pathway) that is used by the Buchans caribou herd during both spring and fall migration. The analysis also identified a network of lesser used migration paths surrounding the areas of relatively high and moderate-use by caribou, indicating a degree of variability in the paths used between seasons, years or by individuals (i.e., some collared caribou migrate through and/or around the mine site along low-use pathways outside the primary pathway). The footprint of the Berry Pit Expansion (including the proposed Berry pit and Berry waste rock pile), as well as remote cameras 10 and 11, overlap exclusively with low-use travel paths during both spring and fall migration. Images from remote cameras 10 and 11 indicated that caribou are primarily detected in these areas during spring monitoring (i.e., versus fall), which supports the dBBMM findings of a wider network of pathways used by caribou during spring migration compared to the fall. The mean number of caribou events per monitoring day at cameras 10 and 11 during fall and spring migration are presented in Table 2.12 and Table 2.13, respectively, in Appendix 10-A of the Berry Pit Expansion Environmental Registration / EA Update. With respect to spring migration, cameras 10 and 11 have relatively low seasonal detections of caribou (i.e., mean events per monitoring day) compared to cameras along

MFN-20	
	the primary migration pathway (e.g., cameras 12, 13, 27 and 28) and along some alternate migration routes identified through the LCP analysis (e.g., cameras 24 and 30) during baseline investigations (Refer to Table 2.13 in Appendix 10-A of the Berry Pit Expansion Environmental Registration / EA Update). **Mitigation Measures and Monitoring for Caribou** As described in the response to Comment MFN-19, mitigation measures aimed at reducing the risk of adverse effects on caribou are defined in Marathon's Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP) (Appendix 10-B of the Berry Pit Expansion Environmental Registration / EA Update). Mitigation measures intended to facilitate movement within and migration through the site include the redesign of the waste rock piles and stockpiles associated with the Marathon pit to maintain a pathway for migrating caribou and substantial reductions in construction and mining activity during spring and fall migration. The CPEEMP also describes the caribou follow-up monitoring program (FUP), which includes the on-going camera monitoring and GPS collaring. As indicated above, the Project Expansion infrastructure overlaps with low-use travel paths used by migrating caribou, and there are other pathways that exist and are available within the larger migration corridor that are used by caribou to varying degrees. Marathon is committed to the ongoing monitoring programs, which allow for tracking and gathering of data to determine whether caribou change their use of pathways within the currently used migration corridor, both spatially (e.g., alternate travel routes around the site) and/or temporally (e.g., earlier or later migratory periods). Already, and with far more collars (averaging near 40 since 2020), the collar data shows the use of alternate migration paths by individuals or groups, primarily to the east of the mine site and less so to the west (e.g., during the fall 2022 migration, a relatively high proportion of collared caribou used paths to the east of the 'primary' migration path). Marathon has committed to an adaptive management approach in its FUPs. This allows the programs to evolve and change as more data is gathered and potential effects of the Approved Project and Project Expansion are better understood (i.e., if monitoring data indicate that a change is necessary, the FUPs will be updated accordingly). **Changes in Migration Patterns** The updated baseline caribou information has been provided in the Berry Pit Expansion Environmental Registration / EA Update, as noted above, and includes pre-development information ending in August 2022. At the time of the development of the EA for the Project Expansion, only one migration (fall 2022) was completed after the commencement of construction for the Approved Project. Even now, only two migration periods have been completed (fall 2022, spring 2023). Given this and the variability of the caribou migration characteristics seasonally and annually based on historical data, there is insufficient data available since the start of Approved Project construction to properly assess potential changes or trends. Marathon has and will continue to provide reports to the Wildlife Division on the results of data collected during the migration and post-calving periods, and the results of these reports will be discussed with MFN via the Environmental Stewardship Subcommittee.

RESPONSE TO COMMENT MFN-21

MFN-21	
Comment Number from MFN Submission	MFN Comment 21 - Section 10.3 Project Expansion Interactions and Pathways
Description from MFN Submission	Movement changes were assessed using the estimated area of direct overlap of the Project Expansion with a population-level migration corridor. The use of a population-level migration corridor is not sufficient to determine effects to individual caribou. With a currently small population of caribou, effects to individual caribou are highly significant.
Request from MFN Submission	MFN requests that the proponent determine the estimated area of direct overlap between the Project Expansion with all migration corridors and paths to quantify how individual caribou will be affected from the Project Expansion.
Marathon Response	Marathon acknowledges that the Project Expansion and adjacent areas are important habitat for migrating caribou and that the development of the Project Expansion, which overlaps lesser-used migration paths for caribou, may create risks to individual caribou through changes to previously used paths in the migration corridor. Updated dynamic Brownian bridge movement models (dBBMM) for Buchans herd caribou during spring and fall migration are presented in Appendix 10-A of the Berry Pit Expansion Environmental Registration / EA Update. The spring and fall migration corridors include areas of relatively high use by caribou (stopover sites) connected by moderate-use movement areas, and a network of surrounding low-use travel paths. The proposed Berry pit and Berry waste rock pile directly overlap exclusively with low-use travel paths during both spring and fall migration (seasonal migration corridors are presented in Figures 2-6 and 2-7 in Appendix 10-A of the Berry Pit Expansion Environmental Registration / EA Update).

RESPONSE TO COMMENT MFN-22

MFN-22	
Comment Number from MFN Submission	MFN Comment 22 - Section 10.3 Project Expansion Interactions and Pathways
Description from MFN Submission	The proponent identified no interaction between caribou mortality risk and Employment and Expenditures. This claim is unsubstantiated as there is clearly an increased caribou-vehicle collision risk with an additional 44 Fulltime Equivalents being employed at the mine site. The increased workforce will result in more traffic on the project and access roads. The increased road traffic may result in increased wildlife avoidance and/or wildlife mortality.
Request from MFN Submission	MFN requests that the proponent acknowledge and quantify the caribou mortality risk associated with the Project Expansion Employment and Expenditures, and provide mitigation measures to reduce the increased likelihood of caribou mortality from vehicle collisions.
Marathon Response	Marathon acknowledges that there is a small increase in risk of caribou vehicle-collision associated with the Project Expansion. As indicated in Section 10.3 and10.6.2 of the Berry Pit Expansion Environmental Registration /Environmental Assessment (EA) Update, the Project Expansion will result in a five to eight percent increase in traffic along the site access road during operation and an extension in the duration of Project traffic by 1.4 years. A direct interaction between Employment and Expenditures is not indicated, given that the additional personnel will not affect the number of caribou allowed to be hunted (i.e., issued licences are fixed) and that all personnel are prohibited from hunting on site. Mitigation measures aimed at reducing the risk of adverse effects on caribou are outlined in the Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP) (Appendix 10B of the Berry Pit Expansion Environmental Registration / EA Update). Primary mitigation measures related to the risk of caribou-vehicle collisions include reduced traffic volumes, reduced speed, and increased communications regarding caribou movements during the migration periods. Additional mitigation measures include creating breaks in snowbanks to facilitate caribou passage, and daily monitoring for caribou, with site-wide communications issued when migrating caribou are approaching site. The mitigation measures identified in the CPEEMP to reduce mortality risk due to Approved Project activities are anticipated to be appropriate to the Project Expansion. As indicated in the response to Comment MFN-19, prior to construction of the Project Expansion, the CPEEMP will be reviewed in consultation with Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (NLDFFA) –Wildlife Division to identify the need for revisions to reflect Project Expansion activities.

RESPONSE TO COMMENT MFN-23

MFN-23	
Comment Number from MFN Submission	MFN Comment 23 – Section 11.2.2, Avifauna
Description from MFN Submission	Point count surveys were not completed and Autonomous Recording Units (ARU) were not deployed near the new location of the explosives facility, providing no insight into breeding bird use at this site. While the explosives facility will be relocated to within the former exploration camp, breeding bird monitoring must be completed at this location as it is part of the Project Expansion.
Request from MFN Submission	MFN requests that breeding bird monitoring be completed at and around the new location of the explosives facility or be provided with acceptable justification for the exclusion of breeding bird monitoring near the new explosives facility site. The MFN environmental monitor must be involved in these activities (pending the completion of the hiring process).
Marathon Response	Breeding bird surveys are designed to provide an overview of bird species present in a study area. Breeding bird (point count) survey locations in support of the Project Expansion (Stantec 2022) and Approved Project (Stantec 2014b, 2019, 2021) were primarily located within the Project Area and Local Assessment Area, with several point count locations outside of the LAA. Given the variety of land cover types that could potentially provide suitable habitat for breeding bird species, the approach to the surveys applied representative sampling across the land cover types that could be affected by the development of the Approved Project and Project Expansion. In addition to forest songbird point count surveys, avifauna studies include a baseline waterfowl and waterfowl habitat study (Stantec 2014a), aerial waterfowl spring breeding and fall staging surveys (Stantec 2017), and a common nighthawk survey (Stantec 2019). Findings from these surveys (including species observed incidentally during surveys), combined with records publicly available databases, have identified 98 species of birds that have the potential to occur in or near the Project LAA. The explosives storage facility is proposed to be located within the footprint of the existing exploration camp, which is a previously disturbed (i.e., cleared) site. Given the nature of the facility and expected activity levels and background noise, this location is not ideal for forest songbird point count surveys or ARU deployment. However, incidental observations of avifauna (i.e., while not performing surveys) were also included as observations for the area. As such, new avifauna species detected in the vicinity of the existing exploration camp would likely have been recorded (e.g., tree swallow identified in 2019). Marathon's Avifauna Follow-up Monitoring Plan (FUP) describes the follow-up and monitoring activities that will be undertaken to verify effects predictions and mitigation effectiveness. The monitoring criteria established for the Avifauna FUP were informed by information requests / feedback received from federal and provincial regulators, Indigenous groups, and stakeholders during the review of the Valentine Gold EIS. The Avifauna FUP for the Approved Project will be reviewed and revised as needed to address the Project Expansion. Marathon has committed to an adaptive management approach in the Avifauna FUP; this allows the programs to evolve and change as more data is gathered and potential effects of the Approved Project and Project Expansion are better understood. If monitoring data indicate that a further change is necessary, the Avifauna FUP will be updated accordingly.

MFN-23	
	As per the SEA, Marathon has committed to funding a minimum of two qualified Indigenous monitors, at least one of whom will be a member of MFN. The monitors will carry out daily monitoring activities relating to air, water, soil, flora and fauna. A monitor's involvement in any given activity will depend upon factors such as resourcing requirements, schedules, and qualifications of the monitor. The monitor will provide a written and verbal report on activities to the SEA Environmental Stewardship Subcommittee on a quarterly basis. **References:** Stantec (Stantec Consulting Ltd.). 2014a. 2011 Baseline Waterfowl and Waterfowl Habitat Study. Report prepared for Marathon Gold Corporation, August 2014. 7 pp + Appendices. Stantec. 2014b. 2011 Forest Songbird Surveys at the Valentine Lake Prospect. Report prepared for Marathon Gold Corporation, August 2014. 18 pp + Appendices. Stantec. 2017. Waterfowl Baseline Study: Aerial Waterfowl and Spring Breeding and Fall Staging Surveys. Report prepared for Marathon Gold Corporation, December 2017. 20 pp + Appendices. Stantec. 2019. Valentine Gold Project: 2019 Avifauna Baseline Study: Results of the 2019 Songbird and Common Nighthawk Surveys. Report prepared for Marathon Gold Corporation, December 2019. 15 pp + Appendices. Stantec. 2021. Valentine Gold Project: 2021 Avifauna Baseline Study. 2021 Forest Songbird Surveys. Report prepared for Marathon Gold Corporation, December 2021. 28 pp + Appendices. Stantec. 2022. Berry Pit Expansion: 2022 Avifauna Survey. Report prepared for Marathon Gold Corporation, December 2022. 12 pp + Appendices.

RESPONSE TO COMMENT MFN-24

MFN-24	
Comment Number from MFN Submission	MFN Comment 24 -Section 11.2.3.1 Bats
Description from MFN Submission	In 2021, the highest number of recorded calls for little brown myotis and northern myotis was in the Project Expansion area suggesting that the location may be a swarming area. However, the site was not resampled in 2022 due to the presence of operating machinery. With such a large presence of bat activity in the area, it is very likely that bat roosting trees may be located within or within close proximity to the Project Expansion Area. Therefore, there is a high likelihood that disturbances to little brown myotis and northern myotis roost sites may occur as a result of the Project Expansion. In addition, a high detection rate of little brown myotis and northern myotis calls near the existing exploration camp indicates that there is potential for the Project and Project Expansion to cause disturbances to roost sites in that area as well. Disturbances to little brown myotis and northern myotis roosting sites resulting from the Approved Project or Project Expansion would be illegal. Every possible action must be taken to ensure that there are no roost sites for little brown myotis and northern myotis within the Project Expansion Area before habitat alterations are made.
Request from MFN Submission	MFN requests that the proponent complete thorough bat roosting surveys in the Project Expansion Area and near the existing exploration camp area. The MFN environmental monitor must be involved in these activities (pending the completion of the hiring process).
Marathon Response	To avoid or reduce potential impacts on bats, several key mitigation measures will be implemented, with a primary goal of identifying and protecting bat roosts that may be present in the Project Area. The mitigation measures, described in full in Appendix A of the Other Wildlife Follow-up Monitoring Program (FUP), include the following: • Sensitive areas (e.g., hibernacula, roosts) will be identified prior to construction and appropriate buffers will be flagged and maintained around these areas, where feasible. • Large-diameter trees will be maintained to the extent possible; especially those that are old, dead or dying. These types of trees typically have peeling bark, crevices and cavities that provide important natural roosting habitats for bats. • During the construction of buildings or other structures, openings of 15 mm in diameter or larger will be sealed to discourage bats from establishing roost sites, and chutes and ducts will be sealed at the outside / top to prevent entry. • If a bat colony is found to exist within a Project structure, bats can remain there when it is safe for people and where there is no chance of contact with people. If it is not safe for bats to remain, the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (NLDFFA) - Wildlife Division will be contacted to develop an approved removal plan. • Observations of bat colonies, potential hibernacula sites, sick or dead bats will be reported to the NLDFFA - Wildlife Division at 709-637-2025. • Prior to dismantling / removing the existing exploration camp, buildings and other infrastructure will be checked for roosting or hibernating bats. Should

MFN-24	
	bat exclusions be necessary between May 1 and Aug 31, a permit would be needed under the NL *Endangered Species Act* and work would be required to follow provincial Best Management Practices (CWHC 2018). As described in the Other Wildlife FUP, follow-up acoustic monitoring for bats using Autonomous Recording Units (ARUs) will gather information on species occurrence and distribution in the Project Area and LAA. The frequency of monitoring and rationalization of ARU sampling locations will be determined through discussions with NLDFAA – Wildlife Division. The information gathered will be used to assess whether there are changes to bat occurrence (detections) during construction and operation compared to baseline conditions. The Other Wildlife FUP will be reviewed prior to construction of the Project Expansion to identify any changes that may be needed to address Project Expansion activities. Additionally, if monitoring data indicate that a change is necessary, the Other Wildlife FUP will be updated accordingly. As per the Socio-Economic Agreement (SEA), Marathon has committed to funding a minimum of two qualified Indigenous monitors, at least one of whom will be a member of MFN. The monitors will carry out daily monitoring activities relating to air, water, soil, flora and fauna. A monitor's involvement in any given activity will depend upon factors such as resourcing requirements, schedules, and qualifications of the monitor. The monitor will provide a written and verbal report on activities to the SEA Environmental Stewardship Subcommittee on a quarterly basis. **Reference:** Canadian Wildlife Health Corporative (CWHC). 2018. Got Bats? A guide for conservation-minded bat exclusion in Newfoundland and Labrador. Available at: http://www.cwhc-rcsf.ca/bat_health_resources.php#bats-in-buildings

RESPONSE TO COMMENT MFN-25

MFN-25	
Comment Number from MFN Submission	MFN Comment 25 - Section 11.2.3.2 Newfoundland Marten
Description from MFN Submission	The pine marten is a species of cultural importance to the community of MFN. We have previously undertaken projects focused on understanding and improving habitat for pine marten in our territory. The proposed project expansion will result in additional habitat loss, sensory disturbance, and potential increases in mortality events. With less than 500 individuals, the *Threatened* SAR pine marten population of Little Grand Lake/Red Indian Lake is at significant risk of extinction vortex factors (Benson et al. 2019). The low numbers and correspondingly low genetic diversity of this isolated population makes it susceptible to predicted project-induced impacts such as habitat fragmentation, increased forest fire risk, road mortality, increased density of competitors/predators and more (COSEWIC 2007). The pine marten is associated with large contiguous patches of suitable forest habitat. The proposed project will permanently alter and fragment this high suitability habitat. The majority of reported known sightings (from within 5 km of the proposed project) occur in a distinct core occupancy area near the south shore of Red Indian lake. Pine marten are also known to be attracted to anthropogenic waste, which could increase potential mortality events (COSEWIC 2007). The most recent survey for marten was completed in 2018 as part of the baseline surveys for the Approved Project. This suggests that little is known about marten use of the project area in recent times. Surveys for marten must be completed again in the Project Expansion area to determine if marten are maintaining use of the area.
Request from MFN Submission	a) MFN requests that specific mitigation and monitoring measures are included in the Environmental Registration/EA update to adequately mitigate the additional impacts of the project expansion (increased road mortality, habitat loss, and sensory disturbance) to the pine marten. b) MFN requests that the proponent complete marten surveys again within the Project Expansion area. If marten are found to be using the area, appropriate mitigation measures must be enacted. The MFN environmental monitor must be involved in these activities (pending the completion of the hiring process).
Marathon Response	The environmental assessment (EA) of the Approved Project was supported through a number of assessment techniques for NL marten, with the goal of identifying mitigation measures, characterizing residual effects, and identifying the need for follow-up monitoring programs (FUPs). Marathon acknowledges that the Project Expansion will result in clearing of habitat within the Project Area that would have been subject solely to indirect sensory disturbance from the Approved Project. However given the conservative assumption in the Valentine Gold Environmental Impact Statement (EIS) that all habitat within the Project Area would be cleared and given that the Project Expansion is not introducing any new activities that were not previously assessed, and there is no increase in annual production at the mine, the assessment of residual effects for NL marten in the Valentine Gold EIS is considered valid for the Approved Project and Project Expansion combined. Mitigation and management

MFN-25	
	measures previously committed to in relation to the Approved Project (Appendix 2E of the Berry Pit Expansion Environmental Registration / EA Update) were not specific to the Approved Project footprint and are therefore considered appropriate for, and will be applied to, the Project Expansion where relevant. Marathon has developed a FUP to monitor for the presence of NL marten and to facilitate comparison between pre- and post-construction occurrences at long-term survey locations with the RAA. These studies are scheduled for each Project stage, with the next round to occur in 2024 during the construction phase of the Approved Project. In accordance with provincial protocols, genetic samples will be collected which will contribute to the provincial species database. Marathon has committed to an adaptive management approach in its FUPs. The FUP guides or directs the collection of environmental data over the life of the Project, comparing the data/trends to baseline and informing/supporting mitigation requirements. As more data is gathered and potential effects of the Approved Project and Project Expansion are better understood, monitoring and mitigation approaches may evolve and change (via adaptive management) over the life of mine. Updates to FUPs will be based on monitoring results in addition to consultation with regulators and Indigenous groups, and conditions of authorization. The scope and scale of updates to the FUP could include changes to sampling locations or frequency, types of analyses, and mitigation measures, as informed by monitoring results and consultation. As per the Socio-economic Agreement (SEA), Marathon has committed to funding a minimum of two qualified Indigenous monitors, at least one of whom will be a member of MFN. The monitors will carry out daily monitoring activities relating to air, water, soil, flora and fauna. A monitor's involvement in any given activity will depend upon factors such as resourcing requirements, schedules, and qualifications of the monitor. The monitor will provide a written and verbal report on activities to the SEA Environmental Stewardship Subcommittee on a quarterly basis.

RESPONSE TO COMMENT MFN-26

MFN-26	
Comment Number from MFN Submission	MFN Comment 26
Description from MFN Submission	The Project Expansion states that the need for additional or modified mitigation measures within the Avifauna Monitoring Plan, and the Caribou Protection and Environmental Effects Monitoring Plan will be identified as part of the Environmental Registration/EA update.
Request from MFN Submission	MFN requests to review any changes to the mitigation measures within the Avifauna Monitoring Plan, and the Caribou Protection and Environmental Effects Monitoring Plan to ensure mitigation measures are modified to adequately mitigate the amplified impacts related to the proposed project expansion.
Marathon Response	Consistent with Federal Conditions 2.5.3 and 2.6 for the Approved Project, and with section 3.3 of the Current Use of Land and Resources for Traditional Purposes Indigenous Communications Plan, Marathon will engage with MFN on proposed changes to follow-up monitoring programs as required and in accordance with agreed upon processes. Marathon and MFN have concluded a Socio-Economic Agreement (SEA) which provides for the establishment of a joint Environmental Stewardship Subcommittee. The mandate of the SEA Environmental Stewardship Subcommittee includes the timely exchange of information and the discussion of potential environmental matters of concern to MFN. It is anticipated that the SEA Environmental Stewardship Subcommittee will provide the forum for the discussion of follow-up monitoring plans, including any revisions or modifications to mitigation measures.

RESPONSE TO COMMENT MFN-27

MFN-27	
Comment Number from MFN Submission	MFN Comment 27
Description from MFN Submission	Marathon acknowledges that Project-related particulates including Total Suspended Particulate Matter (TSP) Respirable Particulate Matter (PM10) Fine Particulate Matter (PM2.5) contain trace metals. However, Marathon does not specify how trace metals contained in particulates will be monitored during the Project. Project-related particulate may be inhaled by MFN members and deposited on traditionally important vegetation communities and surface water resources. It is important for MFN members to understand the composition of the Project-related particulate.
Request from MFN Submission	Marathon must monitor Project-related particulates for trace metal concentrations to determine which trace metals are contained in Project-related dust and at what concentration. This will help MFN members to understand potential risks with the inhalation or deposition of Project-related particulates/dust. Marathon should also sample any traditionally important vegetation communities (e.g., blueberries) located near the project development area for particulate and trace metal concentrations, particularly in the areas where exceedance conditions for PM 10 are anticipated.
Marathon Response	As described in the Valentine Gold Project: Ambient Air Quality Follow-up Monitoring Program (Marathon 2022), Marathon is committed to monitoring Approved Project-related trace metal concentrations in air during operation, along with TSP, PM10 and PM2.5. This program will be reviewed and updated where needed to also address Project Expansion activities. Marathon is committed to monitoring particulate and trace metal concentrations on vegetation, including blueberries and Labrador tea leaves as described in the Valentine Gold Project: Country Foods Follow-up Monitoring Program (Marathon 2022). The Country Foods Follow-Up Monitoring Program will be reviewed and updated as needed to address Project Expansion activities. Marathon welcomes MFN's input with respect to whether changes should be made to the vegetation species and locations in the monitoring program (please refer to MFN-26).

RESPONSE TO COMMENT MFN-28

MFN-28	
Comment Number from MFN Submission	MFN Comment 28
Description from MFN Submission	Marathon's air dispersion model predicts Hydrogen Cyanide (HCN) emissions of 4.93 µg/m^3 of a 24 hour period. Since Newfoundland and Labrador does not have a provincial standard for HCN, the Ontario standard of 8 µg/m^3 is used. This represents 62% of the adopted standard. In the event of malfunctions to the HCN destruction system, an exceedance of HCN is plausible.
Request from MFN Submission	MFN requests details on how HCN will be monitored during the Project.
Marathon Response	Marathon is registered with and in the process of becoming a signatory to the International Cyanide Management Code, administered by the International Cyanide Management Institute (ICMI). The International Cyanide Management Code is intended to reduce potential exposure of workers and communities to harmful concentrations of cyanide, limit releases of cyanide to the environment, and enhance response actions in the event of an exposure or release. As a signatory, Marathon is required to implement best management practices and demonstrate compliance through an independent and transparent process. The emission estimation technique for determining the emission of HCN from the processing plant assumed 1% volatilization, based on applicable literature. The actual emission rate may be measured through source testing during initial operation, with the model updated in the event measured emissions are higher than those estimated in the environmental assessment. If the updated model predicts exceedances, monitoring for HCN would be undertaken in the area(s) where exceedances are predicted. Completing source testing would allow confirmation of normal operating HCN emissions and a review of model predictions over the full model domain (whereas taking periodic ambient measurements at select monitoring locations would only determine concentrations at those locations). In the event of a malfunction in the HCN destruction system, the release of tailings to the environment can be suspended until the system is operational again. It is therefore not anticipated that this would cause a notable increase in HCN emissions to air.

RESPONSE TO COMMENT MFN-29

MFN-29	
Comment Number from MFN Submission	MFN Comment 29
Description from MFN Submission	Marathon Gold states the number and location of ambient air monitoring stations will be developed during permitting. Additional details or a conceptual plan for the location of monitoring stations would provide greater clarity to MFN on the adequacy of the AAQMP.
Request from MFN Submission	Marathon Gold should provide a conceptual map of the location of ambient air quality monitoring stations.
Marathon Response	As indicated in the response to Comment MFN-27, Marathon has developed the Valentine Gold Project: Ambient Air Quality Follow-up Monitoring Program (Marathon 2022) that contains details on ambient air monitoring. Air quality monitoring is a regulatory requirement, with the number and location of monitoring stations and sampling frequency identified in consultation with NLDECC and stipulated through provincial permitting. The air quality monitoring program will be updated, as applicable, for the Project Expansion, and a conceptual map of the location of ambient air quality monitoring stations will be developed as part of this update; this can be shared with MFN when available.

RESPONSE TO COMMENT MFN-30

MFN-30	
Comment Number from MFN Submission	MFN Comment 30
Description from MFN Submission	Marathon Gold does not plan to monitor for any metals (Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb) Nickel (Ni), Selenium (Se) Strontium (Sr)) or Hydrogen Cyanide (HCN) during the Project. While MFN recognizes the conservative approach taken, it's important that predictions made in the Environmental Assessment are verified with monitoring data.
Request from MFN Submission	Metals (Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Lead (Pb) Nickel (Ni), Selenium (Se) Strontium (Sr) and Cyanide (HCN) should be added to the list criteria contaminants that will be measured under the AAQMP for the first 3 years of operation in an effort to verify predictions from the Environmental Assessment.
Marathon Response	As described in the Valentine Gold Project: Ambient Air Quality Follow-up Monitoring Program (Stantec 2022), Marathon is committed to monitor Project-related trace metal concentrations in air during operation for species that have Newfoundland and Labrador Ambient Air Quality Standards (NLAAQS), which include Arsenic (As), Cadmium (Cd), Copper (Cu), Lead (Pb), and Nickel (Ni). Marathon will expand this list to also include Barium (Ba), Beryllium (Be), Chromium (Cr), Cobalt (Co), Selenium (Se), and Strontium (Sr). As previously noted (response to Comment MFN-28), emissions of HCN may be validated through source testing during initial operation, with the dispersion model updated in the event measured emissions are higher than those estimated in the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update. If the updated model predicts exceedances, monitoring for HCN would be undertaken in the area(s) where exceedances are predicted.

RESPONSE TO COMMENT MFN-31

MFN-31	
Comment Number from MFN Submission	MFN Comment 31
Description from MFN Submission	Marathon Gold's air dispersion model predicts exceedance conditions for PM10 on an infrequent basis. PM10. This represents a potential health risk for land users near the mine site, especially at-risk groups, such as elders, youth, and people with existing respiratory conditions. Marathon Gold does not specify how particulate exceedances will be communicated to MFN or the public. Without real-time monitoring results being made available publicly, MFN members will have no method of determining whether particulate levels are within compliance levels and are safe to breathe.
Request from MFN Submission	Marathon Gold must ensure compliance with Provincial Air Quality Criteria for PM10 in order to ensure areas near the mine site are safe for breathing. MFN members are concerned about potential impacts associated with the inhalation of project-related dust. PM10 and other particulates have the potential to impact the health of MFN members who use the land near the mine site, as particulate can enter the lungs and cause respiratory issues. Marathon Gold must illustrate how exceedance conditions will be communicated to MFN members and the public. Marathon Gold should make real-time air quality monitoring results available publicly using a web-based system that MFN and municipal residents can check to ensure that air quality near the Project site is safe.
Marathon Response	The Human Health Risk Assessment (HHRA) studied the potential health risks from air emissions related to the Approved Project. Health risks depend on three factors: people being present, the presence of potentially harmful chemicals, and a way for people to be exposed to these chemicals. If all three factors are present, there could be a risk. The level of risk depends on the exposure dose, duration, and the chemical's toxicity. If any factor is missing, there is no associated risk. To assess potential exposures, locations were chosen where people are likely to be and could be exposed to the Approved Project's air emissions. These locations were selected based on land use and community input, including Indigenous groups' Traditional Knowledge and land use information. The highest predicted 24-hour concentration of PM10 at these locations for the Approved Project and Project Expansion combined is below the provincial standard. Concentrations of PM10 exceeding the provincial standard are predicted within a small area near the eastern mine site boundary. These exceedances are expected to be infrequent and short-lived. For instance, at the location with the highest predicted concentration, exceedances are predicted to occur less than 1% of the time. Given the limited extent and low frequency of these exceedances, and community input suggesting people are unlikely to be in this area for extended periods, exposures to 24-hour concentrations of PM10 greater than the provincial standard are not expected. The site-based Environment Team will check the continuous air monitoring station daily (that monitors PM10, along with TSP and PM2.5) and is responsible for taking action in accordance with adaptive management measures, as described in the Valentine Gold Project: Ambient Air Quality Follow-up Monitoring Program (Stantec 2022), should elevated levels be observed. The data will be downloaded monthly and requires backup, post

MFN-31	
	processing, and interpretation prior to inclusion in the monthly report submitted to the regulator. Making the data live or real-time would not be plausible, as there are many potentially confounding variables that could support false exceedances. However, consistent with section 3.3 of the Valentine Gold Project: Current Use of Lands and Resources for Traditional Purposes Indigenous Communications Plan, Marathon and MFN can discuss options to make the air quality monitoring exceedances available via the SEA Environmental Stewardship Subcommittee.

RESPONSE TO COMMENT MFN-32

MFN-32	
Comment Number from MFN Submission	MFN Comment 32
Description from MFN Submission	Marathon acknowledges the Project's contribution to climate change through GHG emissions, but does not outline any plan to offset GHG emissions. Another major gold mine in Canada, the Canadian Malartic Mine in Quebec (joint venture between Yamana Gold Inc. and Agnico Eagle Mines Limited) has a climate change offset plan in which carbon emissions are tracked and offsetting plans are developed (Canadian Malartic, 2014).
Request from MFN Submission	Marathon must develop a GHG/Carbon offsetting plan in order to mitigate some of the potential impacts of the Project to climate change. Marathon could work with MFN on initiatives that help to offset the Project's GHG emissions (e.g. tree planting, wetland restoration). This would demonstrate corporate social responsibility and climate stewardship on Marathon's behalf.
Marathon Response	Marathon is a member of the Mining Association of Canada (MAC) and, as such, is committed to implementing the Towards Sustainable Mining (TSM) initiative, which includes a Climate Change protocol. The protocol includes reducing emissions and adapting to the impacts of climate change through mitigations, adaptation strategies, target-setting, and reporting. Marathon completed a Best Available Control Technology (BACT) study for greenhouse gases (GHGs) in 2021 as part of the amendment to the Valentine Gold Environmental Impact Statement, required as part of the provincial assessment (Stantec 2021; https://www.gov.nl.ca/ecc/files/env_assessment_y2012_2015_amendment_Appendix_F.pdf). As part of this study, GHG emission intensities of alternative technologies and various mitigation measures were considered for the following Project components: • Power supply • Back-up power • Back-up space and comfort heating • Mining equipment • Ore processing • Haul road design As noted in the BACT study, Marathon will employ BACT where these are technologically available and economically feasible. Please find additional details in response to Comment MFN-33. As noted above, Marathon is required to reduce emissions per provincial requirements and is interested in working with MFN via the SEA Environmental Stewardship Subcommittee to identify potential initiatives to help reduce and/or offset GHG emissions.

RESPONSE TO COMMENT MFN-33

MFN-33	
Comment Number from MFN Submission	MFN Comment 33
Description from MFN Submission	Diesel emissions associated with mining equipment, pickup trucks and other equipment is a major source of Project-related NO2, CO, PM 2.5 and GHGs. Diesel combustion has a significant contribution to the Project's overall carbon footprint and local air quality that could be easily avoided using better technology.
Request from MFN Submission	Marathon must look to decrease the Project's reliance on diesel fuel and utilize Best Available Technology Economically Achievable (BATEA) for mining equipment and other infrastructure. The GHG emissions and air pollutant emissions would be drastically decreased if alternative technology was implemented. The use of LNG or electric mining equipment should be further explored and implemented into the final Project design.
Marathon Response	Marathon considered different options for off-road mobile mining equipment, and other diesel combustion sources (e.g., dewatering pumps, light towers) in the Best Available Control Technology (BACT) study (Stantec 2021; https://www.gov.nl.ca/ecc/files/env_assessment_y2012_2015_amendment_Appendix_F.pdf). This included assessing the feasibility of electric and hydrogen-drive options. As described in the study, electric haul trucks and excavators in the size required for the Project are not available in Canada, and hydrogen-drive technology is not yet considered sufficiently technologically advanced. Due to the need for relocating dewatering pumps and light towers, and their small energy requirements, diesel engines are currently the preferred technology. However, as technology rapidly advances, more options with reduced GHG emissions are becoming available. BATEA and/or BACT will be considered under Marathon's corporate Climate Change / GHG initiative that is currently being developed.

RESPONSE TO COMMENT MFN- 34

MFN-34	
Comment Number from MFN Submission	MFN Comment 34
Description from MFN Submission	The GHG emissions model does not include emissions related to fuel hauling or other freight for the Project.
Request from MFN Submission	Marathon must include the GHG emissions related to fuel hauling and freight in their GHG emissions model.
Marathon Response	Greenhouse gas (GHG) emissions related to fuel hauling and freight are considered Scope 3 emissions as they are generated by external entities not owned or controlled by Marathon. These would be Scope 1 emissions for the owners/operators of the trucking and fuel supply companies, not for Marathon. Marathon has not considered Scope 3 emissions in detail at this time, however, will look into quantifying and reviewing options to manage those emissions during operation of the Project in accordance with guidance provided in the Mining Association of Canada's Towards Sustainable Mining (TSM) Climate Change protocol (see response to Comment MFN-32).

RESPONSE TO COMMENT MFN-35

MFN-35	
Comment Number from MFN Submission	MFN Comment 35
Description from MFN Submission	Marathon's air dispersion model predicts that sulfur dioxide and nitrogen dioxide emissions will decrease as a result of the Berry Pit expansion. To illustrate, the sulfur dioxide 1-hour concentration in the Approved Project scenario was 461 µg/m^3, in the Project Expansion plus Approved Project scenario this concentration dropped to 21.4 8 µg/m^3.
Request from MFN Submission	Provide rationale for the significant decrease in sulfur dioxide and nitrogen dioxide emissions from the Approved Project scenario.
Marathon Response	There was a 26% reduction in annual NO2 emissions and a 93% reduction in annual SO2 emissions from the emission inventory developed for the Approved Project, compared to the emission inventory developed for the Project Expansion plus the Approved Project. These changes can be attributed to the decrease in emission estimates from mobile combustion sources (heavy equipment) due to refinement in the emission estimation techniques, as detailed below. The reason for the decrease in SO2 emissions between the two assessments is mainly due to a decrease in the diesel sulphur content applied in the estimates for heavy equipment emissions. The emission factor was also updated to a more recent factor. The former assessment for the Approved Project applied a diesel sulphur content of 0.5%, whereas this was updated in the Project Expansion plus the Approved Project assessment to 0.0015% (15 mg/kg). The value applied in the Berry Pit Expansion assessment (15 mg/kg) is the regulated content for use in off-road engines under the federal Sulphur in Diesel Fuel Regulations (SOR/2002-254). This had the effect of lowering the SO2 emissions for heavy equipment. In the former assessment, SO2 emissions were estimated using US AP-42 emission factors whereas the Project Expansion assessment used emission factors from the US EPA's Nonroad Compression-Ignition Engines - Exhaust Emission Standards. Both methods are representative for off-road equipment, however the US EPA Nonroad factors are more up to date and include different factors based on the engine emission Tier Standards. The emission factors from both methods are dependent on the sulphur fuel content. The reason for the decrease in NO2 emissions between the two assessments is due to a refinement in the emission estimation methodology. Both assessments used the emission factors and methodology outlined in the US EPA's Nonroad Compression-Ignition Engines - Exhaust Emission Standards (US EPA, 2016); however, the Project Expansion assessment applied an equipment load factor that was not formerly considered. This caused a decrease in heavy equipment emission rates and is considered more representative of actual operations. In addition, the placement of the heavy equipment changed such that the equipment was more spread out on the site (i.e., over three pits rather than two pits). This led to lower ambient concentrations of both NO2 and SO2.

RESPONSE TO COMMENT MFN-36

MFN-36	
Comment Number from MFN Submission	Conclusions
Description from MFN Submission	MFN has reviewed the proposed Berry Pit Expansion for the Valentine Gold Project which provides a summary of the changes and potential effects of the Project Expansion. It is our view that the Valentine Mine and the Berry Pit expansion are held to less stringent environmental protection standards than similar projects elsewhere in Canada. In total, 35 comments and associated recommendations have been identified. Two areas of especially high concern are related to water quality and caribou populations. The cumulative effect of seepage, runoff, and effluent throughout the life of mine and into closure poses serious risks to the surrounding aquatic environment. Secondly, the risks of direct (e.g., mortality and impaired health) and indirect (e.g., behavioural changes) effects on caribou may result in harms to the Buchans herd that are found in the central region. There is a need for additional planning, assessment, and mitigation measures to remedy this situation. It is our hope that the perspectives and recommendations we have provided will help create a Project that is less impactful to the environment and will feature significant involvement of our community.
Request from MFN Submission	To this end, MFN requests that Marathon: 1. incorporate the recommendations within this report in an updated environmental assessment/environmental registration document; 2. provide written responses to the comments and recommendations herein, indicating how comments and recommendations will be addressed, or substantive rational where they are not; 3. meet with representatives of MFN to discuss questions, issues, and solutions, after written responses have been provided. MFN regularly engages with representatives of Marathon through committees that have been established under the SEA for the Valentine Project. These forums provide an avenue for involvement of MFN, discussion, and issue resolution. While the Berry Pit expansion is currently outside of the scope of the SEA, it is our hope that the structures/processes created by that agreement will support meaningful engagement on the proposed expansion going forward.
Marathon Response	We appreciate the thoughtful perspectives and recommendations MFN has provided towards the shared goal of reducing the environmental impacts of the Project. As described in the Valentine Gold Project: Current Use of Lands and Resources for Traditional Purposes Indigenous Communications Plan, we are committed to ongoing meaningful engagement with MFN. Consistent with this commitment, the Marathon – MFN Socio-Economic Agreement (SEA) provides for ongoing engagement over the life of the Project, including through the joint Environmental Stewardship Subcommittee, which is mandated to determine joint environmental monitoring and stewardship priorities; review certain environmental documents; assess and approve research proposals; identify business, education and training opportunities relating to the environment; make recommendations regarding environmental management and monitoring, testing, studies and programs related to the adverse environmental effects of the Project; and address any other matter as mutually agreed. While it is not planned or considered appropriate to revise the Berry Pit Expansion Environmental Registration / EA Update because the province has

MFN-36	
	released the Project Expansion, we have carefully considered MFN's comments and recommendations and have responded to these in this document, which will be provided to IAAC for consideration in their decision-making process. IAAC will incorporate MFN's comments, as applicable, into the EA Report for the Project Expansion. IAAC will be making their draft EA Report and draft Decision Statement available for review and comment prior to finalization. We look forward to discussing our responses as well as questions, issues and solutions MFN may have, through the joint Environmental Stewardship Subcommittee or in a separate meeting with MFN representatives, if requested by MFN.

APPENDIX MFN-2.A

Shake Flask Extraction Test Data

Table 1 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Berry Individual Samples

Hole ID	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
					Parameter	Hg	Parameter	Hg
					ACUCx10	0.5	MDMER	n/v
							CWQG	0.000026
					Unit	µg/g	Unit	mg/L
VL-15-609	3.7	6	87387	QE-POR		<0.05		-
VL-15-613	3	5	88765	QE-POR		<0.05		-
VL-18-664	65	66	168700	QE-POR		<0.05		-
VL-18-665	1.6	3	168829	QE-POR		<0.05		-
VL-18-666	55	56	169133	QE-POR		<0.05		-
VL-18-673	36	38	182157	QE-POR		<0.05		-
VL-18-675	10.21	11	182369	QE-POR		<0.05		-
VL-18-676	1.62	3	182481	QE-POR		<0.05		-
VL-19-777	18	19	937025	QE-POR		<0.05		-
VL-19-778	8	10	937125	QE-POR		<0.05		-
VL-19-779	12	13	948723	QE-POR		<0.05		-
VL-19-788	21	23	949145	QE-POR		<0.05		-
VL-20-796	23	24	938441	QE-POR		<0.05		-
VL-20-815	22	23	961118	QE-POR		<0.05		-
VL-20-816	11	13	961317	QE-POR		<0.05		-
VL-20-818	8.11	10	961717	QE-POR		<0.05		-
VL-20-819	5.1	7	961917	QE-POR		<0.05		-
VL-20-798	93	94	938870	QE-POR		<0.05		-
VL-20-807	3.53	5	960101	QE-POR		<0.05		-
VL-20-812	4.97	7	960696	QE-POR		<0.05		-
VL-20-824	4.33	6	962792	QE-POR		<0.05		-
VL-20-831	109	111	963937	QE-POR		<0.05		-
VL-20-832	39	41	964069	QE-POR		<0.05		-
VL-20-837	10.3	12	964702	QE-POR		<0.05		-
VL-20-850	68	69	966384	QE-POR		<0.05		-
VL-20-851	10.1	12	966445	QE-POR		<0.05		-
VL-20-852	24	25	966725	QE-POR		<0.05		-
VL-20-855	4.22	5	967065	QE-POR		<0.05		-
VL-20-856	2.34	4	967218	QE-POR		<0.05		-
VL-20-857	65	66	967361	QE-POR		<0.05		-
VL-20-859	10.14	12	970001	QE-POR		<0.05		-
VL-20-875	12	13	968599	QE-POR		<0.05		-
VL-20-882	19	21	970865	QE-POR		<0.05		-
VL-20-883	9.34	11	969250	QE-POR		<0.05		-
VL-20-885	6.25	8	969479	QE-POR		<0.05		-
VL-20-887	87	89	969810	QE-POR		<0.05		-
VL-20-890	64	65	990313	QE-POR		<0.05		-
VL-20-893	86	87	982079	QE-POR		<0.05		-
VL-20-897	63	65	990870	QE-POR		<0.05		-
VL-20-899	8.18	10	953267	QE-POR		<0.05		-
VL-20-900	37	39	991004	QE-POR		<0.05		-
VL-20-906	10	11	991333	QE-POR		<0.05		-
VL-20-905	23	24	982457	QE-POR		<0.05		-
VL-20-920	14	15	983132	QE-POR		<0.05		-
VL-20-924	26	27	983321	QE-POR		<0.05		-
VL-20-925	1.9	3	972813	QE-POR		<0.05		-
VL-20-929	7.1	9	954606	QE-POR		<0.05		-
VL-20-934	22	23	988892	QE-POR		<0.05		-
VL-20-934	19	20	988889	QE-POR		<0.05		-
VL-20-936	98	99	955080	QE-POR		<0.05		-
VL-20-945	23	24	989411	QE-POR		<0.05		-
VL-20-945	95	96	989474	QE-POR		<0.05		-
VL-20-952	40	41	993781	QE-POR		<0.05		-
VL-21-963	8.68	10	973557	QE-POR		<0.05		-
VL-21-984	23	24	975152	QE-POR		<0.05		-
VL-21-995	12	14	986626	QE-POR		<0.05		-
VL-21-998	14	15	986776	QE-POR		<0.05		-
VL-21-1000	37	38	976824	QE-POR		<0.05		-
VL-21-1006	87	88	977395	QE-POR		<0.05		-
VL-21-1010	7.41	10	977697	QE-POR		<0.05		-
VL-21-1011	10	12	959334	QE-POR		<0.05		-
VL-21-1012	18	19	987972	QE-POR		<0.05		-
VL-21-1013	1.3	2	959471	QE-POR		<0.05		-
VL-21-1013	92	93	959565	QE-POR		<0.05		-
VL-21-1021	32	33	978374	QE-POR		<0.05		-
VL-21-1023	35	36	1005209	QE-POR		<0.05		-
VL-21-1026	39	40	1005508	QE-POR		<0.05		-
VL-21-1029	20	21	1005724	QE-POR		<0.05		-
VL-21-1032	57	58	1023807	QE-POR		<0.05		-
VL-21-1034	13	14	1023926	QE-POR		<0.05		-
VL-21-1035	58	59	979477	QE-POR		<0.05		-
VL-21-1037	15	17	1024202	QE-POR		<0.05		-

Table 1 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Berry Individual Samples

Hole ID	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
					Parameter	Hg	Parameter	Hg
					ACUCx10	0.5	MDMER	n/v
							CWQG	0.000026
					Unit	µg/g	Unit	mg/L
VL-21-1039	5.31	7	1025140	QE-POR		<0.05		-
VL-21-1041	22	23	1014019	QE-POR		<0.05		-
VL-21-1041	100	101	1014089	QE-POR		<0.05		-
VL-21-1043	7.4	9	1024704	QE-POR		<0.05		-
VL-21-1044	4.4	6	1014298	QE-POR		<0.05		-
VL-21-1045	6.67	8	1014481	QE-POR		<0.05		-
VL-21-1051	2.78	4	1014889	QE-POR		<0.05		-
VL-21-1052	26	27	1025620	QE-POR		<0.05		-
VL-21-1055	22	23	1015242	QE-POR		<0.05		-
VL-21-1055	92	93	1015311	QE-POR		<0.05		-
VL-21-1062	42	43	1015623	QE-POR		<0.05		-
VL-21-1063	2.59	4	1015698	QE-POR		<0.05		-
VL-21-1065	12	14	1015886	QE-POR		<0.05		-
VL-21-1069	6.23	7	1008517	QE-POR		<0.05		-
VL-21-1069	181	182	1008665	QE-POR		<0.05		-
VL-21-1070	8.44	10	1026601	QE-POR		<0.05		-
VL-21-1074	9.17	10	1026874	QE-POR		<0.05		-
VL-21-1080	22.2	23	1016913	QE-POR		<0.05		-
VL-21-1093	25	26	1010783	QE-POR		<0.05		-
VL-21-1088	3.74	6	1017612	QE-POR		<0.05		-
VL-21-1096	110	111	1018721	QE-POR		<0.05		-
VL-21-1098	8	9	1019167	QE-POR		<0.05		-
VL-21-1110	11	13	1012070	QE-POR		<0.05		-
VL-21-1117	69	70	1021105	QE-POR		<0.05		-
VL-21-1148	20	22	1031247	QE-POR		<0.05		-
VL-21-1149	4.84	6	1042483	QE-POR		<0.05		-
VL-21-1154	12	13	995296	QE-POR		<0.05		-
VL-21-1155	24	25	1036674	QE-POR		<0.05		-
VL-21-1159	7.77	10	1048117	QE-POR		<0.05		-
VL-21-1163	88	89	1037172	QE-POR		<0.05		-
VL-21-1171	9.58	11	1043944	QE-POR		<0.05		-
VL-21-1172	17	19	1048705	QE-POR		<0.05		-
VL-21-1174	9.15	11	1044142	QE-POR		<0.05		-
VL-21-1179	26	28	1044465	QE-POR		<0.05		-
VL-21-1180	3.02	5	996666	QE-POR		<0.05		-
VL-21-1181	8.57	10	1049142	QE-POR		<0.05		-
VL-18-657	155	157	166963	CG		<0.05		-
VL-18-659	154	155	167207	CG		<0.05		-
VL-18-661	187	189	168287	CG		<0.05		-
VL-18-662	185	187	168436	CG		<0.05		-
VL-18-663	281	283	168644	CG		<0.05		-
VL-18-668	201	203	169456	CG		<0.05		-
VL-18-669	204	206	178623	CG		<0.05		-
VL-18-672	171	173	182145	CG		<0.05		-
VL-18-675	167	169	182474	CG		<0.05		-
VL-18-678	231	233	182994	CG		<0.05		-
VL-19-781	162	164	937456	CG		<0.05		-
VL-19-785	156	158	935275	CG		<0.05		-
VL-19-786	189	190	937733	CG		<0.05		-
VL-19-789	216	217	937904	CG		<0.05		-
VL-19-791	206	208	938029	CG		<0.05		-
VL-20-802	185	187	939554	CG		<0.05		-
VL-20-804	247	248	939877	CG		<0.05		-
VL-20-805	132	133	939956	CG		<0.05		-
VL-20-806	182	184	960095	CG		<0.05		-
VL-20-808	176	178	960347	CG		<0.05		-
VL-20-809	164	165	960465	CG		<0.05		-
VL-20-810	154	155	960581	CG		<0.05		-
VL-20-820	207	209	962165	CG		<0.05		-
VL-20-825	169	171	963082	CG		<0.05		-
VL-20-833	115	117	964238	CG		<0.05		-
VL-20-839	111	112	965307	CG		<0.05		-
VL-20-845	112	113	965977	CG		<0.05		-
VL-20-848	97	98	966202	CG		<0.05		-
VL-20-849	180	182	966339	CG		<0.05		-
VL-20-860	131	133	967680	CG		<0.05		-
VL-20-861	70	72	967729	CG		<0.05		-
VL-20-863	21	23	967732	CG		<0.05		-
VL-20-864	197	199	970233	CG		<0.05		-
VL-20-872	85	87	970505	CG		<0.05		-
VL-20-909	102	104	953843	CG		<0.05		-
VL-20-884	91	92	969470	CG		<0.05		-

Table 1 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Berry Individual Samples

Hole ID	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
					Parameter	Hg	Parameter	Hg
					ACUCx10	0.5	MDMER	n/v
							CWQG	0.000026
					Unit	µg/g	Unit	mg/L
VL-20-941	88	90	989307	CG		<0.05		-
VL-20-943	117	118	989387	CG		<0.05		-
VL-21-967	209	211	984537	CG		<0.05		-
VL-21-976	153	155	985169	CG		<0.05		-
VL-21-979	282	284	985379	CG		<0.05		-
VL-21-982	237	239	985565	CG		<0.05		-
VL-21-983	204	205	985730	CG		<0.05		-
VL-21-1009	180	182	959323	CG		<0.05		-
VL-18-657	195	197	166984	CG		<0.05		<0.00001
VL-18-660	257	259	167386	CG		<0.05		<0.00001
VL-18-670	148	150	169565	CG		<0.05		<0.00001
VL-19-782	156	158	935172	CG		<0.05		<0.00001
VL-20-801	182	184	939437	CG		<0.05		<0.00001
VL-20-807	159	161	960224	CG		<0.05		<0.00001
VL-20-840	103	105	965384	CG		<0.05		<0.00001
VL-20-845	93	95	965958	CG		<0.05		<0.00001
VL-20-847	179	181	966145	CG		<0.05		<0.00001
VL-20-855	242	244	967212	CG		<0.05		<0.00001
VL-20-874	104	106	970578	CG		<0.05		<0.00001
VL-20-878	38	39	968928	CG		<0.05		<0.00001
VL-20-923	19	21	954284	CG		<0.05		<0.00001
VL-21-1031	203	205	1023762	CG		<0.05		<0.00001
VL-21-1039	312	314	1025383	CG		<0.05		<0.00001
VL-21-1064	253	255	1008325	CG		<0.05		<0.00001
VL-21-1084	55	57	1027455	CG		<0.05		<0.00001
VL-21-1165	205	207	996071	CG		<0.05		<0.00001
VL-21-992	91	93	986527	CG		<0.05		<0.00001
VL-21-994	119	121	986619	CG		<0.05		<0.00001
VL-19-765	73	75	944476	MD		<0.05		-
VL-19-773	3	5	944890	MD		<0.05		-
VL-18-670	79	80	169507	MD		<0.05		-
VL-19-790	77	78	935451	MD		<0.05		-
VL-20-797	64	66	938645	MD		<0.05		-
VL-20-815	32	33	961128	MD		<0.05		-
VL-20-822	135	136	962460	MD		<0.05		-
VL-20-827	32	33	963196	MD		<0.05		-
VL-20-828	41	42	963303	MD		<0.05		-
VL-20-846	31	33	965996	MD		<0.05		-
VL-20-852	5	7	966707	MD		<0.05		-
VL-20-858	14	15	967491	MD		<0.05		-
VL-20-865	10.27	12	967875	MD		<0.05		-
VL-20-870	5.39	7	968242	MD		<0.05		-
VL-20-877	35	37	968826	MD		<0.05		-
VL-20-880	23	25	968947	MD		<0.05		-
VL-20-880	174	175	969074	MD		<0.05		-
VL-20-881	156	157	969206	MD		<0.05		-
VL-20-886	37	39	969642	MD		<0.05		-
VL-20-888	26	27	969876	MD		<0.05		-
VL-20-905	85	86	982519	MD		<0.05		-
VL-20-917	47	49	972647	MD		<0.05		-
VL-20-921	145	146	972807	MD		<0.05		-
VL-20-931	28	30	992628	MD		<0.05		-
VL-20-937	93	94	989167	MD		<0.05		-
VL-20-938	38	39	993009	MD		<0.05		-
VL-21-954	76	77	989908	MD		<0.05		-
VL-21-972	3.8	5	984714	MD		<0.05		-
VL-21-1007	169	170	977596	MD		<0.05		-
VL-21-1086	119	120	1010090	MD		<0.05		-
VL-21-1091	51	52	1017942	MD		<0.05		-
VL-21-1096	100	102	1018713	MD		<0.05		-
VL-21-1111	46	47	1020497	MD		<0.05		-
VL-21-1130	121	123	1022441	MD		<0.05		-
VL-21-1139	16	18	1041574	MD		<0.05		-
VL-21-1145	7.3	9	1042191	MD		<0.05		-
VL-21-1161	42	44	1043555	MD		<0.05		-
VL-21-1162	31	33	1037033	MD		<0.05		-
VL-21-1163	156	157	1037234	MD		<0.05		-
VL-21-1166	23	24	1043752	MD		<0.05		-
VL-21-1173	87	88	1037644	MD		<0.05		-
VL-21-1178	30	31	1037820	MD		<0.05		-
VL-19-787	96	97	935340	QTP		<0.05		-
VL-20-912	71	72	953891	QTP		<0.05		-

Table 1 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Berry Individual Samples

Hole ID	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
					Parameter	Hg	Parameter	Hg
					ACUCx10	0.5	MDMER	n/v
							CWQG	0.000026
					Unit	µg/g	Unit	mg/L
VL-20-946	37	39	955515	QTP		<0.05		-
VL-21-964	58	59	984206	QTP		<0.05		-
VL-21-988	105	106	986057	QTP		<0.05		-
VL-21-990	28	29	986205	QTP		<0.05		-
VL-21-990	29	30	986206	QTP		<0.05		-
VL-21-990	30	32	986207	QTP		<0.05		-
VL-21-1061	195	196	1026264	QTP		<0.05		-
VL-18-663	108	109	168532	QTP		<0.05		<0.00001
VL-20-813	124	125	960958	QTP		<0.05		<0.00001
VL-20-829	170	171	963541	QTP		<0.05		<0.00001
VL-20-858	65	66	967524	QTP		<0.05		<0.00001
VL-21-1016	118	119	978133	QTP		<0.05		0.00001
VL-21-1076	159	160	1016750	QTP		0.06		<0.00001
VL-21-1083	119	120	1009891	QTP		<0.05		<0.00001
VL-21-1100	120	121	1011111	QTP		<0.05		<0.00001
VL-21-1106	139	140	1011804	QTP		<0.05		<0.00001
VL-21-987	164	165	975618	QTP		<0.05		<0.00001
VL-21-1156	10	12	1031861	QE-POR		<0.05		-
VL-21-1165	25	27	995920	QE-POR		<0.05		-
VL-21-968	31	32	956893	QTP		<0.05		-
VL-21-971	64	65	957099	QTP		<0.05		-
VL-21-1034	134	135	1024043	QTP		<0.05		<0.00001
VL-21-1041	205	206	1014178	QTP		<0.05		<0.00001
VL-21-1061	48	50	1026138	QE-POR		<0.05		<0.00001
VL-18-673	114	116	182172	QE-POR		<0.05		<0.00001
VL-21-1083	220	221	1009992	QTP		<0.05		<0.00001
VL-20-950	95	96	989779	QTP		<0.05		<0.00001
VL-20-951	138	139	955884	QTP		<0.05		0.00002
VL-21-1090	258	259	1010700	QE-POR		<0.05		<0.00001
VL-21-1100	241	242	1011231	QTP		<0.05		0.00002
VL-21-1128	234	235	1022334	QTP		<0.05		<0.00001
VL-21-1140	37	38	1030811	QE-POR		<0.05		0.00001
VL-21-1159	253	254	1048365	QTP		<0.05		<0.00001
VL-21-957	189	190	956228	AQ-POR		<0.05		<0.00001
VL-21-980	178	179	957775	QE-POR		<0.05		<0.00001
VL-19-780	129	130	935043	QTP		<0.05		-
VL-20-799	89	90	938992	QTP		<0.05		-
VL-20-881	103	104	969155	QTP		<0.05		-
VL-20-892	71	72	953084	QTP		<0.05		-
VL-20-907	64	65	972345	QTP		<0.05		-
VL-20-908	21	22	982623	QTP		<0.05		-
VL-20-916	79	80	982859	QTP		<0.05		-
VL-20-922	85	86	992076	QTP		<0.05		-
VL-20-939	42	43	955216	QTP		<0.05		-
VL-20-949	131	132	955729	QTP		<0.05		-
VL-21-957	91	92	956133	QTP		<0.05		-
VL-21-973	184	185	974390	QTP		<0.05		-
VL-21-1028	18	19	1023430	QTP		<0.05		-
VL-21-1040	160	161	1024526	QTP		<0.05		-
VL-21-1057	10	11	1025849	QTP		<0.05		-
VL-21-1085	105	106	1017347	QTP		<0.05		-
VL-21-1099	81	82	1019365	QTP		<0.05		-
VL-21-1152	101	102	1031733	QTP		0.15		-
VL-21-1164	11	12	1048408	QTP		<0.05		-
VL-21-1177	147	148	1049085	QTP		<0.05		-
VL-18-658	153	154	167079	QTP		<0.05		-
VL-18-660	151	152	167317	QTP		<0.05		<0.00001
VL-18-676	145	146	182574	QTP		<0.05		<0.00001
VL-20-818	46	47	961744	QE-POR		<0.05		<0.00001
VL-20-850	117	119	966413	QE-POR		<0.05		<0.00001
VL-20-916	118	119	982894	QTP		<0.05		<0.00001
VL-20-926	157	158	954535	QTP		<0.05		<0.00001
VL-20-944	137	138	955411	QTP		<0.05		0.00002
VL-20-952	158	159	993900	QTP		<0.05		<0.00001
VL-21-1007	110	111	977550	QTP		<0.05		0.00001
VL-21-1011	87	88	959394	QTP		<0.05		0.00001
VL-21-1014	40	41	977937	QTP		<0.05		0.00004
VL-21-1028	103	104	1023510	QTP		<0.05		<0.00001
VL-21-1036	276	277	1006508	QTP		<0.05		<0.00001
VL-21-1042	257	258	1006790	QTP		<0.05		0.00001
VL-21-1050	227	228	1007347	QTP		<0.05		<0.00001
VL-21-1050	312	313	1007426	QTP		<0.05		<0.00001

Table 1 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Berry Individual Samples

Hole ID	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
					Parameter	Hg	Parameter	Hg
					ACUCx10	0.5	MDMER	n/v
							CWQG	0.000026
					Unit	µg/g	Unit	mg/L
VL-21-1052	116	117	1025702	QTP		<0.05		0.00002
VL-21-1067	221	222	1008488	QTP		<0.05		<0.00001
VL-21-1072	120	121	1008876	QTP		<0.05		0.00001
VL-21-1079	35	36	1027298	QTP		<0.05		<0.00001
VL-21-1081	246	247	1009713	QE-POR		<0.05		<0.00001
VL-21-1171	76	77	1044017	QE-POR		<0.05		<0.00001
VL-21-1175	185	186	996541	QTP		<0.05		0.00001
VL-21-958	150	151	973322	QTP		<0.05		0.00001
VL-21-962	118	119	956542	QTP		<0.05		0.00001
VL-21-978	106	107	957562	QE-POR		<0.05		<0.00001
VL-21-989	66	67	958200	QTP		<0.05		<0.00001
VL-21-1089	196	197	1010388	QTP		<0.05		<0.00001
VL-21-1093	203	204	1010941	QE-POR		<0.05		<0.00001
VL-21-1101	223	224	1019827	QTP		<0.05		0.00001
VL-21-1108	182	184	1020450	QE-POR		<0.05		<0.00001
			22TP-ARD-04 GS1B	OB		<0.05		-
			22TP-ARD-04 GS2B	OB		<0.05		-
			22TP-ARD-04 GS3B	OB		<0.05		-
			22TP-ARD-04 GS4B	OB		<0.05		-
			22TP-ARD-05 GS1B	OB		<0.05		-
			22TP-ARD-06 GS1B	OB		<0.05		-
			22TP-ARD-07 GS1B	OB		<0.05		-
			22TP-ARD-08 GS1B	OB		<0.05		-
			22TP-ARD-08 GS2B	OB		<0.05		-
			22TP-ARD-09 GS1B	OB		<0.05		-
			22TP-ARD-10 GS1B	OB		<0.05		-
			22TP-ARD-10 GS2B	OB		<0.05		-
			22TP-ARD-11 GS1B	OB		<0.05		-
			22TP-ARD-12 GS1B	OB		<0.05		-
			22TP-ARD-13 GS1B	OB		<0.05		-
			22TP-ARD-13 GS2B	OB		<0.05		-
			22TP-ARD-14 GS1B	OB		<0.05		-
			22TP-ARD-14 GS2B	OB		<0.05		-
			22TP-ARD-15 GS1B	OB		<0.05		-
			22TP-ARD-16 GS1B	OB		<0.05		-
			22TP-ARD-17 GS1B	OB		<0.05		-
			22TP-ARD-18 GS1B	OB		<0.05		-
			22TP-ARD-18 GS2B	OB		<0.05		-
			22TP-ARD-19 GS1B	OB		<0.05		-
			22TP-ARD-19 GS2B	OB		<0.05		-
			22TP-ARD-20 GS1B	OB		<0.05		-
			22TP-ARD-20 GS2B	OB		<0.05		-
			22TP-ARD-21 GS1B	OB		<0.05		-
			22TP-ARD-22 GS1B	OB		<0.05		-
			22TP-ARD-22 GS2B	OB		<0.05		-

Notes:

n/v indicates that no concentration thresholds are established for Hg

- indicates that Hg was not measured for the sample

n/a indicates that the sample ID is not available (used hole ID as sample ID)

ACUC: Average Continental Upper Crust

MDMER: Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222

CWQG: Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020)

cell value	cells with values exceeding 10 times of ACUC value for Hg are bolded and underlined
cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

QE-POR: Qtz-eye Porphyry

CG: Conglomerate

MD: Mafic Dykes

QTP: Quartz-Tourmaline-Pyrite Veins in Lith

LGO: Low-Grade Ore

OB: Overburden

Table 2 Summary Statistics of Bulk Solid Mercury (Hg) Concentrations For Berry Individual Samples

Lithology	1. Qtz-eye Porphyry (QE-POR)	2. Conglomerate (CG)	3. Mafic Dykes (MD)	4. Quartz-Tourmaline-Pyrite Veins in Lith (QTP)	5. Low-Grade Ore (LGO)	6. High-Grade Ore (ORE)	7. Overburden (OB)
ACUCx10	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Unit	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
$n_{measured}$	108	64	42	19	18	52	30
$n_{below\ reporting\ limit}$	108	64	42	18	18	51	30
Min	0.025	0.025	0.025	0.025	0.025	0.025	0.025
10th, %ile	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025	0.025	0.025	0.025
90th, %ile	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Max	0.025	0.025	0.025	0.060	0.025	0.150	0.025
Average	0.025	0.025	0.025	0.027	0.025	0.027	0.025
St. Dev.	NA	NA	NA	0.008	NA	0.017	NA

Notes:

$n_{measured}$ = number of samples analyzed for Hg

$n_{below\ reporting\ limit}$ = number of samples with measured concentration below the Reportable Detection Limit for Hg (RDL = 0.05 µg/g)

ACUC = Average Continental Upper Crust

"NA" indicates not applicable because all measured values are below the RDL (RDL = 0.05 µg/g)

For the values less than RDL value (0.05 µg/g), 1/2 of RDL are used to calculate statistical parameters.

cell value cells with values exceeding 10 times of ACUC value for Hg are bolded and underlined

Table 3 Summary Statistics of Shake Flask Extraction (SFE) Mercury (Hg) Concentrations For Berry Individual Samples

Lithology	1. Qtz-eye Porphyry (QE-POR)	2. Conglomerate (CG)	3. Mafic Dykes (MD)	4. Quartz-Tourmaline-Pyrite Veins in Lith (QTP)	5. Low-Grade Ore (LGO)	6. High-Grade Ore (ORE)	7. Overburden (OB)
MDMER	**n/v**	**n/v**	**n/v**	**n/v**	**n/v**	**n/v**	**n/v**
CWQG	**0.000026**	**0.000026**	**0.000026**	**0.000026**	**0.000026**	**0.000026**	**0.000026**
Unit	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**
$n_{measured}$	0	20	0	10	14	10	0
$n_{below\ reporting\ limit}$	0	20	0	9	11	9	0
Min	-	0.000005	-	0.000005	0.000005	0.000005	-
10th, %ile	-	0.000005	-	0.000005	0.000005	0.000005	-
Median	-	0.000005	-	0.000005	0.000005	0.000005	-
90th, %ile	-	0.000005	-	0.000006	0.000017	0.000008	-
Max	-	0.000005	-	0.000010	0.000020	0.000040	-
Average	-	0.000005	-	0.000006	0.000008	0.000009	-
St. Dev.	-	NA	-	0.000002	0.000005	0.000011	-

Notes:

$n_{measured}$ = number of samples analyzed for Hg

$n_{below\ reporting\ limit}$ = number of samples with measured concentration below the Reportable Detection Limit for Hg (RDL = 0.00001 mg/L)

MDMER = Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020).

CWQG = Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020).

"n/v" indicates that no concentration thresholds are established for Hg

"-" indicates that Hg was not measured for the lithology.

"NA" indicates not applicable because all measured values are below the RDL (0.00001 mg/L)

SFE was analyzed for waste rock, ore and overburden associated with the Berry Pit.

For the values less than RDL value (0.00001 mg/L), 1/2 of RDL are used to calculate statistical parameters.

cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

Table 4 Shake Flask Extraction (SFE) Mercury (Hg) Concentrations for Berry Composite Samples

Parameter	Unit	MDMER	CWQG	B QPOR	B SED	B MD	B QTP	B LGO	B HGO	B QPOR-PAG	B SED-High SFE	B QTP-PAG	B LGO-PAG	B HGO-PAG-Zn	B OB-ML	B QPOR_FB	B CG_FB	B MD_FB	B QTP_FB	B LGO_FB	B HGO_FB
				Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT
Hg	mg/L	n/v	0.000026	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	-	-	-	-	-	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001

Notes:

HCT - Humidity Cell Testing.

CWQG - Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020).

MDMER - Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020).

"n/v" indicates that no concentration thresholds are established for Hg.

"-" indicates that Hg was not measured for this sample.

cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

Composite Sample ID	Lithological Description
B QPOR	Composite of Average Samples of Quartz Porphyry unit
B SED	Composite of Average Samples of Sedimentary unit
B MD	Composite of Average Samples of Mafic Dyke unit
B QTP	Composite of Average Samples of Quartz-Tourmaline-Pyrite veins
B LGO	Composite of Average Samples of Low-Grade Ore
B HGO	Composite of Average Samples of High-Grade Ore
B QPOR-PAG	Composite of Quartz Porphyry samples that are classified as PAG
B SED-High SFE	Composite of Sedimentary unit samples with exceedances in SFE tests
B QTP-PAG	Composite of Quartz-Tourmaline-Pyrite vein samples that are classified as PAG
B LGO-PAG	Composite of Low-Grade Ore samples that are classified as PAG
B HGO-PAG-Zn	Composite of High-Grade Ore samples that are classified as PAG and have Zn exceedances
B OB-ML	Composite of Overburden samples with exceedances in SFE tests
B QPOR-PAG-CO3DP	Carbonate-depleted composite of Quartz Porphyry samples that are classified as PAG
B QTP-PAG-CO3DP	Carbonate-depleted composite of Quartz-Tourmaline-Pyrite vein samples that are classified as PAG
B LGO-PAG-CO3DP	Carbonate-depleted composite of Low-Grade Ore samples that are classified as PAG
B HGO-PAG-Zn-CO3DP	Carbonate-depleted composite of High-Grade Ore samples that are classified as PAG and have Zn exceedances
B-QPOR_FB	Composite of Quartz Porphyry unit samples
B-CG_FB	Composite of Sedimentary unit samples
B-MD_FB	Composite of Average Mafic Dyke unit samples
B-QTP_FB	Composite of Quartz-Tourmaline-Pyrite vein samples
B-LGO_FB	Composite of Low-Grade Ore samples
B-HGO_FB	Composite of High-Grade Ore samples

Table 5 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Marathon Individual Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	**MDMER**	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
MA-14-015	Phase I	5	7	80658	Qtz-eye Porphyry		-		<0.00001
MA-15-035	Phase I	7	9	83276	Qtz-eye Porphyry		-		<0.00001
MA-15-035	Phase I	43	45	83295	Qtz-eye Porphyry		-		<0.00001
MA-15-051	Phase I	120	122	85491	Qtz-eye Porphyry		-		<0.00001
MA-15-051 85441	Phase II	24	26	85441	Qtz-eye Porphyry		<0.05		-
MA-15-051 85509	Phase II	154	156	85509	Qtz-eye Porphyry		<0.05		-
MA-16-079	Phase I	9	11	88900	Qtz-eye Porphyry		-		<0.00001
MA-16-081 89013	Phase II	53	54	89013	Qtz-eye Porphyry		<0.05		-
MA-16-101	Phase I	4	6	100966	Qtz-eye Porphyry		-		<0.00001
MA-16-101	Phase I	302	304	101187	Qtz-eye Porphyry		-		<0.00001
MA-16-116	Phase I	132	134	103965	Qtz-eye Porphyry		-		<0.00001
MA-16-116	Phase I	341	343	104126	Qtz-eye Porphyry		-		<0.00001
MA-16-122	Phase I	50	52	104677	Qtz-eye Porphyry		-		<0.00001
MA-16-122	Phase I	330	332	104848	Qtz-eye Porphyry		-		<0.00001
MA-17-216 145241	Phase II	98	99	145241	Qtz-eye Porphyry		<0.05		-
MA-18-281 177179	Phase II	232	234	177179	Qtz-eye Porphyry		<0.05		-
MA-18-281 177251	Phase II	362	363	177251	Qtz-eye Porphyry		<0.05		-
MA-18-283 177431	Phase II	21	23	177431	Qtz-eye Porphyry		<0.05		-
MA-18-283 177462	Phase II	75	77	177462	Qtz-eye Porphyry		<0.05		-
MA-15-051	Phase I	56	58	85457	Aphanitic Qtz porphyry		-		<0.00001
MA-15-051 85455	Phase II	52	54	85455	Aphanitic Qtz Porphyry		<0.05		-
MA-16-081 88994	Phase II	29	31	88994	Aphanitic Qtz Porphyry		<0.05		-
MA-16-147	Phase I	157	159	110549	Aphanitic Qtz Porphyry		-		<0.00001
MA-16-147	Phase I	249	251	110604	Aphanitic Qtz Porphyry		-		<0.00001
MA-16-156 108817	Phase II	196	198	108817	Aphanitic Qtz Porphyry		<0.05		-
MA-17-216 145344	Phase II	206	208	145344	Aphanitic Qtz Porphyry		<0.05		-
MA-18-281 177138	Phase II	172	174	177138	Aphanitic Qtz Porphyry		<0.05		-
MA-18-285 177641	Phase II	25	26	177641	Aphanitic Qtz Porphyry		<0.05		-
MA-18-290 178231	Phase II	10.94	12	178231	Aphanitic Qtz Porphyry		<0.05		-
MA-16-116	Phase I	69	71	103924	Conglomerate		-		<0.00001
MA-16-122	Phase I	24	26	104663	Conglomerate		-		<0.00001
MA-16-147	Phase I	10	11	n/a	Conglomerate		-		<0.00001
MA-16-156 136253	Phase II	3	4	136253	Conglomerate		<0.05		-
MA-16-156 136254	Phase II	23	24	136254	Conglomerate		<0.05		-
MA-17-216 136251	Phase II	4	5	136251	Conglomerate		<0.05		-
MA-18-281 177033	Phase II	2.89	5	177033	Conglomerate		<0.05		-
MA-15-063	Phase III	11	12	86665	Conglomerate		<0.05		<0.00001
MA-15-063	Phase III	12	13	86666	Conglomerate		**0.78**		<0.00001
MA-15-067	Phase III	22	24	87691	Conglomerate		<0.05		<0.00001
MA-15-067	Phase III	9	10	87684	Conglomerate		<0.05		<0.00001
MA-15-067	Phase III	10	11	87685	Conglomerate		<0.05		<0.00001
MA-15-071	Phase III	6	8	138504	Conglomerate		<0.05		<0.00001
MA-15-071	Phase III	100	102	138506	Conglomerate		<0.05		<0.00001
MA-15-071	Phase III	48	50	138505	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	10	12	138509	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	24	26	138510	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	74	75	101660	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	75	76	101661	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	40	42	138511	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	62	63	101647	Conglomerate		<0.05		<0.00001
MA-16-104	Phase III	61	62	138512	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	9	11	138514	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	22	24	138515	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	45	47	138516	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	137	139	138521	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	62	64	138517	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	92	94	138518	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	104	106	138519	Conglomerate		<0.05		<0.00001
MA-16-115	Phase III	123	125	138520	Conglomerate		<0.05		<0.00001
MA-16-116	Phase III	35	37	138522	Conglomerate		<0.05		<0.00001
MA-16-117	Phase III	13	14	104142	Conglomerate		<0.05		<0.00001
MA-16-117	Phase III	16	18	104144	Conglomerate		<0.05		<0.00001
MA-16-118	Phase III	10	12	138525	Conglomerate		<0.05		<0.00001
MA-16-118	Phase III	20	22	138526	Conglomerate		<0.05		<0.00001
MA-16-118	Phase III	40	42	138527	Conglomerate		<0.05		<0.00001
MA-16-118	Phase III	62	64	138528	Conglomerate		<0.05		<0.00001
MA-16-117	Phase III	14	15	104143	Conglomerate		<0.05		<0.00001
MA-16-124	Phase III	10	12	138501	Conglomerate		<0.05		<0.00001
MA-16-124	Phase III	20	22	138530	Conglomerate		<0.05		<0.00001
MA-16-124	Phase III	34	36	138531	Conglomerate		<0.05		<0.00001
MA-16-136	Phase III	113	115	138335	Conglomerate		<0.05		-
MA-16-136	Phase III	60	62	138560	Conglomerate		<0.05		<0.00001
MA-16-136	Phase III	80	82	138561	Conglomerate		<0.05		<0.00001
MA-16-136	Phase III	10	12	138559	Conglomerate		<0.05		<0.00001
MA-16-143	Phase III	14	16	138536	Conglomerate		<0.05		<0.00001
MA-16-143	Phase III	34	36	138537	Conglomerate		<0.05		<0.00001
MA-16-144	Phase III	16	17	107412	Conglomerate		<0.05		-
MA-16-144	Phase III	16	17	107413	Conglomerate		<0.05		<0.00001
MA-16-147	Phase III	14	16	138529	Conglomerate		<0.05		<0.00001
MA-16-149	Phase III	13	15	138539	Conglomerate		<0.05		-
MA-16-149	Phase III	36	38	138540	Conglomerate		<0.05		<0.00001
MA-16-151	Phase III	4	5	138541	Conglomerate		<0.05		<0.00001
MA-16-151	Phase III	20	22	138542	Conglomerate		<0.05		<0.00001
MA-16-151	Phase III	55	57	138543	Conglomerate		<0.05		<0.00001
MA-16-151	Phase III	100	101	138544	Conglomerate		<0.05		<0.00001
MA-16-152	Phase III	5	7	138545	Conglomerate		<0.05		<0.00001
MA-16-152	Phase III	20	22	111136	Conglomerate		<0.05		<0.00001
MA-16-153	Phase III	13	15	138547	Conglomerate		<0.05		<0.00001
MA-16-153	Phase III	39	41	138548	Conglomerate		<0.05		-
MA-16-153	Phase III	64	66	138549	Conglomerate		<0.05		<0.00001
MA-16-155	Phase III	25	27	138550	Conglomerate		<0.05		<0.00001
MA-16-155	Phase III	75	77	138334	Conglomerate		<0.05		-
MA-16-156	Phase III	7	9	138524	Conglomerate		<0.05		<0.00001
MA-17-181	Phase III	4	6	138551	Conglomerate		<0.05		<0.00001
MA-17-190	Phase III	57	59	138554	Conglomerate		<0.05		<0.00001
MA-17-190	Phase III	15	17	138553	Conglomerate		<0.05		<0.00001
MA-17-210	Phase III	22	23	129276	Conglomerate		<0.05		<0.00001
MA-17-210	Phase III	23	24	129277	Conglomerate		<0.05		-
MA-17-210	Phase III	13	15	138502	Conglomerate		<0.05		<0.00001

Table 5 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Marathon Individual Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	**MDMER**	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
MA-17-259	Phase III	8	9	166245	Conglomerate		<0.05		<0.00001
MA-17-259	Phase III	9	10	166246	Conglomerate		<0.05		<0.00001
MA-18-264	Phase III	16	18	138503	Conglomerate		<0.05		<0.00001
MA-18-264	Phase III	53	55	138507	Conglomerate		<0.05		<0.00001
MA-18-330	Phase III	132	134	197133	Conglomerate		<0.05		<0.00001
MA-19-355	Phase III	2.11	4	194288	Conglomerate		<0.05		<0.00001
MA-19-385	Phase III	3	5	138508	Conglomerate		<0.05		<0.00001
MA-19-385	Phase III	18.28	20	902411	Conglomerate		<0.05		<0.00001
MA-19-433	Phase III	144	146	931608	Conglomerate		<0.05		<0.00001
MA-19-433	Phase III	140	141	931605	Conglomerate		<0.05		<0.00001
MA-19-433	Phase III	141	142	931606	Conglomerate		<0.05		-
MA-19-436	Phase III	134	136	930688	Conglomerate		<0.05		<0.00001
MA-19-436	Phase III	138	140	930690	Conglomerate		<0.05		<0.00001
MA-GT-20-04	Phase III	126	128	138546	Conglomerate		<0.05		-
MA-GT-20-04	Phase III	150	152	138555	Conglomerate		<0.05		<0.00001
MA-GT-20-04	Phase III	180	182	138557	Conglomerate		<0.05		<0.00001
MA-GT-20-04	Phase III	165	167	138556	Conglomerate		<0.05		-
MA-16-082	Phase I	5	6	n/a	Gabbro		-		<0.00001
MA-16-082	Phase I	74	76	89139	Gabbro		-		<0.00001
MA-16-082	Phase III	9	10	89125	Gabbro		<0.05		<0.00001
MA-16-082	Phase III	10	11	89126	Gabbro		<0.05		<0.00001
MA-16-082	Phase III	14	16	89128	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	14	15	150771	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	15	16	150772	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	40	41	150785	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	41	42	150786	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	10	11	150769	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	11	12	150770	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	35	37	150783	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	47	49	150789	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	54	55	150792	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	55	56	150793	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	58	59	150794	Gabbro		<0.05		<0.00001
MA-17-193	Phase III	59	60	150795	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	11	13	150797	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	30	31	150807	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	31	32	150808	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	15	17	150799	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	22	23	150802	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	23	24	150803	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	38	39	150811	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	39	40	150812	Gabbro		<0.05		<0.00001
MA-17-194	Phase III	41	43	150813	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	8	10	138513	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	39	41	138552	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	14	16	138523	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	50	52	138558	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	26	28	138532	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	48	50	139538	Gabbro		<0.05		<0.00001
MA-GT-20-03	Phase III	34	36	158533	Gabbro		<0.05		<0.00001
MA-14-015	Phase I	79	81	80720	Mafic Dike		-		<0.00001
MA-15-051	Phase I	5	6	85430	Mafic Dike		-		<0.00001
MA-15-051 85430	Phase II	3.9	6	85430	Mafic Dike		<0.05		-
MA-16-101	Phase I	82	84	101007	Mafic Dike		-		<0.00001
MA-16-122	Phase I	152	154	104730	Mafic Dike		-		<0.00001
MA-16-156 108902	Phase II	328	329	108902	Mafic Dike		<0.05		-
MA-17-216 145260	Phase II	120	122	145260	Mafic Dike		<0.05		-
MA-18-267 175290	Phase II	361	363	175290	Mafic Dike		<0.05		-
MA-18-278 167749	Phase II	197	199	167749	Mafic Dike		<0.05		-
MA-18-281 177208	Phase II	286	288	177208	Mafic Dike		<0.05		-
MA-18-267 175143	Phase II	207	208	175143	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-18-267 175178	Phase II	245	246	175178	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-18-280 167924	Phase II	287	288	167924	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-18-281 177158	Phase II	203	204	177158	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-18-287 177828	Phase II	15	16	177828	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-14-015	Phase I	38	39	80689	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-16-122	Phase I	262	263	104799	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-16-156 108949	Phase II	388	389	108949	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-283 177426	Phase II	14.4	16	177426	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-283 177507	Phase II	122	123	177507	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-290 178243	Phase II	22	23	178243	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-15-035	Phase I	88	89	83328	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-16-101	Phase I	184	185	101067	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-16-122	Phase I	288	289	104821	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-18-267 175199	Phase II	267	268	175199	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-281 177119	Phase II	142	143	177119	Qtz-eye Porphyry		<0.05		-
MA-18-287 177831	Phase II	18	19	177831	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-18-287 177901	Phase II	119	120	177901	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-15-065	Phase III	137	138	86989	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-15-065	Phase III	51	52	86917	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-104	Phase III	108	109	101679	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-104	Phase III	141	142	101710	QZ - Qtz-eye Porphyry + QTP		0.28		-
MA-16-118	Phase III	103	104	104288	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-118	Phase III	169	170	104335	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-125	Phase III	42	43	104865	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-16-151	Phase III	239	240	108072	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-151	Phase III	290	291	108110	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-160	Phase III	158	159	109862	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-160	Phase III	222	223	109930	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-173	Phase III	35	36	115436	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-173	Phase III	176	177	115584	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-176	Phase III	187	188	124077	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-176	Phase III	249	250	124142	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-187	Phase III	150	151	119790	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-187	Phase III	186	187	119828	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-210	Phase III	65	66	129313	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-210	Phase III	156	157	129391	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-210	Phase III	215	216	129438	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-212	Phase III	279	280	129738	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001

Table 5 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Marathon Individual Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	**MDMER**	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
MA-17-212	Phase III	9	10	129497	QZ - Qtz-eye Porphyry + QTP		0.19		-
MA-17-245	Phase III	112	113	164713	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-245	Phase III	208	209	164809	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-255	Phase III	193	194	174046	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-255	Phase III	83	84	173942	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-259	Phase III	129	130	166329	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-272	Phase III	102	103	175772	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
Ma-18-282	Phase III	36	37	180089	QZ - Aphanitic Qtz Porphyry + Minor QTP		<0.05		<0.00001
MA-18-291	Phase III	71	72	181475	QZ - Qtz-eye Porphyry + Minor QTP		0.44		-
MA-18-300	Phase III	83	84	185196	QZ - Qtz-eye Porphyry + QTP		**5.2**		<0.00001
MA-18-291	Phase III	95	96	181497	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-18-303	Phase III	53	54	147785	QZ - Qtz-eye Porphyry + Minor QTP		0.06		<0.00001
MA-18-303	Phase III	216	217	147956	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-324	Phase III	110	111	189327	QZ - Qtz-eye Porphyry + QTP		0.06		<0.00001
MA-18-327	Phase III	121	122	196709	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-327	Phase III	160	161	196750	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-328	Phase III	75	76	170838	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-328	Phase III	116	117	170881	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-334	Phase III	50	51	197387	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-18-334	Phase III	215	216	197528	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-349	Phase III	23	24	193310	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-349	Phase III	157	158	193448	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-356	Phase III	6	7	194446	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-356	Phase III	168	169	194591	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-19-361	Phase III	15	16	198863	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-361	Phase III	62	63	198912	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-361	Phase III	101	102	198953	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-19-363	Phase III	65	66	900047	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-372	Phase III	44	45	901109	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-372	Phase III	196	197	901269	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-19-377	Phase III	45	46	920343	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-377	Phase III	115	116	920417	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-388	Phase III	31	32	902665	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-19-388	Phase III	144	145	902763	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-19-391	Phase III	76	77	903459	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-391	Phase III	137	138	903514	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-19-395	Phase III	26	27	904315	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-435	Phase III	47	48	919036	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-435	Phase III	174	175	919158	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-453	Phase III	72	73	941285	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-453	Phase III	177	178	941375	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-463	Phase III	185	186	946271	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-463	Phase III	45	46	946143	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-222	Phase III	153	154	171238	QZ - Qtz-eye Porphyry + QTP		0.06		<0.00001
MA-19-430B	Phase III	115	121	MAHQ-1			<0.05		<0.00001
MA-19-370	Phase III	134	140	MAHQ-11			<0.05		<0.00001
MA-17-176	Phase III	147	157	MAHQ-14			<0.05		<0.00001
MA-17-165	Phase III	211	217	MAHQ-7			<0.05		<0.00001
MA-19-370	Phase III	62	71	MAHQ-10			<0.05		<0.00001
MA-16-081 89020	Phase II	59	60	89020	Qtz-eye Porphyry		<0.05		-
MA-16-101	Phase I	250	251	101137	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-16-116	Phase I	256	257	104043	QZ - Qtz-eye Porphyry + QTP		-		<0.00001
MA-16-156 108866	Phase II	287	288	108866	QZ - Qtz-eye Porphyry + QTP		-		-
MA-17-216 145319	Phase II	180	181	145319	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-15-065	Phase III	149	150	87002	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-15-065	Phase III	57	58	86924	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-16-104	Phase III	117	118	101688	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-118	Phase III	96	97	104281	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-16-125	Phase III	56	57	104880	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-173	Phase III	130	131	115536	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-176	Phase III	130	131	124020	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-187	Phase III	181	182	119823	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-187	Phase III	69	70	119736	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-210	Phase III	211	212	129434	QZ - Qtz-eye Porphyry + QTP		0.07		<0.00001
MA-17-210	Phase III	116	117	129357	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-212	Phase III	13	14	129502	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-212	Phase III	251	252	129712	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-245	Phase III	181	182	164784	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-245	Phase III	251	252	164850	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-255	Phase III	141	142	173996	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-17-259	Phase III	150	151	166350	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-272	Phase III	108	109	175778	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-18-300	Phase III	43	44	185159	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-18-303	Phase III	130	131	147866	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-303	Phase III	248	249	147990	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-18-303	Phase III	64	65	147796	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-324	Phase III	61	62	189279	QZ - Aphanitic Qtz Porphyry + Minor QTP		<0.05		-
MA-18-324	Phase III	222	223	189407	QZ - Qtz-eye Porphyry + QTP		0.09		<0.00001
MA-18-327	Phase III	21	22	196617	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-328	Phase III	98	99	170862	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-18-334	Phase III	170	171	197485	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-349	Phase III	77	78	193364	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-349	Phase III	208	209	193495	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-349	Phase III	131	132	193421	QZ - Qtz-eye Porphyry + QTP		<0.05		0.00001
MA-19-356	Phase III	190	191	194613	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-19-363	Phase III	53	54	900035	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-372	Phase III	137	138	901207	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-372	Phase III	181	182	901254	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-372	Phase III	27	28	901091	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-377	Phase III	28	29	920325	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-377	Phase III	85	86	920385	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-391	Phase III	114	115	903490	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-395	Phase III	27	28	904316	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-395	Phase III	75	76	904361	QZ - Aphanitic Qtz Porphyry + Minor QTP		<0.05		<0.00001
MA-19-435	Phase III	51	52	919040	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-19-435	Phase III	130	131	919112	Qtz-eye Porphyry		<0.05		<0.00001
MA-19-435	Phase III	197	198	919182	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-453	Phase III	237	238	941432	QZ - Aphanitic Qtz Porphyry + Minor QTP		<0.05		-
MA-19-453	Phase III	171	172	941369	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001

Table 5 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Marathon Individual Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	**MDMER**	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
MA-19-463	Phase III	111	112	946206	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-463	Phase III	196	197	946282	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		-
MA-19-393	Phase III	169	170	903997	QZ - Qtz-eye Porphyry + Minor QTP		<0.05		<0.00001
MA-17-188	Phase III	120	121	127326	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-18-270	Phase III	292	293	175587	QZ - Qtz-eye Porphyry + QTP		<0.05		-
MA-17-255	Phase III	67	68	173930	QZ - Qtz-eye Porphyry + QTP		<0.05		<0.00001
MA-19-474	Phase III	38	39	946968	Qtz-eye Porphyry		<0.05		<0.00001
MA-19-430B	Phase III	127	130	MAHQ-2			<0.05		<0.00001
MA-19-430B	Phase III	130	142	MAHQ-3			<0.05		<0.00001
MA-17-165	Phase III	77	86	MAHQ-4			<0.05		<0.00001
MA-17-165	Phase III	117	132	MAHQ-5			<0.05		<0.00001
MA-17-165	Phase III	160	166	MAHQ-6			<0.05		<0.00001
MA-17-165	Phase III	244	254	MAHQ-8			<0.05		<0.00001
MA-19-370	Phase III	50	55	MAHQ-9			<0.05		<0.00001
MA-19-370	Phase III	162	175	MAHQ-12			<0.05		<0.00001
MA-19-370	Phase III	176	182	MAHQ-13			<0.05		<0.00001
MA-17-176	Phase III	229	245	MAHQ-16			<0.05		0.00002
MA-17-176	Phase III	253	259	MAHQ-17			<0.05		<0.00001
BL639 MD4	Phase III			BL639 MD4			<0.05		<0.00001
BL639 MA Comp C	Phase III			BL639 MA Comp C			<0.05		<0.00001
Overburden									
19-TP-5 BS1	Phase II	1.5	1.7	19-TP-5 BS1	OB		<0.05		<0.00001
19-TP-5 BS2	Phase II	2.5	2.7	19-TP-5 BS2	OB		<0.05		-
19-TP-5 BS3	Phase II	3.5	3.7	19-TP-5 BS3	OB		<0.05		0.00001
19-TP-6 BS1	Phase II	1.5	1.7	19-TP-6 BS1	OB		<0.05		<0.00001
19-TP-6 BS2	Phase II	3	3.2	19-TP-6 BS2	OB		<0.05		-
19-TP-6 BS3	Phase II	4	4.2	19-TP-6 BS3	OB		<0.05		<0.00001
19-TP-7 BS1	Phase II	1.3	1.5	19-TP-7 BS1	OB		<0.05		<0.00001
19-TP-7 BS2	Phase II	2.3	2.5	19-TP-7 BS2	OB		<0.05		-
19-TP-7 BS3	Phase II	3.3	3.5	19-TP-7 BS3	OB		<0.05		<0.00001
19-TP-9 BS1	Phase II	0.6	0.8	19-TP-9 BS1	OB		<0.05		<0.00001
19-TP-10 BS1	Phase II	1	1.2	19-TP-10 BS1	OB		<0.05		<0.00001
19-TP-10 BS2	Phase II	2	2.2	19-TP-10 BS2	OB		<0.05		-
19-TP-10 BS3	Phase II	3.5	3.7	19-TP-10 BS3	OB		<0.05		<0.00001
19-TP-11 BS1	Phase II	2	2.1	19-TP-11 BS1	OB		<0.05		<0.00001
20BH-18 SS1	Phase III	0	0.6	20BH-18 SS1	OB		<0.05		<0.00001
20BH-18 SS2	Phase III	0.6	1.2	20BH-18 SS2	OB		<0.05		0.00001
20BH-18 SS3	Phase III	1.5	2.1	20BH-18 SS3	OB		<0.05		<0.00001
20BH-18 SS6	Phase III	3.2	3.4	20BH-18 SS6	OB		<0.05		<0.00001
20BH-18 GS8	Phase III	4.4	4.5	20BH-18 GS8	OB		<0.05		<0.00001
20BH-18 GS10	Phase III	4.6	5.3	20BH-18 GS10	OB		<0.05		<0.00001
20BH-18 GS13	Phase III	6.2	6.8	20BH-18 GS13	OB		<0.05		<0.00001
20BH-18 GS14	Phase III	6.8	7.6	20BH-18 GS14	OB		<0.05		<0.00001
20BH-19 SS2	Phase III	0.6	1.2	20BH-19 SS2	OB		<0.05		<0.00001
20BH-19 SS3	Phase III	1.5	2.1	20BH-19 SS3	OB		<0.05		<0.00001
20BH-20 SS2	Phase III	0.6	1.2	20BH-20 SS2	OB		<0.05		<0.00001
20BH-20 SS4	Phase III	2.1	2.7	20BH-20 SS4	OB		<0.05		<0.00001
20TP-36 GS2	Phase III	3.5	3.7	20TP-36 GS2	OB		<0.05		<0.00001
20TP-37 GS1	Phase III	0.5	0.7	20TP-37 GS1	OB		<0.05		<0.00001
20TP-38 GS1	Phase III	1.2	1.4	20TP-38 GS1	OB		<0.05		<0.00001
20TP-39 GS1	Phase III	3.4	3.6	20TP-39 GS1	OB		<0.05		<0.00001

Notes:

n/v indicates that no concentration thresholds are established for Hg

- indicates that Hg was not measured for the sample

n/a indicates that the sample ID is not available (used hole ID as sample ID)

ACUC: Average Continental Upper Crust

MDMER: Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020)

CWQG: Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020)

cell value	cells with values exceeding 10 times of ACUC value for Hg are bolded and underlined
cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

AQ-POR: Aphanitic quartz porphyry

QE-POR: Qtz-eye Porphyry

CG: Conglomerate

MD: Mafic Dykes

QTP: Quartz-Tourmaline-Pyrite Veins

LGO: Low-Grade Ore

OB: Overburden

ACUC: Average Continental Upper Crust

Table 6 Summary Statistics of Bulk Solid Mercury (Hg) Concentrations For Marathon Individual Samples

Lithology	1. Qtz-eye Porphyry and Qtz Porphyry Breccia (QE-POR and QE-POR-BX)	2. Aphanitic Qtz Porphyry (AQPOR)	3. Conglomerate (CG)	4. Gabbro (GB)	5. Mafic Dike (MD)	6. QZ - Qtz-eye Porphyry + Minor QTP (QZ-QE-POR-QTP-MIN)	7. QZ - Qtz-eye Porphyry + QTP (QZ-QE-POR-QTP)	8. Low-Grade Ore (LGO)	9. High-Grade Ore (HGO)	10. Overburden (OB)
ACUCx10	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Unit	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
$n_{measured}$	8	7	84	31	6	5	4	74	67	30
$n_{below\ reporting\ limit}$	8	7	83	31	6	5	4	67	65	30
Min	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
10th, %ile	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
90th, %ile	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Max	0.025	0.025	**0.78**	0.025	0.025	0.025	0.025	**5.20**	0.090	0.025
Average	0.025	0.025	0.03	0.025	0.025	0.025	0.025	0.11	0.027	0.025
St. Dev.	NA	NA	0.08	NA	NA	NA	NA	0.60	0.010	NA

Notes:

$n_{measured}$ = number of samples analyzed for Hg

$n_{below\ reporting\ limit}$ = number of samples with measured concentration below the Reportable Detection Limit for Hg (RDL = 0.05 µg/g)

ACUC = Average Continental Upper Crust

"NA" indicates not applicable because all measured values are below the RDL (0.05 µg/g)

For the values less than RDL value (0.05 µg/g), 1/2 of RDL are used to calculate statistical parameters.

cell value cells with values exceeding 10 times of ACUC value for Hg are bolded and underlined

Table 7 Summary Statistics of Shake Flask Extraction (SFE) Mercury (Hg) Concentrations For Marathon Individual Samples

Lithology	1. Qtz-eye Porphyry and Qtz Porphyry Breccia (QE-POR and QE-POR-BX)	2. Aphanitic Qtz Porphyry (AQPOR)	3. Conglomerate (CG)	4. Gabbro (GB)	5. Mafic Dike (MD)	6. QZ - Qtz-eye Porphyry + Minor QTP (QZ-QE-POR-QTP-MIN)	7. QZ - Qtz-eye Porphyry + QTP (QZ-QE-POR-QTP)	8. Low-Grade Ore (LGO)	9. High-Grade Ore (HGO)	10. Overburden (OB)
MDMER	n/v	n/v	n/v	n/v	n/v	n/v	n/v	n/v	n/v	n/v
CWQG	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
$n_{measured}$	11	3	74	33	4	0	2	51	50	26
$n_{below\ reporting\ limit}$	11	3	74	33	4	0	2	51	48	24
Min	0.000005	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	0.000005	0.000005
10th, %ile	0.000005	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	0.000005	0.000005
Median	0.000005	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	0.000005	0.000005
90th, %ile	0.000005	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	0.000005	0.000005
Max	0.000005	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	0.000020	0.000010
Average	0.000005	0.000005	0.000005	0.000005	0.000005	-	0.000005	0.000005	0.000005	0.000005
St. Dev.	NA	NA	NA	NA	NA	-	NA	NA	0.000002	0.000001

Notes:

$n_{measured}$ = number of samples analyzed for Hg

$n_{below\ reporting\ limit}$ = number of samples with measured concentration below the Reportable Detection Limit for Hg (RDL = 0.00001 mg/L)

MDMER = Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020)

CWQG = Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020)

"n/v" indicates that no concentration thresholds are established for Hg

"-" indicates that Hg was not measured for the lithology

"NA" indicates not applicable because all measured values are below the RDL (0.00001 mg/L)

SFE was analyzed for waste rock, ore and overburden associated with the Marathon Pit

For the values less than RDL value (0.00001 mg/L), 1/2 of RDL are used to calculate statistical parameters

cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

Table 8 Shake Flask Extraction (SFE) Mercury (Hg) Concentrations for Marathon Composite Samples

Parameter	Unit	MDMER	CWQG	M QE-POR		M AQPOR		M CG		M SED-High S	M MD		M QZ-QE-POR-QTP-MIN		M LGO			GB PAG	GB PAG-CO3DP	M LGO-PAG	M LGO-PAG-CO3DP	M-LGO CNP DPL	M ORE-PAG	M-ORE-PAG-CO3DP	M OB-High S	CND 1 Residue	CND 1 Residue CNP DPL
				Pre-HCT	Post-HCT	Pre-HCT	Post-HCT	Pre-HCT	Post-HCT	Pre-HCT	Pre-HCT	Post-HCT	Pre-HCT	Post-HCT	Pre-HCT Stantec	Pre-HCT Metallurg.	Post-HCT Metallurg.	Pre-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Post-HCT	Pre-HCT	Pre-HCT	Pre-HCT	Post-HCT	Post-HCT
Hg	mg/L	n/v	0.000026	-	<0.00001	-	<0.00001	-	<0.00001	-	-	<0.00001	-	<0.00001	-	-	0.00001	-	-	-	-	<0.00001	-	-	-	0.00001	<0.00001

Notes:

HCT - Humidity Cell Testing.

CWQG - Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020).

MDMER - Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020).

"n/v" indicates that no concentration thresholds are established for Hg.

"-" indicates that Hg was not measured for this sample.

cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

Composite Sample ID	Lithological Description
M QE-POR	Composite Average Sample of Qtz-eye Porphyry
M AQPOR	Composite Average Sample of Aphanitic quartz porphyry
M CG	Composite Average Sample of Conglomerate
M MD	Composite Average Sample of Mafic Dike
M QZ-QE-POR-QTP-MIN	Composite of Quartz-Au Mineralized Zone (QZ) Quartz -eye Porphyry + Minor QTP
M LGO-Met	Composite of Marathon Low-Grade Ore (QZ-QE-POR-QTP and QZ-TQTP)
M SED High S	Sediment Sample with Highest Sulfur Content
M LGO-PAG	Composite of Marathon Low-Grade Ore Samples with NPR<1
M LGO-PAG-CO3DEP	Composite of CO_3 Depleted Marathon Low-Grade Ore Samples with NPR<1
M LGO CNP DPL	Depleted Composite of Marathon Low-Grade Ore Samples
GB-PAG	Composite of PAG Gabbro
GB-PAG-CO3-DEP	Composite of CO_3 Depleted PAG Gabbro
M OB-High S	Composite of Marathon Overburden with Highest S and Lowest NPR
M QPOR-PAG	Composite of Quartz Porphyry with NPR<1
M QPOR-PAG-CO3DEP	Composite of CO_3 Depleted Quartz Porphyry with NPR<1
CND 1	Composite of Tailings Slurry from Marathon
CND 1 Residual CNP DPL	Depleted Tailings Solids from Marathon

Table 9 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Leprechaun Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	MDMER	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
VL-10-143	Phase I	4.50	5.50	238470	Trondhjemite		-		<0.00001
VL-10-146	Phase I	21.00	22.00	238818	Granodiorite		-		<0.00001
VL-11-274	Phase I	5.00	7.00	11222	Granodiorite		-		<0.00001
VL-11-294	Phase I	117.00	119.00	30462	Trondhjemite		-		<0.00001
VL-11-304	Phase I	4.00	6.00	13104	Trondhjemite		-		<0.00001
VL-11-304	Phase I	182.00	184.00	13225	Granodiorite		-		<0.00001
VL-11-316 31900	Phase II	7.00	8.00	31900	Trondhjemite		<0.05		-
VL-11-316 31911	Phase II	25.00	27.00	31911	Granodiorite		<0.05		-
VL-11-316 31982	Phase II	106.00	107.00	31982	Granodiorite		<0.05		-
VL-11-344	Phase I	73.00	75.00	41620	Trondhjemite		-		<0.00001
VL-11-345	Phase I	43.00	45.00	34165	Trondhjemite		-		<0.00001
VL-11-349	Phase I	133.00	134.00	42199	Granodiorite		-		<0.00001
VL-12-382 45357	Phase II	85.00	87.00	45357	Trondhjemite		<0.05		-
VL-12-398	Phase I	146.00	148.00	47075	Trondhjemite		-		<0.00001
VL-12-403	Phase I	3.00	4.00	50582	Trondhjemite		-		<0.00001
VL-13-524	Phase I	179.00	181.00	77768	Trondhjemite		-		<0.00001
VL-13-535	Phase I	312.00	314.00	68012	Trondhjemite		-		<0.00001
VL-13-538	Phase I	105.00	106.00	79829	Trondhjemite		-		<0.00001
VL-10-143	Phase I	42.50	43.40	238524	QZ - trondhjemite + QTP		-		<0.00001
VL-11-306 13316	Phase II	43.00	45.00	13316	QZ - trondhjemite + QTP		<0.05		-
VL-11-349	Phase I	174.00	175.00	42228	QZ - Granodiorite + QTP		-		<0.00001
VL-11-353	Phase I	108.00	109.00	42445	QZ - Granodiorite + QTP		-		<0.00001
VL-12-382 45319	Phase II	28.00	30.00	45319	QZ - Trondhjemite + QTP		<0.05		-
VL-12-398	Phase I	240.00	241.00	47157	QZ - Trondhjemite + QTP		-		<0.00001
VL-12-403	Phase I	162.00	163.00	50720	QZ - Trondhjemite + QTP		-		<0.00001
VL-12-421	Phase I	69.00	70.00	48507	QZ - Trondhjemite + QTP		-		<0.00001
VL-13-535	Phase I	205.00	206.00	67943	QZ - Trondhjemite + QTP		-		<0.00001
VL-13-538	Phase I	88.00	89.00	79812	QZ - Trondhjemite + QTP		-		<0.00001
VL-10-143	Phase I	135.00	137.00	238616	Sediments		-		<0.00001
VL-10-146	Phase I	54.00	55.00	238855	Sediments		-		<0.00001
VL-11-274	Phase I	33.00	35.00	11237	Sediments		-		<0.00001
VL-11-304	Phase I	259.00	261.00	13287	Sediments		-		<0.00001
VL-11-350	Phase I	116.00	118.00	34619	Sediments		-		<0.00001
VL-11-357 42858	Phase II	154.00	156.00	42858	Sediments		<0.05		-
VL-12-382 45499	Phase II	245.00	247.00	45499	Conglomerate		<0.05		-
VL-12-398	Phase I	358.00	360.00	47247	Conglomerate		-		<0.00001
VL-12-403	Phase I	303.00	305.00	50843	Conglomerate		-		<0.00001
VL-12-421	Phase I	268.00	270.00	48634	Conglomerate		-		<0.00001
VL-04-86	Phase III	115	117	62723	Sediments		<0.05		<0.00001
VL-04-86	Phase III	129	131	62731	Sediments		<0.05		<0.00001
VL-04-86	Phase III	147	148.35	62740	Sediments		<0.05		<0.00001
VL-10-137	Phase III	45	46	238043	Sediments		<0.05		<0.00001
VL-10-139	Phase III	71	73	238255	Sediments		<0.05		<0.00001
VL-10-148	Phase III	64	66	238949	Sediments		<0.05		<0.00001
VL-10-149	Phase III	58	60	239015	Sediments		<0.05		<0.00001
VL-10-150	Phase III	99	101	818474	Sediments		<0.05		<0.00001
VL-10-153	Phase III	53	54	818532	Sediments		<0.05		<0.00001
VL-10-154	Phase III	99	100	818680	Sediments		<0.05		<0.00001
VL-10-156	Phase III	61	63	818766	Sediments		<0.05		<0.00001
VL-10-156	Phase III	63	65	818767	Sediments		<0.05		<0.00001
VL-10-157	Phase III	171	173	239673	Sediments		<0.05		<0.00001
VL-10-159	Phase III	62	64	819008	Sediments		<0.05		<0.00001
VL-10-163	Phase III	9	11	819202	Sediments		<0.05		<0.00001
VL-10-163	Phase III	23	25	819210	Sediments		<0.05		<0.00001
VL-10-166	Phase III	165	166	819601	Sediments		<0.05		<0.00001
VL-10-176	Phase III	37	39	7230	Sediments		<0.05		<0.00001
VL-10-185	Phase III	58	60	731	Sediments		<0.05		<0.00001
VL-10-192	Phase III	80	82	1435	Sediments		<0.05		<0.00001
VL-10-194	Phase III	54	56	1550	Sediments		<0.05		<0.00001
VL-10-218	Phase III	66	68	3398	Sediments		<0.05		<0.00001
VL-10-219	Phase III	45	47	3440	Sediments		<0.05		<0.00001
VL-10-221	Phase III	52	54	3534	Sediments		<0.05		<0.00001
VL-11-239	Phase III	63	64	5216	Sediments		<0.05		<0.00001
VL-11-245	Phase III	28	30	5778	Sediments		<0.05		<0.00001
VL-11-269	Phase III	25	27	11158	Sediments		<0.05		<0.00001
VL-11-275	Phase III	45	47	11279	Sediments		<0.05		<0.00001
VL-11-281	Phase III	85	87	8099	Sediments		<0.05		<0.00001
VL-11-282	Phase III	50	52	11522	Sediments		<0.05		<0.00001
VL-11-285	Phase III	136	138	11680	Sediments		<0.05		<0.00001
VL-11-299	Phase III	171	173	30915	Sediments		<0.05		<0.00001
VL-11-318	Phase III	65	67	32108	Sediments		<0.05		<0.00001
VL-11-330	Phase III	174	176	40516	Sediments		<0.05		<0.00001
VL-11-332	Phase III	150	152	40636	Sediments		<0.05		<0.00001
VL-11-337	Phase III	174	175	33592	Sediments		<0.05		<0.00001

Table 9 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Leprechaun Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	MDMER	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
VL-11-346	Phase III	213	214	41901	Sediments		<0.05		<0.00001
VL-11-346	Phase III	216	218	41905	Sediments		<0.05		<0.00001
VL-11-331	Phase III	199	201	41908	Sediments		<0.05		<0.00001
VL-11-347	Phase III	265	267	34544	Sediments		<0.05		<0.00001
VL-11-357	Phase III	165	167	42868	Sediments		<0.05		<0.00001
VL-11-358	Phase III	52	54	35013	Sediments		<0.05		<0.00001
VL-11-358	Phase III	67	69	35022	Sediments		<0.05		<0.00001
VL-11-362	Phase III	28	30	35098	Sediments		<0.05		<0.00001
VL-11-365	Phase III	263	265	43492	Sediments		<0.05		<0.00001
VL-12-405	Phase III	226	228	47686	Sediments		<0.05		<0.00001
VL-12-411	Phase III	177	179	48000	Sediments		<0.05		<0.00001
VL-12-413	Phase III	191	193	48167	Sediments		<0.05		<0.00001
VL-12-415	Phase III	155	157	51518	Sediments		<0.05		<0.00001
VL-12-416	Phase III	183	185	48318	Sediments		<0.05		<0.00001
VL-12-417	Phase III	150	152	51643	Sediments		<0.05		<0.00001
VL-10-177	Phase III	28	30	7259	Sediments		<0.05		<0.00001
VL-11-240	Phase III	79	81	5384	Sediments		<0.05		<0.00001
VL-04-90	Phase III	169	171	3816	Sediments		<0.05		<0.00001
VL-11-255	Phase III	68	70	6957	Sediments		<0.05		<0.00001
VL-11-327	Phase III	169	171	40275	Sediments		<0.05		<0.00001
VL-12-451	Phase III	49	51	53505	Sediments		<0.05		<0.00001
VL-10-224	Phase III	89	90	3812	Sediments		<0.05		<0.00001
VL-10-140	Phase III	44	46	238297	Sediments		<0.05		<0.00001
VL-11-316 32041	Phase II	175.00	176.00	32041	QZ - Sediments + QTP		<0.05		-
VL-12-382 45493	Phase II	238.00	240.00	45493	QZ - Conglomerate + QTP		<0.05		-
VL-12-398	Phase I	348.00	349.00	47238	QZ - Conglomerate + QTP		-		<0.00001
VL-10-143	Phase I	95.00	97.00	238581	Mafic Dike		-		<0.00001
VL-10-157	Phase I	120.00	121.00	239608	Mafic Dike		-		<0.00001
VL-11-294	Phase I	49.00	50.00	30405	Mafic Dike		-		<0.00001
VL-11-304	Phase I	240.00	241.00	13275	Mafic Dike		-		<0.00001
VL-11-306 13451	Phase II	217.00	219.00	13451	Mafic Dike		<0.05		-
VL-11-344	Phase I	189.00	190.00	41693	Mafic Dike		-		0.00001
VL-11-350	Phase I	69.00	71.00	34587	Mafic Dike		-		<0.00001
VL-11-357 42843	Phase II	134.00	135.00	42843	Mafic Dike		<0.05		-
VL-12-382 45338	Phase II	57.00	59.00	45338	Mafic Dike		<0.05		-
VL-12-398	Phase I	316.00	318.00	47219	Mafic Dike		-		<0.00001
VL-12-403	Phase I	261.00	263.00	50808	Mafic Dike		-		<0.00001
VL-13-524	Phase I	422.00	423.00	77961	Mafic Dike		-		<0.00001
VL-11-294	Phase I	67.00	68.00	30423	QZ- Mafic Dike +QTP		-		<0.00001
VL-12-421	Phase I	92.00	93.00	48525	QZ- Mafic Dike +QTP		-		<0.00001
VL-13-535	Phase I	69.00	70.00	67866	QZ- Mafic Dike +QTP		-		<0.00001
VL-11-326	Phase III	20	21	32547	QZ- Mafic Dike + QTP		0.18		<0.00001
VL-10-157	Phase I	160.50	161.00	239661	QZ - QTP		-		<0.00001
VL-11-253 6875	Phase II	144.00	145.00	6875	QZ - QTP		<0.05		-
VL-11-306 13413	Phase II	172.00	173.00	13413	QZ - QTP		<0.05		-
VL-10-202 2335	Phase II	129.00	130.00	2335	QZ - QTP		<0.05		-
VL-11-316 31975	Phase II	96.00	97.00	31975	QZ - Granodiorite + QTP		0.07		-
VL-11-344	Phase I	46.00	47.00	41598	QZ - Trondhjemite + QTP		-		<0.00001
VL-11-349	Phase I	28.00	29.00	42123	QZ- Mafic Dike +QTP		-		<0.00001
VL-11-353	Phase I	65.00	66.00	42409	Granodiorite		-		<0.00001
VL-11-353	Phase I	166.00	167.00	42501	Sediments		-		<0.00001
VL-12-382 45412	Phase II	146.00	147.00	45412	QZ - Trondhjemite + QTP		<0.05		-
VL-12-403	Phase I	227.00	228.00	50779	QZ - QTP		-		<0.00001
VL-12-452	Phase III	87	89	70726	QZ - Trondhjemite + QTP		<0.05		<0.00001
VL-12-448	Phase III	50	52	70301	Trondhjemite		<0.05		<0.00001
VL-13-523	Phase III	9	10	66023	QZ - Trondhjemite + QTP		<0.05		<0.00001
VL-17-652	Phase III	11	13	143334	Trondhjemite		<0.05		<0.00001
VL-11-322	Phase III	104	106	14692	Trondhjemite		<0.05		<0.00001
VL-11-342	Phase III	54	55	41409	QZ - Trondhjemite + QTP		<0.05		<0.00001
VL-12-405	Phase III	49	50	46443	QZ - Trondhjemite + QTP		<0.05		<0.00001
VL-10-174	Phase III	30	31	7021	QZ - Granodiorite + QTP		<0.05		<0.00001
VL-11-301	Phase III	49	51	30951	Trondhjemite		<0.05		<0.00001
VL-11-251	Phase III	12	14	6487	Mafic Dike		<0.05		<0.00001
VL-19-703	Phase III	53	54	923414	QZ - Trondhjemite + QTP		<0.05		<0.00001
VL-10-200	Phase III	106	108	2149	QZ - Granodiorite + QTP		<0.05		<0.00001
VL-12-462	Phase III	55	57	71992	Trondhjemite		0.10		<0.00001
VL-19-728	Phase III	46	56	LPHQ-6	-		<0.05		0.00002
VL-17-654	Phase III	84	89	LPHQ-2	-		<0.05		<0.00001
VL-19-728	Phase III	192	198	LPHQ-8	-		<0.05		<0.00001
Leprechaun Comps	Phase III			D	-		<0.3		-
Leprechaun Comps	Phase III			E	-		<0.3		-
VL-11-294	Phase I	259.00	260.00	30573	QZ - Granodiorite + QTP		-		<0.00001
VL-11-294	Phase I	315.00	316.00	30617	QZ - Sediments + QTP		-		<0.00001
VL-11-304	Phase I	41.00	42.00	13135	QZ - trondhjemite + QTP		-		<0.00001
VL-11-306 13441	Phase II	206.00	207.00	13441	QZ - Granodiorite + QTP		<0.05		-

Table 9 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Leprechaun Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	MDMER	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
VL-12-382 45491	Phase II	236.00	237.00	45491	QZ - Conglomerate + QTP		<0.05		-
VL-19-685	Phase III	309	310	911332	QZ - Trondhjemite + QTP		<0.05		<0.00001
VL-17-654	Phase III	48	59	LPHQ-1	HGO		<0.05		<0.00001
VL-17-654	Phase III	93	107	LPHQ-3	HGO		<0.05		<0.00001
VL-17-654	Phase III	110	122	LPHQ-4	HGO		<0.05		<0.00001
VL-17-654	Phase III	158	168	LPHQ-5	HGO		<0.05		<0.00001
VL-19-728	Phase III	153	160	LPHQ-7	HGO		<0.05		<0.00001
VL-19-710	Phase III	9	15	LPHQ-9	HGO		<0.05		<0.00001
VL-19-710	Phase III	189	196	LPHQ-11	HGO		0.23		<0.00001
VL-19-710	Phase III	222	227	LPHQ-12	HGO		<0.05		0.0005
VL-19-704	Phase III	172	174	904830	HGO		<0.05		<0.00001
VL-19-712	Phase III	39	40	905661	HGO		<0.05		<0.00001
VL-19-733	Phase III	176	177	907139	HGO		<0.05		<0.00001
VL-19-687	Phase III	7	8	921337	HGO		<0.05		<0.00001
VL-19-725	Phase III	7	8	925485	HGO		<0.05		<0.00001
VL-19-714	Phase III	149	150	905929	HGO		<0.05		<0.00001
VL-19-729	Phase III	167	168	906925	HGO		<0.05		<0.00001
VL-19-733	Phase III	134	135	907095	HGO		<0.05		<0.00001
VL-19-731	Phase III	178	179	915669	HGO		<0.05		<0.00001
VL-19-716	Phase III	47	48	924762	HGO		<0.05		<0.00001
VL-19-704	Phase III	141	142	904808	HGO		<0.05		<0.00001
VL-19-733	Phase III	8	9	906994	HGO		<0.05		<0.00001
VL-19-683	Phase III	247	248	910693	HGO		<0.05		<0.00001
VL-19-735	Phase III	269	270	915971	HGO		<0.05		<0.00001
VL-19-725	Phase III	25	26	925502	HGO		<0.05		<0.00001
VL-19-736	Phase III	4.73	6	907251	HGO		<0.05		<0.00001
VL-19-682	Phase III	138	139	910456	HGO		<0.05		<0.00001
VL-19-724	Phase III	55	56	915107	HGO		<0.05		<0.00001
VL-19-735	Phase III	208	209	915924	HGO		<0.05		<0.00001
VL-19-740	Phase III	166	167	926619	HGO		<0.05		<0.00001
VL-19-714	Phase III	207	208	905979	HGO		<0.05		<0.00001
VL-19-681	Phase III	179	180	910087	HGO		0.25		<0.00001
VL-19-685	Phase III	192	193	911241	HGO		<0.05		<0.00001
VL-19-685	Phase III	292	293	911314	HGO		<0.05		<0.00001
VL-19-719	Phase III	10	11	925017	HGO		<0.05		<0.00001
VL-19-714	Phase III	26	28	905838	HGO		<0.05		<0.00001
VL-19-683	Phase III	194	195	910648	HGO		<0.05		<0.00001
VL-19-700	Phase III	89	90	913604	HGO		<0.05		<0.00001
VL-19-694	Phase III	223	224	922387	HGO		<0.05		<0.00001
VL-19-726	Phase III	137	138	906652	HGO		<0.05		<0.00001
VL-19-694	Phase III	193	195	922362	HGO		<0.05		<0.00001
VL-19-694	Phase III	217	218	922380	HGO		<0.05		<0.00001
VL-19-703	Phase III	123	124	923483	HGO		<0.05		<0.00001
VL-19-718	Phase III	176	177	906149	HGO		<0.05		<0.00001
VL-19-710	Phase III	221	222	914183	HGO		<0.05		<0.00001
VL-19-735	Phase III	135	136	915875	HGO		<0.05		<0.00001
VL-19-737	Phase III	123	124	926364	HGO		<0.05		<0.00001
VL-19-737	Phase III	183	185	926404	HGO		<0.05		<0.00001
Leprechaun Overburden									
19-TP-12 BS1	Phase II	0.4	0.5		Overburden		<0.05		<0.00001
19-TP-13 BS1	Phase II	0.8	0.9		Overburden		<0.05		-
19-TP-15 BS1	Phase II	0.5	0.6		Overburden		<0.05		<0.00001
19-TP-16 BS1	Phase II	1.0	1.2		Overburden		<0.05		<0.00001
19-TP-16 BS2	Phase II	2.5	2.7		Overburden		<0.05		<0.00001
19-TP-17 BS1	Phase II	0.9	1.0		Overburden		<0.05		<0.00001
20TP-85 S1	Phase III	0.5	0.7		Overburden		<0.05		<0.00001
20TP-90 S1	Phase III	0.6	0.8		Overburden		<0.05		<0.00001
20TP-91 S1	Phase III	1.1	1.3		Overburden		<0.05		<0.00001
22TP-ARD-1 - GS1	Phase III	0.5	0.6		Overburden		<0.05		<0.00001
22TP-ARD-1 - GS2	Phase III	2.4	2.5		Overburden		<0.05		<0.00001
22TP-ARD-2 - GS1	Phase III	1.1	1.2		Overburden		<0.05		<0.00001
22TP-ARD-2 - GS2	Phase III	1.2	1.3		Overburden		<0.05		<0.00001
22TP-ARD-3 - GS1	Phase III	0.3	0.4		Overburden		<0.05		<0.00001
22TP-ARD-3 - GS2	Phase III	0.5	0.6		Overburden		<0.05		<0.00001
22TP-STAN-50 - GS1	Phase III	0.9	1		Overburden		-		<0.00001
22TP-STAN-50 - GS2	Phase III	1.1	1.2		Overburden		-		<0.00001
22TP-STAN-51 - GS1A	Phase III	0.6	0.7		Overburden		-		<0.00001
22TP-STAN-51 - GS2A	Phase III	1.5	1.6		Overburden		-		<0.00001
22TP-STAN-52 - GS1A	Phase III	0.6	0.9		Overburden		-		<0.00001
22TP-STAN-47 - GS1A	Phase III	0.8	0.9		Overburden		-		<0.00001
22TP-STAN-48 - GS1	Phase III	0.7	0.8		Overburden		-		<0.00001
22TP-STAN-48 - GS2	Phase III	0.9	1		Overburden		-		<0.00001
22TP-STAN-53 - GS1A	Phase III	0.8	0.9		Overburden		<0.05		<0.00001
22TP-STAN-53 - GS2A	Phase III	1.2	1.3		Overburden		<0.05		<0.00001
22TP-STAN-54 - GS1A	Phase III	0.5	0.6		Overburden		<0.05		<0.00001

Table 9 Shake Flask Extraction (SFE) and Bulk Solid Mercury (Hg) Concentrations For Leprechaun Samples

Hole ID	Phase	From_m	To_m	Sample ID	Lithology	Bulk Solid Concentration		Shake Flask Extraction	
						Parameter	Hg	Parameter	Hg
						ACUCx10	0.5	**MDMER**	n/v
								CWQG	0.000026
						Unit	µg/g	Unit	mg/L
22TP-STAN-55 - GS1A	Phase III	0.5	0.6		Overburden		<0.05		<0.00001
22TP-STAN-55 - GS2A	Phase III	1.7	1.8		Overburden		<0.05		<0.00001
22TP-STAN-55 - GS2B	Phase III	1.7	1.8		Overburden		<0.05		<0.00001

Notes:

n/v indicates that no concentration thresholds are established for Hg

- indicates that Hg was not measured for the sample

n/a indicates that the sample ID is not available (used hole ID as sample ID)

ACUC: Average Continental Upper Crust

MDMER: Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020)

CWQG: Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020)

cell value	cells with values exceeding 10 times of ACUC value for Hg are bolded and underlined
cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

QZ: Quartz

QTP: Quartz-Tourmaline-Pyrite Veins

HGO: High grade ore

Table 10 Summary Statistics of Bulk Solid Mercury (Hg) Concentrations For Leprechaun Individual Samples

Lithology	1. Trondhjemite (TRJ)	2. QZ - Trondhjemite + QTP (QZ-TQTP)	3. Sediments (SED)	4. QZ - Sediments + QTP (QZ-SQTP)	5. Mafic Dike (MD)	6. QZ- Mafic Dike +QTP (QZ-MQTP)	7. QZ - QTP (QZ-QTP)	8. Low-Grade Ore	9. High-Grade Ore	10. Overburden (OB)
ACUCx10	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Unit	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
$n_{measured}$	4	2	61	2	3	1	2	19	49	21
$n_{below\ reporting\ limit}$	4	2	61	2	3	0	2	17	47	21
Min	0.025	0.025	0.025	0.025	0.025	0.180	0.025	0.025	0.025	0.025
10th, %ile	0.025	0.025	0.025	0.025	0.025	0.180	0.025	0.025	0.025	0.025
Median	0.025	0.025	0.025	0.025	0.025	0.180	0.025	0.025	0.025	0.025
90th, %ile	0.025	0.025	0.025	0.025	0.025	0.180	0.025	0.034	0.025	0.025
Max	0.025	0.025	0.025	0.025	0.025	0.180	0.025	0.100	0.250	0.025
Average	0.025	0.025	0.025	0.025	0.025	0.180	0.025	0.031	0.034	0.025
St. Dev.	NA	NA	NA	NA	NA	NA	NA	0.019	0.043	NA

Notes:

$n_{measured}$ = number of samples analyzed for Hg

$n_{below\ reporting\ limit}$ = number of samples with measured concentration below the Reportable Detection Limit for Hg (RDL = 0.05 µg/g)

ACUC = Average Continental Upper Crust

"NA" indicates not applicable because all measured values are below the RDL (0.05 µg/g)

For the values less than RDL value (0.05 µg/g), 1/2 of RDL are used to calculate statistical parameters.

cell value cells with values exceeding 10 times of ACUC value for Hg are bolded and underlined

Table 11 Summary Statistics of Shake Flask Extraction (SFE) Mercury (Hg) Concentrations For Leprechaun Individual Samples

Lithology	1. Trondhjemite (TRJ)	2. QZ - Trondhjemite + QTP (QZ-TQTP)	3. Sediments (SED)	4. QZ - Sediments + QTP (QZ-SQTP)	5. Mafic Dike (MD)	6. QZ- Mafic Dike +QTP (QZ-MQTP)	7. QZ - QTP (QZ-QTP)	8. Low-Grade Ore	9. High-Grade Ore	10. Overburden (OB)
MDMER	n/v	n/v	n/v	n/v	n/v	n/v	n/v	n/v	n/v	n/v
CWQG	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026
$n_{measured}$	14	8	67	1	9	4	1	21	50	28
$n_{below\ reporting\ limit}$	14	8	67	1	8	4	1	20	49	28
Unit	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Min	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.00001	0.000005
10th, %ile	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.00001	0.000005
Median	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0.00001	0.000005
90th, %ile	0.000005	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005	0.000005	0.00001	0.000005
Max	0.000005	0.000005	0.000005	0.000005	0.000010	0.000005	0.000005	0.000020	0.00050	0.000005
Average	0.000005	0.000005	0.000005	0.000005	0.000006	0.000005	0.000005	0.000006	0.00001	0.000005
St. Dev.	NA	NA	NA	NA	0.000002	NA	NA	0.000003	0.00007	NA

Notes:

$n_{measured}$ = number of samples analyzed for Hg

$n_{below\ reporting\ limit}$ = number of samples with measured concentration below the Reportable Detection Limit for Hg (RDL = 0.00001 mg/L)

MDMER = Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020).

CWQG = Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020).

"n/v" indicates that no concentration thresholds are established for Hg.

"-" indicates that Hg was not measured for the lithology.

"NA" indicates not applicable because all measured values are below the RDL (0.00001 mg/L)

SFE was analyzed for waste rock, ore and overburden associated with the Leprechaun Pit.

For the values less than RDL value (0.00001 mg/L), 1/2 of RDL are used to calculate statistical parameters.

cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

Table 12 Shake Flask Extraction (SFE) Mercury (Hg) Concentrations for Leprechaun Composite Samples

Parameter	Unit	MDMER	CWQG	L TRJ		L QZ-TQTP		L SED		LSED High As	L MD		L QZ-QTP		L LGO			L-ORE-High S	CND 2 Residue
				Pre-HCT	Post-HCT	Pre-HCT	Post-HCT	Pre-HCT	Post-HCT	Pre-HCT	Pre-HCT	Post-HCT	Pre-HCT	Post-HCT	Pre-HCT Stantec	Pre-HCT Metallurg.	Post-HCT Metallurg.	Pre-HCT	Post-HCT
Hg	mg/L	n/v	0.000026	-	<0.00001	-	<0.00001	-	<0.00001	-	-	<0.00001	-	<0.00001	-	-	0.00001	-	<0.00001

Notes:

HCT - Humidity Cell Testing.

CWQG - Canadian Water Quality Guidelines for the Protection of Freshwater Aquatic Life, long-term (CWQG-FAL referred to as CWQG) by Canadian Council of Ministers of the Environment (CCME 2020).

MDMER - Metal and Diamond Mining Effluent Regulations (Canada), Table 1 of Schedule 4, Maximum Authorized Monthly Mean Concentrations (SOR/2002-222 2020).

"n/v" indicates that no concentration thresholds are established for Hg.

"-" indicates that Hg was not measured for this sample.

cell value	cells with values exceeding MDMER for Hg are highlighted in pink shade and red text
cell value	cells with values exceeding CWQG for Hg are highlighted in dark yellow shade and black text

Composite Sample ID	Lithological Description
L TRJ	Composite Average Sample of Trondhjemite
L QZ-QTP	Composite of Quartz-Au Mineralized Zone (QZ) with Quartz-Tourmaline-Pyrite veins (QTP)
L QZ-TQTP	Composite Average Sample of Trondhjemite/Granodiorite QZ + QTP veins
L SED	Composite Average Sample of Sediments
L MD	Composite Average Sample of Mafic Dike
LLGO-Met	Composite of Leprechaun Low-Grade Ore (QZ-QTP and QZ-TQTP)
L ORE-High S	Composite of Leprechaun Ore Sample with Highest S and lowest NPR
L SED-High As	Compisite of Leprechaun Sediments with Elevated As
CND 2	Composite of Tailings Slurry from Leprechaun
CND 2 Residue	Carbonate Depleted Tailings Slurry from Leprechaun

APPENDIX MFN-4.A

Annual Average Effluent Concentrations and Average Annual Loads for Project Expansion FDPs

Table 1 Average Annual Concentration and Load at BER-FDP-01A Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4	2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
5	3	**126**	19833	0.5	83	1.1	168	4	525	25	4116	0.01	2	9411	1431000	**2.3**	340	1.1	167
6	4	**219**	48171	1.3	242	3.3	597	8	1523	37	7705	0.03	5	16092	3079000	**2.4**	456	**3.6**	623
7	5	**535**	79899	5.0	666	**14.0**	1858	30	4035	92	12338	**0.11**	15	48113	6418000	**2.2**	193	**15.1**	1990
8	6	**600**	84476	7.9	1013	**22.2**	2854	46	5894	138	17696	**0.17**	22	73347	9414000	**2.1**	162	**24.3**	3090
9	7	**600**	82056	9.5	1192	**20.7**	2772	46	6019	128	17061	**0.17**	23	81456	10380000	**2.4**	209	**28.1**	3548
10	8	**600**	79869	10.6	1286	**7.9**	1010	33	4109	49	6226	**0.11**	14	75248	9207000	**3.1**	350	**27.8**	3377
11	9	**600**	83646	11.3	1428	**5.5**	725	31	4053	35	4526	**0.10**	13	76547	9762000	**3.4**	410	**28.9**	3661
12	10	**600**	81238	11.2	1392	**5.2**	672	31	3879	33	4228	**0.10**	12	75905	9483000	**3.4**	401	**28.7**	3570
13	11	**600**	82408	10.8	1350	**5.0**	659	30	3789	32	4128	**0.09**	12	72870	9186000	**3.3**	390	**27.6**	3457
14	12	**600**	82390	10.7	1337	5.0	655	30	3769	32	4092	**0.09**	12	72232	9106000	**3.2**	387	**27.3**	3418
15	13	**600**	82443	10.6	1325	4.9	649	29	3744	32	4066	**0.09**	12	71752	9046000	**3.2**	383	**27.1**	3388
16	14	**600**	96352	7.7	1167	**9.0**	1487	21	3244	29	3436	**0.07**	11	51793	7834000	**2.7**	332	**21.0**	3209
17	15	**600**	110644	3.4	622	**11.7**	2150	10	1906	25	2072	**0.05**	9	22824	4226000	**2.0**	183	**10.9**	2013
18	16	**600**	112041	3.0	554	**11.5**	2159	9	1743	25	1929	**0.04**	8	20256	3788000	**2.1**	168	**9.6**	1803
19	17	**599**	107233	2.8	511	**12.0**	2161	9	1609	25	1796	**0.04**	8	19450	3479000	**2.0**	154	**9.3**	1662
20	18	**587**	107793	2.8	516	**11.8**	2162	9	1647	25	1827	**0.04**	8	19568	3579000	**2.0**	157	**9.3**	1698
21	19	**132**	71079	0.8	477	2.8	1090	2	1535	6	3441	0.01	6	5208	3658000	0.5	307	**2.4**	1361
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 1 Average Annual Concentration and Load at BER-FDP-01A Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4	2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
5	3	267	40521	0.3	47	1186	180563	184	27165	0.011	2	1.18	192	1.00	165	**50**	8254	341	52326
6	4	289	58484	0.3	75	1693	340108	**220**	42553	0.019	4	6.32	1061	1.21	266	**50**	11906	2514	422253
7	5	296	37297	0.6	81	4028	542076	**284**	36597	**0.058**	8	29.97	3936	2.21	298	**50**	7449	12618	1684000
8	6	**300**	35954	0.8	109	5898	760064	**374**	47192	**0.089**	11	48.38	6169	3.11	399	**50**	7040	20018	2583000
9	7	**302**	35883	0.9	114	6965	873627	**408**	51415	**0.115**	14	45.26	6011	3.02	397	**50**	6838	19019	2533000
10	8	**304**	35058	0.7	86	7733	944053	**361**	43276	**0.149**	18	17.07	2125	1.71	211	**50**	6656	8985	1137000
11	9	**302**	37253	0.7	88	8116	1034000	**366**	45547	**0.163**	21	11.81	1516	1.49	191	**50**	6971	7117	938548
12	10	**302**	35952	0.7	85	8059	1006000	**361**	44143	**0.162**	20	11.30	1422	1.46	182	**50**	6770	6873	886315
13	11	**302**	36091	0.7	83	7763	977861	**350**	42921	**0.156**	20	10.78	1367	1.41	177	**50**	6867	6638	866140
14	12	**302**	35878	0.6	81	7691	968950	**346**	42536	**0.154**	19	10.69	1355	1.40	176	**50**	6866	6582	858753
15	13	**301**	35810	0.6	82	7653	964619	**345**	42225	**0.153**	19	10.56	1342	1.39	175	**50**	6870	6536	852961
16	14	**307**	42441	0.6	96	5505	832930	**292**	41625	**0.108**	16	8.49	1305	1.25	186	**50**	8029	4781	734324
17	15	**315**	49646	0.5	84	2395	443843	203	28896	**0.041**	8	4.99	922	1.00	150	**50**	9220	2629	485313
18	16	**316**	49973	0.4	83	2114	394979	197	27343	**0.036**	7	4.61	862	1.00	142	**50**	9337	2456	458226
19	17	**312**	47055	0.4	79	2031	362799	195	25304	**0.034**	6	4.42	791	1.00	134	**50**	8948	2407	431890
20	18	**304**	47464	0.4	81	2040	372656	197	26238	**0.033**	6	4.52	831	1.00	137	**50**	9155	2410	441488
21	19	74	44309	0.1	72	541	399937	49	32296	0.009	7	1.15	653	0.25	171	**13**	9198	630	323581
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 1 Average Annual Concentration and Load at BER-FDP-01A Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrate (as Nitrogen)	Nitrate (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-	550000	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-	13000	-
Model Year	Mine Year																				
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4	2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
5	3	0.45	74	0.05	8	2235	354941	0.05	8	0.08	13	4.7	723	2985	459071	55	8380	7.8	1228	55	8337
6	4	0.64	137	0.09	18	8183	1440000	0.05	12	4.33	664	6.1	1264	3045	626728	1476	231965	39.4	6685	1443	227004
7	5	1.53	212	0.29	39	36217	4799000	0.05	7	23.62	3084	12.6	1692	2837	219662	6780	892024	158.0	20921	6628	872088
8	6	2.21	291	0.45	57	57417	7361000	0.06	7	38.50	4893	18.4	2359	2806	138303	9181	1181000	211.6	27334	8975	1155000
9	7	2.14	288	0.54	67	52041	7016000	0.07	9	35.54	4729	22.0	2751	2783	127862	8283	1056000	191.4	24489	8097	1032000
10	8	1.20	156	0.60	72	14650	1888000	0.09	11	11.18	1389	24.5	2981	2827	125241	5803	728383	135.7	17113	5674	712089
11	9	1.03	141	0.63	80	7129	971551	0.10	13	6.46	818	26.0	3310	2861	132308	3060	406698	74.1	9923	2992	397652
12	10	1.01	135	0.63	78	6435	858776	0.10	13	6.00	745	25.9	3227	2827	127966	950	124175	26.7	3548	929	121482
13	11	0.99	133	0.60	76	6256	847178	0.10	12	5.70	715	24.9	3134	2830	128360	172	22759	9.5	1278	168	22342
14	12	0.98	133	0.60	75	6213	841608	0.10	12	5.67	711	24.7	3103	2838	127689	57	6283	7.6	907	57	6243
15	13	0.98	132	0.59	74	6177	836845	0.09	12	5.60	700	24.5	3075	2824	127808	52	4789	7.6	872	52	4789
16	14	0.81	126	0.42	63	4309	666425	0.08	11	4.18	634	17.8	2697	2821	154926	54	6076	8.0	1153	52	6056
17	15	0.62	115	0.16	30	2652	481113	0.05	7	1.88	347	7.8	1448	2854	187801	56	7990	8.7	1549	55	7977
18	16	0.61	112	0.14	26	2572	466264	0.05	7	1.67	313	7.0	1295	2802	189743	56	8108	8.8	1572	56	8094
19	17	0.59	103	0.13	24	2528	436162	0.05	6	1.59	284	6.8	1208	2824	182084	56	7761	8.8	1505	55	7753
20	18	0.59	108	0.13	24	2507	446058	0.05	6	1.55	285	6.7	1212	2864	187053	56	7932	8.7	1539	54	7926
21	19	0.15	97	0.04	26	640	439947	0.01	9	0.42	244	1.8	1385	718	327666	14	8051	2.2	1342	14	8136
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

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Table 1 Average Annual Concentration and Load at BER-FDP-01A Discharge Point

Parameter		Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year														
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
4	2	na	na	na	na	na	na	na	na	na	na	na	na	na	na
5	3	57	8497	2.2	323	10	1651	1.0	165	1715	271166	60	9972	0.01	1
6	4	228	38884	8.6	1478	10	2308	1.0	231	7354	1271000	148	28150	0.01	3
7	5	871	115353	33.1	4383	10	1156	1.0	116	33459	4440000	538	72815	0.05	7
8	6	1164	150246	44.2	5709	10	962	1.0	96	52940	6783000	753	97793	0.07	10
9	7	1052	134552	40.0	5113	10	924	1.0	92	57880	7425000	790	100254	0.08	11
10	8	746	93986	28.3	3571	10	900	1.0	90	48717	5972000	788	97555	0.09	11
11	9	407	54449	15.5	2069	10	948	1.0	95	47188	6025000	785	101304	0.09	12
12	10	148	19396	5.6	737	10	916	1.0	92	45984	5750000	786	98775	0.09	12
13	11	63	6901	2.4	262	10	926	1.0	93	43656	5505000	784	99765	0.09	11
14	12	56	4851	2.1	184	10	924	1.0	92	42994	5426000	783	99706	0.09	11
15	13	56	4637	2.1	176	10	924	1.0	92	42533	5368000	779	99265	0.08	11
16	14	57	6045	2.2	230	10	1206	1.0	121	30934	4682000	593	90227	0.07	11
17	15	59	7980	2.2	303	10	1592	1.0	159	13789	2557000	334	61575	0.05	10
18	16	60	8107	2.3	308	10	1613	1.0	161	12185	2285000	298	55943	0.05	10
19	17	59	7773	2.3	295	10	1546	1.0	155	11662	2092000	270	48393	0.05	9
20	18	60	7947	2.3	302	10	1582	1.0	158	11562	2124000	252	46235	0.05	9
21	19	15	8283	0.6	315	3	1590	0.3	159	3109	1882000	64	39362	0.01	6
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

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Table 2 Average Annual Concentration and Load at BER-FDP-01B Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**125**	28136	1	122	1	244	4	764	25	6093	0	2	9364	2089000	**2**	515	1	250
4	2	**139**	51155	1	228	1	479	4	1406	26	10474	0	4	10493	3753000	**2**	815	1	498
5	3	**184**	64300	1.0	317	2.4	752	6	1899	32	11073	0.02	7	13398	4277000	**2.4**	712	**2.6**	790
6	4	**435**	120029	3.0	733	**8.1**	2008	18	4410	61	15423	**0.06**	16	29890	7494000	**2.3**	431	**8.6**	2131
7	5	**545**	127299	4.7	995	**13.1**	2754	28	5983	89	18771	**0.10**	22	45664	9644000	**2.2**	328	**14.2**	2966
8	6	**600**	118944	7.8	1421	**21.8**	3985	45	8222	137	24961	**0.17**	31	72298	13210000	**2.2**	246	**23.9**	4332
9	7	**600**	114549	9.9	1750	**21.6**	4062	48	8803	134	25076	**0.18**	33	84635	15220000	**2.4**	303	**29.3**	5216
10	8	**600**	111496	11.0	1893	**8.3**	1485	34	6020	52	9222	**0.11**	20	78306	13530000	**3.2**	511	**29.0**	4978
11	9	**600**	116771	11.7	2104	**5.6**	1044	33	5916	36	6588	**0.10**	18	79599	14340000	**3.5**	602	**30.1**	5396
12	10	**600**	113399	11.7	2051	**5.3**	963	32	5659	34	6128	**0.10**	18	78971	13930000	**3.5**	588	**30.0**	5263
13	11	**600**	115046	11.2	1991	**5.1**	944	31	5528	33	5980	**0.09**	17	75797	13500000	**3.4**	573	**28.8**	5098
14	12	**600**	115018	11.1	1969	**5.1**	936	31	5495	33	5924	**0.09**	17	75106	13370000	**3.3**	567	**28.5**	5039
15	13	**600**	115094	11.0	1953	**5.0**	929	30	5458	33	5886	**0.09**	17	74600	13280000	**3.3**	561	**28.2**	4995
16	14	**600**	118121	8.6	1652	**8.6**	1701	23	4519	29	4783	**0.08**	15	57336	11070000	**2.8**	470	**23.0**	4456
17	15	**600**	131175	4.0	879	**11.1**	2430	12	2596	25	2849	**0.05**	11	27019	5949000	**2.1**	260	**12.3**	2713
18	16	**600**	132832	3.4	762	**11.0**	2442	10	2311	25	2593	**0.05**	10	23334	5190000	**2.1**	233	**10.7**	2379
19	17	**600**	127298	3.3	699	**11.4**	2431	10	2121	25	2405	**0.05**	10	22283	4742000	**2.1**	213	**10.2**	2177
20	18	**598**	129682	3.2	704	**11.3**	2441	10	2162	25	2441	**0.04**	10	22295	4852000	**2.1**	217	**10.2**	2216
21	19	**148**	115984	0.9	667	2.7	1341	3	2057	6	4099	0.01	8	5921	4950000	0.5	371	**2.7**	1878
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

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Table 2 Average Annual Concentration and Load at BER-FDP-01B Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	261	57345	0	69	1191	271813	182	39571	0	2	1	282	1	244	**50**	12202	344	76161
4	2	281	96558	0	117	1271	457490	196	64044	0	4	2	652	1	409	**50**	20201	517	197449
5	3	283	88821	0.3	113	1490	484042	206	62159	0.016	5	4.41	1296	1.12	396	**50**	18353	1655	484691
6	4	290	66713	0.4	115	2676	678589	**244**	57078	**0.036**	9	16.83	4125	1.63	416	**50**	13601	7021	1744000
7	5	294	57609	0.6	126	3856	821513	**281**	57669	**0.055**	12	28.13	5853	2.16	462	**50**	11657	11731	2473000
8	6	299	50137	0.8	154	5829	1070000	**375**	67774	**0.088**	16	47.56	8641	3.11	568	**50**	9912	19576	3592000
9	7	**301**	49681	0.9	168	7218	1279000	**424**	75649	**0.119**	21	47.37	8855	3.15	583	**50**	9546	19782	3704000
10	8	**303**	48589	0.7	126	8033	1385000	**375**	63832	**0.155**	27	18.05	3170	1.78	311	**50**	9291	9349	1663000
11	9	**302**	51689	0.7	129	8440	1520000	**379**	67112	**0.170**	30	12.30	2228	1.55	279	**50**	9731	7308	1354000
12	10	**301**	49879	0.7	125	8387	1478000	**375**	65032	**0.169**	30	11.73	2081	1.51	267	**50**	9450	7040	1275000
13	11	**302**	50039	0.7	122	8077	1438000	**362**	63263	**0.163**	29	11.18	2001	1.46	260	**50**	9587	6793	1245000
14	12	**301**	49722	0.7	119	7999	1424000	**359**	62663	**0.161**	28	11.08	1982	1.44	257	**50**	9585	6732	1233000
15	13	**300**	49619	0.7	120	7959	1417000	**358**	62205	**0.160**	28	10.94	1962	1.43	256	**50**	9591	6684	1225000
16	14	**304**	51079	0.6	126	6105	1179000	**310**	57329	**0.120**	23	9.15	1773	1.30	249	**50**	9843	5128	994864
17	15	**311**	57521	0.5	105	2848	628121	**213**	38373	**0.051**	11	5.46	1198	1.00	192	**50**	10931	2866	629098
18	16	**312**	57792	0.5	102	2448	544518	204	35488	**0.043**	10	4.93	1094	1.00	179	**50**	11069	2609	578258
19	17	**307**	54328	0.4	96	2336	497181	201	32712	**0.041**	9	4.71	1001	1.00	168	**50**	10608	2543	541330
20	18	300	54884	0.5	98	2334	508267	203	33766	**0.040**	9	4.79	1044	1.00	171	**50**	10854	2537	551614
21	19	73	51528	0.1	89	618	538329	51	40065	0.011	9	1.22	865	0.25	207	**13**	10905	663	432932
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

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"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 2 Average Annual Concentration and Load at BER-FDP-01B Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrate (as Nitrogen)	Nitrate (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-
CWQG-FAL (short term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-	550000	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-	13000	-
Model Year	Mine Year																				
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	0	108	0	12	2185	510907	0	12	0	19	5	1069	2980	689841	56	12685	8	1766	55	12681
4	2	0	187	0	22	2694	1045000	0	20	0	180	5	1864	3061	1112000	552	209747	19	7200	540	205168
5	3	0.57	197	0.08	25	5865	1794000	0.05	18	2.75	742	5.5	1837	3026	970774	1497	416823	39.8	11636	1465	407934
6	4	1.04	268	0.18	45	20428	5058000	0.05	12	13.03	3167	8.8	2232	2909	550724	4932	1227000	116.7	29196	4822	1200000
7	5	1.45	315	0.28	58	33910	7109000	0.05	11	22.15	4586	12.2	2596	2833	377809	6453	1347000	150.6	31615	6309	1317000
8	6	2.16	404	0.44	80	56350	10280000	0.06	10	37.85	6857	18.3	3338	2806	213728	8980	1648000	207.0	38120	8779	1611000
9	7	2.20	416	0.56	98	54376	10300000	0.07	12	37.28	6981	22.8	4035	2783	177368	8653	1558000	199.6	36042	8459	1523000
10	8	1.22	223	0.62	106	15462	2798000	0.10	16	11.93	2095	25.5	4381	2827	173195	6098	1080000	142.2	25275	5962	1056000
11	9	1.04	199	0.66	118	7271	1385000	0.10	19	6.78	1214	27.1	4870	2861	183034	3234	605716	77.9	14670	3162	592230
12	10	1.02	189	0.66	115	6484	1209000	0.10	18	6.27	1100	27.0	4749	2827	176991	1015	186669	28.0	5217	993	182606
13	11	0.99	188	0.63	112	6290	1191000	0.10	18	5.95	1055	26.0	4615	2830	177443	185	34447	9.7	1809	181	33800
14	12	0.99	186	0.62	111	6245	1182000	0.10	18	5.91	1049	25.7	4566	2838	176454	58	8929	7.5	1234	58	8866
15	13	0.98	186	0.62	110	6207	1175000	0.10	18	5.84	1033	25.5	4525	2824	176607	52	6537	7.5	1179	52	6536
16	14	0.83	161	0.46	90	4526	881342	0.08	16	4.63	894	19.8	3817	2821	187457	53	7031	7.8	1318	52	7004
17	15	0.63	138	0.20	44	2779	603229	0.05	10	2.22	487	9.3	2051	2854	222473	55	9100	8.4	1749	54	9079
18	16	0.61	133	0.17	37	2636	571747	0.05	9	1.91	426	8.0	1785	2802	224900	55	9256	8.5	1780	55	9235
19	17	0.58	123	0.16	34	2584	533426	0.05	8	1.81	384	7.8	1651	2824	215791	55	8856	8.5	1703	55	8845
20	18	0.59	128	0.16	34	2561	544040	0.05	8	1.77	385	7.6	1659	2864	221889	55	9050	8.4	1742	54	9041
21	19	0.15	117	0.04	36	653	538519	0.01	11	0.47	344	2.0	1839	718	365834	13	9173	2.1	1542	13	9264
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 2 Average Annual Concentration and Load at BER-FDP-01B Discharge Point

Parameter		Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short term)		-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year														
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	59	12711	2	483	10	2440	1	244	1718	396882	60	14695	0	1
4	2	115	43720	4	1661	10	4023	1	402	2176	846392	67	26877	0	2
5	3	228	67329	8.7	2559	10	3571	1.0	357	5201	1566000	118	38026	0.01	3
6	4	647	162017	24.6	6157	10	2348	1.0	235	19107	4736000	332	83293	0.03	8
7	5	832	174635	31.6	6636	10	1833	1.0	183	31318	6575000	505	108169	0.04	10
8	6	1139	209703	43.3	7969	10	1360	1.0	136	51928	9471000	735	135962	0.07	13
9	7	1097	198080	41.7	7527	10	1255	1.0	126	60173	10890000	817	146217	0.08	15
10	8	782	138861	29.7	5277	10	1221	1.0	122	50740	8784000	816	142520	0.09	16
11	9	428	80544	16.3	3061	10	1286	1.0	129	49069	8850000	813	148053	0.09	17
12	10	155	28568	5.9	1086	10	1243	1.0	124	47824	8441000	814	144299	0.09	16
13	11	64	9807	2.4	373	10	1256	1.0	126	45389	8083000	812	145787	0.09	16
14	12	55	6632	2.1	252	10	1253	1.0	125	44681	7963000	811	145681	0.09	16
15	13	55	6295	2.1	239	10	1253	1.0	125	44191	7876000	807	145033	0.09	16
16	14	56	6984	2.1	265	10	1393	1.0	139	34185	6600000	652	125757	0.08	15
17	15	58	9086	2.2	345	10	1811	1.0	181	16244	3581000	389	85209	0.05	12
18	16	60	9252	2.3	352	10	1839	1.0	184	13964	3109000	342	76238	0.05	11
19	17	59	8874	2.2	337	10	1762	1.0	176	13305	2834000	306	65302	0.05	11
20	18	60	9070	2.3	345	10	1803	1.0	180	13152	2871000	283	61680	0.05	11
21	19	14	9422	0.6	358	3	1813	0.3	181	3518	2631000	72	53820	0.01	7
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 3 Average Annual Concentration and Load at BER-FDP-02 Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**145**	30470	1	94	1	203	4	594	25	4566	0	2	9369	1601000	**2**	384	1	193
4	2	**336**	92653	1	368	4	952	7	1792	38	9837	0	10	16868	4310000	**2**	463	**4**	1049
5	3	**524**	109110	3.1	560	**8.4**	1535	17	3110	61	11429	**0.07**	14	30484	5656000	**2.2**	273	**9.2**	1669
6	4	**600**	104355	5.7	917	**15.9**	2567	33	5366	102	16446	**0.12**	20	53859	8689000	**2.1**	196	**17.2**	2759
7	5	**600**	101846	6.9	1080	**19.3**	3021	41	6446	121	18962	**0.15**	23	64686	10120000	**2.1**	185	**21.0**	3264
8	6	**600**	103468	8.2	1309	**23.0**	3673	47	7577	144	22822	**0.18**	28	76186	12130000	**2.1**	205	**25.3**	3996
9	7	**600**	100746	9.7	1513	**21.2**	3517	47	7621	132	21755	**0.18**	29	83259	13180000	**2.4**	267	**28.8**	4510
10	8	**600**	98062	10.8	1634	**8.2**	1287	34	5205	51	8042	**0.11**	17	76929	11700000	**3.1**	446	**28.4**	4296
11	9	**600**	102701	11.5	1816	**5.5**	905	32	5114	36	5762	**0.10**	16	78182	12390000	**3.4**	525	**29.6**	4657
12	10	**600**	99734	11.5	1770	**5.2**	834	31	4892	34	5362	**0.10**	15	77570	12040000	**3.5**	513	**29.4**	4542
13	11	**600**	101183	11.0	1718	**5.0**	818	30	4779	33	5235	**0.09**	15	74462	11670000	**3.3**	500	**28.2**	4400
14	12	**600**	101160	10.9	1700	**5.0**	811	30	4751	33	5187	**0.09**	15	73784	11560000	**3.3**	495	**27.9**	4349
15	13	**600**	101227	10.8	1686	5.0	805	30	4719	32	5154	**0.09**	15	73288	11480000	**3.3**	490	**27.7**	4311
16	14	**600**	95896	8.7	1391	**8.2**	1305	24	3793	29	4084	**0.08**	12	58516	9333000	**2.9**	402	**23.3**	3724
17	15	**600**	104053	4.3	749	**10.6**	1844	12	2181	25	2470	**0.05**	9	29001	5072000	**2.1**	228	**12.9**	2259
18	16	**600**	105369	3.6	640	**10.5**	1855	11	1915	25	2231	**0.05**	8	24752	4370000	**2.1**	203	**11.1**	1960
19	17	**600**	100979	3.5	585	**10.9**	1840	10	1752	25	2067	**0.05**	8	23572	3983000	**2.1**	186	**10.6**	1786
20	18	**600**	103313	3.4	589	**10.8**	1852	10	1782	25	2097	**0.04**	8	23515	4063000	**2.1**	189	**10.5**	1814
21	19	**150**	103549	0.9	564	2.6	1063	3	1711	6	3287	0.01	6	6229	4141000	0.5	300	**2.8**	1576
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

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Table 3 Average Annual Concentration and Load at BER-FDP-02 Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	262	44779	0	52	1188	205956	181	29342	0	2	1	224	1	181	**50**	9395	389	80165
4	2	284	66033	0	87	1656	419839	200	43465	0	5	8	1969	1	305	**50**	13562	3003	777223
5	3	283	48946	0.4	82	2636	495059	**229**	38795	**0.036**	7	18.15	3286	1.54	292	**50**	10423	7484	1379000
6	4	290	41996	0.6	104	4442	719444	**296**	45858	**0.065**	10	34.41	5502	2.35	379	**50**	8696	14397	2330000
7	5	294	41579	0.7	117	5278	829229	**332**	50648	**0.078**	12	41.97	6521	2.76	432	**50**	8487	17557	2760000
8	6	299	43527	0.9	140	6120	978038	**387**	60908	**0.092**	15	50.38	7980	3.23	515	**50**	8622	20753	3319000
9	7	**301**	43665	0.9	146	7107	1108000	**419**	65830	**0.117**	18	46.55	7662	3.11	507	**50**	8396	19442	3205000
10	8	**303**	42689	0.7	110	7895	1198000	**371**	55541	**0.152**	23	17.73	2743	1.77	272	**50**	8172	9183	1438000
11	9	**301**	45399	0.7	112	8293	1314000	**375**	58392	**0.167**	26	12.08	1926	1.53	244	**50**	8558	7178	1170000
12	10	**301**	43801	0.7	109	8241	1278000	**371**	56573	**0.166**	26	11.52	1798	1.50	233	**50**	8311	6914	1101000
13	11	**301**	43976	0.7	106	7938	1243000	**358**	55056	**0.160**	25	10.98	1729	1.45	227	**50**	8432	6672	1075000
14	12	**301**	43691	0.7	104	7862	1231000	**355**	54544	**0.158**	25	10.88	1713	1.43	225	**50**	8430	6613	1065000
15	13	300	43606	0.7	104	7822	1226000	**354**	54149	**0.157**	24	10.75	1696	1.42	223	**50**	8436	6565	1058000
16	14	**303**	41100	0.6	104	6237	996085	**314**	48219	**0.123**	20	9.24	1473	1.31	208	**50**	7991	5175	826633
17	15	**308**	45051	0.5	85	3068	537384	**219**	32212	**0.056**	10	5.65	983	1.01	159	**50**	8671	2953	514829
18	16	**309**	45211	0.5	81	2607	460477	208	29483	**0.046**	8	5.04	887	1.00	147	**50**	8781	2651	466482
19	17	**305**	42455	0.5	76	2480	419082	205	27142	**0.044**	7	4.80	810	1.00	138	**50**	8415	2576	434959
20	18	297	42919	0.5	79	2472	427461	206	27942	**0.043**	7	4.87	841	1.00	140	**50**	8609	2565	442491
21	19	73	40457	0.1	72	653	449924	52	32506	0.012	8	1.25	715	0.25	166	**13**	8650	670	358271
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 3 Average Annual Concentration and Load at BER-FDP-02 Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrate (as Nitrogen)	Nitrate (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-	550000	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-	13000	-
Model Year	Mine Year																				
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	0	88	0	9	2234	419428	0	9	0	15	5	800	2963	517259	56	9773	8	1381	55	9755
4	2	1	196	0	25	9446	2430000	0	12	5	1353	6	1540	2915	625121	6538	1713000	153	40190	6392	1674000
5	3	1.09	212	0.18	34	21764	3991000	0.05	8	14.03	2506	8.5	1608	2834	348813	8875	1656000	205.0	38417	8677	1619000
6	4	1.68	279	0.32	52	40779	6563000	0.05	7	27.59	4394	13.7	2215	2855	200212	11177	1813000	256.4	41693	10926	1772000
7	5	1.95	313	0.39	61	50160	7838000	0.05	8	33.54	5196	16.2	2533	2816	167107	10017	1558000	230.3	35933	9792	1523000
8	6	2.27	369	0.46	74	59666	9491000	0.06	9	40.16	6344	19.1	3040	2806	166740	9645	1541000	221.9	35557	9429	1506000
9	7	2.17	361	0.55	85	53453	8917000	0.07	11	36.61	6038	22.5	3498	2783	160841	8506	1348000	196.3	31200	8315	1318000
10	8	1.21	194	0.61	92	15225	2427000	0.09	14	11.71	1811	25.0	3791	2827	157807	5979	932270	139.5	21837	5845	911405
11	9	1.03	173	0.65	102	7180	1204000	0.10	16	6.65	1048	26.6	4213	2861	166861	3171	523146	76.5	12690	3101	511500
12	10	1.01	165	0.64	99	6407	1051000	0.10	16	6.14	949	26.5	4109	2827	161363	997	161526	27.6	4532	975	158013
13	11	0.98	163	0.62	97	6216	1035000	0.10	16	5.83	910	25.5	3993	2830	161833	182	29987	9.7	1587	179	29425
14	12	0.98	162	0.61	96	6172	1027000	0.10	16	5.80	905	25.3	3952	2838	160894	58	7884	7.5	1089	58	7828
15	13	0.97	162	0.61	95	6134	1021000	0.10	15	5.73	891	25.1	3916	2824	161060	52	5806	7.5	1042	52	5807
16	14	0.83	132	0.48	76	4582	733527	0.08	13	4.71	751	20.2	3226	2821	157138	53	5616	7.7	1040	52	5589
17	15	0.63	110	0.22	38	2844	491370	0.05	8	2.36	412	10.0	1757	2854	182210	55	7092	8.3	1348	54	7071
18	16	0.60	106	0.18	32	2666	460372	0.05	8	2.01	355	8.6	1512	2803	184183	55	7226	8.3	1374	55	7205
19	17	0.58	97	0.17	29	2610	428871	0.05	7	1.90	320	8.2	1392	2824	176766	55	6911	8.3	1315	54	6901
20	18	0.59	101	0.17	29	2584	436674	0.05	7	1.85	320	8.1	1399	2864	181974	55	7059	8.3	1344	53	7051
21	19	0.15	94	0.04	31	659	432973	0.01	9	0.49	291	2.1	1531	718	285011	13	7149	2.0	1201	13	7217
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 3 Average Annual Concentration and Load at BER-FDP-02 Discharge Point

Parameter		Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year														
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	59	9749	2	370	10	1879	1	188	1756	325575	62	12027	0.01	1
4	2	851	223009	32	8474	10	2553	1	255	8674	2227000	167	41825	0.02	5
5	3	1131	211984	43.0	8055	10	1662	1.0	166	20492	3755000	382	71715	0.03	7
6	4	1411	229363	53.6	8716	10	1211	1.0	121	38579	6223000	637	103355	0.05	9
7	5	1266	197542	48.1	7507	10	1126	1.0	113	46567	7286000	739	117092	0.06	11
8	6	1220	195478	46.4	7428	10	1143	1.0	114	55010	8745000	781	125734	0.07	12
9	7	1079	171498	41.0	6517	10	1113	1.0	111	59129	9416000	803	126581	0.08	13
10	8	767	120003	29.2	4560	10	1085	1.0	109	49785	7583000	801	123133	0.09	13
11	9	420	69707	16.0	2649	10	1143	1.0	114	48137	7639000	798	127902	0.09	15
12	10	153	24851	5.8	944	10	1104	1.0	110	46915	7286000	799	124660	0.09	14
13	11	64	8640	2.4	328	10	1116	1.0	112	44531	6978000	797	125946	0.09	14
14	12	55	5890	2.1	224	10	1113	1.0	111	43836	6874000	796	125858	0.09	14
15	13	55	5592	2.1	212	10	1114	1.0	111	43357	6799000	792	125299	0.09	14
16	14	56	5571	2.1	212	10	1111	1.0	111	34803	5552000	663	105448	0.07	12
17	15	58	7078	2.2	269	10	1410	1.0	141	17336	3035000	413	71793	0.05	10
18	16	59	7222	2.3	274	10	1433	1.0	143	14710	2599000	361	63830	0.05	9
19	17	59	6930	2.2	263	10	1373	1.0	137	13977	2363000	322	54445	0.05	8
20	18	59	7080	2.3	269	10	1405	1.0	141	13796	2390000	296	51163	0.05	9
21	19	14	7337	0.6	279	3	1413	0.3	141	3678	2222000	75	45116	0.01	6
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 4 Average Annual Concentration and Load at BER-FDP-03 Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**137**	26802	1	90	1	191	4	570	25	4432	0	2	9345	1545000	**2**	374	1	186
4	2	**253**	78897	1	295	2	731	5	1564	31	9518	0	8	13257	3869000	**2**	570	**3**	781
5	3	**356**	98814	1.7	430	4.5	1138	10	2464	41	10728	0.04	10	18742	4820000	**2.3**	446	**4.8**	1214
6	4	**408**	108365	2.5	632	**6.9**	1720	15	3787	55	13702	**0.06**	14	26282	6558000	**2.3**	421	**7.4**	1825
7	5	**419**	110971	2.9	709	**7.9**	1933	17	4326	60	14937	**0.06**	15	29413	7262000	**2.3**	420	**8.4**	2063
8	6	**451**	113618	3.7	851	**10.1**	2344	22	5019	73	17125	**0.08**	19	36201	8445000	**2.3**	413	**11.0**	2523
9	7	**551**	113807	6.1	1169	**13.0**	2687	30	5938	87	17950	**0.11**	22	53124	10470000	**2.4**	353	**17.6**	3440
10	8	**600**	112650	8.0	1404	**6.4**	1186	26	4620	44	8198	**0.08**	15	58060	10330000	**2.9**	468	**20.9**	3686
11	9	**600**	116101	9.4	1684	4.8	903	27	4874	33	6097	**0.08**	15	64554	11680000	**3.1**	535	**24.0**	4313
12	10	**600**	109343	10.1	1731	4.9	861	28	4879	32	5527	**0.09**	16	68895	11870000	**3.2**	516	**25.9**	4439
13	11	**600**	110664	9.9	1719	4.8	858	28	4862	31	5412	**0.09**	16	67638	11740000	**3.1**	506	**25.4**	4397
14	12	**600**	110645	9.8	1700	4.8	852	28	4834	31	5357	**0.09**	16	67006	11630000	**3.1**	501	**25.2**	4346
15	13	**600**	110715	9.8	1686	4.7	845	27	4803	30	5324	**0.09**	15	66554	11550000	**3.0**	496	**24.9**	4307
16	14	**600**	115287	7.9	1494	**8.2**	1572	22	4155	28	4520	**0.07**	14	53163	10070000	**2.7**	435	**21.2**	4027
17	15	**600**	128843	3.8	814	**11.1**	2381	11	2438	25	2751	**0.05**	11	25542	5535000	**2.1**	247	**11.7**	2537
18	16	**599**	130342	3.1	686	**11.1**	2418	10	2127	25	2463	**0.04**	10	21543	4708000	**2.1**	217	**10.0**	2188
19	17	**561**	118473	3.0	627	**11.5**	2399	9	1947	25	2281	**0.04**	9	20514	4288000	**2.0**	199	**9.5**	1995
20	18	**332**	72005	2.9	631	**11.4**	2420	9	1983	25	2315	**0.04**	9	20496	4380000	**2.1**	202	**9.5**	2027
21	19	62	48196	0.8	596	2.7	1417	2	1886	6	3817	0.01	7	5385	4466000	0.5	342	**2.5**	1720
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 4 Average Annual Concentration and Load at BER-FDP-03 Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	261	42968	0	50	1187	199273	180	28601	0	2	1	214	1	176	**50**	9047	370	70946
4	2	285	75179	0	93	1433	412198	197	48638	0	4	5	1360	1	326	**50**	15530	1760	529158
5	3	285	65655	0.3	91	1822	468408	209	46554	0.022	6	9.10	2281	1.22	321	**50**	13647	3740	949595
6	4	291	63946	0.4	105	2400	602687	**234**	52823	**0.031**	8	14.26	3510	1.50	378	**50**	13026	5962	1482000
7	5	294	64355	0.4	112	2638	655375	**238**	54127	**0.035**	9	16.35	3991	1.62	405	**50**	12968	6839	1684000
8	6	297	63098	0.5	123	3154	742570	**265**	59544	**0.044**	10	21.40	4912	1.89	446	**50**	12525	8817	2041000
9	7	299	52890	0.6	130	4697	913125	**319**	61675	**0.075**	14	27.91	5743	2.21	450	**50**	10284	11732	2410000
10	8	**301**	48431	0.6	106	5993	1064000	**313**	54583	**0.112**	20	13.51	2465	1.54	279	**50**	9387	6973	1277000
11	9	**301**	51166	0.6	111	6861	1241000	**328**	57807	**0.136**	24	10.15	1847	1.38	252	**50**	9675	6106	1133000
12	10	**302**	48380	0.6	108	7319	1260000	**334**	56167	**0.146**	25	10.32	1788	1.37	236	**50**	9112	6374	1123000
13	11	**303**	48636	0.6	107	7205	1250000	**328**	55250	**0.144**	25	10.06	1753	1.33	231	**50**	9222	6300	1121000
14	12	**303**	48338	0.6	105	7136	1238000	**324**	54703	**0.142**	25	9.96	1735	1.32	228	**50**	9220	6248	1111000
15	13	**302**	48251	0.6	105	7098	1232000	**324**	54295	**0.141**	24	9.85	1719	1.31	227	**50**	9226	6204	1103000
16	14	**306**	50347	0.6	115	5659	1074000	**291**	52427	**0.111**	21	8.54	1622	1.23	230	**50**	9607	4906	933050
17	15	**312**	57130	0.5	101	2692	584165	210	36497	**0.048**	10	5.27	1136	1.00	185	**50**	10737	2776	599501
18	16	**314**	57597	0.4	98	2259	493771	200	33463	**0.039**	8	4.71	1026	1.00	172	**50**	10873	2491	542433
19	17	**309**	54137	0.4	92	2149	448886	198	30792	**0.036**	8	4.49	938	1.00	161	**50**	10420	2428	507442
20	18	**302**	54766	0.4	95	2146	458500	200	31782	**0.036**	8	4.56	976	1.00	164	**50**	10661	2420	516593
21	19	74	51552	0.1	86	562	485147	50	37479	0.010	8	1.16	814	0.25	197	**13**	10711	628	409078
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 4 Average Annual Concentration and Load at BER-FDP-03 Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	0	83	0	9	2211	396388	0	9	0	15	5	777	2963	502359	56	9414	8	1324
4	2	1	186	0	22	5974	1788000	0	14	3	826	5	1572	2975	776511	3428	1038000	83	25281
5	3	0.76	201	0.11	29	11369	2885000	0.05	12	6.58	1624	6.3	1630	2911	600428	4251	1080000	101.5	25936
6	4	0.95	241	0.16	39	17455	4327000	0.05	12	10.90	2667	8.0	2003	2916	546020	4415	1097000	105.1	26228
7	5	1.02	258	0.18	43	20091	4932000	0.05	12	12.51	3038	8.7	2163	2882	535704	3722	907662	89.6	21954
8	6	1.21	288	0.22	51	25852	5969000	0.05	12	16.53	3775	10.4	2437	2862	500971	3911	909003	93.8	21923
9	7	1.48	305	0.35	67	32394	6755000	0.06	12	21.57	4452	15.2	2950	2806	331823	5064	1000000	119.5	23673
10	8	1.03	191	0.45	80	12181	2286000	0.08	14	8.79	1609	19.2	3404	2832	263480	4377	800446	103.9	19058
11	9	0.95	181	0.53	95	6636	1263000	0.09	16	5.50	991	22.1	3990	2862	233951	2659	503016	65.3	12417
12	10	0.98	176	0.57	97	6224	1123000	0.09	16	5.42	930	23.5	4043	2827	189002	970	175123	27.4	4980
13	11	0.97	176	0.56	97	6128	1119000	0.09	16	5.25	909	23.1	4005	2830	181513	209	38123	10.5	1909
14	12	0.96	175	0.55	96	6087	1111000	0.09	16	5.22	903	22.9	3963	2838	179988	63	10015	7.7	1276
15	13	0.96	175	0.55	95	6052	1105000	0.09	15	5.16	890	22.7	3926	2824	180022	53	6779	7.6	1202
16	14	0.82	157	0.43	81	4530	863851	0.08	14	4.25	806	18.3	3469	2821	191901	53	7125	7.8	1330
17	15	0.63	136	0.18	40	2768	590217	0.05	9	2.08	450	8.8	1909	2854	226361	55	9138	8.6	1751
18	16	0.60	130	0.15	33	2598	551369	0.05	8	1.76	385	7.4	1621	2803	229084	55	9327	8.6	1789
19	17	0.58	120	0.14	30	2548	514708	0.05	8	1.66	346	7.2	1494	2824	219786	56	8925	8.6	1713
20	18	0.59	124	0.14	30	2523	524546	0.05	8	1.62	346	7.0	1500	2864	226087	56	9120	8.6	1752
21	19	0.15	116	0.04	32	642	519196	0.01	10	0.43	308	1.8	1660	718	356906	14	9233	2.1	1570
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 4 Average Annual Concentration and Load at BER-FDP-03 Discharge Point

Parameter		Nitrate (as Nitrogen)	Nitrate (as Nitrogen)	Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		550000	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		13000	-	689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year																
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	55	9397	59	9387	2	357	10	1809	1	181	1756	307706	62	11376	0	1
4	2	3352	1015000	469	141717	18	5385	10	3011	1	301	8674	1594000	167	34398	0	4
5	3	4157	1056000	565	144389	21.5	5487	10	2458	1.0	246	20492	2664000	382	55091	0.03	5
6	4	4317	1073000	584	145722	22.2	5537	10	2286	1.0	229	38579	4042000	637	72517	0.05	7
7	5	3639	887392	499	122286	19.0	4647	10	2263	1.0	226	46567	4536000	739	78457	0.06	7
8	6	3823	888691	522	122079	19.8	4639	10	2164	1.0	217	55010	5463000	781	83756	0.07	8
9	7	4951	977981	661	130880	25.1	4973	10	1636	1.0	164	59129	7151000	803	99548	0.08	10
10	8	4279	782527	574	105184	21.8	3997	10	1413	1.0	141	49785	6543000	801	107622	0.09	12
11	9	2600	491840	360	68429	13.7	2600	10	1412	1.0	141	48137	7136000	798	120879	0.09	14
12	10	949	171322	151	27309	5.8	1038	10	1281	1.0	128	46915	7176000	799	123670	0.09	15
13	11	205	37394	67	10359	2.5	394	10	1279	1.0	128	44531	7032000	797	127420	0.09	15
14	12	62	9929	56	6862	2.1	261	10	1275	1.0	128	43836	6924000	796	127568	0.09	15
15	13	53	6773	56	6423	2.1	244	10	1275	1.0	128	43357	6846000	792	127026	0.09	14
16	14	52	7099	57	7061	2.1	268	10	1409	1.0	141	34803	5998000	663	114368	0.07	14
17	15	55	9116	59	9122	2.2	347	10	1818	1.0	182	17336	3323000	413	77980	0.05	12
18	16	55	9305	60	9321	2.3	354	10	1853	1.0	185	14710	2815000	361	69115	0.05	11
19	17	55	8914	59	8945	2.3	340	10	1775	1.0	178	13977	2555000	322	59415	0.05	10
20	18	54	9110	60	9141	2.3	347	10	1816	1.0	182	13796	2584000	296	56284	0.05	11
21	19	14	9320	15	9468	0.6	360	3	1826	0.3	183	3678	2362000	75	49152	0.01	7
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 5 Average Annual Concentration and Load at BER-FDP-04 Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	**124**	9600	0.5	45	1.6	171	4	283	25	1911	0.01	1	9247	701616	**2.2**	151	1.2	114
2	-1	**140**	22238	0.7	120	5.0	864	4	670	25	3348	0.02	3	9909	1468000	**2.2**	257	**2.4**	420
3	1	**145**	33906	0.8	192	**6.8**	1682	4	1004	25	4154	0.02	6	9891	2111000	**2.2**	330	**3.0**	741
4	2	**183**	47451	1.2	320	**8.9**	2335	5	1360	25	4269	0.03	8	11555	2833000	**2.1**	237	**4.2**	1123
5	3	**221**	55682	1.8	459	**10.7**	2683	7	1707	25	4800	0.04	10	14419	3646000	**2.1**	154	**5.6**	1414
6	4	**238**	59198	2.2	561	**11.3**	2772	8	2005	26	5779	**0.04**	10	17481	4394000	**2.0**	136	**6.6**	1655
7	5	**240**	59658	2.6	649	**11.4**	2812	9	2218	27	6721	**0.04**	11	20105	5103000	**2.0**	138	**7.6**	1918
8	6	**239**	60675	2.7	709	**11.8**	2979	9	2371	29	7511	**0.05**	12	21351	5523000	**2.0**	146	**8.4**	2151
9	7	**239**	58872	2.8	718	**12.1**	2971	10	2387	30	7628	**0.05**	12	22065	5557000	**2.1**	144	**8.3**	2088
10	8	**244**	58407	2.9	712	**12.0**	2863	10	2354	31	7491	**0.05**	11	22600	5517000	**2.1**	143	**8.4**	2037
11	9	**242**	60561	3.0	763	**11.8**	2935	10	2518	32	8223	**0.05**	12	23115	5947000	**2.1**	152	**8.7**	2201
12	10	**243**	59259	3.0	741	**11.7**	2871	10	2474	32	7961	**0.05**	12	23387	5832000	**2.1**	148	**8.8**	2182
13	11	**241**	59508	2.9	729	**11.7**	2901	10	2427	30	7696	**0.05**	12	22407	5685000	**2.0**	146	**8.4**	2098
14	12	**243**	60223	2.9	722	**11.9**	2933	10	2401	30	7473	**0.05**	12	21875	5547000	**2.0**	143	**8.0**	2002
15	13	**242**	59898	2.3	573	**11.2**	2755	8	2017	26	5748	**0.04**	10	17547	4436000	**2.0**	126	**6.6**	1666
16	14	**243**	57200	1.5	361	**10.7**	2520	6	1382	25	3274	0.04	8	12400	2810000	**2.0**	97	**5.3**	1262
17	15	**246**	58627	1.1	253	**10.4**	2452	5	1070	25	2067	0.03	7	9902	1987000	**2.0**	86	**4.7**	1108
18	16	**167**	41730	0.8	217	**9.2**	2542	4	989	25	1408	0.03	7	9191	1648000	**2.1**	86	**3.7**	1025
19	17	**128**	28078	0.7	194	**8.6**	2459	4	886	25	1181	0.02	7	9032	1442000	**2.0**	77	**3.3**	926
20	18	**128**	28401	0.7	195	**8.4**	2444	4	925	25	1208	0.02	7	8788	1533000	**2.0**	79	**3.3**	957
21	19	32	23968	0.2	165	2.0	1996	1	775	6	1075	0.01	6	2164	1283000	0.5	74	0.8	789
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter;
g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 5 Average Annual Concentration and Load at BER-FDP-04 Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	268	20156	0.3	24	1173	87421	184	13041	0.010	1	1.26	110	1.00	79	**50**	4109	386	36361
2	-1	297	44969	0.3	56	1240	179303	187	24737	0.011	2	1.82	318	1.00	154	**50**	8801	768	132687
3	1	294	64647	0.3	84	1202	243963	184	32914	0.010	2	2.19	547	1.00	207	**50**	12599	990	246444
4	2	294	66365	0.3	90	1296	303839	181	31642	0.011	3	4.42	1179	1.00	215	**50**	13269	1698	449042
5	3	295	62394	0.4	88	1526	373903	182	29739	0.013	3	7.71	1989	1.01	228	**50**	12643	2474	633348
6	4	295	59640	0.4	92	1790	447394	192	31918	0.016	4	9.98	2538	1.06	258	**50**	12408	3024	763377
7	5	**300**	61465	0.4	94	2009	506562	190	33785	0.018	5	11.37	2898	1.15	287	**50**	12404	3428	864912
8	6	**303**	63175	0.4	100	2126	548068	198	36221	0.020	5	12.27	3180	1.23	317	**50**	12600	3684	947706
9	7	298	60723	0.4	98	2219	558779	201	36169	0.020	5	12.96	3278	1.25	313	**50**	12284	3839	964998
10	8	**301**	59931	0.4	97	2279	554431	197	35776	0.021	5	13.04	3195	1.27	309	**50**	11957	3849	937706
11	9	294	61831	0.4	101	2335	600166	202	38078	0.021	6	13.71	3530	1.29	329	**50**	12524	3961	1011000
12	10	294	59932	0.4	100	2338	583735	200	37219	0.022	5	13.60	3402	1.31	324	**50**	12152	3979	988463
13	11	297	60388	0.4	98	2220	562292	200	37155	0.021	5	13.07	3321	1.26	319	**50**	12343	3846	968566
14	12	299	61182	0.4	97	2194	555534	198	36286	0.020	5	12.87	3261	1.24	312	**50**	12338	3706	936658
15	13	293	58790	0.4	94	1794	447625	191	31198	0.016	4	10.04	2565	1.08	255	**50**	12347	3039	768260
16	14	293	55397	0.3	78	1311	279193	176	22962	0.011	2	6.14	1481	1.00	174	**50**	11755	2223	529734
17	15	296	55327	0.3	73	1167	197802	174	19778	0.010	2	3.83	916	1.00	136	**50**	11880	1706	404926
18	16	288	58108	0.3	77	1126	163642	171	19593	0.010	1	2.45	673	1.00	123	**50**	13965	1289	354965
19	17	275	52731	0.3	71	1094	143673	168	17598	0.010	1	2.01	565	1.00	112	**50**	14254	1118	318660
20	18	268	53091	0.3	73	1113	152714	172	18502	0.010	1	2.08	606	1.00	115	**50**	14582	1130	328861
21	19	65	44466	0.1	61	281	128819	42	15509	0.002	1	0.50	506	0.25	99	**13**	13036	287	268977
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter;
g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 5 Average Annual Concentration and Load at BER-FDP-04 Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-
Model Year	Mine Year																		
1	-2	0.46	38	0.05	4	2208	175784	0.05	4	0.11	11	4.7	354	2935	218801	56	4245	7.7	620
2	-1	0.50	87	0.05	8	2315	373944	0.05	7	0.26	45	4.7	684	2913	397158	58	9045	8.6	1434
3	1	0.51	127	0.05	10	2324	554217	0.05	9	0.37	93	4.5	902	2860	513012	346	104965	15.1	4181
4	2	0.60	159	0.05	12	4019	1066000	0.05	9	1.06	283	4.6	934	2794	406723	2293	620197	58.9	15885
5	3	0.74	188	0.06	15	6789	1753000	0.05	8	2.06	534	4.7	969	2813	287211	2624	679314	66.3	17120
6	4	0.86	217	0.07	19	9139	2330000	0.05	9	2.74	701	4.9	1066	2854	249723	1832	465190	48.5	12263
7	5	0.94	237	0.09	22	10900	2786000	0.05	10	3.29	846	5.1	1192	2816	240168	1618	405572	43.7	10923
8	6	0.99	253	0.09	24	11916	3103000	0.05	10	3.55	924	5.3	1277	2806	243138	1686	435226	45.2	11618
9	7	1.03	258	0.10	25	12490	3175000	0.05	10	3.73	943	5.5	1296	2783	235779	1860	468382	49.1	12317
10	8	1.03	251	0.10	24	12668	3111000	0.05	10	3.79	933	5.5	1268	2827	230784	1904	465475	50.1	12204
11	9	1.05	269	0.10	26	13048	3363000	0.05	11	3.98	1034	5.6	1373	2861	242470	1258	326072	35.6	9153
12	10	1.05	261	0.10	26	13335	3346000	0.05	11	3.98	998	5.7	1349	2827	235064	703	173618	23.1	5674
13	11	1.03	260	0.10	25	12510	3191000	0.05	11	3.78	967	5.5	1307	2830	238435	1295	322493	36.4	9047
14	12	1.02	255	0.09	24	12109	3085000	0.05	10	3.74	952	5.4	1278	2838	237830	2087	525211	54.2	13602
15	13	0.87	220	0.07	19	9082	2334000	0.05	9	2.80	722	4.9	1060	2824	238321	1818	461495	48.2	12170
16	14	0.66	157	0.05	11	5213	1263000	0.05	6	1.53	371	4.5	736	2821	226350	727	181025	23.6	5767
17	15	0.55	126	0.05	7	2999	717136	0.05	5	0.85	205	4.4	582	2854	228699	71	15056	9.0	2046
18	16	0.49	118	0.05	6	2209	468873	0.05	4	0.51	141	4.4	537	2802	232276	54	10103	8.0	1961
19	17	0.46	103	0.05	5	2119	391057	0.05	4	0.41	117	4.4	501	2824	213008	53	9180	7.6	1785
20	18	0.46	108	0.05	5	2072	401943	0.05	4	0.41	118	4.5	497	2864	218663	53	9375	7.5	1825
21	19	0.12	93	0.01	4	529	339904	0.01	3	0.10	102	1.1	418	718	188481	13	7938	1.9	1540
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter;
g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 5 Average Annual Concentration and Load at BER-FDP-04 Discharge Point

Parameter		Nitrate (as Nitrogen)	Nitrate (as Nitrogen)	Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		550000	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		13000	-	689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year																
1	-2	54	4187	59	4357	2.2	166	10	822	1.0	82	1813	156478	63	5402	0.01	1
2	-1	58	8947	64	9074	2.4	345	10	1760	1.0	176	2717	472256	80	13984	0.02	3
3	1	340	102834	93	24229	3.5	921	10	2499	1.0	250	3275	824413	89	22289	0.02	6
4	2	2242	606472	325	87538	12.4	3326	10	2469	1.0	247	7417	1973000	117	30908	0.03	9
5	3	2566	664302	363	93615	13.8	3557	10	2201	1.0	220	13227	3401000	153	38880	0.04	10
6	4	1792	454973	264	66718	10.0	2535	10	2103	1.0	210	17819	4545000	177	44559	0.04	11
7	5	1582	396676	237	59305	9.0	2254	10	2090	1.0	209	20920	5324000	198	49793	0.05	11
8	6	1649	425670	245	63118	9.3	2398	10	2122	1.0	212	22707	5908000	206	52944	0.05	12
9	7	1819	458080	267	66979	10.1	2545	10	2069	1.0	207	23830	6025000	214	53421	0.05	12
10	8	1862	455212	272	66363	10.4	2522	10	2014	1.0	201	23963	5886000	217	52484	0.05	11
11	9	1231	318970	193	49568	7.3	1884	10	2110	1.0	211	24888	6431000	220	55960	0.05	12
12	10	688	169938	125	30460	4.7	1157	10	2047	1.0	205	24983	6264000	220	54465	0.05	12
13	11	1267	315477	197	48992	7.5	1862	10	2079	1.0	208	23866	6066000	212	53249	0.05	12
14	12	2041	513632	295	74042	11.2	2814	10	2078	1.0	208	23351	5952000	210	52861	0.05	12
15	13	1779	451371	262	66132	9.9	2513	10	2078	1.0	208	17678	4539000	179	45124	0.04	11
16	14	712	177147	130	30984	5.0	1177	10	1965	1.0	197	10451	2522000	136	32347	0.04	10
17	15	70	14927	60	10539	2.3	400	10	1977	1.0	198	6287	1511000	111	26255	0.04	9
18	16	54	10089	58	10079	2.2	383	10	2005	1.0	201	3773	1045000	88	24490	0.03	9
19	17	52	9173	55	9194	2.1	349	10	1829	1.0	183	3062	866274	77	21968	0.03	8
20	18	51	9367	56	9399	2.1	357	10	1870	1.0	187	3076	893208	78	22915	0.03	9
21	19	13	7950	14	7967	0.6	303	3	1584	0.3	158	778	751504	19	19070	0.01	7
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter;
g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 6 Average Annual Concentration and Load at BER-FDP-05 Discharge Point

		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper	Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	80	-	-	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-	-	-	-	-	-	-	596	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-	300	-	1	-	-	-	210	-	0.026	-	73	-
Model Year	Mine Year																														
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**118**	35641	0.5	173	1.3	616	8	4876	25	2105	0.03	16	19177	11460000	**2.1**	281	1.0	251	236	11081	0.3	72	1386	689320	**218**	105365	0.010	4	3.24	2014
4	2	**295**	289162	0.5	521	1.9	1851	10	9695	25	7810	0.04	38	22539	21920000	**2.0**	547	1.2	1103	242	71160	0.3	149	1485	1383000	**222**	186205	0.011	9	4.85	4722
5	3	**426**	549674	0.6	824	2.3	2965	10	12727	25	13904	**0.04**	51	19632	24920000	**2.1**	631	1.6	1977	247	147921	0.3	182	1420	1689000	198	191976	0.011	12	4.90	6235
6	4	**454**	625143	0.7	933	2.5	3366	10	13960	25	16101	**0.04**	55	19106	25860000	**2.0**	653	1.7	2293	253	171566	0.3	193	1409	1790000	199	193259	0.011	13	4.99	6767
7	5	**460**	636190	0.7	968	2.5	3466	10	14122	25	16704	**0.04**	56	19227	26190000	**2.0**	656	1.8	2417	253	172476	0.3	197	1420	1810000	195	194648	0.011	14	5.13	6992
8	6	**531**	859869	0.8	1272	2.8	4523	10	16618	25	22081	**0.04**	69	19117	30390000	**2.0**	749	**2.1**	3319	259	218184	0.3	236	1436	2127000	196	217091	0.012	17	5.55	8843
9	7	**537**	740247	0.8	1147	2.2	2965	9	12687	25	12881	0.04	52	17968	24350000	**2.1**	675	2.0	2654	253	171301	0.3	180	1406	1783000	193	173484	0.013	16	3.97	5439
10	8	**532**	671036	0.9	1087	1.7	2185	9	10905	25	8444	0.04	44	17496	21650000	**2.1**	646	1.9	2307	252	147878	0.3	153	1404	1625000	186	155172	0.013	16	3.07	3817
11	9	**532**	704799	0.9	1141	1.7	2291	9	11325	25	8834	0.04	47	17466	22690000	**2.1**	677	1.9	2434	246	154584	0.3	161	1402	1698000	191	162690	0.013	17	3.08	4022
12	10	**509**	163631	0.9	270	1.7	536	9	2675	25	2067	0.04	11	17996	5371000	**2.1**	161	1.9	574	248	35830	0.3	38	1431	402129	191	38705	0.014	4	3.16	948
13	11	**479**	2569	0.9	5	1.7	9	9	46	25	44	0.03	0	17648	94200	**2.0**	4	1.9	10	253	656	0.3	1	1433	7236	195	734	0.014	0	3.07	16
14	12	**455**	2441	0.9	5	1.6	9	8	44	25	50	0.03	0	17044	91051	**2.0**	4	1.8	10	256	699	0.3	1	1432	7161	195	745	0.014	0	2.94	16
15	13	**432**	2317	0.8	4	1.6	8	8	42	25	55	0.03	0	16483	87974	**2.0**	5	1.8	9	253	740	0.3	1	1411	7076	198	755	0.014	0	2.82	15
16	14	**311**	37277	1.0	133	**6.4**	997	7	846	25	1107	0.03	5	13571	1612000	**2.0**	82	**3.4**	506	282	28874	0.3	37	1292	140251	186	15384	0.012	1	3.07	415
17	15	**206**	44717	1.7	412	**12.5**	2619	8	1747	25	2326	**0.04**	10	15028	3344000	**2.0**	122	**6.9**	1578	**319**	57302	0.4	84	1586	314621	190	27235	0.019	4	4.75	1115
18	16	**278**	86891	3.8	1181	**12.6**	3705	15	4682	28	7188	**0.06**	20	32031	10540000	**2.1**	316	**12.1**	3870	**314**	76314	0.5	151	3145	1058000	**240**	65943	**0.047**	15	9.43	3046
19	17	**301**	113031	4.7	1727	**11.7**	4648	20	8374	32	14702	**0.08**	32	49058	23710000	**2.1**	439	**16.4**	7369	293	78397	0.5	182	5272	2802000	**292**	128425	**0.060**	22	12.94	5805
20	18	**237**	119116	3.6	1865	**9.5**	5468	20	12585	36	24234	**0.07**	47	60090	42360000	**2.1**	482	**18.4**	12378	268	81238	0.4	196	7353	5512000	**323**	215100	**0.047**	24	14.07	9387
21	19	**164**	111797	2.3	1710	**5.2**	4170	19	15899	41	35033	**0.07**	57	68647	59660000	**2.1**	682	**19.5**	16817	252	74402	0.3	176	9164	8110000	**355**	301779	**0.032**	23	14.40	12315
22	20	**137**	102191	1.9	1555	3.1	2697	18	16093	43	37736	**0.06**	56	70271	62180000	**2.1**	768	**20.1**	17725	246	68043	0.3	158	9549	8493000	**364**	319768	**0.026**	22	14.23	12539
23	21	**138**	102238	1.8	1516	2.5	2194	18	15773	42	37497	**0.06**	54	68689	60810000	**2.1**	759	**20.3**	17949	251	65962	0.3	155	9287	8257000	**360**	316736	0.026	22	13.86	12239
24	22	**138**	102553	1.8	1511	2.2	1891	18	15545	42	37444	**0.06**	53	66958	59750000	**2.1**	764	**20.5**	18240	241	65034	0.3	155	8985	8056000	**357**	315543	0.025	22	13.49	12009
25	23	**137**	104315	1.8	1516	1.9	1692	17	15440	42	37657	**0.06**	52	65375	59110000	**2.1**	760	**20.6**	18620	246	66342	0.3	155	8690	7890000	**352**	315633	0.025	22	13.13	11844
26	24	**139**	102316	1.8	1479	1.8	1521	17	14868	41	36727	**0.06**	50	63844	56740000	**2.1**	760	**20.8**	18463	246	64984	0.3	151	8415	7512000	**347**	306693	0.025	21	12.80	11350
27	25	**138**	103640	1.7	1488	1.7	1439	17	14789	41	36957	**0.06**	50	62404	56270000	**2.0**	756	**20.9**	18844	251	66992	0.3	152	8162	7392000	**346**	308464	0.025	21	12.49	11233
28	26	**138**	102258	1.7	1451	1.6	1341	16	14267	41	36033	**0.05**	47	60999	53970000	**2.0**	736	**21.0**	18628	246	63384	0.3	148	7916	7033000	**344**	301210	0.025	21	12.19	10767
29	27	**136**	104503	1.7	1485	1.5	1319	16	14432	40	36870	**0.05**	48	59754	54460000	**2.0**	761	**21.2**	19297	244	64359	0.3	152	7689	7038000	**340**	306768	0.025	21	11.90	10833
30	28	**138**	104603	1.7	1471	1.5	1271	16	14140	40	36526	**0.05**	46	58446	53100000	**2.0**	762	**21.3**	19344	246	64471	0.3	151	7462	6806000	**336**	302699	0.025	21	11.63	10553
31	29	**136**	101735	1.7	1419	1.4	1196	15	13490	40	35260	**0.05**	44	57358	50590000	**2.1**	746	**21.4**	18892	244	61815	0.3	145	7254	6425000	**334**	291932	0.024	20	11.38	10031
32	30	**136**	101081	1.7	1413	1.4	1167	15	13291	40	35080	**0.05**	43	56279	49630000	**2.1**	746	**21.5**	19011	241	61244	0.3	144	7055	6244000	**332**	289369	0.024	20	11.15	9825
33	31	**136**	104728	1.7	1452	1.4	1174	15	13508	39	36008	**0.05**	43	55238	50260000	**2.1**	764	**21.6**	19718	242	63009	0.3	148	6870	6275000	**331**	297232	0.024	21	10.92	9934
34	32	**136**	104360	1.7	1445	1.4	1150	15	13288	39	35805	**0.05**	42	54247	49320000	**2.1**	774	**21.7**	19798	243	63329	0.3	147	6691	6102000	**329**	294822	0.024	21	10.71	9730
35	33	**136**	103631	1.7	1426	1.3	1118	15	12967	39	35275	**0.05**	41	53290	47940000	**2.1**	758	**21.8**	19661	247	63062	0.3	145	6518	5886000	**327**	290475	0.024	21	10.50	9451
36	34	**137**	104660	1.7	1437	1.3	1108	14	12929	39	35474	**0.05**	41	52467	47660000	**2.1**	762	**21.9**	19950	247	63109	0.3	146	6364	5804000	**324**	290800	0.024	21	10.32	9379
37	35	**136**	101872	1.7	1401	1.3	1064	14	12479	39	34530	**0.04**	39	51659	45860000	**2.1**	743	**22.0**	19572	237	59831	0.3	142	6213	5533000	**322**	282668	0.024	20	10.14	9003
38	36	**139**	103956	1.7	1409	1.3	1059	14	12422	39	34688	**0.04**	39	50978	45600000	**2.1**	750	**22.1**	19830	251	62655	0.3	143	6073	5448000	**324**	285171	0.024	20	9.98	8931
39	37	**138**	104490	1.7	1419	1.3	1053	14	12376	38	34866	**0.04**	38	50177	45270000	**2.1**	765	**22.1**	20060	246	60964	0.3	144	5940	5379000	**320**	285300	0.024	20	9.83	8871
40	38	**135**	102800	1.7	1408	1.3	1025	14	12145	38	34487	**0.04**	37	49601	44380000	**2.1**	758	**22.2**	19991	250	62226	0.3	142	5817	5220000	**320**	282216	0.024	20	9.68	8668
41	39	**139**	101911	1.7	1384	1.3	997	14	11826	38	33809	**0.04**	36	48971	43080000	**2.1**	750	**22.3**	19722	247	60022	0.3	140	5701	5031000	**318**	275249	0.024	20	9.55	8406
42	40	**139**	102939	1.6	1395	1.2	993	13	11822	38	34028	**0.04**	36	48360	42900000	**2.0**	748	**22.4**	19962	243	60460	0.3	140	5597	4982000	**317**	277584	0.024	20	9.42	8368
43	41	**137**	103347	1.6	1405	1.2	984	13	11806	38	34255	**0.04**	36	47833	42810000	**2.1**	755	**22.5**	20215	242	61195	0.3	141	5481	4920000	**316**	278484	0.024	20	9.30	8338
44	42	**137**	103491	1.6	1410	1.2	976	13	11735	38	34229	0.04	35	47319	42420000	**2.0**	750	**22.5**	20293	248	60706	0.3	142	5384	4840000	**314**	277542	0.024	20	9.19	8249
45	43	**136**	104563	1.7	1429	1.2	979	13	11762	38	34612	0.04	35	46809	42540000	**2.0**	760	**22.6**	20635	245	62051	0.3	143	5288	4819000	**314**	281307	0.024	21	9.08	8262
46	44	**138**	105274	1.7	1433	1.2	970	13	11698	38	34610	0.04	35	46351	42190000	**2.0**	768	**22.6**	20686	244	61059	0.3	143	5201	4747000	**314**	281028	0.024	21	8.97	8182
47	45	**138**	105654	1.7	1437	1.2	967	13	11605	38	34584	0.04	34	45915	41820000	**2.1**	775	**22.6**	20750	240	60784	0.3	143	5110	4665000	**312**	280605	0.024	21	8.88	8101
48	46	**136**	104211	1.7	1421	1.2	948	13	11390	38	34141	0.04	34	45515	41000000	**2.1**	767	**22.7**	20578	245	60643	0.3	142	5025	4539000	**312**	277176	0.024	21	8.79	7935
49	47	**139**	105622	1.7	1438	1.2	949	13	11470	38	34527	0.04	34	45097	41130000	**2.1**	779	**22.7**	20874	244	60614	0.3	143	4945	4522000	**312**	279521	0.024	21	8.70	7954
50	48	**137**	102193	1.7	1395	1.2	913	13	11013	37	33388	0.04	32	44716	39510000	**2.1**	754	**22.7**	20221	245	59293	0.3	139	4879	4321000	**310**	269949	0.024	20	8.62	7636
51	49	**138**	102881	1.7	1403	1.2	906	12	10987	37	33510	0.04	32	44402	39420000	**2.1**	755	**22.8**	20363	243	59338	0.3	139	4808	4276000	**310**	270520	0.024	20	8.54	7604
52	50	**137**	103484	1.7	1417	1.2	907	12	11039	37	33773	0.04	32	44123	39520000	**2.1**	774	**22.8**	20595	242	59977	0.3	141	4743	4256000	**309**	271891	0.024	20	8.48	7613
53	51	**138**	104918	1.7	1435	1.2	914	12	11088	37	34089	0.04	32	43772	39600000	**2.0**	766	**22.8**	20832	242	60398	0.3	142	4684	4247000	**309**	275121	0.024	21	8.41	7635
54	52	**137**	104119	1.7	1425	1.2	900	12	10941	37	33809	0.04	32	43434	39030000	**2.0**	767	**22.9**	20709	236	58744	0.3	141	4628	4166000	**308**	272379	0.024	20	8.35	7524
55	53	**138**	104136	1.7	1424	1.1	890	12	10866	37	33748	0.03	31	43188	38750000	**2.1**	769	**22.9**	20725	245	60158	0.3	141	4563	4102000	**308**	271816	0.024	20	8.29	7462
56	54	**137**	108503	1.7	1492	1.2	930	12	11297	37	35233	0.03	32	42942	40260000	**2.1**	805	**22.9**	21636	246	62888	0.3	147	4518	4243000	**312**	285688	0.024	21	8.23	7747
57	55	**139**	104097	1.7	1422	1.2	880	12	10706	37	33532	0.03	31	42682	38130000	**2.0**	763	**22.9**	20637	242	60399	0.3	140	4462	3991000	**308**	269587	0.024	20	8.17	7328
58	56	**138**	104936	1.7	1439	1.1	884	12	10803	37	33956	0.03	31	42440	38390000	**2.1**	781	**22.9**	20946	245	61059	0.3	142	4424	4008000	**307**	272769	0.024	21	8.13	7376
59	57	**138**	104425	1.7	1432	1.1	870	12	10659	37	33663	0.03	30	42211	37890000	**2.0**	765	**23.0**	20818	242	59205	0.3	141	4378	3935000	**305**	270315	0.024	21	8.08	7277
60	58	**138**	105760	1.7	1460	1.1	888	12	10786	37	34252	0.03	31	42005	38380000	**2.1**	785	**23.0**	21195	244	60719	0.3	143	4332	3963000	**304**	274397	0.024	21	8.04	7369
61	59	**138**	104196	1.7	1427	1.1	861	12	10526	37	33445	0.03	30	41865	37380000	**2.1**	758	**23.0**	20734	244	58957	0.3	140	4296	3840000	**306**	268281	0.024	21	8.00	7163
62	60	**137**	104585	1.7	1445	1.2	873	12	10610	37	33812	0.03	30	41681	37620000	**2.1**	771	**23.0**	21004	247	60844	0.3	142	4254	3842000	**307**	271859	0.024	21	7.96	7215
63	61	**140**	103750	1.7	1432	1.1	855	12	10436	37	33358	0.03	29	41553	37000000	**2.0**	770	**23.1**	20752	251	59748	0.3	140	4225	3767000	**305**	267546	0.024	21	7.93	7093
64	62	**139**	104380	1.7	1445	1.1	860	12	10471	37	33627	0.03	29	41455	37230000	**2.1**	769	**23.1**	20972	241	58774	0.3	141	4187	3764000	**307**	270876	0.024	21	7.90	7123
65	63	**140**	103617	1.7	1430	1.1	847	12	10321	37	33235	0.03	29	41322	36670000	**2.1**	782	**23.2**	20747	250	59591	0.3	140	4159	3694000	**305**	266026	0.024	21	7.87	7015
66	64	**139**	107070	1.7	1487	1.1	877	12	10674	37	34458	0.03	30	41167	37880000	**2.1**	789	**23.2**	21522	243	60506	0.3	146	4132	3807000	**305**	276575	0.024	21	7.84	7252
67	65	**137**	103329	1.7	1437	1.1	844	12	10267	37	33251	0.03	29	41038	36460000	**2.0**	765	**23.2**	20793	249	59357	0.3	141	4106	3653000	**306**	267234	0.024	21	7.82	6975
68	66	**137**	104411	1.7	1467	1.1	854	12	10420	37	33850	0.03	29	40884	36960000	**2.0**	769	**23.2**	21204	244	60619	0.3	143	4079	3689000	**307**	272355	0.024	21	7.80	7079
69	67	**138**	103983	1.7	1449	1.1	843	12	10253	37	33407	0.03	28	40802	36410000	**2.1**	768	**23.3**	20979	249	60162	0.3	141	4059	3624000	**305**	267725	0.024	21	7.78	6972
70	68	**137**	102265	1.7	1429	1.1	827	12	10089	37	32918	0.03	28	40710	35810000	**2.1**	761	**23.3**	20680	242	58252	0.3	139	4033	3550000	**305**	263738	0.024	20	7.76	6852
71	69	**138**	106649	1.7	1492	1.1	867	12	10495	37	34314	0.03	29	40610	37250000	**2.0**	797	**23.3**	21574	245	61719	0.3	145	4006	3677000	**305**	274861	0.024	21	7.74	7129
72	70	**137**	105173	1.7	1480	1.1	853	11	10364	37	33951	0.03	29	40501	36750000	**2.0**	784	**23.3**	21347	245	59733	0.3	144	3989	3622000	**307**	273495	0.024	21	7.72	7032
73	71	**137**	104124	1.7	1462	1.1	843	11	10234	37	33562	0.03	28	40410	36240000	**2.1**	784	**23.3**	21133	247	60151	0.3	142	3972	3565000	**303**	267220	0.024	21	7.70	6938
74	72	**137**	104355	1.7	1474	1.1	847	11	10245	37	33769	0.03	28	40351	36400000	**2.0**	779	**23.3**	21293	247	60192	0.3	143	3953	3566000	**305**	270692	0.024	21	7.68	6964
75	73	**136**	104222	1.7	1477	1.1	845	11	10242	37	33810	0.03	28	40242	36330000	**2.1**	791	**23.3**	21323	245	61013	0.3	143	3937	3557000	**305**	271470	0.025	21	7.67	6955
76	74	**138**	102172	1.7	1445	1.1	822	11	10030	37	33001	0.03	27	40158	35410000	**2.1**	772	**23.4**	20835	246	58900	0.3	140	3920	3462000	**304**	263717	0.025	21	7.65	6783
77	75	**136**	102406	1.7	1464	1.1	837	11	10136	37	33439	0.03	28	40097	35810000	**2.0**	763	**23.4**	21120	243	58687	0.3	142	3904	3489000	**304**	267368	0.025	21	7.64	6858
78	76	**135**	101696	1.7	1465	1.1	830	11	10097	37	33411	0.03	28	40074	35780000	**2.0**	771	**23.4**	21107	247	59383	0.3	142	3888	3473000	**307**	267896	0.025	21	7.63	6843
79	77	**134**	100589	1.7	1462	1.1	829	11	10050	37	33335	0.03	27	40008	35660000	**2.0**	777	**23.4**	21076	245	58501	0.3	141	3877	3454000	**305**	267536	0.025	21	7.62	6817
80	78	**133**	100448	1.7	1475	1.1	835	11	10104	37	33567	0.03	27	39955	35850000	**2.0**	777	**23.4**	21249	251	60766	0.3	142	3860	3462000	**305**	268859	0.025	21	7.61	6856
81	79	**136**	99567	1.7	1470	1.1	831	11	10051	37	33430	0.03	27	39920	35640000	**2.0**	774	**23.4**	21169	245	60076	0.3	141	3845	3434000	**306**	268910	0.025	21	7.60	6822
82	80	**133**	100857	1.7	1509	1.1	847	11	10300	37	34225	0.03	28	39893	36450000	**2.1**	802	**23.5**	21687	242	60048	0.3	145	3837	3507000	**305**	274492	0.025	22	7.60	6977
83	81	**132**	99960	1.7	1514	1.1	853	11	10301	37	34295	0.03	28	39833	36490000	**2.0**	793	**23.4**	21715	241	60462	0.3	146	3827	3505000	**306**	275546	0.025	22	7.58	6979
84	82	**134**	97657	1.7	1479	1.1	834	11	10039	37	33483	0.03	27	39825	35610000	**2.1**	786	**23.4**	21209	246	59470	0.3	142	3818	3414000	**305**	268650	0.025	21	7.57	6803
85	83	**132**	92321	1.7	1425	1.1	801	11	9646	37	32209	0.03	26	39777	34240000	**2.1**	751	**23.5**	20399	245	57775	0.3	137	3807	3276000	**307**	259450	0.025	20	7.56	6539
86	84	**132**	96894	1.7	1501	1.1	839	11	10145	37	33931	0.03	27	39764	36020000	**2.1**	796	**23.5**	21512	244	59701	0.3	144	3800	3442000	**304**	271324	0.025	22	7.56	6880
87	85	**131**	96279	1.7	1504	1.1	842	11	10151	37	33966	0.03	27	39731	36040000	**2.1**	803	**23.5**	21521	245	59733	0.3	145	3790	3438000	**303**	271702	0.025	22	7.55	6878
88	86	**132**	94001	1.7	1474	1.1	824	11	9947	37	33309	0.03	27	39665	35290000	**2.1**	792	**23.4**	21068	242	59202	0.3	142	3784	3366000	**304**	267220	0.025	21	7.53	6735
89	87	**133**	95159	1.7	1499	1.1	837	11	10105	37	33851	0.03	27	39688	35890000	**2.1**	803	**23.4**	21416	241	59121	0.3	144	3775	3412000	**304**	270918	0.025	21	7.53	6840
90	88	**131**	92397	1.7	1477	1.1	823	11	9944	37	33331	0.03	27	39615	35250000	**2.1**	780	**23.4**	21082	248	58947	0.3	142	3765	3349000	**306**	268439	0.025	21	7.52	6728
91	89	**130**	93767	1.7	1505	1.1	839	11	10136	37	33953	0.03	27	39606	35890000	**2.0**	789	**23.4**	21491	250	61040	0.3	145	3755	3401000	**306**	272896	0.025	22	7.52	6850
92	90	**130**	90780	1.7	1471	1.1	819	11	9874	37	33162	0.03	27	39582	35030000	**2.0**	770	**23.4**	20994	250	60666	0.3	141	3749	3318000	**305**	265956	0.025	21	7.51	6687
93	91	**129**	90339	1.7	1474	1.1	819	11	9884	37	33198	0.03	27	39606	35090000	**2.0**	770	**23.5**	21046	243	59245	0.3	142	3747	3320000	**305**	266914	0.025	21	7.51	6692
94	92	**129**	88512	1.7	1457	1.1	805	11	9768	37	32772	0.03	26	39532	34580000	**2.0**	760	**23.5**	20782	245	57423	0.3	140	3746	3275000	**305**	262761	0.025	21	7.51	6604
95	93	**129**	88599	1.7	1462	1.1	809	11	9802	37	32912	0.03	26	39529	34720000	**2.0**	760	**23.5**	20880	243	58271	0.3	140	3736	3279000	**307**	264400	0.025	21	7.51	6625
96	94	**128**	89358	1.7	1491	1.1	821	11	9984	37	33500	0.03	27	39511	35330000	**2.1**	779	**23.5**	21281	241	58225	0.3	143	3737	3340000	**305**	268893	0.025	21	7.51	6746
97	95	**129**	89128	1.7	1488	1.1	820	11	9937	37	33421	0.03	27	39486	35220000	**2.1**	781	**23.5**	21236	243	58387	0.3	143	3731	3325000	**305**	268160	0.025	21	7.50	6726
98	96	**129**	89494	1.7	1500	1.1	825	11	10003	37	33651	0.03	27	39456	35400000	**2.0**	778	**23.5**	21345	249	60485	0.3	144	3720	3338000	**305**	269867	0.025	21	7.50	6769
99	97	**128**	90669	1.7	1530	1.1	847	11	10205	37	34294	0.03	27	39499	36150000	**2.1**	800	**23.5**	21753	247	61020	0.3	146	3722	3403000	**305**	274732	0.025	22	7.50	6894
100	98	**126**	87225	1.7	1485	1.1	819	11	9896	37	33253	0.03	26	39442	34990000	**2.1**	784	**23.5**	21106	245	58189	0.3	142	3712	3291000	**304**	266434	0.025	21	7.49	6679

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

Table 6 Average Annual Concentration and Load at BER-FDP-05 Discharge Point

Model Year	Mine Year	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium	Selenium	Selenium	Silver	Silver
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		250	-	-	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		25	-	4	-	-	-	1	-	0.25	-
1	-2	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na
3	1	1.00	155	**50**	2487	679	403173	0.44	163	0.05	15
4	2	1.00	348	**50**	21939	1596	1563000	0.48	466	0.05	39
5	3	1.00	462	**50**	42975	2215	2841000	0.54	692	0.05	57
6	4	1.00	504	**50**	48847	2412	3300000	0.55	755	0.05	63
7	5	1.00	519	**50**	49429	2471	3396000	0.56	768	0.05	65
8	6	1.00	639	**50**	66114	2762	4444000	0.60	967	0.05	83
9	7	1.00	432	**50**	56383	2157	2980000	0.53	723	0.05	73
10	8	1.00	333	**50**	50686	1792	2257000	0.48	606	0.06	69
11	9	1.00	348	**50**	53115	1786	2359000	0.49	638	0.06	72
12	10	1.00	83	**50**	12278	1725	548472	0.48	149	0.06	17
13	11	1.00	2	**50**	207	1627	8721	0.48	3	0.06	0
14	12	1.00	2	**50**	211	1538	8258	0.48	3	0.06	0
15	13	1.00	2	**50**	215	1456	7813	0.48	3	0.06	0
16	14	1.00	70	**50**	6485	1613	218735	0.54	71	0.05	6
17	15	1.02	151	**50**	10456	2378	548162	0.64	138	0.08	17
18	16	1.14	323	**50**	14945	4312	1369000	0.80	243	0.19	59
19	17	1.33	617	**50**	21557	5622	2437000	0.80	288	0.24	87
20	18	1.51	1037	**50**	32425	5754	3719000	0.65	307	0.19	95
21	19	1.71	1475	**50**	42479	5473	4631000	0.49	278	0.13	94
22	20	1.78	1572	**50**	44193	5218	4585000	0.45	248	0.11	90
23	21	1.77	1568	**50**	44340	5031	4429000	0.45	241	0.10	88
24	22	1.76	1569	**50**	44612	4849	4303000	0.45	238	0.10	88
25	23	1.75	1583	**50**	45315	4675	4202000	0.44	237	0.10	88
26	24	1.74	1547	**50**	44534	4510	3987000	0.45	229	0.10	86
27	25	1.73	1560	**50**	45119	4357	3904000	0.44	228	0.10	87
28	26	1.72	1524	**50**	44298	4208	3704000	0.44	221	0.10	84
29	27	1.71	1563	**50**	45653	4070	3689000	0.45	224	0.10	86
30	28	1.70	1552	**50**	45533	3936	3555000	0.44	220	0.10	86
31	29	1.70	1501	**50**	44205	3812	3344000	0.45	211	0.10	82
32	30	1.69	1497	**50**	44231	3694	3241000	0.45	208	0.10	82
33	31	1.68	1538	**50**	45628	3582	3241000	0.45	213	0.10	84
34	32	1.68	1533	**50**	45618	3474	3142000	0.44	210	0.10	84
35	33	1.67	1512	**50**	45131	3373	3019000	0.45	206	0.10	83
36	34	1.67	1522	**50**	45581	3278	2963000	0.44	206	0.10	83
37	35	1.66	1484	**50**	44534	3187	2812000	0.45	199	0.10	81
38	36	1.66	1493	**50**	44923	3103	2761000	0.44	199	0.10	81
39	37	1.66	1502	**50**	45292	3023	2712000	0.45	199	0.10	82
40	38	1.65	1487	**50**	44947	2947	2623000	0.45	197	0.09	81
41	39	1.65	1460	**50**	44161	2876	2517000	0.45	192	0.09	80
42	40	1.65	1471	**50**	44581	2808	2478000	0.45	192	0.09	80
43	41	1.64	1482	**50**	44992	2744	2444000	0.45	192	0.09	81
44	42	1.64	1482	**50**	45058	2681	2391000	0.44	191	0.09	81
45	43	1.64	1500	**50**	45667	2622	2369000	0.45	193	0.09	82
46	44	1.64	1501	**50**	45761	2566	2322000	0.45	193	0.09	82
47	45	1.64	1501	**50**	45823	2514	2276000	0.45	192	0.09	82
48	46	1.63	1483	**50**	45315	2464	2209000	0.45	189	0.09	81
49	47	1.63	1500	**50**	45908	2416	2194000	0.45	190	0.09	82
50	48	1.63	1451	**50**	44438	2370	2084000	0.44	183	0.09	80
51	49	1.63	1458	**50**	44665	2329	2055000	0.45	184	0.09	80
52	50	1.63	1470	**50**	45071	2290	2040000	0.44	185	0.09	81
53	51	1.63	1485	**50**	45540	2254	2028000	0.45	186	0.09	82
54	52	1.63	1473	**50**	45203	2216	1979000	0.45	185	0.09	81
55	53	1.62	1471	**50**	45191	2181	1946000	0.45	184	0.09	81
56	54	1.62	1536	**50**	47228	2148	2001000	0.45	192	0.09	85
57	55	1.62	1462	**50**	44975	2115	1877000	0.44	182	0.09	81
58	56	1.62	1481	**50**	45597	2088	1878000	0.45	184	0.09	82
59	57	1.62	1469	**50**	45220	2060	1837000	0.44	182	0.09	81
60	58	1.62	1495	**50**	46047	2034	1846000	0.44	185	0.09	83
61	59	1.62	1460	**50**	44984	2010	1784000	0.44	180	0.09	81
62	60	1.62	1476	**50**	45493	1984	1779000	0.45	182	0.09	82
63	61	1.62	1456	**50**	44875	1965	1739000	0.44	180	0.09	81
64	62	1.62	1469	**50**	45262	1945	1735000	0.44	181	0.09	82
65	63	1.62	1452	**50**	44757	1925	1698000	0.44	179	0.10	81
66	64	1.62	1506	**50**	46396	1905	1743000	0.45	185	0.10	84
67	65	1.62	1453	**50**	44774	1888	1667000	0.45	179	0.10	81
68	66	1.62	1480	**50**	45593	1871	1681000	0.45	182	0.10	83
69	67	1.62	1461	**50**	44997	1854	1645000	0.45	179	0.10	82
70	68	1.62	1440	**50**	44324	1839	1606000	0.44	176	0.10	81
71	69	1.62	1501	**50**	46180	1827	1665000	0.45	184	0.10	84
72	70	1.62	1485	**50**	45576	1811	1632000	0.44	182	0.10	83
73	71	1.62	1468	**50**	44777	1798	1602000	0.45	180	0.10	82
74	72	1.62	1478	**50**	44798	1787	1602000	0.45	181	0.10	83
75	73	1.62	1480	**50**	44553	1776	1593000	0.45	181	0.10	83
76	74	1.62	1445	**50**	43172	1764	1545000	0.45	176	0.10	81
77	75	1.62	1464	**50**	43480	1756	1558000	0.44	178	0.10	83
78	76	1.62	1463	**50**	43306	1746	1548000	0.45	179	0.10	83
79	77	1.62	1459	**50**	43134	1738	1537000	0.44	177	0.10	82
80	78	1.62	1470	**50**	43412	1731	1540000	0.44	179	0.10	83
81	79	1.62	1464	**50**	43221	1722	1526000	0.44	178	0.10	83
82	80	1.62	1499	**50**	44241	1715	1556000	0.45	183	0.10	85
83	81	1.62	1502	**50**	44326	1708	1553000	0.45	183	0.10	85
84	82	1.62	1466	**50**	43251	1699	1508000	0.45	179	0.10	83
85	83	1.62	1411	**50**	41580	1694	1447000	0.44	171	0.10	80
86	84	1.62	1487	**50**	43810	1688	1518000	0.45	181	0.10	84
87	85	1.62	1488	**50**	43853	1681	1513000	0.45	182	0.10	85
88	86	1.62	1459	**50**	43002	1675	1479000	0.45	177	0.10	83
89	87	1.62	1483	**50**	43694	1669	1497000	0.45	180	0.10	84
90	88	1.62	1460	**50**	43016	1666	1471000	0.45	177	0.10	83
91	89	1.62	1488	**50**	43810	1661	1493000	0.45	181	0.10	85
92	90	1.62	1453	**50**	42775	1656	1454000	0.45	177	0.10	83
93	91	1.62	1455	**50**	42818	1652	1452000	0.45	176	0.10	83
94	92	1.62	1437	**50**	42256	1648	1432000	0.45	175	0.10	82
95	93	1.62	1443	**50**	42433	1643	1432000	0.44	175	0.10	82
96	94	1.62	1469	**50**	43175	1642	1456000	0.44	178	0.10	84
97	95	1.62	1465	**50**	43066	1639	1450000	0.45	178	0.10	84
98	96	1.62	1475	**50**	43361	1635	1456000	0.45	179	0.10	84
99	97	1.62	1503	**50**	44184	1630	1479000	0.45	183	0.10	86
100	98	1.62	1457	**50**	42838	1627	1432000	0.44	177	0.10	83

Model Year	Mine Year	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	400	-	-	-
CWQG-FAL (short_term)		-	-	-	-	33	-	11.3	-	640000	-
CWQG-FAL (long-term)		-	-	0.8	-	15	-	2.2	-	120000	-
1	-2	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na
3	1	2073	310607	0.08	42	0.65	442	4.4	776	3271	1549000
4	2	2709	2527000	0.07	72	1.60	1556	4.5	1885	3177	2779000
5	3	4108	5272000	0.06	73	1.96	2481	4.4	2639	2958	2937000
6	4	4585	6266000	0.05	72	2.09	2825	4.4	2902	2953	2981000
7	5	4790	6566000	0.05	73	2.19	2978	4.4	2981	2922	2985000
8	6	5613	9008000	0.05	79	2.59	4103	4.5	3749	2889	3296000
9	7	3610	4959000	0.05	65	1.39	1915	4.4	3365	2849	2635000
10	8	2438	2941000	0.05	60	0.67	826	4.4	3193	2880	2360000
11	9	2442	3077000	0.05	62	0.67	872	4.4	3346	2904	2470000
12	10	2383	711269	0.05	15	0.70	206	4.5	791	2893	586037
13	11	2342	11690	0.05	0	0.67	4	4.5	15	2906	11050
14	12	2340	11662	0.05	0	0.63	3	4.5	16	2929	11325
15	13	2352	11639	0.05	0	0.59	3	4.5	16	2924	11585
16	14	2403	296830	0.05	5	0.67	95	4.5	387	2866	212360
17	15	3566	823058	0.05	7	1.79	467	5.6	974	2857	258604
18	16	8373	3136000	0.06	17	5.17	1644	9.3	2742	2880	508373
19	17	17487	10800000	0.07	33	6.80	2636	10.9	3941	3332	1349000
20	18	29797	24110000	0.08	53	5.81	3271	8.6	4243	4106	2794000
21	19	41590	37600000	0.09	75	4.49	3535	6.2	4301	5053	4405000
22	20	44931	40170000	0.09	81	3.93	3374	5.3	4193	5364	4781000
23	21	44313	39610000	0.09	81	3.75	3239	5.3	4133	5296	4725000
24	22	43397	39110000	0.09	81	3.61	3139	5.2	4107	5211	4687000
25	23	42498	38820000	0.09	82	3.48	3056	5.2	4131	5127	4679000
26	24	41669	37430000	0.09	80	3.35	2903	5.2	4038	5058	4535000
27	25	40866	37250000	0.09	81	3.23	2835	5.1	4053	4972	4520000
28	26	40138	35900000	0.09	79	3.12	2689	5.1	3967	4914	4382000
29	27	39404	36330000	0.09	81	3.01	2672	5.1	4069	4859	4470000
30	28	38697	35570000	0.09	81	2.91	2576	5.1	4014	4790	4391000
31	29	38058	33980000	0.09	78	2.81	2419	5.1	3900	4723	4202000
32	30	37487	33460000	0.09	78	2.72	2341	5.0	3865	4661	4147000
33	31	36896	34000000	0.09	80	2.64	2340	5.1	3976	4617	4242000
34	32	36314	33440000	0.09	80	2.56	2267	5.0	3944	4556	4179000
35	33	35773	32600000	0.09	79	2.48	2177	5.0	3893	4514	4102000
36	34	35276	32480000	0.09	80	2.41	2137	5.0	3938	4470	4099000
37	35	34815	31310000	0.09	78	2.34	2028	5.0	3838	4430	3966000
38	36	34375	31170000	0.09	78	2.28	1992	5.1	3862	4387	3962000
39	37	33954	31070000	0.09	79	2.22	1953	5.0	3875	4358	3968000
40	38	33545	30440000	0.09	78	2.16	1892	5.0	3846	4317	3896000
41	39	33184	29610000	0.09	76	2.11	1816	5.0	3765	4281	3798000
42	40	32852	29570000	0.09	77	2.06	1789	5.0	3790	4249	3803000
43	41	32519	29560000	0.09	78	2.02	1764	5.0	3828	4212	3803000
44	42	32201	29310000	0.09	78	1.97	1728	5.0	3841	4197	3793000
45	43	31869	29410000	0.09	79	1.93	1713	5.0	3889	4164	3809000
46	44	31560	29170000	0.09	79	1.89	1681	5.0	3905	4141	3798000
47	45	31262	28930000	0.09	79	1.85	1649	5.0	3916	4102	3764000
48	46	30986	28390000	0.09	78	1.82	1601	5.0	3859	4084	3709000
49	47	30718	28510000	0.09	79	1.78	1594	5.0	3896	4075	3738000
50	48	30502	27400000	0.09	76	1.75	1514	4.9	3757	4035	3592000
51	49	30290	27340000	0.09	77	1.72	1495	5.0	3787	4016	3589000
52	50	30088	27410000	0.09	77	1.69	1486	5.0	3824	4011	3613000
53	51	29870	27500000	0.09	78	1.67	1478	5.0	3881	3990	3631000
54	52	29688	27130000	0.09	77	1.64	1444	5.0	3852	3962	3585000
55	53	29502	26960000	0.09	77	1.62	1421	5.0	3835	3945	3562000
56	54	29288	27960000	0.09	81	1.60	1464	5.0	4015	3933	3711000
57	55	29109	26470000	0.09	77	1.57	1375	4.9	3822	3926	3519000
58	56	28951	26670000	0.09	78	1.55	1376	5.0	3866	3922	3568000
59	57	28799	26320000	0.09	77	1.53	1349	4.9	3843	3901	3514000
60	58	28649	26650000	0.09	79	1.52	1356	5.0	3926	3898	3571000
61	59	28513	25900000	0.09	77	1.50	1312	5.0	3837	3879	3477000
62	60	28388	26110000	0.09	78	1.49	1314	5.0	3885	3861	3501000
63	61	28288	25660000	0.09	77	1.47	1283	5.0	3835	3855	3450000
64	62	28182	25770000	0.09	77	1.46	1283	5.0	3873	3840	3461000
65	63	28090	25390000	0.09	76	1.45	1258	5.0	3836	3849	3425000
66	64	27968	26240000	0.09	79	1.44	1293	5.0	3968	3838	3542000
67	65	27880	25250000	0.09	76	1.42	1238	5.0	3836	3830	3404000
68	66	27781	25590000	0.09	78	1.41	1253	5.0	3910	3833	3464000
69	67	27700	25210000	0.09	77	1.40	1228	5.0	3877	3814	3410000
70	68	27637	24760000	0.09	76	1.39	1200	5.1	3827	3811	3355000
71	69	27550	25770000	0.09	79	1.39	1244	5.0	3992	3791	3486000
72	70	27456	25390000	0.09	78	1.38	1224	5.0	3954	3791	3447000
73	71	27376	25040000	0.09	77	1.37	1202	5.0	3894	3782	3393000
74	72	27317	25150000	0.09	78	1.36	1203	5.0	3924	3768	3408000
75	73	27252	25110000	0.09	78	1.36	1198	5.0	3943	3776	3413000
76	74	27203	24470000	0.09	76	1.35	1165	5.0	3848	3779	3332000
77	75	27153	24740000	0.09	77	1.34	1174	5.1	3908	3770	3369000
78	76	27102	24670000	0.09	77	1.34	1169	5.0	3906	3761	3356000
79	77	27055	24580000	0.09	77	1.33	1160	5.1	3904	3751	3343000
80	78	27013	24710000	0.09	77	1.33	1164	5.0	3928	3739	3360000
81	79	26978	24580000	0.09	77	1.32	1155	5.1	3915	3752	3351000
82	80	26914	25100000	0.09	79	1.32	1180	5.1	4023	3745	3426000
83	81	26858	25110000	0.09	79	1.31	1179	5.1	4034	3736	3425000
84	82	26816	24470000	0.09	77	1.31	1147	5.1	3935	3741	3348000
85	83	26817	23520000	0.09	74	1.30	1100	5.0	3770	3737	3215000
86	84	26795	24790000	0.09	78	1.30	1155	5.0	3993	3725	3379000
87	85	26741	24750000	0.09	78	1.30	1154	5.1	3995	3736	3385000
88	86	26719	24250000	0.09	77	1.29	1128	5.0	3912	3723	3307000
89	87	26690	24620000	0.09	78	1.29	1145	5.1	3982	3727	3363000
90	88	26661	24210000	0.09	77	1.29	1124	5.0	3912	3732	3316000
91	89	26632	24650000	0.09	78	1.29	1144	5.1	4003	3722	3376000
92	90	26616	24050000	0.09	76	1.29	1115	5.1	3914	3724	3286000
93	91	26596	24070000	0.09	77	1.28	1115	5.0	3903	3701	3283000
94	92	26595	23740000	0.09	76	1.28	1100	5.0	3847	3733	3255000
95	93	26595	23840000	0.09	76	1.28	1102	5.1	3883	3723	3268000
96	94	26589	24270000	0.09	77	1.28	1120	5.0	3949	3744	3325000
97	95	26574	24200000	0.09	77	1.28	1116	5.1	3940	3720	3314000
98	96	26552	24320000	0.09	78	1.28	1123	5.1	3985	3711	3330000
99	97	26511	24780000	0.09	79	1.28	1143	5.1	4051	3704	3397000
100	98	26502	23980000	0.09	77	1.27	1107	5.0	3930	3708	3288000

Model Year	Mine Year	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrate (as Nitrogen)	Nitrate (as Nitrogen)	Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	500	-	500	-
CWQG-FAL (short_term)		-	-	-	-	550000	-	-	-	16	-	-	-
CWQG-FAL (long-term)		-	-	60	-	13000	-	689	-	16	-	-	-
1	-2	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na
3	1	1787	1241000	52.2	34846	1747	1214000	298	196577	11.3	7470	10	2814
4	2	3882	3735000	100.8	97176	3795	3652000	562	541382	21.3	20573	10	6454
5	3	3738	4623000	95.8	118908	3655	4520000	531	658833	20.2	25036	10	8724
6	4	3695	4924000	94.4	126172	3613	4815000	523	698978	19.9	26561	10	9415
7	5	4287	5693000	107.7	143501	4191	5566000	595	792794	22.6	30126	10	9481
8	6	3852	5991000	97.6	152292	3766	5858000	540	841999	20.5	31996	10	11295
9	7	2162	2943000	58.9	80249	2114	2877000	326	443902	12.4	16868	10	8964
10	8	997	1191000	32.5	39335	975	1165000	181	219352	6.9	8335	10	7871
11	9	419	515482	19.5	24748	410	504661	112	139569	4.2	5304	10	8260
12	10	221	65997	15.2	4587	217	64694	89	25714	3.4	977	10	1941
13	11	213	1145	14.9	80	209	1122	88	452	3.3	17	10	36
14	12	202	1083	14.4	77	198	1061	86	440	3.3	17	10	37
15	13	192	1035	13.9	74	188	1015	84	428	3.2	16	10	38
16	14	138	16683	12.3	1567	136	16418	75	8565	2.9	325	10	1136
17	15	201	52238	13.5	3061	198	51277	79	16161	3.0	614	10	1994
18	16	597	193996	23.1	7450	585	189969	379	247420	14.4	9402	27	20999
19	17	840	355615	31.1	14359	823	348203	1935	1606000	73.5	61028	10	3219
20	18	824	515947	34.8	23708	807	505270	4248	3775000	161.4	143450	10	2883
21	19	763	633963	36.8	31659	748	621311	6204	5728000	235.8	217664	10	2811
22	20	717	628345	36.4	32184	703	615705	6538	5862000	248.4	222756	10	2654
23	21	681	596323	35.1	31061	667	584399	6257	5620000	237.8	213560	10	2619
24	22	647	571601	33.8	30158	634	560500	5945	5359000	225.9	203642	10	2621
25	23	615	551111	32.6	29489	603	540018	5643	5200000	214.4	197600	10	2650
26	24	584	514658	31.4	27932	573	504359	5359	4838000	203.7	183844	10	2589
27	25	556	497566	30.3	27357	545	487427	5090	4641000	193.4	176358	10	2613
28	26	529	464361	29.3	25914	518	455023	4837	4334000	183.8	164692	10	2553
29	27	503	455792	28.2	25806	493	446453	4592	4249000	174.5	161462	10	2623
30	28	479	431686	27.3	24855	469	423087	4358	4016000	165.6	152608	10	2605
31	29	456	398555	26.4	23315	447	390906	4141	3710000	157.3	140980	10	2518
32	30	435	380342	25.6	22588	426	372624	3936	3544000	149.6	134672	10	2510
33	31	414	375478	24.8	22625	406	367990	3737	3455000	142.0	131290	10	2584
34	32	394	356682	24.0	21908	387	349590	3547	3295000	134.8	125210	10	2576
35	33	376	335898	23.3	21001	368	329273	3368	3086000	128.0	117268	10	2540
36	34	358	324504	22.6	20618	351	317938	3198	2953000	121.5	112214	10	2559
37	35	342	302827	21.9	19549	335	296436	3038	2737000	115.5	104006	10	2492
38	36	326	290645	21.3	19157	320	285037	2887	2639000	109.7	100282	10	2509
39	37	312	280873	20.7	18807	306	275347	2742	2519000	104.2	95722	10	2524
40	38	298	265723	20.2	18167	292	260346	2605	2375000	99.0	90250	10	2498
41	39	285	250340	19.7	17392	279	245192	2478	2212000	94.2	84056	10	2448
42	40	273	242231	19.2	17151	267	237295	2356	2129000	89.5	80902	10	2468
43	41	261	233883	18.8	16894	256	229191	2239	2052000	85.1	77976	10	2486
44	42	250	224346	18.3	16509	245	219919	2129	1944000	80.9	73872	10	2486
45	43	240	217987	17.9	16354	235	213713	2022	1871000	76.8	71098	10	2517
46	44	230	208911	17.5	16014	225	204819	1921	1786000	73.0	67868	10	2518
47	45	220	200430	17.1	15685	216	196435	1825	1696000	69.3	64448	10	2518
48	46	211	191109	16.8	15222	207	187332	1734	1590000	65.9	60420	10	2486
49	47	202	185368	16.4	15099	199	182153	1648	1531000	62.6	58178	10	2517
50	48	195	172446	16.1	14339	191	169309	1568	1407000	59.6	53466	10	2431
51	49	187	166813	15.8	14140	184	163563	1492	1349000	56.7	51262	10	2441
52	50	180	161877	15.5	14007	177	159032	1420	1295000	54.0	49210	10	2460
53	51	174	157612	15.3	13918	170	154387	1350	1248000	51.3	47424	10	2485
54	52	167	150775	15.0	13600	164	147968	1284	1175000	48.8	44650	10	2464
55	53	161	145219	14.8	13373	158	142600	1222	1120000	46.4	42560	10	2461
56	54	155	146318	14.5	13738	153	143947	1161	1115000	44.1	42370	10	2573
57	55	150	134904	14.3	12902	147	132205	1104	1006000	42.0	38228	10	2446
58	56	145	131782	14.1	12888	142	129462	1051	971789	39.9	36928	10	2478
59	57	140	126144	13.9	12602	138	123839	1001	918452	38.0	34901	10	2455
60	58	136	124403	13.7	12640	133	122239	953	887622	36.2	33730	10	2499
61	59	131	117730	13.6	12214	129	115617	907	826929	34.5	31423	10	2439
62	60	127	115583	13.4	12196	125	113680	865	796470	32.9	30266	10	2466
63	61	123	110626	13.2	11884	121	108512	824	750251	31.3	28510	10	2430
64	62	120	108672	13.1	11860	118	106570	785	717474	29.8	27264	10	2450
65	63	116	104242	12.9	11589	114	102426	749	676758	28.5	25717	10	2421
66	64	113	104833	12.8	11871	111	103148	714	668688	27.1	25410	10	2511
67	65	110	98671	12.7	11376	108	97123	680	615743	25.9	23398	10	2420
68	66	107	97554	12.5	11455	105	96042	649	599474	24.7	22780	10	2464
69	67	104	94012	12.5	11223	103	92387	619	565232	23.5	21479	10	2431
70	68	102	90237	12.4	10959	100	88790	591	529752	22.5	20131	10	2394
71	69	99	92339	12.2	11339	98	90720	565	527003	21.5	20026	10	2498
72	70	97	89017	12.2	11150	96	87449	539	498207	20.5	18932	10	2471
73	71	95	85995	12.1	10931	93	84621	515	472701	19.6	17963	10	2441
74	72	93	84623	12.0	10900	92	83369	492	455573	18.7	17312	10	2456
75	73	91	82916	11.9	10875	90	81646	471	432870	17.9	16449	10	2458
76	74	89	79455	11.8	10537	88	78213	450	405716	17.1	15417	10	2396
77	75	87	78566	11.7	10589	86	77647	431	393396	16.4	14949	10	2429
78	76	86	76947	11.7	10509	85	76055	412	374728	15.7	14240	10	2428
79	77	84	75596	11.6	10449	83	74586	395	358637	15.0	13628	10	2420
80	78	83	74819	11.6	10466	82	73928	378	345082	14.4	13113	10	2438
81	79	82	73327	11.5	10374	81	72406	362	330129	13.8	12545	10	2426
82	80	80	73768	11.5	10567	79	72578	348	324122	13.2	12317	10	2486
83	81	79	72860	11.4	10540	78	71850	333	312296	12.7	11867	10	2491
84	82	78	70005	11.3	10245	77	69258	320	291289	12.1	11069	10	2429
85	83	77	66245	11.3	9804	76	65474	307	269841	11.7	10254	10	2333
86	84	76	69034	11.3	10312	76	68190	295	273393	11.2	10389	10	2462
87	85	75	67858	11.2	10248	75	67491	284	261576	10.8	9940	10	2465
88	86	75	66156	11.2	10054	73	65008	273	246965	10.4	9385	10	2415
89	87	73	66004	11.1	10171	73	65208	262	241828	10.0	9189	10	2455
90	88	73	64487	11.1	9967	72	63688	252	228686	9.6	8690	10	2417
91	89	72	64713	11.1	10117	72	64150	243	225325	9.2	8562	10	2463
92	90	72	62611	11.0	9856	71	62113	234	211599	8.9	8041	10	2402
93	91	71	62158	11.0	9838	70	61264	226	204469	8.6	7770	10	2406
94	92	70	60627	11.0	9682	69	59914	219	195000	8.3	7410	10	2373
95	93	70	60485	11.0	9696	69	59522	211	188654	8.0	7169	10	2383
96	94	69	60835	10.9	9853	69	60196	204	185907	7.7	7064	10	2425
97	95	69	60122	10.9	9781	68	59527	196	178437	7.5	6781	10	2420
98	96	68	59964	10.9	9831	68	59411	190	174147	7.2	6618	10	2438
99	97	68	60873	10.9	10017	67	60152	184	171102	7.0	6502	10	2485
100	98	67	58398	10.8	9676	67	57861	179	161157	6.8	6124	10	2407

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

Table 6 Average Annual Concentration and Load at BER-FDP-05 Discharge Point

		Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		5	-	-	-	120	-	-	-
Model Year	Mine Year								
1	-2	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na
3	1	1.0	427	6214	4015000	60	22853	0.01	3
4	2	1.0	892	8937	8706000	82	79926	0.01	14
5	3	1.0	1112	8962	11420000	105	134249	0.02	28
6	4	1.0	1178	9084	12340000	111	151973	0.02	32
7	5	1.0	1184	9207	12570000	113	155821	0.02	32
8	6	1.0	1382	9588	15310000	127	204664	0.03	42
9	7	1.0	1102	8500	11600000	117	160707	0.02	34
10	8	1.0	974	7835	9751000	110	138383	0.02	30
11	9	1.0	1021	7745	10110000	110	145129	0.02	32
12	10	1.0	240	7853	2383000	110	33959	0.02	7
13	11	1.0	4	7534	40319	107	572	0.02	0
14	12	1.0	4	7136	38285	104	556	0.02	0
15	13	1.0	4	6764	36297	101	540	0.02	0
16	14	1.0	121	6079	785919	113	15310	0.03	4
17	15	1.0	204	8354	2005000	175	40922	0.05	10
18	16	5.9	4871	22186	8946000	345	110215	0.06	17
19	17	2.6	1905	54753	36090000	465	201383	0.06	24
20	18	1.0	456	102527	84890000	480	309331	0.05	34
21	19	1.0	329	148027	134500000	465	392323	0.04	37
22	20	1.0	307	161004	144100000	450	394887	0	35
23	21	1.0	303	158716	141900000	437	384161	0	34
24	22	1.0	303	155275	140000000	425	376122	0	33
25	23	1.0	307	151896	138800000	413	370395	0	32
26	24	1.0	300	148768	133600000	402	354336	0	31
27	25	1.0	303	145766	132900000	391	349743	0	31
28	26	1.0	296	142970	127900000	381	334352	0	29
29	27	1.0	304	140210	129300000	371	335804	0	29
30	28	1.0	303	137563	126400000	362	326347	0	28
31	29	1.0	293	135166	120600000	354	309446	0	27
32	30	1.0	292	132969	118600000	346	302423	0	26
33	31	1.0	300	130740	120400000	338	305274	0	27
34	32	1.0	300	128575	118300000	331	298284	0	26
35	33	1.0	296	126557	115200000	324	289197	0	25
36	34	1.0	298	124643	114700000	318	286239	0	25
37	35	1.0	290	122874	110400000	312	274381	0	24
38	36	1.0	292	121229	109800000	306	271591	0	23
39	37	1.0	294	119624	109400000	301	269026	0	23
40	38	1.0	291	118120	107100000	296	262584	0	23
41	39	1.0	285	116746	104100000	291	254153	0	22
42	40	1.0	287	115449	103800000	287	252382	0	22
43	41	1.0	290	114189	103600000	283	250860	0	21
44	42	1.0	290	112971	102700000	279	247818	0	21
45	43	1.0	293	111745	103000000	275	247741	0	21
46	44	1.0	294	110566	102000000	272	244901	0	21
47	45	1.0	294	109442	101100000	268	242209	0	21
48	46	1.0	290	108411	99130000	265	236708	0	20
49	47	1.0	294	107387	99480000	262	236820	0	20
50	48	1.0	284	106515	95540000	259	226956	0	19
51	49	1.0	285	105725	95220000	257	225738	0	19
52	50	1.0	287	104951	95400000	254	225556	0	19
53	51	1.0	290	104154	95660000	252	225924	0	19
54	52	1.0	288	103405	94300000	250	222225	0	19
55	53	1.0	287	102714	93620000	248	220080	0	18
56	54	1.0	301	101928	97070000	246	228182	0	19
57	55	1.0	286	101235	91830000	244	215604	0	18
58	56	1.0	289	100641	92490000	242	216629	0	18
59	57	1.0	287	100076	91240000	241	213653	0	18
60	58	1.0	292	99512	92330000	239	216075	0	18
61	59	1.0	285	99003	89710000	238	209794	0	17
62	60	1.0	288	98535	90380000	236	211030	0	17
63	61	1.0	284	98112	88770000	235	207452	0	17
64	62	1.0	286	97718	89140000	234	208041	0	17
65	63	1.0	283	97339	87760000	233	204596	0	17
66	64	1.0	293	96913	90670000	232	211354	0	17
67	65	1.0	283	96534	87190000	231	203135	0	17
68	66	1.0	288	96203	88360000	230	206047	0	17
69	67	1.0	284	95878	87010000	230	202605	0	16
70	68	1.0	280	95628	85450000	229	198917	0	16
71	69	1.0	292	95306	88900000	228	206736	0	17
72	70	1.0	289	94975	87580000	227	203956	0	16
73	71	1.0	285	94691	86380000	227	200847	0	16
74	72	1.0	287	94438	86680000	226	201611	0	16
75	73	1.0	287	94174	86510000	226	201313	0	16
76	74	1.0	280	93996	84310000	225	196182	0	16
77	75	1.0	284	93811	85230000	224	198143	0	16
78	76	1.0	284	93636	84970000	224	197625	0	16
79	77	1.0	283	93477	84680000	223	196700	0	16
80	78	1.0	285	93316	85100000	223	197687	0	16
81	79	1.0	284	93160	84640000	223	196532	0	16
82	80	1.0	291	92967	86440000	223	201003	0	16
83	81	1.0	291	92732	86430000	222	201070	0	16
84	82	1.0	284	92561	84220000	222	195978	0	16
85	83	1.0	273	92524	80920000	221	188374	0	15
86	84	1.0	288	92427	85240000	221	198090	0	16
87	85	1.0	288	92262	85140000	221	198026	0	16
88	86	1.0	283	92145	83350000	220	193842	0	15
89	87	1.0	287	92011	84600000	220	196778	0	16
90	88	1.0	283	91919	83200000	220	193497	0	15
91	89	1.0	288	91804	84690000	220	196943	0	16
92	90	1.0	281	91735	82650000	220	192202	0	15
93	91	1.0	281	91677	82700000	220	192265	0	15
94	92	1.0	277	91670	81580000	219	189666	0	15
95	93	1.0	279	91672	81910000	219	190178	0	15
96	94	1.0	284	91634	83380000	219	193503	0	15
97	95	1.0	283	91555	83090000	219	192877	0	15
98	96	1.0	285	91489	83540000	219	194124	0	15
99	97	1.0	291	91361	85100000	219	197714	0	16
100	98	1.0	282	91293	82360000	219	191651	0	15

Notes:
Mine Construction = Model Year 0 - 2.25
Mine Operation = Model Year 2.25 - 17.25
Mine Closure = Model Year 17.25 - 22.25
Mine Post-closure = Model Year 22.25 - 100
µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year
"na" = predicted concentration or annual load is not available as there is no discharge from the facility

Table 7 Average Annual Concentration and Load at BER-FDP-06 Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**127**	12969	0.6	64	2.3	323	4	372	25	2405	0.01	1	9343	924431	**2.2**	202	1.5	183
4	2	**147**	26231	0.8	159	**8.3**	1562	4	812	25	2721	0.03	5	10090	1604000	**2.1**	211	**3.5**	675
5	3	**160**	29459	1.1	205	**13.0**	2538	5	946	25	1276	0.04	8	10006	1561000	**2.1**	84	**5.1**	998
6	4	**165**	30657	1.1	207	**13.5**	2622	5	971	25	1112	0.04	8	9942	1530000	**2.0**	71	**5.3**	1035
7	5	**161**	30253	1.1	213	**13.3**	2592	5	982	25	1116	0.04	8	10084	1620000	**2.0**	71	**5.3**	1047
8	6	**162**	30744	1.1	218	**13.5**	2725	5	1000	25	1135	0.04	8	9927	1604000	**2.0**	73	**5.5**	1092
9	7	**162**	29732	1.1	208	**13.9**	2708	5	969	25	1107	0.04	8	9910	1522000	**2.1**	71	**5.2**	1007
10	8	**165**	30127	1.1	210	**13.7**	2596	5	943	25	1078	0.04	7	10019	1534000	**2.1**	69	**5.3**	1004
11	9	**164**	30810	1.1	216	**13.4**	2640	5	977	25	1131	0.04	8	9855	1560000	**2.1**	72	**5.4**	1067
12	10	**165**	30495	1.1	204	**13.3**	2580	5	953	25	1101	0.04	8	9937	1524000	**2.1**	71	**5.4**	1042
13	11	**164**	30216	1.1	211	**13.4**	2633	5	981	25	1124	0.04	8	10062	1579000	**2.0**	71	**5.4**	1048
14	12	**165**	30967	1.1	213	**13.6**	2670	5	966	25	1115	0.04	8	9982	1585000	**2.0**	69	**5.3**	1038
15	13	**163**	30627	1.1	212	**13.1**	2577	5	981	25	1113	0.04	7	10023	1591000	**2.0**	70	**5.2**	1027
16	14	**163**	28600	1.1	202	**13.3**	2463	5	923	25	1053	0.04	7	10128	1492000	**2.0**	66	**5.4**	1004
17	15	**164**	29203	1.1	201	**13.3**	2467	5	919	25	1067	0.04	7	9780	1482000	**2.0**	67	**5.5**	1033
18	16	**164**	29341	1.1	204	**13.2**	2497	5	937	25	1087	0.04	7	10046	1503000	**2.1**	69	**5.3**	993
19	17	**163**	27983	1.1	195	**13.9**	2520	5	887	25	1033	0.04	7	10074	1418000	**2.0**	64	**5.2**	944
20	18	**163**	28340	1.1	197	**13.6**	2505	5	927	25	1058	0.04	7	10003	1513000	**2.0**	67	**5.3**	977
21	19	41	23330	0.3	163	3.2	2004	1	757	6	906	0.01	6	2453	1233000	0.5	59	1.3	788
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 7 Average Annual Concentration and Load at BER-FDP-06 Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	264	26542	0.3	33	1176	115957	179	16612	0.010	1	1.37	162	1.00	103	**50**	5461	460	57835
4	2	**303**	51353	0.3	66	1188	180404	181	23777	0.010	2	2.35	451	1.00	149	**50**	9662	1195	227094
5	3	**323**	56408	0.4	72	1159	155089	176	18760	0.010	1	3.22	629	1.00	122	**50**	9764	1720	336215
6	4	**324**	56051	0.4	76	1158	151423	182	18754	0.010	1	3.24	635	1.00	119	**50**	9820	1776	348673
7	5	**330**	57638	0.4	74	1176	158991	176	18301	0.010	1	3.19	631	1.00	118	**50**	9857	1779	349604
8	6	**331**	58868	0.4	78	1181	155963	181	18553	0.010	1	3.34	666	1.00	123	**50**	10013	1802	360109
9	7	**326**	56214	0.4	75	1158	153541	182	17974	0.010	1	3.26	638	1.00	116	**50**	9765	1831	359415
10	8	**329**	55651	0.4	74	1163	150163	176	17875	0.010	1	3.29	623	1.00	113	**50**	9505	1783	338800
11	9	**321**	57059	0.4	75	1169	159783	180	18523	0.010	1	3.28	656	1.00	119	**50**	9956	1794	354459
12	10	**321**	55308	0.4	75	1161	151686	178	17970	0.010	1	3.17	611	1.00	115	**50**	9658	1772	341598
13	11	**323**	55892	0.4	75	1174	152891	180	18948	0.010	1	3.32	649	1.00	118	**50**	9813	1836	357600
14	12	**326**	57012	0.4	75	1182	150250	181	18705	0.010	1	3.33	648	1.00	118	**50**	9809	1760	346385
15	13	**322**	55677	0.4	79	1171	155415	181	18614	0.010	1	3.29	644	1.00	116	**50**	9816	1763	344898
16	14	**327**	53745	0.4	71	1149	144983	175	17015	0.010	1	3.33	615	1.00	112	**50**	9260	1810	334662
17	15	**332**	54595	0.4	70	1162	147165	177	17401	0.010	1	3.27	608	1.00	113	**50**	9327	1766	328036
18	16	**334**	55431	0.4	74	1165	147819	178	17996	0.010	1	3.29	617	1.00	112	**50**	9443	1791	336256
19	17	**331**	52421	0.4	71	1149	139857	176	16883	0.010	1	3.19	573	1.00	108	**50**	9051	1796	325227
20	18	**322**	52776	0.4	73	1167	148839	180	17814	0.010	1	3.31	615	1.00	111	**50**	9259	1817	335833
21	19	79	43108	0.1	59	293	122037	44	14454	0.002	1	0.79	501	0.25	92	**13**	7641	461	268984
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 7 Average Annual Concentration and Load at BER-FDP-06 Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrate (as Nitrogen)	Nitrate (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-	550000	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-	13000	-
Model Year	Mine Year																				
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	0.46	51	0.05	5	2187	228737	0.05	5	0.14	19	4.6	448	2909	279996	56	5654	7.8	834	55	5646
4	2	0.53	100	0.05	7	2306	410664	0.05	6	0.42	80	4.6	659	2817	352773	57	9797	9.0	1691	57	9726
5	3	0.59	110	0.05	5	2358	419769	0.05	4	0.64	126	4.5	528	2814	226972	58	9770	9.9	1904	58	9774
6	4	0.60	114	0.05	5	2348	422746	0.05	4	0.66	131	4.5	501	2854	214449	58	9825	10.0	1935	59	9825
7	5	0.61	115	0.05	5	2337	425701	0.05	4	0.65	129	4.4	516	2816	214942	58	9866	10.0	1943	58	9855
8	6	0.61	118	0.05	5	2345	432658	0.05	4	0.66	133	4.5	510	2806	218461	58	10017	10.0	1973	58	10009
9	7	0.62	118	0.05	5	2351	424748	0.05	4	0.68	132	4.4	508	2783	212280	58	9765	9.9	1924	58	9759
10	8	0.60	111	0.05	5	2350	412099	0.05	4	0.67	126	4.4	490	2828	207458	59	9515	10.0	1874	58	9497
11	9	0.60	116	0.05	5	2357	430464	0.05	4	0.66	132	4.4	522	2861	217655	58	9959	10.0	1961	58	9951
12	10	0.60	113	0.05	5	2353	414623	0.05	4	0.65	125	4.5	514	2828	211070	58	9669	10.0	1903	58	9664
13	11	0.61	117	0.05	5	2336	420210	0.05	4	0.65	128	4.5	513	2830	214223	58	9822	10.0	1934	58	9821
14	12	0.60	114	0.05	5	2343	423634	0.05	4	0.69	136	4.5	509	2838	213831	59	9815	10.0	1933	58	9808
15	13	0.61	117	0.05	5	2351	419556	0.05	4	0.68	133	4.5	508	2824	214205	58	9815	10.0	1934	58	9824
16	14	0.62	111	0.05	5	2344	397600	0.05	4	0.67	123	4.4	481	2821	202608	58	9264	9.9	1823	57	9244
17	15	0.60	110	0.05	5	2323	399080	0.05	4	0.67	125	4.5	481	2854	204620	59	9336	10.0	1836	58	9328
18	16	0.61	112	0.05	5	2365	408799	0.05	4	0.68	129	4.4	489	2803	206764	58	9458	10.0	1861	59	9451
19	17	0.59	103	0.05	5	2342	386588	0.05	4	0.67	119	4.5	484	2824	198520	59	9060	10.0	1782	58	9056
20	18	0.60	108	0.05	5	2323	397957	0.05	4	0.65	121	4.5	478	2864	203567	59	9261	9.9	1823	57	9256
21	19	0.15	90	0.01	4	587	328189	0.01	3	0.17	102	1.1	390	718	170021	14	7641	2.5	1501	14	7648
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 7 Average Annual Concentration and Load at BER-FDP-06 Discharge Point

Parameter		Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year														
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	59	5645	2.2	215	10	1092	1.0	109	1983	234383	67	7632	0.01	1
4	2	62	9728	2.3	370	10	1931	1.0	193	3593	682548	97	18539	0.03	6
5	3	63	9755	2.4	371	10	1951	1.0	195	4885	947523	123	23870	0.05	9
6	4	62	9812	2.3	373	10	1961	1.0	196	5131	1012000	123	24158	0.05	9
7	5	63	9860	2.4	375	10	1969	1.0	197	5014	980614	125	24687	0.05	9
8	6	63	10018	2.4	381	10	2000	1.0	200	5018	1003000	122	24447	0.05	10
9	7	63	9768	2.4	371	10	1950	1.0	195	4993	965649	125	24374	0.05	9
10	8	63	9500	2.4	361	10	1899	1.0	190	4749	901914	125	23629	0.05	9
11	9	63	9957	2.4	378	10	1988	1.0	199	4819	951026	123	24334	0.05	10
12	10	63	9668	2.4	367	10	1929	1.0	193	4891	945625	124	23796	0.05	9
13	11	62	9817	2.4	373	10	1960	1.0	196	4968	968814	123	24088	0.05	9
14	12	62	9812	2.4	373	10	1959	1.0	196	4911	965903	124	24209	0.05	9
15	13	63	9796	2.4	372	10	1961	1.0	196	5028	995050	125	24652	0.05	9
16	14	62	9249	2.4	351	10	1850	1.0	185	5007	920711	125	23133	0.05	9
17	15	62	9328	2.4	354	10	1863	1.0	186	4963	925750	123	22903	0.05	9
18	16	63	9462	2.4	360	10	1886	1.0	189	4986	946058	123	23296	0.05	9
19	17	63	9068	2.4	345	10	1808	1.0	181	4858	878412	123	22146	0.05	9
20	18	64	9274	2.4	352	10	1849	1.0	185	4897	906425	124	23118	0.05	9
21	19	15	7658	0.7	291	3	1526	0.3	153	1237	746103	31	18801	0.01	7
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Table 8 Average Annual Concentration and Load at MA-FDP-01AB Discharge Point

Parameter		Aluminum	Aluminum	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Boron	Boron	Cadmium	Cadmium	Calcium	Calcium	Chromium	Chromium	Copper	Copper
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	100	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	29000	-	0.13	-	-	-	-	-	-	-
CWQG-FAL (long-term)		100	-	-	-	5	-	-	-	1500	-	0.04	-	-	-	1	-	2	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**248**	39300	1.3	214	**8.0**	1479	7	1119	37	5338	0.03	6	16038	2469000	**2.9**	400	**4.1**	716
4	2	**267**	51771	1.7	340	**10.7**	2066	7	1454	28	5342	0.04	8	16155	3135000	**2.3**	302	**5.4**	1055
5	3	**270**	52832	2.2	427	**11.3**	2203	8	1557	25	4722	**0.04**	8	17441	3429000	**2.1**	149	**6.3**	1232
6	4	**278**	54562	2.6	524	**12.0**	2347	9	1812	28	5471	**0.05**	9	20617	4092000	**2.0**	118	**7.4**	1455
7	5	**280**	55368	3.0	607	**12.4**	2448	10	2041	32	6409	**0.05**	10	23674	4722000	**2.0**	115	**8.6**	1709
8	6	**281**	56461	3.3	679	**12.5**	2510	11	2209	36	7290	**0.05**	10	25852	5258000	**2.0**	122	**9.7**	1951
9	7	**280**	54728	3.5	698	**12.3**	2416	11	2246	38	7517	**0.05**	10	27157	5379000	**2.1**	122	**10.0**	1986
10	8	**278**	52942	3.6	690	**12.2**	2325	12	2231	39	7450	**0.05**	10	27822	5344000	**2.1**	122	**10.0**	1923
11	9	**279**	55731	3.7	741	**12.5**	2507	12	2394	40	8153	**0.05**	11	28677	5807000	**2.1**	131	**10.2**	2039
12	10	**277**	53721	3.7	728	**12.4**	2394	12	2347	41	7961	**0.05**	10	29246	5731000	**2.1**	127	**10.2**	2004
13	11	**275**	54076	3.6	712	**12.0**	2366	11	2281	39	7759	**0.05**	10	27801	5549000	**2.0**	125	**9.8**	1946
14	12	**273**	53564	3.5	701	**11.8**	2327	11	2256	38	7492	**0.05**	10	26880	5359000	**2.0**	123	**9.4**	1863
15	13	**273**	53743	3.0	593	**11.7**	2305	10	1980	31	6228	**0.05**	9	22600	4536000	**2.0**	111	**8.0**	1605
16	14	**280**	51802	2.0	368	**11.3**	2080	7	1328	25	3589	0.04	7	15357	2859000	**2.0**	82	**6.1**	1142
17	15	**276**	51705	1.2	235	**9.8**	1846	5	934	25	2117	0.03	6	10815	1843000	**2.0**	65	**4.6**	864
18	16	**195**	36679	0.8	148	**8.0**	1516	4	649	25	1123	0.03	5	9144	1143000	**2.1**	52	**3.4**	644
19	17	**132**	19478	0.7	122	**7.9**	1429	4	552	25	757	0.02	4	9006	920784	**2.0**	47	**3.2**	572
20	18	**126**	17655	0.7	121	**8.0**	1479	4	551	25	734	0.02	4	8689	916937	**2.0**	48	**3.2**	590
21	19	32	15693	0.2	108	2.0	1323	1	499	6	654	0.01	4	2142	806064	0.5	43	0.8	516
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

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Table 8 Average Annual Concentration and Load at MA-FDP-01AB Discharge Point

Parameter		Iron	Iron	Lead	Lead	Magnesium	Magnesium	Manganese	Manganese	Mercury	Mercury	Molybdenum	Molybdenum	Nickel	Nickel	Phosphorus	Phosphorus	Potassium	Potassium
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	80	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	596	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		300	-	1	-	-	-	210	-	0.026	-	73	-	25	-	4	-	-	-
Model Year	Mine Year																		
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	**454**	70433	0.6	89	1923	292041	**266**	38921	0.017	3	3.76	642	1.64	245	**50**	5461	1423	253470
4	2	**368**	68782	0.5	93	1782	344861	**217**	35909	0.016	3	6.68	1296	1.26	246	**50**	9662	2269	439712
5	3	**309**	53257	0.4	77	1815	354113	192	27199	0.016	3	9.51	1874	1.07	210	**50**	9764	2923	574617
6	4	299	49384	0.4	78	2111	418146	197	27707	0.019	4	12.17	2426	1.17	230	**50**	9820	3496	693284
7	5	**301**	49636	0.4	83	2377	474947	199	29884	0.022	4	14.06	2811	1.31	261	**50**	9857	4038	803645
8	6	**301**	50488	0.4	87	2566	522066	208	32698	0.024	5	15.30	3114	1.43	291	**50**	10013	4404	892952
9	7	**302**	50086	0.4	86	2711	537240	**212**	33038	0.025	5	16.34	3243	1.49	296	**50**	9765	4610	911636
10	8	**305**	49288	0.4	83	2791	536584	208	32416	0.026	5	16.64	3208	1.52	293	**50**	9505	4685	899854
11	9	**301**	51973	0.4	89	2885	583204	**214**	34741	**0.027**	5	17.30	3493	1.55	313	**50**	9956	4835	974032
12	10	297	48857	0.4	86	2905	569831	**212**	33750	**0.027**	5	17.45	3427	1.56	306	**50**	9658	4875	953894
13	11	296	48253	0.4	83	2768	552945	210	33153	0.026	5	16.76	3346	1.51	300	**50**	9813	4675	930225
14	12	297	48061	0.4	81	2721	541309	207	32328	0.025	5	16.36	3262	1.47	292	**50**	9809	4550	905079
15	13	292	46881	0.4	76	2313	463543	199	28336	0.021	4	13.79	2771	1.26	251	**50**	9816	3903	780102
16	14	288	42460	0.4	65	1585	289343	180	20492	0.014	3	8.63	1629	1.01	165	**50**	9260	2783	521010
17	15	284	39579	0.3	57	1223	184572	174	16070	0.011	2	5.05	959	1.00	115	**50**	9327	1963	370431
18	16	278	34816	0.3	47	1123	114276	170	12217	0.010	1	2.64	504	1.00	80	**50**	9443	1291	245437
19	17	271	31828	0.3	43	1091	91058	168	10954	0.010	1	2.00	366	1.00	69	**50**	9051	1077	195057
20	18	265	32568	0.3	43	1110	90867	171	11103	0.010	1	1.92	354	1.00	70	**50**	9259	1089	201797
21	19	65	29278	0.1	39	280	82837	42	9710	0.002	1	0.48	321	0.25	62	**13**	7641	269	176217
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 8 Average Annual Concentration and Load at MA-FDP-01AB Discharge Point

Parameter		Selenium	Selenium	Silver	Silver	Sodium	Sodium	Thallium	Thallium	Uranium	Uranium	Zinc	Zinc	Chloride	Chloride	Nitrate + Nitrite (as Nitrogen)	Nitrate + Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrite (as Nitrogen)	Nitrate (as Nitrogen)	Nitrate (as Nitrogen)
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr
MDMER		-	-	-	-	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	-
CWQG-FAL (short_term)		-	-	-	-	-	-	-	-	33	-	11.3	-	640000	-	-	-	-	-	550000	-
CWQG-FAL (long-term)		1	-	0.25	-	-	-	0.8	-	15	-	2.2	-	120000	-	-	-	60	-	13000	-
Model Year	Mine Year																				
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	0.90	142	0.08	12	4408	697346	0.08	11	0.62	113	7.3	1083	4235	612318	2701	523126	73.2	13711	2642	511564
4	2	0.87	170	0.07	14	6297	1226000	0.06	10	1.61	314	5.8	1074	3061	481451	5257	1027000	128.2	25048	5140	1004000
5	3	0.86	169	0.07	15	8553	1692000	0.05	8	2.60	516	5.0	898	2818	260954	4420	874554	107.4	21224	4321	855101
6	4	0.98	195	0.09	18	11148	2221000	0.05	8	3.38	674	5.2	962	2854	204208	2873	571548	72.2	14333	2810	558897
7	5	1.09	216	0.10	21	13465	2696000	0.05	9	4.10	824	5.6	1077	2816	189841	2240	443178	57.8	11433	2190	433402
8	6	1.17	236	0.11	23	15026	3065000	0.05	9	4.50	917	6.0	1190	2806	189753	2238	452735	57.8	11668	2188	442744
9	7	1.19	235	0.12	24	15969	3178000	0.05	10	4.77	945	6.2	1211	2783	184144	2409	475137	61.6	12134	2356	464641
10	8	1.23	237	0.12	24	16295	3138000	0.05	10	4.90	946	6.3	1198	2827	179553	2540	487946	64.6	12383	2484	477149
11	9	1.26	255	0.13	26	16780	3399000	0.05	10	5.14	1043	6.5	1288	2861	188740	1953	396992	51.4	10407	1910	388255
12	10	1.25	245	0.13	25	17231	3386000	0.05	10	5.19	1019	6.5	1256	2827	180006	1074	209589	31.5	6124	1051	205057
13	11	1.20	239	0.12	25	16435	3288000	0.05	10	4.97	996	6.2	1224	2830	178318	1472	287136	40.2	7850	1440	280858
14	12	1.19	236	0.12	24	15791	3151000	0.05	10	4.84	964	6.1	1194	2838	177338	2513	493530	63.6	12482	2457	482614
15	13	1.06	211	0.10	20	12900	2601000	0.05	8	3.98	804	5.5	1033	2824	177436	2580	513925	65.1	12939	2523	502558
16	14	0.78	146	0.06	12	7708	1457000	0.05	6	2.31	437	4.6	701	2821	170287	1388	266728	38.4	7326	1358	260896
17	15	0.57	106	0.05	7	4207	800525	0.05	4	1.21	231	4.5	497	2854	163913	293	56488	13.4	2536	287	55373
18	16	0.46	74	0.05	4	2326	383681	0.05	3	0.57	109	4.4	349	2802	141214	71	12508	8.0	1346	71	12357
19	17	0.45	65	0.05	3	2121	256615	0.05	2	0.41	75	4.4	307	2824	128895	54	6341	7.5	1105	53	6319
20	18	0.45	65	0.05	3	2066	245077	0.05	2	0.39	73	4.5	306	2864	131529	53	5768	7.4	1106	51	5761
21	19	0.11	60	0.01	3	527	217347	0.01	2	0.10	64	1.1	275	718	117781	13	5093	1.8	990	13	5095
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

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Table 8 Average Annual Concentration and Load at MA-FDP-01AB Discharge Point

Parameter		Total Ammonia (as Nitrogen)	Total Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Un-ionized Ammonia (as Nitrogen)	Cyanide, Total	Cyanide, Total	Cyanide, WAD	Cyanide, WAD	Sulphate	Sulphate	Fluoride	Fluoride	Radium-226	Radium_226
Units		µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	µg/L	g/yr	Bq/L	g/yr
MDMER		-	-	500	-	500	-	-	-	-	-	-	-	0.37	-
CWQG-FAL (short_term)		-	-	16	-	-	-	-	-	-	-	-	-	-	-
CWQG-FAL (long-term)		689	-	16	-	-	-	5	-	-	-	120	-	-	-
Model Year	Mine Year														
1	-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2	-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
3	1	416	77227	15.8	520	18	2769	1.8	277	5643	970808	145	23793	0.03	6
4	2	709	138510	26.9	794	13	2594	1.3	259	11219	2179000	163	31659	0.04	8
5	3	589	116415	22.4	899	10	1892	1.0	189	16384	3236000	175	34398	0.04	9
6	4	394	78226	15.0	939	10	1730	1.0	173	21341	4254000	201	39786	0.05	9
7	5	315	62211	12.0	947	10	1694	1.0	169	25676	5131000	226	44993	0.05	10
8	6	314	63485	11.9	977	10	1715	1.0	172	28509	5811000	243	49224	0.05	10
9	7	335	66057	12.7	941	10	1671	1.0	167	30179	5991000	251	49628	0.05	10
10	8	352	67443	13.4	918	10	1626	1.0	163	30906	5955000	255	48973	0.05	10
11	9	279	56549	10.6	982	10	1705	1.0	171	32147	6519000	262	52816	0.05	10
12	10	170	33035	6.4	942	10	1624	1.0	162	32376	6365000	263	51345	0.05	10
13	11	218	42532	8.3	912	10	1605	1.0	161	30982	6186000	251	49998	0.05	10
14	12	346	68011	13.2	918	10	1597	1.0	160	30230	6036000	246	48867	0.05	10
15	13	355	70514	13.5	923	10	1597	1.0	160	24796	4990000	216	42996	0.05	9
16	14	208	39672	7.9	868	10	1531	1.0	153	15066	2850000	161	30157	0.04	8
17	15	78	13378	3.0	829	10	1458	1.0	146	8527	1620000	118	22236	0.04	7
18	16	58	6956	2.2	644	10	1230	1.0	123	4302	824423	84	15833	0.03	6
19	17	55	5689	2.1	515	10	1113	1.0	111	3144	570356	76	13685	0.03	5
20	18	56	5689	2.1	525	10	1130	1.0	113	2947	543513	74	13752	0.03	5
21	19	14	5097	0.6	478	3	1014	0.3	101	745	501526	19	12256	0.01	5
22*	20*	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes:

Mine Construction = Model Year 0 - 2.25

Mine Operation = Model Year 2.25 - 17.25

Mine Closure = Model Year 17.25 - 22.25

Mine Post-closure = Model Year 22.25 - 100

µg/L = micrograms per liter; Bq/L = becquerel per liter; g/yr = grams per year

"na" = predicted concentration or annual load is not available as there is no discharge from the facility

*The stockpile has been removed or rehabilitated. Passive treatment systems will be installed in waste rock pile seepage collection ditches, if required. Pasive treamtent system discharge water quality is expected to meet CCME CWQG-FAL or baseline values for parameters of potential concern

Berry Pit Expansion Environmental Registration / Environmental Assessment (Valentine Gold Project) Update

Response to Qalipu First Nation Comments

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December 15, 2023

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RESPONSE TO COMMENT QFN-1

Comment Number	**QFN-1**
Section Reference from QFN Submission	2.1 Caribou, 2.1.1 Habitat Loss
Context from QFN Submission	2.1 Caribou QFN identified several potential impacts on caribou in the BPE Review including: habitat loss, project site permeability, progressive reclamation requirements, final reclamation plans, and the potential impact of adjacent development. A review of the BPE EA was completed to determine the degree to which these concerns have been addressed and to identify any outstanding issues QFN may have. 2.1.1 Habitat Loss The distribution of caribou shown in Figures 4-1 and 4-1 found on pages 15 -16 of the "Valentine Gold Project: 2021 Aerial Survey of Caribou Calving Grounds" emphasizes the importance of the project site and the surrounding area to caribou. This formed the bases for concerns that QFN had regarding habitat loss in the area and the need for the protection of existing habitat adjacent to the site. While quantification of additional habitat performed by Marathon indicates that habitat removed from the project site can be considered minimal when compared to the total range not all caribou habitat can be considered equal. In this case, not only does the project site severe the primary migration route for caribou traversing the area, the 2021 calving survey indicates the importance of the area during calving/port-calving. Data indicates that the project and adjacent areas represent habitat critical to caribou in the area during at least 2 life stages, calving and migration. This finding supports our request to have an area, equivalent to the project area size or larger, that is protected from further development in an attempt to minimize the impact of the development. A search of documentation submitted for the BPE EA does not address QFN's request for an area to be offset and protected from further development to mitigate and prevent further loss or degradation of critical caribou habitat in the region. While QFN's request for offsetting was acknowledged on page 3-10, Marathon's or the province's response to the request was not indicated. This is troubling given that the following statement "Restoration and offsetting are generally not considered feasible in relation to impacts on caribou for this Project." found on page 24 of Appendix 10A indicates this option was dismissed without fully considering potential impacts. It should be noted here that "offsetting "is referring to the long-term protection of adjacent habitat to offset, therefore minimize, the impact of habitat removal on the project site. The protection of habitat adjacent to the site is needed to prevent further habitat loss adjacent to the project as indicated by section 10.8.2.2, page 10-57, which states that caribou habitat will continue to be removed from areas adjacent to the project site through ongoing forest harvesting actives.

Comment Number	**QFN-1**
Corresponding Summary Text from QFN Submission	• The project site and adjacent areas are crucial for caribou, particularly during calving and migration. • Quantification of habitat loss by Marathon suggests minimal impact, but not all caribou habitat is equal. • Request for offsetting and protecting an area equivalent to the project size to mitigate habitat loss remains unaddressed.
Specific Request from QFN Submission	**Based on the above QFN again requires that an area the size of the project area or larger be offset and protected from further development as a means to mitigate the loss of critical caribou habitat in the area.**
Marathon Response	**Important Caribou Habitat** Marathon acknowledges that the Project Area and adjacent areas are important habitat for caribou, and that development of the Approved Project and Project Expansion will create risks to the Buchans herd, which migrates through the Project Area twice annually, and to the Grey River herd, whose calving grounds are located to the south of Victoria Lake Reservoir. The potential effect of the Approved Project and Project Expansion as an obstacle to caribou migration was a primary factor in the determination of a significant residual effect for caribou, as concluded in the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update. The potential loss of habitat connectivity via the migration corridor is the foundation of the caribou protection levels and mitigation measures presented in Marathon's Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP). **Caribou Habitat Protection** Marathon has been working with the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (NLDFFA) - Wildlife Division since 2019 to identify, prioritize and implement measures to avoid and reduce potential effects to caribou. Marathon's purview is limited to the leased mine area (Surface Lease 171), while the province is responsible for approval and permitting of forestry and other recreational, commercial, and industrial activities that could impact caribou outside of this area. Therefore, Marathon's efforts in terms of caribou protection and reducing the potential effects of the Project on caribou are generally restricted to the Project Area. For example, during the EA of the Valentine Gold Project, Marathon redesigned the layout of Project infrastructure to facilitate caribou movement in, and migration through, the Project Area. Additionally, to reduce potential impacts on migration, Marathon has committed to substantially reducing Project activities during the spring and fall migratory periods; this now constitutes a regulatory compliance requirement, as it is a condition of approval of the Valentine Gold Project. While caribou management, overall habitat conservation strategy, forestry harvesting strategy, and the establishment of protected areas (which, notably, can take several years or more) fall within the province's jurisdiction, the Environmental Stewardship Committee established pursuant to the Marathon – QFN Socio-Economic Agreement (SEA) is a platform through which QFN and Marathon can discuss their potential involvement in, and influence on, such strategies. It is also important to note that the province can indirectly protect habitat when considering the potential cumulative effects of other projects and/or activities in the region. It is worth noting that the scientific data that Marathon is collecting on caribou related to the Approved Project and Project Expansion will also provide important scientific data and insights into caribou movement and use of areas beyond the Project Area. These data are gathered through annual aerial post calving surveys and remote camera data, ongoing GPS collar data, and on-site observations. All data being gathered is shared with NLDFFA - Wildlife Division.

Comment Number	**QFN-1**
	Additionally, Marathon provides for NLDFFA - Wildlife Division science positions (via a Contribution Agreement with NLDFFA - Wildlife Division) and graduate student research programs. This additional scientific data and capacity will not only enhance understanding of potential effects of the Approved Project and Project Expansion on caribou; it will also extend general scientific data on caribou in central NL that could be used by the NLDFFA - Wildlife Division to support various potential initiatives, such as possible offsetting opportunities, establishment of protected areas, and hunting management.

RESPONSE TO COMMENT QFN-2

Comment Number	**QFN-2**
Section Reference from QFN Submission	2.1.2 Project Site Permeability
Context from QFN Submission	Marathon's recognition for the need for habitat connectivity is evident in the statement on page 10-54 which states "Woodland caribou require large, interconnected, lichen-rich, mature coniferous forests interspersed with barrens and wetlands (Environment Canada 2011; Weir et al. 2014; Government of NL 2020b)". The document however did not address how such connectivity is going to be, or if it will be, maintained through or around the project site. QFN has concerns that permeability through the project site or around it, will be eliminated after completion of the Berry Pit Expansion. While this has been recognized by Marathon, suitable mitigation measures have not been developed or implemented other than a "watch and Wait" approach. This coupled with the fact that according to the statement found in Table 4.3 in Appendix 10B which states "The failure to migrate is considered an unlikely scenario and there is no published literature indicating that a migratory herd has stopped migrating due to a new Project occurring within or near it's migratory route." seems to indicate that Marathon has dismissed this has a possibility. This statement is not entirely true since the complete abandonment of a major migration route has already occurred on the island. Caribou from the Great Northern Peninsula once migrated seasonally from calving grounds on the Northern Peninsula to wintering grounds on the Topsails. The establishment of the railway and the later flooding of the Grand Lake Reservoir couple with increased hunting pressure, due to increased access, saw the complete abandonment of this migration route which still has not been re-established. Current development in the Valentine Lake Mine development area has the potential to generate a similar scenario. While QFN's concerns about permeability has been acknowledged in Table 3.1, page 3-10, no pro-active approach has been indicated to prevent the scenario outlined above from occurring in this area. While a pathways analysis, referred to in Section 2.2.1.3, has been completed, this information has not been used to develop a long-term mitigation plan that can be used to ensure continue movement through the site or protection of the habitat required for that movement.
Corresponding Summary Text from QFN Submission	• Concerns about habitat connectivity through or around the project site and the mineral claims area have been acknowledged but not effectively addressed. • Lack of proactive measures and reliance on a "watch and wait" approach is worrisome. • Historical examples of migration route abandonment emphasize the need for action.
Specific Request from QFN Submission	**QFN requires that outputs from the pathway analysis and habitat mapping be used to map alternative migration corridors both east and west of project site. These alternate migration corridors be presented to the Provincial Government and a request made that they be protected from further development or habitat alteration until it is known if caribou in the area will establish an alternate migration corridor and where that corridor is located.**

Comment Number	**QFN-2**
Marathon Response	**Caribou Habitat Connectivity** Maintaining and understanding the connectivity between seasonal caribou ranges and understanding the effects of the Project on this connectivity is a key component of Marathon's Caribou Protection and Environmental Effects Monitoring Plan (CPEEMP). The CPEEMP addresses the risk for caribou migration through the mine site and along alternate routes, and the potential for caribou to fail to migrate. While failure to migrate is considered unlikely to occur at the population level (i.e., for the herd as a whole), it is likely that this could occur at an individual or group level (e.g., through changes to previously used paths in the migration corridor). The analysis of potential alternate caribou migration paths (Caribou Alternate Migration Pathway Analysis (Appendix G of the Valentine Gold Project: Amendment to the Environmental Impact Statement)) was completed to consider the likely outcome that caribou adjust their migration path to avoid the mine site. The alternate migration paths identified through the least-cost pathway (LCP) analysis provide possible alternative routes based on assumed inputs regarding predefined zones of influence (ZOIs) (i.e., 1 km, 5 km, 10 km and 15 km) and considering least cost (least resistance) inputs (e.g., terrain and vegetation parameters). However, it is possible that other alternate migration paths may be viable if ZOI responses by caribou differ from those tested (e.g., 3 km, 8 km, 12 km). Marathon is committed to the on-going GPS collaring and camera monitoring programs, which allow for tracking and gathering of data to determine whether caribou change their use of the primary pathways within the currently used migration corridor, both spatially (e.g., alternate travel routes around the site) and/or temporally (e.g., earlier or later migratory periods). Already, and with far more collars (averaging near 40 since 2020), the collar data shows the use of alternate migration paths by individuals or groups, primarily to the east of the mine site and less so to the west (e.g., during the fall 2022 migration, a relatively high proportion of collared caribou used paths to the east of the 'primary' migration path). Results from the monitoring programs were shared with the provincial government (NLDFFA - Wildlife Division) as part of the assessment of the Approved Project and are included in Appendix 10-A of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update (Valentine Gold Project: Caribou Baseline Information 2023). As data continues to be gathered and shared with the Newfoundland and Labrador Department of Fisheries, Forestry and Agriculture (NLDFFA) - Wildlife Division , the provincial government could possibly determine that additional protections of potential alternate migration paths outside of the Project Area are required. As described in the response to comment QFN-1, establishing a protected land area or corridor would only be within the purview of the government; however, Marathon and QFN can discuss this via the Environmental Stewardship Committee. **Marathon's Proactive Approach** The CPEEMP has identified numerous mitigation measures to avoid or reduce potential adverse Project effects on caribou, each with an associated approach to monitoring to determine mitigation effectiveness. Prior to construction of the Project Expansion, and in addition to ongoing and future reviews and updates of the CPEEMP associated with the Approved Project, the CPEEMP will be reviewed in consultation with the NLDFFA - Wildlife Division to identify the need for revisions to reflect Project Expansion activities. The best example of avoidance measures is the change in the location and design of the waste rock pile and stockpiles around the Marathon pit during the EA process for the Approved Project. The intent of the redesign was to maintain a pathway to the west of Marathon pit to allow caribou to migrate through a

Comment Number	QFN-2
	portion of the site rather than assuming they will avoid the site entirely. Marathon has also committed to modifying activities at the mine site at different times of the year and under varying circumstances, to reduce the risk of individuals failing to migrate. Marathon has committed to substantial reductions in construction and mining activity during the spring and fall migratory periods and, as part of the CPEEMP, this commitment now constitutes a regulatory compliance condition of the Valentine Gold Project. The changes in mining activity are responsive to caribou activity in the area and are intended to facilitate movement within and migration through the site. Marathon's monitoring of caribou migrations during Project construction and operation will help to better understand how caribou respond to the Approved Project and Project Expansion in consideration of the mitigations that will be implemented during migration. In addition to Marathon's direct mitigation and monitoring actions, Marathon is required to fund two full-time positions with the NLDFFA - Wildlife Division (to monitor and report on caribou response to the Project) and three graduate students to study specific and cumulative Project effects. One possible aspect of a graduate research program could be to refine habitat mapping around the Project Area with respect to suitability to support caribou migration, which could inform provincial government decision-making with respect to approval of other activities in the broader migratory corridor or the requirement for greater protection of habitat beyond the Project Area. Marathon is aware of the importance of caribou to Indigenous groups, stakeholders, and the province, and is committed to ongoing engagement with Indigenous groups and stakeholders throughout the life of the Approved Project and Project Expansion, including with respect to any updates to the CPEEMP.

RESPONSE TO COMMENT QFN-3

Comment Number	**QFN-3**
Section Reference from QFN Submission	2.11.3 Progressive Reclamation
Context from QFN Submission	A review of the submitted BPE EA indicates that the issue of progressive reclamation has been acknowledged and a plan developed. The Rehabilitation and Closure Plan (RCP) is seen as vital in providing guidance for rehabilitation of the project and mineral claims areas. The RCP provides QFN with a means to measure progress on rehabilitation measures that are outlined in the document. As evident in section 10.0 of the RCP Marathon is committed to progressive reclamation/rehabilitation of the site throughout the project life-cycle. This commitment addresses one of the main issues QFN had regarding site reclamation. On page 217 of the RCP it is stated that, “Mineral exploration has continued at the Valentine exploration properties in parallel with the EA and planning and engineering processes. Marathon Gold has continued to explore known targets and prospect for new targets with varying degrees of success.”, which indicates that additional sites within the mineral claims area are currently or will be undergoing exploration activities. While QFN sees this as necessary for the successful operation of the Valentine Mine but it is also an undertaking that requires its own development and reclamation/rehabilitation guidelines. These guidelines must be designed to keep impacts of the exploration activity to a minimum and facilitate the speedy rehabilitation of sites that are deemed not suitable for future development. While Table 16.2 in the RCP states that “Rehabilitation of Exploration and Construction Related Areas” will be conducted, what this rehabilitation entails was not stated in the document. The table indicates that rehabilitation of exploration sites will be conducted in 2025 and 2026.
Corresponding Summary Text from QFN Submission	• A progressive reclamation plan exists, but concerns about exploration site rehabilitation and its impact on caribou movement persist. • The need for separate guidelines for exploration site rehabilitation and their impact on caribou is highlighted.
Specific Request from QFN Submission	**QFN would like to know why rehabilitation of exploration sites will only be conducted up to 2026 given that some of the license and claims expenditures extend into 2029.**
Marathon Response	The Rehabilitation and Closure Plan (RCP) – Valentine Gold Project is specific to the activities and infrastructure associated with the Approved Project (and associated Project Area within the Surface Lease). The apparent discrepancy between the rehabilitation of exploration sites identified in Table 16.2 as ending in 2026, while some of the licence and claims expenditures extend into 2029 (in Table 3.1), is because these two tables are for separate purposes and are describing different aspects, as described below. Table 3.1 of the RCP identifies the future expenditures and expenditure dates associated with Marathon’s licences and claims. The expenditures referenced here are future expenditure requirements to comply with the province’s legislation to maintain the licences (e.g., exploration drilling, reporting, environmental baseline surveys, or other studies that may contribute to potential development of the claim).

Comment Number	**QFN-3**
	Table 16.2 illustrates the rehabilitation and closure schedule for the Valentine Gold Project[1] and indicates that exploration-related infrastructure will be removed and/or demolished, with associated areas rehabilitated, by the end of 2026. This table refers to progressive rehabilitation of the old exploration camp and Project-related areas that are no longer needed, such as the helicopter landing area and temporary fuel depot. Exploration areas (drill sites, trenching sites, exploration roads) within the Project Area will be entirely overprinted via the development of the Approved Project and Project Expansion components, which will be rehabilitated in accordance with the progressive and final rehabilitation provisions in the RCP.

[1] Note that permitting for the Project Expansion will include the requirement to revise the RCP to incorporate the Project Expansion, which will result in changes to aspects of the rehabilitation and closure schedule, as described in Section 18.0 of the RCP.

RESPONSE TO COMMENT QFN-4

Comment Number	**QFN-4**
Section Reference from QFN Submission	2.11.3 Progressive Reclamation
Context from QFN Submission	QFN also sees exploration outside the current project area but inside the mineral claims areas as a separate undertaking, with each exploration site requiring its own assessment, development strategy, and rehabilitation protocol.
Corresponding Summary Text from QFN Submission	• A progressive reclamation plan exists, but concerns about exploration site rehabilitation and its impact on caribou movement persist. • The need for separate guidelines for exploration site rehabilitation and their impact on caribou is highlighted.
Specific Request from QFN Submission	**QFN thus requests that a separate section in the RCP be developed that provides guidance for the rehabilitation of exploration sites that have no potential for mining.**
Marathon Response	The Rehabilitation and Closure Plan (RCP) – Valentine Gold Project is a regulatory requirement, specific to the activities and infrastructure associated with the Approved Project, and rehabilitation of exploration areas (including drill and trench sites, exploration trails, etc.) outside of the approved Project Area is outside of the scope of that specific document. However, Marathon has an established process for the rehabilitation of exploration areas that is employed for all exploration activities on Marathon's exploration properties. Once a drillhole has been completed, or a trench or exploration road no longer needed, rehabilitation requirements are assessed based on factors such as location, overburden, angle of slope, material moved, and disturbance created during drilling. The exploration area is returned to as close to the original condition as possible, and each site has pre- and post drilling inspections completed to confirm there are no hazardous slopes or holes, that garbage and materials have been removed, and that overburden is returned to the site and smoothed out. Potentially hazardous areas (e.g., sudden slopes) are remediated and, if needed, seeding is completed on the site to promote regrowth. Trenches that increase understanding of the site geology and/or display particularly impressive mineralization may remain exposed for longer periods of time pending regulatory approval and, in some cases, a rehabilitation financial assurance posting. Exploration areas (drill sites, trenching sites, exploration roads) within the Project Area will be entirely overprinted via the development of the Approved Project and Project Expansion components, which will be rehabilitated in accordance with the progressive and final rehabilitation provisions in the RCP.

RESPONSE TO COMMENT QFN-5

Comment Number	**QFN-5**
Section Reference from QFN Submission	2.1.4 Final Reclamation
Context from QFN Submission	It is encouraging that Marathon has stated long-term monitoring up to 2084. Assuming the successful completion of the project site's final reclamation, sustained monitoring efforts could potentially reveal any persisting impacts or assess whether the ultimate rehabilitation measures have effectively mitigated future repercussions arising from the project. As noted in Table 16.2 of the RCP caribou monitoring will cease in 2044, a date long before the site will return to functional caribou habitat.
Corresponding Summary Text from QFN Submission	• Marathon's commitment to long-term monitoring is promising, but the termination of caribou monitoring in 2044 raises concerns. A contingency plan is requested in case final reclamation fails to re-establish caribou movement.
Specific Request from QFN Submission	**Given this termination date QFN requires that Marathon develop a contingency plan in the event that the final reclamation fails to re-establish use or movement by caribou or pine marten through the project site. This must include the mechanisms that will be used to maintain the movement of caribou and pine marten around the project site or, if necessary, the mineral claims area.**
Marathon Response	Marathon understands QFN's concerns in this regard, however, we would like to point out that that the requested contingency plan is essentially 'built-in' to existing and future monitoring plans and the requirements associated with reclamation (noting the Newfoundland and Labrador Department of Industry, Energy and Technology, Mines Branch uses the term "rehabilitation" rather than "reclamation," as does Marathon as a result). Marathon has developed follow-up monitoring programs (FUPs) for various environmental aspects, including caribou and 'other wildlife' (which includes the Newfoundland population of American marten). These FUPs guide or direct the collection of environmental data over the life of the Project, comparing the data/trends to baseline and informing/supporting mitigation requirement updates (via adaptive management) over the life of mine, including progressive and final rehabilitation and closure aspects of the Project. The environmental baseline work conducted pre-Project development, the environmental assessment (EA) process, and Project planning have considered the effects of the Project on wildlife, and more specifically maintenance of their habitat and movement to the degree possible (e.g., the change in the location and design of the waste rock pile and stockpiles around the Marathon pit to allow caribou to migrate through a portion of the site; see response to comment QFN-2). Ongoing monitoring (in accordance with the FUPs) will determine the effectiveness of this type of mitigation and highlight if further or altered mitigation measures are required. This will include monitoring and possible changes to mitigation measures during progressive rehabilitation activities. Ongoing and future monitoring (per the FUPs and associated updates to the FUPs) will inform the final Rehabilitation and Closure Plan (RCP), which will include post-closure monitoring and 'maintenance' requirements for environmental aspects of the Project. The current RCP is considered "preliminary" as there are many elements associated with the plan that can change over the life of the Project, including aspects of the Project itself, understanding of the environment and new mitigation techniques, monitoring techniques and technologies, and rehabilitation requirements and techniques.

Comment Number	**QFN-5**
	The final RCP will be drafted by Marathon roughly one year before closure and requires review and approval by regulators. Closure will require its own EA process, including consideration of monitoring data collected to that point. Based on the Socio-Economic Agreement with QFN, Marathon will engage with QFN to review and comment on the final RCP, and specifically on the long-term monitoring requirements and the need for contingency plans associated with re-establishment of habitat (including caribou migration paths) affected by the Project. Marathon will work with QFN to establish the long-term monitoring requirements, including contingency planning, as part of the ongoing / future review and updates to the FUPs and the RCP.

RESPONSE TO COMMENT QFN-6

Comment Number	**QFN-6**
Section Reference from QFN Submission	2.1.5 Impact of Adjacent Developments
Context from QFN Submission	QFN agrees, in part, with the statement on Page 10-54 which states "It is also important to recognize that cumulative effects may be realized over a longer period (e.g., more than one generation) and may extend beyond the life of the Approved Project and Project Expansion." Since it will take close to a century for the site to return to a functioning ecosystem the phrase "may" should be changed to "will". In QFN's BPE Review specific requirements were outlined that needed to be completed to fully evaluate the potential impact on caribou in the context of future (e.g., further expansion) and/or existing (e.g., continued forest harvesting) development. These requests are supported by the statement on Page 10- 59 that states "As described in Section 10.8.1 and 10.8.2, past and ongoing activities have affected the availability and quality of caribou habitat in the RAA.". This statement supports the stand by QFN that the remaining caribou habitat adjacent to project be protected, and its continuity evaluated in the context of promoting or maintaining the movement around the project or mineral claims areas. A review of the BPE EA indicates that such an exercise has not been completed or has not been considered during the development of proposed mitigation measures as part of the CPEEMP. The need for connectivity of migration paths was stated on page 67 of the CPEEMP in the following statement "Woodland Caribou (Rangifer tarandus caribou), Boreal population, in Canada (ECCC 2020) suggests limiting the quantity of disturbed habitat within their ranges. Additionally, maintaining the functionality of migration paths by preserving connectivity between seasonal ranges is vital to sustaining viable populations of migratory ungulates (Monteith et al. 2018)." This however was not translated to actionable mitigation protocols as was requested by QFN in its initial review of the proposed Berry Pit Expansion.
Corresponding Summary Text from QFN Submission	• The potential for cumulative effects beyond the project's lifespan is acknowledged. • Connectivity of migration paths and protection of adjacent caribou habitat are essential but not adequately addressed. • Request for an evaluation of habitat, continuity/connectivity analysis, and delineation of alternative migration corridors is reiterated. In conclusion, the review indicates several unresolved concerns related to caribou habitat loss, site permeability, progressive reclamation, final reclamation, and the impact of adjacent developments. QFN continues to emphasize the need for proactive measures and a comprehensive plan to protect caribou and their habitat in the project area.
Specific Request from QFN Submission	**Based on the above QFN again requests an evaluation of the spatial location and extent of unaltered caribou habitat adjacent to the project, a continuity/connectivity analysis of this habitat, and delineation of alternative migration corridors for movement of caribou through the area. The development, (in conjugation with the province) of a detail alternate migration corridor protection plan that prevents future impacts or eliminates existing impacts within identified alternative migration corridors until movement by caribou through the project site has been re-established.**
Marathon Response	The concerns raised in this comment are closely linked to those identified in QFN-1 and QFN-2. Therefore, the responses to QFN-1 and QFN-2 are also relevant here. **Assessment of Habitat Availability and Alternate Migration Pathways in the Regional Assessment Area** Section 10.8 of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update presents an update of the cumulative effects assessment for caribou, including change in caribou habitat, as a result of the Approved Project and the Project Expansion. Specifically, the estimated proportion of undisturbed caribou habitat in the Regional Assessment Area (RAA) (i.e., habitat including that adjacent to the Project Area) for each of the four assessed caribou herds is presented in Table 10.14 of the Berry

Comment Number	QFN-6
	Pit Expansion Environmental Registration / EA Update. This table considers the potential for future mineral exploration and development activities and forestry activities. With respect to alternate migration paths and as indicated in the response to Comment QFN-2, the analysis of potential alternate caribou migration paths in the RAA was identified through the least-cost pathway analysis, based on assumed inputs regarding predefined zones of influence. This analysis used the EOSD (Earth Observation for Sustainable Development of Forests) dataset to apply available habitat classes (Canadian Forest Service 2006) and spatial data for harvested forests and anthropogenic features (Government of NL 2020a, 2020b, 2020c, 2020d), as well as terrain. In this way, it considered the effects of current and recent past anthropogenic activities. Marathon acknowledges that there are other approaches to assessing alternate migration paths; however, the LCP analysis does account for habitat type and topography as "resistance" factors. The resulting alternate paths represent paths with low resistance, or paths that have preferred habitats and few or no topographic barriers. The LCP analysis was forced through pre-defined zones of influence (i.e., 1 km, 5 km, 10 km and 15 km) so that potential alternate migration paths could be evaluated under various avoidance scenarios. It is however possible that other alternate migration paths exist between those pre-defined distances (e.g., 3 km, 8 km, 12 km). **Protection of Alternate Migration Corridors** As indicated in the response to Comment QFN-1, while establishing a protected land area to protect alternative migration corridors would only be within the purview of the government, the SEA Environmental Stewardship Committee is a platform through which QFN and Marathon can discuss their potential involvement in, and influence on, such strategies. The response to Comment QFN-10 addresses the potential for future exploration and mining activities by Marathon within the held mineral claims. Exploration activities are not within the scope of the Project Expansion EA; Marathon will continue to adhere to the applicable regulatory requirements, including the province's assessment and approval processes, for future exploration work and potential development. Marathon will continue to provide QFN with information regarding ongoing and planned exploration work outside the Project Area (within Marathon's mineral exploration licenses) via regular Project updates to QFN leadership and the SEA Environmental Stewardship Committee. Marathon will provide updates on the rehabilitation of exploration areas as discussed in the responses to QFN-4 and QFN-5. **References:** Canadian Forest Service. 2006. EOSD Land Cover Classification. Available online at: http://eosd.cfs.nrcan.gc.ca/index_e.html. Government of NL. 2020a. Fisheries, Forestry and Agriculture (FFA) GeoHub, Newfoundland and Labrador Forestry Typemap. Webapp available at: Newfoundland and Labrador Forestry Typemap (arcgis.com) Government of Newfoundland and Labrador. 2020b. Fisheries, Forestry and Agriculture (FFA) GeoHub, Resource Roads NF. Webapp available at: https://geohub-gnl.hub.arcgis.com/datasets/resource-roads-nf Government of Newfoundland and Labrador. 2020c. Land Use Atlas – Land Use Details. Crownlands Division. Available at: https://www.gov.nl.ca/landuseatlas/details/ Government of Newfoundland and Labrador. 2020d. Water Resources Management Division. GIS data available at: https://gnl.maps.arcgis.com/apps/webappviewer/index.html?id=24dd4bb6f03948eb93f0535367a42a1f

RESPONSE TO COMMENT QFN-7

Comment Number	**QFN-7**
Section Reference from QFN Submission	2.2.1 Habitat Removal
Context from QFN Submission	2.2 Pine Marten QFN's original review of the Valentine Gold Mine development was conducted on the premise that a substantial amount of functional habitat would remain intact in the center of the project area. This was a valid premise based on maps of the project's proposed infrastructure, mining pits, and overburden and waste rock storage areas. New mapping has shown that this premise has been rendered null and void facilitating the need for QFN to re-evaluate its former concerns regarding the undertaking. Preliminary concerns regarding the removal of habitat from the central portion of the project site were contained in the BPE Review report submitted to Marathon in July. It was hoped that this would allow Marathon time to address these concerns before submission of the BPE EA being reviewed in this document. While these concerns were noted in Table 3.1, on pages 3-12 to 3-14, QFN cannot find evidence that these concerns will be addressed or if so, how they will be addressed. These concerns are outlined below. Habitat Removal QFN had made a request that habitat equivalent to the amount being removed by the project be identified adjoining the project area and protected until restoration of the project area was complete. Comments from Marathon on this issue, found in Table 3.1 on page 3-12, seems to indicate that Marathon feels that the recently downlisting of Pine Marten indicates that this species should not be given additional protection through habitat offsets. Even with downlisting, pine marten is considered an indicator species by other organizations (i.e. Government of British Columbia, Government of Ontario) and its continued survival in an area can be used as an indicator of the degree of impact from an industrial development. Pine Marten are viewed in this context by QFN. Pine marten can only play this role if suitable habitat adjoining the project site, and potentially the mineral claims area, is identified and protected for the duration of the project's lifespan.
Corresponding Summary Text from QFN Submission	• Initial concerns were raised about habitat removal and the need to identify and protect adjoining habitat. • Marathon's response suggests a downlisting of Pine Marten may affect the need for additional protection, but Pine Marten still serves as an indicator species for impact assessment. • QFN emphasizes the importance of identifying and protecting adjoining habitat and ongoing monitoring of Pine Marten populations.
Specific Request from QFN Submission	**Based on the above QFN is again requesting that adjoining habitat be identified and mechanisms developed for its protection. Monitoring of marten populations in the protected areas must be ongoing and maintained until habitat on the project site has been re-established.**
Marathon Response	**Status of NL Marten** As indicated in Chapter 3 of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update (Table 3.1), NL marten was reassessed as Special Concern (downgraded from Threatened) by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in May 2022. The change in designation is largely based on an estimated increase in the total number of mature individuals on the Island (2,558-2,837 in 2019

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	compared to 320-622 in 2007). The increase is attributed to reduced incidental mortality, increased prey base (through the introduction of southern red-backed vole), and decreased rate of forest harvesting / habitat loss (COSEWIC 2022). The extent of its occurrence is also increasing, and it is believed to occupy a wider range of habitats, including disturbed habitats and younger aged forests (COSEWIC 2022). **NL Marten Habitat Protection** Identifying and protecting critical habitat for species at risk is part of the existing processes established by the federal and provincial governments for the protection of listed species. Critical habitat for American marten, Newfoundland population (NL marten) is outlined in the Recovery Strategy for the American Marten (*Martes americana atrata*), Newfoundland population, in Canada (Environment Canada 2013), as shown in the attached Figure QFN 7-1. Figure QFN 7-1 shows the proposed critical habitat in western Newfoundland and the limited overlap of that habitat with the Project Area (see also attached Figure QFN 7-2). The Project Area is on the southeastern edge of the critical habitat in western Newfoundland. The recovery strategy identifies existing and recommended approaches to habitat protection. The proposed critical habitat that overlaps the Project Area is designated as Group 3 (Figure QFN 7-3), which provides partial protection for American marten, in that while land-based traps are prohibited, fox, coyote and lynx killing neck snares are allowed. (Developments and forest harvesting are managed through the *Environmental Protection Act* and established land use and resource planning processes). A total of 1,644 km^2 (i.e., 26%) of critical habitat identified on the Island of Newfoundland is partially protected in this manner (Environment Canada 2013). While it is acknowledged that development of the Approved Project would have left a portion of habitat within the Project Area undisturbed (much of which will be disturbed by Project Expansion infrastructure), the Valentine Gold Environmental Impact Statement did assume that all habitat within the Project Area would be lost. The assessment of residual effects and the identified mitigation and monitoring for the Approved Project were based on this assumption. As indicated in the response to Comment QFN-1 regarding caribou, establishing a protected land area for NL marten outside of the Project Area would only be within the purview of the government. However, QFN and Marathon can discuss their potential involvement in, and influence on, such strategies via the SEA Environmental Stewardship Committee. **Marathon's Commitment to Monitoring NL Marten** Marathon's follow-up monitoring (FUP) program includes monitoring for the presence of NL marten to compare between pre- and post-construction occurrences at long-term survey locations with the Regional Assessment Area. Genetic samples will be collected as per provincial protocols, and this data will contribute to the provincial species database. The data and information being acquired has been, and will continue to be, shared with the provincial government. It provides genetic information on the individuals captured and can inform provincial government planning for broader monitoring in adjacent critical habitats beyond the Project Area. **References:** COSEWIC. 2022. COSEWIC assessment and status report on the American marten (Newfoundland population) *Martes americana atrata* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 42 pp.

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	Environment Canada. 2013. Recovery Strategy for the American Marten (*Martes americana atrata*), Newfoundland population, in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. xi pp. + appendix.

Figure QFN 7-1 Proposed Critical Habitat for NL Marten in Western Newfoundland (Source: Environment Canada 2013)

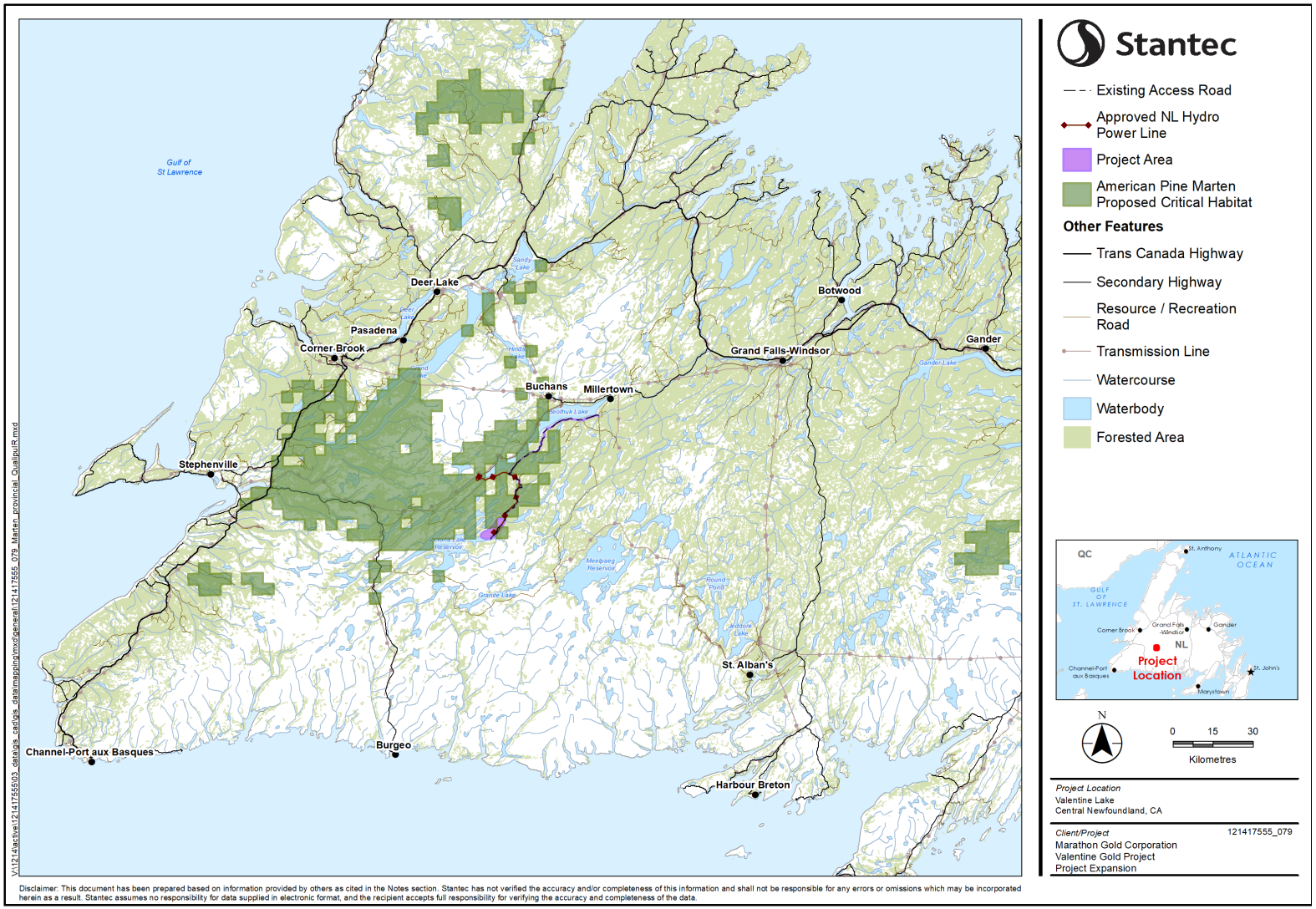


Figure QFN 7-2 Overlap of Proposed Critical Habitat with the Project Area

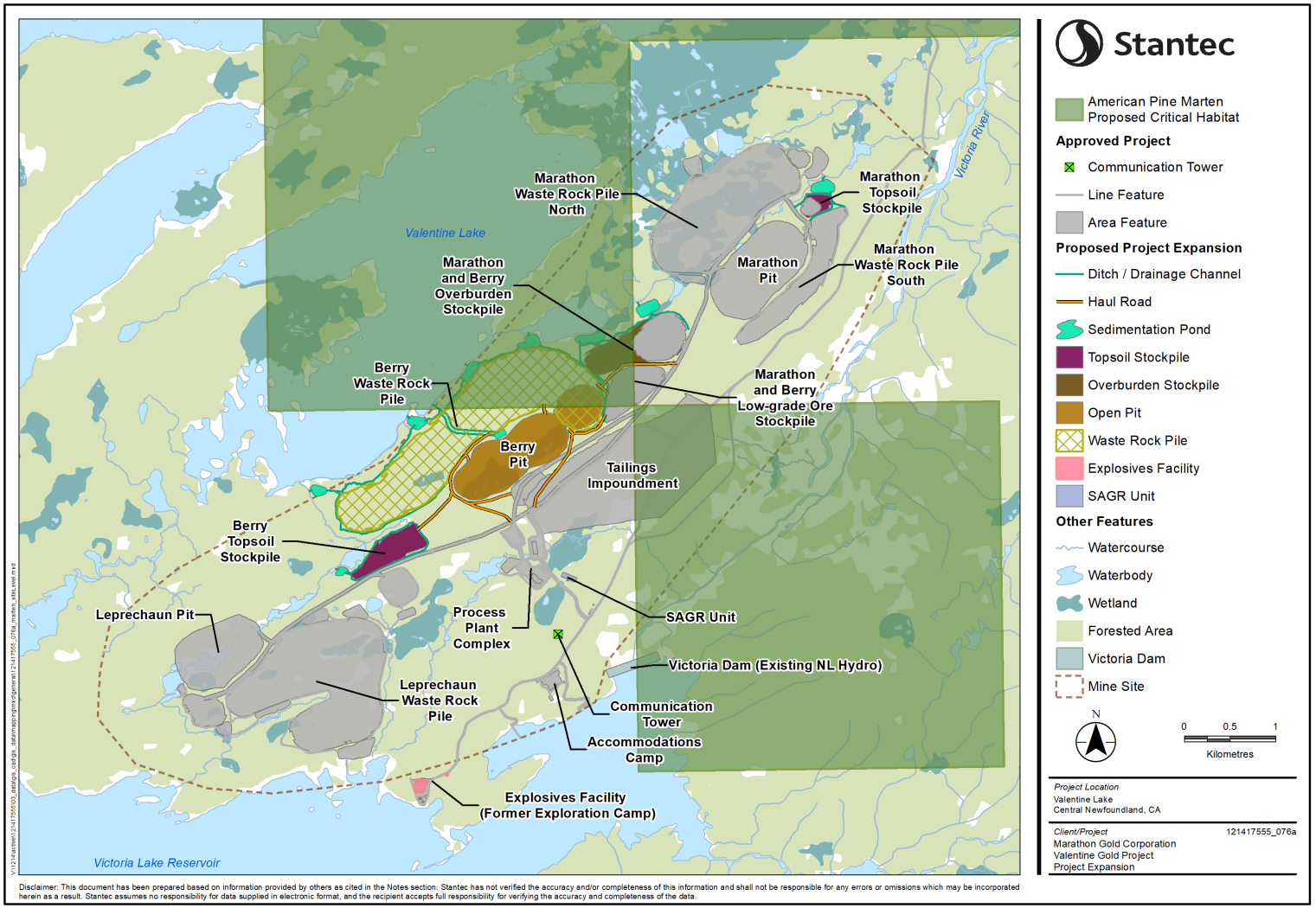
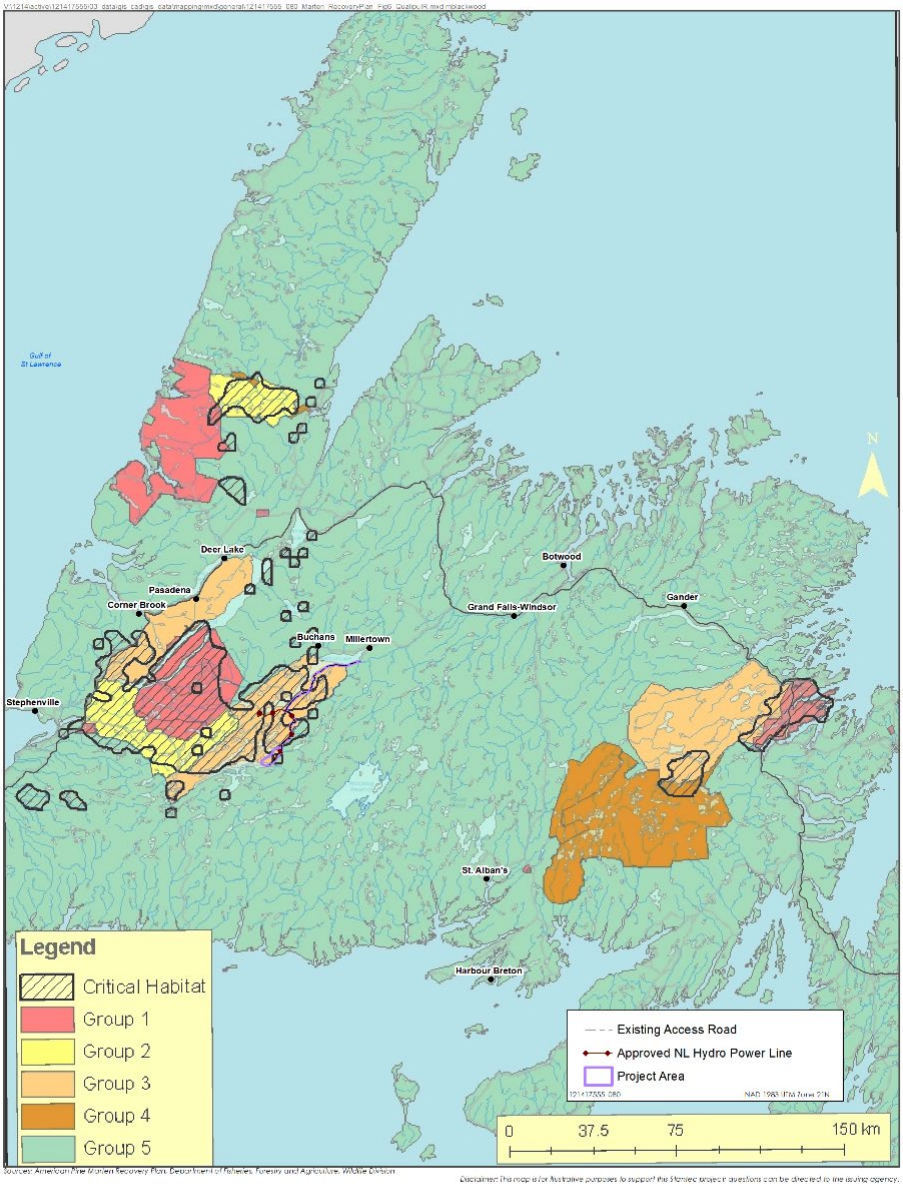


Figure QFN-3 Classification of Critical Habitat Overlapping the Project Area (Source: Environment Canada 2013)



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RESPONSE TO COMMENT QFN-8

Comment Number	**QFN-8**
Section Reference from QFN Submission	2.2.2 Habitat Restoration (Pine Marten)
Context from QFN Submission	Given the long time period required for restoration of pine marten habitat removed from the project site, habitat adjoining the project site must remain intact until a functional habitat has been re- established. This will require the development of a long-term habitat restoration and site reclamation plan as it pertain to both pine marten and caribou. QFN has reviewed the RCP from this perspective but was unable to determine how habitat requirements for pine marten have been incorporated. While the response to this request, provided in Table 3.1 on pages 3-11 and 3-12, provides an outline of actives being considered, it lacks the details needed for QFN to conduct a thorough evaluation of what is being proposed. It is imperative that adjoining habitat be protected from development during the period of restoration and a contingency developed in the event habitat restoration activities fail.
Corresponding Summary Text from QFN Submission	• Due to the lengthy restoration period required, QFN calls for a comprehensive, multi-decade habitat restoration and reclamation plan for pine marten habitat. • Details about funding sources, monitoring protocols, thresholds, and protection of adjoining habitat during restoration are essential components of the plan. • QFN seeks clarity and specifics regarding the proposed restoration activities.
Specific Request from QFN Submission	**QFN requests that Marathon develop a long-term (multi-decade) restoration and reclamation protocols that takes into account the habitat requirements of both pine marten and caribou and that these protocols be added to the RCP. This plan must identify funding sources, monitoring protocols, and thresholds that will be used to indicate status of the restored ecosystem. Included in this plan must be an outline of thresholds that will be used to indicate that protections put in place for adjoining habitat can be lifted and the area again re-opened for development.**
Marathon Response	The concerns raised in this comment are closely linked to those identified in QFN-3, QFN-4 and QFN-7. Please refer to the responses provided to these comments for information on Marathon's approach to caribou and marten habitat protection, with some additional context on the Rehabilitation and Closure Plan (RCP) below. As previously noted, while Marathon will discuss these issues with QFN via the SEA Environmental Stewardship Committee, establishing protected areas and thresholds for lifting such protections is ultimately within the jurisdiction of the provincial government. As indicated in Chapter 3 of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update (Table 3.1), a detailed RCP for a mine is a critical management plan. In accordance with the *Mining Act*, Marathon has drafted and submitted the Approved Project RCP to the Newfoundland and Labrador Department of Industry, Energy and Technology (NLDIET) for review and approval prior to the start of operation. Marathon's current RCP will be updated to include the Project Expansion. The RCP considers rehabilitation strategies that are sustainable and compatible with local and regional topography, soil and climatic conditions to return the area to as close to natural conditions as possible.

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	The overall objectives of the RCP are: • restoration of the health and fertility of the land to a self-sustaining, natural state; • provision of an agreeable habitat for wildlife (including caribou, marten and fish) in a balanced and maintenance free ecosystem; • creation of a landscape which is visually acceptable and compatible with surrounding terrain; • mitigate and control to within acceptable levels the potential sources of pollution, fire risk, and public liability; and • provide a safe environment for long-term public access. The RCP requires Marathon to revegetate 100% of the disturbed footprint (progressively as areas are no longer needed, and at final closure) using available stockpiled overburden and stockpiled and windrowed organic materials. The implementation of the RCP will result in the Project Area returning to a state where natural succession of vegetation and other processes will occur. It is acknowledged that there will be permanent landforms that did not exist prior to the Project (i.e., waste rock piles which will be vegetated, and the pits, which will naturally fill with water). Shortly following closure, the area will enter into an early stage of regrowth and progress through natural succession. The rehabilitated areas will become a part of the landscape mosaic that supports various species of flora and fauna over time.

RESPONSE TO COMMENT QFN-9

Comment Number	**QFN-9**
Section Reference from QFN Submission	2.2.3 Landscape Continuity (Pine Marten)
Context from QFN Submission	QFN's request for a continuity analysis of the habitat adjacent to the project site and the mineral claims area, aimed at the identification and preservation of unaltered habitat zones crucial for facilitating the movement of pine marten around the project site, seems to have been overlooked or omitted in the Environmental Assessment submission for the BPE. While our request was acknowledged in Table 3.1 on page 3-13 there was no indication if QFN's request will be addressed or a reason given why movement around the project site is not considered an issue.
Corresponding Summary Text from QFN Submission	• QFN's has identified that a continuity analysis of adjoining habitat to facilitate Pine Marten and caribou movement around the project site has not been adequately addressed in the BPE EA • The importance of identifying intact movement corridors, addressing gaps in those corridors, and protecting these pathways until Pine Marten movement across the site is re-established is reiterated. • QFN also calls for combining this analysis with the caribou continuity analysis for a holistic approach. In conclusion, the review underscores the need for a proactive approach to protecting Pine Marten habitat, ensuring habitat restoration is well-documented and funded, and addressing the continuity of Pine Marten movement around the project site and mineral claims area. QFN emphasizes the importance of ongoing monitoring and detailed planning to safeguard the Pine Marten population and its habitat.
Specific Request from QFN Submission	**QFN again requests that a habitat continuity analysis of adjoining habitat be conducted for pine marten (can be combined with the caribou continuity analysis) and intact movement corridors identified. Gaps in these pathways, if any, are also to be identified and mechanisms to address those gaps presented. An outline of how corridors will be protected until movement across the site, or the mineral claims area, is re-established must also be included.**
Marathon Response	The environmental assessment (EA) of the Approved Project and the Project Expansion were supported through a number of assessment techniques and analyses, with the goal of identifying mitigation measures, characterizing residual effects, and identifying the need for follow-up monitoring programs. This process considered the effects of the Project on a variety of wildlife, and more specifically maintenance of their habitat and movement to the degree possible. The assessment of NL marten considered the following: • The amount of available high and moderate -value marten habitat that would be lost directly or indirectly within the Project-specific ecological land classification (ELC) area. Based on a conservative assumption that all habitat within the Project Area would be cleared, the assessment predicted that a total of 5.5% of high and moderate-value habitat would be lost. • The limited overlap (6.3 km^2) of the Project Area with proposed critical habitat identified in the recovery strategy, and existing and recommended approaches to habitat protection (ECCC 2013) (see response to Comment QFN-7). • The results of Project-specific field programs to confirm NL marten presence within the Project Area (1 marten in 2013 and 5 individuals in 2018, based on genetic analysis of hair samples).

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	• Recent (increasing) population trends for NL marten (refer to response to Comment QFN-7). Given the above factors, and the prediction of a moderate (though not significant) residual effect for NL marten, Marathon views the analysis completed as appropriate to support the EA and residual effects predictions for this species. Marathon appreciates that further analysis of habitat outside of the Project Area may be beneficial to support regional management of this species by the provincial government. The data collected through Marathon's follow-up monitoring program will be provided to the provincial government to support possible regional initiatives, including potential protected areas, and the assessment of future commercial or industrial development in the areas around the Project. As indicated in previous responses (e.g., Comment QFN-1 regarding caribou), establishing a protected land area for NL marten outside of the Project Area would only be within the purview of the government, however, Marathon will discuss this with QFN via the SEA Environmental Stewardship Committee.

RESPONSE TO COMMENT QFN-10

Comment Number	**QFN-10**
Section Reference from QFN Submission	2.3 Impacts of Future Developments
Context from QFN Submission	It is stated on page 10-56 that the Marathon mineral claims area is 4447.76 km2. It is also indicated on page 10-60 that it is assumed that 32% of this area will be developed either for mining or exploration activities. This represents an area of 1432.28 km2 which is substantially larger than the current project site. Marathon has indicated in Table 3.2, page 3-25 that exploration outside the project area, but within the mineral claims area is ongoing. This is support by the statement “Other gold prospects have been identified within Marathon’s mineral claims area; however, substantial exploration work is required to determine if additional viable gold deposits exist there.” located on page 1-13. This has the potential to impact current and future use of the area by QFN and other First nation members as well as caribou and pine marten.
Corresponding Summary Text from QFN Submission	In summary, the section on the "Impacts of Future Developments" highlights significant concerns and requests regarding the potential expansion and future mining activities within the mineral claims area
Specific Request from QFN Submission	**QFN requests that new exploration work that alters existing habitat or the ability for members to access and utilize the area be brought to the attention of the QFN executive. Before exploration or development takes place on an individual site an evaluation of its potential impact on caribou, pine marten, avifauna, fish resources, and QFN members ability to utilize the area must be conducted. If potential impacts are identified suitable mitigation measures must be developed and an implementation schedule finalized.**
Marathon Response	To clarify, the 32% noted on page 10-60 of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update is not referring to how much of the claim area Marathon is looking to explore and/or develop. The relationship of this comment to the Project Expansion EA is only in terms of cumulative effects, as an attempt to quantify potential future mineral exploration and mining development in the region. Notably, it was written as 2-32% (average of 13%) and based only on nine mineral exploration projects that had progressed to the point of EA Registration with the province; therefore, it is conservative in that it does not account for the many mineral claims where no significant exploration and/or development occurs. While exploration activities are not within the scope of the Project Expansion EA, Marathon will continue to adhere to the applicable regulatory requirements, including the province’s assessment and approval processes, for future exploration work and potential development. Marathon will continue to provide QFN with information regarding ongoing and planned exploration work outside the Project Area (within Marathon’s mineral exploration licenses) via regular project updates to QFN leadership and via the SEA Environmental Stewardship Committee. Marathon will provide updates on the rehabilitation of exploration areas as discussed in the responses to QFN-4 and QFN-5, above.

RESPONSE TO COMMENT QFN-11

Comment Number	**QFN-11**
Section Reference from QFN Submission	2.3.1 Impacts of Personal and Business Use
Context from QFN Submission	The proposed mine expansion re-emphasizes that ongoing or future mining activities within the mineral claims area will make personal or business use of the area problematic. It is encouraging to note that impact on business development was considered as indicated by the statement regarding outfitters in Table 12, page 5A.17. Both personal (i.e., cabin development, remote hunting facilities, etc.) and business (i.e., outfitting, nature tourism, etc.) use of the site depends on the identification of potential conflicts and the long-term access to specific sites within the mineral claims area. It is imperative that OFN be updated regularly on the status of existing or new exploration areas so members can be appraised of potential impacts on their current or future personal or business activities in the area.
Corresponding Summary Text from QFN Submission	• The expansion of mining activities in the mineral claims area raises concerns about personal and business use of the region. • The potential for conflicts and access issues for activities such as cabin development, remote hunting facilities, outfitting, and nature tourism is acknowledged. • QFN requests regular updates and maps from Marathon to inform members about areas slated for development, enabling them to plan personal and business activities accordingly.
Specific Request from QFN Submission	**QFN therefore requests that Marathon provide maps on an ongoing bases of areas no longer being considered for or slated for future development that can be used by QFN members to plan potential activities in the area either for personal or business purposes.**
Marathon Response	Marathon acknowledges the importance of this ongoing communication and notes that this is part of the mandate of the SEA Environmental Stewardship Committee. Marathon will also continue to provide Project updates and information to QFN leadership and will provide presentations at council meetings and other venues as requested.

RESPONSE TO COMMENT QFN-12

Comment Number	**QFN-12**
Section Reference from QFN Submission	2.3.2 Impacts on Pine Marten and Caribou Habitat and Movement
Context from QFN Submission	Continued development of the mineral claims area creates the potential for a much greater impact on both caribou and pine marten habitat and movement through or around the area. The potential for further degradation of existing movement corridors can be deemed significant. Given that future mine and exploration sites may not currently be known, it is imperative that evaluation and protection of alternative movement corridors outside the mineral claims area also be completed.
Corresponding Summary Text from QFN Submission	• The continued development of the mineral claims area has the potential to significantly impact both caribou and pine marten habitat and movement. • Concerns about the degradation of existing movement corridors are raised, especially given the uncertainty about future mining and exploration sites. • QFN calls for the evaluation and protection of alternative movement corridors outside the mineral claims area. • Additionally, QFN requests the identification and protection of adjoining habitat for caribou and pine marten equivalent to what may be removed during future mining or exploration activities. In conclusion, QFN emphasizes the importance of ongoing communication, thorough impact assessments, and proactive measures to safeguard both the natural environment and the interests of its members in light of potential future developments within the mineral claims area.
Specific Request from QFN Submission	**QFN also requires the identification and protection of alternate movement corridors adjoining the mineral claims boundary that can be used for movement of pine martin and caribou. The identification and protection of caribou and pine martin habitat adjoining the mineral claims area, equivalent to that removed during future mining or exploration activities, must also be undertaken.**
Marathon Response	This concerns raised in this comment are closely linked to those identified in the following comments: • QFN-1 (protection of alternative caribou migration corridors) • QFN-2 (identification and protection of alternative caribou migration corridors) • QFN-7 (protection of adjoining NL marten habitat) • QFN-9 (request for habitat continuity analysis of adjoining habitat for NL marten) • QFN-10 (effects of future exploration activities by Marathon on caribou and NL marten habitat) Please refer to the responses to the above comments for more information on these respective topics.

RESPONSE TO COMMENT QFN-13

Comment Number	**QFN-13**
Section Reference from QFN Submission	2.4 Migratory Birds
Context from QFN Submission	In section 1.4.4, bullet point #4, page 1-29, Marathon acknowledged that migratory birds and their eggs, nests, and young are protected under the Migratory Birds Convention Act (MBCA). A similar reference to the protection of bird eggs and nest under the Newfoundland and Labrador Wildlife Act and Regulations could not be found. Reference to the protection of eggs and nests can be found under Section 75 of the Wildlife regulations and is stated as follows: (2) A person shall not take or destroy the nests or eggs of any wild birds except when authorized under the provisions of the Migratory Birds Convention Act, 1994 (Canada) and the regulations. QFN's concerns submitted under the BPE expansion review were noted in Table 3.1 on page 3-14. It was outlined in the table that the issue has been dealt with in the Avifauna Management and Monitoring Plan which will be reviewed and updated as needed. This update must acknowledge that migratory birds, their nests, eggs and young are protected under both pieces of legislation, with contravention of the acts only allowed under very strict circumstances.
Corresponding Summary Text from QFN Submission	In summary, the section on "Migratory Birds" addresses important concerns and requirements related to the protection of migratory birds, their nests, eggs, and young within the project and mineral claims area: • Marathon acknowledges the protection of migratory birds and their eggs, nests, and young under the Migratory Birds Convention Act (MBCA) in section 1.4.4 of the document. • However, there is a need to also acknowledge the protection of bird eggs and nests under the Newfoundland and Labrador Wildlife Act and Regulations, specifically under Section 75. • QFN's concerns about the impact on migratory birds, nests, and eggs have been noted in the BPE expansion review. • It is crucial for Marathon's BPE EA submission to recognize that bird eggs and nests are protected under the Provincial Wildlife Act and its associated regulations. • The Wildlife Act does not provide a mechanism for proponents to destroy bird eggs or nests except through an exemption under the MBCA. • If land clearing or site development is scheduled during the migratory bird nesting season, QFN requires Marathon to obtain the necessary authorizations or conduct work during the breeding season. • QFN also requests copies of all authorizations issued and the associated conditions for carrying out such activities in both the project and mineral claims area. • These requirements must be explicitly included in Marathon's BPE EA submission. In conclusion, the summary highlights the need for Marathon to acknowledge the dual protection of migratory birds and their nests under both federal and provincial legislation and to comply with these regulations when conducting activities during the bird nesting season. Transparency in obtaining authorizations and adhering to conditions is essential to ensure the protection of bird species in the area.

Comment Number	**QFN-13**
Specific Request from QFN Submission	**QFN's still has outstanding concerns about the impact on migratory birds and the nests and eggs of all birds in the project and mineral claims area. Marathon must acknowledge in its BPE EA submission that birds, their eggs, and nests are protected under the Provincial Wildlife Act and associated regulations. It must also be acknowledged that the Wildlife Act provides no mechanism for proponents to destroy bird eggs or nests other than through and exemption under the MBCA. If land clearing or site development is to take place during the migratory bird nesting season QFN requires that Marathon obtain the required authorizations, if possible, otherwise work must be conducted outside the breeding season. QFN requires copies of all authorizations issued and the conditions under which those authorizations can be carried out. This applies to both the project and mineral claims area. This requirement must be included in the BPE EA submission.**
Marathon Response	**Protection of Birds, Eggs and Nests** Marathon agrees that the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update should have acknowledged that the nests and eggs of wild birds in the province are also protected under Section 75(2) of the *Wild Life Regulations*. While the applicability of this legislation was not specifically stated, the assessment of Project Expansion effects on avifauna and the procedures outlined in the Avifauna Management Plan (AMP) are both based on the fact that eggs and nests are protected and cannot be damaged or destroyed. Marathon's AMP specifies that the environmental protection measures to be followed during the breeding season are applicable to both resident and migratory birds. **Activities during the Migratory Bird Nesting Season** Marathon acknowledges that the *Wild Life Act* does not provide a mechanism to destroy bird eggs or nests other than through exemptions under the MBCA (which do not apply to industrial projects). Marathon understands and acknowledges that the mine does not have and will not have authorization to damage or destroy eggs or nests of resident or migratory birds. With regards to land clearing during the breeding bird season, Marathon will comply with the applicable permitting requirements (e.g., permits for cutting and stream crossings) and follow the procedures as described in the AMP. Specific mitigation measures outlined in the AMP include the avoidance of clearing and grubbing during the breeding bird season, where practicable, and protocols for conducting surveys when proceeding during breeding bird season is unavoidable, including the establishment of appropriate buffers around identified active nests or areas of active nesting behaviour, and adherence to these buffers until fledging has occurred. Marathon does not intend to reissue the Berry Pit Expansion Environmental Registration / EA Update, and specific regulatory compliance requirements and conditions of authorization will be tracked and reported on, as required. Additionally, pertinent mitigation measures are incorporated into the protection, management, and monitoring plans, which will be updated as applicable for the Project Expansion. The AMP (including the procedures outlined above) is a component of the approved Environmental Protection Plan (EPP), which was reviewed and approved by regulators prior to the start of construction of the Approved Project. The EPP, including the AMP, will be reviewed and updated as applicable for construction of the Project Expansion and will also be updated prior to operation. Marathon will provide QFN with authorizations and associated conditions issued for the Project via the SEA Environmental Stewardship Committee, which can also serve as a mechanism through which additional permitting may be shared.

RESPONSE TO COMMENT QFN-14

Comment Number	**QFN-14**
Section Reference from QFN Submission	2.5 Fish and Aquatic Resources
Context from QFN Submission	Marathon has acknowledged on page 95 of the Valentine Gold Project – Environmental Assessment Report, 2022 that a "…worst case scenario spill of hazardous materials." has "…the potential for significant residual adverse effects to surface water resources and fish and fish habitat." This potential effect was not noted in Chapter 9.0 Fish and Fish Habitat of the BPE EA submission. QFN member are quite familiar with what can happen to a river during a "worst case scenario" release of deleterious substances into fish habitat from a gold mining operation, as such a scenario occurred on the south coast of the island. The expansion of mining operations on the project site has increase the likelihood for the occurrence of such a scenario.
Corresponding Summary Text from QFN Submission	In summary, the section on "Fish and Aquatic Resources" highlights significant concerns and requests regarding the potential impacts of a "worst case scenario" spill of hazardous materials on surface water resources and fish habitat in the project area: • Marathon acknowledges the potential for significant adverse effects on surface water resources and fish habitat in the event of a "worst case scenario" spill of hazardous materials in the Environmental Assessment Report. • However, this potential effect was not addressed in Chapter 9.0 Fish and Fish Habitat of the BPE EA submission. • QFN members have witnessed the devastating consequences of such spills in the past, particularly on the south coast of the island. • Given the expansion of mining operations, there is an increased likelihood of such scenarios occurring. • QFN requests the development of a contingency plan to be included in the Fish and Fish Habitat chapter of the BPE EA submission. • Additionally, QFN calls for the establishment of a bond or similar mechanism to cover cleanup, fish habitat restoration, and fish restocking efforts in case of a spill. • The contingency plan should outline spill response capabilities, environmental sampling capabilities, and sources for restocking fish and invertebrates. In conclusion, the summary underscores the importance of proactive planning and financial assurances to address the potential catastrophic impacts of hazardous material spills on fish and aquatic resources, based on past experiences.
Specific Request from QFN Submission	**It is because of the south coast event that QFN requires that a contingency plan for the major release of deleterious substances into fish habitat be developed and placed in the Fish and Fish habitat chapter of the BPE EA submission. QFN is requesting that a bond, or similar mechanism, be put in place to cover cleanup, fish habitat restoration, and fish restocking. The contingency plan must outline spill response capabilities, either onsite or available in the area, environmental sampling capabilities, and sources of fish and invertebrates for restocking efforts.**

Comment Number	QFN-14
Marathon Response	**Assessment of Potential Accidental Events for the Project Expansion** Chapter 9 of the Berry Pit Expansion Environmental Registration / Environmental Assessment (EA) Update assessed the potential effects on Fish and Fish Habitat from routine Project Expansion activities, including the potential for cumulative effects. A full assessment of accidental events, including spills of hazardous materials, is provided in Chapter 13 (Accidental Events). As indicated in Section 13.5.3, fuel will be required throughout the life of the Project Expansion to operate vehicles and machinery. While there is no increase in the annual production rate due to the Project Expansion, there will be some increase in mining equipment and therefore an increase in fuel requirements. The Project Expansion will also result in a 1.4-year increase in mine life, extending the duration of fuel transportation to the mine site. Other than fuel, hazardous materials are primarily associated with the Approved Project, as these are to be used in the process plant (e.g., quicklime, sodium cyanide, frother, promoter, flocculant, hydrochloric acid, copper sulphate pentahydrate, sodium metabisulphite, sodium hydroxide, activated carbon, smelting fluxes). As the Project Expansion will not result in an increase in annual production rates, use of hazardous materials in the process plant will not change as a result of the Project Expansion; however, their use will be extended by 1.4 years. Note that blasting frequency will not increase due to the Project Expansion, however it will extend the duration of blasting by 1.4 years. As such, there is small additional risk associated with transportation of hazardous materials and bulk emulsion to the mine site. The south coast event referenced by the reviewer is assumed to be the cyanide spill that occurred in association with the Hope Brook gold mine in 1989, affecting salmon in the Cinq Cerf River. As described in the Valentine Gold EIS, Marathon will comply with current regulations and requirements associated with transportation and handling of hazardous materials, which are considerably more stringent than those in place at the time of the Hope Brook spill. Additionally, Marathon is registered with and in the process of becoming a signatory to the International Cyanide Management Code, administered by the International Cyanide Management Institute (ICMI). The International Cyanide Management Code is intended to reduce potential exposure of workers and communities to harmful concentrations of cyanide, limit releases of cyanide to the environment, and enhance response actions in the event of an exposure or release. As a signatory, Marathon is required to implement best management practices and demonstrate compliance through an independent and transparent process. In the event of a worst-case scenario spill, the Valentine Gold EIS for the Approved Project predicted that residual adverse effects could be moderate (elevated above baseline, however within acceptable limits) to high (elevated above acceptable limits or regulatory objectives) in magnitude for surface water, as well as for fish and fish habitat. As the nature of use, transportation methods and routes, and storage and handling procedures for fuel and other hazardous materials will not change with the addition of the Project Expansion, this effects prediction is also considered valid for the Approved Project in combination with the Project Expansion. As indicated above, the only changes associated with the Project Expansion are a small increase in frequency of fuel deliveries (associated with a small increase in mining equipment) and a 1.4-year extension in the need for hazardous materials (e.g., fuel, process chemicals, and bulk emulsion) to be delivered to site.

Comment Number	QFN-14
	Spill Contingency Planning Emergency response and spill contingency plans under the Environmental and Social Management System (ESMS) have been developed and are being implemented by Marathon to facilitate responses to emergency situations that may occur at the mine site (e.g., spills and releases of hazardous substances including petroleum products, accidents involving hazardous substances, explosion and fire). These plans will be reviewed and revised as needed to include the Project Expansion. The existing emergency response and spill contingency plans, including the Accidents and Malfunctions Prevention and Response Plan (AMPRP), will likely require only minor revisions to incorporate the Project Expansion in the scope of the AMPRP. Prior to the start of construction of the Approved Project, the draft AMPRP, which includes the Accidents and Malfunctions Indigenous Communications Plan, was provided to QFN for review; comments provided by QFN were considered by Marathon and the plan was subsequently revised as appropriate based on the comments received. The AMPRP was also reviewed by Environment and Climate Change Canada (ECCC) and provided to the Impact Assessment Agency of Canada. The content of emergency response plans (ERPs) for mines with respect to the unauthorized deposit of a deleterious substance that may affect fish and fish habitat is regulated under Part 3 of the *Metal and Diamond Mining Effluent Regulations* (MDMER). Marathon's ERP will comply with MDMER, including government inspection of the ERP. The severity and nature of a spill, the associated magnitude of effects to fish and fish habitat, and directives from federal or provincial regulators are anticipated to guide specific recovery and rehabilitation actions in the event of a spill. Consultation with Indigenous groups, applicable regulators (e.g., ECCC, DFO, NLDFFA), and regulations guiding the protection of fish and fish habitat in Canada (i.e., *Fisheries Act*) would guide the potential need for steps such as restoration of affected fish habitat or enhancement of localized fish populations, and subsequent monitoring. Marathon Gold's insurance program includes both first-party and third-party liability provisions for pollution events. Various first-party pollution provisions for response, assessment, clean-up and remediation of pollution events are found under the Builders Risk policy, the Pollution Liability policy (a combined Site Pollution and Contractors Pollution Liability policy), and within the Commercial General Liability and Wrap-up Liability policies, while third-party liability is provided under the Commercial General Liability and construction Wrap-up Liability policies (Sudden and Accidental Pollution Liability). Site closure and rehabilitation financial obligations are indemnified through a reclamation surety bond. Marathon's emergency response and spill contingency plans provide an overview of spill response capabilities, response equipment and inventories, and environmental sampling capacities, however sources of fish and invertebrate for restocking efforts have not been identified in that document. Marathon is interested in discussing this issue further with QFN through the SEA Environmental Stewardship Committee.

RESPONSE TO COMMENT QFN-15

Comment Number	**QFN-15**
Section Reference from QFN Submission	3.0 definition of “Technologically and Economically Feasible”
Context from QFN Submission	Marathon has acknowledged QFN’s request for a definition of Technologically and Economically feasible in Table 3.1 on page 3-15. A review of the BPE EA submission indicates that the definition offered appears to be used consistently throughout the document. While QFN acknowledges the definition provided, it still has a concern that the definition does not incorporate a third component, that being, “Ecologically Feasible”. QFN also acknowledges that this oversite has more to do with the regulatory process as opposed to an oversight by Marathon.
Corresponding Summary Text from QFN Submission	In summary, the section on the "Definition of 'Technologically and Economically Feasible'" acknowledges Marathon's response to QFN's request for a definition of this term but raises concerns about the absence of the third component, "Ecologically Feasible," in the definition. The summary statements are as follows: • Marathon has acknowledged QFN's request for a definition of "Technologically and Economically Feasible" and provided a definition that is consistently used throughout the document. • However, QFN expresses concerns that the definition does not include a third component, "Ecologically Feasible." • QFN acknowledges that this oversight may be related to the regulatory process rather than a Marathon-specific oversight. • QFN requests that future environmental assessment processes, including regulatory agencies, incorporate "Ecologically Feasible" as a component. • Proponents should be required to demonstrate that proposed activities can be carried out in an ecologically feasible manner, ensuring no negative impacts on the existing ecology or ecosystems, or that ecosystems can be restored to their original state after the project's completion. In conclusion, the summary highlights the need to expand the definition of feasibility to include ecological considerations to ensure environmentally responsible practices in future assessments and projects.
Specific Request from QFN Submission	**Based on the above QFN requests that Marathon and regulatory agencies incorporate “Ecologically Feasible” into this and future environmental assessments of the Valentine Gold Mine. As part of this process proponents must demonstrate that proposed activities can be completed in an ecologically feasible manner even though it maybe technologically or economically feasible. Ecologically feasible in this case would require that undertakings can be completed without negative impacts to the existing ecology or ecosystems, or that the ecology and ecosystems can be returned to their original state after the undertaking has been terminated.**
Marathon Response	Technological and economic feasibility, as well as environmental and socio-economic factors, were considered in the Environmental Registration / Environmental Assessment (EA) Update for the Project Expansion (Section 2.12). Technological feasibility was used as an initial screening factor, with economic feasibility used as a subsequent screening factor when considering alternatives to the Project Expansion. For those alternatives that were considered both technologically and economically feasible, environmental and socio-economic factors were then considered in order to identify the preferred means of carrying out the Project Expansion. Through this process, the

Comment Number	QFN-15
	technological, economic, environmental and socio-economic feasibility of the Project Expansion were all considered in the alternatives assessment. Ultimately, the purpose of the assessment was to determine the environmental effects, including ecological effects, of the preferred means of carrying out the Project Expansion and to characterize residual effects (i.e., those that remain after application of mitigation) with respect to criteria such as magnitude, duration and reversibility. Based on the EA, regulators then determine the acceptability of the predicted residual effects, including ecological effects, and the conditions under which the proposed project might be allowed to proceed. Very few undertakings can be completed without any negative effects on the existing ecology or ecosystems, and while the goal of rehabilitation activities is to return the environment to pre-construction conditions to the extent possible, it is acknowledged that some effects are irreversible or, at least, will take many years to return to their original state.

RESPONSE TO COMMENT QFN-16

Comment Number	**QFN-16**
Section Reference from QFN Submission	4.0 Updating Current Follow-up Plans
Context from QFN Submission	Table 3.1, page 3-15 outlines marathon's commitment to updating existing follow-up plans or creating new ones as required. Table 3, page 37, in the "APPENDIX 2E Mitigation Measures - Approved Project and Project Expansion" outlines all follow-up plans that have been or will be up-dated and QFN looks forward to reviewing these updates as they become available. Updating of the "Metal Leaching and Acid Rock Drainage (ARD/ML) Management Plan" to include the Berry Pit Expansion is appreciated. The introduction of new technology for the treatment is waste-water is seen as progressive and coupled with the recent establishment of real-time water quality data that is available to QFN indicates that Marathon is attempting to address concerns in this area.
Corresponding Summary Text from QFN Submission	In summary, the section on "Updating Current Follow-up Plans" acknowledges Marathon's commitment to updating existing follow-up plans and introduces new technology for waste-water treatment as a positive step. The summary statements are as follows: • Table 3.1 on page 3-15 outlines Marathon's commitment to updating existing follow-up plans or creating new ones as needed. • QFN anticipates reviewing the updates outlined in Table 3 on page 37 of the "APPENDIX 2E Mitigation Measures - Approved Project and Project Expansion." • The updating of the "Metal Leaching and Acid Rock Drainage (ARD/ML) Management Plan" to include the Berry Pit Expansion is appreciated, and the introduction of new wastewater treatment technology is seen as a progressive step. • QFN requests the opportunity to review updated follow-up plans, preferably before the establishment of the Berry Pit Expansion. • Some follow-up plans will require annual reviews, given the ongoing development of the mineral claims area, such as the Caribou Follow-up Plan. • QFN also calls for the development of a new follow-up plan specifically addressing mineral exploration in the mineral claims area, site rehabilitation for exploration activities, and monitoring of cumulative impacts of those activities on wildlife movement within and around development areas. In conclusion, the summary emphasizes the importance of proactive and continuous monitoring and follow-up to address evolving environmental concerns and mitigate potential impacts from ongoing mining and exploration activities.
Specific Request from QFN Submission	**QFN requires the opportunity to review updated follow-up plans preferably before establishment of the Berry Pit Expansion. Some follow-up plans will have to be reviewed and modified on a yearly basis (i.e., Caribou Follow-up Plan) given the continued development of the mineral claims area. QFN also requests that a new follow-up plan be developed that specifically addresses the continued mineral exploration in the mineral claims area. This plan must outline requirements for rehabilitation of mineral exploration sites, and the need to monitor the cumulative impacts of exploration on the movement of wildlife through or around the mineral claims and project development areas.**

Comment Number	**QFN-16**
Marathon Response	In accordance with Marathon's Environmental and Social Management System (ESMS), follow-up monitoring programs will be reviewed and updated, as necessary, on an annual basis. Consistent with the federal Decision Statement and with section 3.3 of the Current Use of Land and Resources for Traditional Purposes Indigenous Communications Plan, Marathon will engage with QFN on proposed changes to follow-up monitoring programs as required. Engagement respecting follow-up monitoring programs will include the provision of regular updates on upcoming and ongoing Project activities, including through the transmission of the Annual Report prepared pursuant to federal EA Condition 2.10 setting out the results of the specific follow-up programs referenced in federal EA Condition 7.1.4 and any modified or additional mitigation measures which have been implemented by Marathon. Marathon will provide periodic opportunities for Indigenous groups to raise questions, concerns, or observations about the efficacy of the specified follow-up programs or the potential effects of the Project upon the current use of lands and resources for traditional purposes. These opportunities shall include meetings of any joint environmental committees established under the Socio-Economic Agreements which have been concluded with both MFN and QFN. In addition, Marathon will provide opportunities for Indigenous groups to provide traditional knowledge for consideration during all Project phases, including during meetings or through Indigenous involvement in monitoring, reporting and analysis. Marathon notes QFN's request for the development of a new follow-up plan specifically addressing mineral exploration and site rehabilitation in the mineral claims area. Marathon understands this request and will discuss the best way to address this through the SEA Environmental Stewardship Committee. Please also see the response to Comment QFN-5.

RESPONSE TO COMMENT QFN-17

Comment Number	**QFN-17**
Section Reference from QFN Submission	5.0 Caribou Follow-up Program
Context from QFN Submission	Marathon advocates follow-up monitoring coupled with adaptive management, which can be successful in the management of impacts but often leads to detrimental impacts on a valued component before remedial measures are taken. Given the importance of caribou to QFN it is advocated that Marathon instead take a pro-active approach to mitigation for potential impacts on caribou. This approach would require Marathon to identify potential impacts and design and implement mitigation measures that will eliminate or reduce those impacts. This is one of the main reasons that QFN is requesting the identification and protection of alternate movement pathways for caribou. These areas would also serve as surrogate movement pathways for additional species. While objective 2 on page 5 of the "APPENDIX 10B Valentine Gold Project: Caribou Protection and Environmental Effects Monitoring Plan (Preliminary)" states "Objective 2: Maintain current migration and timing by avoiding or reducing adverse effects on caribou movement" it does not state how this will be done other than reduce habitat removal and rehabilitate affected habitat. Due to ongoing and future activities at the site, Marathon is currently unable to delineate areas of habitat that will be affected. Given the time frames associated with rehabilitating removed habitat it cannot be presented as a means of mitigation, in the short or medium term, to address impacts on caribou migration/movement. Coupled with this is the assumption by Marathon on page 8 of the document "Rehabilitation and Closure Plan Valentine Gold Project Marathon Gold Corporation " that forestry operations will probably not occur on the site in the future as indicated in the statement "Forest cutting operations occurred over part of the Project site pre-2000, however, the existing re-growth has relatively limited harvesting value and given the focus on maintaining caribou habitat and migration routes, it is unlikely that this area would be approved for future forestry operations.".
Corresponding Summary Text from QFN Submission	• There is a presumption that forestry operations will not occur in the area based on limited harvesting value and the focus on maintaining caribou habitat. QFN requests clarification on the rationale behind this assumption and supporting correspondence from the province. Coupled with this is the assumption by Marathon on page 8 of the document "Rehabilitation and Closure Plan Valentine Gold Project Marathon Gold Corporation " that forestry operations will probably not occur on the site in the future as indicated in the statement "Forest cutting operations occurred over part of the Project site pre-2000, however, the existing re-growth has relatively limited harvesting value and given the focus on maintaining caribou habitat and migration routes, it is unlikely that this area would be approved for future forestry operations." **What is the rational for this statement and is there correspondence from the province providing support?**
Specific Request from QFN Submission	**What is the rationale for this statement and is there correspondence from the province providing support?**

Comment Number	**QFN-17**
Marathon Response	The rationale for the statement regarding the value of timber in that area is based on an assessment of the merchantable timber completed for Marathon within the footprint of the Project. The rationale for the statement regarding caribou habitat and migration routes is based on consultation and engagement with the NDLFFA - Wildlife Division over more than four years, and the general focus on maintaining caribou habitat and the migration route in that area. Marathon does not have specific correspondence regarding forestry-related activity immediately surrounding the Project Area. As this relates to caribou habitat and migration route protection outside the Project Area, as raised in other comments above and below, this specific issue can be discussed and addressed via the SEA Environmental Stewardship Committee.

RESPONSE TO COMMENT QFN-18

Comment Number	**QFN-18**
Section Reference from QFN Submission	5.0 Caribou Follow-up Program
Context from QFN Submission	This review failed to find evidence that suitable alternate migration corridors have been identified or how those corridors will be maintained whether inside or outside the project or mineral claims area.
Corresponding Summary Text from QFN Submission	• Marathon supports a follow-up monitoring approach coupled with adaptive management, but there are concerns that this approach may result in detrimental impacts on caribou before remedial measures are taken. • QFN, given the significance of caribou, advocates for a proactive approach to mitigating potential impacts on caribou, including the identification and protection of alternate movement pathways. • The Caribou Protection and Environmental Effects Monitoring Plan aims to maintain caribou migration and timing by reducing adverse effects on caribou movement. However, the plan lacks specific details on how this will be achieved, especially in light of ongoing and future activities. • The review did not find evidence of suitable alternate migration corridors being identified or plans for their maintenance within or outside the project or mineral claims area. • QFN requests the identification of suitable migration/movement corridors and the inclusion of maintenance and protection protocols for those corridors in the Caribou Protection and Environmental Effects Monitoring Plan or a similar follow-up document. • QFN also seeks a guarantee from the provincial government that identified corridors will be protected until migrating caribou have reestablished migration across the project site or established alternate migration routes. In conclusion, the summary underscores the importance of a proactive approach to caribou protection and the need for plans designed for the identification and maintenance of migration corridors.
Specific Request from QFN Submission	**QFN requires that suitable migration/movement corridors, both outside the project area and the mineral claims area, be identified and a plan for their maintenance and protection be incorporated in the "Valentine Gold Project: Caribou Protection and Environmental Effects Monitoring Plan" or a similar follow-up document. QFN is also requesting a guarantee from the provincial government that identified corridors will be protected, at least until migrating caribou have established an alternate migration corridor or movement across the project area has been restored.**
Marathon Response	The concerns raised by QFN in this comment are consistent with concerns raised in comments QFN-1 to QFN-7; please refer to these responses. As previously indicated in the response to QFN-1, while caribou management, overall habitat conservation strategy, forestry harvesting strategy, and the establishment of protected areas (which, notably, can take several years or more) fall within the province's jurisdiction, the SEA Environmental Stewardship Committee is a platform through which QFN and Marathon can discuss their potential involvement in, and influence on, such strategies.

RESPONSE TO COMMENT QFN-19

Comment Number	**QFN-19**
Section Reference from QFN Submission	6.0 Enhanced Involvement of QFN in Monitoring and Reporting Activities
Context from QFN Submission	Marathon has indicated the need for ongoing involvement of First Nations in the development of the project, evaluation of potential impacts, and design and implementation of required mitigation and monitoring protocols. It is through this process that QFN has taken the opportunity to present concerns and provide input on required mitigation and monitoring that it perceives is needed to eliminate and reduce impacts. It is acknowledged that Marathon has committed to the continued involvement of QFN in monitoring and reporting activities as indicated in Table 3, page 3-16. The statement on page 3-28, which states, “Marathon will continue to consult with government departments and agencies as applicable regarding compliance with conditions of release, updating of management plans and follow- up and monitoring plans and programs to incorporate the Project Expansion, and other aspects of regulatory requirements and compliance.”, outlines the continued commitment to consultation but it omits a reference to the involvement of First Nations.
Corresponding Summary Text from QFN Submission	In summary, the section on "Enhanced Involvement of QFN in Monitoring and Reporting Activities" underscores the importance of ongoing involvement of First Nations in project development, impact evaluation, mitigation, and monitoring protocols. The summary statements are as follows: • Marathon recognizes the need for continuous involvement of First Nations in project development, impact assessment, and the design and implementation of mitigation and monitoring measures. • QFN has actively participated in presenting concerns and providing input on necessary mitigation and monitoring to reduce impacts. • Marathon has committed to continued involvement in monitoring and reporting activities, as indicated in Table 3, page 3-16. • QFN requests that a statement on page 3-28 be revised to explicitly mention consultation with First Nations during the development and updating of management, follow-up, and monitoring plans. • QFN supports its continued involvement in monitoring activities, as outlined in the Socio- Economic Agreement (SEA) between QFN and Marathon. • The hiring of an onsite environmental monitor by Marathon on behalf of QFN aligns with previous requests in EA submissions and enhances QFN's participation. • Ongoing amendments to the SEA between Marathon and QFN will provide additional opportunities for First Nations involvement in ecological research, monitoring, and the development of adaptive environmental guidelines for the project site and mineral claims area. • These amendments will create further opportunities for QFN members through adjustments to employee and procurement requirements as new project opportunities arise during the project's duration. In conclusion, the summary emphasizes the importance of meaningful and ongoing collaboration between Marathon and First Nations to ensure the responsible and sustainable development of the project while benefiting local communities.
Specific Request from QFN Submission	**QFN requests that this statement be revised to include a reference to “consult with First Nations during the development and updating of management, follow-up, and monitoring plans”.**

Comment Number	**QFN-19**
Marathon Response	The referenced statement on page 3-28 is in a section specific to regulators (section 3.3.3 Government Departments and Agencies). The section specific to Indigenous Groups is from page 3-7 to 3-18 and includes Table 3.1, which specifies the following (row at the bottom of page 3-15): “Pursuant to Federal Conditions 2.16 and 2.17, Marathon has commenced consultation with both QFN and MFN in relation to the Project Expansion and will continue to engage with each group according to agreed-upon processes. This engagement will, as required by Federal Conditions 2.5.3 and 2.6, include consultation on follow-up plans which require updating as a result of a change to the Approved Project.” Marathon will also continue to provide QFN with opportunities for review and input on follow-up, monitoring and management plans, as agreed in the Marathon – QFN Socio-Economic Agreement.

RESPONSE TO COMMENT QFN-20

Comment Number	**QFN-20**
Section Reference from QFN Submission	7.0 Employment and Economic Opportunities
Context from QFN Submission	The increased opportunity for employment and contracts over a longer duration is seen as a positive impact of the Berry Pit Expansion. QFN supports the continuation of the Employment and Procurement Committee as outlined in the Socio-Economic Agreement between QFN and Marathon. Section 2.1 d. on page 3 of the SEA states that one purpose of the SEA is to "enhance access to the Project's employment and economic opportunities for Qalipu members and Qalipu Businesses;" This, coupled with the protection of the land, is seen by QFN as one of the primary purposes of the SEA. The incorporation of environmental stewardship as outlined in Section 4 of the SEA re-emphasis the link between employment, procurement and the environment.
Corresponding Summary Text from QFN Submission	In summary, the section on "Employment and Economic Opportunities" highlights the positive impact of the Berry Pit Expansion on employment and contracts, emphasizing the importance of continued collaboration between QFN and Marathon. The summary statements are as follows: • The Berry Pit Expansion presents increased opportunities for employment and contracts over an extended duration, which is viewed positively by QFN. • QFN supports the continuation of the Employment and Procurement Committee, as outlined in the Socio-Economic Agreement (SEA) between QFN and Marathon. • The SEA's purpose includes enhancing access to employment and economic opportunities for Qalipu members and Qalipu Businesses, along with protecting the land, making it a primary goal of the agreement. • Environmental stewardship, as outlined in Section 4 of the SEA, reinforces the connection between employment, procurement, and environmental responsibility. • QFN requests that meetings of the "Employment and Procurement Committee" and the "Environmental Stewardship Committee," as specified in the SEA, be convened promptly upon approval of the Berry Pit Expansion by regulatory agencies. • During these meetings, Marathon is expected to present emerging opportunities resulting from the expansion and collaborate with QFN to maximize the benefits for its members. In conclusion, this summary underscores the importance of leveraging the expansion to create economic opportunities for QFN members while maintaining a commitment to environmental stewardship and responsible development.
Specific Request from QFN Submission	**To fully explore new and emerging opportunities presented by the BPE for QFN members, QFN requests that meetings of the "Employment and Procurement Committee" and the "Environmental Stewardship Committee", as outlined in the SEA, be convened as soon as the BPE has been approved by regulatory agencies. During these meetings Marathon is to present emerging opportunities for QFN membership as a result of the expansion. Marathon will be required to collaborate with QFN to optimize the benefits derived from the expansion for its members.**

Comment Number	**QFN-20**
Marathon Response	As noted, one of the objectives of the Marathon – QFN Socio-Economic Agreement (SEA) is to enhance access to employment and economic opportunities for QFN members and QFN businesses, while reinforcing the connection between employment, procurement, and environmental responsibility. The Education, Employment and Training Committee, the Procurement Committee, and the Environmental Stewardship Committee established under the SEA are the primary arenas for this collaboration. The Education, Employment and Training and the Procurement committees will continue to meet regularly to discuss emerging opportunities and to identify how QFN may best avail of these. Pursuant to both the NL Benefits Agreement and the SEA, Marathon has taken steps to facilitate access by QFN members and businesses to the economic opportunities associated with the Approved Project and these strategies will be applied to economic opportunities associated with the Project Expansion. These steps include: employment and procurement information sessions targeted at QFN members and QFN businesses; provision of advance notice to QFN of employment and contracting opportunities; regular communication of training and employment requirements; ongoing collaboration with QFN and educational facilities respecting apprenticeships; collaboration with QFN respecting the development of cultural sensitivity training materials; unbundling of contracts where appropriate to create opportunities for smaller businesses; consideration of sole source opportunities; commitments related to the conduct of/participation in monitoring programs and the employment of an on-site QFN monitor; and tracking of data related to the employment of QFN members and contract awards to member-owned businesses. Pursuant to the SEA, Marathon will continue to work with QFN over the life of the Project to facilitate QFN participation in the workforce and in the award of contracts.

RESPONSE TO COMMENT QFN-21

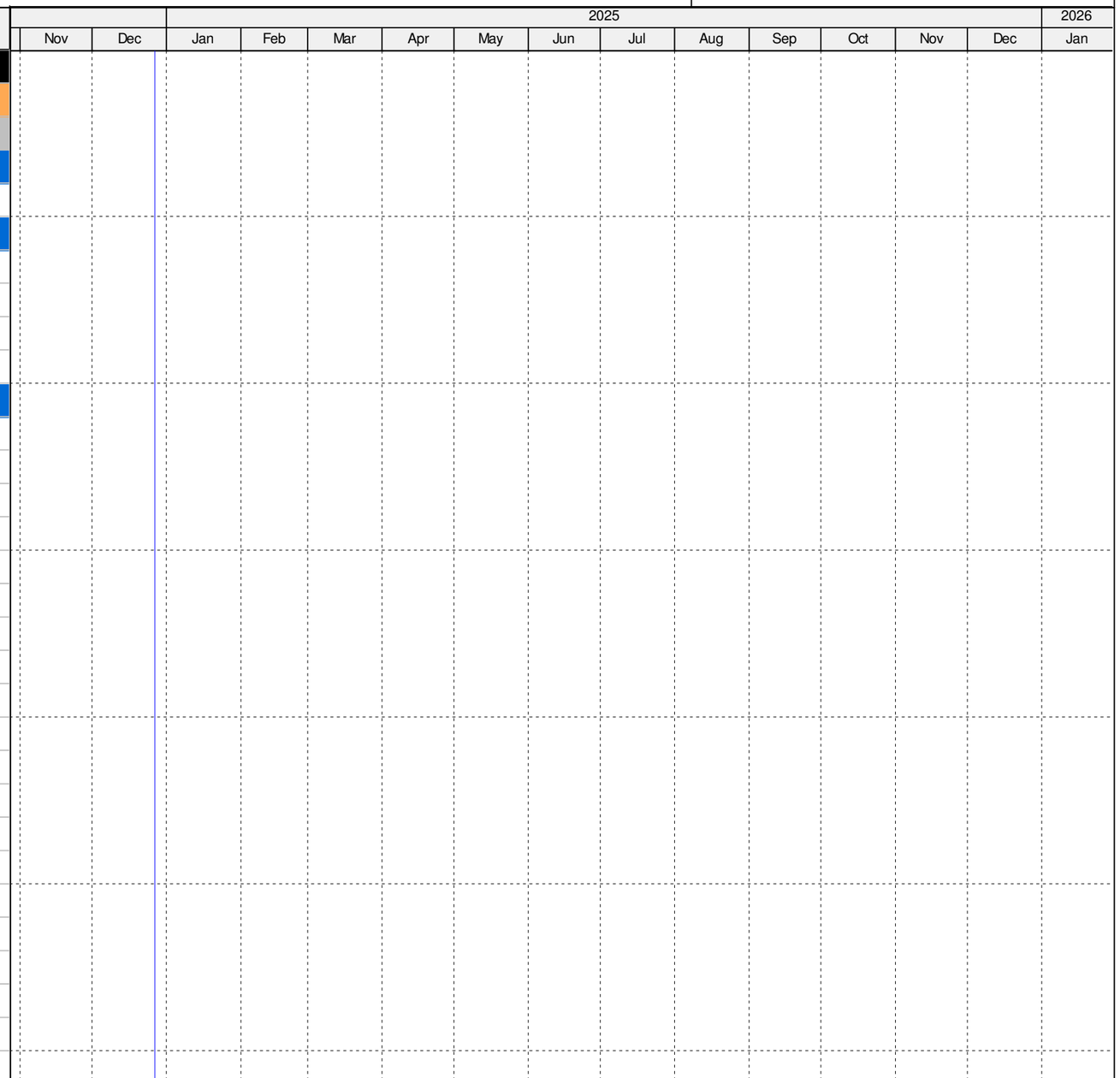
Comment Number	**QFN-21**
Section Reference from QFN Submission	9.0 Final Remarks
Context from QFN Submission	In conclusion, the comprehensive review and analysis of the Berry Pit Expansion (BPE) project undertaken by Qalipu First Nation (QFN) have yielded critical insights and recommendations across various aspects of the project. QFN has consistently emphasized the need for robust mitigation measures and proactive approaches to safeguard the environment, wildlife, and the interests of its members. These recommendations span habitat protection for caribou and pine marten, monitoring and contingency plans for potential environmental hazards, the involvement of First Nations in project development and monitoring, and the optimization of employment and economic opportunities. QFN's commitment to collaboration with Marathon and its focus on balancing economic development with ecological responsibility are evident throughout the review. The valuable insights and recommendations provided by QFN serve as a testament to the importance of consultation and comprehensive environmental assessments in ensuring the responsible and sustainable expansion of projects like the Valentine Gold Mine. These recommendations should be considered in the regulatory decision-making process to enhance the project's overall impact mitigation and benefit realization for all stakeholders involved.
Corresponding Summary Text from QFN Submission	NA
Specific Request from QFN Submission	**These recommendations should be considered in the regulatory decision-making process to enhance the project's overall impact mitigation and benefit realization for all stakeholders involved.**
Marathon Response	Marathon appreciates QFN's continued collaborative approach focused on balancing economic development with ecological responsibility, and echoes QFN's sentiment as to the importance of Indigenous engagement and comprehensive EA in responsible and sustainable development. QFN's insights and recommendations, along with Marathon's responses to these comments, will be provided to IAAC for consideration in their decision-making process, and will be incorporated by IAAC, as applicable, into the EA Report for the Project Expansion. IAAC will be making their draft EA Report available for public review and comment prior to finalization.

Appendix C CONSTRUCTION SCHEDULE

VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

16-Jan-25 11:39
Data Date: 27-Dec-24

Activity ID	Activity Name	Original Duration	Start	Finish
Valentine Gold Project		1093	07-Aug-21 A	30-Nov-25
Valentine Gold Project		1093	07-Aug-21 A	30-Nov-25
Project Milestones		1088	16-Aug-21 A	30-Nov-25
Infrastructure		0	01-Mar-24 A	01-Mar-24 A
MP-1910	NL Hydro - Permanent Power available	0		01-Mar-24 A
Procurement		131	31-Aug-23 A	06-Mar-24 A
MP-2790	Pre-Engineered Process Building - First delivery at site	0		31-Aug-23 A
MP-2810	Main E-Room - Completed at site	0		30-Jan-24 A
MP-2820	GE Motors & Drives (Mills) - Delivered to site	0		06-Mar-24 A
MP-2800	SAG & Ball Mill - Delivered to site	0		06-Mar-24 A
Construction		942	16-Aug-21 A	08-May-25
MP-1960	CC4101 - "Maintenance" works start - Access Road	0	16-Aug-21 A	
MP-1450	Commencement of Temporary Camp Installation	0	25-Jul-22 A	
MP-2090	TK3905 - Temporary Construction Camp complete	0		04-Oct-22 A
MP-1980	CC4103 - Victoria River Bridge works start	0	05-Oct-22 A	
MP-2650	Mobilisation to Site - Construction Start - Early Works	0	05-Oct-22 A	
MP-1970	CC4102 - Upgrade works start - Access Road	0	05-Oct-22 A	
MP-1990	CC0001 - Tree Cutting works - start	0	05-Oct-22 A	
MP-2060	CC3001 - Major Earthwork works start	0	12-Oct-22 A	
MP-2750	Victoria River Bridge replacement complete	0		25-Nov-22 A
MP-1500	Commencement of construction - Execution Phase	0	30-Jan-23 A	
MP-2730	Concrete Batch Plant Setup Complete	0		28-Mar-23 A
4000-CO-1000	Spring Thaw - Modified road access plan	30	18-Apr-23 A	30-May-23 A
MP-2830	Main SwitchYard Pad Complete	0		26-May-23 A
MP-2105	TK3901 / TK3902 - Accommodation Complex - First 220 Beds Available	0		10-Jun-23 A
MP-3000	TK3901 / TK3902 - Accommodation Complex - 8 Dorms completed = 352 Beds Available	0		20-Jun-23 A
MP-2760	Process Plant Pad complete	0		13-Jul-23 A
MP-2860	Start SAG & Ball Mill Foundations	0	15-Jul-23 A	
MP-2870	Main SwitchYard Concrete Complete	0		28-Jul-23 A
MP-2840	Start Pre-Eng Building Foundations	0	25-Aug-23 A	
MP-2110	TK3901 / TK3902 - Accommodation Complex Complete (425 Beds)	0		22-Sep-23 A

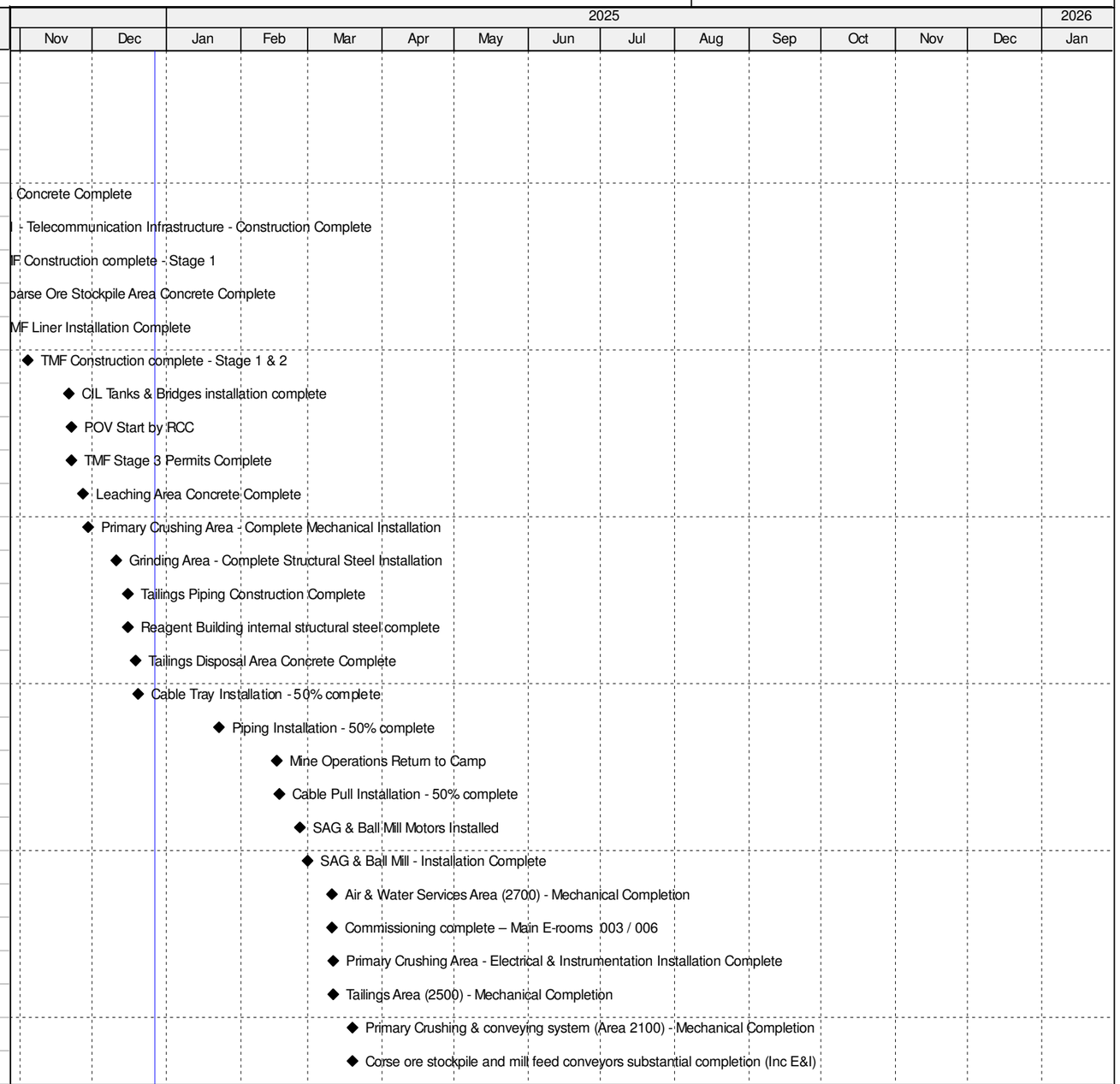


Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

16-Jan-25 11:39
Data Date: 27-Dec-24

Activity ID	Activity Name	Original Duration	Start	Finish
MP-2850	Start Pre-Eng-Building Erection	0	05-Nov-23 A	
MP-2770	Main Foundations completed - SAG & Ball Mill	0		28-Jan-24 A
MP-2740	Grinding Area Building Closed.	0		16-Feb-24 A
MP-2950	Mill Motors - Start Installation	0	07-Aug-24 A	
MP-2890	Crusher Area Concrete Complete	0		21-Sep-24 A
MP-2040	TK3301 - Telecommunication Infrastructure - Construction Complete	0		04-Oct-24 A
MP-2080	TMF Construction complete - Stage 1	0		16-Oct-24 A
MP-2900	Coarse Ore Stockpile Area Concrete Complete	0		18-Oct-24 A
MP-3100	TMF Liner Installation Complete	0		19-Oct-24 A
MP-2085	TMF Construction complete - Stage 1 & 2	0		04-Nov-24 A
MP-3120	CIL Tanks & Bridges installation complete	0		21-Nov-24 A
MP-3130	POV Start by RCC	0	22-Nov-24 A	
MP-3250	TMF Stage 3 Permits Complete	0		22-Nov-24 A
MP-2880	Leaching Area Concrete Complete	0		27-Nov-24 A
MP-2970	Primary Crushing Area - Complete Mechanical Installation	0		29-Nov-24 A
MP-2960	Grinding Area - Complete Structural Steel Installation	0		11-Dec-24 A
MP-3080	Tailings Piping Construction Complete	0		16-Dec-24 A
MP-3170	Reagent Building internal structural steel complete	0		16-Dec-24 A
MP-2910	Tailings Disposal Area Concrete Complete	0		19-Dec-24 A
MP-3190	Cable Tray Installation - 50% complete	0		20-Dec-24 A
MP-3200	Piping Installation - 50% complete	0		22-Jan-25*
MP-3230	Mine Operations Return to Camp	0		15-Feb-25*
MP-3220	Cable Pull Installation - 50% complete	0		16-Feb-25*
MP-3110	SAG & Ball Mill Motors Installed	0		25-Feb-25
MP-2780	SAG & Ball Mill - Installation Complete	0		28-Feb-25
MP-3070	Air & Water Services Area (2700) - Mechanical Completion	0		10-Mar-25
MP-3180	Commissioning complete – Main E-rooms 003 / 006	0		10-Mar-25
MP-2990	Primary Crushing Area - Electrical & Instrumentation Installation Complete	0		11-Mar-25
MP-3050	Tailings Area (2500) - Mechanical Completion	0		11-Mar-25
MP-3010	Primary Crushing & conveying system (Area 2100) - Mechanical Completion	0		19-Mar-25
MP-3090	Corse ore stockpile and mill feed conveyors substantial completion (Inc E&I)	0		19-Mar-25



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

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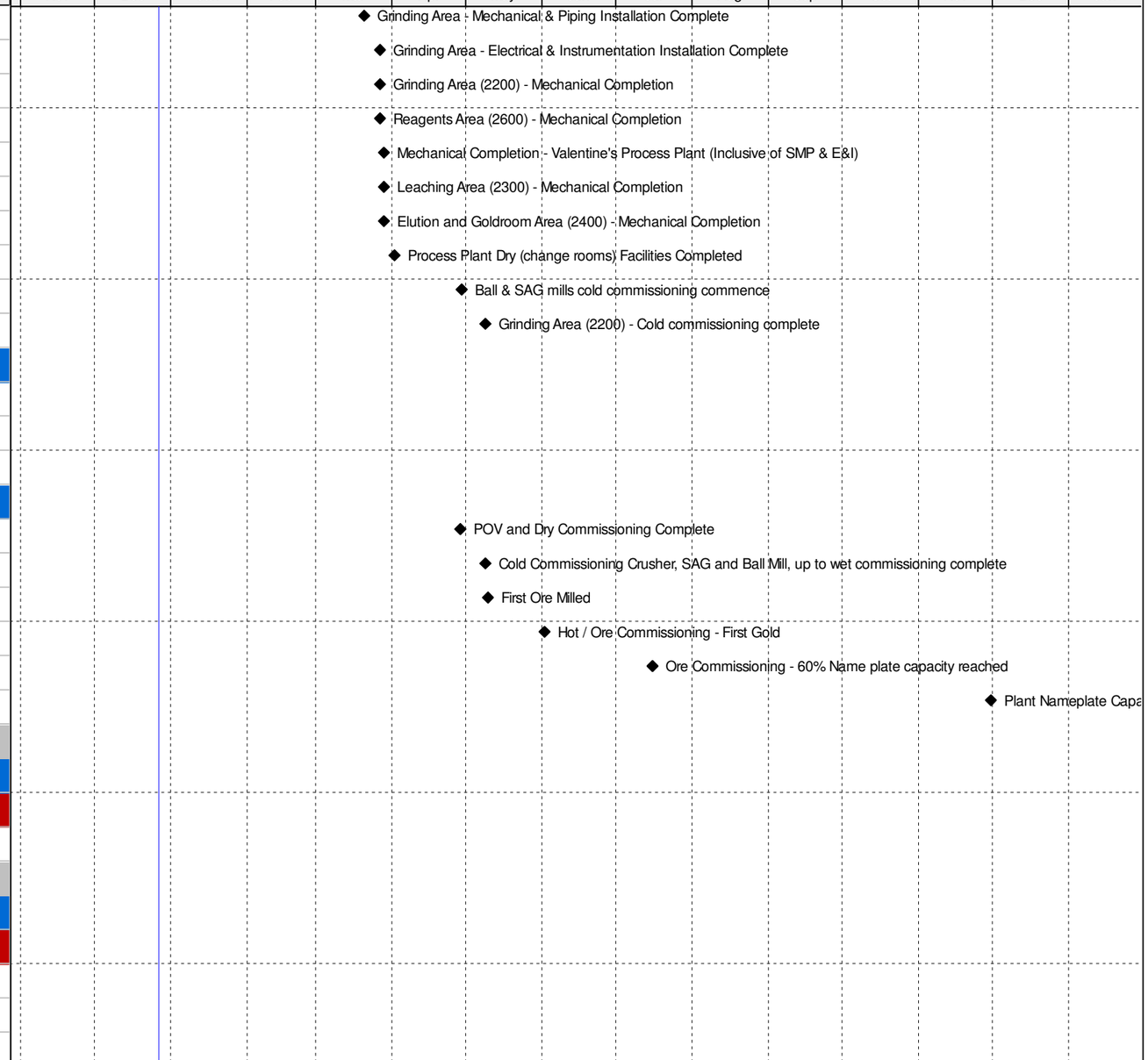
Activity ID	Activity Name	Original Duration	Start	Finish
MP-2940	Grinding Area - Mechanical & Piping Installation Complete	0		20-Mar-25
MP-2930	Grinding Area - Electrical & Instrumentation Installation Complete	0		26-Mar-25
MP-3020	Grinding Area (2200) - Mechanical Completion	0		26-Mar-25
MP-3060	Reagents Area (2600) - Mechanical Completion	0		26-Mar-25
MP-1920	Mechanical Completion - Valentine's Process Plant (Inclusive of SMP & E&I)	0		28-Mar-25
MP-3030	Leaching Area (2300) - Mechanical Completion	0		28-Mar-25
MP-3040	Elution and Goldroom Area (2400) - Mechanical Completion	0		28-Mar-25
MP-3260	Process Plant Dry (change rooms) Facilities Completed	0		01-Apr-25
MP-3150	Ball & SAG mills cold commissioning commence	0	29-Apr-25	
MP-3160	Grinding Area (2200) - Cold commissioning complete	0		08-May-25
Mining		171	04-Jun-23 A	16-Feb-24 A
MP-2670	Leprechaun - 1st Low Grade Ore	0	04-Jun-23 A	
MP-2690	Marathon - 1st Low Grade Ore	0	15-Jan-24 A	
MP-2710	Leprechaun & Marathon - 1st High Grade Ore	0	16-Feb-24 A	
Commissioning		216	28-Apr-25	30-Nov-25
MP-1505	POV and Dry Commissioning Complete	0		28-Apr-25
MP-1510	Cold Commissioning Crusher, SAG and Ball Mill, up to wet commissioning complete	0		08-May-25
MP-1515	First Ore Milled	0		09-May-25
MP-1595	Hot / Ore Commissioning - First Gold	0		01-Jun-25
MP-1600	Ore Commissioning - 60% Name plate capacity reached	0		15-Jul-25
MP-3240	Plant Nameplate Capacity	0		30-Nov-25
Project Management		31	03-Mar-23 A	28-Mar-23 A
Construction Contracts		31	03-Mar-23 A	28-Mar-23 A
CB2002 - Concrete Batch Plant Contract		31	03-Mar-23 A	28-Mar-23 A
CB2002-CO-150	Concrete Batch Plant Mobilization & Setup	31	03-Mar-23 A	28-Mar-23 A
0000 - Overall Areas		380	05-Oct-22 A	15-Apr-24 A
CC0001 - Tree Cutting		380	05-Oct-22 A	15-Apr-24 A
Construction		380	05-Oct-22 A	15-Apr-24 A
CC0001-CO-100	Tree Cutting - Mobilization	4	05-Oct-22 A	08-Oct-22 A
CC0001-CO-010	LOE - Tree Cutting - Construction Hours	150	05-Oct-22 A	16-Nov-23 A
CC0001-CO-130	Mulching - Leprechaun Pit (Seq 1)	29	05-Oct-22 A	08-Nov-22 A



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

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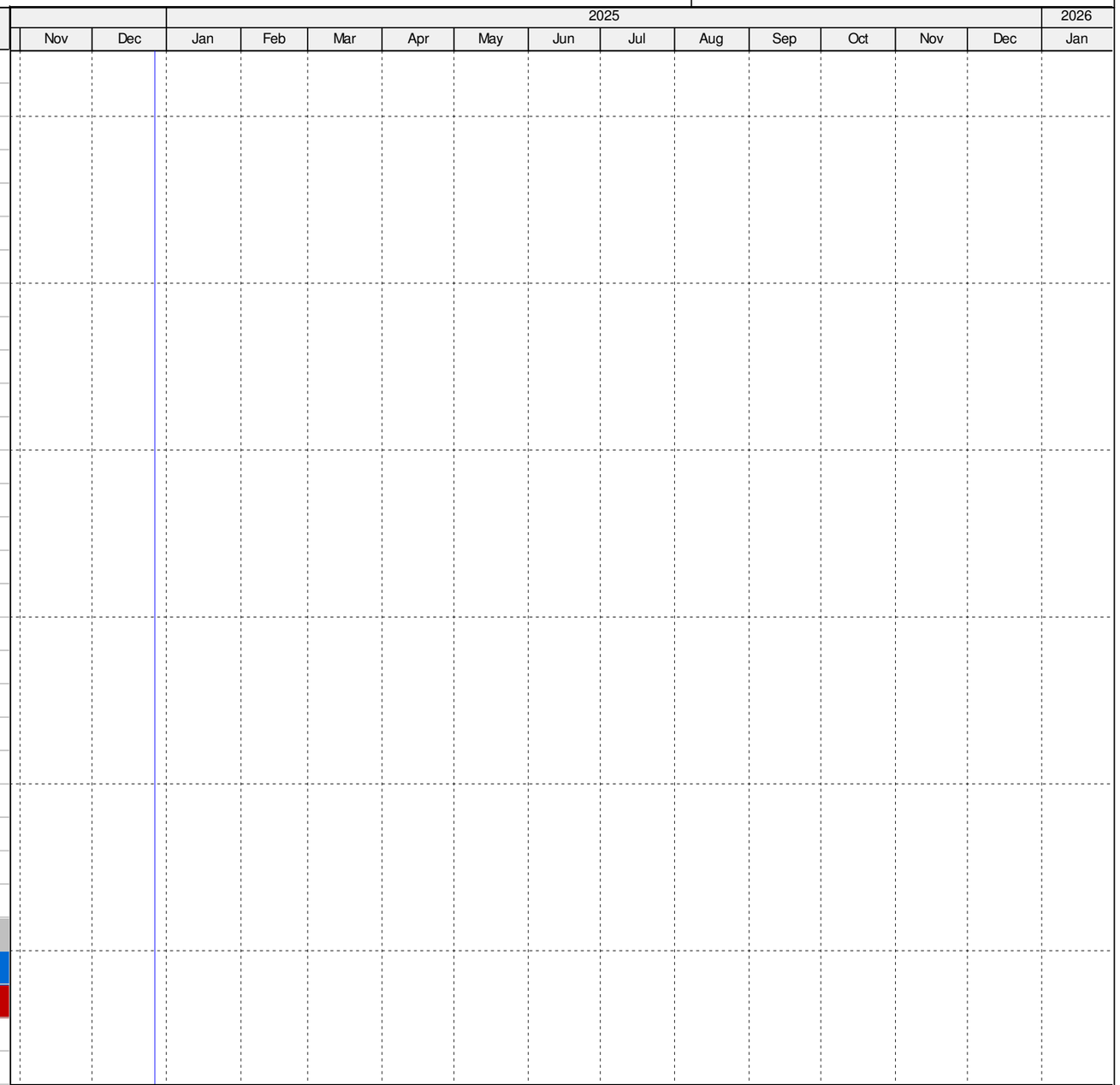
Data Date: 27-Dec-24

Activity ID	Activity Name	Original Duration	Start	Finish
CC0001-CO-110	Tree Cutting - Accommodaton Complex pad (Seq 2)	14	05-Oct-22 A	18-Oct-22 A
CC0001-CO-255	Tree Cutting - Leprechaun Waste Rock Piles	28	08-Oct-22 A	04-Nov-22 A
CC0001-CO-200	Tree Cutting - Fresh Water Intake Road and Pad (Seq 4)	12	09-Oct-22 A	20-Oct-22 A
CC0001-CO-265	Tree Cutting - Leprechaun Overburden Stockpile	34	13-Oct-22 A	15-Nov-22 A
CC0001-CO-275	Tree Cutting - Climate Monitoring Station	6	19-Oct-22 A	24-Oct-22 A
CC0001-CO-120	Tree Cutting - Haul Road / Leprechaun - Pit to Plant site, inc. crusher location (Seq 1)	57	20-Oct-22 A	15-Dec-22 A
CC0001-CO-180	Tree Cutting - Access Road to Plant Site (Seq 7)	35	21-Oct-22 A	24-Nov-22 A
CC0001-CO-215	Tree Cutting - Upgrades to Road (Seq 6) - TMF Re-alignment/Diversion Km 78 to 80.5	49	29-Oct-22 A	16-Dec-22 A
CC0001-CO-160	Tree Cutting - Process Plant / ROM / Truck Shop / Substation Area (Seq 9)	29	03-Nov-22 A	01-Dec-22 A
CC0001-CO-150	Tree Cutting - TMF Area (considering revised qtys) (Seq 10)	107	22-Nov-22 A	11-Feb-23 A
CC0001-CO-140	Tree Cutting - Marathon Pit	45	12-Feb-23 A	28-Mar-23 A
CC0001-CO-285	Tree Cutting - Leprechaun Low Grade Stockpile	14	12-Feb-23 A	25-Feb-23 A
CC0001-CO-295	Tree Cutting - Haul Road / Plant site to Marathon Pit	8	26-Feb-23 A	26-Mar-23 A
CC0001-CO-235	Tree Cutting - Marathon Overburden Stockpiles	103	06-Mar-23 A	14-Sep-23 A
CC0001-CO-245	Tree Cutting - Marathon Low Grade Stockpile	96	07-Mar-23 A	14-Sep-23 A
CC0001-CO-305	Tree Cutting - Leprechaun Waste Rock Piles (add. Areas to clean)	24	15-Aug-23 A	19-Nov-23 A
CC0001-CO-225	Tree Cutting - Marathon Waste Rock Piles	35	15-Sep-23 A	10-Nov-23 A
CC0001-CO-115	Tree Cutting - Diffuser Alignment Camp Pad (Seq 3) + Diffuser line camp to Victoria Lake	7	10-Oct-23 A	22-Nov-23 A
CC0001-CO-315	Tree Cutting (New) - Access Road Realignment at KM 66-68	7	07-Mar-24 A	08-Mar-24 A
CC0001-CO-325	Tree Cutting (New) - Exploration Pad - Truck Logs and Fuel	9	09-Mar-24 A	12-Mar-24 A
CC0001-CO-375	Tree Cutting (New) - LP-SP-01B	12	13-Mar-24 A	08-Apr-24 A
CC0001-CO-205	Tree Cutting - Communication Tower	7	18-Mar-24 A	01-Apr-24 A
CC0001-CO-365	Tree Cutting (New) - LP-SP-02	17	30-Mar-24 A	15-Apr-24 A
CC0001-CO-345	Tree Cutting (New) - MA-SP-03	13	03-Apr-24 A	15-Apr-24 A
CC0001-CO-335	Tree Cutting (New) - MA-SP-04	7	09-Apr-24 A	15-Apr-24 A
CC0001-CO-355	Tree Cutting (New) - MA-SP-01C	6	10-Apr-24 A	15-Apr-24 A
1000 - Mining		612	25-Aug-22 A	15-Jul-25
Mining Equipment		40	25-Aug-22 A	12-Oct-22 A
PM1302 - Fuel Supply & Storage		40	25-Aug-22 A	12-Oct-22 A
PM1302-CO-100	Temporary Fuel Supply - Mobilisation & Skids fabrication	23	25-Aug-22 A	21-Sep-22 A
PM1302-CO-110	Temporary Fuel Supply - Install / Commissioning Fuel Tank	17	21-Sep-22 A	12-Oct-22 A



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
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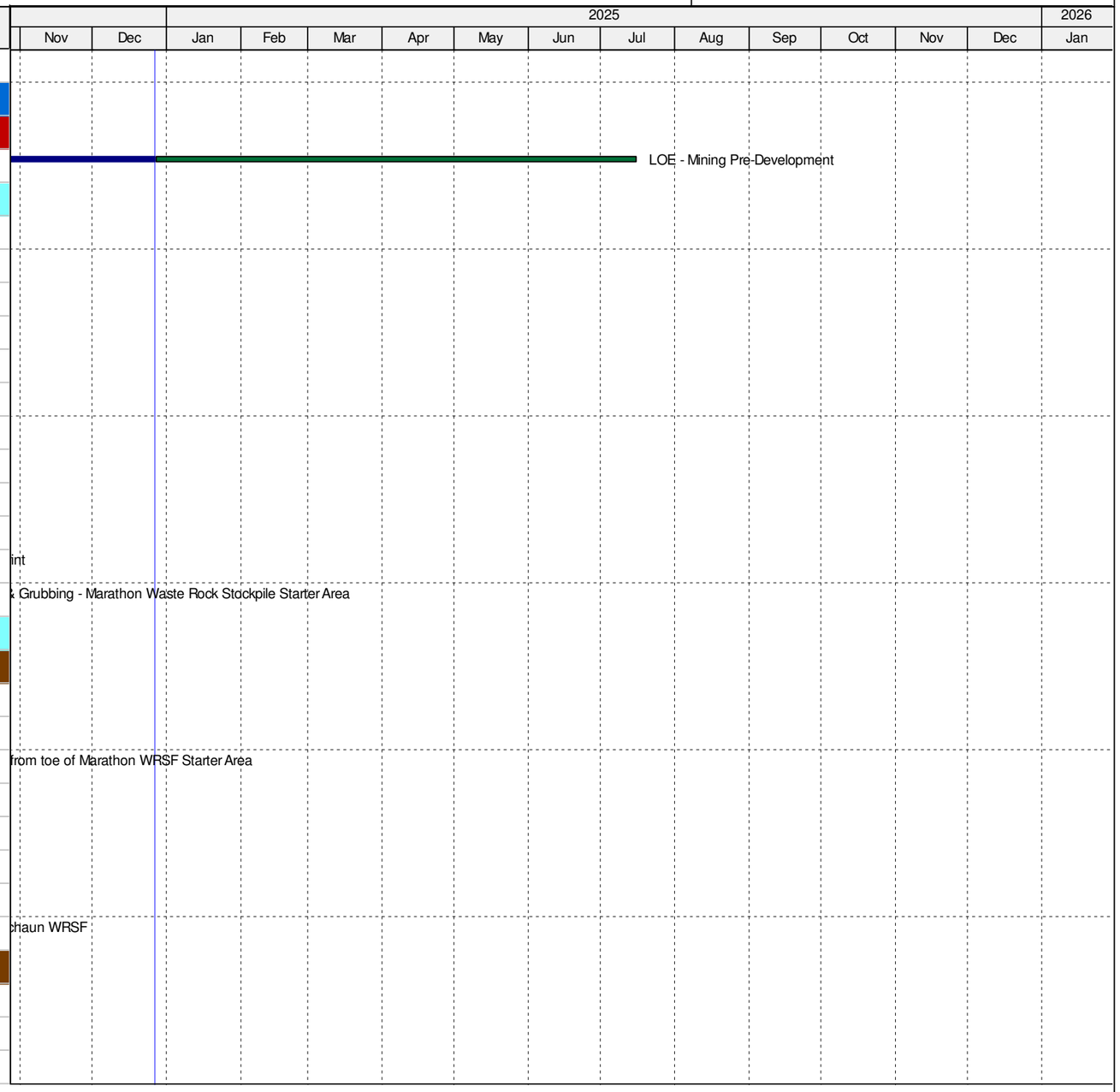
Activity ID	Activity Name	Original Duration	Start	Finish
PM1302-CO-120	Temporary Fuel Supply - Temporary Setup complete	0		12-Oct-22 A
1100 - Mine Infrastructure & Services		559	05-Oct-22 A	15-Jul-25
CG1101 - Mining Pre-development		559	05-Oct-22 A	15-Jul-25
CG1101-OP-010	LOE - Mining Pre-Development	797	05-Oct-22 A	15-Jul-25
1110 - Stripping and Grubbing		628	05-Oct-22 A	27-Sep-24 A
CG1101-1620	Stripping & Grubbing - Leprechaun Topsoil Stockpile Footprint	10	05-Oct-22 A	14-Oct-22 A
CG1101-2200	Stripping & Grubbing - Mining Area - LOE	10	05-Oct-22 A	29-Feb-24 A
CG1101-1460	Stripping & Grubbing - Leprechaun Phase 1 Open Pit	165	05-Oct-22 A	31-Mar-23 A
CG1101-1600	Stripping & Grubbing - Leprechaun Overburden Stockpile Footprint	9	15-Oct-22 A	23-Oct-22 A
CG1101-1420	Stripping & Grubbing - Haul Road Routes	155	15-Oct-22 A	31-Mar-23 A
CG1101-1660	Stripping & Grubbing - Leprechaun Waste Rock Stockpile Starter Area	31	13-Mar-23 A	21-Jun-23 A
CG1101-1640	Stripping & Grubbing - Leprechaun Low Grade Ore Stockpile Pad	10	31-Mar-23 A	10-Apr-23 A
CG1101-1440	Stripping & Grubbing - Marathon Phase 1 Open Pit (Construction Phase)	35	31-May-23 A	07-Jul-23 A
CG1101-1500	Stripping & Grubbing - Marathon Overburden Stockpile Footprint	100	10-Jun-23 A	29-Feb-24 A
CG1101-1560	Stripping & Grubbing - Marathon Low Grade Ore Stockpile Pad	20	27-Dec-23 A	29-Feb-24 A
CG1101-1520	Stripping & Grubbing - Marathon Topsoil Stockpile Footprint	13	15-Mar-24 A	03-Jun-24 A
CG1101-1580	Stripping & Grubbing - Marathon Waste Rock Stockpile Starter Area	26	01-Aug-24 A	27-Sep-24 A
1140 - Pit Pre-Stripping		524	05-Oct-22 A	02-Nov-24 A
Topsoil Stripping		524	05-Oct-22 A	09-Sep-24 A
CG1101-1140	Topsoil Stripping from Leprechaun Phase 1 Open Pit	83	05-Oct-22 A	07-Jul-23 A
CG1101-2400	TPit Pre-Stripping - LOE	83	05-Oct-22 A	26-Jan-24 A
CG1101-1160	Topsoil Stripping from toe of Marathon WRSF Starter Area	248	09-Oct-23 A	09-Sep-24 A
CG1101-1890	Topsoil Stripping from High Grade Ore SP	17	03-Nov-23 A	22-Nov-23 A
CG1101-1120	Topsoil Stripping from Marathon Phase 1 Open Pit	136	05-Nov-23 A	22-Nov-23 A
CG1101-1870	Topsoil Stripping from Leprechaun Low Grade Ore SP	10	06-Nov-23 A	15-Dec-23 A
CG1101-1880	Topsoil Stripping from Marathon Low Grade Ore SP	18	19-Feb-24 A	09-Mar-24 A
CG1101-1830	Topsoil Stripping from Leprechaun WRSF	60	04-Jun-24 A	12-Aug-24 A
Pit Dewatering for Pre-Stripping - Leprechaun Pit		84	28-Oct-22 A	27-Feb-23 A
CG1101-DE-130	Stage 1 - AREA 57,560 m2	84	28-Oct-22 A	24-Feb-23 A
CG1101-DE-140	STAGE 2 - AREA 366,825 m2	84	28-Oct-22 A	27-Feb-23 A
CG1101-DE-150	Stage 3 - AREA 222,359m2	84	28-Oct-22 A	24-Feb-23 A



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

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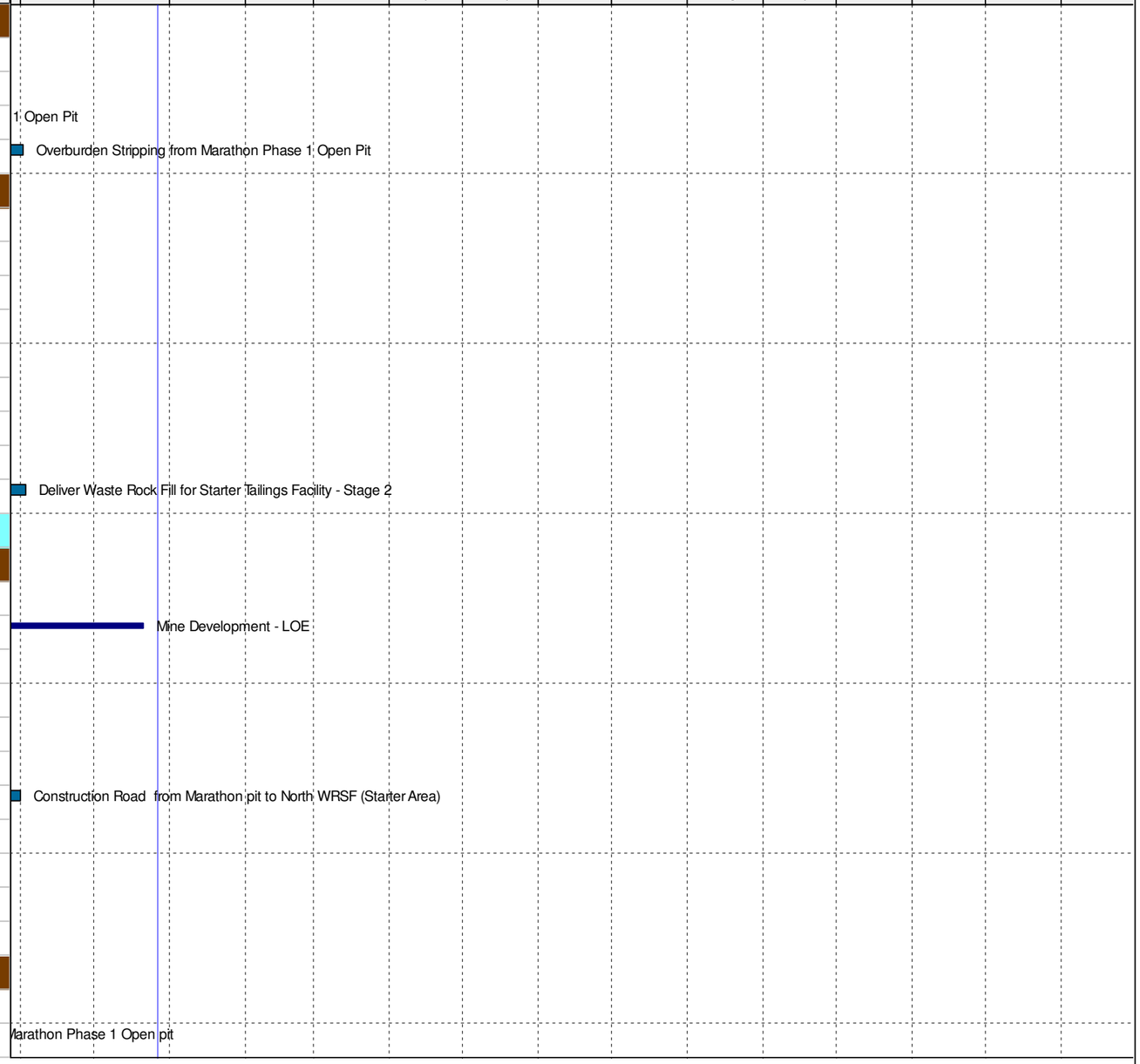
Activity ID	Activity Name	Original Duration	Start	Finish
Overburden Stripping		572	05-Oct-22 A	01-Nov-24 A
CG1101-1900	Overburden Stripping from Leprechaun Construction Pit	150	05-Oct-22 A	25-Jul-23 A
CG1101-1910	Overburden Stripping from Marathon Construction Pit	107	26-Jul-23 A	26-Jan-24 A
CG1101-1200	Overburden Stripping from Leprechaun Phase 1 Open Pit	150	23-Oct-23 A	28-Jun-24 A
CG1101-1180	Overburden Stripping from Marathon Phase 1 Open Pit	107	01-Jul-24 A	01-Nov-24 A
Waste Rock Development		572	06-Oct-22 A	02-Nov-24 A
CG1101-CO-1925	Waste Rock extraction - Leprechaun - Commence Drilling	4	06-Oct-22 A	10-Oct-22 A
CG1101-CO-1090	1st Blast at Leprechaun - Start blasting of Waste Rock to Mobile Crushing Plant	0	11-Oct-22 A	11-Oct-22 A
CG1101-CO-1985	Load, Haul & Place Waste Rock to Access Road	10	11-Oct-22 A	21-Oct-22 A
CG1101-CO-1065	Load, Haul & Place Waste Rock to Haul Roads	142	21-Oct-22 A	20-May-23 A
CG1101-CO-1980	Load, Haul & Place Waste Rock to Batch Plant Pad	10	12-Feb-23 A	18-Feb-23 A
CG1101-CO-1100	Deliver Waste Rock Fill for Plant Area Pads and remaining Pads	167	27-Feb-23 A	30-Jan-24 A
CG1101-CO-1080	Deliver Waste Rock Fill for Starter Tailings Facility - Stage 1	197	26-May-23 A	05-Feb-24 A
CG1101-CO-2005	1st Blast at Marathon	1	15-Jul-23 A	17-Jul-23 A
CG1101-CO-1920	Deliver Waste Rock Fill for Starter Tailings Facility - Stage 2	215	06-Feb-24 A	02-Nov-24 A
1120 - Mine Development		555	12-Oct-22 A	21-Dec-24 A
Construction - Haul Road		397	20-Oct-22 A	21-Dec-24 A
CG1101-2005	Construction Haul Road - From Leprechaun pit to Overburden Stockpile	25	20-Oct-22 A	17-Nov-22 A
CG1101-2300	Mine Development - LOE	25	20-Oct-22 A	21-Dec-24 A
CG1101-1780	Construction Haul Road Phase 1 - From Leprechaun pit to Plant site (19m Wide)	40	03-Dec-22 A	11-Jan-23 A
CG1101-2015	Construction - Road from Haul Road to Process Plant Pad	4	12-Jan-23 A	15-Jan-23 A
CG1101-CO-1785	Construction Haul Road Phase 1 - From Plant Site to TMF	77	26-May-23 A	03-Jul-23 A
CG1101-CO-1787	Construction Road Haul Phase 1 - From TMF to Marathon pit	38	24-Jul-23 A	17-Aug-23 A
CG1101-1820	Construction Road from Marathon pit to North WRSF (Starter Area)	29	10-Sep-23 A	31-Oct-24 A
CG1101-1700	Construction Road from Leprechaun pit to South WRSF (Starter Area)	21	16-Oct-23 A	25-Oct-23 A
CG1101-1995	Place overburden lift under base of High grade ore stockpile	24	06-Nov-23 A	16-Feb-24 A
CG1101-1760	Place overburden lift under base of Leprechaun low grade stockpile	22	14-Feb-24 A	09-Mar-24 A
CG1101-1740	Place overburden lift under base of Marathon low grade stockpile	23	10-Mar-24 A	06-Apr-24 A
Marathon Pit Development		328	11-Sep-23 A	21-Dec-24 A
CG1101-1930	Marathon Construction Pit Mining (356/344)	95	11-Sep-23 A	12-Feb-24 A
CG1101-1240	Mining 356/344 Bench of Marathon Phase 1 Open pit	167	13-Feb-24 A	15-Aug-24 A



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

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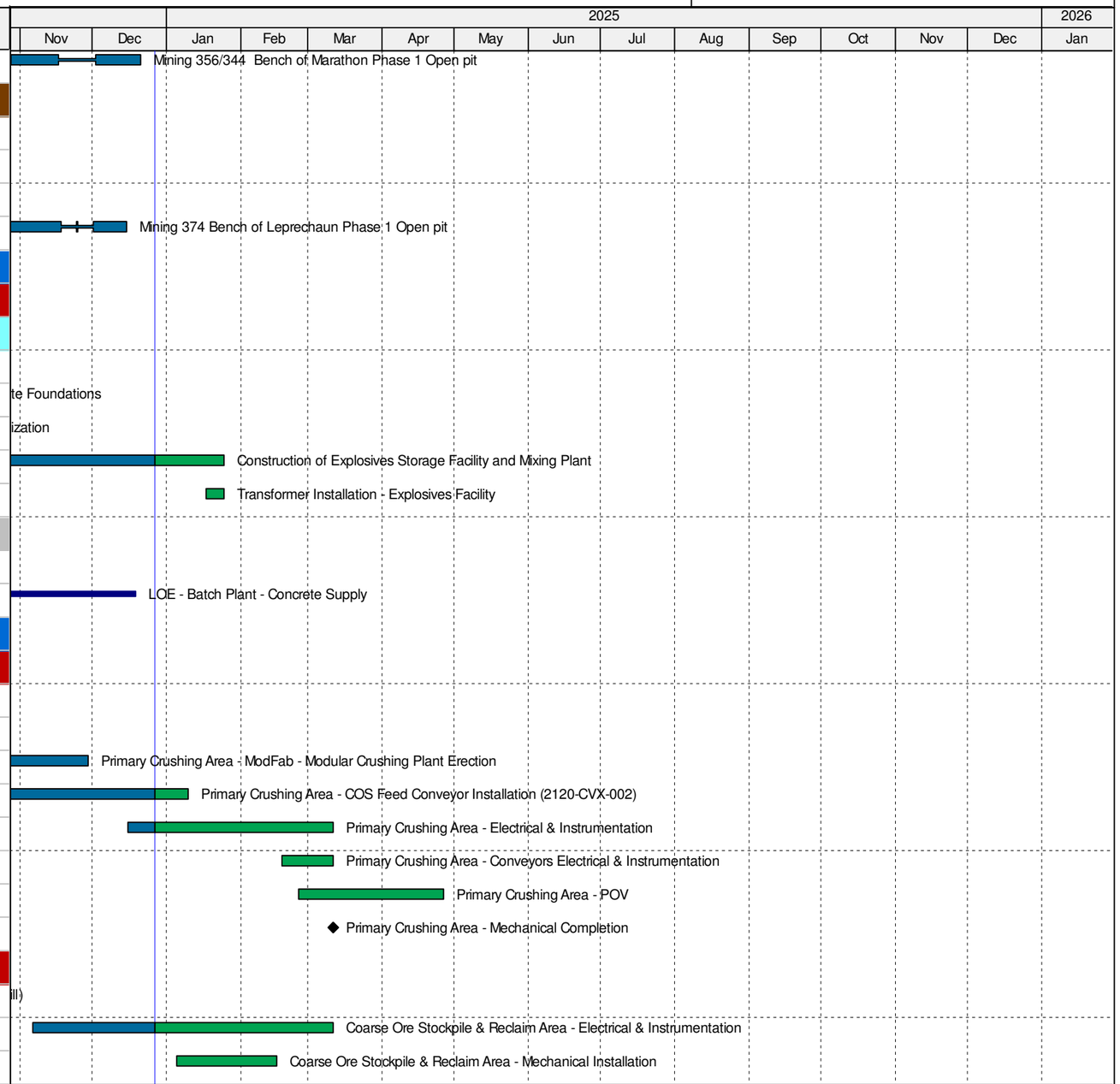
Activity ID	Activity Name	Original Duration	Start	Finish
CG1101-1260	Mining 356/344 Bench of Marathon Phase 1 Open pit	38	28-Oct-24 A	21-Dec-24 A
Leprechaun Pit Development		640	12-Oct-22 A	15-Dec-24 A
CG1101-1940	Leprechaun Construction Pit Mining (386/374)	99	12-Oct-22 A	20-Aug-23 A
CG1101-1400	Mining 374 Bench of Leprechaun Phase 1 Open pit	42	01-Nov-23 A	23-Nov-23 A
CG1101-1380	Mining 386 Bench of Leprechaun Phase 1 Open pit	35	06-Nov-23 A	15-May-24 A
CG1101-1950	Mining 374 Bench of Leprechaun Phase 1 Open pit	133	06-Nov-23 A	15-Dec-24 A
1200 - Mine Fixed Equipment		160	18-Jun-24 A	24-Jan-25
1210 - Explosives Magazine and Mix Plant		160	18-Jun-24 A	24-Jan-25
Construction		160	18-Jun-24 A	24-Jan-25
TK1201-CO-1695	Explosives Facility - Earthworks - Pad Preparation	30	18-Jun-24 A	22-Jun-24 A
CB2001-CO-100	Explosives Facility - Concrete Foundations	30	08-Jul-24 A	16-Aug-24 A
TK1201-CO-1710	Explosives Facility - Mobilization	7	19-Aug-24 A	21-Aug-24 A
TK1201-CO-1720	Construction of Explosives Storage Facility and Mixing Plant	80	22-Aug-24 A	24-Jan-25
CE2001-CO-1830	Transformer Installation - Explosives Facility	7	17-Jan-25	24-Jan-25
2000 - Process Plant		533	29-Mar-23 A	28-Apr-25
CB2002-CO-160	Batch Plant - Concrete Trial Mixes	9	29-Mar-23 A	13-May-23 A
CB2002-CO-010	LOE - Batch Plant - Concrete Supply	9	13-May-23 A	19-Dec-24 A
2100 - Primary Crushing		632	26-Jul-23 A	26-Apr-25
2120 - Primary Crushing and COS Feed Conveyor		544	17-Oct-23 A	26-Apr-25
CB2001-CO-120	Primary Crushing Area - Concrete Works - Phase 1	23	17-Oct-23 A	01-Dec-23 A
CB2001-CO-3840	Conveyors - Concrete Works	139	19-Jan-24 A	10-Aug-24 A
TK2101-CO-190	Primary Crushing Area - ModFab - Modular Crushing Plant Erection	25	17-Jul-24 A	29-Nov-24 A
CG2002-CO-3850	Primary Crushing Area - COS Feed Conveyor Installation (2120-CVX-002)	102	11-Aug-24 A	09-Jan-25
CE2001-CO-260	Primary Crushing Area - Electrical & Instrumentation	76	16-Dec-24 A	11-Mar-25
CE2001-CO-265	Primary Crushing Area - Conveyors Electrical & Instrumentation	22	18-Feb-25*	11-Mar-25
CG2001-CO-350	Primary Crushing Area - POV	61	25-Feb-25	26-Apr-25
CG2001-CO-340	Primary Crushing Area - Mechanical Completion	0		11-Mar-25
2130 - Coarse Ore Stockpile and Reclaim		572	26-Jul-23 A	11-Mar-25
CB2001-CO-3800	Coarse Ore Stockpile & Reclaim Area - Concrete Works - Phase 1 (includes Reclaim Area Bulk Fill)	80	26-Jul-23 A	28-Feb-24 A
CE2001-CO-3830	Coarse Ore Stockpile & Reclaim Area - Electrical & Instrumentation	50	06-Nov-24 A	11-Mar-25
CG2002-CO-200	Coarse Ore Stockpile & Reclaim Area - Mechanical Installation	42	05-Jan-25	15-Feb-25



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
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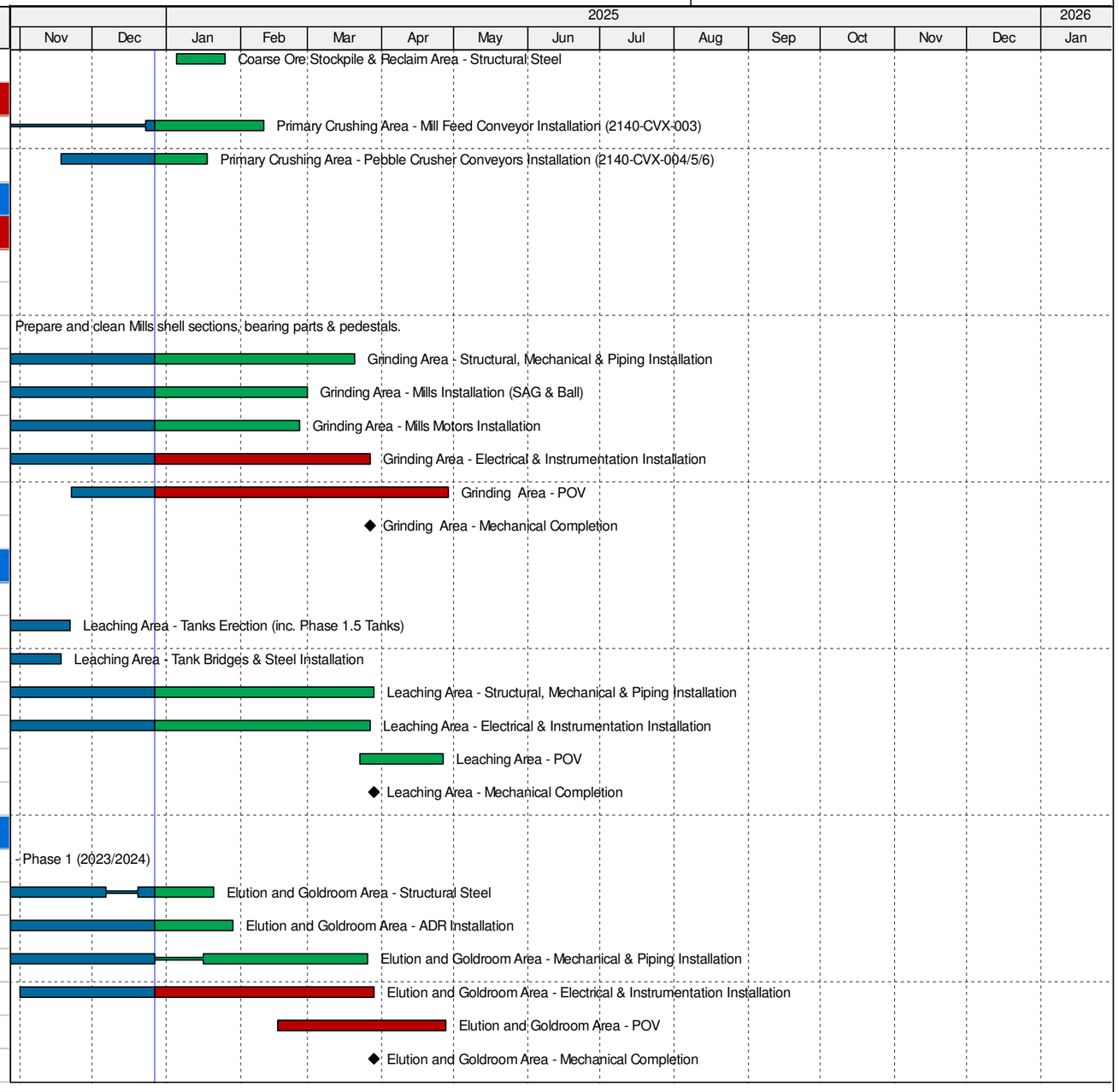
Activity ID	Activity Name	Original Duration	Start	Finish
CG2002-CO-3820	Coarse Ore Stockpile & Reclaim Area - Structural Steel	21	05-Jan-25	25-Jan-25
2140 - Mill Feed Conveyor		130	12-Aug-24 A	10-Feb-25
CG2002-CO-3860	Primary Crushing Area - Mill Feed Conveyor Installation (2140-CVX-003)	60	12-Aug-24 A	10-Feb-25
CG2002-CO-3865	Primary Crushing Area - Pebble Crusher Conveyors Installation (2140-CVX-004/5/6)	46	18-Nov-24 A	17-Jan-25
2200 - Grinding		636	14-Jul-23 A	28-Apr-25
2210 - Grinding		636	14-Jul-23 A	28-Apr-25
CB2001-CO-130A	Grinding Area - Mills Deep Foundations - Civil & Concrete Works	29	14-Jul-23 A	24-Aug-23 A
CB2001-CO-130	Grinding Area - Mills Area Foundations & Pedestals - Civil & Concrete Works	83	15-Jul-23 A	28-Jan-24 A
CG2002-CO-385	Grinding Area - Prepare and clean Mills shell sections, bearing parts & pedestals.	35	27-Mar-24 A	16-Sep-24 A
CG2002-CO-390	Grinding Area - Structural, Mechanical & Piping Installation	126	05-May-24 A	20-Mar-25
CG2002-CO-395	Grinding Area - Mills Installation (SAG & Ball)	96	05-May-24 A	28-Feb-25
CG2002-CO-3870	Grinding Area - Mills Motors Installation	26	07-Aug-24 A	25-Feb-25
CE2001-CO-510	Grinding Area - Electrical & Instrumentation Installation	95	28-Sep-24 A	26-Mar-25
CG2001-CO-670	Grinding Area - POV	72	22-Nov-24 A	28-Apr-25
CG2001-CO-660	Grinding Area - Mechanical Completion	0		26-Mar-25
2300 - Leaching		465	19-Jun-23 A	26-Apr-25
CB2001-CO-160	Leaching Area - Excavation / Backfill / Rebars / Formwork / Concrete Works	108	19-Jun-23 A	29-Sep-23 A
CM2001-CO-280	Leaching Area - Tanks Erection (inc. Phase 1.5 Tanks)	128	04-Jun-24 A	21-Nov-24 A
CG2002-CO-380	Leaching Area - Tank Bridges & Steel Installation	67	24-Jul-24 A	17-Nov-24 A
CG2002-CO-460	Leaching Area - Structural, Mechanical & Piping Installation	54	19-Sep-24 A	28-Mar-25
CE2001-CO-500	Leaching Area - Electrical & Instrumentation Installation	50	25-Oct-24 A	26-Mar-25
CG2001-CO-610	Leaching Area - POV	35	22-Mar-25	26-Apr-25
CG2001-CO-600	Leaching Area - Mechanical Completion	0		28-Mar-25
2400 - Elution and Goldroom		402	21-Aug-23 A	27-Apr-25
CB2001-CO-330	Elution and Goldroom Area - Civil / Concrete Work - Phase 1 (2023/2024)	43	21-Aug-23 A	21-Jun-24 A
CG2002-CO-370	Elution and Goldroom Area - Structural Steel	58	25-Aug-24 A	20-Jan-25
CG2002-CO-420	Elution and Goldroom Area - ADR Installation	21	09-Sep-24 A	28-Jan-25
CG2002-CO-490	Elution and Goldroom Area - Mechanical & Piping Installation	55	09-Sep-24 A	25-Mar-25
CE2001-CO-530	Elution and Goldroom Area - Electrical & Instrumentation Installation	70	01-Nov-24 A	28-Mar-25
CG2001-CO-590	Elution and Goldroom Area - POV	71	16-Feb-25	27-Apr-25
CG2001-CO-580	Elution and Goldroom Area - Mechanical Completion	0		28-Mar-25



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
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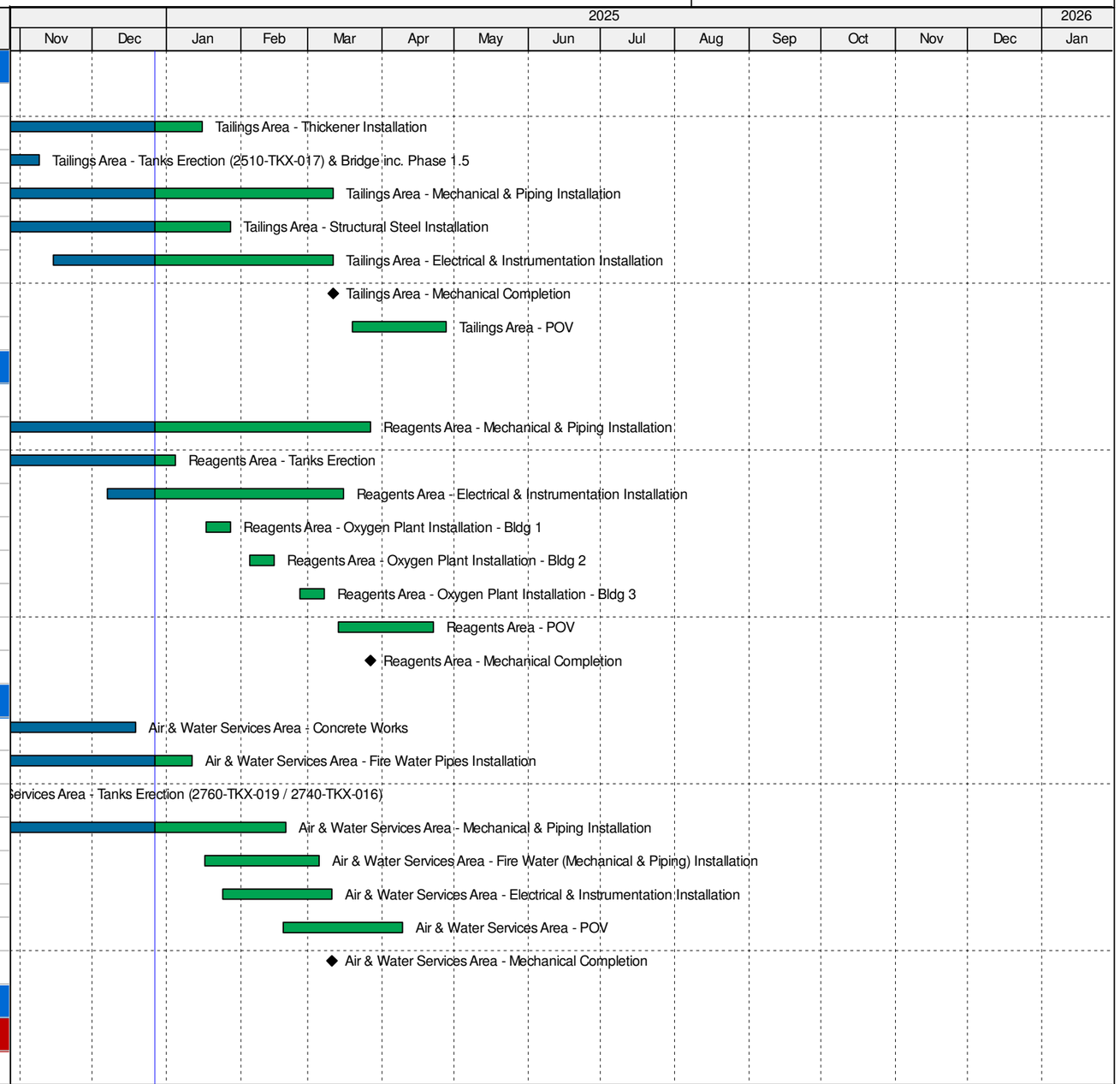
Activity ID	Activity Name	Original Duration	Start	Finish
2500 - Tailings Disposal		640	22-Jun-23 A	27-Apr-25
CB2001-CO-290	Tailings Area - Concrete Works Phase 1 (2023)	68	22-Jun-23 A	13-Oct-23 A
CG2002-CO-430	Tailings Area - Thickener Installation	87	15-Mar-24 A	15-Jan-25
CM2001-CO-400	Tailings Area - Tanks Erection (2510-TKX-017) & Bridge inc. Phase 1.5	14	26-Jul-24 A	08-Nov-24 A
CG2002-CO-480	Tailings Area - Mechanical & Piping Installation	33	08-Sep-24 A	11-Mar-25
CG2002-CO-440	Tailings Area - Structural Steel Installation	26	26-Sep-24 A	27-Jan-25
CE2001-CO-540	Tailings Area - Electrical & Instrumentation Installation	30	15-Nov-24 A	11-Mar-25
CG2001-CO-620	Tailings Area - Mechanical Completion	0		11-Mar-25
CG2001-CO-630	Tailings Area - POV	39	19-Mar-25	27-Apr-25
2600 - Reagents		564	11-Sep-23 A	22-Apr-25
CB2001-CO-210	Reagents Area - Concrete Works - Phase 1	33	11-Sep-23 A	22-Jan-24 A
CG2002-CO-320	Reagents Area - Mechanical & Piping Installation	162	27-May-24 A	26-Mar-25
CM2001-CO-250	Reagents Area - Tanks Erection	50	07-Sep-24 A	04-Jan-25
CE2001-CO-520	Reagents Area - Electrical & Instrumentation Installation	51	07-Dec-24 A	15-Mar-25
TK2601-CO-100	Reagents Area - Oxygen Plant Installation - Bldg 1	10	17-Jan-25	27-Jan-25
TK2601-CO-101	Reagents Area - Oxygen Plant Installation - Bldg 2	10	04-Feb-25	14-Feb-25
TK2601-CO-102	Reagents Area - Oxygen Plant Installation - Bldg 3	10	25-Feb-25	07-Mar-25
CG2001-CO-570	Reagents Area - POV	40	13-Mar-25	22-Apr-25
CG2001-CO-560	Reagents Area - Mechanical Completion	0		26-Mar-25
2700 - Air & Water Services		267	18-Mar-24 A	09-Apr-25
CB2001-CO-360	Air & Water Services Area - Concrete Works	20	18-Mar-24 A	19-Dec-24 A
CG2002-CO-355	Air & Water Services Area - Fire Water Pipes Installation	60	02-Apr-24 A	11-Jan-25
CM2001-CO-410	Air & Water Services Area - Tanks Erection (2760-TKX-019 / 2740-TKX-016)	79	13-Jun-24 A	20-Sep-24 A
CG2002-CO-470	Air & Water Services Area - Mechanical & Piping Installation	58	25-Sep-24 A	19-Feb-25
CG2002-CO-475	Air & Water Services Area - Fire Water (Mechanical & Piping) Installation	48	16-Jan-25	05-Mar-25
CE2001-CO-550	Air & Water Services Area - Electrical & Instrumentation Installation	46	24-Jan-25*	10-Mar-25
CG2001-CO-650	Air & Water Services Area - POV	50	18-Feb-25	09-Apr-25
CG2001-CO-640	Air & Water Services Area - Mechanical Completion	0		10-Mar-25
2800 - Process Buildings		432	25-Aug-23 A	21-Apr-25
2820 - Mill Building		416	25-Aug-23 A	29-Mar-25
CB2001-CO-140	Grinding Area - Building Foundations - Civil & Concrete Works	65	25-Aug-23 A	22-Jan-24 A



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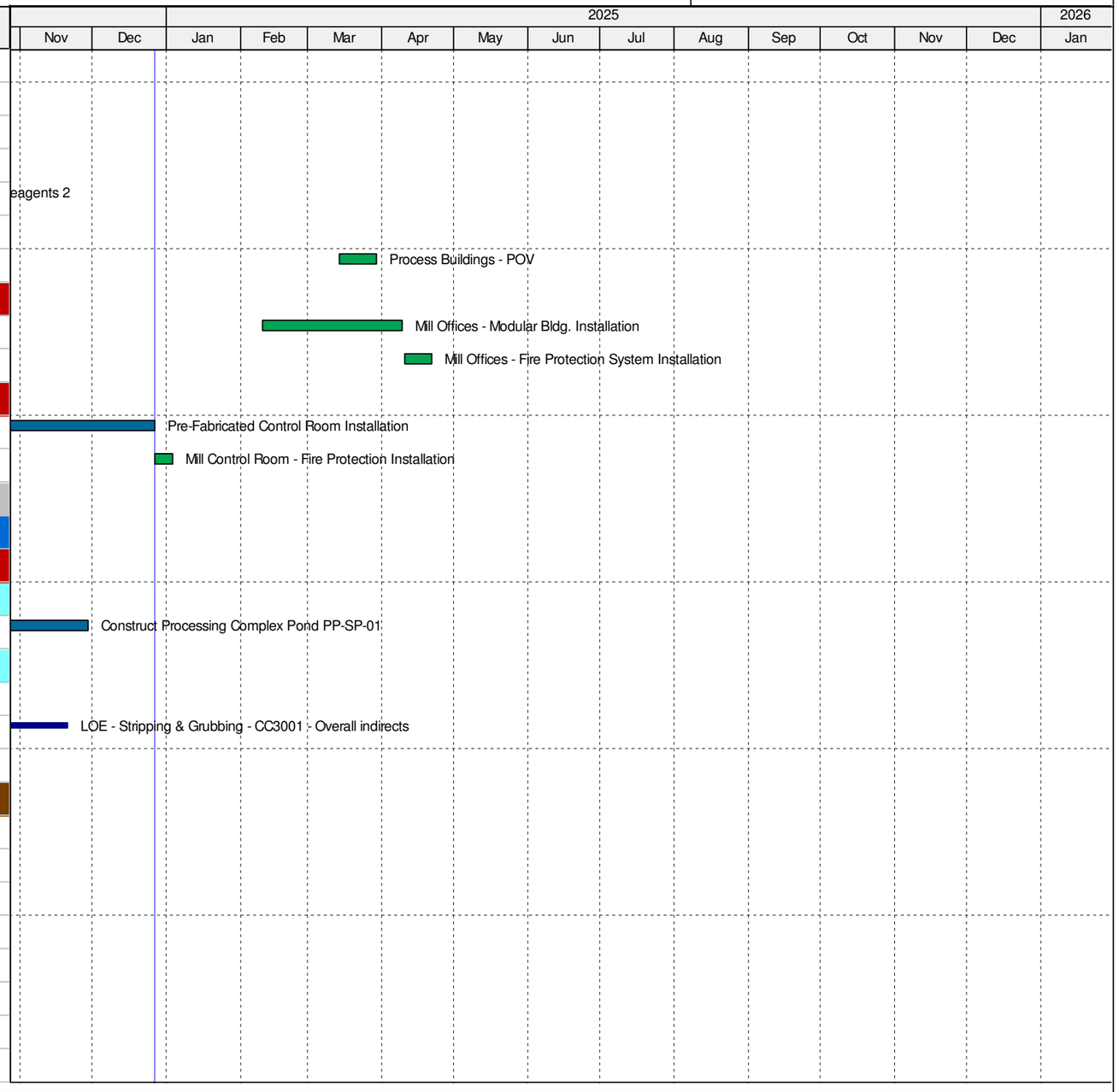
Activity ID	Activity Name	Original Duration	Start	Finish
CA2001-CO-170	Grinding - Pre-Eng. Building Erection - Phase 1 - Grinding Building	45	05-Nov-23 A	16-Feb-24 A
CA2001-CO-3680	Grinding - Pre-Eng. Building Erection - Phase 2 - ADR & Reagents 1	54	29-Jan-24 A	20-Mar-24 A
CA2001-CO-270	Process Buildings - Electrical Installation	63	27-Feb-24 A	25-Jun-24 A
CA2001-CO-240	Process Buildings - Mechanical Installation	35	09-Mar-24 A	25-Jun-24 A
CA2001-CO-3690	Grinding - Pre-Eng. Building Erection - Phase 3 - Gold Room & Reagents 2	51	11-Mar-24 A	14-May-24 A
CG2001-CO-300	Process Buildings - Mechanical Completion	0		25-Jun-24 A
CG2001-CO-310	Process Buildings - POV	14	14-Mar-25	29-Mar-25*
2840 - Mill Office		61	10-Feb-25	21-Apr-25
CA2001-CO-3640	Mill Offices - Modular Bldg. Installation	50	10-Feb-25*	09-Apr-25
CG2002-CO-3645	Mill Offices - Fire Protection System Installation	10	10-Apr-25	21-Apr-25
2850 - Mill Control Room		69	23-Oct-24 A	03-Jan-25
CA2001-CO-3670	Pre-Fabricated Control Room Installation	20	23-Oct-24 A	27-Dec-24 A
CG2002-CO-3675	Mill Control Room - Fire Protection Installation	8	27-Dec-24	03-Jan-25
3000 - On Site Infrastructure		733	06-Jun-22 A	25-Apr-25
3100 Bulk Earthworks		516	12-Oct-22 A	29-Nov-24 A
CC3001 - Major Earthworks		516	12-Oct-22 A	29-Nov-24 A
Water management		60	25-Aug-24 A	29-Nov-24 A
CC3001-WM-110	Construct Processing Complex Pond PP-SP-01	60	25-Aug-24 A	29-Nov-24 A
Construction		350	12-Oct-22 A	20-Nov-24 A
CC3001-CO-100	Earthworks - Mobilisation	14	12-Oct-22 A	25-Oct-22 A
CC3001-CO-010	LOE - Stripping & Grubbing - CC3001 - Overall indirects	256	25-Oct-22 A	20-Nov-24 A
CC3001-CO-080	Earthworks - Mobile Crusher Setup	6	31-May-23 A	07-Jun-23 A
Stripping & Grubbing		496	12-Oct-22 A	27-Feb-24 A
CC3001-CO-280	Stripping & Grubbing - Accommodation Complex Pad Access Road	2	12-Oct-22 A	13-Oct-22 A
CC3001-CO-0010	LOE - Stripping & Grubbing - CC3001	256	12-Oct-22 A	27-Feb-24 A
CC3001-CO-110	Stripping & Grubbing - Accommodation Complex Pad	8	13-Oct-22 A	20-Oct-22 A
CC3001-CO-285	Stripping & Grubbing - Fresh Water Intake Road and Pad	24	21-Oct-22 A	13-Nov-22 A
CC3001-CO-200	Stripping & Grubbing - Access Road to Process Plant site	38	01-Nov-22 A	08-Dec-22 A
CC3001-CO-120	Stripping, Grubbing & USM removal - Process Plant	47	30-Jan-23 A	28-Jun-23 A
CC3001-CO-140	Stripping & Grubbing - Truck Shop Pad	8	24-May-23 A	09-Jul-23 A
CC3001-CO-130	Stripping & Grubbing - ROM Pad	15	15-Jun-23 A	16-Jul-23 A



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Activity ID	Activity Name	Original Duration	Start	Finish
CC3001-CO-260	Clearing & Grubbing - process plant Laydown Area	15	14-Sep-23 A	22-Sep-23 A
CC4102-CO-220	Stripping & Grubbing - Road Upgrade - TMF Re-alignment/Diversion Km 78 to 80.5)	10	11-Oct-23 A	24-Jan-24 A
CC3001-CO-2995	Stripping & Grubbing - Difusser Alignment Camp Pad + Diffuser line- camp to Victoria Lake	6	22-Feb-24 A	27-Feb-24 A
Earthworks		349	13-Oct-22 A	24-Oct-24 A
CC3001-CO-290	Bulk Earthworks - Cut & Fill & Granular Cap - Accommodation Pad Access Road	1	13-Oct-22 A	13-Oct-22 A
CC3001-CO-1020	LOE - Bulk Earthworks - CC3001	273	13-Oct-22 A	24-Oct-24 A
CC3001-CO-4027	Bulk Earthworks - Excavation - Accommodation Complex Pad (Removal of USM)	32	17-Oct-22 A	17-Nov-22 A
CC3001-CO-415	Bulk Earthworks - Cut & Fill & Wearing Course - Fresh Water Intake Road and Pad	16	29-Oct-22 A	13-Nov-22 A
CC3001-CO-150	Bulk Earthworks - Cut & Fill - Accommodation Complex Pad (PHASE 1 - Q2 & Q4)	12	18-Nov-22 A	29-Nov-22 A
CC3001-CO-4017	Bulk Earthworks - Cut & Fill - Accommodation Complex Pad (PHASE 2 - Q3)	10	30-Nov-22 A	09-Dec-22 A
CC3001-CO-210	Bulk Earthworks - Cut & Fill & Granular - Road from Access Road to Plant site	108	09-Dec-22 A	09-Jul-23 A
CC3001-CO-4037	Bulk Earthworks - Cut & Fill - Accommodation Complex Pad (PHASE 3 - Q1)	16	09-Dec-22 A	25-Dec-22 A
CC3001-CO-310	Construction Drainage - Accommodation Complex Pad Area	5	10-Dec-22 A	14-Dec-22 A
CC3001-CO-4047	Bulk Earthworks - Climate Monitoring Station Area	1	11-Jan-23 A	27-Jan-23 A
CC3001-CO-510	Construction Drainage - Process Plant Area	13	27-Feb-23 A	13-Jul-23 A
CC3001-CO-160	Bulk Earthworks - Process Plant	59	27-Feb-23 A	15-Jun-23 A
CC3001-CO-160-10	Bulk Earthworks - Rock Placement - Grinding	29	20-Mar-23 A	17-Apr-23 A
CC3001-CO-160-20	Bulk Earthworks - Rock Placement - Leaching	59	25-Mar-23 A	17-Apr-23 A
CC3001-CO-160-60	Bulk Earthworks - Backfill Rock spread and compact - Reclaim	17	01-Apr-23 A	17-Apr-23 A
CC3001-CO-160-50	Bulk Earthworks - Rock Placement - Main Switch Yard	6	12-Apr-23 A	17-Apr-23 A
CC3001-CO-160-50	Bulk Earthworks - Rock Placement - Main Switch Yard	0	07-May-23 A	26-May-23 A
CC3001-CO-160-10	Bulk Earthworks - Rock Placement - Grinding	8	14-May-23 A	13-Jul-23 A
CC3001-CO-160-20	Bulk Earthworks - Rock Placement - Leaching	0	19-May-23 A	10-Jun-23 A
CC3001-CO-160-60	Bulk Earthworks - Backfill Rock spread and compact - Reclaim	7	23-May-23 A	10-Aug-23 A
CC3001-CO-180	Bulk Earthworks - Truck Shop Pad (Phase 1)	61	24-May-23 A	05-Aug-23 A
CC3001-CO-160-30	Bulk Earthworks - Rock Placement - Reagents	9	30-May-23 A	10-Jun-23 A
CC3001-CO-160-40	Bulk Earthworks - Rock Placement - Admin	17	06-Jun-23 A	22-Sep-23 A
CC3001-CO-160-20	Bulk Earthworks - Rock Placement - Tailings Disposal	7	09-Jun-23 A	15-Jun-23 A
CC3001-CO-170	Bulk Earthworks - ROM Pad (Phase 1)	20	26-Jun-23 A	16-Aug-23 A
CC3001-CO-500	Bulk Earthworks - Main Gate Pad	8	17-Jul-23 A	08-Aug-23 A
CC3001-CO-345	Bulk Earthworks - ROM Pad (Phase 2)	74	29-Jul-23 A	24-Oct-24 A

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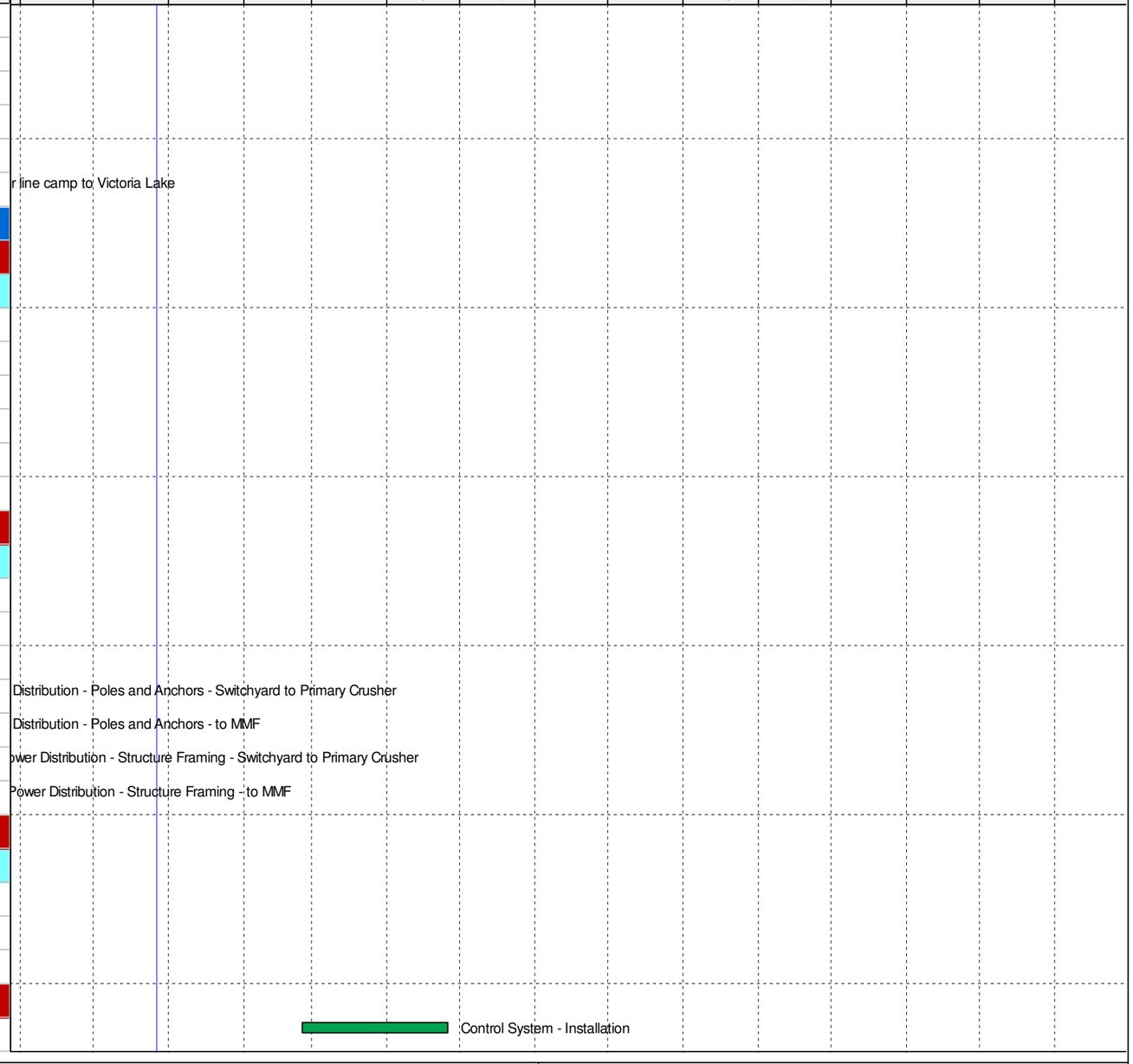
CC3001-CO-4067	Bulk Earthworks - MSE Wall	30	29-Jul-23 A	30-Nov-23 A
CC3001-CO-4057	Bulk Earthworks - Truck Shop Pad (Phase 2)	72	06-Aug-23 A	18-Nov-23 A
CC3001-CO-270	Bulk Earthworks - Process Plant Laydown Area	11	14-Sep-23 A	23-Oct-23 A
CC3001-CO-230	Bulk Earthworks - Road - TMF Re-alignment/Diversion	48	11-Oct-23 A	23-Feb-24 A
CC3001-CO-300	Bulk Earthworks Complete - Process Plant Area	0		26-Jan-24 A
CC3001-CO-425	Bulk Earthworks - Cut & Fill & Granular - Diffuser Alignment Accommodation Pad + Diffuser line camp to Victoria Lake	16	27-Feb-24 A	15-Mar-24 A
3200 - HV Power Switchyard and Power Distribution		489	30-May-23 A	25-Apr-25
CG3201 - HV Substation Installation (C-0011)		186	30-May-23 A	25-Feb-24 A
Construction		186	30-May-23 A	25-Feb-24 A
CB2001-CO-110	HV Substation Installation - Foundations - Civil & Concrete Works	45	30-May-23 A	28-Jul-23 A
CG3201-CO-100	HV Substation Installation - Mobilization / Material reception	16	17-Jul-23 A	22-Sep-23 A
CG3201-CO-010	LOE - HV Substation Installation - CG3201	51	17-Jul-23 A	25-Feb-24 A
CG3201-CO-120	HV Substatiion Installation - Electrical Installation	67	07-Sep-23 A	27-Oct-23 A
CE3201-CO-3760	HV Substation Installation - Main E-Room - Complete Electrical Installation	16	29-Nov-23 A	20-Feb-24 A
CG3201-CO-130	HV Substatiion Installation - Precommissioning & Tests	7	20-Feb-24 A	25-Feb-24 A
3220 - Site Power Distribution		427	05-Sep-23 A	10-Oct-24 A
Construction		427	05-Sep-23 A	10-Oct-24 A
CB2001-CO-1220	Site Power Distribution - Poles and Anchors - Camp to Switchyard	35	05-Sep-23 A	10-Nov-23 A
CE3201-CO-1260	Site Power Distribution - LOE - Electrical Installation - Camp to Switchyard	100	05-Sep-23 A	23-Jan-24 A
CE3201-CO-1230	Site Power Distribution - Structure Framing - Camp to Switchyard	23	02-Nov-23 A	23-Jan-24 A
CE3201-CO-3900	Site Power Distribution - Poles and Anchors - Switchyard to Primary Crusher	13	16-Sep-24 A	25-Sep-24 A
CE3201-CO-3930	Site Power Distribution - Poles and Anchors - to MMF	13	16-Sep-24 A	25-Sep-24 A
CE3201-CO-3910	Site Power Distribution - Structure Framing - Switchyard to Primary Crusher	9	30-Sep-24 A	06-Oct-24 A
CE3201-CO-3940	Site Power Distribution - Structure Framing - to MMF	17	07-Oct-24 A	10-Oct-24 A
3230 - Emergency Power Generation		96	08-Jan-24 A	21-Apr-24 A
Construction		96	08-Jan-24 A	21-Apr-24 A
CE3201-CO-1240	Emergency Power Generators - Gensets installation	13	08-Jan-24 A	22-Jan-24 A
CE3201-CO-3820	Emergency Power Generators - Electrical Installation Gensets & E-Room	7	10-Jan-24 A	21-Apr-24 A
CE3201-CO-3960	Permanent & Emergency Power Connected	0		21-Apr-24 A
3240 - Control System		60	25-Feb-25	25-Apr-25
CE2001-CO-1250	Control System - Installation	60	25-Feb-25	25-Apr-25



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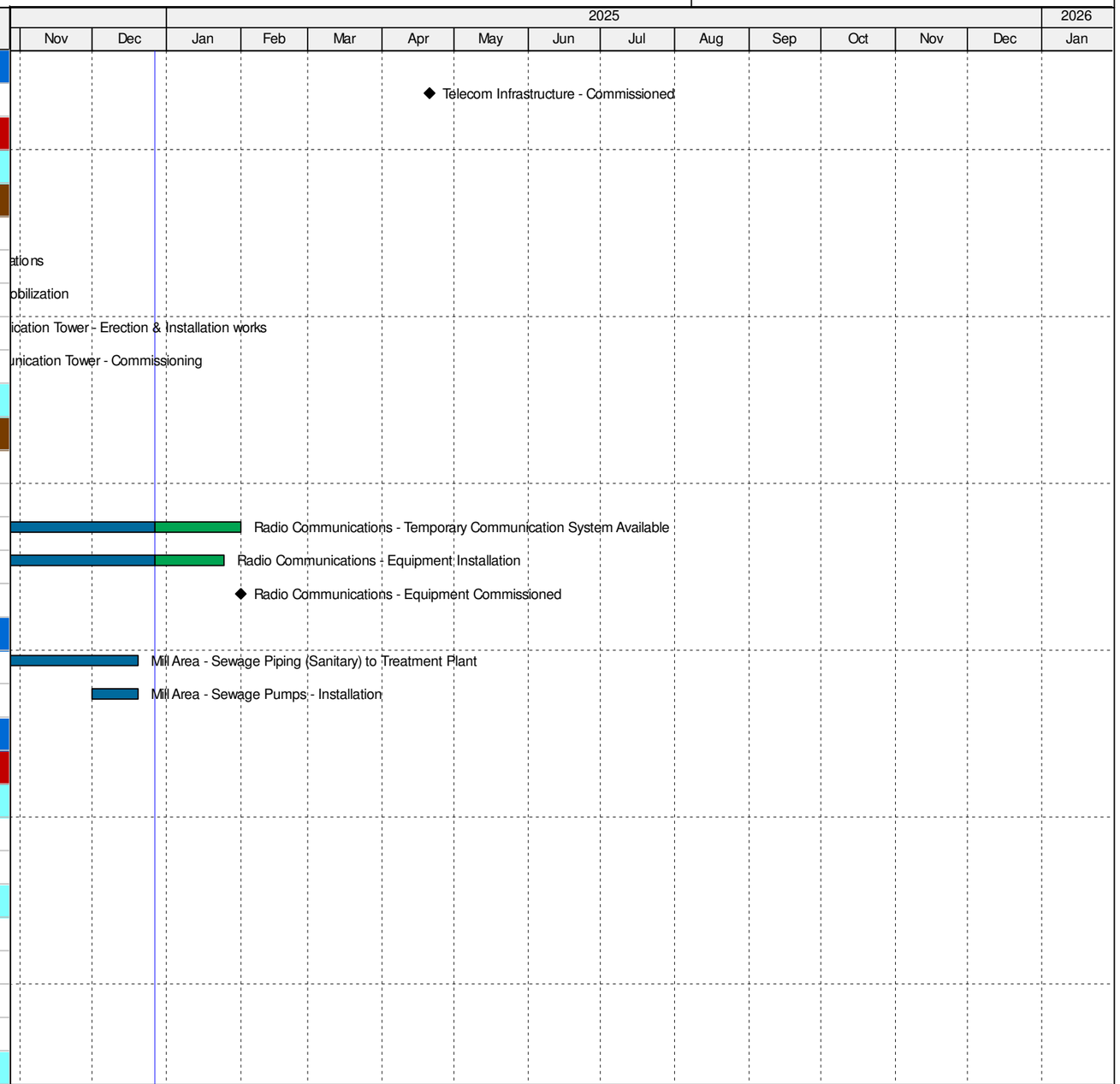
Activity ID	Activity Name	Original Duration	Start	Finish
3300 - Communications - Internet & Cell Services		600	07-Dec-22 A	20-Apr-25
PJ3302-CO-200	Telecom Infrastructure - Commissioned	0		20-Apr-25
3320 - Radio Communications at site		545	07-Dec-22 A	31-Jan-25
TK3301 - Microwave Communications		127	14-May-24 A	04-Oct-24 A
Construction		127	14-May-24 A	04-Oct-24 A
TK3301-CO-105	Communication Tower - Earthworks	32	14-May-24 A	12-Jun-24 A
TK3301-CO-110	Communication Tower - Civil Works - Foundations	28	26-Jun-24 A	05-Jul-24 A
TK3301-CO-100	Communication Tower - Contractor Mobilization	8	18-Jul-24 A	22-Jul-24 A
TK3301-CO-170	Communication Tower - Erection & Installation works	60	23-Jul-24 A	29-Sep-24 A
TK3301-CO-180	Communication Tower - Commissioning	5	30-Sep-24 A	04-Oct-24 A
TK3302 - VHF Radio Communication		545	07-Dec-22 A	31-Jan-25
Construction		545	07-Dec-22 A	31-Jan-25
TK3302-CO-100	Radio Communications - Temporary Trailer Setup	3	07-Dec-22 A	09-Dec-22 A
TK3302-CO-105	Radio Communications - Temporary Trailer - Testing Period	49	10-Dec-22 A	23-Mar-23 A
TK3302-CO-110	Radio Communications - Temporary Communication System Available	168	24-Mar-23 A	31-Jan-25
TK3302-CO-120	Radio Communications - Equipment Installation	45	07-Oct-24 A	24-Jan-25
TK3302-CO-130	Radio Communications - Equipment Commissioned	0		31-Jan-25
3500 - Sewage		176	18-Jul-24 A	20-Dec-24 A
CG2002-CO-3510	Mill Area - Sewage Piping (Sanitary) to Treatment Plant	21	18-Jul-24 A	20-Dec-24 A
CG2002-CO-3500	Mill Area - Sewage Pumps - Installation	23	01-Dec-24 A	20-Dec-24 A
3600 - Buildings		434	09-Aug-23 A	19-Apr-25
TK3608 - MEM/Warehouse Relocation To MMF		12	09-Aug-23 A	25-Aug-23 A
Preparation		3	09-Aug-23 A	12-Aug-23 A
TK3608-CO-3880	Mapping Layout	1	09-Aug-23 A	10-Aug-23 A
TK3608-CO-3890	Dome/Warehouse Packed	2	10-Aug-23 A	12-Aug-23 A
Demob		4	16-Aug-23 A	19-Aug-23 A
TK3608-CO-3920	Mobilize Contractors	1	16-Aug-23 A	16-Aug-23 A
TK3608-CO-4040	Prepare Dome for Dismantle	1	18-Aug-23 A	18-Aug-23 A
TK3608-CO-4050	Mobilize Crane	1	18-Aug-23 A	18-Aug-23 A
TK3608-CO-3930	Pull down Dome	1	19-Aug-23 A	19-Aug-23 A
Remob		3	22-Aug-23 A	25-Aug-23 A



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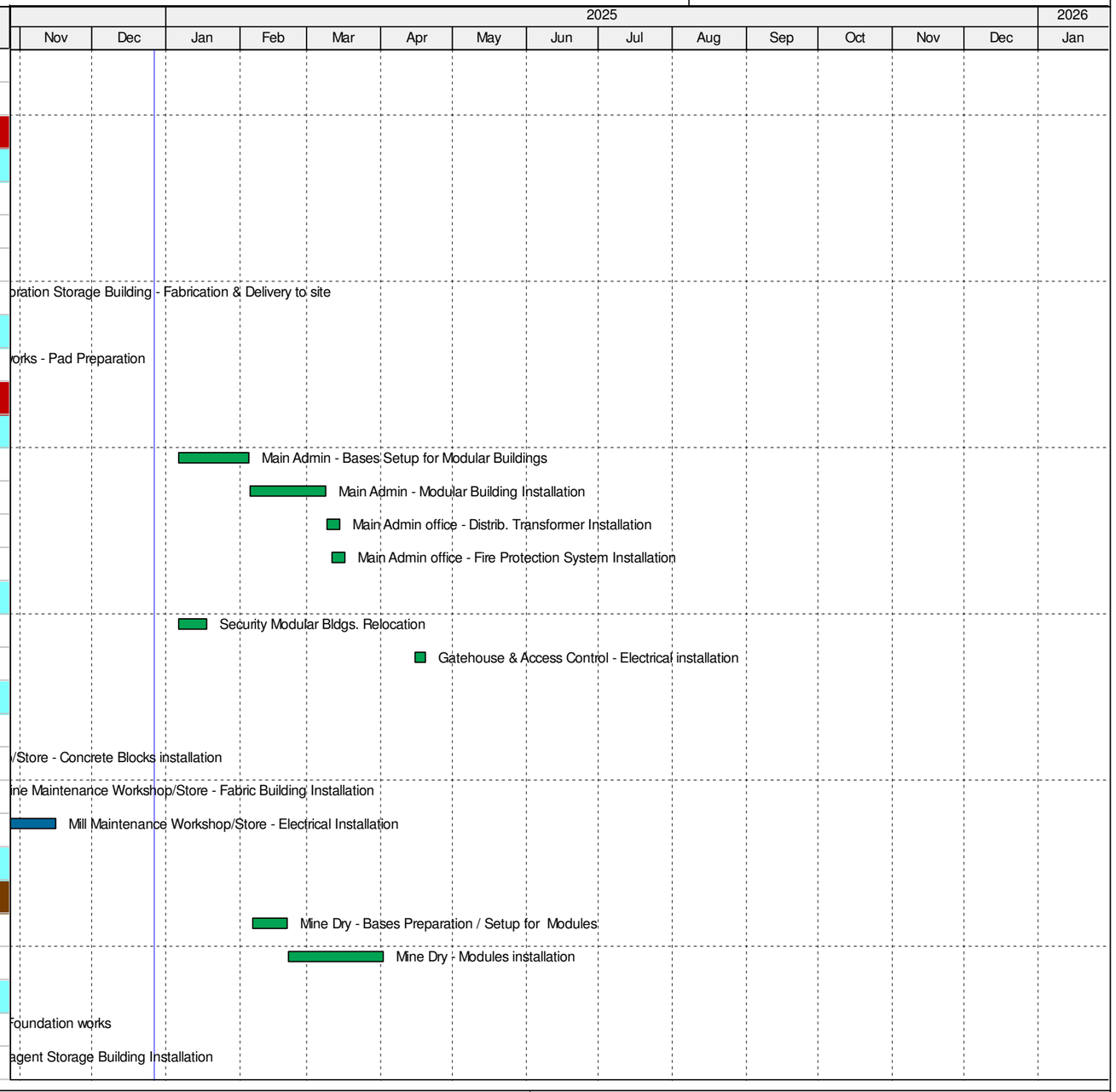
TK3608-CO-3960	Assemble Dome/PM Shop	3	22-Aug-23 A	25-Aug-23 A
TK3608-CO-3980	Assemble Washcar	1	24-Aug-23 A	25-Aug-23 A
TK3609 - Exploration Storage Building (Supply and Erect)		75	04-Mar-24 A	11-Oct-24 A
Procurement		75	04-Mar-24 A	11-Oct-24 A
TK3609-PR-100	Exploration Storage Building - Proposal preparation	10	04-Mar-24 A	18-Mar-24 A
TK3609-PR-110	Exploration Storage Building - Proposal evaluation	10	19-Mar-24 A	05-Apr-24 A
TK3609-PR-120	Exploration Storage Building - Sole source & LoA	10	08-Apr-24 A	22-May-24 A
TK3609-PR-150	Exploration Storage Building - Fabrication & Delivery to site	75	23-May-24 A	11-Oct-24 A
Construction		42	18-Jun-24 A	22-Jul-24 A
CB2001-CO-3905	Exploration Storage Building - Earthworks - Pad Preparation	42	18-Jun-24 A	22-Jul-24 A
Construction		423	25-Aug-23 A	19-Apr-25
3610 - Main Admin Office		70	06-Jan-25	16-Mar-25
TK3607-CO-100	Main Admin - Bases Setup for Modular Buildings	30	06-Jan-25*	04-Feb-25
TK3607-CO-3610	Main Admin - Modular Building Installation	32	05-Feb-25	08-Mar-25
TK3607-CO-3620	Main Admin office - Distrib. Transformer Installation	6	09-Mar-25	14-Mar-25
TK3607-CO-3630	Main Admin office - Fire Protection System Installation	6	11-Mar-25	16-Mar-25
3620 - Gatehouse & Access Control		104	06-Jan-25	19-Apr-25
TK3607-CO-3615	Security Modular Bldgs. Relocation	12	06-Jan-25*	17-Jan-25
TK3607-CO-3625	Gatehouse & Access Control - Electrical installation	5	15-Apr-25	19-Apr-25
3650 - Mill Maintenance & Warehouse Facility		488	25-Aug-23 A	16-Nov-24 A
CB2001-CO-3660	Mine Maintenance Workshop/Store - Concrete Works	12	25-Aug-23 A	11-Sep-23 A
TK3606-CO-3865	Mine Maintenance Workshop/Store - Concrete Blocks installation	13	04-Jul-24 A	12-Aug-24 A
TK3606-CO-3870	Mine Maintenance Workshop/Store - Fabric Building Installation	48	23-Jul-24 A	18-Oct-24 A
CE2001-CO-3665	Mill Maintenance Workshop/Store - Electrical Installation	14	02-Sep-24 A	16-Nov-24 A
3660 - Mine Maintenance Facility		55	06-Feb-25	01-Apr-25
3665 - Mine Dry		55	06-Feb-25	01-Apr-25
TK3607-CO-110	Mine Dry - Bases Preparation / Setup for Modules	15	06-Feb-25*	20-Feb-25
TK3607-CO-120	Mine Dry - Modules installation	40	21-Feb-25	01-Apr-25
3670 - Reagent Storage Building		81	19-Jul-24 A	14-Oct-24 A
CB2001-CO-105	Reagent Storage Building - Foundation works	15	19-Jul-24 A	12-Aug-24 A
TK3606-CO-110	Reagent Storage Building Installation	66	13-Aug-24 A	14-Oct-24 A



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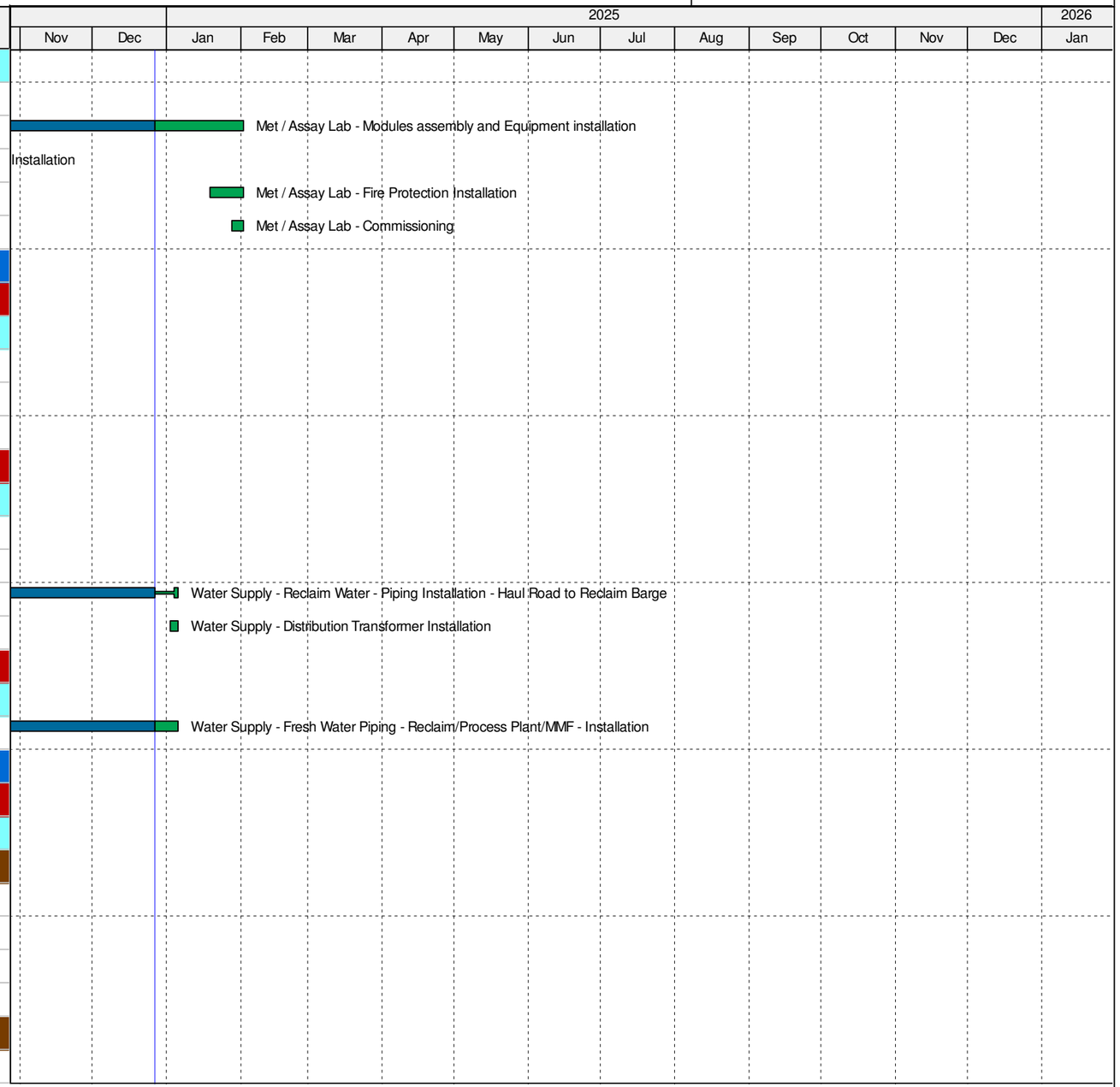
3680 - Laboratory		338	01-Mar-24 A	01-Feb-25
TK3603-CO-100	Met / Assay Lab - Bases Preparation / Foundations for Modules	32	01-Mar-24 A	01-Apr-24 A
TK3603-CO-110	Met / Assay Lab - Modules assembly and Equipment installation	20	02-Apr-24 A	01-Feb-25
TK3603-CO-120	Met / Assay Lab - Electrical Installation	17	30-Jul-24 A	15-Aug-24 A
TK3603-CO-130	Met / Assay Lab - Fire Protection Installation	14	19-Jan-25	01-Feb-25
TK3603-CO-140	Met / Assay Lab - Commissioning	5	28-Jan-25	01-Feb-25
3700 - Water Supply		547	05-Nov-22 A	05-Jan-25
CC3001 - Fresh Water Pumping Station Installation		129	05-Nov-22 A	15-Apr-23 A
Construction		129	05-Nov-22 A	15-Apr-23 A
CC3001-CO-3750	Water Supply - Fresh Water Piping Installation - Victoria Lake to Camp	104	05-Nov-22 A	05-Apr-23 A
CC3001-CO-3700	Water Supply - Fresh Water Pump Intake Installation	102	24-Nov-22 A	05-Apr-23 A
CC3001-CO-3710	Water Supply - Pumps, Control Panel & VFD - Electrical Installation	49	28-Mar-23 A	15-Apr-23 A
CB2001 - Civil/Concrete Contract		308	07-Aug-23 A	05-Jan-25
Construction		308	07-Aug-23 A	05-Jan-25
CC3001-CO-3730	Water Supply - Fresh Water Piping - Camp to Process Plant - Installation	17	07-Aug-23 A	08-Dec-23 A
CC3001-CO-3735	Water Supply - Reclaim Water - Piping Installation - Process Plant to Haul Road	17	17-Nov-23 A	08-Dec-23 A
CC3001-CO-3740	Water Supply - Reclaim Water - Piping Installation - Haul Road to Reclaim Barge	50	06-Oct-24 A	05-Jan-25
CC3001-CO-3720	Water Supply - Distribution Transformer Installation	4	02-Jan-25	05-Jan-25
CG2002 - SMP Contract		17	31-May-24 A	05-Jan-25
Construction		17	31-May-24 A	05-Jan-25
CG2002-CO-8680	Water Supply - Fresh Water Piping - Reclaim/Process Plant/MMF - Installation	17	31-May-24 A	05-Jan-25
3800 - Tailings Storage Facility		464	15-Jun-23 A	31-Mar-25
Construction - TMF Stage 1 and 2		464	15-Jun-23 A	31-Mar-25
CC3001 - Major Earthworks (TMF Construction)		353	15-Jun-23 A	04-Nov-24 A
TMF - Access Road Construction		215	15-Jun-23 A	17-Oct-23 A
CC3001-CO-8040	Clearing And Grubbing TMF Roadways	35	15-Jun-23 A	21-Sep-23 A
CC3001-CO-8622-N	Stripping Of Topsoil (500 Mm Depth) For TMF Roadway	35	15-Jun-23 A	21-Sep-23 A
CC3001-CO-8050	Zone 5 Rockfill Road Base - Spread and Compact - Supplied by MG	35	16-Jun-23 A	17-Oct-23 A
CC3001-CO-8060	Zone 8 Road surfacing - Spread & Compact - Load, Haul, Place and Compact	73	05-Oct-23 A	05-Oct-23 A
TMF - Stage 1 - DAM Construction		345	19-Jun-23 A	16-Oct-24 A
CC3001-CO-8000	Clearing, Grubbing & Stripping - TMF Dam Footprint	90	19-Jun-23 A	02-Oct-23 A



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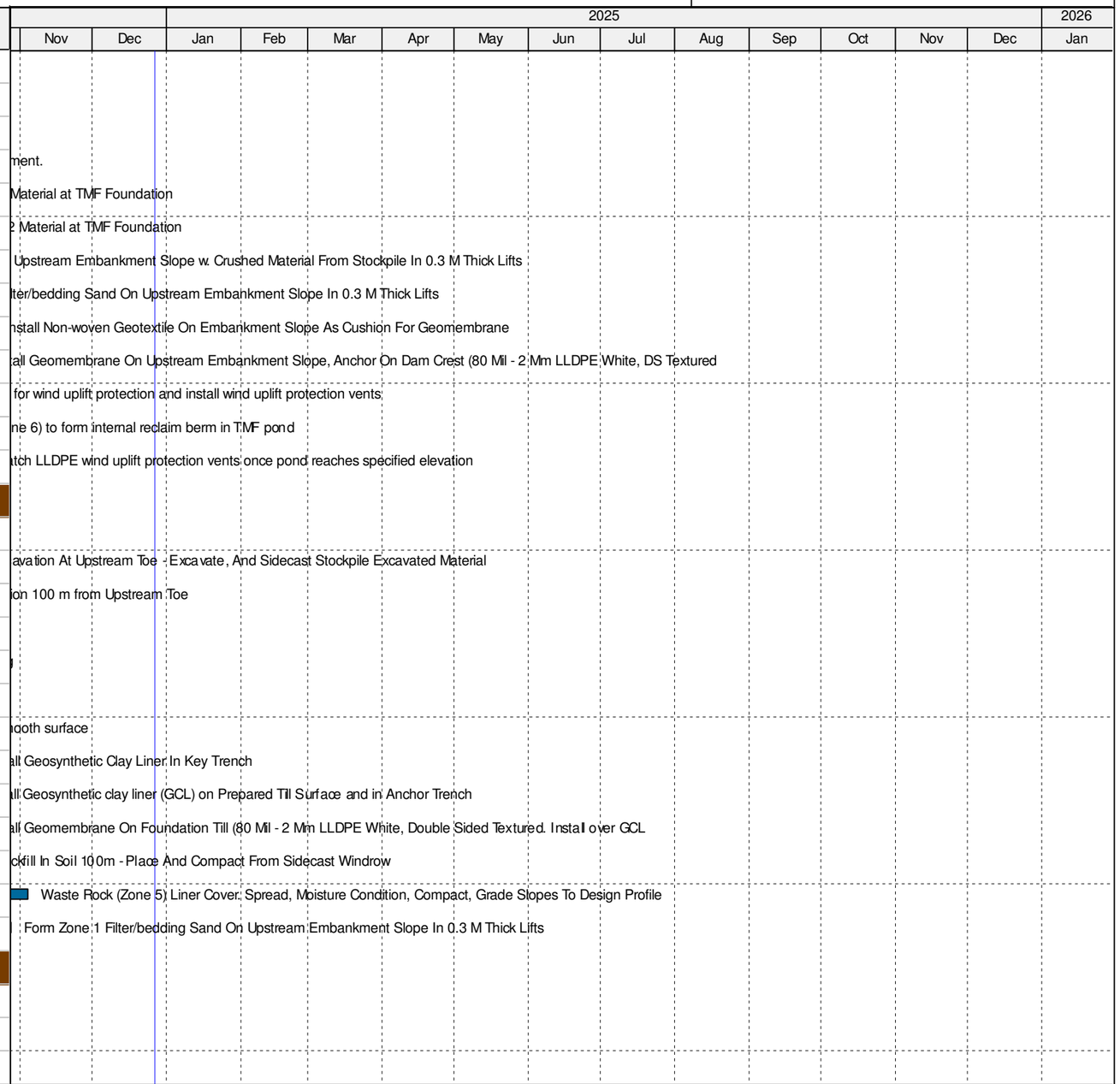
VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

16-Jan-25 11:39
Data Date: 27-Dec-24

Activity ID	Activity Name	Original Duration	Start	Finish
CC3001-CO-9210-N	Stripping Of Topsoil (500 Mm Depth) For TMF Dam	90	19-Jun-23 A	02-Oct-23 A
CC3001-CO-9211-N	Excavation And Disposal Of Unsuitable Surficial Soils Within Dam Footprint	3	20-Jun-23 A	02-Oct-23 A
CC3001-CO-8090	Embankment Phase 1 - Initial 1m Layer Waste Rock (Zone 5 and 6) to form embankment.	80	06-Jul-23 A	04-Oct-23 A
CC3001-CO-8150	Embankment Phase 2 - Waste rock (Zone 5 and 6) to form embankment.	120	30-Aug-23 A	05-May-24 A
CC3001-CO-9212-N	Place and Compact Type 1 Material at TMF Foundation	109	02-Sep-23 A	14-Aug-24 A
CC3001-CO-9213-N	Place and Compact Type 2 Material at TMF Foundation	109	04-Sep-23 A	18-Aug-24 A
CC3001-CO-8250	Form Zone 2 On Upstream Embankment Slope w. Crushed Material From Stockpile In 0.3 M Thick Lifts	51	16-Apr-24 A	11-Sep-24 A
CC3001-CO-8260	Form Zone 1 Filter/bedding Sand On Upstream Embankment Slope In 0.3 M Thick Lifts	51	28-Apr-24 A	14-Sep-24 A
CC3001-CO-8270	Supply And Install Non-woven Geotextile On Embankment Slope As Cushion For Geomembrane	29	07-May-24 A	20-Sep-24 A
CC3001-CO-8280	Supply & Install Geomembrane On Upstream Embankment Slope, Anchor On Dam Crest (80 Mil - 2 Mm LLDPE White, DS Textured	29	07-May-24 A	20-Sep-24 A
CC3001-CO-8290	Place sandbags on LLDPE for wind uplift protection and install wind uplift protection vents	30	10-May-24 A	15-Aug-24 A
CC3001-CO-8155	Waste rock (Zone 6) to form internal reclaim berm in TMF pond	7	07-Jun-24 A	15-Sep-24 A
CC3001-CO-8300	Patch LLDPE wind uplift protection vents once pond reaches specified elevation	5	12-Oct-24 A	16-Oct-24 A
TMF - Liner Foundation Tie-In		332	16-Aug-23 A	04-Nov-24 A
CC3001-CO-8010	Strip and remove Topsoil (to designated stockpile)	19	16-Aug-23 A	03-Dec-23 A
CC3001-CO-8015	Anchor Trench Excavation At Upstream Toe - Excavate, And Sidecast Stockpile Excavated Material	18	22-Feb-24 A	06-Sep-24 A
CC3001-CO-8580	Key trenching excavation 100 m from Upstream Toe	50	26-Feb-24 A	28-Aug-24 A
CC3001-CO-8010B	Strip and remove Topsoil (to designated stockpile)	56	26-Mar-24 A	07-Apr-24 A
CC3001-CO-8590	Key Trench Bedrock Cleaning For Initial Slush Grouting	5	05-Jun-24 A	10-Jun-24 A
CC3001-CO-8600	Place 20 MPa Type HS Or HSb Dental Concrete	6	10-Jun-24 A	15-Jun-24 A
CC3001-CO-8610	Place slush grout over dental concrete to form smooth surface	7	15-Jun-24 A	22-Jun-24 A
CC3001-CO-8190	Supply And Install Geosynthetic Clay Liner In Key Trench	70	20-Jun-24 A	12-Sep-24 A
CC3001-CO-8210	Supply and install Geosynthetic clay liner (GCL) on Prepared Till Surface and in Anchor Trench	70	20-Jun-24 A	12-Sep-24 A
CC3001-CO-8220	Supply And Install Geomembrane On Foundation Till (80 Mil - 2 Mm LLDPE White, Double Sided Textured. Install over GCL	70	20-Jun-24 A	12-Sep-24 A
CC3001-CO-8200	Key Trench Backfill In Soil 100m - Place And Compact From Sidecast Windrow	36	22-Jun-24 A	16-Sep-24 A
CC3001-CO-8240	Waste Rock (Zone 5) Liner Cover. Spread, Moisture Condition, Compact, Grade Slopes To Design Profile	73	30-Jun-24 A	04-Nov-24 A
CC3001-CO-8230	Form Zone 1 Filter/bedding Sand On Upstream Embankment Slope In 0.3 M Thick Lifts	70	30-Jun-24 A	28-Oct-24 A
TMF - Stage 2 - DAM Construction		484	01-Jul-23 A	19-Oct-24 A
CC3001-CO-8410	Clearing & Grubbing - TMF Dam Footprint	98	01-Jul-23 A	02-Oct-23 A
CC3001-CO-9214-N	Stripping Of Topsoil (500 Mm Depth) For TMF Dam	98	01-Jul-23 A	02-Oct-23 A
CC3001-CO-9215-N	Excavation And Disposal Of Unsuitable Surficial Soils Within Dam Footprint	134	01-Jul-23 A	02-Oct-23 A



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VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
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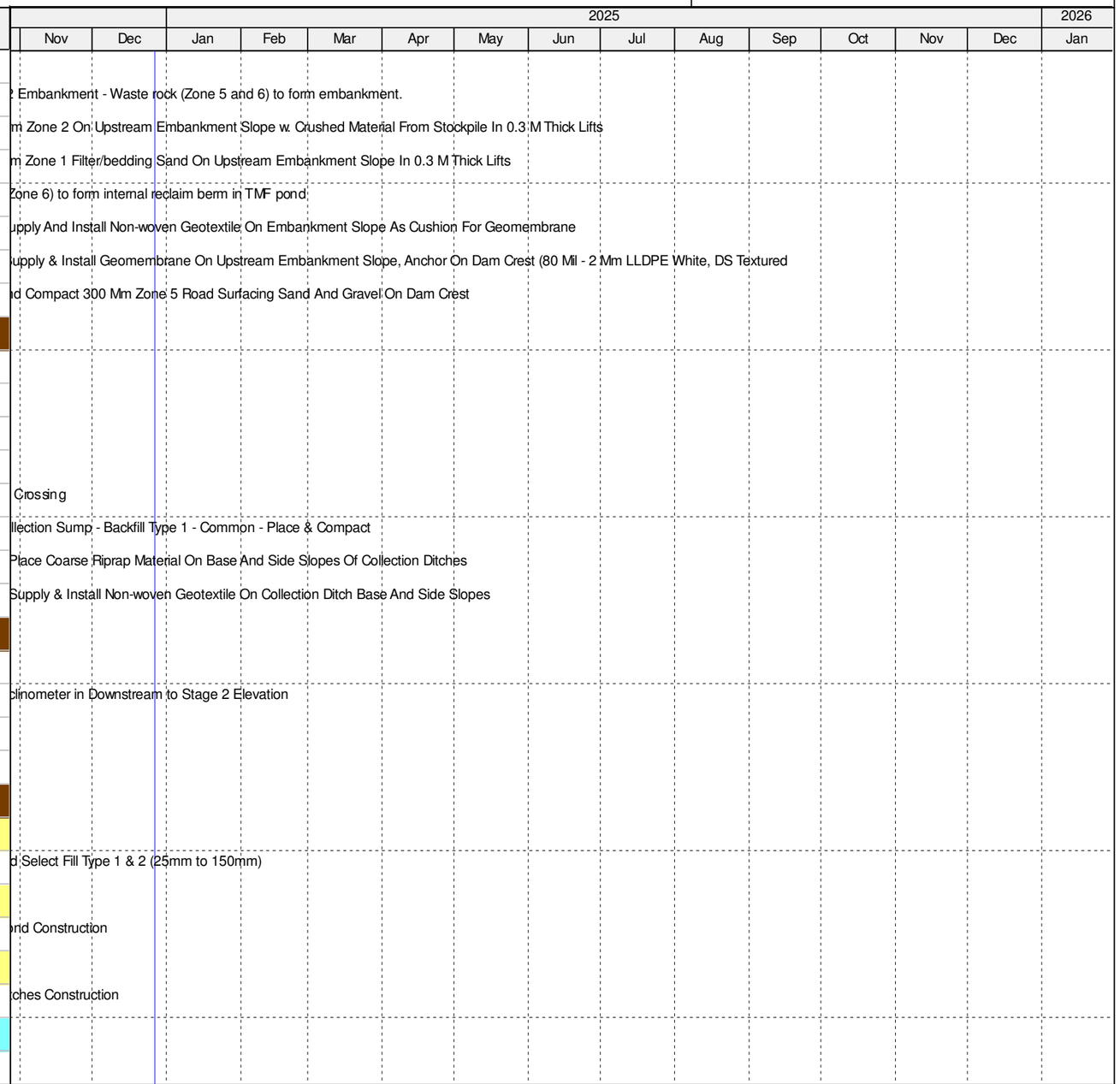
Activity ID	Activity Name	Original Duration	Start	Finish
CC3001-CO-8420	Phase 1 Embankment - Waste rock (Zone 5 and 6) to form embankment.	100	13-Jul-23 A	02-Oct-23 A
CC3001-CO-8430	Phase 2 Embankment - Waste rock (Zone 5 and 6) to form embankment.	84	11-May-24 A	02-Oct-24 A
CC3001-CO-8450	Form Zone 2 On Upstream Embankment Slope w. Crushed Material From Stockpile In 0.3 M Thick Lifts	45	08-Aug-24 A	14-Oct-24 A
CC3001-CO-8460	Form Zone 1 Filter/bedding Sand On Upstream Embankment Slope In 0.3 M Thick Lifts	45	14-Aug-24 A	14-Oct-24 A
CC3001-CO-8440	Waste rock (Zone 6) to form internal reclaim berm in TMF pond	7	09-Sep-24 A	20-Sep-24 A
CC3001-CO-8470	Supply And Install Non-woven Geotextile On Embankment Slope As Cushion For Geomembrane	57	13-Sep-24 A	18-Oct-24 A
CC3001-CO-8480	Supply & Install Geomembrane On Upstream Embankment Slope, Anchor On Dam Crest (80 Mil - 2 Mm LLDPE White, DS Textured	40	18-Sep-24 A	19-Oct-24 A
CC3001-CO-8490	Place And Compact 300 Mm Zone 5 Road Surfacing Sand And Gravel On Dam Crest	3	20-Sep-24 A	02-Oct-24 A
TMF Seepage and Run-Off Collection System		421	19-Sep-23 A	21-Oct-24 A
CC3001-CO-8310	Grubbing & Stripping - Seepage & Run-Off collection Area	27	19-Sep-23 A	29-Sep-23 A
CC3001-CO-8320	Collection Sump - Bulk Excavation Type 1 (Common)	15	19-Sep-23 A	28-Mar-24 A
CC3001-CO-8370	Excavate Seepage Collection Ditch To 1.5 M Depth With 2H:1V	5	04-Oct-23 A	09-May-24 A
CC3001-CO-8330	Collection Sump - Drill, Blast & Pushup (Controlled) in Rock	15	25-Oct-23 A	13-Mar-24 A
CC3001-CO-8400	Supply & Install Two Corrugated Culverts (1.2 M Diameter) At Downstream Ditch Road Crossing	3	22-Mar-24 A	24-Mar-24 A
CC3001-CO-8340	Collection Sump - Backfill Type 1 - Common - Place & Compact	20	18-Sep-24 A	15-Oct-24 A
CC3001-CO-8390	Place Coarse Riprap Material On Base And Side Slopes Of Collection Ditches	3	16-Oct-24 A	21-Oct-24 A
CC3001-CO-8380	Supply & Install Non-woven Geotextile On Collection Ditch Base And Side Slopes	3	16-Oct-24 A	21-Oct-24 A
TMF - Instrumentation Installation		219	14-Sep-23 A	10-Sep-24 A
CC3001-CO-8500	Supply and Install Piezonmeters	28	14-Sep-23 A	18-Nov-23 A
CC3001-CO-8530	Raise existing Inclinometer in Downstream to Stage 2 Elevation	3	18-Sep-23 A	10-Sep-24 A
CC3001-CO-8510	Route existing Piezometers to Downstream Toe	6	20-Sep-23 A	24-Sep-23 A
CC3001-CO-8520	Supply and Install Digital Inclinometer	5	20-Sep-23 A	24-Sep-23 A
Site Water Management		62	01-Apr-24 A	16-Oct-24 A
Process Site Water Management Materials		21	30-Aug-24 A	19-Sep-24 A
CC3001-CO-8540	Produce Pond Select Fill Type 1 & 2 (25mm to 150mm)	21	30-Aug-24 A	19-Sep-24 A
Site Water Management - Ponds		53	01-Apr-24 A	16-Oct-24 A
CC3001-CO-8550	Pond Construction	53	01-Apr-24 A	16-Oct-24 A
Site Water Management - Ditches		32	20-Jul-24 A	16-Oct-24 A
CC3001-CO-8560	Ditches Construction	32	20-Jul-24 A	16-Oct-24 A
3850- Tailings Piping		272	17-Nov-23 A	16-Dec-24 A
CC3001-CO-8660	Tailings Piping Installation - Process Plant to Haul Road	17	17-Nov-23 A	08-Dec-23 A



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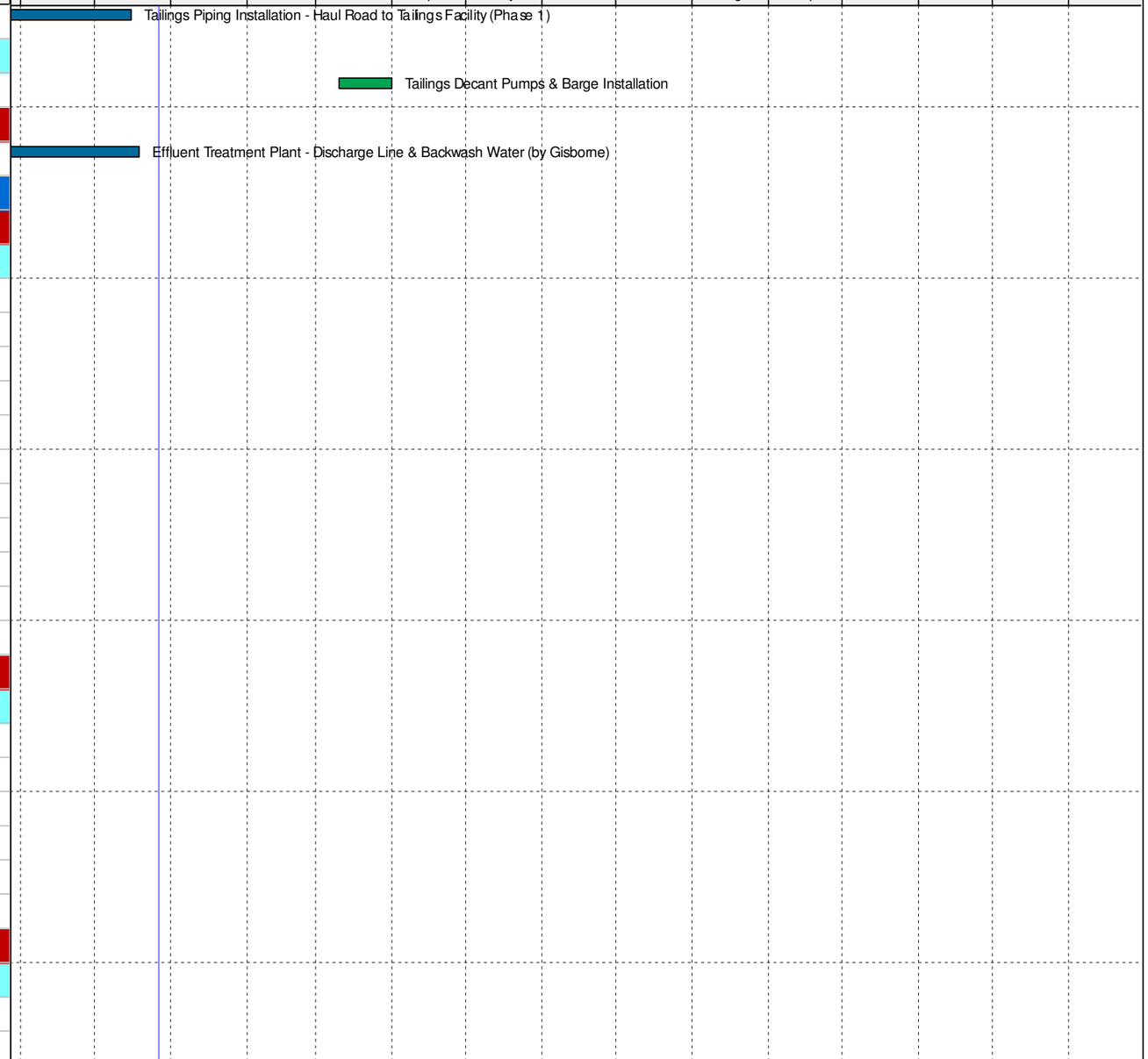
Activity ID	Activity Name	Original Duration	Start	Finish
CC3001-CO-8670	Tailings Piping Installation - Haul Road to Tailings Facility (Phase 1)	56	06-Oct-24 A	16-Dec-24 A
3840 - Tailings Decant Barge Pumps		22	10-Mar-25	31-Mar-25
CG2002-CO-0200	Tailings Decant Pumps & Barge Installation	22	10-Mar-25*	31-Mar-25
3860 - Effluent Treatment Plant		28	10-May-24 A	19-Dec-24 A
CG2002-CO-3910	Effluent Treatment Plant - Discharge Line & Backwash Water (by Gisborne)	28	10-May-24 A	19-Dec-24 A
3900 - Accommodation Complex		286	06-Jun-22 A	22-Sep-23 A
TK3904 - Accommodation Complex Utilities - Black & McDonald		82	13-Feb-23 A	20-Jun-23 A
Construction		82	13-Feb-23 A	20-Jun-23 A
TK3904-CO-190	Accommodation Complex - Utilities & U/G services - Electrical Systems (Cables Trays, cabling in AC)	26	13-Feb-23 A	30-Apr-23 A
TK3904-CO-235	Accommodation Complex - Utilities & U/G services - Install Plumbing, Water & FW in AC	32	01-Mar-23 A	15-Apr-23 A
TK3904-CO-195	Accommodation Complex - Utilities & U/G services - Genset Install & Commissioning	25	06-Mar-23 A	04-Apr-23 A
TK3904-CO-300	Accommodation Complex - Utilities & U/G services - Water Systems installation	14	21-Mar-23 A	21-Apr-23 A
TK3904-MS-100	Accommodation Complex - MG Tanker to provide Water for Commissioning	0	29-Mar-23 A	
TK3904-CO-215	Accommodation Complex - Final Tie-in modules & Commissioning of all systems	20	21-Apr-23 A	15-May-23 A
TK3904-CO-205	Accommodation Complex - Utilities & U/G services - Commissioning Water Systems	9	22-Apr-23 A	06-May-23 A
TK3904-CO-225	Accommodation Complex - Review and Occupation permit issuance - First 220 Rooms	15	28-Apr-23 A	26-May-23 A
TK3904-CO-245	Accommodation Complex - Touch-ups to Core Building	4	16-May-23 A	19-May-23 A
TK3904-CO-310	Accommodation Complex - Rreview and Occupation permit issuance - 132 additional rooms	15	26-May-23 A	20-Jun-23 A
TK3904-CO-200	Accommodation Complex - First Rooms available (44 x 5 = 220)	0		26-May-23 A
TK3902 - Accommodation Complex - Black & McDonald		130	23-Jan-23 A	22-Sep-23 A
Construction		130	23-Jan-23 A	22-Sep-23 A
TK3902-CO-120	Accommodation Complex - Mobilization - Black & McDonald	3	23-Jan-23 A	25-Jan-23 A
TK3902-CO-250	Accommodation Complex - Core Building (Recreation/Kitchen Modules) Installation	80	26-Jan-23 A	06-May-23 A
TK3902-CO-270	Accommodation Complex - Artic Corridor Installation	19	31-Jan-23 A	06-Mar-23 A
TK3902-CO-180	Accommodation Complex - Fire Protection Installation	14	17-Apr-23 A	26-May-23 A
TK3902-CO-100	Accommodation Complex - Distrib. Transformer and Electrical Installation	7	24-Apr-23 A	06-May-23 A
TK3902-CO-260	Accommodation Complex - Bedroom Modules Installation (73 Beds)	54	22-Jun-23 A	22-Sep-23 A
TK3901 - Accommodation Complex - Morris Group		235	06-Jun-22 A	15-May-23 A
Construction		235	06-Jun-22 A	15-May-23 A
TK3901-CO-250	Accommodation Complex - Refurbishment of modules	92	06-Jun-22 A	23-Sep-22 A
TK3901-CO-145	Accommodation Complex - Materials & Modules Transportation to site - Morris Group	39	17-Dec-22 A	10-Feb-23 A



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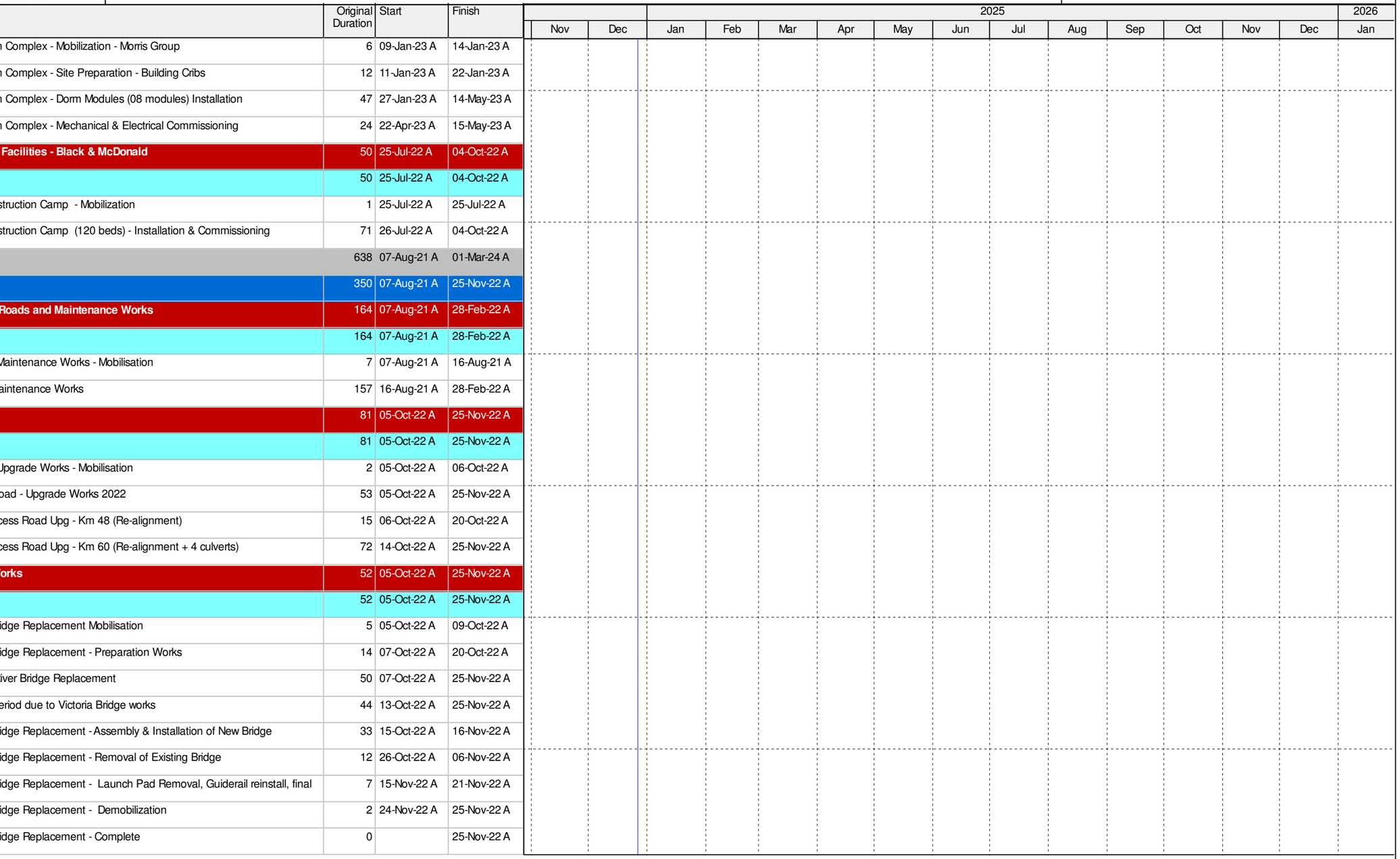
TK3901-CO-150	Accommodation Complex - Mobilization - Morris Group	6	09-Jan-23 A	14-Jan-23 A
TK3901-CO-160	Accommodation Complex - Site Preparation - Building Cribs	12	11-Jan-23 A	22-Jan-23 A
TK3901-CO-270	Accommodation Complex - Dorm Modules (08 modules) Installation	47	27-Jan-23 A	14-May-23 A
TK3901-CO-260	Accommodation Complex - Mechanical & Electrical Commissioning	24	22-Apr-23 A	15-May-23 A
TK3905 - Temp. Construction Camp & Facilities - Black & McDonald		50	25-Jul-22 A	04-Oct-22 A
Construction		50	25-Jul-22 A	04-Oct-22 A
TK3905-CO-110	Temporary Construction Camp - Mobilization	1	25-Jul-22 A	25-Jul-22 A
TK3905-CO-100	Temporary Construction Camp (120 beds) - Installation & Commissioning	71	26-Jul-22 A	04-Oct-22 A
4000 - Off Site Infrastructure		638	07-Aug-21 A	01-Mar-24 A
4100 - Main Access Road		350	07-Aug-21 A	25-Nov-22 A
CC4101 - Access Roads - Temporary Roads and Maintenance Works		164	07-Aug-21 A	28-Feb-22 A
Construction		164	07-Aug-21 A	28-Feb-22 A
CC4101-CO-100	Access Road - Maintenance Works - Mobilisation	7	07-Aug-21 A	16-Aug-21 A
CC4101-CO-110	Access Road Maintenance Works	157	16-Aug-21 A	28-Feb-22 A
CC4102 - Access Roads - Upgrades		81	05-Oct-22 A	25-Nov-22 A
Construction		81	05-Oct-22 A	25-Nov-22 A
CC4102-CO100	Access Road - Upgrade Works - Mobilisation	2	05-Oct-22 A	06-Oct-22 A
CC4102-CO-010	LOE - Access Road - Upgrade Works 2022	53	05-Oct-22 A	25-Nov-22 A
CC4102-CO-100	Earthworks - Access Road Upg - Km 48 (Re-alignment)	15	06-Oct-22 A	20-Oct-22 A
CC4102-CO-120	Earthworks - Access Road Upg - Km 60 (Re-alignment + 4 culverts)	72	14-Oct-22 A	25-Nov-22 A
CC4103 - Victoria Bridge - Upgrade Works		52	05-Oct-22 A	25-Nov-22 A
Construction		52	05-Oct-22 A	25-Nov-22 A
CC4103-CO-100	Victoria River Bridge Replacement Mobilisation	5	05-Oct-22 A	09-Oct-22 A
CC4103-CO-105	Victoria River Bridge Replacement - Preparation Works	14	07-Oct-22 A	20-Oct-22 A
CC4103-CO-010	LOE - Victoria River Bridge Replacement	50	07-Oct-22 A	25-Nov-22 A
CC4103-CO-120	Road Closure period due to Victoria Bridge works	44	13-Oct-22 A	25-Nov-22 A
CC4103-CO-110	Victoria River Bridge Replacement - Assembly & Installation of New Bridge	33	15-Oct-22 A	16-Nov-22 A
CC4103-CO-107	Victoria River Bridge Replacement - Removal of Existing Bridge	12	26-Oct-22 A	06-Nov-22 A
CC4103-CO-140	Victoria River Bridge Replacement - Launch Pad Removal, Guiderail reinstall, final grading	7	15-Nov-22 A	21-Nov-22 A
CC4103-CO-150	Victoria River Bridge Replacement - Demobilization	2	24-Nov-22 A	25-Nov-22 A
CC4103-CO-130	Victoria River Bridge Replacement - Complete	0		25-Nov-22 A



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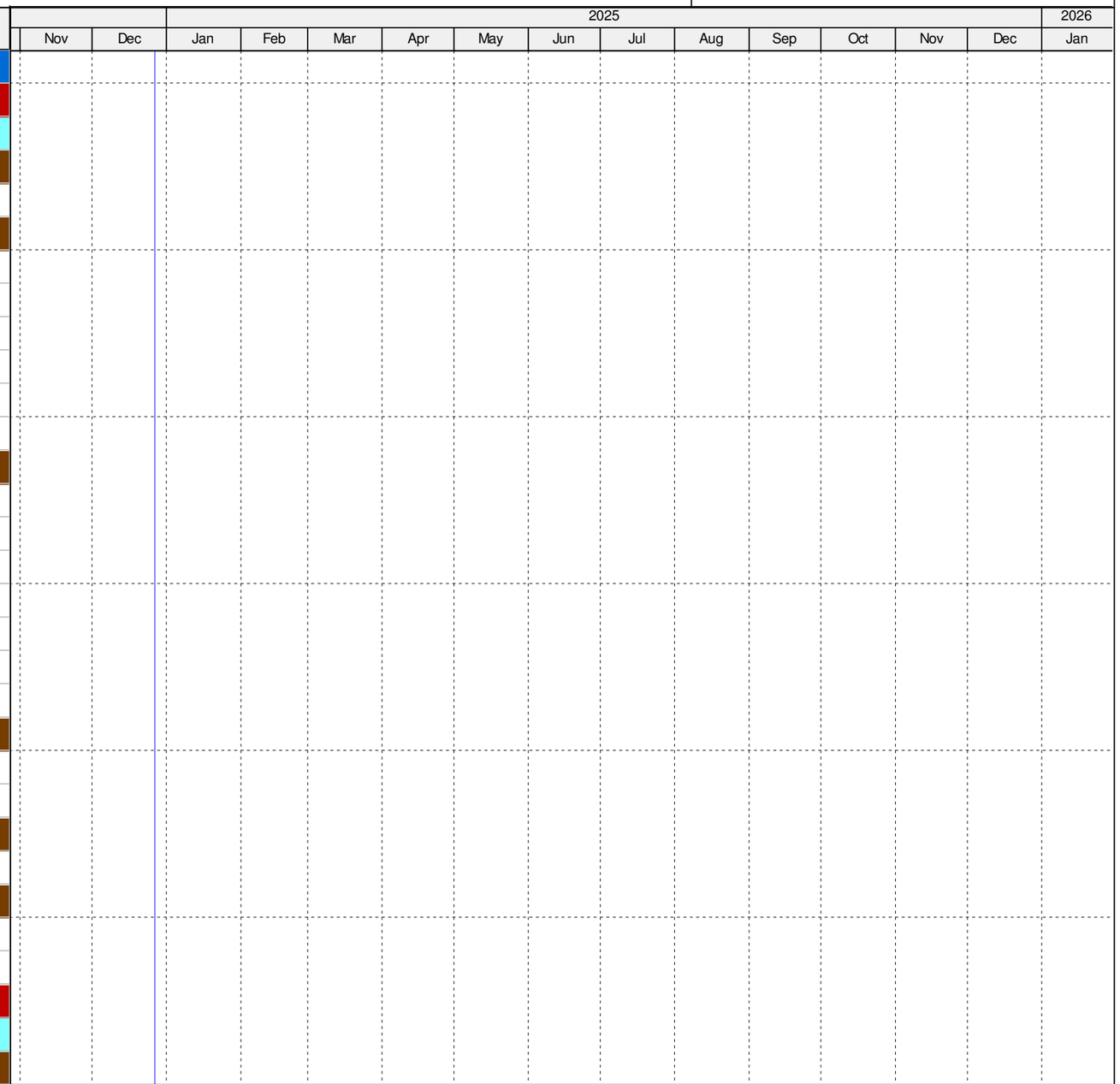
Activity ID	Activity Name	Original Duration	Start	Finish
4200 - HV Power Supply - by NHL Hydro - TK4201		351	03-Oct-22 A	01-Mar-24 A
Station		80	18-Sep-23 A	31-Jan-24 A
Station Construction		80	18-Sep-23 A	31-Jan-24 A
Contractor		7	18-Sep-23 A	20-Sep-23 A
TK4201-NH-780	Contractor Mobilization	7	18-Sep-23 A	20-Sep-23 A
Civil / Structural		36	18-Sep-23 A	08-Dec-23 A
TK4201-NH-830	Station Construction -Civil Excavation	5	18-Sep-23 A	10-Oct-23 A
TK4201-NH-870	Civil Fence and Final Grades	10	18-Sep-23 A	29-Nov-23 A
TK4201-NH-900	Structural Steel Assembly and Erection	7	06-Oct-23 A	12-Nov-23 A
TK4201-NH-860	Grounding Install	10	09-Oct-23 A	08-Dec-23 A
TK4201-NH-840	Foundation Installation - Concrete works	3	20-Oct-23 A	25-Oct-23 A
TK4201-NH-850	Foundation Concrete Curing	6	26-Oct-23 A	02-Nov-23 A
Electrical Equipment		70	06-Oct-23 A	11-Dec-23 A
TK4201-NH-890	Disconnect TL280	1	06-Oct-23 A	06-Oct-23 A
TK4201-NH-930	Disconnects & Bypass - Installation	5	27-Oct-23 A	31-Oct-23 A
TK4201-NH-950	CVTs - Installation of New	5	04-Nov-23 A	27-Nov-23 A
TK4201-NH-940	CVTs - Reconfiguration of Existing	3	04-Nov-23 A	27-Nov-23 A
TK4201-NH-920	Breaker Installation	5	08-Nov-23 A	25-Nov-23 A
TK4201-NH-960	HV Conductor and Insulators	4	22-Nov-23 A	07-Dec-23 A
TK4201-NH-970	Re- Terminate TL280	4	08-Dec-23 A	11-Dec-23 A
Communications		46	24-Oct-23 A	11-Dec-23 A
TK4201-NH-990	TL280 Powerline Carrier - Reconfigure Equipment	14	24-Oct-23 A	11-Dec-23 A
TK4201-NH-1000	TL280 Powerline Carrier - Commissioning	1	11-Dec-23 A	11-Dec-23 A
P & C		16	01-Nov-23 A	06-Dec-23 A
TK4201-NH-910	P&C Equipment Install	16	01-Nov-23 A	06-Dec-23 A
Commissioning		4	29-Jan-24 A	31-Jan-24 A
TK4201-NH-1010	Star Lake Station Commissioning	1	29-Jan-24 A	29-Jan-24 A
TK4201-NH-1020	Energization and In-Service Checks TL280/SLK	2	30-Jan-24 A	31-Jan-24 A
Transmission		230	03-Oct-22 A	12-Dec-23 A
TL271 Construction		230	03-Oct-22 A	12-Dec-23 A
Access Road & Line Clearing / Line Construction		230	03-Oct-22 A	12-Dec-23 A



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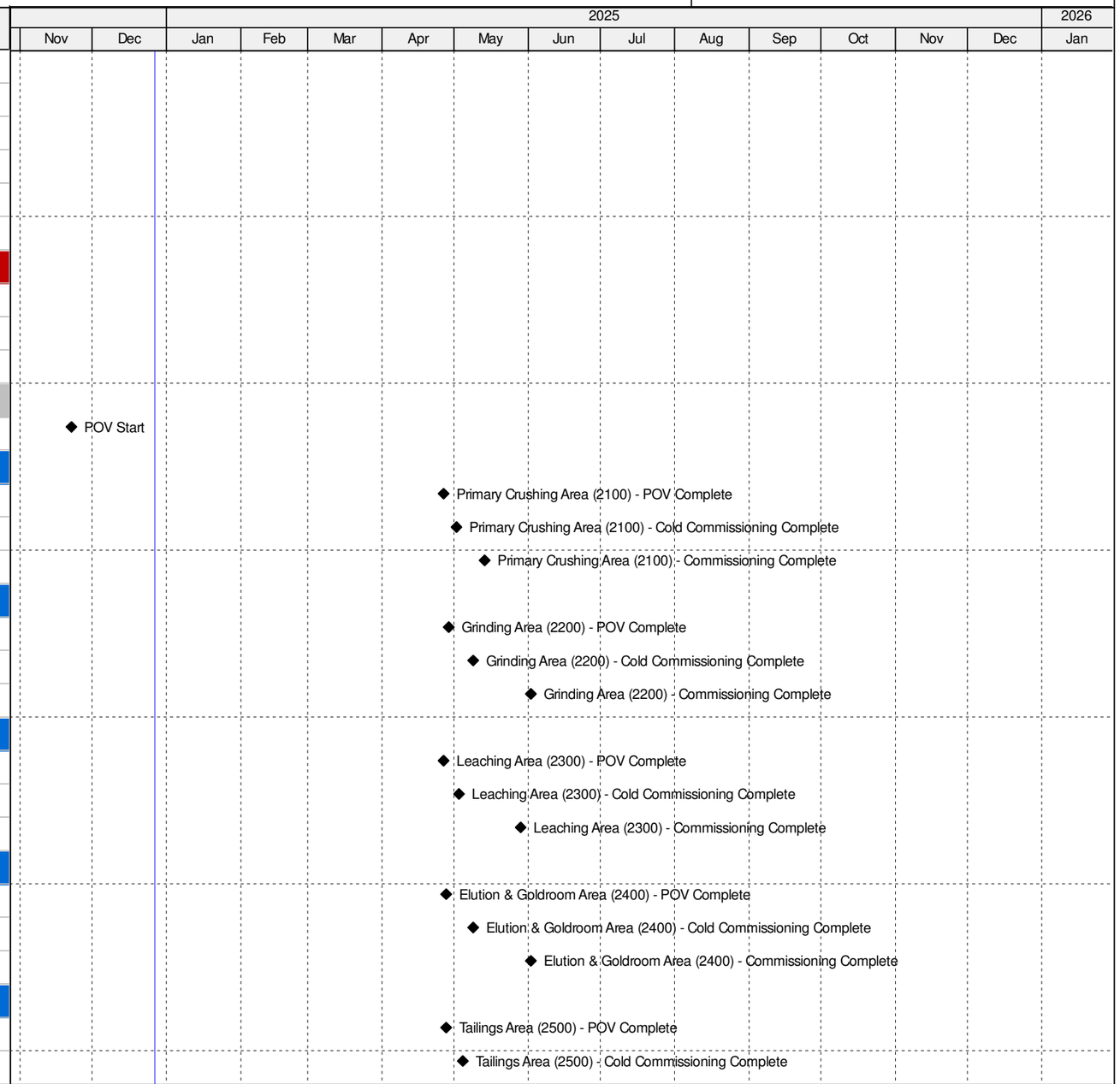
TK4201-NH-760	Contractor Mobilization - 2022	12	03-Oct-22 A	14-Oct-22 A
TK4201-NH-1130	TL271 - Works 2022 - Clearing / Poles & Anchors installation	75	03-Oct-22 A	16-Dec-22 A
TK4201-NH-800	TL271 - Line Clearing and Access Road Construction/Upgrades	54	10-Jan-23 A	28-Apr-23 A
TK4201-NH-1140	TL271 - Mobilization 2023	10	10-Jan-23 A	23-Jan-23 A
TK4201-NH-820	TL271 - Line Construction - 2023	128	24-Jan-23 A	22-Aug-23 A
TK4201-NH-1030	TL271 - Termination	14	23-Aug-23 A	12-Dec-23 A
Commissioning / Energization		34	28-Jan-24 A	01-Mar-24 A
TK4201-NH-1060	Commissioning TL271	5	28-Jan-24 A	01-Feb-24 A
TK4201-NH-1080	In-Service Checks TL271/SLK	1	01-Feb-24 A	01-Feb-24 A
TK4201-NH-1090	Energization Valentine Station	0		01-Mar-24 A
Commissioning Milestones		220	22-Nov-24 A	01-Jun-25
A0100	POV Start	0	22-Nov-24 A	
Primary Crushing & Conveying (2100)		17	26-Apr-25	13-May-25
A1000	Primary Crushing Area (2100) - POV Complete	0		26-Apr-25
A1010	Primary Crushing Area (2100) - Cold Commissioning Complete	0		01-May-25
A1020	Primary Crushing Area (2100) - Commissioning Complete	0		13-May-25
Grinding Area (2200)		34	28-Apr-25	01-Jun-25
A1030	Grinding Area (2200) - POV Complete	0		28-Apr-25
A1040	Grinding Area (2200) - Cold Commissioning Complete	0		08-May-25
A1050	Grinding Area (2200) - Commissioning Complete	0		01-Jun-25
Leaching Area (2300)		32	26-Apr-25	28-May-25
A1060	Leaching Area (2300) - POV Complete	0		26-Apr-25
A1070	Leaching Area (2300) - Cold Commissioning Complete	0		02-May-25
A1080	Leaching Area (2300) - Commissioning Complete	0		28-May-25
Elution and Goldroom Area (2400)		35	27-Apr-25	01-Jun-25
A1090	Elution & Goldroom Area (2400) - POV Complete	0		27-Apr-25
A1100	Elution & Goldroom Area (2400) - Cold Commissioning Complete	0		08-May-25
A1110	Elution & Goldroom Area (2400) - Commissioning Complete	0		01-Jun-25
Tailings Area (2500)		35	27-Apr-25	01-Jun-25
A1120	Tailings Area (2500) - POV Complete	0		27-Apr-25
A1130	Tailings Area (2500) - Cold Commissioning Complete	0		04-May-25

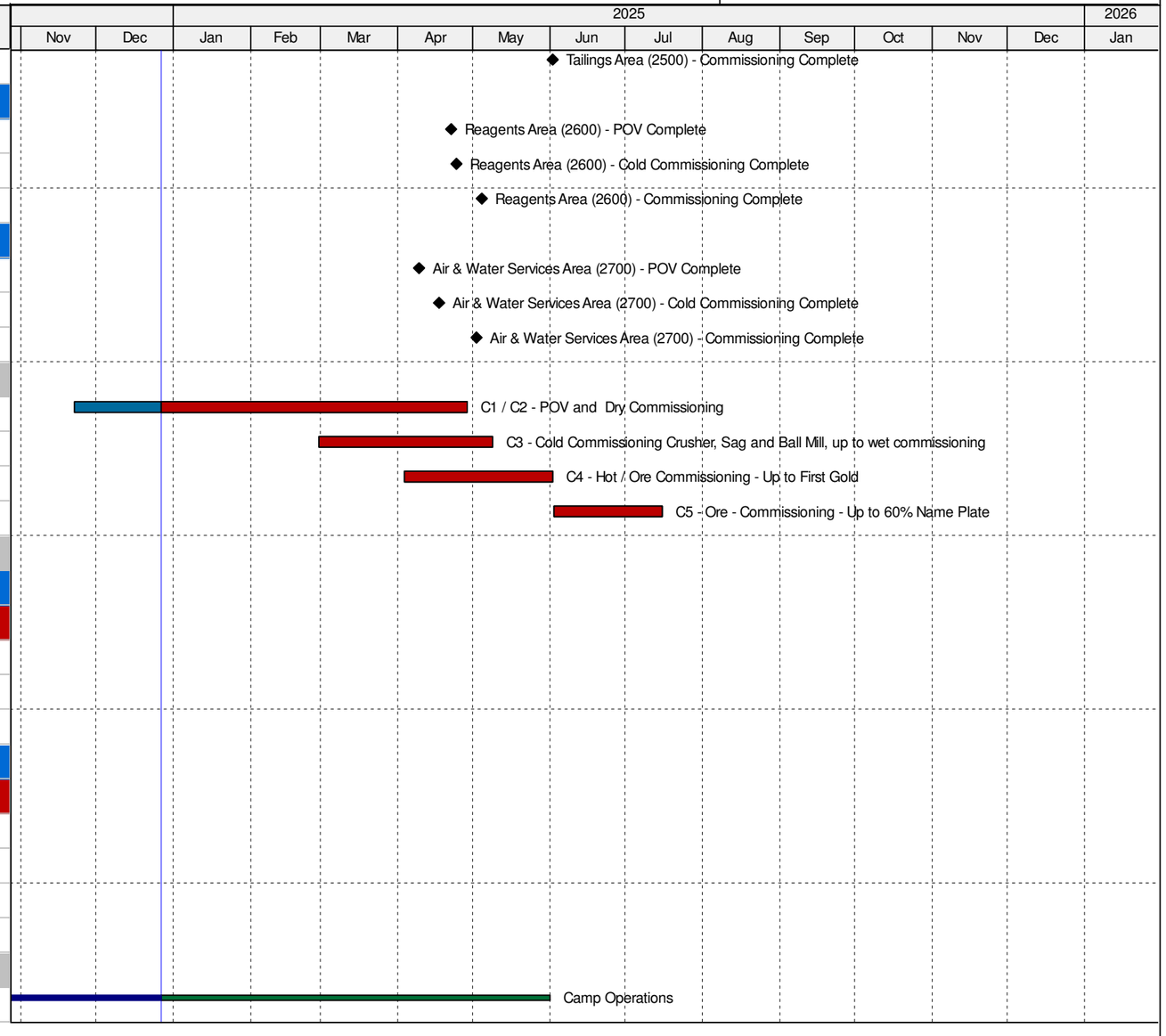


Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

VALENTINE GOLD PROJECT - LEVEL 2 MASTER SCHEDULE
Construction Activities

16-Jan-25 11:39
Data Date: 27-Dec-24

Activity ID	Activity Name	Original Duration	Start	Finish
A1140	Tailings Area (2500) - Commissioning Complete	0		01-Jun-25
Reagent Area (2600)		12	22-Apr-25	04-May-25
A1150	Reagents Area (2600) - POV Complete	0		22-Apr-25
A1160	Reagents Area (2600) - Cold Commissioning Complete	0		24-Apr-25
A1170	Reagents Area (2600) - Commissioning Complete	0		04-May-25
Air and Water Services Area (2700)		23	09-Apr-25	02-May-25
A1180	Air & Water Services Area (2700) - POV Complete	0		09-Apr-25
A1190	Air & Water Services Area (2700) - Cold Commissioning Complete	0		17-Apr-25
A1200	Air & Water Services Area (2700) - Commissioning Complete	0		02-May-25
Commissioning / Ramp-up		125	22-Nov-24 A	15-Jul-25
COM-100	C1 / C2 - POV and Dry Commissioning	100	22-Nov-24 A	28-Apr-25
COM-200	C3 - Cold Commissioning Crusher, Sag and Ball Mill, up to wet commissioning	70	28-Feb-25	08-May-25
COM-300	C4 - Hot / Ore Commissioning - Up to First Gold	60	03-Apr-25	01-Jun-25
COM-310	C5 - Ore - Commissioning - Up to 60% Name Plate	44	02-Jun-25	15-Jul-25
5000 - Project Indirects		161	20-Jul-22 A	12-Jan-23 A
TK5101 - Temporary Warehouse		138	17-Aug-22 A	12-Jan-23 A
Construction		138	17-Aug-22 A	12-Jan-23 A
TK5101-CO-100	Temporary Warehouse - Mobilisation	9	17-Aug-22 A	26-Aug-22 A
TK5101-CO-110	Temporary Warehouse - Complex Installation / Final Assembly on Site	108	27-Aug-22 A	12-Jan-23 A
TK5101-CO-120	Temporary Warehouse - Commissioned	0		12-Jan-23 A
CC5101 - Temporary Pads		23	20-Jul-22 A	16-Aug-22 A
Construction		23	20-Jul-22 A	16-Aug-22 A
CC5101-CO-100	Temporary Pad Construction - Mobilisation	1	20-Jul-22 A	20-Jul-22 A
CC5101-CO-120	Temporary Pad Construction - for Temporary Camp	4	20-Jul-22 A	25-Jul-22 A
CC5101-CO-110	Temporary Pad Construction - for Temporary Fuel / Fabrication Area	18	26-Jul-22 A	16-Aug-22 A
CC5101-CO-130	Temporary Pad Construction - Complete	0		16-Aug-22 A
7000 - Owner's Cost		498	26-May-23 A	31-May-25
SG3901-OP-100	Camp Operations	498	26-May-23 A	31-May-25



Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone