HUDBAY

Copper Mountain Mine

2024 ANNUAL REPORT

Mines Act Permit M-29 and *EMA* Permits 00261 and 105340

March 2025

PREPARED BY

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EXECUTIVE SUMMARY

This 2024 Annual Report for Copper Mountain Mine is a compilation of all three provincially required annual reports for *Mines Act Permit* M-29 and *Environmental Management Act* (EMA) Permit 00261 and Permit 105340. A concordance table located at the start of the document lists the annual reporting requirements per permit, and their associated report sections.

The total land disturbance at Copper Mountain Mine, including the inactive Ingerbelle portion of the property, is approximately 1,607 hectares (ha), with only 6.0 ha area of new disturbances in 2024.

Progressive reclamation activities commenced at the Copper Mountain site in 2018 and continued in 2024 with efforts focused on expanding the soil cover on the east slope of the Non-Economic Rock Storage Area (NERSA). New soil applications were completed on approximated 23.46 ha in 2024, and trees and shrubs were planted on existing NERSA progressive reclamation areas. Reclamation activities also continued to improve revegetation of the riparian zone along the Wolfe Creek Fish Habitat Offset Plan area. The total active reclamation area at the Copper Mountain site since commencing progressive reclamation in 2018 is 115 ha.

Environmental monitoring of surface water, groundwater and air quality was conducted in accordance with Permit 00261 and Permit 105340. Results from the monitoring indicate protection of the receiving environment from dust and water was achieved. Surface water quality at the Similkameen River and Wolfe Creek monitoring stations in 2024 was consistent with historical monitoring results. Some parameters in Wolfe Creek were elevated, however there were no instances of water quality results exceeding any permit limits at the compliance monitoring locations (SW03 and SW43) throughout 2024. Consistent with previous years, results of the 2024 aquatic effects monitoring program indicate a mild enrichment effect from mine influences on Wolfe Creek, and no mine-related effects on aquatic biological communities of the Similkameen River.

In 2024, there was one (1) reportable environmental incident associated with an unauthorized release to the receiving environment. The release involved a small seep that surfaces in the ditch along the lower access road to the Lower Pumpback station at the West Dam, labelled as SW07A. The seepage discharge was stopped the following day after being identified as a non-compliance by a Ministry of Environment and Parks inspector.

The fugitive dustfall monitoring program in 2024 showed receiving environment locations downgradient of mine activities had higher dustfall deposition rates than the background station, however, the majority of samples reported monthly average deposition rates below the Permit 105340 specified Ambient Air Quality Objective (AAQO). Four receiving environment dustfall samples reported the monthly average deposition rates above AAQO. however, two of the samples were determined to be due to sample contamination. The other two were primarily attributed to the increased frequency, duration and velocity of high wind events experienced during the spring months.

Table of Concordance – Annual Report Requirements

Permit Section	Requirement	Report Section
***Mines Act* Permit M-29 (December 20, 2023)**		
C.1 (b)	The Permittee must ensure the EMS is reviewed annually, revised as soon and as often as required, and made available at the mine site at all times and to an Inspector of Mines upon request. The Permittee must ensure the findings of the annual review of the EMS are reported in the Annual Reclamation Report.	3.1
C.3 (c) (i) (b)	The ML/ARD Management Plan is reviewed and signed off by a Qualified Professional on an annual basis and all recommended changes arising from the reviews are documented in the Annual Reclamation Report and updated submitted to the Chief Inspector, by March 31 annually	3.1, Appendix G
C.3 (e) (i)	The Permittee must maintain a materials inventory of all mined materials, including LGO, waste rock, tailings products, construction materials, and water treatment by-products that includes the geochemical characteristics, quantities, storage locations, and exposure times for any segregated PAG materials. The Permittee must include the materials inventory in the Annual Reclamation Report by March 31 annually	2.1
C.3 (e)(ii)	The Permittee must submit a summary of any geochemical analyses conducted and an assessment of the results, including QA/QC results and identification of significant changes and trends, in the Annual Reclamation Report by March 31 annually.	3.2, Appendix H
C.4(a)(i)(c)(d)	The Surface Water and Groundwater Management Plan is reviewed and signed off by a Qualified Professional on an annual basis and all recommended changes arising from the reviews, including but not limited to source term refinement, water quality mitigations, and adaptive management, are documented in the Annual Reclamation Report, and updated Surface Water and Groundwater Management Plans are submitted to the Chief Inspector by March 31 annually.	3.1, Appendix G
C.4(c)(i)	The Permittee must reconcile the site-wide water balance annually, and update it as required. The Permittee must document the reconciliation and any updates in the Annual Reclamation Report, submitted by March 31 annually.	3.5.1
C.4(d)(i)	The Permittee must report results of surface water and groundwater monitoring, including QAQC results, in the Annual Reclamation	3.6, Appendix B, F

Permit Section	Requirement	Report Section
	Report by March 31 annually. The Permittee must ensure that the results are compared to applicable provincial water quality standards and guidelines. The Permittee must assess significant changes or trends in water quality or quantity and include discussion of that assessment in the report.	
C.4(d)(ii)	The Permittee must include a quantitative comparison of relevant surface water, groundwater, and ML/ARD monitoring data to source terms used in water quality predictions and results of surface water and groundwater models in the Annual Reclamation Report by March 31 annually. If there are substantive discrepancies, the Permittee must include a discussion of proposed source term revisions prepared by a Qualified Professional in the Annual Reclamation Report, by March 31 annually	3.6, Appendix B, F
C.9(b)	The Permittee must ensure that the Fugitive Dust Management Plan is reviewed annually and updated as procedures are modified to reflect site-specific considerations. The Permittee must report annual updates and monitoring results in the Annual Reclamation Report.	3.1
C.10(b)	The Permittee shall ensure that the Erosion and Sediment Control Plan is reviewed annually with updates reported in the Annual Reclamation Report.	3.1
C.11(e)	The Permittee must maintain an inventory of stockpiles of salvaged soil, overburden and organic matter including large woody debris specifying the locations, origins, and quantities of material. This information must be reported in the Annual Reclamation Report	2.1
C.12(a)	The Permittee must implement the Biosolids Storage and Management Plan. The Permittee must ensure that the importation to site and use of biosolids are reported in the Annual Reclamation Report, including, but not limited to, volumes, material characteristics, storage locations, testing and monitoring.	4.3, Appendix C
C.13(d)	Prior to blending or applying commercially purchased seed, the Permittee must ensure that a Qualified Professional reviews the Seed Analysis Certificate(s) to confirm compliance with the BC Weed Control Regulations and/or confirm the absence of noxious or regionally high priority invasive plant seeds. The Permittee must report results of seed analysis and recommendations of the Qualified Professional in the Annual Reclamation Report, by March 31 annually.	Appendix C
C.16(b)	The Permittee must ensure a detailed summary of all research included in the Reclamation Research Program report is provided in	4.13

Permit Section	Requirement	Report Section
	the Annual Reclamation Report and the Mine Plan and Reclamation Program Updates, including description of activities, results, and outcomes.	
C.17(d)	The Permittee must submit an End Land Use Workshop Summary Report annually, beginning March 31, 2025, to the Chief Inspector, as part of the Annual Reclamation Report	1.7.5, Appendix C
D.5(a)	The Permittee must monitor soil replacement operations to ensure the minimum depths are achieved and a confirmation sampling plan must be developed to ensure quality of soil used for reclamation purposes will achieve end land use objectives. The Permittee must report all results in the Annual Reclamation Report.	4.3, Appendix C
***Environmental Management Act* Permit 00261(December 6, 2024)**		
6.4.3(a)	An overview of the previous year's operational activities	2, 3.4
6.4.3(b)	The monthly volumes of combined TMF pond supernatant and Contact Water used for mill process supply water and the monthly volumes used for dust control	N/A, no water used for dust suppression in December 2024
6.4.3(c)	The daily volume of water recovered by the west and east dam seepage collection systems and interception system and the destination of the recovered water	3.6, Appendix F
6.4.3(d)	The estimated amount of seepage (quantity and quality considering all POCs) from both the west and east seepage collection system not recovered by existing collection systems and the methodology used for the estimation	3.6, Appendix F
6.4.3(e)	An estimate of the mass flux of copper, nitrate, molybdenum, selenium and sulphate for seepage at the east and west dams of the TMF, down the Wolfe Creek valley and the Similkameen River, on a monthly basis	N/A. Requirement only applies to the last three weeks of the year. This will be included in 2025 report
6.4.3(f)	The flow method, duration in hours and days and reasons for east terminus pond discharges	N/A, no discharge occurred in 2024
6.4.3(g)(i)(ii)(iii)(iv)(v)(vi)	Sediment pond management data including dates of sediment removal, sediment characteristics, volume of sediment removed, depth of sediment before and after cleanout, location of sediment disposal, and location of drainage from sediment dewatering	N/A, no sediment removal in 2024
6.4.3(h)	For the WBWQM, a comparison of monitoring data to the latest WBWQM predictions required for all receiving environment surface water locations including an assessment of diversions from the projections	3.5

Permit Section	Requirement	Report Section
6.4.3(i)	For the SEMP, a summary of new seeps or seepage areas identified during the year including discharge period, flow rate, water quality as required in Section 3.9 for the preceding calendar year and a comparison of current and historical seepage flows at the Facility	N/A, SEMP not required until 2025
6.4.3(j)	For the AEMP, a summary of the results for the calendar year from the programs required, as an Appendix to the annual report, including a historical trend analysis of the past ten—years' worth of data for each monitoring location or the entire data set if less than 10 years of data is available	3.7.1
6.4.3(k)	For the calendar years when a TRP review report is not required, a summary of triggers exceeded and the actions taken required	N/A, TRP no required until 2025
6.4.3(l)	For the SMP, a summary of mitigation and actions performed for the program	3.5.2 mitigation measures also apply for selenium mitigation. SMP to be developed in 2025.
6.4.3(m)(i)(ii)(iii)(iv)	For the SWGWMP, a review of the surface water monitoring data required, including surface water quality results compared to permit limits and relevant BCWQG, review and interpretation of all surface water quality monitoring data, graphical analysis with interpretation of historical trends in surface water quality monitoring results, and evaluation of the laboratory analysis, and quality and precision based on the results of the quality assurance program.	3.6, Appendix F Following Table 4 in Permit 00261
6.4.3(n)(i)(ii)(iii)(iv)	For the SWGWMP, a review of the groundwater monitoring data required, including review and interpretation of the groundwater monitoring data, the groundwater quality results must compare to the Contaminated Site Regulation groundwater standards and considered in relation to baseline groundwater quality and the surface water receiving environment water quality, graphical analysis with interpretation of historical trends in groundwater water quality monitoring results, and evaluation of the laboratory analysis, and quality precision based on the results of the quality assurance program required.	3.6, Appendix B Following Table 4 in Permit 00261
6.4.3(o)(i)(ii)(iii)(iv)(v)(vi)	A review of the hydrometric monitoring data including a description of measurement methods, field procedures and data calculation methods with interpretation and recommendations; a summary table of the discharge measurements recorded during the year, the summary must include staff gauge measurements, calculated flow	3.6, Appendix F

Permit Section	Requirement	Report Section
	values from a stage-discharge rating curve, and manual flow measurements; a hydrograph at a scale appropriate for visually comparing flow values between stations; stage-discharge relationship figures for each continuous monitoring station that includes a visual representation and all stage-discharge measurements used to define the active relationship, as well as the relationship equation; evaluation of data quality grade for each monitoring station using the "Manual of British Columbia Hydrometric Standards" methodology with interpretations; and manual discharge measurements and continuous flow data records with data grade and associated rating curves must be provided in Excel Format.	
6.4.3(p)(i)(ii)	For authorized discharges, a review of the effluent discharge (flow) monitoring results, including a summary of all effluent flow monitoring data, compared to the applicable authorized discharge rates, and final continuous flow data records for effluent flow monitoring locations must be provided in Excel Format.	3.6, Appendix F
6.4.3(q)(i)(ii)(iii)(iv)	A review of the meteorological monitoring data, including a description of measurement methods, field procedures and data calculation methods with interpretation and recommendations, a summary table of the validation measurements recorded during the year, a visual representation of parameters recorded during the year as well as comparisons to historical data, a summary highlighting any extreme conditions observed during the year, such as the 1 in 10-year 24-hour return period even and greater, and final climate data records must be provided in Excel Format	3.3
6.4.3(r)	A summary of all non-compliance events, including corrective actions and mitigation efforts employed by the Facility within the reporting year	1.3, 3.4.3
6.4.3(s)	Plan and program review reports as per Section 3 and 4	3 Not all programs applicable for 2024, as they are due to be developed in 2025.
***Environmental Management Act* Permit 105340 (November 15, 2023)**		
6.2(i)	A summary of non-compliances, dates, durations of events, root causes, corrective measures taken to mitigate effects and precent future non-compliance if applicable	1.3
6.2(ii)	A summary of mine activities for the past year	2

Permit Section	Requirement	Report Section
6.2(iii)	Air Quality and fugitive dust monitoring data, and interpretation of the results.	3.14
6.2(iv)	Meteorological data as applicable to air quality, and interpretation of the results.	3.3
6.2(v)	Summary of all open wood burning activity within the previous calendar year, and present recommendations resulting from operations regarding wood waste disposal and/or recycling	3.14
6.2(vi)	A summary of equipment performance monitoring, maintenance and inspection activities	3.14, Appendix J
6.2(vii)	Equipment performance monitoring data including but not limited to daily pressure from recordings for the air pollution control facilities	3.14
6.2(viii)	A summary and performance of the fugitive dust suppression control measures specified in FDMP and COS Action Plan	3.14

1 INTRODUCTION

Copper Mountain mine is an open pit copper–gold mine in south-central British Columbia (B.C.) located approximately 15 km south of the Town of Princeton. The Copper Mountain mine (CMM), including all permits and mineral tenures, is owned and operated by Copper Mountain Mine (BC) Ltd. (CMML), a wholly owned subsidiary of Hudbay Minerals Inc. (Hudbay).

CMML operates under *Mines Act* Permit M-29, most recently amended on December 20, 2023, by the BC Ministry of Energy, Mines and Low Carbon Innovation (EMLI), renamed the Ministry of Mines and Critical Minerals (MCM) in November 2024. Mine operations occurred historically above both the east and west of the Similkameen River valley, however, current mine activities are focused in an upland area between the Similkameen River to the west and upper Wolfe Creek to the east. Wolfe Creek is itself a tributary to the Similkameen River.

This document is a combined 2024 Annual Report for *Mines Act* Permit M-29, and *Environmental Management Act* (EMA) Permits 00261 and 105340. The purpose of the report is to fulfill the annual reporting requirements of Section 10.4.4 of the *Health, Safety and Reclamation Code for Mines in BC* (HSRC; April 2024) and the amended *Mines Act* M-29 Permit dated December 20, 2023, as well as to satisfy the annual reporting requirements for CMM specified under Section 6.4 of the amended EMA Permit 00261, dated December 6, 2024, and Section 4.10 and 6.2 of the amended EMA Permit 105340 dated November 15, 2023, respectively. Annual Status forms required under EMA Permits 00261 and 105340 are provided in Appendix A.

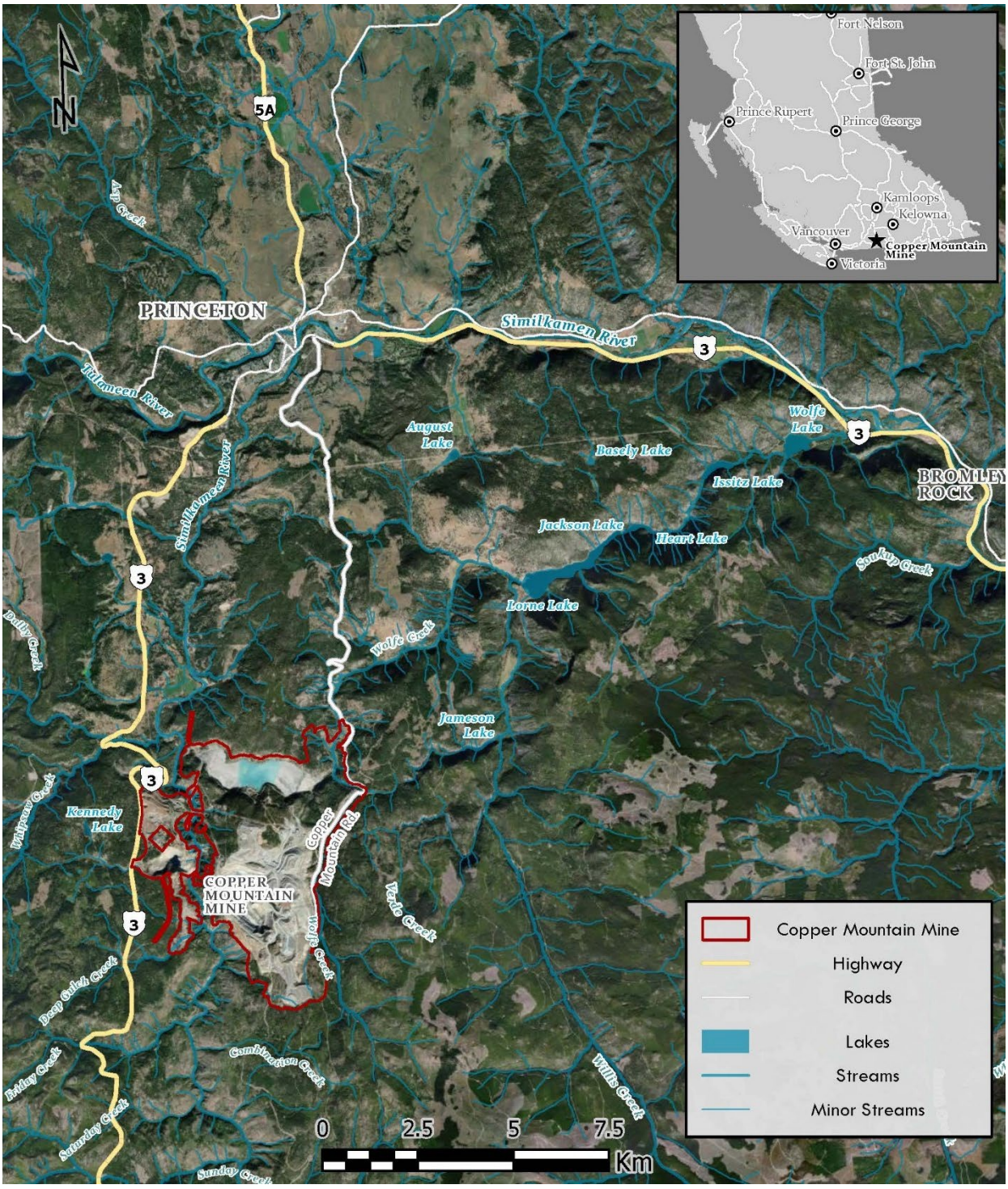


FIGURE 1.1: LOCATION MAP – COPPER MOUNTAIN MINE

1.1 REPORT OVERVIEW

This report provides a summary of the mining, reclamation and monitoring activities, surface and groundwater monitoring, and air quality monitoring data, conducted at Copper Mountain Mine (CMM) in 2024, as well as mining and reclamation activities that are planned for the next five years. This report, which combines requirements from *Mines Act* Permit, M-29, *Environmental Management Act* Permits 00261 and 105340, is the first of its kind, although this follows the fourteenth iteration of all annual reports submitted since the restart of commercial operations.

This report is structured as follows:

Section 2 – Mining Program

Section 3 – Environmental Protection Program

Section 4 – Reclamation Program

Section 5 – Reclamation Liability Cost Estimates

The location of Copper Mountain Mine is shown in Figure 1.1.

CMML has adopted new terminology for mined rock material and associated rock storage areas. The term waste rock is now identified as non-economic rock (NER). All current and future structures previously referred to as a Waste Rock Storage Area (WRSA) are now identified using the term Non-Economic Rock Storage Area (NERSA). This term now applies to all such structures at the Copper Mountain Mine and the new terms are applied throughout this report.

1.2 PROJECT SUMMARY

1.2.1 Project History

The first mineral claims were staked in the Copper Mountain area in 1892 and development work started in 1905 by a group associated with B.C. Copper. By 1920, the Allenby Copper Company had built a concentrator at Allenby on the east side of the Similkameen about 4 km south of the town of Princeton to process ore from Copper Mountain. The property was purchased by Granby Consolidated Mining, Smelting and Power Company in 1923. Granby operated the Allenby mill from 1925 to 1930 and again from 1936 to 1957 concentrating ore from Copper Mountain. Over this period, approximately 31.5 million tonnes of ore grading 1% copper was extracted primarily from underground sources. Ore was hauled by train from Copper Mountain to the mill at Allenby along a rail bed cut into the slopes on the east side of the Similkameen River. The buildings and structures associated with the Allenby town site and mill were removed sometime thereafter. Historical tailings deposits from these operations are located on fee simple property in and around the Allenby and Princeton areas. These areas were successfully reclaimed in the 1990's through the combined efforts of Similco Mines Ltd. (now Copper Mountain Mine (BC) Ltd), the town of Princeton and the Greater Vancouver Regional District (GVRD) through their biosolids program.

Newmont Mines Canada Limited acquired the mineral claims covering the Ingerbelle property in January 1966 and subsequently purchased the Copper Mountain properties from Granby in December 1967. Following successful exploration programs over the period from 1966 to 1968, Newmont commenced pre-production stripping of the Ingerbelle Pit in 1970 and production at the Similco Mine commenced from the newly constructed concentrator on the Ingerbelle side in 1972. Tailings from the Ingerbelle concentrator flowed, by gravity, across a suspension bridge over the Similkameen River to the "Smelter Lake" tailings management facility on the Copper Mountain side. Production continued from the Ingerbelle Pit from 1972 through 1981.

Open pit mining commenced at Copper Mountain on the east side in 1980, with crushed ore conveyed across a suspension bridge over the Similkameen to the Ingerbelle mill on the west side.

Princeton Mining Corporation purchased the Similco Mine from Newmont in 1988 and continued to operate the property under Similco Mines Ltd. (SML) with mining taking place at Copper Mountain through to 1993. Following a brief shutdown from December 1993 to August 1994, production resumed from the Ingerbelle low-grade stockpile and then again from the Ingerbelle Pit in April 1995. This phase of mining was completed in November of 1996, at which time operations were suspended due to a downturn in world copper markets.

Similco was acquired from Princeton Mining by Imperial Metals Corporation in April of 1998. Envirogreen Technologies Inc. (Envirogreen) then acquired SML from Imperial Metals in 2003. Compliance Energy Corporation (Compliance) entered into an option agreement with Envirogreen in May 2004 to acquire SML for the purposes of developing a coal and/or wood waste power generation facility at the previous Ingerbelle concentrator facilities. Compliance assigned the option to Copper Mountain Mining Corporation (CMMC) in 2006 and Envirogreen subsequently sold SML to CMMC in 2006. SML legally changed the company name to Copper Mountain Mining (BC) Ltd. (CMML) on July 1, 2012 and all permits, licences and other authorizations, as well as mineral tenures, are held in the name of CMML. In June 2023, Hudbay Minerals Inc acquired CMMC's 75% stake in CMML, while Mitsubishi Metals retains the other 25% stake.

Following extensive exploration and engineering studies between 2007 and 2009, CMMC determined that the Project should be placed into production. With the completion of permitting, construction and pre-stripping was initiated in 2010, and the mine has been actively and continuously operating as an open-pit mining and milling operation since June 2011. Since the re-commencement of operations in 2011, mining activity has been focused entirely on mining of the open pits on the Copper Mountain side of the property to feed the new concentrator facility also constructed on the Copper Mountain side. Tailings from the new concentrator continue to report to the existing approved TMF located on the Copper Mountain side.

The 2009 Feasibility Study upon which the Project and production decision was based, had a 14-year mine plan based on ten years of mine production, during which low-grade material would be stockpiled, and an additional four years of stockpile milling. Mill throughput over the 14 years of mine life would average 12.7 Mt/a.

Based upon successful exploration and updated reserves, an updated mine plan was published in 2015, using an expanded annual mill throughput of 14.6 Mt/a (starting in 2016), and maintaining the 14 year mine life, with 10 years of mining and an additional four years of stockpile milling. This mine plan was described in the 2016 Mine and Reclamation Plan Update submitted in January 2017 and approved in the *Mines Act* Permit amendment issued July 23, 2019. In addition, a third ball mill was commissioned in Q4 2021, increasing plant milling capacity to 45,000 tonnes per day from 40,000 tonnes per day.

The Ingerbelle portion of the property does not factor into the currently approved mine plan, other than for the supply of electricity and water for the Copper Mountain operation from existing facilities, but the area remains covered by Mines Act Permit M-29 and forms part of the overall project area in terms of site reclamation, as well as future mine life extension.

1.2.2 Property Ownership and Land Tenure

The Copper Mountain Mine land and mineral tenure holdings cover an area of 8,989 hectares or 89.89 square kilometres (km²) consisting of:

- 141 Crown granted mineral claims
- 159 located mineral claims
- 14 mining leases

- 12 fee simple properties

All claims, leases and other tenure are in good standing.

1.2.3 Third Party Tenures

In the years following the suspension of mining operations in 1996, several third parties expressed interest in business opportunities afforded by the presence of the existing infrastructure located at the mine site, particularly on the Ingerbelle side of the property which is readily accessible from Hwy 3. A number of agreements, as described below, were entered into to accommodate such interests. As a result, two third parties have established a presence on the Ingerbelle side of the property.

Envirogreen Technologies Inc.

In 1994, Envirogreen Technologies Inc. (Envirogreen) entered into an agreement with SML for locating and operating a thermal special waste remediation facility on the Ingerbelle property, principally for treating hydrocarbon contaminated soils. The facility is located on District Lot 401 (Lela crown granted mineral claim) which is owned by Envirogreen. Envirogreen operates the facility under Waste Management Act Permit PA-13075 issued September 25, 1998.

In 2011, Envirogreen exercised an option it held to acquire certain other mineral claims adjacent to and in the vicinity of Lela for the purposes of developing their business plan. Envirogreen's holdings on the Ingerbelle side currently comprise eight mineral tenures in the form of mineral claims, crown grants and mineral leases totalling approximately 137.2 ha (See Figure 1.2).

CMML has an option to acquire these claims, not including Lela, back from Envirogreen in exchange for other claims of roughly equal area. CMML has given Envirogreen notice of its intention to exercise this option to advance the New Ingerbelle development, and the two parties are in discussions directed at accommodating this need.

Arrow Environmental Services

In 2004, Gro-Wel Enterprises, established a mushroom compost facility at the reclaimed 701 non-economic rock storage area (NERSA) on the Ingerbelle side of the property. The compost material was transported to their mushroom-growing facilities in the Abbotsford area. Gro-Wel was subsequently taken over by All Seasons Mushrooms Inc., which in turn was taken over by Highline Produce Ltd. in 2016. In 2019, NutriGrow (part of the Arrow Group of Companies (Arrow Transport)), purchased the mushroom compost facility from All Seasons, and holds a permit under the *Environmental Management Act* to produce a Class A compost in accordance with the BC Organic Matter Recycling Regulations (OMRR). Nutrigrow subsequently changed their name to Arrow Environmental Services (Arrow Environmental) in 2020.

The Arrow Environmental facility is authorized under three separate surface tenures in the form of Licence of Occupation Nos. 340174, 340164 and 340166 issued by the Ministry of Sustainable Resource Management under 10 years terms on August 31, 2004 for their plant site, utility corridor (power and water) and road access, respectively. All three Licences were renewed in 2014 under 10 year terms to August 31, 2024. The surface area covered under the three Licences totals approximately 20.3 ha (See Figure 1.2). Arrow has since submitted a license renewal, and while the application was accepted it is still in process to be reviewed by a Land Officer.

CMML no longer holds any rights to the tenures held under Envirogreen and no surface rights to the licence areas held by Arrow Environmental. As a result, CMML no longer controls access to, or activity upon, these areas and considers reclamation responsibility to lie with the property owners. The area containing Arrow Environmental's holdings was accepted by the regional committee as reclaimed and returned to the Crown for

management in 1994. In addition, the amended *Mines Act* Permit M-29 issued July 23, 2019 included the removal of reclamation responsibility and liability from CMML associated with Envirogreen's District Lot 401 (Lela crown granted mineral claim).

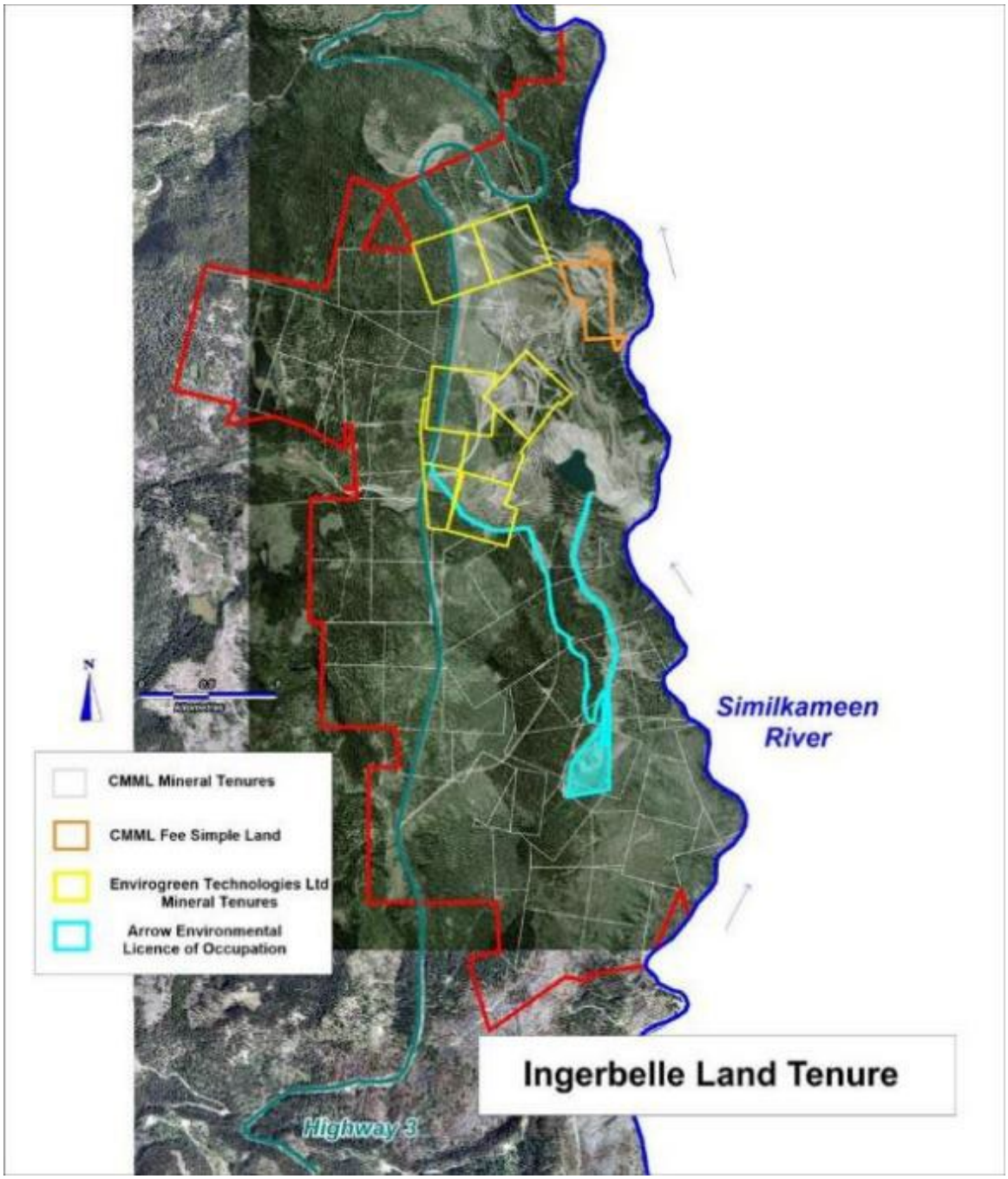


FIGURE 1.2: INGERBELLE LAND TENURE

1.3 MINES ACT AND ENVIRONMENTAL MANAGEMENT ACT PERMITS

1.3.1 Mines Act Permit M-29

Mines Act Permit M-29 was first issued to Similkameen Mining Company Ltd., later to become Similco Mines Ltd., on August 3, 1970 authorizing the commencement of surface work at Ingerbelle and the TMF in preparation for open pit mining. Similco Mines Ltd. continued to operate the mine as the Similkameen or

Similco Mine under Permit M-29 from 1972 to 1996 with a variety of amendments being issued to the permit over that period. The mine was shut down in 1996 due to economic conditions and held under care and maintenance under Permit M-29 until re-development activities were commenced in 2010.

For the current phase of mining, an amended Permit M-29 was issued April 1, 2010 approving the restart of operations and the new mine plan and reclamation program described in the amendment application submitted in April 2009. The permit has been subsequently amended eight times to reflect various updates to the mine plan and changes in design. The most recent amendment was issued on December 20. 2023 approving an increase to the reclamation security following review of the CMM Five-Year Mine Plan and Reclamation Program Update submitted September 30, 2021 (2021 5yr MPRP Update. The amendment also included updates and additions to a number of permit conditions.

CMML is proposing to extend the life-of-mine (LOM) at CMM through a three-phase pushback of the historic Ingerbelle pit and integrating it in the updated LOM plan for CMM. The New Ingerbelle Open-Pit Pushback and Mine Life Extension (New Ingerbelle Project) will add 14 years of mining to the overall CMM production scheduling, extending the LOM to 2047, with open pit mining from 2027 through 2041, followed by up to six years of milling low grade ore stockpiles from 2042 through 2047. The New Ingerbelle Project is proceeding through the Major Mines Office (MMO) coordinated authorizations process, which includes amendments to the existing Mines Act and Environmental Management Act permit as well as ancillary project authorizations. As such, CMML submitted the Project Description to MMO for review on July 9, 2019. Following receipt of the Application Instruction Document and final Information Requirements Table for preparation of the application on November 1, 2023, CMML submitted the application for screening to MMO on January 19, 2024. The revised application is planned for submission to MMO in March 2025 and will continue to advance through the MMO coordinated authorizations review and decisions process during 2025.

2024 Compliance Summary

In 2024, CMM received twenty-six inspection reports from the Ministry of Mines and Critical Minerals (MCM; formerly the Ministry of Energy, Mines, and Low Carbon Innovation (EMLI)). These reports covered a range of areas, including electrical, mechanical, geotechnical, geoscience, reclamation, mine rescue, and health and safety components, all of which fall under the Health, Safety, and Reclamation Code for Mines in British Columbia. As of March 31, 2025, CMML has two outstanding requirements stemming from inspection reports received on April 30, 2024 (#224631) and October 29, 2024 (#235334). In addition, CMML had no outstanding requirements from inspection reports received from any years previous to 2024.

One of the outstanding items (Request 224631-S1-R1) relates to a request to provide a copy of the mine's Standard Operating Procedures (SOPs) for working in, around, or at intercepted previous underground workings. CMML responded to this request on May 13, 2024, explaining that CMML's practice is to include underwork workings and stopes on drill and dig maps, and that CMML would develop an SOP prior to July 31, 2024 to formally require the identification of known underground workings on drill maps and dig maps. Preparation of this SOP is currently in progress and will be completed and submitted to MCM by May 30, 2025.

The second outstanding item (Order 235334-S5-O1) concerns an order to provide documentation demonstrating that activities occurring adjacent to Envirogreen, within the Mines Act Permit M-29 permitted mine area (PMA), comply with Section 10(1) of the Mines Act, including all structures, materials, stockpiles, and disturbances. CMML formally responded to this inspection order on November 7, 2024, explaining that CMML submitted an application to MCM for screening in early 2024 (joint permit amendment application for *Mines Act* Permit M-29 and *Environmental Management Act* Permits 00261 and 105340 for the New Ingerbelle Open-Pit Push Back and Mine Life Extension Project). The application seeks, among other things, to amend the Mines Act M-29 permit PMA to align with the proposed New Ingerbelle development footprint and exclude

the areas currently in operation by Envirogreen, and that it was anticipated that a decision on the application will be made in late 2025.

Further to the response to Order 235334-S5-O1, CMML noted an intention to provide to MCM, by March 31, 2025, a fulsome, clear and measurable path forward to rectify the non-compliance, to which CMML has submitted the information on this date. As noted above, it is anticipated that a decision on the New Ingerbelle permit application, including proposed changes to the Permit M-29 PMA adjacent to Envirogreen, is expected by the end of 2025. As such, in the response to Order 235334-S5-O1, CMML respectfully requested that the date required to rectify the Order be extended from the original date of January 2, 2025 to December 31, 2025, noting however that this date may require further extension once the application review schedule is confirmed or if there are substantial delays in the application review process.

1.3.2 Environmental Management Act Permit 00261

Effluent Permit 00261 was first issued as a provisional permit under the provisions of Pollution Control Act of 1967 in the name of Similkameen Mining Company Limited on February 3, 1969 by the Pollution Control Branch of the then named Department of Lands, Forests, and Water Resources. The permit authorized discharge tailings from the mine concentrator facility at the Ingerbelle property by gravity through a tailings line over a suspension bridge across the Similkameen Canyon, and into the tailings impoundment constructed in the “Smelter Lake” valley located on the east side of the Similkameen River valley. The provisional status of the permit was removed in an amendment dated August 24, 1971, which also contained the first requirements for sampling and chemical analysis at eight monitoring stations.

Permit 00261 has undergone numerous additional amendments since 1971, involving several changes to the name of the permit holder to reflect ownership, changes to authorized works, authorized discharge volumes, seepage return requirements, and monitoring and reporting requirements.

On October 3, 2011, CMML (then SML) was issued an amendment to Permit 00261 under the provisions of the Environmental Management Act in association with re-activation of open pit mining operations in accordance to the approved mine plan authorized under amended Mines Act Permit M-29 issued April 1, 2010. An amendment to Permit 00261 was issued May 14, 2013 to change the permittee name from Similco Mines Ltd. to Copper Mountain Mine (BC) Ltd.

The Permit was subsequently amended on September 2, 2025, June 30, 2017 and March 17, 2022, primarily for updates to the environmental monitoring program associated with approved changes to the mine plan authorized under *Mines Act* Permit M-29, addition of discharge and water quality criteria, and changes to the wording of a number of clauses.

The most recent amendment to EMA Permit 00261 was issued on December 6, 2024, following completion of a permit effectiveness review that was initiated by ENV in 2020. The amendment included the following changes to authorized discharges:

- Water quality and quantity criteria were added to the existing authorized discharge to Wolfe Creek from the East Seepage Terminus Pond outflow channel (SW27)
- A second Wolfe Creek compliance point (SW43), upstream of SW03, was added with surface water quality concentration limits specified for dissolved copper, total molybdenum and total selenium. The Wolfe Creek compliance location for sulphate and nitrate continues to be SW03 until June 30, 2027.

The amendment also included administrative changes to clarify previous permit clauses and updated various operational, environmental management plan, monitoring and reporting requirements.

CMML submitted a preliminary application (415998) to ENV on May 4, 2022 requesting an amendment to EMA Permit 00261 to authorize resuming discharge from West Dam seepage, as recommended in the BAT Assessment, as well as from Level 6 Adit and SW38 drainages. The final application with supporting technical assessment report were submitted to ENV on February 12, 2024 and accepted to proceed to the final review and decision phase. A revised technical assessment report for the application was submitted on March 8, 2025, which addressed round 1 review comments received from ENV and MCM, including an updated BAT assessment for the three proposed discharges following the methodology outlined by ENV in a letter dated June 13, 2024. The application was in the review process at the time of this report.

2024 Compliance Summary

Compliance is determined following the authorizations and required monitoring laid out in Permit 00261. Table 1.1 below lists the non-compliances and required monitoring that was missed. It is important to note that while missed quarter quality monitoring events are listed in the table below for an inability to collect a sample due to frozen conditions, dry monitoring wells, or unsafe access, these are not considered a non-compliance.

TABLE 1.1: PERMIT 00261 NON-COMPLIANCES AND UNATTAINABLE MONITORING REQUIREMENTS

Non-compliance	Timeframe	Monitoring Locatior	Comment
Missed DO	March	SW09	Value would not stabilize
Missed Field pH	April	SW11	Malfunctioning pH meter
Missed Ammonia, Orthophosphate, Total dissolved phosphorus, TKN, Total Nitrogen	August	SW09	Requested from ALS, but not received on COA
Missed Ammonia, Orthophosphate, Total dissolved phosphorus, TKN, Total Nitrogen	August	SW38	Requested from ALS, but not received on COA
Missed Sampling for General Parameters and Metals	November	SW51	Missed event
Missed Ammonia, TKN, total nitrogen, orthophosphate, total dissolved phsophorus, total and dissolved organic carbon	December	SW51	Scheduling error
Missed Flow	Week of December 23-29	SW43	Missed event
Field Blanks not collected for General Parameters and Metals	March, May, August, October, November, December	N/A	
Duplicate samples not collected for General Parameters and Metals	November	Duplicate	
Missed field conductivity	Quarter 2	GW01	YSI not stable, no recorded measurement
Missed field conductivity	Quarter 2	GW02	YSI not stable, no recorded measurement
Missed field conductivity	Quarter 2	GW04	YSI not stable, no recorded measurement
Missed field conductivity	Quarter 2	GW05	YSI not stable, no recorded measurement
Missed field conductivity	Quarter 2	GW14	YSI not stable, no recorded measurement
Missed field pH	Quarter 2	GW14	YSI not stable, no recorded measurement
Missed field conductivity	Quarter 2	GW16	YSI not stable, no recorded measurement
Unauthorized discharge of mine seepage water	20-Aug-25	SW07A	Inspection on August 20 found the a small seep at the toe of the west dam to be an unauthorized discharge, SW07A. CMM stopped the seep flow towards the river as soon as possible following this determination.
Unattainable Monitoring Requirements	**Timeframe**	**Monitoring Locatior**	**Comment**
Missed Flow	January	SW68	Frozen
Missed Sampling for General Parameters and Metals	January	SW68	Frozen
Missed Flow	February	SW68	Frozen
Missed Flow	February	SW21	Frozen
Missed Sampling for General Parameters and Metals	February	SW68	Frozen
Missed Flow	March	SW68	Frozen
Missed Flow	Quarter 1	SW51	Trace flow, unable to calculate
Missed Flow	Quarter 1	SW47	Unable to capture flow due to ice cover
All Monitoring not conducted	December	SW57	Added to permit December 6, 2024, only able to safely access during snowfree months
All Monitoring not conducted	January-December	SW67	Unsafe to access due to progression on RSL
Missed Sampling for General Parameters and Metals	All Quarters	Pit 2	No safe access, pit actively being backfilled and no access roads to the pit water level.
All Monitoring not conducted	All Quarters	GW10	Dry
All Monitoring not conducted	All Quarters	GW12	Dry

1.3.3 Environmental Management Act Permit 105340

Permit 105340 was first issued on October 3, 2011 as a provision of the *Environment Management Act.* The Permit authorizes discharges of air particulates from dust collection baghouses located at the Primary Crusher, Lime Silo Vent, Bucking Room, Secondary Crusher, as well as discharge from a portable rock crushing plant, course ore stockpile drop point, and regulated open burning. Permit 105340 also specifies requirements for dustfall monitoring and a required ambient air quality objective for receiving environment monitoring stations.

The Permit has undergone three amendments since 2011, with the most recent being November 15, 2023. This update included an increase to the authorized discharge period for the Lime Silo Vent Baghouse, as well as additional requirements for regulated open burning

2024 Compliance Summary

Compliance is determined following the authorizations and required monitoring laid out in Permit 105340. Table 1.2 below lists the non-compliances and required monitoring that was missed.

TABLE 1.2: PERMIT 105340 NON-COMPLIANCES AND UNATTAINABLE MONITORING DATA

Non-compliance	Timeframe	Monitoring Location	Comment
Monthly dustfall deposition rate greater than the ambient air quality objective	May	DF-08	Wind speeds greater than average and lasting for longer periods of time than typically observed
Monthly dustfall deposition rate greater than the ambient air quality objective	May	DF-09A	Sample Contamination
Monthly dustfall deposition rate greater than the ambient air quality objective	June	DF-04B	Wind speeds greater than average and lasting for longer periods of time than typically observed
Monthly dustfall deposition rate greater than the ambient air quality objective	August	DF-02	Sample Contamination
Unattainable Monitoring Requirements	**Timeframe**	**Monitoring Location**	**Comment**
Dustfall monitoring station not deployed	April	DF-01	Inaccessible due to road conditions
Dustfall monitoring station not deployed	April	DF-02	Inaccessible due to road conditions
Dustfall monitoring station not deployed	May	DF-01	Inaccessible due to road conditions

1.4 SITE CONDITIONS

1.4.1 Location, Topography, and Catchment Areas

The Copper Mountain Mine site is located in south-central British Columbia, at latitude 49°20' N and longitude 120°31' W, approximately 15-20 km south of the Town of Princeton. A regional overview of the mine area is shown in Figure 1.1. The mine site on the Copper Mountain side of the Similkameen River is located on a north-south trending ridge with elevations ranging from 770 m to 1,300 m, bounded to the west by the Similkameen River and to the east by Wolfe Creek, a tributary of the Similkameen.

The topography is gentle to moderate over most of the plateau area of Copper Mountain, but it becomes quite steep in the Similkameen River Canyon. The elevation of the river drops by approximately 40 m in the vicinity of the mine, within steep canyon walls. The crest of the ultimate Pit layout under the current approved mine

plan is on the plateau, at an elevation of approximately 1,310 m above sea level (masl). The elevation of the final pit base is expected to be around 900 masl.

The Similkameen River (approximate elevation of 800 masl) and Wolfe Creek (approximate elevation of 1,100 masl) are the two main drainage outlets for the CMM catchment area. Precipitation in this area reports naturally into these two drainages.

1.4.2 Climate

The Copper Mountain area has a relatively dry climate, typical of the southern interior of British Columbia. Summers are typically warm and dry, and winters are cool with minor precipitation. Most of the precipitation during the winter months falls as snow with total snow fall of approximately 200 cm resulting in accumulated (compacted) snow depths of approximately 60 – 70 cm on the ground. Temperatures range from an average annual high of 35°C and the average annual low -29°C, with the annual mean temperature being 6°C.

Total annual precipitation varies widely, ranging from a low of 253 mm to a high of 790 mm with the average being 400 mm. Limited infiltration of rainfall is expected within the steep topographic terrain. Average annual evaporation is expected to be greater than precipitation.

1.4.3 Hydrology

The Copper Mountain mine site is flanked on the west by the Similkameen River and on the east by Wolfe Creek, a tributary to the Similkameen. Downstream of the mine site, the Similkameen River passes through the town of Princeton and Keremeos, before joining the Okanogan River and crossing the US-Canada border at Nighthawk, Washington. Wolfe Creek flows through a series of small lakes before joining the Similkameen River approximately 18 km downstream of the town of Princeton, B.C (Figure 1.1).

Because the mine site is on a plateau near the top of its local watershed, and the precipitation in the area is generally minor, the mine area generates minimal runoff and flows from this area are generally small. Significant differences exist between summer and winter flows in water courses and the generally steep terrain with little to moderate vegetation contributes to rapid stream flow response to rainfall events and high sediment loads.

1.4.4 Hydrogeology

Prior to recommencing mining in 2009, water was observed to collect at the base of Pit 2 (pre-expansion), whereas Pit 1 and Pit 3 were dry. Historic underground workings are understood to lie predominately beneath Pit 3 to around 900 m elevation and to be orientated along mineralized lithology. It is assumed that the old workings effectively drain water from Pit 1 and 3 and to some extent Pit 2. The water then flows along the Level 6 Adit, which daylights on the east side of the Similkameen River valley at elevation 965 m, and which is monitored as surface water monitoring station SW09 (Figure 1.3). This adit is therefore assumed to control the water levels in the underground workings and in the area of the pits.

Observations suggest that groundwater inflows to the pits are limited to relatively small seepages along major structural features. The low permeability fractured rock and volcanic geology described in the area is not favourable for a high yielding aquifer. The pit is located on a topographic high and is not considered a hydraulic sink (at the regional scale).

Groundwater flow is expected to be controlled by regional structures and fault systems, as well as the historical underground workings in the mineralized zones. These features trend in a northwest-southeast orientation, and are likely to impose a localized anisotropy on groundwater movement within the deeper bedrock.

The relative elevations of Wolfe Creek (approximately 1,100 masl) and the Similkameen River (approximately 770 masl), as presented in Figure 1.3 (where both drainages flow from south to north), indicates the subsurface hydraulic gradient is likely to flow from east to west.

Overburden deposits are generally concentrated in the valley bottoms. Descriptions from overburden drill logs are consistent with glacial drift: heterogeneous sediments, with high silt content, forming a medium to low permeability unit, with low and high permeable zones within it.

To the north, the ponded water on the TMF drives groundwater flow to the east and the west; there is a catchment divide that splits the facility approximately midway.

The conceptual hydrogeological model for the CMM site by SRK (2020) is provided in Figure 1.3. An update to the hydrogeological conceptual model was completed April 2024 and is discussed in Section 3.6.4.

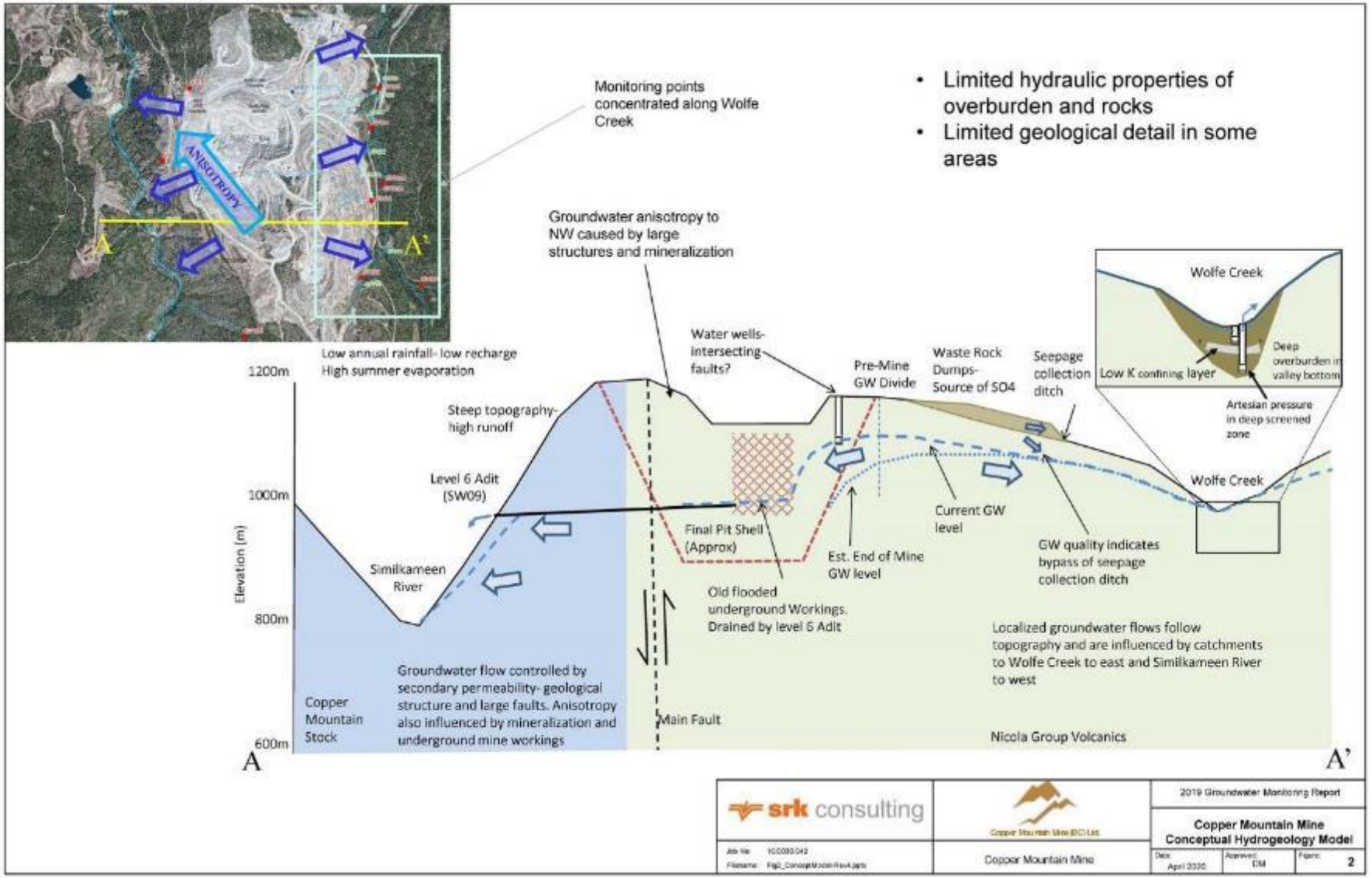


FIGURE 1.3: CONCEPTUAL HYDROGEOLOGICAL MODEL (FROM SRK 2020)

1.4.5 Ecosystems

Due to the age of the Copper Mountain property, no site-specific ecosystem mapping or other vegetation related studies were undertaken prior to the commencement of historic mining activity. As a result, no baseline monitoring exists for vegetation resources within the historical mine site disturbance areas. In order to project the baseline conditions that would have existed on the site prior to disturbance for the purposes of determining site productivity and capability objectives for final reclamation, existing ecosystem mapping along with forestry site productivity and site range utility information has been assessed in order to predict the level of productivity that might have existed on the site prior to disturbance.

The Copper Mountain Mine site is located within the Cascade Forest District and the Merritt Timber Supply Area. The site is mapped using the Biogeoclimatic Classification System (BEC) as being entirely within the Interior Douglas fir (IDF) BEC zone. The IDF zone is found throughout low to mid-elevation areas of the southern Interior Plateau and extends into the leeward valleys of the Coast Mountains and the southern Rocky Mountain Trench. It occurs between 350 and 1,450 m in elevation. This zone is characterized by a continental climate with warm, dry summers, a relatively long growing season, and cool winters with low to moderate snowfall. Moisture deficits routinely occur during the growing season.

The vegetation in the IDF zone is characterized by mature forests of Douglas fir, or in disturbed areas, mixed stands of Douglas fir and Lodgepole pine. Ponderosa pine is found on drier sites, and hybrid or white spruce, western red cedar and paper birch are found on wetter sites. Understory vegetation characteristically contains a significant amount of pinegrass, although this can vary with elevation, moisture availability, aspect and other site factors. Other typical understory vegetation includes bluebunch wheatgrass and snowberry on drier sites, red-osier dogwood and black gooseberry on wetter sites and birch-leaved spirea and kinnikinnick on average sites.

The IDF zone is one of the most important ecosystems in the province for year-round grazing for wild ungulates, and seasonal grazing for domestic livestock. It is also an economically important zone for tree production.

The IDF zone is subdivided into seven subzones and each subzone into several variants. Of these, two subzones and three variants are found on the Copper Mountain Mine site and surrounding area; the Thompson dry cool IDF variant or IDFdk1; the Cascade dry cool IDF variant or IDFdk2 and the Okanagan very dry hot IDF variant or IDFxh1.

The IDF zone is one of the most important BEC zones in the province for cattle and wildlife grazing. For instance, the IDFxh subzone in the Similkameen area can produce from 450 to 900 kg of forage per hectare per year, depending on slope, aspect, tree cover and other factors. The IDF zone provides very important winter and spring grazing for deer and other wild ungulates. The areas on and around the Copper Mountain mines site have been heavily grazed by cattle in the past. Deer and other wild ungulates also make extensive use of the Ingerbelle site.

1.5 LAND USE

Mineral exploration has been ongoing on and around the CMM property for over 100 years. Given the long history of mining at Ingerbelle and Copper Mountain, there are no specific land or resource uses within the mine permit area other than those of Envirogreen and Arrow Environmental as mentioned above, which are industrial designated land use.

The CMM property falls within Region 8 (Okanagan) Management Unit 8-4 and 8-5, Okanagan Region. in addition to mineral exploration, current land uses in the vicinity of and adjacent to the CMM property includes forestry, ranching, placer mining, and outdoor recreation. Residents and tourists enjoy a variety of recreation

and tourism activities in the region including hiking, camping, fishing, hunting, wildlife viewing, boating, mountain biking, snowmobiling and ski-touring. The entire mine property is classified as a no shooting/no hunting area. The nearest residents are located at Kennedy Lake approximately 1 km west of Highway 3.

The mine site and most of the surrounding region for a considerable distance have been heavily logged in the past, including the areas undisturbed by mining which are proposed to be disturbed as part of the current development plan. Much of the Ingerbelle side of the property has been cleared in conjunction with previous mining activity.

On January 1, 2016, the Province of B.C. approved the incorporation of approximately 5,274.4 ha of land comprising the CMM site within the Town of Princeton's municipal boundaries. To reflect the incorporation of the CMM site within the Town of Princeton, this area was removed from all Official Community Plans and zoning bylaw schedules and remains currently designated and zoned as resource area.

The CMM property is located within the Thompson Okanagan Natural Resource Region. There is no Land and Resources Management Plan approved for this area.

The Merritt Timber Supply Area (TSA) is part of the Thompson-Okanagan Natural Resource Region and is administered by the Cascades Natural Resource District. The Old Growth Management Area Guidance Thompson Okanagan (Integrated Land Management Bureau, 2007) serves as a guide for managing areas identified as contributing to old growth and biodiversity, and the permissible disturbances.

1.6 FIRST NATIONS ENGAGEMENT

The Copper Mountain Mine is on the Upper and Lower Similkameen Indian Band (USIB and LSIB) territory, and they are recognized as stewards for lands and waters, including air and underground resources in CMM, referred to as akɬsxúsm. The Upper Similkameen Indian Band (USIB), located in Hedley, and the Lower Similkameen Indian Band (LSIB), located in Cawston represent the səlqmix Peoples.

CMML understands that the mine will have an impact on the səlqmix People and that their interests and concerns must be taken into account in the mine and reclamation plan stages by utilizing the Indigenous Knowledge and expertise of the səlqmix People to the extent that it is reasonable and practical to do so.

CMML places a high value on its relationships with local First Nations and communities, recognizing the importance of being a valued and trusted neighbour.

CMML has existing Participation Agreements (PA) with both the USIB and the LSIB. In 2024, we jointly continued the process of amending the agreements to provide an even more meaningful and aligned relationship. In 2024, CMML had regular meetings with both Nations, covering topics of administration of the PAs, safety, environment, land use, donations, business opportunities, employment opportunities, reclamation and permitting.

Our foundation for Indigenous relationships rests on trust, transparency and open dialogue. Through the PAs with the USIB and LSIB, we formalize our commitment to working together on mutually beneficial outcomes. With the Joint Implementation Committee (JIC) established under the PAs, we are prepared to meet to discuss the operation's activities, including mine development plans, environmental matters, employment and business opportunities. To provide even more transparency, we invite USIB and LSIB technical experts to participate in our Independent Tailings Review Board (ITRB) meetings and tours, as well as our Independent Water Review Board (IWRB) meetings and tours.

In 2024, the USIB and LSIB did not participate in any JIC meetings with CMM, however, quarterly updates were provided to the JIC representatives. Technical representatives for both USIB and LSIB attended one ITRB meetings/tour and two IWRB tour/meetings.

To improve our End Land Use Planning (ELUP) process, CMML supported the USIB and LSIB community based ELUP process in 2023. In 2024 USIB and LSIB provided CMML with a Community ELUP document titled "**akɬsxúsm: smelqmix End-of-Mine Land Use Plan and Community Report for the Copper Mountain Mine"**.

1.6.1 Information Sharing

With regards to Section 10.3.4(1)(iii) of the HSRC related to engaging with each affected First Nations in order to identify if they want to received the specified document and if so, to provide them within the timeframe applicable to the chief inspector, CMML has provided all such documents to Upper Similkameen Indian Band (USIB) and Lower Similkameen Indian Band (LSIB) for 2024 at the time of their submission, as required under Condition A.8 of Mines Act Permit M-29.

1.7 RECLAMATION PROGRAM GOALS AND OBJECTIVES

1.7.1 Mines Act Permit Reclamation Conditions

Reclamation conditions for the Copper Mountain Mine, as set out under the terms and conditions of *Mines Act* Permit M-29, as amended December 20, 2023, include:

- The land surface is reclaimed with the intent of re-establishing average pre-mining capability to the following end land use objectives: wildlife habitat, with specific attention to re-establish ungulate winter range, with provisions for the creation of habitat suitable to support the following target species: bighorn sheep, rocky mountain elk, moose, mule deer, white-tailed deer, black bear, cougar, furbearers, and raptors; and re-establishment of opportunities for traditional use of the land by USIB and LSIB.
- Borrow pits and quarries belonging to the mine development and operations, are reclaimed to the approved end land use once no longer required.
- Reduction of erosion shall be achieved through landform configuration, development of maintenance-free vegetation covers and the development of stable, self-sustaining drainage control features and watercourses.
- The land is revegetated to a self-sustaining state using appropriate and/or native plant species, including culturally important native species identified in consultation with USIB and LSIB.
- Evaluate the feasibility of establishing a native plant nursery to provide native plant feedstock for reclamation purposes. The Permittee must ensure the nursery includes plants of traditional value, which must be determined in consultation with the USIB and LSIB, as well as species that will aid in achieving the re-establishment of winter ungulate range.
- Reclaim all surface water management ponds and water diversions are reclaimed to satisfy stability and erosion requirements and the approved end land use once no longer required.
- Ensure all waste rock dump slopes are reclaimed to a minimum of 2:1.
- Ensure mine roads/powerlines are reclaimed, in accordance with recommendations of a Qualified Professional, to satisfy the approved end land use objectives, including all reasonable effort to fully re-configure to confirm to adjacent landscape where long-term stability is not compromised, unless permanent access or power is required.

- Individual roads or powerlines may be exempt from the requirement for total reclamation under condition D.11 (a) if either:

  (a) The Permittee can demonstrate that an agency of the Crown as explicitly accepted responsibility for the operation, maintenance and ultimate deactivation and abandonment of the road or powerline, or

  (b) The Permittee can demonstrate that another private party has explicitly agreed to accept responsibility for the operation, maintenance, and ultimate deactivation and abandonment of the road or powerline and has, in this regard, agreed to comply with all the terms and conditions, including bonding provisions, of this reclamation permit, and to comply with all other relevant provincial government (and federal government) regulatory requirements.

- Prior to reclamation of the Process Plant Site, including fuel and hydrocarbon dispensing and storage areas, Explosives Storage areas, and temporary Ore and PAG stockpiles, and/or other areas where contamination may have occurred during mining operations, the Permittee must develop and implement monitoring programs designed to assess soil contamination and inform remediation plans to ensure success of subsequent reclamation activities.

1.7.2 Reclamation Objectives

Reclamation goals and objectives for the Copper Mountain Mine as set out under the terms and conditions of amended Mines Act Permit M-29 dated December 20, 2023, in effect during the 2024 calendar year, include:

- The Permittee must ensure that the land surface is reclaimed with the intent of re-establishing average pre-mining capability to the following end land use objectives: wildlife habitat, with special attention to re-establishing ungulate winter range, with provisions for the creation of habitat suitable to support the following target species: bighorn sheep, rocky mountain elk, moose, mule deer, white-tailed deer, black bear, cougar, furbearers, and raptors; and re-establishment of opportunities for traditional use of the land by USIB and LSIB.
- The Permittee must ensure the land is revegetated to a self-sustaining state using appropriate and/or native plant species, including culturally important native species identified in consultation with USIB and LSIB.
- The Permittee must ensure that the objective of revegetation practices is primarily for the purpose of creating diversity, wildlife habitat and traditional Indigenous uses where appropriate and identified in consultation with USIB and LSIB

Reclamation is intended to stabilize soil, retain and cycle water and nutrients, create and support biodiversity, store carbon, and generally establish ecosystems that resemble the pre-mining conditions and meet the desired end land use objectives. The conceptual, detailed, and community-based end land use plans (ELUPs) for the mine site are in various stages of completion. The conceptual ELUP has informed and will continue to inform reclamation planning and monitoring until a detailed ELUP is completed.

The specific strategies for achieving end land use objectives and detailed reclamation objectives and plans for each mine unit are provided in the 2021 Five Year Mine Plan and Reclamation Program Update (2021 5yr MPRP Update) report submitted on September 30, 2021 (CMML 2021).

1.7.3 Biodiversity

CMML recognizes biodiversity conservation as an important corporate priority. CMML will maintain a high level of protection for the environment and biodiversity by applying reasonable best practices and technologies that minimize impacts and enhance environmental quality in respect of bodies of water, air, vegetation and wildlife.

Hudbays Biodiversity Conservation Standard aims to preserve healthy ecosystems and biodiversity throughout the mine lifecycle. Each site assesses local conditions – such as threatened and endangered species, protected areas and critical habitat – and the potential impacts from Hudbay's activities. Site-specific biodiversity and ecosystem services management plans apply the mitigation hierarchy, which emphasizes avoiding and minimizing any negative impacts, restoring sites no longer used by a project, and identifying the need for offsets if impacts remain.

Our standard aligns with the TSM Biodiversity Conservation Management Protocol and the IFC Ecosystem Services Performance Standard. In 2024 CMM achieved an overall rating of AA.

Copper Mountain's commitment to biodiversity is communicated in the company's Environmental Policy, in employee and contractor orientations, and by members of the Environment department during regular interactions with other departments on site.

Reclamation efforts and other biodiversity conservation management practices are further guided by CMM's Biodiversity Conservation Management Plan.

1.7.4 Reclamation Approach

To achieve the outlined goals, CMML has developed specific strategies for achieving end land use objectives and detailed reclamation objectives and plans for each mine unit. Additionally, the strategies have been developed to promote physical stability, water quality and watercourse protection, sediment retention and erosion control, soil salvage and storage, suitable re-vegetation, and invasive species management. These strategies are outlined in the 2021 Mine Plan and Reclamation Program Update (CMML 2021) and 2009 Amendment Application (SRK 2009).

Site reclamation and closure is still primarily in the conceptual phase and these strategies are designed to be adaptable and evolve based on findings of progressive reclamation, site monitoring and research, and advancements in engineering and science. The 2021 5yr MPRP Update provides an outline of reclamation and research activities CMML has undertaken, and is currently planning to undertake, results of which will continue to influence site reclamation strategies. A summary of reclamation research conducted in 2024 and plans for the next five years is also provided here in Sections 4.13 and 4.14.

1.7.5 End Land Use Planning

In 2019, CMML started the process of developing a detailed end land use plan (ELUP) for Copper Mountain Mine. A document titled Process for development of End Land Use Plan prepared by Associated Environmental Consultants Inc. (Associated) was submitted to MCM on November 29, 2019. The document outlines the approach on how an ELUP, both conceptual and detailed, will be developed for CMM in collaboration with USIB and LSIB.

CMML retained Associated to develop a conceptual end land use plan (ELUP) in collaboration with CMML and the LSIB and USIB for the Copper Mountain Mine. A document titled ***"Conceptual End Land Use Planning for Copper Mountain Mine"*** prepared by Associated dated September 2021 was provided in Appendix I of the 2021 5yr MPRP Update. The conceptual ELUP for the Copper Mountain Mine serves to provide a blueprint to guide reclamation planning, progressive reclamation efforts and research on site throughout operations and following closure, and as a tool for input from LSIB and USIB in the development of a detailed ELUP. The end

land use planning process is intended to develop an understanding of the site characteristics at both pre-disturbance and post-closure, the objectives for post-closure land use, and the challenges and solutions to achieving objectives.

In 2022 CMML approved a scope of work from USIB/LSIB and Reciprocity Connects to develop a community based ELUP. CMML participated in a field trip to CMM with several community members in Early June 2022. In the fall of 2022, CMML hosted several coordinated meetings with Reciprocity and CMML's consultants (IEG and AE) to review IEG's soil modelling results. At these meetings Reciprocity also shared information about the wants and needs of the community with regard to the ELUP, specifically plant species and wildlife access. This community ELUP had not been completed prior to end of the year 2023.

The Community based ELUP will be a key component of the final ELUP which CMML had planned to present to MCM in 2023. However, the amended M-29 Permit issued by MCM on December 20, 2023 indicates that the submission of the ELUP is now due October 2027.

Going forward, the detailed ELUP, once developed, will continue to be used to achieve the end land use objectives and to identify challenges and solutions that can be addressed through recontouring, reclamation research and reclamation implementation.

In March of 2024 CMML hosted a workshop with community members and technical representatives from USIB and LSIB. An overview of this workshop is provided in a document titled **ELUP 2024 Workshop Summary** in Appendix C.

Following the ELUP workshop CMML worked closely with the ELUP Technical Working Group to develop a Terms of Reference for the annual End Land Use Workshops as well as the associated ELUP Technical Working Group Meetings. The Terms of Reference referred to many of the M-29 permit conditions as well as the requirement for an annual ELUP progress memo. This memo is provided in Appendix C.

1.7.6 Progressive Reclamation

To achieve successful reclamation, CMML uses progressive reclamation strategies guided by the Community ELUP, and results of reclamation trials that began in 2018. Based on the current projected open pit development schedule for the remaining mine life (Section 2.2), it is anticipated that reclamation activities completed during mine operation will largely be limited to progressive reclamation of the non-economic rock storage areas and restoration along the Wolfe Creek realignment channel and fish habitat offset plan (FHOP) channels and ponds.

Reclamation strategies, including strategic sequencing, are developed to promote physical stability, water quality and watercourse protection, sediment retention and erosion control, soil salvage and storage, suitable revegetation, and invasive species management over time. CMML is working to maximize the opportunities for successful restoration of the post-mine landscape including development of ecosystems and habitat that pertain to end land use objectives. In addition, progressive reclamation areas at CMML will continue to be treated as large scale research projects, with outcomes influencing future reclamation plans and prescriptions

1.8 SUMMARY OF RECLAMATION ACTIVITY

1.8.1 Historic Reclamation

Reclamation at the CMM site has been ongoing since the 1970's on the Ingerbelle side and since 1992 on the Copper Mountain side of the property and has been successful with respect to the reclamation goals and requirements at the time. The main focus of reclamation on site has been to establish a healthy, self-sustaining vegetation cover on disturbed areas to reduce erosion and help restore productivity. This has been

accomplished by incorporating biosolids into areas to be reclaimed and planting the areas with an appropriate blend of agronomic grasses and legumes.

Initially, on the Ingerbelle site these goals were accomplished by overburden capping of waste rock dumps and slopes followed by seeding of the site with a suitable reclamation mix and fertilization. On the Copper Mountain side, and later at Ingerbelle, reclamation involved the application of Metro Vancouver biosolids in most areas. The application of biosolids on reclaimed areas, supplemented with wood waste in some areas, has provided a long-term source of organic matter and nutrients to the vegetation on site. As a measure of the success of the biosolids applications, non-economic rock dumps reclaimed in 1996 with a single surface application of biosolids still sustain a healthy cover of vegetation over 25 years later.

Reclamation efforts at CMM were generally focused in the past on areas where mining was considered to be complete. To date, some 200 of 248 ha of disturbed areas at Ingerbelle (81%) have been reclaimed, as well as 45 of 45 ha (100%) of the historic Allenby tailings located near Princeton. The entire 45 ha of the historic Allenby tailings and a 54.5 ha area of the Ingerbelle 701 rock storage area were accepted by the regional mine development review committee as reclaimed and returned to the Crown for management. The Crown has subsequently issued surface tenures in the form of Licences of Occupation to a third part over much of the 701 rock storage area.

An additional 115 of 548 ha (21%) of disturbed areas at Copper Mountain, and 81 of 154 ha (52%) of the Tailings Management Facility had also been reclaimed prior to recommencement of mining activity at Copper Mountain in 2011. These areas have largely been re-disturbed, primarily in 2011 and 2012, as a result of renewed mining activity on Copper Mountain.

The historic reclamation program has been successful in establishing a self-sustaining vegetative cover on all reclaimed areas, in large part due to the beneficial use of municipal biosolids to enhance vegetation establishment. Because there was little salvageable soil on the mine site due to the terrain, and the material that would have been available was not salvaged in early years of mining at the site, little stockpiled soil was available to cap non-economic rock storage areas. Without a cap of fines, vegetation establishment was difficult. Biosolids, combined occasionally with wood waste, were used very effectively as a substitute for capping material, and have the added advantage of containing a substantial amount of nutrients.

Cattle grazing has impacted the success of reclamation efforts at the mine site, particularly on the Copper Mountain side. NERSA surfaces in this area have been heavily grazed by cattle since their reclamation in 1995 and 1996, due in large part to the fact that the reclaimed areas offer much better growth and preferred grazing forage compared to the surrounding natural areas. On all re-vegetated NERSAs, the quality of the stands has been compromised by the on-going heavy grazing, both by wild ungulates and free-range cattle. This has also led to a moderate infestation of noxious weeds on the NERSA plateaus. It is likely that grazing intensity will have to be reduced in future to maintain the stands in optimum condition.

Productivity Goals for Historic Reclaimed Areas

CMML's Permit M-29 states that the end land use objective at the mine site is 'wildlife habitat (with specific attention to re-establishing ungulate winter range) and re-establishment of opportunities for traditional use of the land by First Nations'. The reclamation done on NERSAs and the TMF area has largely met the former objective in that the various reclaimed areas support healthy stands of forage which are used extensively by domestic cattle and wild ungulates for grazing. However, the reclaimed areas are essentially monocultures of reclamation grasses and legumes, and do not provide any other habitat requirements for wild ungulates such as cover or browse.

The landscapes surrounding the Ingerbelle site are all mapped as Cascade dry cool Interior Douglas fir variant (IDFdk2) with smaller areas of the Okanagan very dry hot Interior Douglas fir variant (IDFxh1) at lower elevations. It is reasonable to assume that all of the disturbed areas also were made up of these ecosystems prior to disturbance; the disturbed areas occur at a similar elevation to the surrounding areas. These ecosystems are dominated by a Douglas fir tree layer, with varying amounts of Lodgepole pine, Ponderosa pine and spruce depending on topography and aspect in the IDFdk2 and Douglas fir with Ponderosa pine in the IDFxh1. It is difficult to estimate the productivity of the disturbed areas, but surrounding areas have moderate productivity for tree growth and prior to logging supported valuable stands of Douglas fir, spruce and Ponderosa pine. The IDF ecosystem is also very important for domestic cattle grazing, particularly in areas with open stands. These areas in their natural state support good growth of bluebunch wheatgrass, pinegrass and other grasses. The IDF is also an important area of winter and early spring grazing for wild ungulates.

It is reasonable to expect that the final reclamation of the mine site will provide grazing equal to or greater than what was present before disturbance for wild and domestic grazers. It is unlikely that, in the short term at least, reclaimed NERSAs will be as productive for tree growth as the site supported prior to disturbance; however, the mine is committed to establishing tree islands or corridors on suitable areas, and increasing the diversity of vegetation on reclaimed areas in order to provide successional growth over the long-term.

1.8.2 Recent Progressive Reclamation and Current Status

A general summary of all land disturbed and reclaimed at the Copper Mountain Mine in 2024, and project totals, including the inactive Ingerbelle mine site, is provided in Table 1.4 and Figure 1.4 to Figure 1.7; and a detailed map shown on a 1:10,000 scale map provided in Figure D.1 in Appendix D.

CMML retained Associated Environmental to conduct GIS based disturbance mapping of the Copper Mountain site for the end of year 2024 disturbance footprint using a combination of the most recently available orthophoto of the mine site (acquired on July 20, 2022) and the end of year 2024 mine status map based on ground and LiDAR survey data.

Similar disturbance mapping was conducted for the Ingerbelle site in March 2021 for the end of year 2020 disturbance footprint using a combination of an orthophoto of the mine site acquired June 24, 2017, a Google Earth image (September 27, 2020), and the end of year 2020 survey data. The detailed end of year 2020 mapping for the Ingerbelle continues to well represent 2024 conditions and was the base of developing the end of year 2024 maps, with just a minor modification to add a small new disturbance (0.2 ha) associated with widening an access road to the Similkameen River in 2024. In addition, a previously revegetated area of 9 ha on the Ingerbelle Main NERSA was changed to a reclamation status of “ongoing” to reflect reclamation enhancement activities conducted in 2024 which included application of compost and reseeding.

The mapped disturbance polygons were classified by disturbance types and match the MCM specified disturbance and reclamation categories and codes, providing total areas for each category. Some of the MCM codes have been divided into subcodes (secondary classifiers) for reclamation costing purposes. Table 1.3 below provides a list of the codes used and description of each. A copy of the end of year 2024 digital spatial data will be submitted to MCM under separate cover in accordance with the annual reclamation reporting requirements.

The results of the digital mapping were used to update Table 1.4 and to complete an updated cost estimate for outstanding reclamation of the Copper Mountain and Ingerbelle sites based on disturbance and reclamation areas as of December 31, 2024 (provided in Section 5). The disturbance and reclamation maps for 2024 are provided below in Figure 1.4 to Figure 1.7. Included in the figures is the permitted mine area boundary under amended Permit M-29 dated December 20, 2023.

In 2024, mining activities continued to primarily be conducted within previously disturbed areas. Many of the changes to the footprint of mine disturbance areas in 2024 were accounted for as changes in disturbance type, not new disturbances. For example, the disturbances areas for Other - Logged and Other-Grubbed were a net decrease of 8.9 ha and 0.7 ha, respectively, relative to end of year 2023, largely due to development of the North Pit and the NERSA South Extension. This changed the disturbance type of these areas from logged to pit and non-economic rock storage disturbance types.

New disturbances on the mine site in 2024 totalled approximately 5.7 ha and were primarily associated with development of the RSL (0.8 ha), raising of the TMF dams and impoundment (3.1 ha), construction of supporting infrastructure in the Mill area (0.2 ha), and widening of existing access roads (1.6 ha) to the Similkameen River from the East and West sides of the river to facilitate access to the proposed New Ingerbelle East Haul Road and bridge crossing locations to support field assessments, such as geotechnical drilling. The areas of new disturbance in 2024 are shown below in Figure 1.8. The total disturbance area at end of 2024 of 1,607 ha is only 6 ha more than the 1,601 ha reported for end of 2023.

The MCM guidance document for Annual Reclamation Report information and format requirements updated December 2022 includes requirement of a table summarizing areas of new disturbance (including disturbance to previously revegetated areas) associated with Departures from Approvals. This table has not been included in this report because there were no such disturbances at CMM in 2024.

TABLE 1.3: SPATIAL MAPPING CODES AND DESCRIPTIONS

Category Code	Category Description
DISTURBANCE CODES	
ADMIN	Administrative Area/Buildings (includes supporting infrastructure that is not the Plant Site)
LI	Linear (linear features not covered by Roads and Linear ditches and streams (LI-D and LI-S))
LI-D	Linear - Ditch
LI-S	Linear - Stream
O-G	Other - Grubbed
O-L	Other - Logged
O-M	Other - Miscellaneous
POND	Collection or Settling Pond
PIT-R	Pit - Ramps and Floors
PIT-W	Pit- Walls and Lakes
PS	Plant Site
RD	Road
SP-LGO-P	LGO Stockpile - Platform
SP-LGO-S	LGO Stockpile - Slope
SP-S	Soil Stockpile
TMF	Tailings Management Facility
WD-P	NERSA - Platform
WD-S	NERSA - Slope
RECLAMATION CODES	
C	Re-vegetated
E	Exempt
N	None
O	Ongoing

TABLE 1.4: SUMMARY OF AREAS DISTURBED AND RECLAIMED TO DECEMBER 31, 2024

COMPANY: Copper Mountain Mine (BC) Ltd. **PERMIT NO.:** M-29

DISTURBANCE	MINING		RECLAMATION										Land Use Objectives
	AREA DISTURBED (ha)		AREA RECONTOURED (ha)		AREA SOILED/FERTILIZED (ha)		AREA SEEDED (ha)		AREA TREE/SHRUB PLANTED (ha)		AREA REVEGETATED* (ha)		
	2024	Total	2024	Total	2024	Total	2024	Total	2024	Total	2024	Total	
COPPER MOUNTAIN SITE													
WASTE ROCK STORAGE AREAS	0.6	577.4	18.9	127.78	21.1	143.7	21.1	118.2	0.0	3.0	19.9	102.3	
TAILINGS MGMT FACILITY (TMF)	4.8	230.0	0	0	0	0	0	0	0	0	0	0	
PLANT SITE	0.0	33.0	0	0	0	0	0	0	0	0	0	0	
ADMINISTRATIVE BUILDING/ AREA	0.0	6.3	0	0	0	0	0	0	0	0	0	0	
ROADS	-1.5	36.8	0	0	0	0	0	0	0	0	0	0	
PIT	15.8	211.0	0	0	0	0	0	0	0	0	0	0	
LGO STOCKPILES	-3.0	80.2	0	0	0	0	0	0	0	0	0	0	
SOIL STOCKPILES	0.0	17.8	0	0	0	0	0	0	0	0	0	0	
LINEAR	0.0	10.1	0	0	0	0	0	0	0	0	0	0	
POND	0.0	2.0	0	0	0	0	0	0	0	0	0	0	
OTHER	-10.6	161.6	0	0	0	7.6	0	7.6	0.0	7.0	0.0	7.6	
TOTAL FOR COPPER MTN	***6.0***	***1,366***	***18.9***	***127.8***	***21.12***	***151.3***	***21.1***	***125.8***	***0.0***	***10.0***	***19.9***	***109.8***	
INGERBELLE SITE													
WASTE ROCK STORAGE AREAS	0	99.0	0	0	0	65.8	0	65.8	0	0	-9	56.8	
PLANT SITE	0	4.5	0	0	0	0	0	0	0	0	0	0	
ADMINISTRATIVE BUILDING/ AREA	0	5.0	0	0	0	0	0	0	0	0	0	0	
ROADS	0.18	16.0	0	0	0	0.3	0	0.3	0	0	0	0.3	
PIT	0	45.1	0	0	0	0	0	0	0	0	0	0	
OTHER	0	71.4	0	0	0	24.7	0	24.7	0	0	0	24.7	
TOTAL FOR INGERBELLE	***0.18***	***240.8***	***0***	***0***	***0***	***90.8***	***0***	***90.8***	***0***	***0***	***-9***	***81.8***	
COMBINED TOTALS	**6.2**	**1,607**	**18.9**	**127.8**	**21.1**	**242.1**	**21.1**	**216.6**	**0.0**	**10.0**	**10.9**	**191.6**	

EXEMPT (ha)	CM	ING	TOTAL
eg. pit high walls	131.7	70.0	201.7

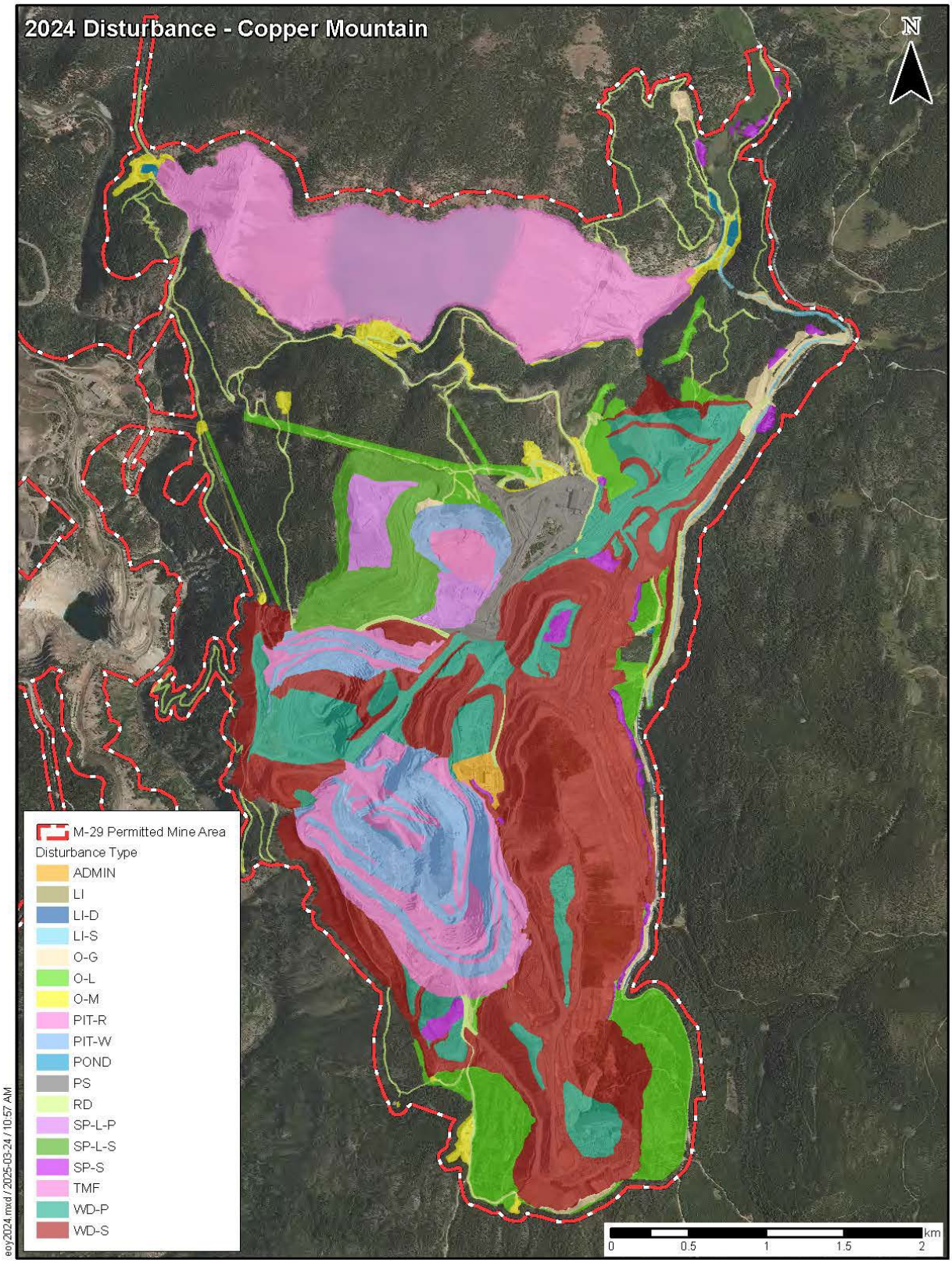


FIGURE 1.4: DISTURBANCE MAP FOR COPPER MOUNTAIN SITE END OF YEAR 2024

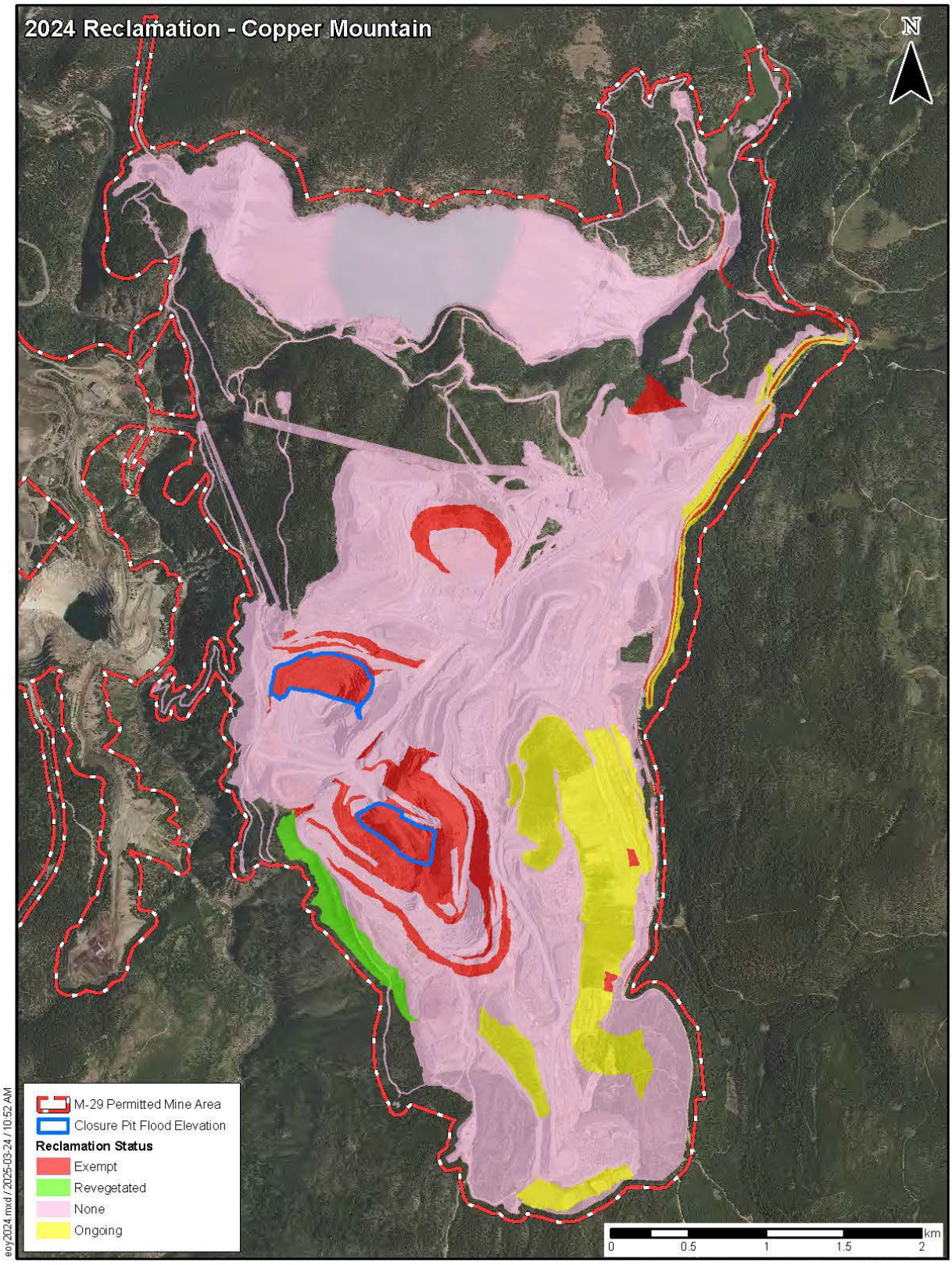


FIGURE 1.5: RECLAMATION STATUS MAP FOR THE COPPER MOUNTAIN SITE END OF YEAR 2024

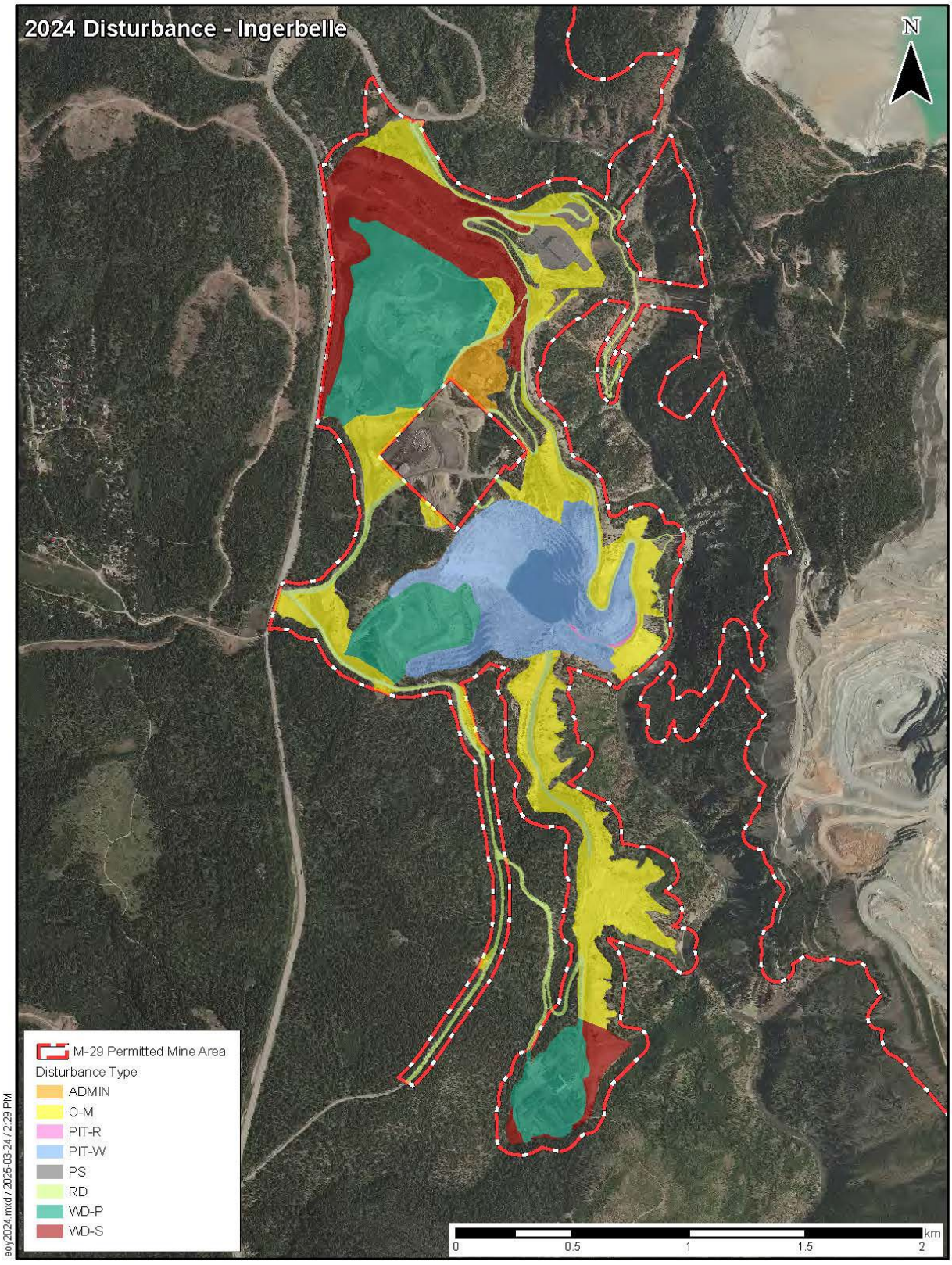


FIGURE 1.6: DISTURBANCE MAP FOR INGERBELLE SITE END OF YEAR 2024

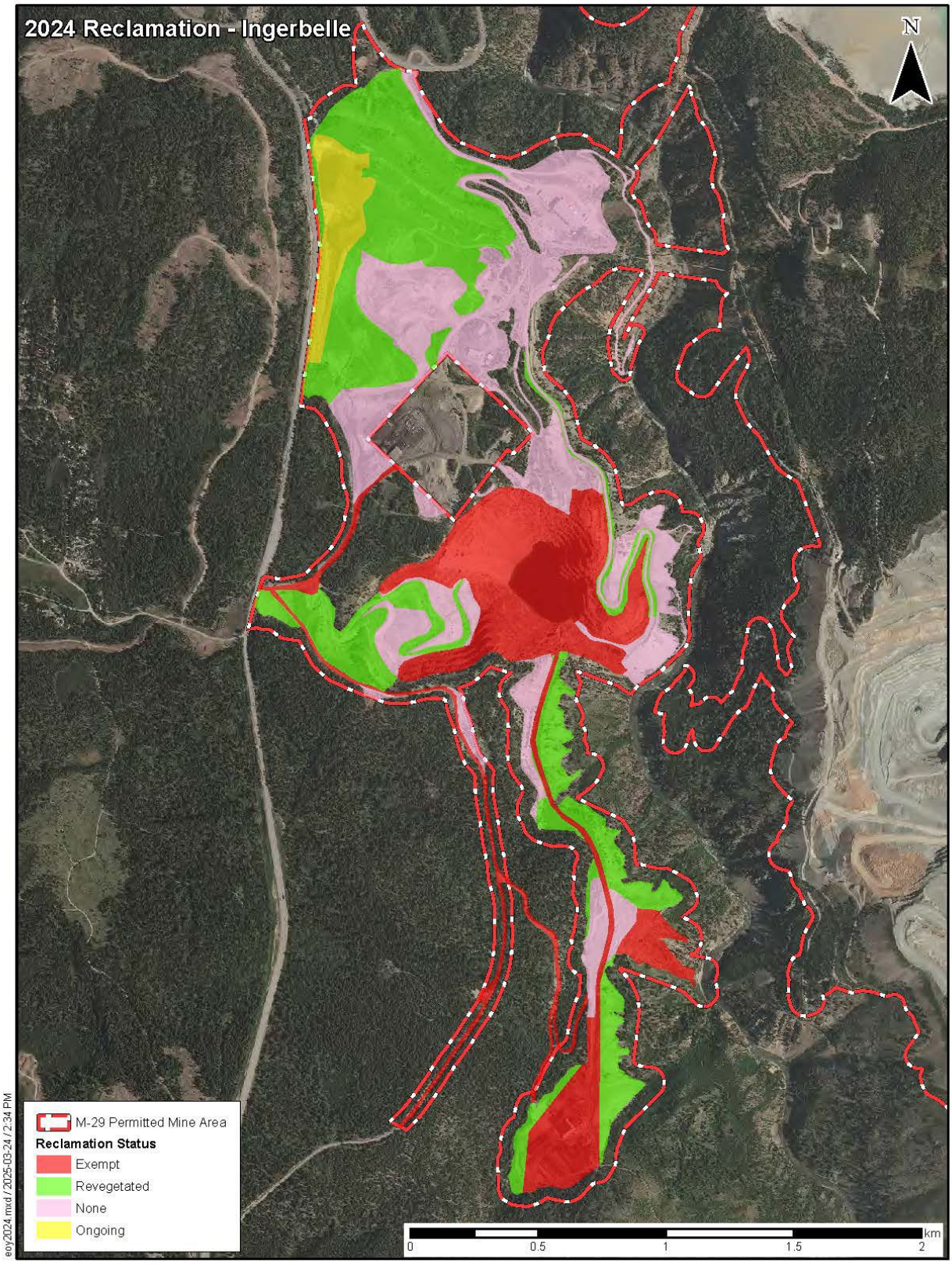


FIGURE 1.7: RECLAMATION STATUS MAP FOR INGERBELLE SITE END OF YEAR 2024

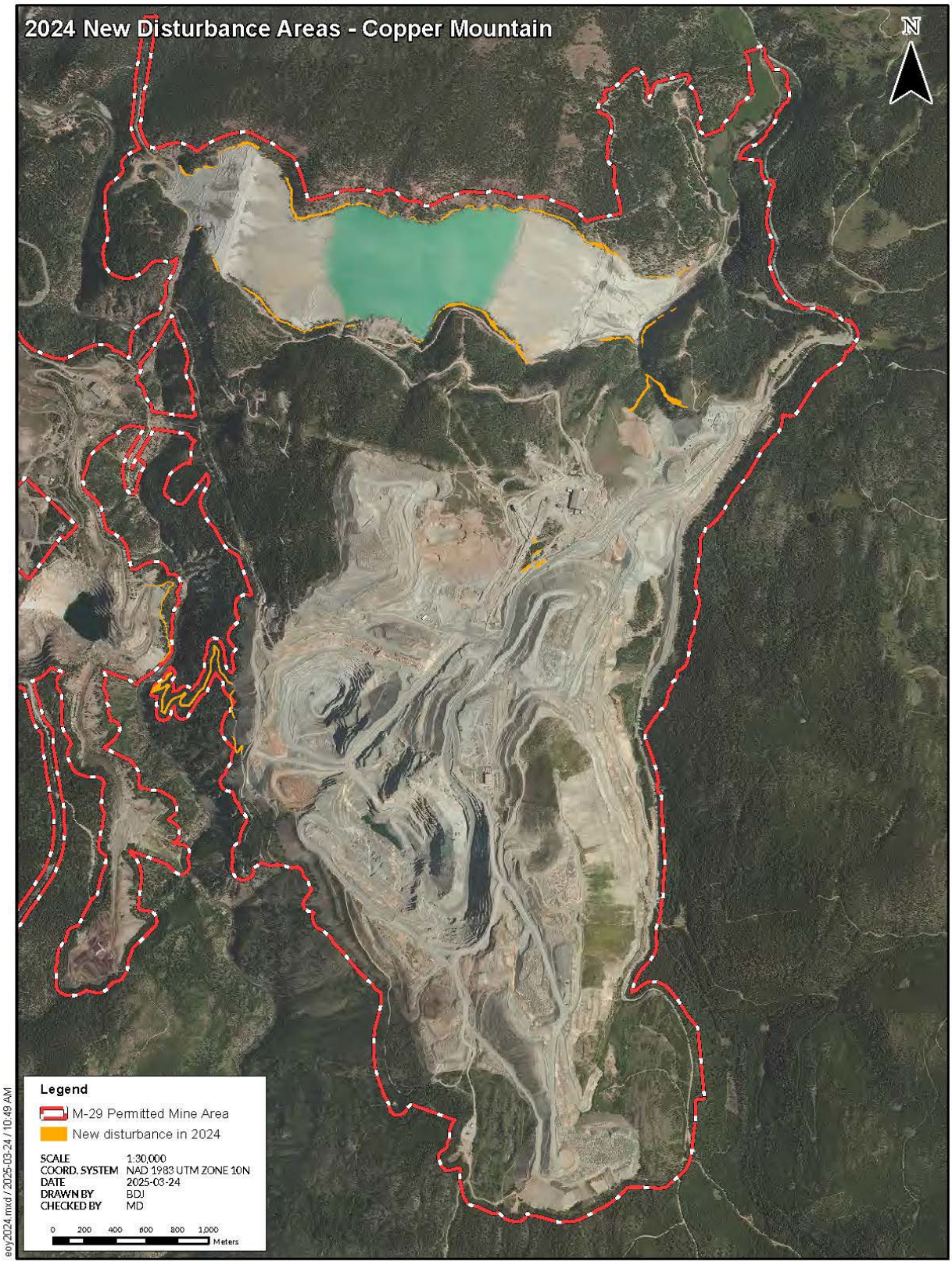


FIGURE 1.8: NEW DISTURBANCES IN 2024

2 MINE AND MILL PROGRAMS

2.1 MINE OPERATIONS

2.1.1 Surface Development to Date

The feasibility mine plan in the 2009 Application called for four consecutive push backs in Pit 3 followed by mining of the lower grade Pit 2 and Pit 1 deposits. Non-economic rock storage area (NERSA) development began in the areas surrounding the pre-existing D2 and D4 NERSAs, merging into one NERSA and developing to the south of the property. To date, mining has followed this plan with the exception of Pit 2. By mid-2012, it was clear that the feasibility sequence would result in a deficit of ore for mill feed. Seeking a lower strip ratio and the potential for softer ore, operations were partially shifted to the Pit 2 Area in 2012, and backfilling of non-economic rock into the east side of Pit 2 commenced in September 2017. Re-activation of mining in Virginia Pit commenced in late 2015, following issuance of the *Mines Act* Permit M-29 amendment on July 7, 2015 approving the updated mine plan, which also included mining of the Oriole Deposit (Pit 3 SE Extension), north and south extensions of the NAG NERSA, and development of a small NAG rock quarry adjacent to the toe of the West Dam to provide construction rock for construction activities at the TMF, if needed. Mining of Virginia Pit was completed in early October 2016, followed immediately by backfilling of the pit with NAG non-economic rock. Mining of the Pit 3 SE Extension (Oriole Pit) commenced in early 2017 and was completed in April 2018. Backfilling of Oriole Pit with NAG non-economic rock commenced June 2019. Development of the North Pit to mine the Alabama deposit, as approved in the *Mines Act* Permit M-29 amendment issued July 23, 2019, commenced in 2022 following approval of the Metal Leaching and Acid Rock Drainage (ML/ARD) management plan for North Pit on April 8, 2022.

One key exception of note with respect to comparison with the feasibility mine plan, is that mined volumes of potentially acid generating (PAG) material, as characterized through application of Standard Operating Procedures and monitoring protocols as set out in the original ML/ARD Prediction and Prevention Plan (SRK 2010), have been significantly less than were conservatively predicted in the Application. To the end of December 31, 2015, less than 5% of the non-economic material mined was defined as PAG versus a global average that was estimated in the Application at 16%. The result of this has been a reduced need for and development of the PAG storage areas. In addition, confirmatory sampling of placed PAG materials has shown the fines fraction to be NAG. A study was conducted in 2014 and 2015 to evaluate whether the material placed in the PAG storage areas could be reclassified as NAG, and whether changes to the current non-economic management strategies were warranted (SRK 2016a). Results of the study were submitted to MCM on February 4, 2016 in support of a *Mines Act* Permit M-29 amendment application requesting to eliminate the requirement for geochemical segregation of rock materials according to ARD potential and manage material in existing rock storage areas as NAG (referred to as the Application for PAG Declassification). A letter of authorization approving the requested changes was issued by MCM on January 31, 2017. Commencing February 1, 2017, all former PAG storage areas were reclassified as NAG, and CMML ceased segregation of NAG and PAG materials.

Development of the NERSAs has proceeded largely as planned. At restart of mine operations in 2010, the majority of the NAG non-economic material was used for construction materials and the remainder was placed within the pre-existing D2 and D4 NERSAs, renamed in 2010 as the North NAG NERSA and East NAG NERSA, respectively. In early 2012, expansion of the two NAG NERSAs saw them merge into one storage area and subsequently named the NAG NERSA. NERSA development in 2013 to 2015 was primarily vertical. In 2014, NAG non-economic rock materials also began to be placed on the southwest side of the approved Life of Mine (LOM) footprint for the NAG NERSA (southwest of Pit 3), and has been temporarily called the South NAG NERSA until eastward development connect it to the main NAG NERSA.

Following issuance of the *Mines Act* Permit M-29 amendment on July 7, 2015 approving the updated 2014 mine plan (CMML 2014), the NAG NERSA was expanded southward in late 2015 and northward in 2016. Expansion of the NERSA in 2017 through 2019 was primarily vertical within the central portion and north extension of the NERSA, which included backfilling of Virginia Pit and Oriole Pit. Subsequent NERSA development has focussed on backfilling of the former Pit 1 and Pit 2 portions on the Copper Mountain Main Pit and horizontal and vertical development of the Realignment Support Landform (RSL) and the South Extension NERSA.

Following approval on January 31, 2017 to reclassify all materials in the PAG storage areas, the East PAG NERSA located atop of the north end of the East NAG NERSA was eliminated and incorporated into the overall NAG NERSA. The former North PAG NERSA located directly north of Pit 2, between the pit and the LGO Stockpile, has been renamed to the North Pit 2 NERSA.

Development of the LGO Stockpile has also proceeded largely as planned, with low grade materials placed within the designated NAG and PAG portions of the LGO stockpiles to end of January 2017, after which the materials in the PAG portion were reclassified as NAG and incorporated into the NAG LGO Stockpile. The former PAG LGO portion of the stockpile was subsequently mined out by development of Pit 2 in 2018, and the materials were fed to the crusher or distributed throughout the remained of the NAG LGO Stockpile. In 2014, operations also began separating LG materials into two subcategories based on copper grade, with placement of lower grade LGO materials on the western half of the LGO Stockpile and higher grade LGO materials (referred to as mid-grade ore (MGO)) on the eastern half of the LGO Stockpile. PAG mid-grade materials were fed directly to the primary crusher to the end of January 2017, after which they were no longer segregated from NAG MGO. Operations continued separating LG materials into two subcategories until June 2018, after which the cut-off grade for HG ore was decreased to 0.19% in order to provide enough HG feed for the Mill, which eliminated the MG category. The majority of the previously stockpiled MGO materials were fed to the Crusher in 2018 and 2019. All high grade (HG) materials are either fed directly to the primary crusher or temporarily stored beside the crusher when the materials are unable to be fed directly to the crusher, such as when the crushing circuit is down for maintenance or repairs.

Figure D.1 in Appendix D provides a 1:10,000 scale map showing the status of the pits, NERSAs and LGO stockpiles at the Copper Mountain site at CMM at the end of 2024. No mining has occurred at the Ingerbelle site since 1996 and is not included in the currently approved mine plan.

2.1.2 Current Life of Mine Plan

The currently approved mine plan for Copper Mountain Mine as authorized under amendments to *Mines Act* Permit M-29 issued April 1, 2010 (feasibility mine and reclamation plan), April 16, 2013 (TMF final design), July 7, 2015 (2014 mine plan update), July 23, 2019 (2016 mine plan update), March 3, 2020 (RSL Attenuation Berm), and December 19, 2023 (2021 5yr MPRP review). The approved mine plan consists of the following developments and are identified on Figure 2.1:

- Pit development that encompasses the three existing previously mined pits (Pit 1, 2 and 3), which have been developed into a single larger combination of these pits named Copper Mountain Main Pit (CM Main Pit), a pushback of the existing Virginia Pit (completed in 2016), development of the Oriole deposit as a southeast extension of Pit 3 (also referred to as Oriole Pit; completed in April 2018) and development of the Alabama deposit (also referred to as CM Phase 12 and North Pit).
- Construction of a non-economic rock storage area (NERSA) on the east and south side of the main pit development area, and a LGO stockpile on the north side of the CM Main Pit.
- Raising of the TMF to El. 997 m in accordance with the TMF Final Design (AMEC 2011).
- Long Term Stabilization Measures to protect the TMF East Dam including:

- Realignment of the Wolfe Creek channel so that Wolfe Creek no longer flows adjacent to the toe of the East Dam
- Development of a non-economic rock storage area to create a permanent landform to support the Wolfe Creek realignment channel (Realignment Support Landform) and protect the East Dam from flows up to and including a Probable Maximum Flood (PMF) event.
- Development of an earthen water retention structure (Attenuation Berm) within the RSL with a low flow channel designed to allow the passage of normal water flow, but attenuating the downstream effects of any high flow storm events and containing them within the RSL, and slowly passing the water downstream.

In addition, as noted in Section 1.3, CMML submitted a joint application for *Mines Act* and *Environmental Management Act* permit amendments for the New Ingerbelle Open Pit Pushback and Mine Life Extension (New Ingerbelle Project). The Life-of-Mine (LOM) Plan with the inclusion of the New Ingerbelle deposit to the reserve adds another 10 years to the LOM plan, which with the currently approved mine plan, extends the mine life to 15 years through to the year 2040, with 12 years of mining followed by five years of stockpile milling.

Section 2.1.1 provides details about pit development activities in 2024, and a summary of projected development for the next five years is provided in Section 2.1.5.

FIGURE 2.1: CURRENT APPROVED LOM PLAN DEVELOPMENT AREAS

2.1.3 Surface Development in 2024

The status of the Copper Mountain Mine site at the end of 2024 is shown on a 1:10,000 scale map provided in Figure D.1 in Appendix D. The map also identifies areas at end of 2024 that have been resloped for reclamation. The following sections provide a summary of mining, milling and exploration activities conducted in 2024.

Table 2.1 provides the monthly total mining and milling production tonnage for 2024, with a breakdown of mine tonnage by areas mined. Mill production and feed composition are discussed in Section 2.3.2.

Table 2.2 provides a summary of 2024 mining production totals by material type from each mine area. A total of 80.918 Mt of material was mined in 2024, of which 11.360 Mt was high-grade ore, and 69.558 Mt was non-economic rock and overburden.

Figure 2.2 below shows pit development stages for the pit area at CMM. In the Copper Mountain (CM) Main Pit, the mine plan for 2024 continued to focus on the pit development in the former Pit 3 area with Phase 4, 5 and Phase 7 and mining of the Alabama Deposit within Phase 12 (North Pit). The net increase in the footprint of pit development areas in 2024 is approximately 15.8ha, all of which was previously disturbed area, primarily from development of Phase 7.

Non-economic rock from Phase 4, 5 and 7 was placed in the Pit 1 Inpit NERSA, Pit 2 Inpit NERSA, RSL and the Main and South Extension NERSAs. NAG non-economic rock from North Pit was placed in the Pit 2 In-pit NERSA and RSL. PAG non-economic rock from Phase 12 was placed for temporary short-term storage in the Oriole PAG NERSA located on top of the mined out and backfilled Oriole Pit.

Table 2.3 provides the quantities and ML/ARD classification of non-economic and low-grade ore materials placed in each storage location in 2024, as well as the totals of material stored at each location. A discussion of the volumes and ML/ARD classification of mine materials is provided in Section 3.2 and in the 2024 ML/ARD Monitoring Report (SRK 2025) provided in Appendix H.

For the Low Grade Ore (LGO) Stockpile, no low-grade and middle-grade materials were placed in the stockpile in 2024. The cut-off grade for HG ore was maintained in 2024 at 0.10%, with materials having lower grades than the cutoff classified as non-economic rock. In the absence of low-grade and mid-grade categories, no such materials were produced nor stockpiled, and there was no change to the footprint of the existing LGO Stockpile.

Expansion of the NERSAs in 2024 was lateral and vertical, occurring primarily at the NERSA South Extension. Expansion of the Pit 2 in-pit NERSA was primarily lateral with the continuation of backfilling the western half of the former Pit 2 portion of the CM Main Pit. During the year, the RSL continued to be developed, both laterally and vertically, receiving 3.4Mt of non-economic rock.

The increase in footprint of NERSAs in 2024 was associated with development of the RSL, the Pit 2 In-pit NERSA, and the NERSA South Extension, resulting in approximately 0.8 ha of new disturbance from development of the RSL. However, increases in in the footprints of active NERSAs were largely offset by the decrease in the footprint of the historic D3 NERSA due to pit development on the west side of the CM Main Pit. The net increase in the footprint of the non-economic rock storage areas in 2024 is approximately 0.6 ha.

Table 2.4 provides a summary of the quantity of soil and overburden materials salvaged by mine area in 2024, and the locations where it was stockpiled for future reclamation use. The volume of soil materials salvaged in 2024 was approximately 1,680 m³. Salvage of soil and overburden materials in 2024 was from surface grubbing and foundation preparation activities within the footprint of the NERSA Southern Extension and a minor amount from pit preparation and mining within the Phase 7 pushback. Soil materials were also stockpiled from

excavation activities associated with construction of the East Dam toe drain in 2024, these volumes are unknown at this time but will be confirmed and added to the inventory in 2025. More detailed information about soil salvage and stockpile inventory is provided in Section 3.9.

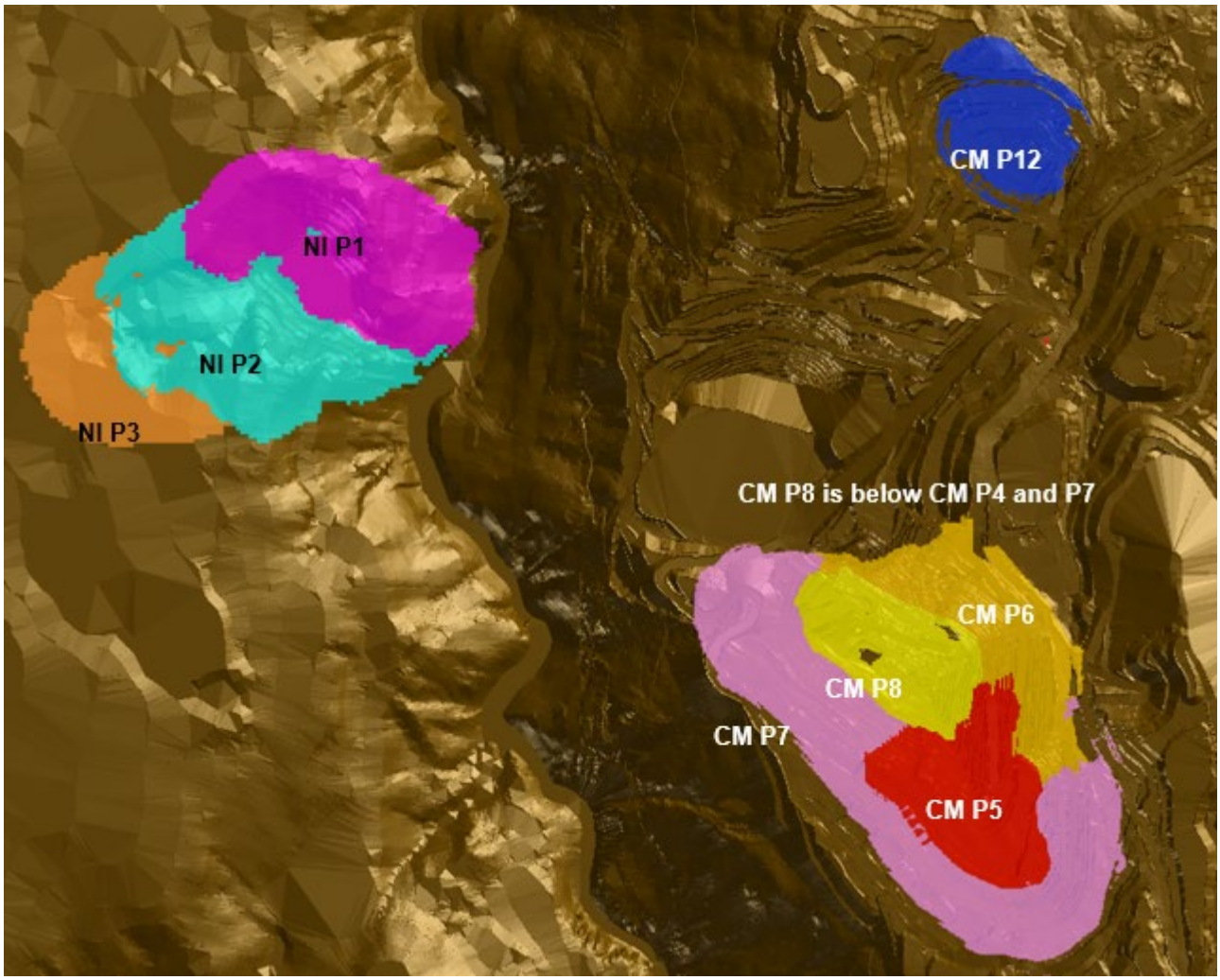


FIGURE 2.2: PIT DEVELOPMENT SEQUENCE FOR THE CM MAIN PIT, NORTH PIT AND PROPOSED NEW INGERBELLE PIT

TABLE 2.1: MONTHLY MINING AND MILLING PRODUCTION FOR 2024

MONTHLY MINING AND MILLING PRODUCTION AS OF DECEMBER 31, 2024

COMPANY: Copper Mountain Mine (BC) Ltd. **PERMIT NO.:** M-29

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	*2024 Total*
Mining Production (tonnes)													
Phase 4	1,365,899	1,285,740	998,359	684,091	760,062	368,373	-	-	-	-	-	-	*5,462,523*
Phase 5	3,375,267	3,581,607	3,999,892	3,277,967	4,133,888	3,843,693	3,508,532	2,826,740	3,773,858	3,335,860	2,948,250	3,636,598	*42,242,151*
Phase 7	-	-	650,470	2,042,319	1,458,428	1,518,726	2,481,777	3,216,004	1,758,216	2,957,982	2,873,424	1,774,355	*20,731,702*
Phase 12	1,438,280	1,216,209	1,513,911	572,857	263,433	718,819	1,822,328	1,124,762	1,300,634	845,843	457,116	1,093,810	*12,368,002*
Mining Total	6,179,446	6,083,555	7,162,632	6,577,234	6,647,034	6,476,033	7,831,680	7,188,052	6,848,917	7,139,686	6,278,789	6,504,762	*80,804,379*
Milling Production (tonnes)													
Mill	1,128,330	948,485	1,103,334	1,193,399	1,014,555	1,024,473	1,176,903	1,131,249	1,055,024	872,023	1,009,599	999,669	*12,657,042*

Milling Capacity	45,000	Tonnes per day

TABLE 2.2: MATERIAL TONNAGE MINED BY PIT AREA IN 2024

Pushback	HG Ore	LGO PAG	LGO NAG	Waste PAG	Waste NAG [(a)]	Top Soil	Total Tonnes
Phase 4 (Pit 3)	1,907,697	0	0	0	3,554,826	0	5,462,523
Phase 5 (Pit 3)	3,806,914	0	0	0	38,435,237	0	42,242,151
Phase 7 (Pit 3)	187,656	0	0	0	20,544,046	0	20,731,702
Phase 12 (North Pit)	5,457,858	0	0	61,247	6,848,897	0	12,368,002
Other	0	0	0	0	0	0	0
2024 TOTALS	***11,360,125***	***0***	***0***	***61,247***	***69,383,006***	***0***	***80,804,379***

(a) Waste NAG mined in 2024 includes Waste rehandle from D3 NERSA or In-Pit Pit3 NERSA

TABLE 2.3: QUANTITIES OF NON-ECONOMIC ROCK, LOW-GRADE ORE, TAILINGS AND OTHER ROCK MATERIALS AS OF DECEMBER 31, 2024

COMPANY: Copper Mountain Mine (BC) Ltd.
PERMIT NO.: M-29

NAME OF WASTE PILE OR POND	ACID GENERATING WASTE (tonnes)		POTENTIALLY ACID GENERATING WASTE (tonnes)		NON-ACID GENERATING WASTE (tonnes)	
	2024	Total	2024	Total	2024	Total
WASTE ROCK STORAGE AREAS						
NAG NERSA	0	0	0	0	46,352,043	425,001,771
Realignment Support Landform	0	0	0	0	3,423,788	62,182,884
North Pit 2 NERSA	0	0	0	0	0	1,149,478
Pit 1 NERSA	0	0	0	0	0	3,855,100
Pit 1 In-Pit NERSA	0	0	0	0	1,649,775	24,883,425
Pit 2 In-Pit NERSA	0	0	0	0	15,879,691	118,774,854
Pit 3 In-Pit NERSA [(a)]	0	0	0	0	-4,765,127	0
D1 NERSA	0	0	0	0	0	24,585,000
D3 NERSA [(b)]	0	0	0	0	-4,968,738	29,645,378
Oriole PAG NERSA	0	0	53,913	2,356,813	0	0
Virginia NERSA	0	0	0	0	0	0
Ingerbelle NERSA	0	0	0	0	0	2,449,000
Ingerbelle In-Pit NERSA	0	0	0	0	0	87,591,990
TOTAL	***0***	***0***	***53,913***	***2,356,813***	***57,571,433***	***780,118,879***
LOW GRADE ORE STOCKPILES						
NAG LGO Stockpile	0	0	0	0	0	4,400
NAG MGO Stockpile	0	0	0	0	0	51,962,170
TOTAL	***0***	***0***	***0***	***0***	***0***	***51,966,570***
TAILINGS PONDS						
Tailings Management Facility	0	0	0	0	12,531,593	321,752,500
TOTAL Tailings	***0***	***0***	***0***	***0***	***12,531,593***	***321,752,500***
OTHER MINE WASTE PLACEMENT AREAS						
Primary Crusher & Area	0	0	0	0	0	5,802,072
Truck Shop Laydown	0	0	0	0	0	146,652
Tailings Road	0	0	0	0	0	27,548
Soil Production Facility 1	0	0	0	0	0	2,986
Car Road Underpass		0		0	0	118,519
TOTAL	***0***	***0***	***0***	***0***	***0***	***6,097,777***

Notes:

(a) The negative value in the 2024 column for Pit 3 In-Pit NERSA represents material removed from the bottom of Pit 3 mined as Phase 4 material in 2022 -2023 and relocated to the Pit 2 In-Pit NERSA.

(b) The negative value in the 2024 column for D3 NERSA represents material removed from this historic storage area to accomodate development of the CM Main Pit Phase 7. Materials were relocated to the main NAG NERSA and Pit2 In-Pit NERSA.

TABLE 2.4: QUANTITIES OF SOIL AND OVERBURDEN SALVAGED AND STOCKPILED FOR RECLAMATION USE AS OF DECEMBER 31, 2024

Copper Mountain Mine (BC) Ltd.
M-29

Stockpile Locations		2023 EOY Stockpile Totals (m3)	2024 Stockpile Volumes Removed (m3)	2024 Salvage Volumes to Stockpiles by Salvage Location (m3)						2024 Net Change to Stockpile (m3)	*2024 EOY Stockpile Totals (m3)*	*# of Samples in 2024*
				Wolfe Creek Realignment	East Dam Area Projects	Phase 5 / 7 Pushback	North Pit	NERSA South Extension	From Other Stockpiles			
Salvage Volumes to Stockpile Locations (m^3)	South Soil STKP (a)	239,018	84,153			1,680				-82,473	*156,545*	*4 (b)*
	D3 Soil STKP (b)	0	0							0	*0*	*0*
	Virginia Soil STKP	398,031	0							0	*398,031*	*0*
	East NERSA Soil Windrow (c)	24,810	0							0	*24,810*	*0*
	East NERSA/Rd Soil STKP	22,564	0							0	*22,564*	*0*
	East Dam Soil STKP 1	1,588	0							0	*1,588*	*0*
	East Dam Soil STKP 2	32,547	0							0	*32,547*	*0*
	East Dam Soil STKP 3	35,635	0							0	*35,635*	*1*
	Mill Soil STKP	2,200	0							0	*2,200*	*0*
	WCR STKP 1	1,753	0							0	*1,753*	*0*
	WCR STKP 2	13,339	300							-300	*13,039*	*0*
	WCR STKP 6	37,056	0							0	*37,056*	*0*
	North Soil Stockpile	209,503	0							0	*209,503*	*0*
	South Extension soil berm	1128	0							0	*1,128*	*0*
	Admin Soil STKP	12,360	0							0	*12,360*	*0*
Total Salvage or Stockpile Volumes (m^3)		1,031,532	84,453	0	0	1,680	0	0	0	-82,773	948,759	*0*
Total New Salvage Volume in 2024 (m3)				1,680					NA			

Notes:
STKP - Stockpile
NA - Not applicable
(a) The 2024 volume removed from South Soil STKP was used by Arrow Environmental for fabrication of biosolids reclamation soil.
(b) Samples collected by Arrow Environmental. Results reported in the PR13061 2023 Biosolids Report included here in Appendix J.2.

2.1.4 Exploration Program in 2024

The 2024 exploration program at CMM included diamond drilling, sonic drilling, prospecting, and historical core re-logging/ sampling programs. A total of 2413 m of drilling was completed with a focus on converting inferred resources to reserves, and extending known mineralization to depth and along strike adjacent to known mineral resources. Drilling was focused on the North Pit ("Alabama") area, with six holes totalling 2013 m in this area. A single 400 m drill hole was drilled for the purpose of condemnation under a future NERSA to the southeast of Pit 3.

The 2024 sonic drilling program was designed to assess the grade and grade distribution of the Low-Grade Stockpile (LGS) at the CMM. A total of 20 holes totalling 4710 ft (1435.6 m) of drilling were completed. Drilling was conducted on the LGS from April 19th to May 6th. Drilling was carried out by Mudbay Drilling (ConeTec) of Kelowna, BC. Mudbay utilized a long stroke track mounted sonic drill rig, with a 3-man drill crew and a foreman.

A brief prospecting and field mapping program was carried out in September in the area between existing mine development at the Copper Mountain Mine and the Similkameen River canyon to the West. This prospecting program was largely carried out along existing roadcuts including the Cable Belt Road and Smelter Lake Road. Geologists collected 53 grab samples from outcrop for assays and mapping purposes.

Re-logging and re-sampling of historical drill holes, totalling 1685 m, continued through 2024. The relogging focused on the style of mineralization and alteration to assess the potential for vertical and lateral extensions to mineralization. The program also included physical property measurements on drill core, including density, magnetic susceptibility. This data was used to constrain geophysical inversions and to guide future exploration drilling.

No new disturbances were created in any of the areas drilled in the 2024 exploration program, as all drill pads were located within existing disturbance areas.

2.1.5 Surface Development Projected over Next Five Years

The following section outlines the proposed activities for the next five year contained within the current life-of-mine plan (Plan 2024-051) described in Section 2.2, which is an optimization of the 2021 mine plan update described in Section 2.2, plus the proposed pushback of the New Ingerbelle Pit for which CMML has submitted an application for a *Mines Act* Permit M-29 amendment.

Over the next five years, material will be mined in a series of pushbacks and is expected to include the former Pit 3 portion of the CM Main Pit (Phases 5, 6, 7 and 8), Phase 12 (North Pit) and New Ingerbelle Pit (Phase 1A).

The following sections provide a brief summary of the mine plan for the next five years. Figure D.2 and D.3 in Appendix D show the projected development of the pits, NERSAs and LGO stockpiles to end of 2029, with projected development on the Copper Mountain site shown on Appendix D.2 and projected developments on the proposed New Ingerbelle site showing on Appendix D.3.

As the individually mined pits have now essentially merged into a single main pit at the Copper Mountain site, and plans are being developed for mine life extension involving a push-back of the historic Ingerbelle Pit (New Ingerbelle Project), the decision was made at the beginning of 2020 to rename the pit development phases to reflect this and to provide consistency for the long-term planning and mining of the deposits at Copper Mountain Mine. This includes: the Copper Mountain Main Pit, the Alabama deposit (North Pit) and the Ingerbelle deposit (New Ingerbelle Pit).

2025 Mining Plan

In 2025, mining continues in CM Phases 5, 7 and Phase 12. CM Phase 5 will be completed within the year. Additional pit development will be conducted in CM Phase 6 in Q3. Overall, the plan is expected to yield 16.6 Mt of ore and 90.5 Mt of non-economic rock.

All non-economic rock from the CM Main Pit will be placed in the NERSA South Extension and in-pit dumped into the former Pit 2 portion of the CM Main Pit (Pit 2 Inpit NERSA) and will commence vertical developed of the NERSA over the backfilled pit (Pit 2 NERSA). NAG non-economic rock materials from North Pit will be used to continue development of the RSL footprint. The North Pit PAG non-economic rock materials will be temporarily placed in the Oriole PAG NERSA.

2026 Mining Plan

In 2026, mining will continue in CM Phase 6 and 7 in the CM Main Pit and Phase 12. Phase 12 will be completed in the first quarter of the year.

Non-economic rock from the CM Main Pit will be placed into the Pit 2 NERSA on top of the backfilled pit and used to continue vertical development over the previously established north footprint of the RSL as well as lateral extension of the southeast portion of the RSL footprint.

The development of New Ingerbelle infrastructure will begin in 2026, upon permit approvals anticipated at the end of 2025, which will comprise the following activities:

- East haul-road access connecting the Copper Mountain and New Ingerbelle sides of the river to allow for ore haulage from New Ingerbelle to the existing mill.
- Construction of bridge temporary access and abutments for a clear-span bridge over the Similkameen River connecting the Copper Mountain and New Ingerbelle haul roads
- Developing haul-road access connecting the New Ingerbelle pit to the New Ingerbelle NERSAs
- New Ingerbelle power reticulation
- New Ingerbelle water-management installations
- New Ingerbelle North NERSA pond, lower sump, and return pumping infrastructure
- New Ingerbelle in-pit dewatering complete with booster station
- East haul road collection basin and return pumping infrastructure

2027 Mining Plan

In 2027, mining will be completed in CM Phase 6 and 7, and transition to CM Phase 8 and NI Phase 1A. The primary mining operations will continue to be on the Copper Mountain side of the operation. NI mining operations will commence delivering ore to the Mill in Q3 when the infrastructure to support the mining is completed.

All non-economic rock materials from the CM Main Pit will be used to continue vertical development over the previously established footprint of the RSL and against the NERSA North Extension. NI Phase 1A non-economic rock materials will be placed in the NI North NERSA and Low Grade Stockpile pad.

The development of New Ingerbelle infrastructure during 2027 will comprise the following activities:

- Installing a clear-span bridge over the Similkameen River connecting the Copper Mountain and New Ingerbelle haul roads
- First ore from New Ingerbelle to the mill
- New Ingerbelle Low Grade Stockpile Pad
- New Ingerbelle soil storage areas

2028-2029 Mining Plan

In 2028 and 2029, mining continues in CM Phase 8, NI Phase 1A. The focus for mining operations will shift to the NI site throughout the year.

Non-economic rock materials from the CM Main Pit will continue vertical development of the RSL against the NERSA North Extension. NI Phase 1A non-economic rock materials will be placed in the NI North NERSA and Low Grade Stockpile pad.

2.2 MILL OPERATIONS

The following sections provide a general description of the authorized works and summarizes the operation, maintenance and performance of the works associated with the discharge of tailings to the TMF in 2024, as required under EMA Permit 00261.

2.2.1 General Description of Authorized Facilities

Processing of ore at Copper Mountain Mine consists of a conventional crushing, grinding, and floatation plant utilizing standard unit processes and equipment. The plant is designed for nominal throughput of 45,000 tonnes per day, and operates 24 hours per day, 365 days per year with a typical budgeted availability of approximately 92% allowing for scheduled downtime for equipment maintenance. A simplified flow sheet representing the mining and milling process is presented in Figure 2.3.

The authorized works under Permit 00261 are the concentrator facility, tailings pipeline, tailings pond, seepage control works, and related appurtenances. The locations of these are shown on Figure 2.4. The following sections provide a general description of each of the primary components of the authorized works.

2.2.1.1 Concentrator Facility

The Concentrator Facility, or Mill, receives and processes ore rock produced from open pit mining at the site. Run of mine copper ore-grade rock is hauled by haul trucks from the open pits and dumped directly into the primary gyratory crusher feed bin which crushes the ore-rock to a nominal minus 6-inch diameter. Crushed ore from the Primary Crusher is transferred from the overland conveyor to a surge stockpile on the southeast side of the Secondary Crusher, which is then transported by conveyor to a vibrating screen at the top of the Secondary Crusher building. The screen undersize material is directed onto the Secondary Crusher return conveyor, while the oversize material is fed directly into the cone crusher, which crushes the ore-rock to a nominal 2-inch diameter. The crushed ore from the cone crusher drops onto the Secondary Crusher return conveyor which transfers it and the screened undersize material back to the Overland Conveyor for transport to the Coarse Ore Stockpile located outside the Mill.

The crushed ore in the Coarse Ore Stockpile (COS) is conveyed to the grinding circuit, which consists of one SAG mill, three ball mills and one pebble crusher. The grinding circuit was designed to achieve a grind of approximately 80% passing 150 microns (µm) using two ball mills, however due to hardness of the ore, had only been achieving 80% passing 230 microns. The third ball mill was installed in December 2021 to improve the grind at increased throughputs up to 45,000 tpd and increase liberation of Cu minerals to assist in recovery improvement but is being converted to a second SAG mill in 2025.

Ore is ground in the presence of water using the ball mills arranged in parallel in closed circuit with hydrocyclones. The hydrocyclone overflow reports to the rougher flotation circuit consisting of two banks of conventional flotation cells operating in parallel. The rougher concentrate is collected and further ground to 80% passing 25 microns using one regrind ball mill in a closed circuit with hydrocyclones. In August 2018, a new flash flotation circuit was installed to process a portion of regrind cyclone underflow. This circuit comprises an SK240 flash flotation cell followed by a TC5 cleaner cell. The intent of the circuit is to remove coarse liberated material to final concentrate,

creating additional rougher mass pull capacity, while preventing unnecessary overgrinding, which historically resulted in gold losses.

The finished product from the regrind ball mill is then pumped to a single stage of cleaner column flotation. In February 2018, these column cells were upgraded with a dynamic sparger system intended to improve fine particles and overall unit metal recovery. In July 2019, a new second cleaner flotation circuit was installed to process flotation column concentrate. This comprises three 1.9 m direct flotation reactor (DFR) cells. This had the intent to increase the final concentrate grade from to 28% Cu while maintaining current levels of cleaner circuit performance. Tailings from these columns are sent to a bank of five cleaner-scavenger tank cells. Concentrate from these cells reports back to the regrind cyclone feed pump box for further liberation. Tailings from this bank is joined by rougher tailings and reports to the Tailings Management Facility (TMF). The combined rougher and cleaner tailings, which are essentially finely ground rock from which the minerals of interest have been removed, flow by gravity from the flotation circuits as a slurry comprised of approximately 30% solids by weight to the TMF.

The final cleaner concentrate is thickened and pumped to a pressure filter, where it is dewatered, producing a copper concentrate with a concentration of approximately 26% copper and 8.5% moisture. Reagents used within the flotation circuits are prepared and distributed by the reagent handling circuits. The two main chemical reagents utilized in the process are a frother, a blend of Methyl Isobutyl Carbinol (MIBC) and glycol based frothers, and a collector, Potassium Amyl Xanthate (PAX), along with lime. Their purpose, respectively, is to create the froth (bubbles) in the flotation cells and to promote adherence of the mineralization to the bubbles. It is the mineralized froth that is retained in the rougher and cleaner flotation circuits and ultimately becomes the concentrate. These reagents tend to follow the concentrate stream as opposed to the tailings.

Additional plant improvement and optimization projects were completed in 2022 to handle higher mill feed grades at higher tonnage rates, including expansion of the filter press, upgrades to the cleaner circuit capacity, and expansion of the rougher flotation circuit. Further plant optimizations are planned for 2025 to increase the design capacity to the permitted annual average of 50,000 tonnes per day, including conversion of the third ball mill to a second SAG mill.

CMM’s concentrate is transported by truck to the Port of Vancouver by Arrow Transportation Systems Inc. and shipped to overseas smelters.

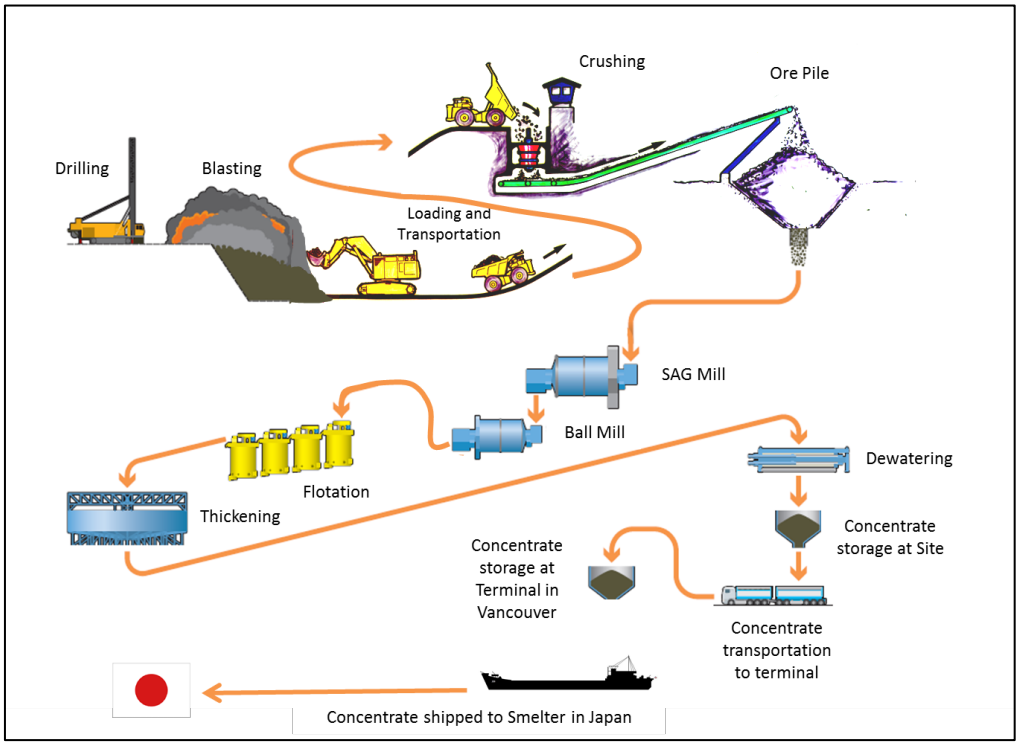


FIGURE 2.3: SIMPLIFIED FLOW DIAGRAM OF THE MINE AND MILL PROCESS

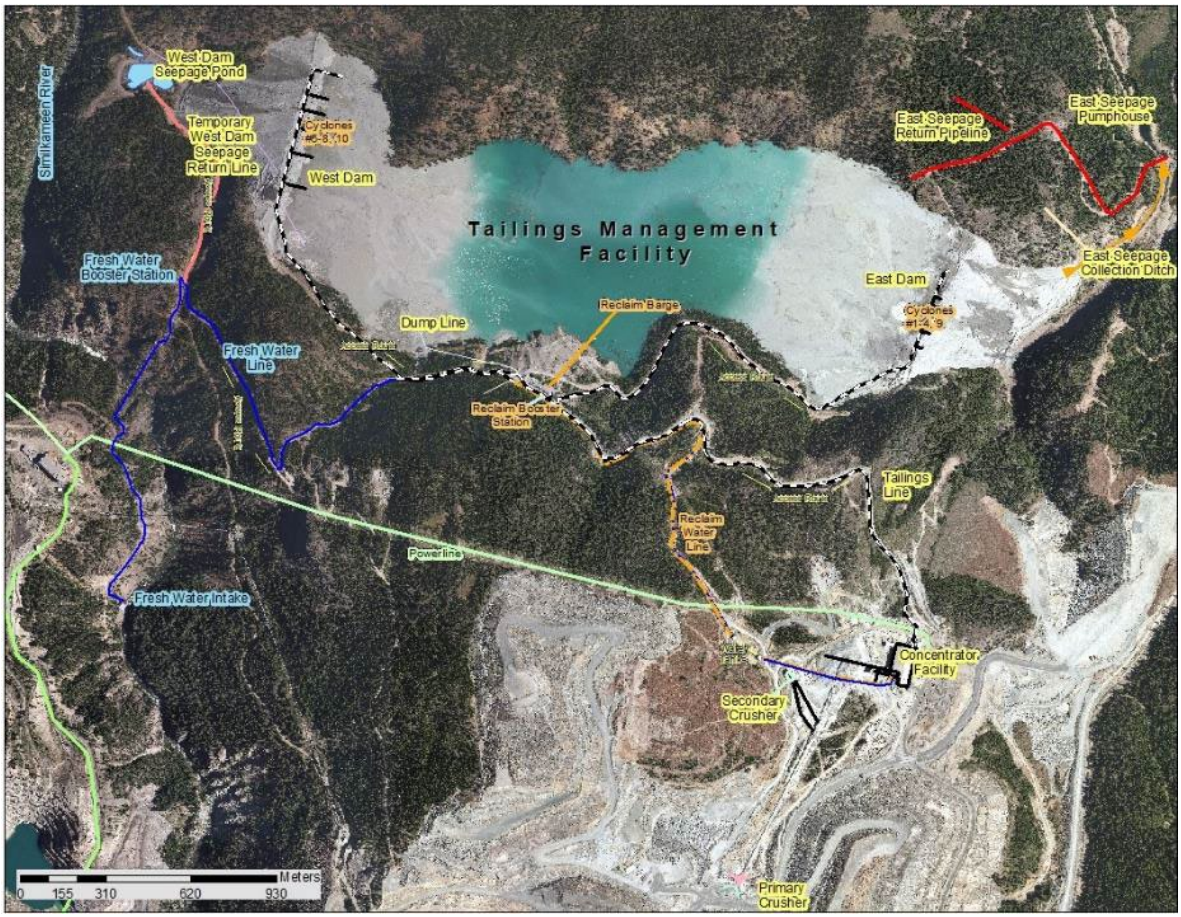


FIGURE 2.4: SITE PLAN WITH AUTHORIZED WORKS UNDER EMA PERMIT 00261

2.2.1.2 Tailings Pipeline and Management Facility

In the process of producing copper concentrate, over 98% of the mill ore throughput ends up in the form of tailings solids, ground up rock the consistency of sand, requiring long term storage. Tails are collected from the roughers and cleaner-scavengers in a collection box in the Mill and then transported by gravity, along with process water, though a pipeline and series of drop boxes from the plant to the TMF located approximately 700 m north of the Concentrator Facility (Figure 2.4). The TMF is confined by natural topography on two sides to the north and south by the steep sides of an east-west trending valley, and on east and west ends by two tailings dams constructed of cycloned sands and raised annually during operations by centreline construction methods.

At the TMF, during dam construction season (typically spring to late fall), the tailings slurry is directed through hydrocyclones for separation into coarse (sand) and fine fractions. Each dam crest uses a header pipe and five cyclones to generate sand for an average annual raise of 5 m. The coarse fraction is used for tailings dam construction, while the fine fraction reports to the TMF impoundment for settling and storage. Typically, during the winter, and when temperatures fall below -5°C, all tailings flow directly to the TMF impoundment for settling and storage.

Tailings solids discharged to the TMF impoundment settle out from the tailings slurry, allowing the water fraction to be recovered and re-used in the mill process. Typically, a Reclaim Pump Barge located on the TMF pond pumps all recovered process water from the tailings pond and sends it back to the process water storage tank (Reclaim Water tank) located on the hillside approximately 500 m to the west side and upslope of the Concentrator building. The reclaimed process water flows by gravity to the Mill and is reused at various points throughout the process as dilution water to satisfy operational requirements of the grinding and flotation circuits.

On March 3, 2023, the Reclaim Barge became partially submerged in the TMF. Salvaging attempts were made but the damage was deemed too extensive. Temporary pumps were installed at the shoreline of the TMF to provide process water to the Mill until a replacement barge can be built and commissioned. The new barge became operational on January 14, 2025 and was officially commissioned on January 17, 2025.

2.2.2 Maintenance and Monitoring Activities

2.2.2.1 Concentrator Facility

The Mill operates on a general annual budgeted operating availability of approximately 92%, depending on the amount of planned maintenance in a given year. The remaining 8% is mainly scheduled downtime to conduct maintenance and repairs to ensure safe and efficient operation. The Mill Maintenance department also has preventative maintenance (PM) routines for all equipment in the Mill. Hourly, daily and monthly checks are performed depending on the PM schedule of a particular piece of equipment.

During scheduled and unscheduled downtimes, the metallurgy group performs inspections on critical process equipment. During these inspections, wear measurements are taken from which a timeline for part replacements is calculated.

During operations, the Mill continuously outputs data through the distributed control system (DCS). Each piece of instrumented equipment automatically outputs various parameters such as temperature, pressure, power, etc., which are monitored and trended for continuous review by the operators. Process data such as Cu%, Fe%, and percent solids are also measured using an On Stream Analyzer (OSA) which provides continuous data to the operators to enable them to make appropriate changes and adjustments to the process, when necessary. XRF monitoring system (BeltSense) was installed on the SAG feed conveyor belt to provide

upstream Cu assay monitoring. At the end of each month, an inventory check is performed to account for the product produced.

Based on all the data gathered from daily operations and downtime inspections, the Mill is continuously monitored for the production of copper concentrate and tailings, as per the engineered design of the facility.

2.2.2.2 Tailings Pipeline and Management Facility

Maintenance and monitoring activities for the TMF and associated infrastructure were conducted in accordance with the document titled ***"Copper Mountain Mine, Tailings Management Facility: Operations, Maintenance and Surveillance Manual, Revision 4.1"*** (TMF OMS Manual), last revised by CMML in September 2024.

Monitoring is conducted at least once per shift as part of the shift inspections, when operational, to ensure proper maintenance and operating conditions. Shift report reports and logs are maintained for the following components of the tailings system:

- Tailings line drop boxes and splitter box
- Tailings cyclones
- Reclaim barge / reclaim pumps
- Reclaim pipeline, booster station, head tank
- Freshwater pipeline, booster station, head tank
- East seepage collection system, recycle line and pump
- West seepage collection system, recycle lines and pumps
- NERSA seepage collection system, recycle line and pump

In addition to daily checks of equipment and infrastructure, during the non-winter months when the tails are cycloned to separate out the coarse sand fraction for dam construction, there is continuous monitoring of the cyclone sands produced. Throughout their shifts, tailings operators collect numerous samples of the cyclone sands to make sure the densities and fines content are within the required limits for use in dam construction. During construction and at the conclusion of the construction season, the sands produced are surveyed to confirm the total volume and tonnage used to raise the crest of the East and West Dams to design.

The TMF pond elevation is surveyed approximately every week and compared to surveyed East and West Dam crest elevations to calculate and monitor the available freeboard at each dam to ensure that the required freeboard heights are being maintained.

All seepage collection and return works are inspected by the Tailings Operator at least twice per shift depending on the season and weather conditions.

Shift reports and logs are submitted at the end of each shift, scanned, and stored electronically. Operational and monitoring records related to the TMF are provided to the Engineer of Record (EoR) on at least a monthly basis, as they require the information to properly oversee and approve dam development. Details on the operations and monitoring of the TMF in 2024 are provided in a report titled ***"Copper Mountain Mine, Tailings Management Facility, 2024 Annual Facility Performance Report"*** prepared by KCB dated March 20, 2025, which was submitted to MCM on March 29, 2025.

2.2.3 Mill and TMF Operations in 2024

The monthly milling production tonnages for 2024 are provided in Table 2.1 in Section 2.1.3 along with mining production tonnage. A total of 12,657,042 tonnes of ore was processed through the mill in 2024, for an average

throughput of 34,676 tonnes per day, which produced 25,354 tonnes of copper, 19,789 ounces of gold and 280,499 ounces of silver.

The milling of 12,657,042 dry tonnes of ore in 2024 produced 12,531,593 dry tonnes of tailings solids (Table 2.3), which were placed in the TMF.

In 2024, the crests of the TMF dams were completed to El. 976 m, resulting in an increase in the TMF footprint of 4.8 ha. Details of tailings placement and dam construction to end of 2024 is provided in the annual construction summary report prepared by Klohn Crippen Berger (KCB). This report will be submitted to MCM by June 1, 2025, as required under Section 10.6.5(5)(b) of the Mines Code.

2.2.3.1 Mill Throughput

Table 2.5 provides a summary of total monthly throughput, and corresponding daily averages of mill throughput, and tailings production and composition based on the monthly totals.

TABLE 2.5: MONTHLY AVERAGED DAILY RATES OF MILL THROUGHPUT AND TAILINGS DISCHARGE

Month	Total Mill Ore Throughput (DMT)	Monthly Totals				Daily Averages						
		Tailings Solids Volume (m^3)	Total Tailings Effluent (m^3)	Reclaim Water (m^3)	Freshwater (m^3)	Mill Ore Throughput (tonnes/day)	Tailings Solids Volume (m^3/day)	Total Tailings Effluent (m^3/day)	Reclaim Water (m^3/day)	Freshwater Water (m^3/day)	% TMF Reclaim Water	Net Tailings Effluent to TMF (m^3/day)
Jan-2024	1,128,330	403,820	2,766,938	1,823,972	527,637	36,398	13,026	89,256	58,838	17,021	77%	30,418
Feb-2024	948,485	340,226	2,302,911	1,590,339	366,102	32,706	11,732	79,411	54,839	12,624	81%	24,571
Mar-2024	1,103,334	395,912	2,722,539	1,852,723	452,204	35,591	12,771	87,824	59,765	14,587	80%	28,059
Apr-2024	1,193,399	427,635	2,663,996	1,830,156	378,540	39,780	14,255	88,800	61,005	12,618	82%	27,795
May-2024	1,014,555	363,958	2,347,170	1,644,088	265,455	32,728	11,741	75,715	53,035	8,563	83%	22,680
Jun-2024	1,024,473	367,856	2,147,234	1,475,610	293,609	34,149	12,262	71,574	49,187	9,787	83%	22,387
Jul-2024	1,176,903	422,686	2,569,952	1,623,543	510,882	37,965	13,635	82,902	52,372	16,480	76%	30,529
Aug-2024	1,131,249	406,241	2,491,246	1,558,722	510,962	36,492	13,105	80,363	50,281	16,483	75%	30,081
Sep-2024	1,055,024	378,386	2,382,997	1,498,373	497,103	35,167	12,613	79,433	49,946	16,570	75%	29,487
Oct-2024	872,023	312,914	2,265,328	1,405,839	484,538	28,130	10,094	73,075	45,350	15,630	72%	27,725
Nov-2024	1,009,599	361,925	2,422,843	1,550,313	499,112	33,653	12,064	80,761	51,677	16,637	75%	29,084
Dec-2024	999,669	358,875	2,394,917	1,519,457	508,593	32,247	11,577	77,255	49,015	16,406	75%	28,241
2024 Average	1,054,753	378,369	2,456,506	1,614,428	441,228	34,584	12,406	80,531	52,943	14,451	78%	27,588

Notes:
Daily averages for each month determined using actual monthly totals divided by number of days in the calendar month
Total Tailing Effluent = Tailings Solids + Tailings Water Volume
Net Tailings Effluent = Tailings Solids volume + Tailings Water Volume - TMF Reclaim Water volume

In 2024, CMML continued to maintain generally good mill availability and throughput, with similar rates when compared to 2023. Mill availability averaged 92.0% in 2024 as compared to 87.6% in 2023. The monthly averaged daily mill throughput ranged from 28,130 tonnes/day to 39,780 tonnes/day (Table 2.5), with an annual averaged daily mill throughput of 34,584 tonnes/day.

2.2.3.2 Tailings Production and Discharge Rate

In the process of producing copper concentrate, over 98% of the mill ore throughput ends up in the form of tailings solids, which are discharged along with process water by gravitational flow to the TMF in a slurry that consists of an average of 29.5% tailings solids by weight.

Table 2.5 provides a summary of average daily tailings solids production and water use based on 2024 monthly totals, along with corresponding average total and net tailings effluent (solids and process water) discharge rates to the TMF. A complete table of daily totals is provided in Appendix E.

In 2024, the average daily discharge rates of total tailings effluent (tailings solids volume + total water volume), based on monthly totals, ranged from 71,575 m^3/day to 89,256 m^3/day, which was less than the authorized maximum rate of 110,000 m^3/day specified in Permit 00261. The annual average total tailings effluent discharge rate for 2024 was 80,531, which is lower than the annual average of 101,311 m^3/day in 2023.

Taking into account the proportion of reclaimed TMF water in the total tailings, the average net tailings effluent (tailings solids volume + total water volume – TMF reclaim water volume) discharge rates based on monthly totals in 2024 ranged from 22,387 m^3/day to 30,529 m^3/day (Table 2.5). Overall, the annual average net tailings

effluent discharge rate for 2024 was 27,588, which is close to half the 2023 average of 45,533 m^3/day, but comparable with the 2022 average of 21,806 m^3/day. This increase in net tailings effluent discharge in 2023 reflects the increased use of freshwater due to the issues with the reclaim barge.

Only water reclaimed from the TMF for use in the mill process water system is used here to calculate net tailings discharge to the TMF. However, the total water volume fraction of the total tailings discharge to the TMF also includes mine contact water from other mine reclaim water systems (ie. CM Main Pit dewatering system, Ingerbelle Pit dewatering system, West Dam seepage collection system), further minimizing the proportion of freshwater use in the mill process water system.

Authorized Discharge: Tailings Effluent

Subsection 1.1 of Permit 00261 authorizes the discharge of effluent from the milling and concentrator operations at Copper Mountain Mine to the TMF. The ENV site reference number for this discharge is E105586. The characteristics of the discharge are typical effluent and tailings from processing of copper ore concentrate.

The maximum rate of discharge of total tailings effluent (tailings slurry) authorized under Permit 00261 is 110,000 m^3/day based on a mill production rate of 50,000 tonnes of ore per day. The maximum Mill production rate of 50,000 tonnes/day was removed in the December 6, 2024 amendment, only listing the 110,000 m^3/day maximum discharge rate. Daily discharge rates are provided in Appendix E, with results ranging from 3,283 to 104,548 m^3/day. No daily discharge rates exceeded the maximum permit limit of 110,000 m^3/day.

2.2.3.3 TMF Reclaim Water Usage

As described above, reclaim water pumped to the Mill from the TMF pond and West Dam seepage pumpback system is re-used as mill process water to the maximum extent practical. A summary of the average daily volumes of TMF reclaim water usage and proportion of TMF reclaim water in the total tailings water, based on monthly totals, are provided in Table 2.5. A complete table of monthly totals and corresponding daily averages is provided in Appendix E. The average TMF reclaim water usage in 2024 ranged from 45,350 m^3/day to 61,005 m^3/day, with an overall annual average of 52,943 m^3/day. The corresponding proportion of TMF reclaim water in total tailings water, based on monthly averages, ranged from 81% to 90%, with an annual average of 85%, which is an increase from the annual average of 64% in 2024. As noted previously, this is largely due to issues with the reclaim barge in 2023.

The chemistry of reclaim water sampled from the TMF Pond at the Reclaim Barge is monitored quarterly in accordance with the Environmental Monitoring Program requirements set out in Permit 00261. Results of tailings effluent water quality monitoring in 2024, including the East and West Dam seepages, are discussed in the CMM 2024 Surface Water Monitoring Report provided in Appendix F.

2.2.3.1 Fresh Water Usage

Fresh water usage is dictated under Conditional Water License 502055, under the Province of British Columbia *Water Sustainability Act*. This allows CMM to divert and use water from the Similkameen River for use in ore processing at a rate of 36,368.72 cubic meters per day, of which 2181 cubic meters per day may be diverted for commercial enterprise, not exceeding a rate of 0.421 cubic meters per second.

In 2024, the daily averages ranged 8,563 m^3/day in May to 17,021 m^3/day in January, all well below the maximum allowed daily diversion rate of 36,368.72 m^3/day.

3 ENVIRONMENTAL PROTECTION PROGRAM

The following sections briefly describe environmental protection activities conducted at Copper Mountain Mine in 2024, as well as those projected for the next five years.

3.1 ENVIRONMENTAL MANAGEMENT SYSTEM

Development of the Environmental Management System (EMS) and Environmental Management Plans (EMPs) for the Copper Mountain Mine commenced with submission of the application to amend *Mines Act* Permit M-29 submitted in March 2009 to authorize the restart of mining operations at Copper Mountain mine. Since that time the EMS and EMPs, along with Standard Operating Procedures (SOPs), have continued to be refined and updated to reflect an adaptive management approach to the results of ongoing monitoring and changes to operational plans. CMML has designed and implemented a variety of management and monitoring programs that integrate engineering design and environmental planning to maximize the mitigation of potential impacts of the mine on the environment. The plans were designed to ensure that practices and procedures implemented during construction, operation and closure minimize the effects of the mine and promote the protection of the environment and human health.

Taken in total, the EMS, EMPs and SOPs constitute CMML's commitments for monitoring, mitigation, operational practices and procedures and other management measures to be taken during operation of the Project to protect the environment and minimize environmental impact, and to substantially comply with all operational permit requirements and applicable statutory environmental laws and regulations.

The following plans make up key components of CMM's Environmental Management System (EMS):

- ML/ARD Prediction and Prevention Plan (2019 update and 2022 addendum), and associated Standard Operating Procedures
- Water Management Plan (2025 update)
- Safe Discharge Plan (2021)
- Wolfe Creek Sulphate Adaptive Management Strategy (2019 update)
- Selenium Management Plan (2019)
- Explosives and Nitrogen Management Plan (2018)
- Surface Erosion and Sediment Control Plan (2019 update)
- Biodiversity Conservation Management Plan (2025 update)
- Vegetation Management Plan (2025 update)
- Wildlife Mitigation Management Plan (2024 update)
- Soil Management plan (2019 update)
- Archaeological and Cultural Heritage Resources Management Plan (2025 update)
- Biosolids and Compost Storage and Management Plan (2023 update)
- Fugitive Dust Management Plan (2023 update)
- Wolfe Creek Realignment Project Construction Environmental Management Plan (2020 update)
- Quality Assurance and Quality Control Plan (2024 update)

In 2024, the Environmental Policy for CMM was updated to align with the change in ownership and incorporate Hudbay's corporate standards and policies on Environmental Stewardship. A copy of the updated Environmental Policy is provided in here in Appendix G. CMML also updated the following management plans in 2024, these are also included in Appendix G:

Under Mines Act Permit M-29, an annual review of the EMS is required, including a qualified professional review of the Water Management Plan and ML/ARD Prediction and Prevention Plan (ML/ARD PPP). CMML completed a review of all CMM management plans in 2024. Report review forms detailing the findings of the qualified professional reviews of the WMP and ML/ARD PPP are included in Appendix G.

As a result of the 2024 management plan reviews, the following management plans were updated in 2024 or early 2025, copies of which are also included in Appendix G:

- Wildlife Mitigation Management Plan
- Quality Assurance and Quality Control Plan
- Biodiversity Conservation Management Plan
- Archaeological and Cultural Resources Management Plan
- Water Management Plan
- Vegetation Management Plan

In addition, CMML commenced updating the WMP and ML/ARD PPP in 2024 and will be completed in Q2 of 2025. CMML will submit the updated plans once completed and include details of the changes made will be provided in the 2025 Annual Report.

3.2 ML/ARD CHARACTERIZATION AND MANAGEMENT

The Copper Mountain ore bodies are classified as alkali porphyry. As such, the rocks are dominantly acid consuming, not acid generating. The Copper Mountain site has a long history of mining (>80 years) and ARD has not been detected anywhere on the site despite the absence of ML/ARD specific non-economic management measures during the history of previous operations. A small proportion of the rock at the site is potentially acid generating (PAG), but the development of widespread acidic conditions is unlikely to happen due to overwhelming abundance of non-PAG "acid-consuming" material and the prediction and prevention procedures put in place to manage this minor PAG component as described below.

The amended Permit M-29 issued April 1, 2010 approving the mine plan to restart mine operations included specific requirements for monitoring and assessment of ML/ARD as part of operations, with segregation of PAG materials based on a criteria of carbonate neutralization potential to acid generating potential (CNP/AP) of less than 1.5. A ML/ARD Prediction and Prevention Plan (ML/ARD PPP; SRK 2010) was developed and approved to direct management of rock materials (non-economic rock, low-grade ore, tailings) in accordance with the amended *Mines Act* Permit M-29 issued April 1, 2010.

The ML/ARD PPP has been updated in 2015, 2016 and 2019 to reflect approved changes to operational ARD classifications and updated mine plans. In addition, an addendum to the ML/ARD PPP was approved on April 8, 2022 for management of materials from North Pit. A summary of changes the ML/ARD PPP since restart of operations and current management requirements are provided in a report prepared by SRK titled "***Metal Leaching and Acid Rock Drainage Monitoring, 2024 Annual Report"*** dated March 2025 (referred to here after as the 2024 ML/ARD Monitoring Report), included here in Appendix H. An update of the ML/ARD PPP is currently in progress and targeted to be completed in Q2 2025.

Table 2.3 in Section 2.3.1 provides the quantities of non-economic rock, LGO and tailings placed or removed from designated storage areas in 2024. All materials were classified as NAG, with the exception of 61,247

tonnes of non-economic rock from Zone 10 in North Pit which were classified as PAG. All Zone 10 PAG non-economic rock was placed at the Oriole PAG NERSA for temporary storage until the materials can be rehandled into a pit for long-term subaqueous storage. The threshold for re-instatement of PAG/NAG segregation in the CM Main Pit was not triggered, resulting in no PAG materials being segregated from the CM Main Pit and placed in designated PAG storage areas. Table 2.3 also provides the total quantities of materials stored at each storage location as of end of year 2024.

3.2.1 ML/ARD Monitoring Program

CMML has been conducting ML/ARD monitoring activities in accordance with the conditions of the amended M-29 permit dated April 1, 2010, the ML/ARD PPP (SRK 2010, 2014a, 2016b, 2019a) and ML/ARD PPP Addendum (SRK 2022a) since issuance of the amended permit and start of pre-production mining and construction activities in 2010. These include sampling and analysis of blast materials, placed materials in the NERSAs and LGO Stockpiles, bulk tailings from the Mill (Final Tails), placed tailings in the TMF, and seepage from NERSA and LGO Stockpiles.

A detailed description and analysis of all ML/ARD monitoring activities and results collected in 2024 are provided in 2024 ML/ARD Monitoring Report provided in Appendix H. The 2024 ML/ARD Monitoring Report also includes a review of site-wide surface water chemistry for mine contact waters (pit waters, mine site drainages, TMF pond and seepages) and implications to source term refinement.

In summary, the SRK assessment of ML/ARD monitoring data and mine site water chemistry data collected in 2024 concluded the following:

- Blasthole chip composite sampling did not meet the objectives of the revised blasthole sampling scheme (SRK 2024c) for CM Main Pit Zones 1, 3 and 9 NER. CMM has reviewed blasthole sampling practices to ensure consistency with the revised blasthole sampling scheme in 2025. Other sampling requirements under the ML/ARD PPP (2019) and the Addendum for the North Pit (SRK 2022a) were met.
- Low and mid grade ores were not mined in 2024.
- Beach tailings and slimes were not sampled due to unsafe access, consistent with the recommendation by SRK (2022b) to discontinue sampling of placed tailings under the current mine plan. However, CMML elected to sample the dam crests in 2024.
- Total carbon and sulphur measurements from the CMM laboratory were within acceptable thresholds of measurements obtained from an external laboratory.
- Existing methods for calculating AP from total sulphur, and CNP from total carbon remain appropriate for determining ARD classifications for tailings and rock from Zones 1 to 9.
- The ARD potential of Zone 10 NER can be classified using total sulphur to calculate AP and Modified NP to measure NP due to the presence of non-carbonate carbon and iron carbonates.
- Analysis of blasthole chip composites showed:
    - 0.6% of NER composites had a CNP/AP<1, equivalent to a CNP/AP<1.5 in the blast fines (excludes Zone 10 NER which is managed separately). This was lower than the 2–4% of NER patterns in 2022–2023.
    - Non-oxidized Zone 4 and 9 NER from the North Pit has a slightly lower CNP/AP range than the existing Zone 4 and 9 rock, respectively. However, the differences were smaller in the blasthole composites than was observed in drill core by SRK (2022a).
    - At a screening level, trace element contents in Zone 4 and 9 rock from the North Pit appear comparable to existing NER.

- Analysis of blasted material placed in the NERSAs indicates partitioning of carbonate continues to occur in the blast fines.
    - The -2 mm fraction for all NERSA composites had CNP/AP≥1.5. The +25 mm fraction had CNP/AP≥1.5 in 63 out of the 66 composites (95%).
    - Both fractions of the single PAG NERSA composite also had CNP/AP ≥3, where Modified NP was used to determine NP.
- Quarterly weighted average CNP/AP for the -2 mm fraction of material placed in the NAG NERSAs and the LGO Stockpile did not trigger the alert or segregation trigger levels.
- All monthly final tailings composites were classified as NAG, consistent with previous monitoring years.
- Crest tailings from the East and West Dams were NAG, consistent with previous monitoring years. The annual seep survey undertaken in April-May found seeps remained near-neutral to slightly alkaline in pH (field pH 6.6–8.4) with sulphate, nitrate, copper, molybdenum and selenium concentrations within the range of the historical (2010–2023) seep dataset.
- Mine drainage waters remained near-neutral to slightly alkaline (field pH 7.1–9.1). Sulphate concentrations at the Level 6 Adit (SW09) and Lost Horse Gulch (SW36) continued to increase in 2024 (but remained within the range of the historical mine drainage water dataset), whereas Ingerbelle NERSA drainage (SW61) continued to decrease in sulphate and trace element concentrations.
- The Ingerbelle Pit (SW10) and Pit 3 (SW72) waters remained near-neutral to slightly alkaline (field pH 7.6–8.2) with concentrations of sulphate, nitrate, and dissolved copper, molybdenum and selenium consistent with historical values. New location, North Pit sump (SW75), showed concentrations of sulphate, nitrate and dissolved copper, molybdenum and selenium similar to the other operational pits.
- TMF pond and seepages were near-neutral to moderately alkaline (field pH 7.1–9.0) with concentrations of sulphate, nitrate and dissolved copper, molybdenum and selenium within the range of previous monitoring years.
- Ground and surface water monitoring data collected under the Oriole PAG NERSA Groundwater Monitoring Program did not show influence of the PAG NER.
- Analysis of water chemistry trends resulted in the following implications for source term refinement:
    - Contact water chemistry for the Level 6 Adit and LGO stockpile is to be reviewed to account for the different major ion chemistries and secondary mineral solubilities in these more mineralised areas. Separable source terms may be needed for these areas.
    - Selenium and nitrate terms for NERSA seepage are to be reviewed given the continuation of water quality trends which suggest these load-based terms may over-estimate selenium and nitrate concentrations.

3.2.2 ML/ARD Assessments

3.2.2.1 Kinetic Testing of Zone 10 PAG Non-Economic Rock

Kinetic testing of sedimentary and volcanic rocks of the Princeton Group (Lithogeochemcial Zone 10) commenced in 2023 and continued in 2024. The objectives of the kinetic program are to estimate time to acid rock drainage (ARD) onset for potentially ARD generating (PAG) lithologies and to provide data for mine water quality prediction given the lack of historical water quality monitoring data for Zone 10 non-economic rock (NER).

Kinetic testing of the Zone 10 NER is being undertaken in two batches due to constraints regarding sample quantities. The objectives of kinetic testing are to measure element release rates for input into mine water chemistry predictions and to support time to acid onset estimates.

- The first batch consists of six humidity cell tests (HCTs, including a blank and duplicate) using Princeton Group drill core from North Pit holes, 21AB-15 and 21AB-17. These tests started on March 6, 2023, and are continuing as of March 2025.
- The second batch consists of eight barrels and parallel HCTs (including a blank and duplicate) using recently mined non-economic from the North Pit. Five of the eight barrels were constructed on October 20, 2023. The remaining barrels will be constructed as soon as the appropriate materials become available.

3.2.2.2 Geochemical Investigation of Historic Tailings

In 2024, geochemical samples were collected from holes drilled for geotechnical purposes in the East Dam and West Dam in late November 2024. The geochemical sampling targeted tailings deposited before the restart of milling operations in 2011. Deposition of these historical tailings predated monitoring of ML/ARD potential under CMM's ML/ARD ML/ARD PPP.

The investigation objectives, with respect to tailings deposited before the restart of milling operations in 2011, were:

- To profile the ML/ARD potential classification of deposited tailings.
- To characterize in-situ weathering conditions and porewaters of deposited tailings.
- To provide validation of the assumptions used for tailing source terms for long-term water quality predictions, including the development of sub-oxic conditions and secondary mineral solubility.

The results of this investigation are still in preparation at the time of submission for this report. The results will be provided in the 2025 Annual Report.

3.2.2.1 Review of Blasthole Sampling Frequency

The current ML/ARD PPP (SRK 2019a) specifies the requirements for blasthole chip composite sampling for the purpose of inventorying geochemical characteristics. In the five-year review of the ML/ARD management and monitoring program for the 2021 5yr MPRP Update, SRK (2021a) recommended that the method used to composite CMM blast hole chips in a blast pattern when not actively segregating NAG and PAG should be reviewed to reduce the effort required by CMML staff to create the composites.

In 2023, CMML retained SRK to assess if the frequency of blast hole chip composite sampling in the CM Main Pit, as specified in CMM's ML/ARD PPP (SRK 2019a), can be reduced for the purpose of inventorying geochemical characteristics of NER, LGO and MGO. The assessment was completed in April 2024. The following summarized SRKs conclusions and recommendations:

- Decision-making for the purpose of managing ARD potential through waste segregation is based on post-depositional sampling of NERSA and LGO stockpile crests (MGO is either processed directly or stockpiled short-term). Blast hole sampling provides the basis for inventorying waste characteristics and providing spatial information should segregation need to be re-implemented.
- Sampling every 3rd blast hole should yield the same information as sampling all blast holes. SRK therefore recommends composites of blast patterns (when sampled) should be prepared by sampling every 3rd blast hole.
- Since the objective is understanding the zone variability, sampling of mixed zones should be discontinued as this is not providing useful information.
- Due to the low risk for ARD potential in NER from Zone 1 (Copper Mountain Stock), Zone 4 (Lost Horse Intrusive 2) and Zone 9 (post-mineralization dykes), they are recommended to be sampled

every 10th blast pattern. This frequency is consistent with other open pit operations where low risk NER is sampled once a month.

- All blasts containing Zones 2, 3 and 5 should continue to be sampled due to the need to able to track the location of PAG rock should segregation need to be implemented.

The results of this assessment are provided in a document titles ***"Review of Blast Sampling Frequency Requirements for Copper Mountain Main Pit"*** prepared by SRK dated April 25, 2024, a copy of which is included in Appendix H. CMML commenced implementing the recommendations, details of which are discussed in the 2024 ML/ARD Monitoring Report provided in Appendix H.

3.3 METEOROLOGICAL MONITORING

Climate conditions and weather, particularly wind speed and wind direction as well as temperature and precipitation, play a key role in the entrainment, transport, and deposition of fugitive dust, and is therefore an important tool in developing dust monitoring and mitigation plans. The requirements under amended Permit 105340 (2023) include collection, analysis and reporting of weather data collected from CMM's weather station. This section provides a brief summary of the climate conditions at Copper Mountain Mine in 2024, as required under EMA Permit 00261 and 105340.

Copper Mountain Mine is situated in the Similkameen Valley within the Interior Plateau of British Columbia. Its climate is semi-arid and typically varies from the town of Princeton due to its orographic location. A graph of historical rainfall and temperature data from Environment Canada is provided in Figure 3.1 below for the town of Princeton.

An analysis conducted by AMEC (2011) determined that annual total precipitation at CMM is an average of 1.3 times greater than the Princeton Airport Climate Stations (CS), based on 10 years of common data collected between 1974 and 1996. Precipitation data collected at the CMM weather station for the past few years have typically confirmed this relationship. Historically, temperatures at CMM are generally a few degrees less than Princeton, except for occasional short-term inversions in the colder months of the year. Winds in the region are typically from the South-Southeast direction, with strong winds typically occurring in the dry (spring/summer) seasons and calm winds typically occurring in fall and winter.

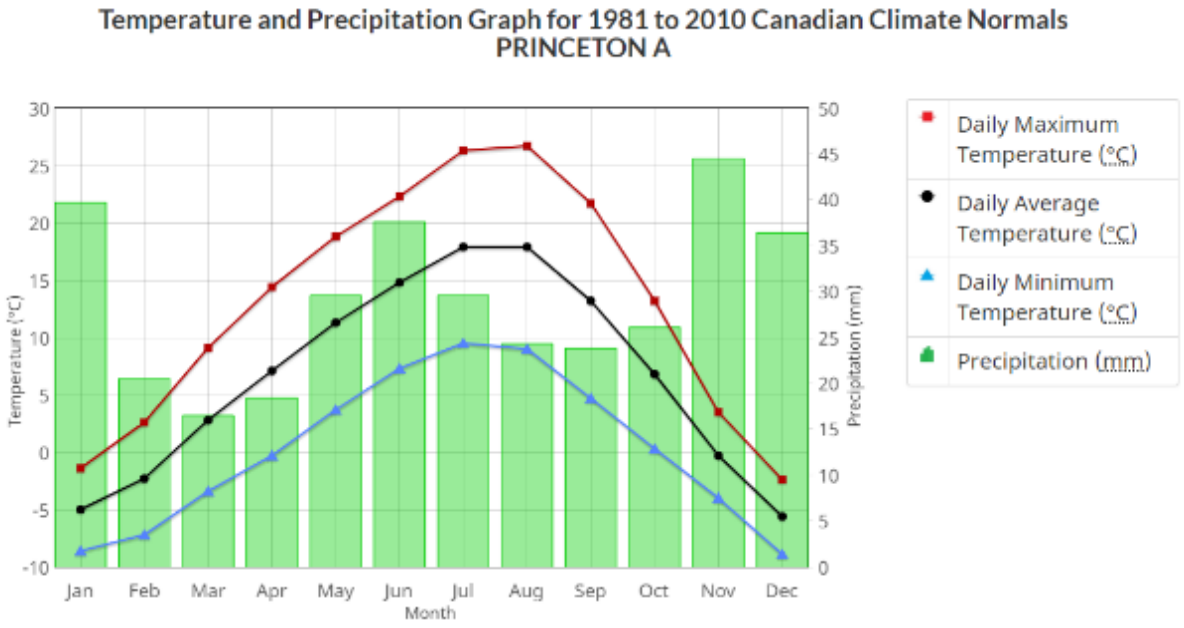


FIGURE 3.1: SUMMARY OF HISTORICAL CLIMATE DATA AT PRINCETON A WEATHER STATION (ENVIRONMENT CANADA, 2022).

3.3.1.1 Description of Weather Station

In October 2010, the CMM weather station was installed and was set on the west bank of the Wolfe Creek valley, flanked by upper elevations to the South and West, followed by lower elevations to North and East. The location of the weather station is shown in Figure 3.2 along with the Permit 105340 (2023) dustfall monitoring stations and authorized air emission points. Specifically, it was located approximately 500 m northeast of the Concentrator Building at an elevation of 1101m. The NAD83 UTM coordinates of the original station was 10U 680899m 5469303m. The weather station was installed at this elevation to represent the average elevation of the mine site. The specific location was selected using the siting standards for meteorological observing sites as recommended in Environment Canada's MSC Guidelines for Co-operative Climatological Autostations (2004).

On September 22, 2022, the weather station was relocated in preparation for the development of the Realignment Support Landform, which has an approved design footprint that will cover the location of the previous station. The new location of the weather station is also shown in Figure 3.2 and is located above the east bank of the Similkameen River, northwest of the current pit development area on the east of the river. It is located off of a main access road along the east slope of the Similkameen River canyon at NAD83 UTM coordinates of 10U 678917 5469506 and an elevation of 1150 m above sea level. The location was selected in consultation with Hatfield Consultants (Hatfield) and was selected to be representative of average elevations for both the Copper Mountain and Ingerbelle portions of the mine site. The weather station also underwent upgrades with the relocation, as described below.

The current weather station is installed similarly to the original one, with the 30 ft high tower mounted to a concrete base, and stabilized by three concrete blocks with the use of heavy-duty cables (Figure 3.3). The sensors installed on the weather station include the original air temperature and relative humidity sensor and wind speed and wind direction sensor with the addition of new solar radiation, precipitation, snow depth, and barometric pressure sensors (specifications and components of the weather station are listed in Table 3.1). A cellular modem was also installed, allowing for a remote download of all data once per day with a scan rate of 5 seconds and a log rate set to 15 minutes.

All sensors are checked, and re-calibrated if needed, by a contracted technician from Hatfield at least once per year. In 2024, the weather station servicing was completed on August 26th. Typical checks are conducted by technicians from Hatfield and include downloading of the data, checking real-time readings against readings from a hand-held weather meter, inspecting all cables, and wiping solar panels clean.

Sensor Issues

In 2023, there were challenges related to sensor reliability and connectivity issues. The precipitation gauge has a snowfall adapter that can be installed and filled with environmentally friendly antifreeze to collect snow and measure the snowmelt. In November 2023, it was discovered that the snowfall adapter was leaking and recording erroneous data. The precipitation gauge was disconnected and replaced with a new unit. Installation was delayed due to lead times within the supply chains and occurred on August 26th 2024, during scheduled routine maintenance by Hatfield technicians.

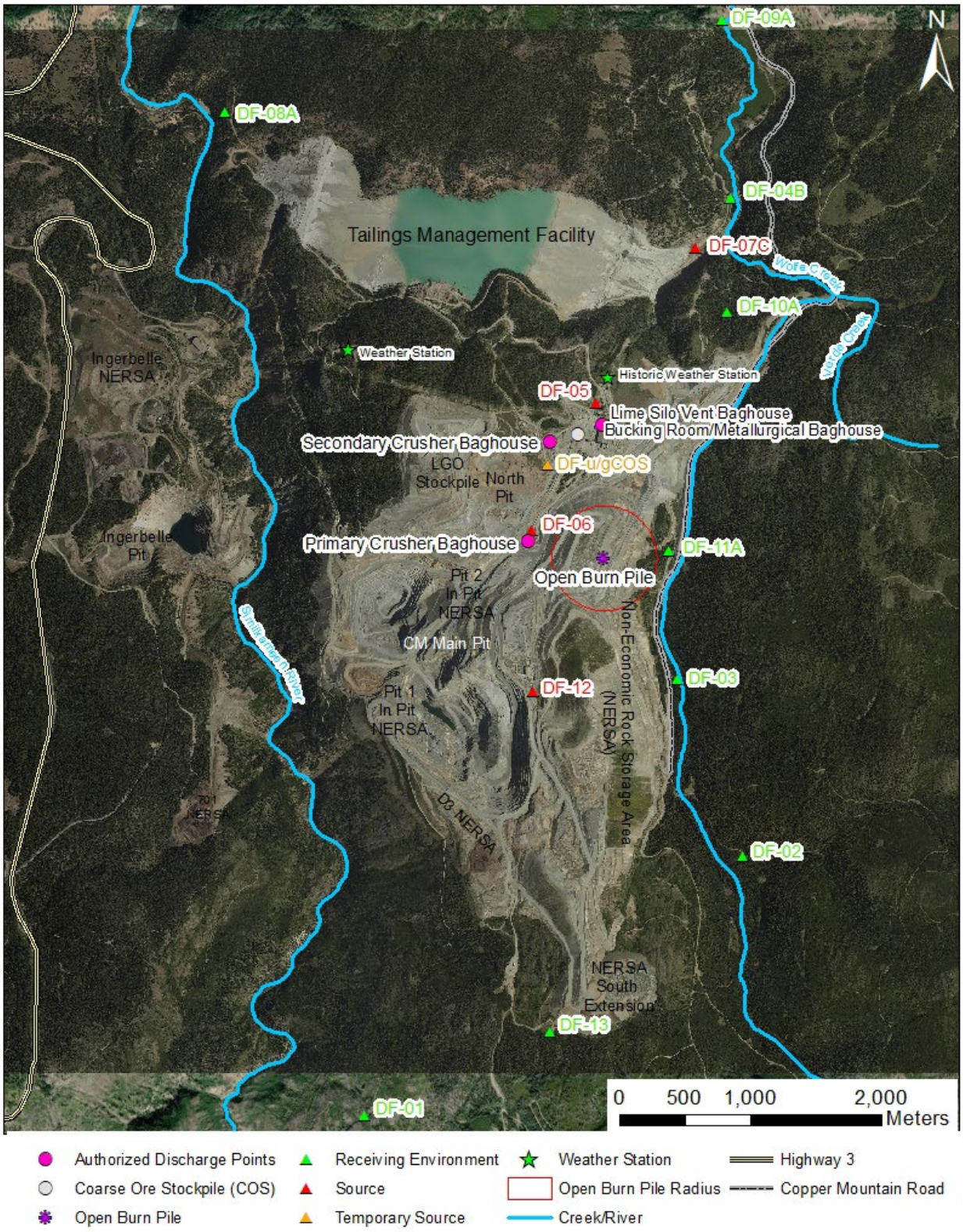


FIGURE 3.2: LOCATION OF PERMIT 105340 AUTHORIZED AIR EMISSIONS DISCHARGE POINTS AND DUSTFALL MONITORING STATIONS IN 2024

3.3.1.1.1 Other Stations

CMM has also been collecting snowfall data since 2011 from a location near the Administration Building at an elevation of 1235 m above sea level. The snowfall table was located on the southeastern side of the Administration building parking lot (10U 680384 5466993). Daily snowfall data was collected by measuring the depth of snow on the table at least once a day during weekdays, and the table was cleared off after each reading. Snowfall accumulated over a weekend was measured on the following weekday morning This method likely results in a slight underestimate of snowfall, as there may be snowfall events that partially or completely melted or became more compact between readings.

The secondary weather station, named IOKANA10, includes an AcuRite 5-in-1 weather sensor and display (model 06006) installed on the roof of the Administration building. Data for this weather station is observed via a scan rate that ranges from 18 seconds to 60 seconds, depending on the parameter being measured, and a data logging rate of 12 minutes.

TABLE 3.1: WEATHER STATION COMPONENTS AND SPECIFICATIONS

Weather Station Component	General Specifications
Weather Station Tower	10 meter (30ft) Universal Aluminum Tower with RFM18 base - Wind load 9ft2 - Model UT-9-30
Primary Data Logger	Campbell Scientific CR100 Data Logger with 4mb SRAM - 5 sec scan rate - Internal temperature and battery voltage sensors Model CR1000
Primary Anemometer	Gill Wind Ultrasonic 0-60m/s Range at 0-360 degrees
Precipitation Gauge	OTT Pluvio2 L Weighted Rain Gauge - Mounted at 2m height with Alter-style windscreen
Air Temperature/ Relative Humidity	Vaisala Temperature and Relative Humidity Sensor with RM Young 41303-5A Solar Radiation Shield - From -40 to +60 degrees, 0 to 100% RH Model HMP60 Mounted at 2m height
Solar Radiation	Kipp and Zone SPLTite2 silicon pyranometer - Mounted at 4.3m height
Snow Depth	Campbell Scientific Snow VUE10 Sonic Ranger 50 KHz - Mounted at 3.77m height
Barometric Pressure	Campbell Scientific CS106 Barometric Pressure Sensor 500mb - 1100 mb
Cellular Modem	Campbell Scientific CELL205, 4G LTE CAT1 Cellular Module - Daily data transmission.

FIGURE 3.3: CURRENT WEATHER STATION (INSTALLED SEPTEMBER 22, 2022)

3.3.1.2 Data Analysis

Raw data from the weather station is uploaded telemetrically to an online portal every 24 hours. As specified in the permit 00261 amendment issued December 6th 2024, valid data is required to be measured for each parameter and reported for a minimum of 90% of the hours available in each calendar quarter. Analysis of 2024 data from the CMM weather station involved review of any outliers that were outside of the expected range of values for a particular parameter (e.g. wind directions greater than 360 degrees) or points not recorded as a numerical value indicating they were erroneous and large gaps where no data were recorded. Times where no data were recorded are marked as 'M' for missing by the climate station software. In 2024, data gaps occurred sporadically for each individual sensor but also collectively. Notable gaps for the purpose of this report are any gaps greater than one (1) hour of missing data. Data gaps generally occurred with wind speed/direction and snow gauge (depth on ground) sensors. The cause for these gaps is unknown, and no issues were found during the annual climate inspection. For instance, recorded wind speed readings captured data 97.6% of the time in Q1 2024, with 198 instances of missing "M" or erroneous recordings where gaps or erroneous data accounted for only 21 of these notable instances as referenced below. Similarly, snow depth measurements captured data 99.87% of the time (8749 15 min intervals of data), with 11 instances of missing or erroneous data, only 6 of which were considered notable in Q1.

Outliers removed from the 2024 dataset due to erroneous results are summarized below:

- Wind Speed (km/h) outliers and erroneous readings removed on:
  - January 21 at 13:00 reading 81.5
  - January 22 at intermittent times, readings 1042, 88, 92.7, 234.6, 150.2, 209.6, 101.5, 325.3, 206.5, 370.2 150.6, 225, 1583
  - January 23 at 22:30, 22:45 and 23:00 readings 695.7, 1056, 462.5
  - February 23 at 14:45 reading 104.4
  - February 24 at 08:45 and 09:00 readings 345.1, 844
  - December 20 at 15:45, 16:00 and 17:45, readings 1041, 682.6, 365.2
- Snow depth gauge outliers and erroneous readings removed on:
  - January 8 at 16:30 reading 1.6m
  - January 10 at 04:30 and 05:50 reading 1.5m and 05:45 reading 1.1m
  - January 10 at 23:30 reading 1.5m
  - January 11 at 03:30 reading 1.5m
  - January 11 at 04:30 reading 1.3m
  - April 4 at 22:15 and 22:30 reading 1.2m and 0.5m
  - April 5 at 01:15 and 03:00 reading 0.7m and 0.4m
  - April 16 at 6:00 – 08:15 reading 1.5m
  - November 22 at13:30 reading 1.5m

Precipitation gauge taken offline on December 1, 2023, to August 27, 2024, due to snowfall adaptor tipping mechanism failure.

As mentioned above, notable gaps where data was not recorded are summarized below:

Wind speed and wind direction data gaps occurred on:

- January 3 at 16:15 – 18:00
- January 9 at 02:00 – 03:15 and 06:45 – 08:00
- January 10 at 10:15 – 12:15, 14:45 – 17:00 and 20:30 – 22:15
- January 11 at 06:00 – 07:00

- January 15 at 10:45 – 16:45
- January 16 at 05:45 – 11:15 and 21:15 – January 17th at 10:00
- January 17 at 16:30 – January 18 16:15, intermittent readings
- January 19 at 11:45 – 14:30
- January 20 at 15:45 – 20:30, intermittent readings
- January 21 at 14:30 – 15:45
- January 22 at 16:30 – January 23 at 01:00
- January 23 at 10:15 – 11:15
- January 25 at 12:00 – 20:00, intermittent readings
- January 26 at 11:15 – 22:00, intermittent readings
- February 11 at 09:00 – 19:30, intermittent readings
- February 12 at 06:15 – 21:00, intermittent readings
- February 13 at 20:30 – February 14 at 08:45, intermittent readings
- February 14 at 20:45 – February 15 at 12:45, intermittent readings
- February 17 at 11:45 – 13:00
- February 19 at 11:45 – 15:30, intermittent readings
- February 22 at 03:45 – 07:00, intermittent readings
- February 27 at 01:30 – 09:30, 14:15 – 16:00 and 21:00 – 22:00
- February 29 at 09:30 – 11:00
- March 14 at 11:15 – 12:15
- April 4 at 19:30 – April 5 at 09:45, intermittent readings
- April 16 at 05:45 – 22:00, intermittent readings
- April 17 at 00:45 – 11:00, intermittent readings
- November 22 at 15:00 – November 23 at 08:00, intermittent readings
- November 24 at 22:00 – 03:00
- November 25 at 06:00, 01:45, intermittent readings
- November 26 at 08:15 – November 27 at 08:00, intermittent readings
- November 30 at 13:15 – December 1 at 18:00, intermittent readings
- December 17 at 14:30 – 22:15, intermittent readings
- December 18 at 15:30 – 21:45, intermittent readings
- December 19 at 21:45 – 03:45
- December 21 at 11:30 – 14:15
- December 26 at 04:00 – 06:30
- December 28 at 12:30 – December 29 at 01:15, intermittent readings
- December 29 at 20:45 – 01:00
- December 31 at 12:30 – 15:15

3.3.1.3 Results

Table 3.5 provides a comparison of monthly and annual weather data from the CMM and Princeton weather stations for 2024. For conversion of snowfall at CMM to equivalent water depth using the daily snow depth on the snow table method, an average snow water equivalent factor of 10 has been assumed and applied to all snow depth measurements. In general, 2024 was hotter and drier than previous years and did not follow the typical 10-year trend. The following subsections provide a brief summary of the temperature, precipitation, and wind results.

Precipitation

Historically, at both CMM and Princeton, rainfall has made up a larger proportion of total precipitation than snowfall. The average proportion of rainfall (based on the last 5 years) at CMM is around 61% (71% in Princeton). Based on the available data in 2024, precipitation data at CMM showed that rainfall constituted 62% of the annual total precipitation (243mm rainfall; 147.8mm snowfall as water equivalent), indicating a notably greater proportion of rainfall than is typically observed.

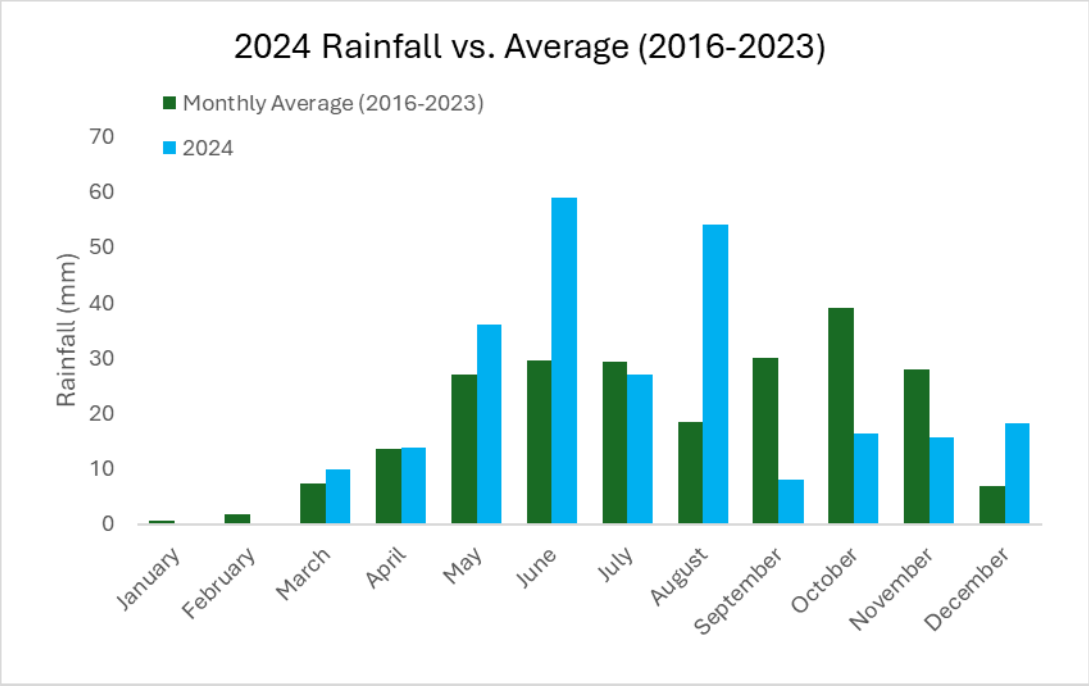
Yearly total precipitation (rainfall and snowfall) amounts at CMM, based on data from the onsite weather station, are generally higher than those observed in Princeton. This difference is largely due to the elevation difference (orographic effects), as the CMM station is 399.3m higher in altitude than the Princeton CS station. In 2024, total precipitation at CMM was 1.48 times greater than the Princeton CS weather station (390.8mm and 263.8mm, respectively).

In general, total precipitation results in 2024 are consistent with the analysis conducted by AMEC (2011) which determined that annual total precipitation at CMM is an average of 1.3 times greater than the Princeton CS based on 10 years of common data collected between 1974 and 1996. Since 2013, total precipitation at the CMM station has been on average 1.2 times greater than total precipitation at the Princeton CS.

In 2024, CMM experienced above average rainfall in every month except July, September, October and November, when compared to CMM average rainfall calculated from 2016 to 2023, as shown in Figure 3.4 (a). CMM experienced an average of 9 days per month with precipitation during the typical snow-free months (April-October) in 2024 which is similar to the average of 8 days in 2022 as shown in Figure 3.4(b).

Frequency in precipitation has a greater effect on dust suppression than total precipitation observed in a month since dust can start generating after a few days without precipitation. If all the precipitation in a month falls over just a few days, the remainder of the month can be dry and susceptible to dust generation.

a)



b)

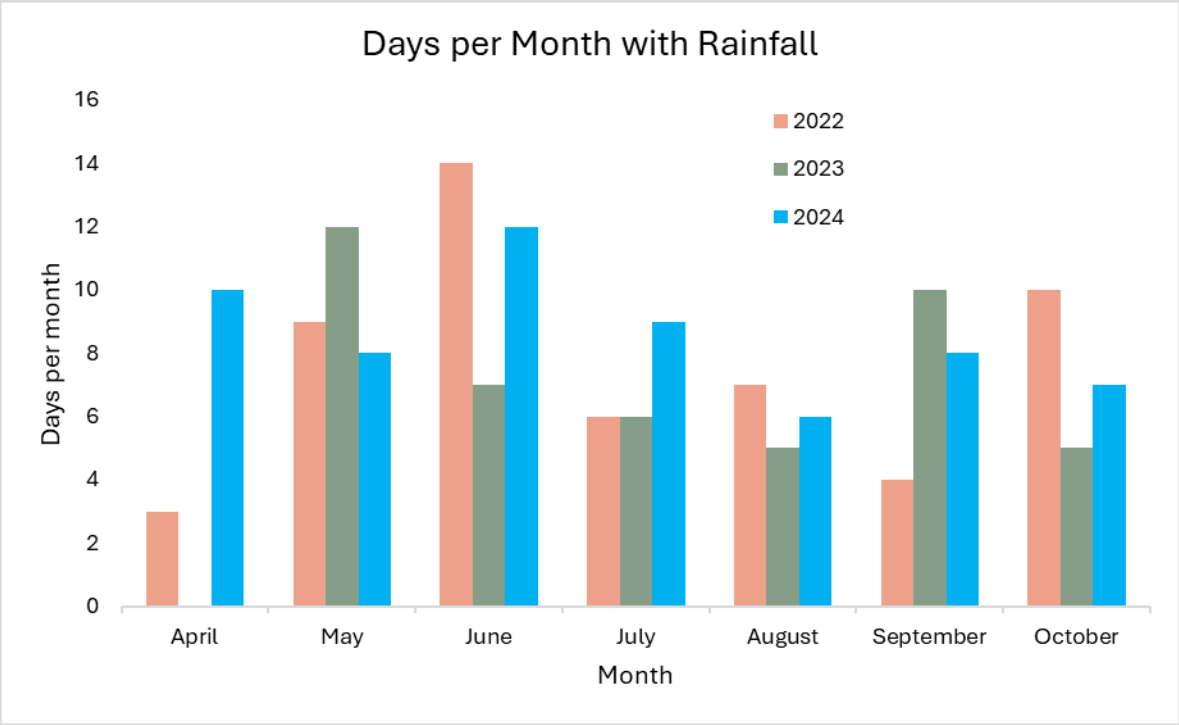


FIGURE 3.4: COMPARISON OF (A) 2023 RAINFALL WITH MONTHLY AVERAGE (BASED ON 2016-2023) AND (B) DAYS PER MONTH WITH RAINFALL FOR 2022 TO 2024.

Temperature

As summarized in Table 3.5, the 2024 dataset indicates that temperatures at CMM ranged from -34.0°C to 39.9°C, with an annual average temperature of 5.7°C. Monthly average temperatures ranged from -6.9°C to 19.8°C

Historically, temperatures at CMM are generally a few degrees less than Princeton, with the exception of occasional short-term inversions in the colder months of the year. The average annual temperature at the Princeton CS Station in 2024 was 7.4°C, with a minimum of -37.4°C and maximum of 39.5°C (Table 3.5). Monthly average temperatures ranged from -2.3°C to 19.2°C, and generally followed expected seasonal trends. A comparison of the 2024 temperature data for CMM and Princeton shows that temperatures at CMM were similar or slightly lower than in Princeton.

Winds

The analysis of wind data showed that winds through the CMM mine site were predominantly from the southwest to south-southwest in previous years before the weather station was moved in 2022. In 2024, the most frequent wind direction came predominantly from the south. Wind speed data for 2024 was consistent with 2023, with monthly average wind speeds ranging from 3.9 to 8.8 km/hr and an annual average of 6.5 km/hr compared to an average of 6.2 km/hr in 2023 (3.9 to 7.9km/h). The maximum wind gust speed in 2024 of 70.0 km/hr was registered in November. Average and maximum wind speed and direction for each month are provided in Table 3.5.

CMM normally experiences an increase in higher wind conditions during the spring season, commonly in the mid afternoons. However, during the 2024 spring season, the CMM site experienced a greater frequency and duration of high wind events, as well as higher than normal maximum windspeeds. The month of May had 22 days with maximum wind speeds greater than 20 km/h in 2024 versus 5 days in May 2023. The month of June had 21 days with maximum wind speeds greater than 20 km/h versus 9 days in June 2023. The days which

were above 20km/h also typically saw greater maximum wind speeds in 2024 when compared to 2023. In May 2024, maximum wind speeds ranged from 15.1 km/h to 52.3 km/h, with a median maximum wind speed of 26.7 km/h. When comparing the same month in 2023 the maximum wind speeds ranged from 10.1 km/h to 32.5 km/h with a median maximum wind speed of only 15.9 km/h. A similar distribution was also observed in June, where the maximum wind speeds ranged from 15.1 km/h to 53.1 km/h in 2024 and 10.9 km/h to 37.5 km/h in 2023.

All years of data for wind speeds are suspected to be biased low prior to September 2022, as maximum wind speeds at the previous Copper Mountain weather station were generally reported to be lower than the Princeton weather station. Due to the higher altitude and mountain top location of Copper Mountain, wind speeds would be expected to be higher than in Princeton. It is suspected that since the previous CMM weather station was located on the northeast side of Copper Mountain and dominant winds are from the south and southwest, the location of the previous weather station may have been somewhat sheltered from the dominant winds, thereby recording lower wind speeds. By moving the climate station to the northwest side of the property in September 2022, it was theorized that wind speeds would be higher than were recorded from the previous location, and potentially higher than the Princeton climate station The new location of the CMM climate station is in a clearing however, it is surrounded by sparse trees and a large rock wall on the opposite (east) side compared to the Princeton climate station which is located at the Princeton airport in a largely unobstructed open and elevated area. In 2024, the wind speeds remain below what is recorded at the Princeton climate station but are similar to those recorded at the old climate station location.

Although the wind speed data collected prior to September 2022 may be biased low, the wind directions are believed to be representative and were consistent with data from previous years and from the new location. The results continue to indicate that the design of the current dustfall monitoring network, which has the majority of monitoring stations located northeast of key dust generation sources, is obtaining representative dustfall data associated with the dominant wind direction and therefore provides data representing the upper limit of the range of deposition rates that would exist around the property and surrounding receiving environment. In addition, the reference station is appropriately located on the south-southwest (i.e. upwind) side of the property and is believed to be collecting representative background dustfall deposition rates.

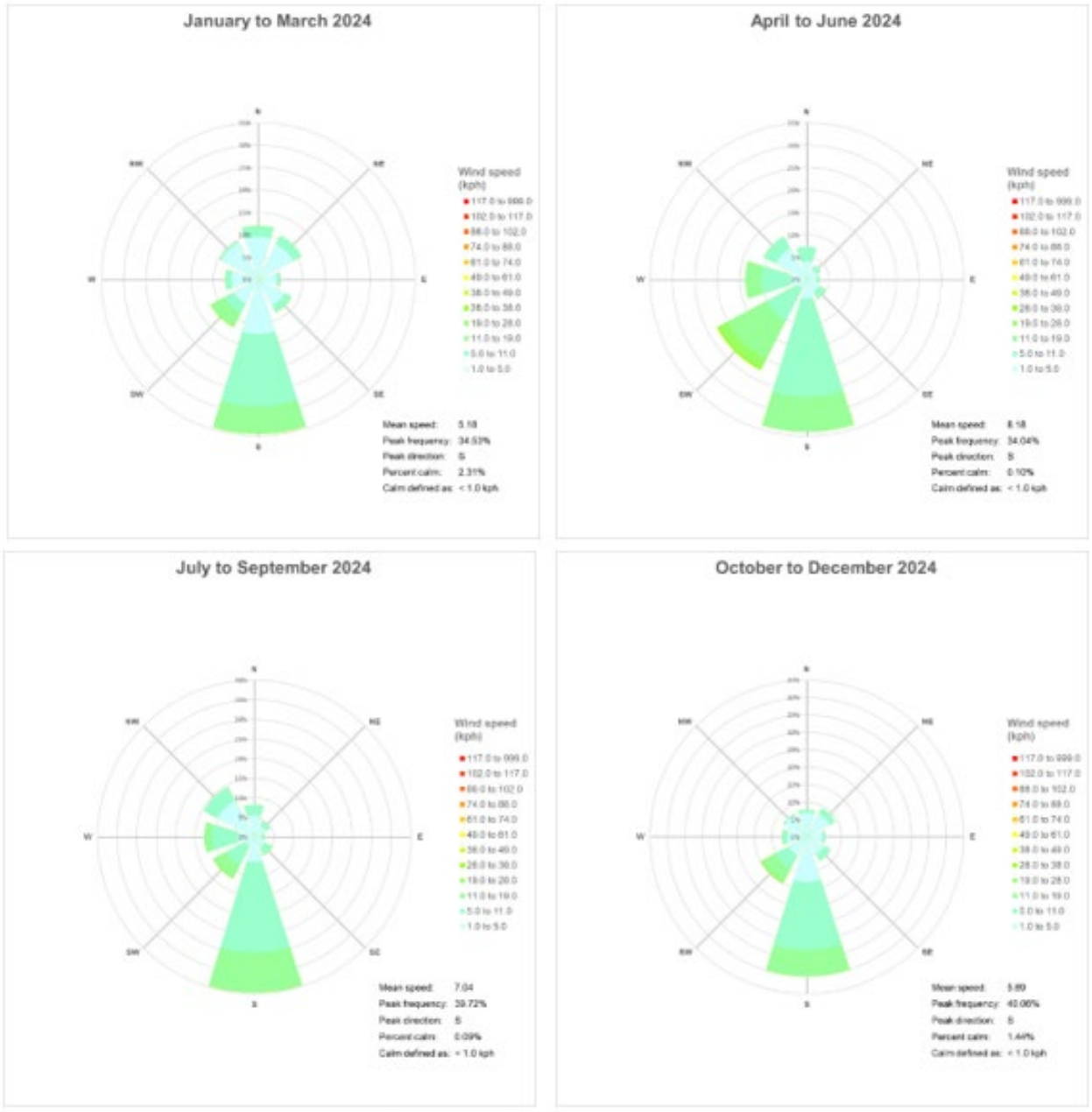


FIGURE 3.5: SEASONAL WIND SPEED AND DIRECTION AT COPPER MOUNTAIN MINE IN 2024

3.4 WATER MANAGEMENT

Water is an integral component of mining and milling operations at CMM requiring approximately 2.0 m^3 of water per tonne of ore processed, of which a minimum goal of a minimum 70% is reclaimed from the TMF pond. The remaining freshwater for mill process is sourced as freshwater from the Similkameen River under Water Licence C502055.

3.4.1 Water Management Plan

CMML maintains a Water Management Plan (WMP) to establish a framework to ensure efficient use of water resources, and ensure watercourse and water quality protection during operation, closure and post closure activities at the site. The WMP describes water management practices and procedures that aim to minimize adverse effects on water resources resulting from mining activities at Copper Mountain Mine. The WMP

synthesizes information from hydrology, hydrogeology, geochemical characterization, water quality monitoring, site wide water quality modeling, site wide water balance and the mine plan to inform the effective operations, maintenance, surveillance and monitoring of water management infrastructure.

The current version of the WMP was updated November 2022 to reflect changes to water management that have occurred at the site since the 2019 update, including changes related to the addition of pumpback systems, extension of the NERSA Seepage Collection System (to East Seepage Pumphouse), adaptations to the previous water management zones to better reflect current operations, the inclusion of Ingerbelle water management, and changes to inspections and maintenance measures of water management infrastructure. A new update is currently in progress and will be completed in Q2 2025.

The implementation and success of the WMP is closely linked to a number of other management plans, standard operating procedures and manuals that make up the Environmental Management System (EMS) at Copper Mountain Mine. In particular, the following EMS documents address the management of surface erosion, sediment control, rock geochemistry and water quality, as well as facility-specific water management such as the tailings management facility, at the mine site:

- *Wolfe Creek Sulphate Adaptive Management Strategy (WC-SAMS)*
- *Surface Erosion and Sediment Control Plan*
- *Selenium Management Plan*
- *Explosive and Nitrogen Management Plan*
- *Best Achievable Technology* (*BAT) Assessment*
- *Metal Leaching and Acid Rock Drainage Prediction and Prevention Plan (ML/ARD PPP)* and associated addendum for North Pit
- *Safe Discharge Plan*
- *Quality Assurance and Quality Control Management Plan*
- *Tailings Management Facility (TMF) Operation, Maintenance and Surveillance (OMS) Manual*
- *Wolfe Creek Realignment Operation, Maintenance and Surveillance (OMS) Manual*
- *Wolfe Creek Realignment Construction Environmental Management Plan (CEMP)*

In addition, CMML established an Independent Water Review Board (IWRB) in 2022 to provide a high level of oversight to achieve best practices in water management and stewardship. The objective for the IWRB is to provide non-binding advice and guidance to the Mine General Manager on water, including quality, quantity, management, management structures, and potential mitigation and treatment options for discharge water. It is understood that the TMF is an important water management structure due to its influence on the overall site water balance and load balance

The IWRB held two meetings in 2024; a virtual meeting was held June 7 and a hybrid, onsite/virtual meeting was October 1 and October 3. The October meeting included a tour of the Ingerbelle site, West dam seepage area, and East Dam seepage area. Both meetings consisted of presentations by CMM and various consultants involved in water related management and monitoring activities at CMM and ended with a closeout discussion period.

3.4.2 Current Water Management System

Key water management infrastructure employed at Copper Mountain Mine are depicted on Figure 3.6 and Figure D.1 in Appendix D, and includes the following:

- TMF Reclaim Pond and Barge
- Freshwater pumphouse and intake on the Similkameen River
- Reclaim water, tailings and freshwater distribution lines
- Fresh and reclaim water tanks
- Potable water treatment plant
- Sewage treatment works
- Seepage collection and return systems for the TMF
- Mine site seepage and runoff diversion and collection systems
- Pit dewatering systems
- Surface water and groundwater monitoring locations
- Wolfe Creek realignment works

Details on these water management structures at CMM are provided in the WMP and summarized in the subsection below.

Changes to permanent water management features and infrastructure at Copper Mountain Mine that were completed or in progress in 2024 include the following:

- Installation of a pumping system on two groundwater interception wells installed downgradient of the TMF East Dam in 2023.
- Completed construction of an engineered upgrade to the inlet of the NERSA Seepage Collection Ditch at the SW14 drainage confluence to improve capture of shallow groundwater seepage into the collection ditch.

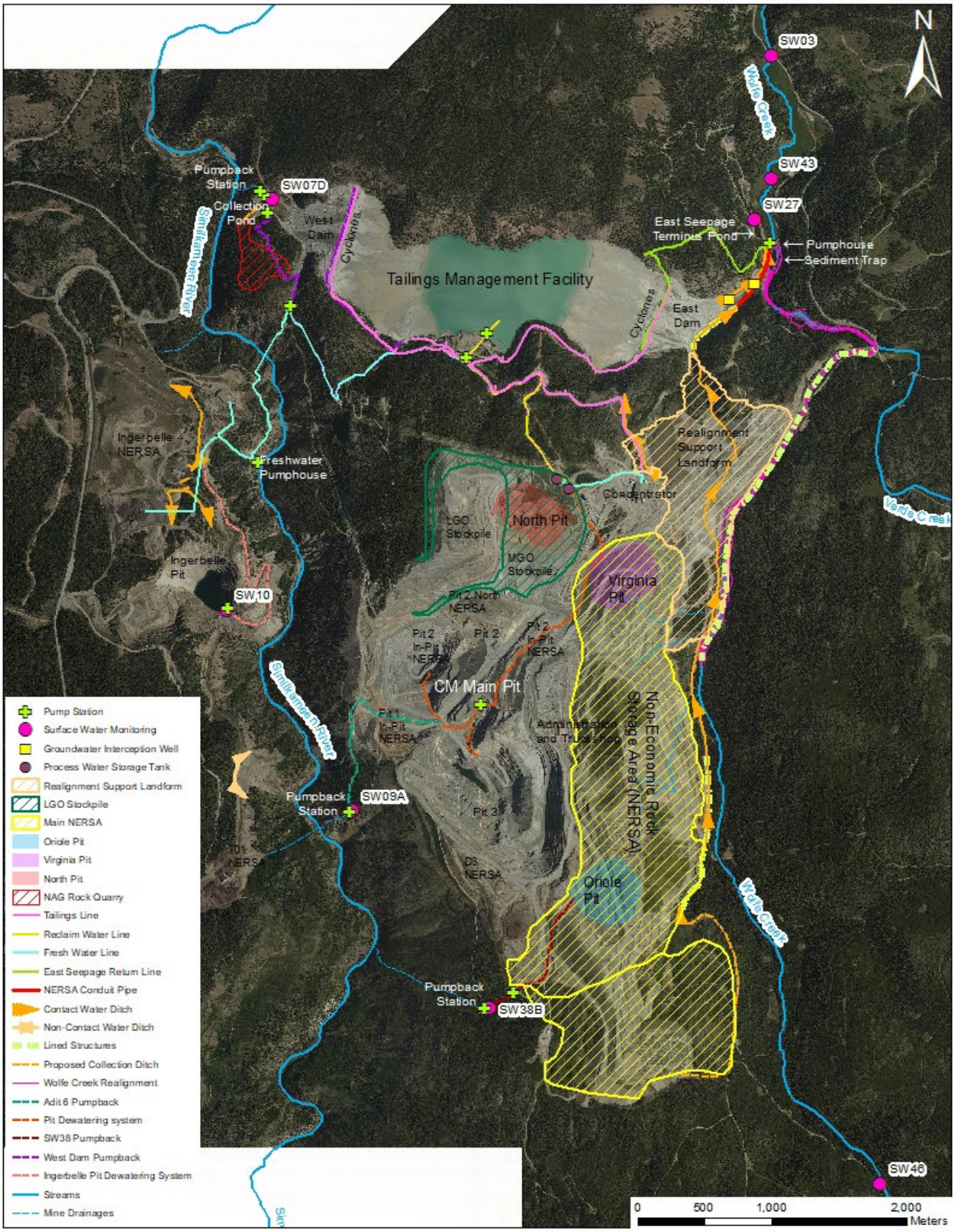


FIGURE 3.6: WATER MANAGEMENT INFRUSTRUCTURE

3.4.2.1 TMF Reclaim Pond and Barge

The TMF acts as the primary containment and storage facility for reclaim water at the Copper Mountain mine site, with the volume of free water stored in the supernatant pond typically ranging from approximately 1.5 to 2.5 Mm^3. The stored water volume includes process water, mine water, and return seepage water. This allows for water to be recycled, reused and conserved, thereby reducing the requirements for freshwater from the Similkameen River. A minimum 70% of the mine's mill process water requirement is provided by reclaimed water. The water level of the supernatant tailings pond (TMF Reclaim Pond) and quantity of water pumped from the pond are monitored and recorded, and a Mill water balance comprising all inputs and outputs from the Mill and TMF system is maintained.

Process water sourced from the TMF is normally pumped from the TMF Reclaim Pond by the Reclaim Barge to the Booster Station and from the Booster Station to the Mill Reclaim Water Tank. However, on March 3, 2023, the Reclaim Barge became partially submerged in the TMF. Salvaging attempts were made but the damage was deemed too extensive. Temporary pumps were installed at the shoreline of the TMF adjacent to the barge site to provide process water to the Mill until the replacement barge was commissioned. First operation of the new barge occurred on January 14, 2025 and was officially commissioned on January 17, 2025.

While reclaim water is used as process water to the maximum extent possible, a supply of freshwater to the Mill is required to provide clean water for use in the pump gland water system, as cooling water for the electrical and Mill ancillary equipment, as fire water, and as make up water to account for process water lost to the copper concentrate and from the TMF due to evaporation, seepage, and entrapment in pore spaces between settled tailings solids.

3.4.2.2 Fresh Water System

Freshwater is sourced from the Similkameen River via the pumphouse on the Ingerbelle side of the property and piped to the Mill Fresh/Fire Water Storage Tank located beside the Reclaim Water Storage Tank on the hillside approximately 500 m to the west side of the Mill. The withdrawal and use of water for these purposes is authorized under Conditional Water Licence C502055. This licence authorizes the removal and use of up to 36,369 m^3/day or 0.42 m^3/s throughout the year. The freshwater intake is screened in accordance with the DFO Freshwater Intake End-of-Pipe Fish Screen guideline. The quantity of water pumped from the Similkameen River is monitored and recorded to document usage rates.

The construction and operation of potable water sources is regulated by the Interior Health Authority of the BC Ministry of Health under the *Drinking Water Protection Act* and its regulations. Groundwater from groundwater supply wells at Copper Mountain are used to supply freshwater to the Concentrator building and Administration building for potable purposes. Potable water for the new Health, Safety and Security building (gatehouse) is transported to site from an IHA approved off-site potable water source and is stored in a holding tank at the building. The potable water supply at all locations at CMM is treated where required, sampled and analyzed as required to meet applicable potable water standards.

3.4.2.3 TMF Seepage Control Works

The East and West dams of the TMF were constructed with an internal drainage collection system that helps collect and direct seepage water to a collection system for pumping back to the TMF pond or to a settling pond for subsequent release to Wolfe Creek or the Similkameen River, respectively.

3.4.2.3.1 East Dam Seepage Collection System

Seepage through the TMF East Dam, and drainage from the spigotted and cyclone sand placement to raise and extend the dam, is recovered by a system consisting of a collection ditch with a terminus pond, and a sump with vertical turbine pumps located in a pumphouse approximately 650 m downstream of the dam toe. A return pipeline up and over the hill that makes up the north abutment of the East Dam is used to pump the collected seepage back to the TMF impoundment to supplement the mill process water system. The alignment of the return pipeline, as shown on Figure 3.6, is completely outside the currently approved life of mine design footprint for the TMF, and is aligned such that in the event of a leak in the pipeline, water would either flow east and be intercepted by the existing seepage collection ditch and terminus pond, or it would flow southwest into the east end of the impoundment.

The East Dam seepage water is generally of good quality and contains very low or undetectable levels of suspended sediments. The seepage is currently authorized for discharge to Wolfe Creek under EMA Permit 00261 and federally under the MDMER. However, for water conservation reasons, CMML's normal operating condition is to pump the collected seepage to the TMF as much as possible for use as mill process water to minimize use of freshwater. When East Dam seepage water is released to Wolfe Creek, it is discharged from the outflow channel of the Terminus Pond (monitoring station SW27)

Upgrades to the East Dam seepage collection system were largely completed in 2021 to increase the capacity of the collection ditch, terminus pond, pumphouse and return pipeline to also include capacity for water from the NERSA Seepage Collection System, which was directed to the East Dam seepage and return system in May 2021.

3.4.2.3.2 West Dam Seepage Collection System

Seepage through the TMF West Dam, and drainage from the spigotted and cycloned sand placement to raise and extend the dam, collects in a collection pond at the toe of the dam, which in the absence of pumpback, decanted through an overflow channel (rock fill swale) to a lower outflow channel (SW07), where it then flowed down a canyon towards the Similkameen River.

CMML installed a temporary pumpback system on the TMF West Dam seepage collection system in November 2019 to stop discharge of West Dam seepage, as required under EMA Permit 00261, until a permit amendment process is completed to authorize discharge at this location, as recommended in a Best Achievable Technology (BAT) Assessment submitted May 15, 2019 and approved by BC ENV on December 19, 2019. The temporary pumpback system pumps collected seepage water from the West Dam Settling Pond (now referred to as the West Dam Collection Pond) to the TMF via the Mill process water system. The system consisted of two portable diesel pumps connected in series with pipes that pump water from the West Dam Collection Pond up to the nearby Freshwater Booster Station, where the water is added to the freshwater pipeline that feeds the ore processing circuit in the Mill. In April 2020, a small sump was excavated into the outflow channel below the West Dam Collection Pond, directly upstream of the SW07 discharge and monitoring station, and a portable diesel pump at the sump pumps residual groundwater that surfaces in the outflow channel back up to the West Dam Collection Pond, from where it is then pumped to the Mill along with the collected surface seepage, as noted above.

The temporary West Dam seepage pumpback system at the West Dam Collection Pond has been designated as a standby system following Q3 2023 commissioning of the electric pumps. However, the need for several design modifications were identified during construction and will be undertaken in 2025.

3.4.2.4 NERSA Seepage and Runoff Collection Systems

3.4.2.4.1 NERSA Seepage Collection System

All drainages and runoff from the east side of the NERSA are intercepted upgradient of Wolfe Creek by a collection ditch that runs parallel along the length of the NERSA. The collection ditch was the pre-existing road drainage ditch along the upgradient side (west side) of Copper Mountain Road and the Wolfe Belgie Forest Service Road (FSR). All of these pre-existing culverts along the length of the current NERSA are sealed to prevent direct flow to Wolfe Creek. Ditches along mine access roads to the east side of the property also direct runoff on these roads to the main collection ditch. The NERSA collection ditch was upgraded in 2020 to meet freeboard and erosion protection requirements as defined in Mines Act Permit M-29 dated July 23, 2019.

Water in the NERSA seepage collection system is directed to the East Seepage Pumphouse for pumping to the TMF. As proposed in the 2016 Mine and Reclamation Plan Update (CMML, 2017), following realignment of Wolfe Creek, CMML planned to direct the NERSA seepage collection system to the former Wolfe Creek channel, where it would flow gravitationally through the base of the Realignment Support Landform and report to a drainage channel at the toe of the East Dam where it will then be directed to the existing East Dam seepage collection system and be pumped to the TMF along with currently collected East Dam seepage. This configuration for the extension of the NERSA seepage collection system was designed to increase the amount of NERSA contact water seepage intercepted from flowing into Wolfe Creek, as well as collect all future contact water from the Realignment Support Landform.

The extension of the NERSA Seepage Collection System to the East Seepage Pumphouse was completed in 2022, although it became functionally operational in May 2021. The NERSA Seepage Collection System extension is comprised of the following components:

- NERSA Collection Ditch Outfall Channel - Connects the existing collection ditch to the underdrainage of the Wolfe Creek Realignment Support Landform (RSL), which is routed through the former Wolfe Creek channel.
- The RSL Attenuation Berm (constructed within the RSL) – To attenuate above average flow from the NERSA Collection System.
- The East Dam RSL Toe Collector - A lined water conveyance structure at the East Dam that conveys flows from the NERSA Collection System from the toe of the RSL (near location of Permit 00261 monitoring station SW67) under the toe of the East Dam.
- NERSA Conduit Pipe, NERSA Conduit Bypass Channel and expanded East Dam Terminus Pond – Conveys collected NERSA and RSL seepage flows to the East Seepage Pumphouse. Under normal flow conditions, collected NERSA and RSL seepage flows exiting the East Dam RSL Toe Collector are conveyed directly to the East Seepage Pumphouse via the NERSA Conduit Pipe, and, during higher flows, will also be directed to the East Dam Terminus Pond (connected to pumphouse) via the NERSA Conduit Bypass Ditch and East Seepage Collection Ditch.

3.4.2.4.2 Southwest NERSA Drainage (SW38) Pumpback System

A temporary pumpback system was installed in December 2019 at the drainage on the southwest side of the NERSA to collect and pump the water at monitoring station SW38 to a nearby open pit. The system consisted of a sump tank and rental diesel pump installed at the SW38 surface water monitoring station to collect the water from the SW38 and SW63 drainages and pump it up the hillside to an upper storage tank. From the upper tank, additional rental diesel pumps pumped the water to the mined out and backfilled Oriole Pit. The lower tank has an overflow outlet that discharges the collected water to the original SW38 drainage channel in the event that the system is not operational.

Upgrades to this system to convert it to long-term electrical infrastructure were largely completed in 2021. Although the long-term pumping infrastructure is complete and in operation, it was identified during commissioning of the system that additional modifications are needed on the inflow structures from the SW38

and SW63 drainage channels into the lower SW38 sump in order to meet the Permit M-29 design requirements for conveyance and erosion protection for a 1:200 year peak flow event. Construction of the inflow structure for the SW63 drainage was largely completed and operationally function in December 2021, however it was identified during construction that additional modifications were needed to the engineering for the intake structure for the SW38 drainage channel . Some design options for this intake have been reviewed however a final design has not yet been confirmed. Construction will be completed once a final design has been chosen.

The SW38 drainage water is generally of good quality and contains very low or undetectable levels of suspended sediments. The water is currently authorized for discharge to Similkameen River under the federal MDMER, and CMML has an amendment application in the review process seeking authorization under EMA Permit 00261 to resume discharge at this location.

3.4.2.5 Mine Water

Water collected in the open pits and underground workings due to groundwater infiltration, precipitation or surface runoff is classified as mine water. Historically, Pit 2, Ingerbelle Pit, Virginia Pit and Oriole Pit have accumulated mine water, whereas Pit 3 had until recently remained dry, likely due to the presence of the underlying historic underground workings draining the area though the Level 6 Adit. Pit 3 began accumulating water in late 2021 when the pit was developed below the elevation of the Level 6 Adit. The development of the North Pit began accumulating small amounts of water in 2024.

Mine water from the open pits is collected in sumps and either pumped to the TMF, to the mill reclaim, to a holding tank for use in road watering for dust control, or to an adjacent pit for storage.

3.4.2.5.1 CM Main Pit Dewatering System

Since restart of operations in 2011, CMML's pit dewatering system in the active Copper Mountain pits has utilized temporary portable pumps and pipelines which have been moved as needed. The portable infrastructure was upgraded in June 2021 to include long-term fixed infrastructure. The upgraded pit dewatering system includes a fixed, central pumping station with three settling compartments located in the saddle area of CM Main Pit between the former Pits 1, 2 and 3 (named the Saddle Rally Point) and a dedicated pipeline to direct the pit waters to the Mill reclaim water tank for use as dust suppressant and mill process water.

3.4.2.5.2 Level 6 Adit Pumpback System

The historic Level 6 Adit drains the CM Main Pit area through a series of historical underground workings. The Level 6 Adit drainage water is generally of good quality and contains very low or undetectable levels of suspended sediments. The mine water is currently authorized for discharge to Similkameen River under the federal MDMER, and was also authorized under EMA Permit 00261 until December 31, 2018. CMML has an amendment application in the review process seeking authorization under EMA Permit 00261 to resume discharge at this location.

A temporary pumpback system was installed at the historic Level 6 Adit (SW09) in December 2019 to intercept and pump groundwater draining from the historic adit to stop the flow of the water to the Similkameen River, as required under EMA Permit 00261. The temporary infrastructure consisted of a collection sump tank, rental portable diesel pump, and return pipelines. Upgrades to this system to convert it to long-term electric infrastructure were largely completed in 2021. Under normal operating conditions, water from the Level 6 Adit is pumped to the pit dewatering pumping station (Saddle Rally pump station). When the Saddle Rally pump station is not in operation, the adit water is pumped to CM Main Pit for temporary storage until the Saddle Rally pump system is returned to operation.

Mine development in Pit 3 was projected to mine through the historical workings that connect to the Adit in 2021, which was expected to cease or significantly reduce the flow from the Adit. A considerable reduction of flow from deepening of Pit 3 has been observed from the Adit since October 2021.

3.4.2.5.3 Ingerbelle Pit Dewatering

As recommended in the 2019 BAT Assessment to seasonally draw down the pit water level to prevent occasional surface discharges to the Similkameen River, and since the pit will need to be dewatered in advance of future mining for the proposed New Ingerbelle Pit Pushback, CMML re-established an Ingerbelle Pit dewatering system in 2021 for the first phase of the dewatering system for the New Ingerbelle pit development. In the near-term, the system is used to seasonally to draw the pit water level down sufficiently to prevent an overflow during the subsequent annual freshet period. The system pumps water from the current pit to the TMF via the mill process water system, and would later be upgraded to support New Ingerbelle pit operation and site water management needs.

3.4.2.6 Waste Water

Sewage from the Administration and Truck Shop building, the mill, and from the HSS building is treated at each location using a multi-chamber septic tank that discharges to a septic field, as authorized by the Interior Health Authority under the Sewerage System Regulation (BC Reg.326/2004).

3.4.2.7 Wolfe Creek Realignment

A key component to help ensure the long-term stability of the TMF is to protect the toe of the East Dam from erosional damage by stream flows in Wolfe Creek. Following MCM approval for the Wole Creek realignment project in the amended *Mines Act* Permit M-29 issued July 23, 2019, construction of the realignment channel was substantially completed by the summer of 2020 and Wolfe Creek flow was diverted to the realignment channel on September 30, 2020, commencing the commissioning phase of the project. Commissioning and installation of the additional lining for the realignment channel design modification was completed on November 30, 2021.

The configuration of the Wolfe Creek realignment and associated works consist of the four following components:

- **Upper Wolfe Creek:** Includes a run-of-river transition from the existing Wolfe Creek upstream of the permanent non-economic rock landform (Realignment Support Landform) and a 2.8 km lined engineered channel conveying flow along the approximate alignment of the Copper Mountain Road, with a transition into Verde Creek.
- **Verde Creek:** Conveys flows from the Upper Wolfe Creek re-alignment channel to Lower Wolfe Creek downstream of the East Dam, via an engineered channel. The former Verde Creek channel was widened and armoured with rip rap to prevent erosion from the combined creek flows under high flow conditions.
- **Lower Wolfe Creek:** Includes a stilling basin to dissipate energy from the combined Verde Creek and Wolfe Creek flows, and a sediment trap to settle out particulates mobilized during construction and initial flushing of the constructed works.
- **Permanent Supporting Landform:** Development of a non-economic rock storage area in the former Wolfe Creek valley in the canyon upstream of the TMF and adjacent to the Copper Mountain Road access to support the new ridgeline and buttress, permanently separating the flow of Wolfe Creek from the valley adjacent to the TMF East Dam toe.

Together, the realignment channel and supporting landform are designed to provide complete containment and bypass of PMF flows in Wolfe Creek, without pooling of water, safely beyond the toe of the East Dam. The footprint of the Wolfe Creek realignment channel and associated sediment ponds and permanent landform are shown in Figure 3.6.

3.4.3 Environmental Incidents in 2024

In 2024, there was one (1) reportable environmental incident associated with releases to the receiving environment. The release involved a small seep that surfaces in the ditch along the lower access road to the Lower Pumpback station at the West Dam, labelled as SW07A. This was identified by Environmental Protection Office (EPO) Jack Green, during a site inspection on August 20, 2024. The seep is typically a small, unmeasurable flow of water, which flowed westward across the access road and down the steep bank towards the Similkameen River, approximately 200m below. Given the small flow rate of the seep, it was CMM's understanding based on discussions with previous EPO staff that such small seeps were considered negligible and did not meet the intent of Section 3.5 of Permit 00261, amended March 17, 2022, with respect to seepages that must be reported, monitoring and potentially require mitigation. Following the inspection and identification of the SW07A seep as an unauthorized discharge, CMM stopped the seep flow towards the river the next day, and directed the water to the nearby sump tank of the new electric lower pump station to be pumped up to the TMF.

More detailed information on this incident was provided in a letter report titled ***"Copper Mountain Mine, EMA Permit 00261, Non-compliance Report – Uncaptured seep near TMF West Dam"*** prepared by CMML dated and submitted September 19, 2024.

3.5 WATER QUALITY PREDICTIONS, MITIGATION, AND TREATMENT

3.5.1 Water Quality Predictions

An important component of the Environmental Management System, in term of managing long-term water quality and protection of aquatic organisms in the receiving environment, is the use of a site water quality model to predict potential changes in water quality associated with mine development activities. Section 3.1 of Permit 00261 amended March 17, 2022 requires that the Permittee maintain and refine a Water Quality Model, predicting receiving environment water quality accounting for all effluent discharges influencing Wolfe Creek and Similkameen River. Similarly, Permit 00261, amended December 6, 2024 requires a Water Balance and Water Quality Model to be updated by October 1, 2028.

In addition, Condition C.4(c) of *Mines Act* Permit M-29 dated December, specifies that the model must incorporate of the most recent updated numerical groundwater model, the most recent reconciled site-wide water balance, recent monitoring data for groundwater and surface quality, groundwater levels, surface water quantity, and geochemical source terms, a description of the results of model calibration or validation, and a comparison of surface water quality predictions to applicable provincial water quality standards or guidelines. The permit also requires that an updated model report is submitted every 5 years, or more frequently if site water management or source terms significantly change.

CMML has retained SRK to develop and maintain a hydrological and water quality model for Wolfe Creek and Similkameen River since 2008, initially in support of the *Mines Act* Permit M-29 Amendment Application submitted March 2009 for approval of the mine and reclamation plan to restart mine operations (SRK 2009). Subsequent updates of the water quality model (SRK 2014b, 2017a, 2017b, 2019c, 2021b) have been completed to provide predictions for receiving environment quality associated with proposed changes to the mine plan and changes in operation of water management systems.

2023 Water Quality Model Update

CMML retained SRK to prepare an update to the site wide water quality model in 2023 for submission to ENV as part of the technical assessment report in support of CMML's application to amend EMA Permit 00261 requesting authorization to resumed discharge to the Similkameen River from three mine site drainages. The purpose of the model update was to assess potential changes to water quality within and downstream of the mine during all phases of the mine plan currently approved under Mines Act Permit M-29 and in the absence and presence of the proposed discharge of water from the West Dam Seepage Collection System, Level 6 Adit and the SW NERSA drainage.

The 2023 model update is based on the 2021 revision of the site-wide water quality model for the Copper Mountain Mine (SRK 2021b), which was prepared for the 2021 Five-Year Mine Plan and Reclamation Program Update (CMML 2021), and has been updated with a focus on model scenarios and sensitivity analyses that evaluate potential changes to water quality in the Similkameen River, and indirectly in Wolfe Creek, resulting from the proposed discharge of the three drainages from Copper Mountain Mine. Model results were compared to and calibrated against data collected up to January 1, 2023.

SRK (2023c) concluded that the model results indicate that the proposed discharges from Copper Mountain Mine are unlikely to have a pronounced effect on water quality in the Similkameen River.

Details of the updated water quality model and predictions prepared by SRK can be found in the report titled ***"Copper Mountain Mine Site-Wide Water Quality Model: Similkameen River Discharge Application"*** dated November 2023 (SRK 2023 WQ Model Update).

With respect to mitigation measures modelled, SRK concluded the following based on the 2023 WQ Model Update results for CMM:

- Discontinuing pumpback of West Dam seepage was identified as a readily achievable mitigation measure for reducing sulphate concentrations in Wolfe Creek in the 2019 BAT assessment and it remains a viable mitigation measure.
- The mitigation scenario indicates that concentrations of certain parameters of interest, particularly TDS, sulphate and molybdenum, could be reduced in Wolfe Creek by intercepting East Dam groundwater seepage and that the resulting reduction of flow in Wolfe Creek would likely be within the range of natural historical flows in Wolfe Creek prior to restart of the mine in 2011.

3.5.2 Water Quality Mitigation

Many water quality mitigation measures have been undertaken in recent years to reduce current or future constituent loadings from mine contact water to the receiving environments of Wolfe Creek and the Similkameen River. A detailed list of these was provided in the 2021 5yr MPRP Update and the 2022 and 2023 Annual Reclamation reports. Some of the key mitigation measures have included realignment of Wolfe Creek, extension of the NERSA Seepage Collection System to the pumphouse, upgrades to previously existing seepage collection ditches, installation a pit dewatering system at Ingerbelle Pit and upgrades to the dewatering system at CM Main Pit, and pumpback systems on the West Dam Seepage, Level 6 Adit and SW38 drainages. Additional measures completed or in progress in 2024 include the following:

- Completed a short-term options assessment for sulphate load reduction. Assessment provided recommendations for opportunistic measures to increase interception of groundwater seepage in Lower Wolfe Creek near TMF East Dam that could be implemented within two years, while carrying out the process to assess and implement long-term options. CMML commence implementation of the recommendations and conducted the following:

- Made improvements to the inlet of the lined East Dam RSL Toe Collector to improve capture efficiency
- Made improvements to the connection between the outlet of the East Dam RSL Toe Collector and the NERSA Conduit Pipe to the pumphouse to reduce seepage loss at the connection.
- Deepened the two herring bone ditches connected to the NERSA Conduit Bypass Ditch to increase interception of the higher sulphate shallow groundwater on the east side of the valley.
- Continued operation of the Trial Collector Ditch located between the East Dam Seepage Collection Ditch and the NERSA Conduit Bypass Ditch.
- Operating the Terminus Pond to maintain the water level as low as possible to minimize potential seepage loss to the adjacent wetland.
- Conducted short-term (weeks) groundwater interception trials at the East Dam to capture high sulphate, mine influenced groundwater before it enters Wolfe Creek. Pumping from two different well depths were trialed separately and together, as well as from a trial interception trench that was dug in the same area. A summary report describing the trial can be found in Appendix B.
- Commenced a longer-term (months) pumping trial in November 2024 with the two groundwater interception wells installed downstream of TMF East Dam.

- Advanced the mid/long-term options assessment for reducing sulphate loadings to Wolfe Creek downstream of the East Dam.
- Completed construction of an engineered upgrade to the inlet of the NERSA Seepage Collection Ditch at the SW14 drainage confluence to improve capture of shallow groundwater seepage into the collection ditch.
- Commenced engineered design necessary to support regulatory approval for construction of a field demonstration-scale on-site GBBR pilot system, as well as the necessary technology readiness assessment and associated technology maturation plan.
- Commenced an additional geochemical assessment of historic tailings with samples of tailings solids and porewaters collected in November during the 2024 TMF drill program. The assessments will provide information on the chemical composition of historic tailings and increase understanding of suboxic conditions and attenuation processes in the TMF.
- Commenced scoping of options for a sulphate treatment plant, as a contingency management measure. In Q3 of 2024, CMML circulated a request for proposal for modular (portable) water treatment for sulphate. This was done to help better understand options and costs for such systems should they be required in the future. Through this process CMML learned that treatment systems for sulphate
  - are not generally portable
  - would create a by-product that would also need to be managed
  - would require permitting not only for the treatment but also for interception of water and for polishing ponds
  - would require further research to confirm the chemicals required to provide treatment

  Of the three companies that were contacted only one was willing to provide estimates of pricing.

The following subsection provides a summary of the recommendations of the BAT Assessment (SRK 2019b) and progress to date on BAT implementation.

3.5.2.1 BAT Assessment and Implementation Progress

An assessment of Best Achievable Technology (BAT) for managing mine contact water releases from CMM was completed in 2019, in fulfillment of condition 3.6 of Permit 00261 dated June 30, 2017. CMML retained SRK Consulting to complete the BAT Technology Assessment with additional technical support from water quality and aquatic toxicology specialists from Hatfield Consultants. The purpose of the assessment was to evaluate water management measures and/or treatment technologies that would be suitable for reducing constituent loadings in mine contact water released to Wolfe Creek and the Similkameen River to assure those receiving waters continue to meet BC water quality guidelines or other applicable site performance objectives or permit limits.

The Best Achievable Technology (BAT) Assessment report and implementation plan prepared by SRK was submitted by CMML on May 15, 2019. ENV issued a letter of approval to CMML for the BAT Assessment, which also contained a requirement to submit a progress report and updated implementation schedule every 6 months. BAT implementation progress reports were submitted to ENV and MCM on January 31, 2020, July 31, 2020, January 31, 2021, July 28, 2021, January 31, 2022, July 28, 2022, and January 24, 2023, July 31, 2023, January 24, 2024, and July 23, 2024. The requirement for ongoing progress reports was removed with the December 6, 2024 Permit 00261 amendment.

Primary BAT Implementation

All primary BATs recommended in the implementation plan proposed in the BAT Assessment (SRK 2019b) were completed by the end of 2022, with those for the Similkameen River drainages largely completed in 2021, except for the recommended discharge of West Dam seepage.

Detailed information on the completion of each primary BAT is provided in the Annual Reclamation report for the calendar year in which they were completed. The following list provides a summary of the recommended BATs (SRK 2019b) and associated completion date:

- ***Wolfe Creek:***
    - *Realignment of Wolfe Creek away from the northern portion of the mine site, reducing the ability of Non-Economic Rock Storage Area (NERSA) seepages to reach the creek (completed November 2021);*
    - *NERSA Seepage Collection System extension and East Dam Seepage Collection System upgrades (all stages completed December 2022). This included the collection of NERSA seepages at SW01 after re-alignment of Wolfe Creek and improving the collection efficiency of seepage from the East Dam by reducing losses from the collection ditch;*
    - *Engineering assessment of NERSA contact water capture along the NERSA in upper Wolfe Creek. This assessment led to collection ditch upgrades to increase capacity and capture efficiency (completed October 2020), the installation of a liner in the uppermost 1.3 km of the ditch (completed in April 2022), and the installation of three trial interception wells (completed in July 2022), which will be included in the development of an integrated groundwater seepage management plan for Wolfe Creek.*
- ***Similkameen River:***

- *Elimination of source water reporting to the Level 6 Adit (i.e., reversal of the groundwater gradient away from the adit) or pumping of Level 6 Adit water (SW09) to pit sumps if source control is not effective. Pit 3 development reached the Level 6 Adit workings in the fall of 2021 and flows out of the adit started to decrease in October 2021. Beginning in November 2021 flows have typically been 1 L/s or less (median flow prior to this date was 8.2 L/s);*
- *Completion of an initial dilution zone (IDZ) study and pumping of Southwest NERSA drainage water (SW38) to pit sumps, if study determines that this is required. The results of the IDZ study (completed June 2021; updated in 2023), which also included the SW07 and SW09 drainages);*
- *Seasonal drawdown of Ingerbelle Pit (SW10) Lake as required to reduce the surface outflow that occasionally occurs during spring (construction of the near-term Ingerbelle Pit dewatering system was completed at the end of August 2021);*
- *Measures to prevent deer from drinking TMF West Dam (SW07) seepage water if molybdenum concentrations are determined to be a risk. A risk assessment subsequently conducted concluded there was no risk to wildlife (completed May 2022, Hatfield 2022a).*
- *Against the long-term pumping of West Dam seepage to the TMF.*

Further to the last bullet, the BAT concluded that releasing water from the TMF is important both for water management (i.e., avoiding too much water storage in the TMF), and for avoiding the buildup of sulphate and TDS concentrations in TMF water. Avoiding the buildup of sulphate and TDS in TMF water is important because a portion of the TMF water exiting the TMF via the East Dam as seepage water is unrecoverable groundwater and therefore has the potential to affect receptors in Wolfe Creek.

CMML submitted a preliminary application to ENV on May 4, 2022 requesting an amendment to EMA Permit 00261 to authorize resuming discharge from West Dam seepage, as recommended in the BAT Assessment, as well as from Level 6 Adit and SW38 drainages. The final application with supporting technical assessment report were submitted to ENV on February 12, 2024 and accepted to proceed to the final review and decision phase. A revised technical assessment report for the application was submitted on March 8, 2025, which addressed round 1 review comments received from ENV and MCM, including an updated BAT assessment for the three proposed discharges following the methodology outlined by ENV in a letter dated June 13, 2024. The application was in the review and consultation process at the time of this report.

Secondary BAT Implementation

The BAT Assessment (SRK 2019b) proposed the following potential secondary BATs:

- ***Wolfe Creek:***
  - *A passive treatment bioreactor within or directly upstream of the Wolfe Creek realignment channel for reducing nitrate and selenium concentrations in Wolfe Creek. The BAT recommended conducting a trial of a gravel bed bioreactor system. The trial was completed in January 2023.*
  - *Engineered wetland in Wolfe Creek in meadow downstream of East Dam (upstream of SW03). No implementation plan was proposed.*
- ***Similkameen River:***

- *Plugging of the Level 6 Adit, if feasible, may eliminate virtually all seepage from the adit. No implementation plan was proposed given the anticipated flow reversal noted above for the primary BATs; however, a conceptual design was prepared by KCB (2021a) as a potential closure concept and was submitted in the 2021 5yr MRPR Update (CMML 2021).*

With respect to the proposed engineered wetland as a potential secondary BAT, it was recommended that a trial of an engineered wetland, if there is indication that this secondary BAT may need to be implemented, would be initiated after the effectiveness of the primary BATs have been evaluated following the completion of the Wolfe Creek realignment and upgrade of the East Dam and NERSA contact water seepage collection and pump-back systems. This allows the trial to be tailored to the new configuration of the lower section of Wolfe Creek, and allows personnel and resources to focus on the proposed bioreactor trial for Wolfe Creek.

Regarding the gravel bed bioreactor (GBBR) trial, a pilot trial was set up on site and operated from June to October 2022, with corresponding off-site column tests completed in January 2023. The on-site pilot trial utilizing Maven's mFlex units were set up near the East Seepage Pumphouse and used NERSA and East Dam seepage as the influent and directed the effluent to the pumphouse for pumping to the TMF along with collected East Dam seepage and NERSA seepage waters directed to the pumphouse. Reports on results of the GBBR trial were provided in CMM's 2023 Annual Permit 00261 Report.

Maven recommended that the systems proceed to field demonstration-scale trials in the ground at CMM, in near final configuration and sizing, to further advance the technology readiness level (TRL) to proceed to full-scale treatment. Engineering for the demonstration-scale GBBR commenced in 2024 and is planned to be completed in 2025.

3.5.2.2 Additional Future Mitigations

As noted by SRK (2021b) in the 2021 WQ Model Update, good attenuation of nitrate and selenium is being achieved during passage of seepage flows through the mass of tailings in the TMF. Accordingly, CMML proposes to continue to maximize collection of NERSA seepage and mine water, to the maximum extent practicable, and pump it to the TMF during operation, as well as in closure until water quality is suitable for direct discharge to Wolfe Creek.

In addition, CMML will continue to evaluate options including but not necessarily limited to the following:

1. benefits of allowing some proportion of East Dam seepage to discharge to Wolfe Creek (provides dilution of most parameters except molybdenum);
2. additional options to increase the recovery of NERSA and East Dam groundwater seepage to Wolfe Creek;
3. potential benefits of additional passive management options, such as engineered wetlands; and
4. development of site-specific water quality objectives and benchmarks for Wolfe Creek to ensure protection of aquatic organisms in the creek downstream of the mine.

The results from such investigations will be used to support decisions with respect to implementing appropriate and effective changes to the current water management plan, as well as to develop long-term management and closure plans.

The water management approach to route the NERSA seepage collection system down the former Wolfe Creek channel following realignment of Wolfe Creek and collecting it and pumping it to the TMF during operations will provide a direct opportunity to evaluate the effectiveness of the attenuation process. As well,

additional opportunities for testing the effectiveness of additional passive systems prior to closure will be considered pending the outcome of the pilot and demonstration-scale gravel-bed bioreactor trials.

Mitigation measures specifically planned to commence or complete in 2025 include, but are not limited to, the following:

- Complete the options analysis for medium/long-term measures for groundwater seepage interception to reduce sulphate loadings to Lower Wolfe Creek near TMF East Dam, and commence implementation of recommended mitigation measure(s).
- Advance development of an integrated groundwater seepage management plan for Wolfe Creek with development of load reduction targets for groundwater interception based on the updated hydrogeological conceptual site model.
- Continue longer term (months) pumping trials of the two groundwater interception wells installed downstream of TMF East Dam.
- Complete engineered design, technology readiness assessment and maturation plan for a field demonstration-scale GBBR pilot trial.
- Continue to advance additional geochemical assessments of the TMF to improve understanding of subsurface conditions and attenuation processes.
- Evaluate option to advance development of a feasibility design for a sulphate treatment plant, as a contingency management measure.
- Re-evaluate the science-based environmental benchmark (SBEB) for sulphate in Wolfe Creek and prepare SBEB development plans for nitrate and selenium in Wolfe Creek.
- Completion of design modifications to the West Dam seepage collection and pumpback system upgrades.
- Conduct an assessment on the effectiveness of the primary BAT solutions implemented as part of the 2019 BAT and complete an updated BAT assessment for Wolfe Creek, including an update POC review, as specified under Section 3.1 of the amended Permit 00261 dated December 6, 2024.
- Advance engineering, permitting and construction of a seepage collection system to stop discharge of seepage (SW61) from the north side of the Main Ingerbelle NERSA.

3.6 SURFACE AND GROUNDWATER MONITORING PROGRAM

Surface and groundwater monitoring is completed following requirements laid out in Mines Act Permit M-29 and EMA Permit 00261, and following MDMER regulations. Section C.4 (b) of Mines Act Permit M-29 requires CMM to track changed to surface water, seepage, and groundwater quality and quantity on the mine site, and specifies that monitoring programs must be capable of providing early warning about onset of ARD or an increase in contaminant loadings. Section 8 of EMA Permit 00261 dated March 17, 2022 and Section 5 of *EMA* Permit 00261 dated December 6, 2024 outline all the required monitoring for 2024 for surface water and groundwater, including a list of monitoring stations, parameters to be analyzed, and frequencies. MDMER regulations apply to all mine site drainages when they are discharging to the environment.

CMML was provided the amended permit dated December 6, 2024 on December 9, 2024. Therefore, monitoring in 2024 was conducted in accordance with the amendment dated March 17, 2022 for the period of January 1 to December 8, 2024 and in accordance with the amendment dated December 6, 2024 from the period of December 9 to December 31, 2024.

3.6.1 Surface Water Monitoring

Surface water quality monitoring for CMM has been conducted around the property since 1969 under CMML's EMA Permit 00261. The surface water monitoring program under EMA Permit 00261, consists of water quality monitoring, residuals testing, flow or water level monitoring, and toxicity testing.. Figures 3.7 and 3.8 show the locations of Permit 00261 surface water and groundwater monitoring stations relative to key water management structures and the mine development components currently approved under *Mines Act* Permit M-29.

From January 1 to December 8, 2024, the surface water monitoring program followed requirements laid out under Permit 00261, dated March 17, 2022. Monitoring required during the aforementioned period occurred at the following monitoring stations:

- Eight Wolfe Creek stations (SW46, SW04, SW20, SW68, SW69, SW02, SW03, SW05A)
- two additional creek stations (SW51, SW47)
- three Similkameen River stations (SW11, SW12A, SW13)
- four NERSA drainages (SW14, SW21, SW37, SW38)
- Level 6 Adit drainage (SW09)
- three pit water stations [Ingerbelle Pit (SW10), Pit 2 water (SW22), and Pit 3 water (SW72)]
- three NERSA seepage collection system stations (SW66, SW67, SW70)
- five TMF stations (SW06, SW27, SW71, SW07, SW08)

From December 9 to 31, 2024, the surface monitoring followed the requirements specified in the amended EMA Permit 00261 dated December 6, 2024 which CMML received on December 9, which was required at the following monitoring stations:

- nine Wolfe Creek stations (SW46, SW04, SW20, SW68, SW69, SW02, SW43, SW03, SW05A)
- two additional creek stations (SW51, SW47)
- four Similkameen River stations (SW11, SW11B, SW12A, SW13)
- five NERSA drainages (SW14, SW21, SW37, SW38B, SW63)
- Level 6 Adit drainage (SW09A)
- two pit water stations [Ingerbelle Pit (SW10). Pit 2 water (SW22)]
- three NERSA seepage collection system stations (SW66, SW67, SW70)
- six TMF stations (SW06, SW27, SW71, SW73, SW07D, SW08)
- two New Ingerbelle monitoring locations (SW61, SW57)

Monitoring also occurred at two additional pit lake monitoring locations, Pit 3 (SW72) and North Pit (SW75), as required under Mines Act Permit M-29.

CMM retained Integrated Sustainability to provide a report detailing the results and analysis of the 2024 surface water monitoring program conducted under EMA Permit 00261 and Mines Act Permit M-29. The report titled ***"2024 Surface Water Monitoring Report, Copper Mountain Mine"*** is provided in Appendix F, and included surface water quality and mine site hydrology monitoring. Integrated concluded the following:

> *Surface water quality at Similkameen River monitoring stations was consistent with historical monitoring results. Many parameters exhibited seasonal patterns (i.e. lower or higher concentrations during freshet or winter), consistent with previous years and predicted by the Site Water Quality and Load model. Concentrations of several parameters were slightly elevated at midstream (SW13) or downstream (SW12A) monitoring stations relative to upstream (SW11) monitoring station, but most concentrations were below applicable BC WQG FWAL guidelines.*

Copper remains elevated above background at the upstream station SW11, largely from natural sources, but the concentrations of other POIs have decreased downstream of the mine at SW12A since the commencement of the pumpback system for SW07, SW09, and SW38. This applies particularly to nitrate, sulphate, molybdenum, and selenium. Water quality at the midstream station (SW13) was similar to the downstream monitoring location (SW12A) for parameters related to mine activities, with both locations well below established water quality guidelines except for sampling dates in August and September, where the suspected causes for the sudden increases is related to active wildfire and associated wildfire suppression activities and mudslides upstream of the mine.

For Wolfe Creek, including the recently realigned portion, the required surface water quality stations in order of downgradient flow are as follows: SW46, SW04, SW20, SW68, SW69, SW02, SW43 (as of December 6, 2024), SW03, and SW05A.

Water quality in Wolfe Creek showed similar seasonal variation to those observed in the Similkameen River, with season patterns (i.e. lower or higher concentrations during freshet or winter), consistent with previous years and predicted by the site water quality and load model.

The upstream of mine background station (SW46) sample data were compared to BC WQG guidelines, and the results show elevated dissolved copper at various times of the year. Dissolved copper concentrations were elevated at SW46 such that mean monthly dissolved copper concentrations were above the respective monthly chronic BC FWAL WQG for all months in 2024. These elevated concentrations were consistent with previous years with naturally elevated copper concentrations in upstream Wolfe Creek primarily due to natural sources in the creek from upstream of the mine.

With respect to the key parameters of interest in Wolfe Creek, concentrations of sulphate and copper at SW03 were higher than at the upstream background station (SW46) but remained below the Permit limits. Since the completion of the Wolfe Creek realignment, nitrate, molybdenum, and selenium concentrations have decreased indicating less NERSA inputs to lower Wolfe Creek. Copper concentrations remain stable over time, but sulphate at SW03 has increased over the last few years. There were no instances of water quality results exceeding any permit limits at the compliance monitoring location (SW03) during the 2024 monitoring year.

Overall, surface water in Wolfe Creek is consistent with historical monitoring for seasonal, spatial, and long-term trends. Improvements in nitrate and explosive management practices since 2016, as well as a number of improvements in water management infrastructure to intercept more of the NERSA contact water, have led to a gradual reduction of nitrate and selenium concentrations at SW03.

CMM also retained Hatfield to provide an evaluation and summary of the 2024 hydrological data for Wolfe Creek and associated reference stations, as well as the Similkameen River adjacent to the mine site. Detailed results are provided in the report titled **"*Copper Mountain Mine, 2024 Wolfe Creek and Similkameen River Hydrology Report*"** prepared by Hatfield dated March 2025, and is provided in Appendix F.

3.6.2 Authorized Discharge: East Seepage Terminus Pond Discharge to Wolfe Creek

Subsection 1.2 of Permit 00261 amended December 6, 2024, authorizes discharge to Wolfe Creek from the East Seepage Terminus Pond via monitoring location SW27. The ENV site reference number for this discharge is E327900.

The maximum rate of discharge is 170 L/s, and only as needed for east seepage pumphouse maintenance, for managing water volume and freeboard in the TMF reclaim pond, and during high flow events which exceed the east seepage pumphouse capacity.

No water was discharge from SW27 during 2024.

3.6.3 Authorized Discharge: Non-Point Source Discharge to Wolfe Creek

Compliance monitoring at Wolfe Creek was at SW03 from January 1 to December 8, 2024, and at SW03 and SW43 from December 9 to December 31, 2024, for nitrate, sulphate, total copper, total molybdenum, and total selenium. Throughout the year, no permit limits were exceeded at either monitoring location.

Table 3.2 below indicates the monthly average concentrations at SW03 compared to permit limits, and Table 3.3 indicates the monthly average concentrations at SW43 compared to permit limits, that came into effect in December 2024. Additional details are provided in ***"2024 Surface Water Monitoring Report, Copper Mountain Mine".***

TABLE 3.2: SUMMARY OF MONTHLY AVERAGE CONCENTRATIONS AT SW03 COMPARED TO PERMIT 00261 LIMITS IN 2024 (INTEGRATED, 2025)

Parameter	Units	Permit Limits		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
		Ave	Max												
Sulphate	mg/L	567	-	555	536	500	396	191	245	412	460	507	490	493	533
Nitrate	mg/L	3	-	1.7	1.5	1.0	1.5	1.7	1.0	0.9	0.6	1.0	0.8	1.1	1.5
Total Copper	mg/L	0.016	0.016	0.002	0.002	0.002	0.005	0.009	0.005	0.006	0.004	0.002	0.001	0.001	*
Total Molybdenum	mg/L	0.100	0.100	0.044	0.046	0.042	0.032	0.019	0.025	0.033	0.036	0.040	0.039	0.041	*
Total Selenium	mg/L	0.004	-	0.0007	0.0007	0.0006	0.0007	0.0007	0.0006	0.0006	0.0005	0.0006	0.0004	0.0005	*

Notes:
* limits do not apply for December monthly average (due to December 6, 2024 amendment)

TABLE 3.3: SUMMARY OF MONTHLY AVERAGE CONCENTRATIONS AT SW43 COMPARED TO PERMIT 00261 LIMITS (INTEGRATED, 2025)

Parameter	Units	Permit Limits		Dec-24
		Ave	Max	
Dissolved Copper (March to June)	mg/L	0.0092	0.0092	N/A
Dissolved Copper (July to February)	mg/L	0.0058	0.0058	0.0010
Total Molybdenum	mg/L	0.100	0.100	0.0446
Total Selenium	mg/L	0.004	-	0.0005

Water quality in the Similkameen River and Wolfe Creek downstream of the mine property continued to remain of good quality in 2024, consistent with previous years and predicted by the site water quality and load model.

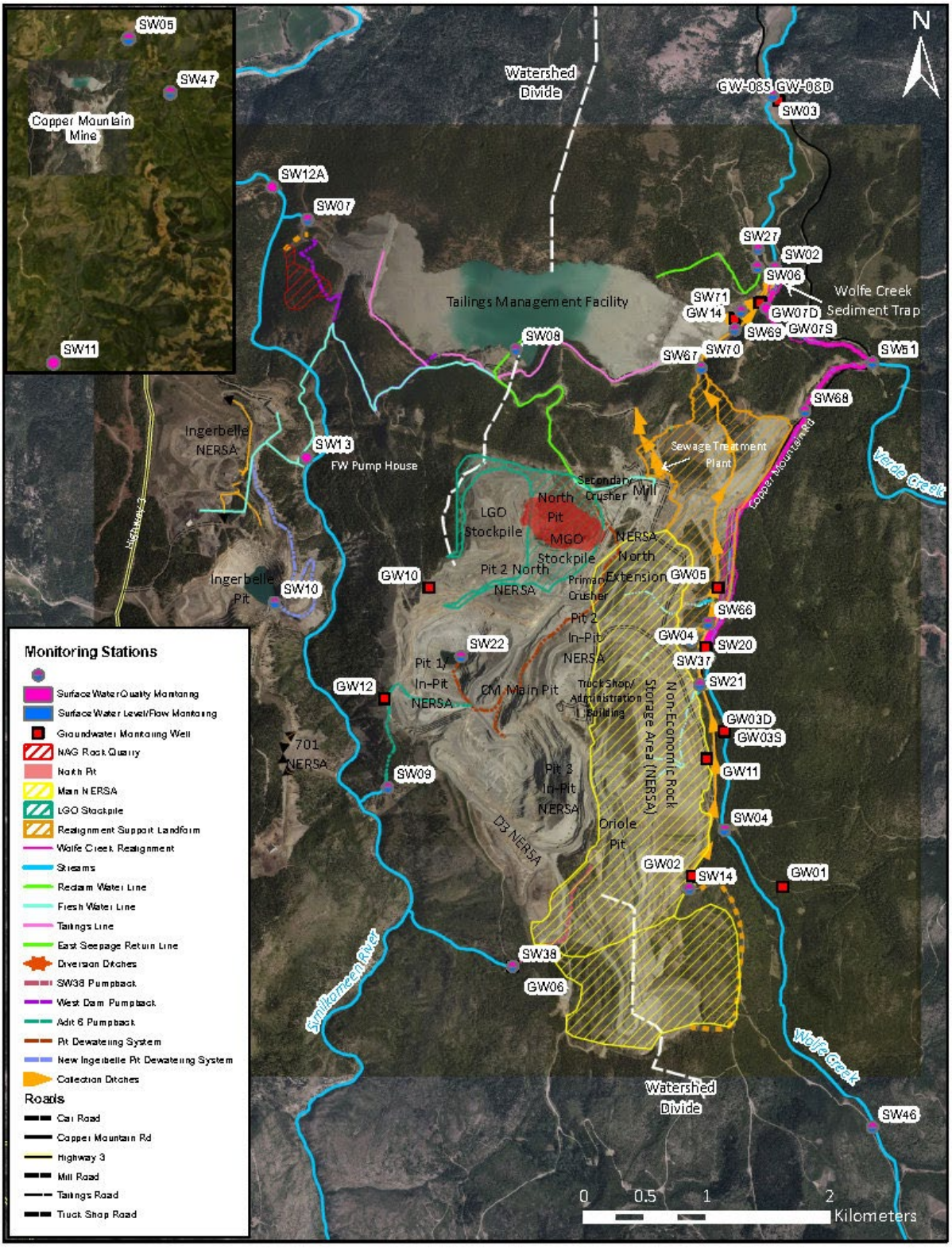


FIGURE 3.7: SITE PLAN WITH PERMIT 00261, AMENDMEDED 2022, MONITORING LOCATIONS AND WATER MANAGEMENT INFRASTRUCTURE

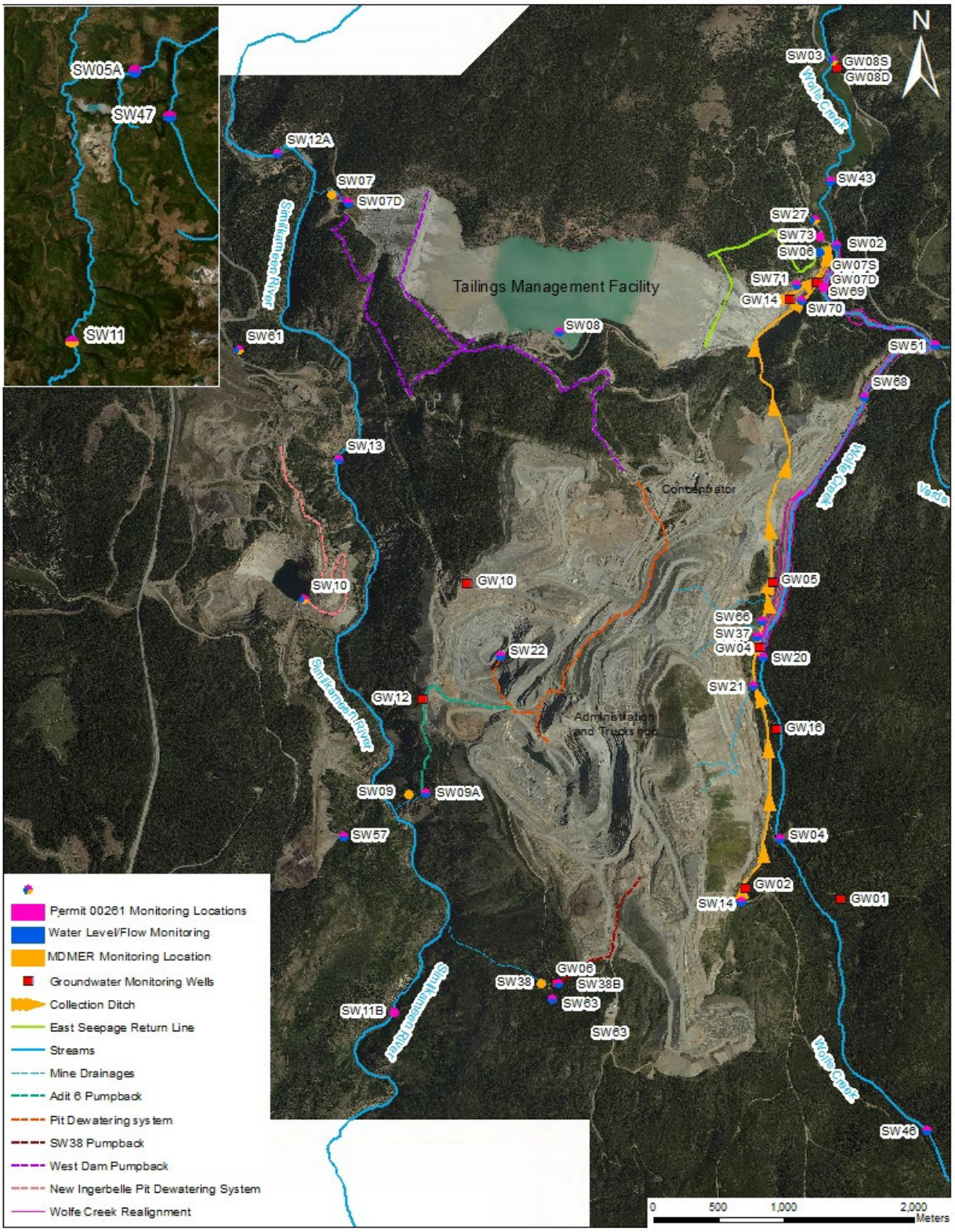


FIGURE 3.8: SITE PLAN WITH 2024 WATER MANAGEMENT INFRASTRUCTURE, PERMIT 00261, AMENDED DECEMBER 2024, AND MDMER MONITORING LOCATIONS

3.6.4 Groundwater Monitoring program

Groundwater monitoring at CMM has been conducted around the property since 2011 under EMA Permit 00261. The 2024 groundwater monitoring program under EMA Permit 00261, amended March 17, 2022, requires quarterly water level measurements and groundwater monitoring (general parameters and dissolved metals) to be undertaken at 13 sites (GW01-02, GW04-08, GW10, GW12, GW14, and GW16) on a quarterly basis.

The wells can be grouped according to their location relative to key features on site as follows:

- GW01, located outside the mining area where no impact from mining activities is anticipated. This well is considered a background (or reference) well for the site.
- Five monitoring wells (GW02, GW04, GW05, GW06, and GW16) at six different locations to monitor the potential seepage into groundwater from the NERSA.
- GW10, located on the west side of the Low-Grade Ore (LGO) stockpile to monitor potential changes in groundwater inputs to the Similkameen River.
- GW12, to monitor potential changes in groundwater inputs to the Similkameen River from development of the CM Main Pit
- Five groundwater wells (GW07S, GW07D, GW08S, GW08D, and GW14) at three different locations to monitor the groundwater downgradient of the TMF East Dam.

Mines Act Permit M-29 also required implementation of a groundwater monitoring program to identify changes in groundwater quality associated with the active use of the Oriole PAG NERSA, which is completed through monitoring of additional groundwater monitoring wells GW21W (previously BH21W), GW18 (previously TT-22-09), and GW19 (previously TT-22-10).

Figures 3.7 and 3.8 shows the locations of groundwater monitoring stations in 2024 relative to surface water monitoring stations, key water management structures and the mine development components currently approved under *Mines Act* Permit M-29.

CMM Retained SRK Consulting to review all groundwater information and data collected from the installation and monitoring of the Permit 00261 monitoring wells, as well as that of other site sources, and to prepare a report that fulfills the annual groundwater monitoring requirements. All results of the 2024 groundwater monitoring program are provided in the report titled ***"Copper Mountain Mine: 2024 Groundwater Report"*** prepared by SRK Consulting, dated March 2025, and included here as Appendix B.

- SRK's assessment of groundwater chemistry at CMM in the report referenced above concluded the following based on the 2024 groundwater monitoring activities.
- Groundwater quality at wells immediately downgradient of the NERSAs continue to show changes in chemistry similar to those observed in seeps and downstream surface water stations. These changes are related to an increase in volume of placed non-economic rock.
- Constituents associated with sulphide mineral oxidation (sulphate and/or selenium) and the leaching of explosives residue (nitrate) has shown increasing trends in all NERSA wells since 2018 except GW06. Nitrate and selenium concentration increases have slowed since 2020 and have begun to decrease in some cases following realignment of Wolfe Creek in September 2020 and subsequent extension of the NERSA Seepage Collection System.
- Groundwater quality impacts from NERSA sources in the Upper Wolfe Creek valley aquifer indicate loading bypass of the seepage collection ditch; this has been considered in water quality predications

(SRK 2017a, 2017c, 2019a, 2019b, 2021b). Mitigation measures recommended in the Best Achievable Technology Assessment (SRK 2019c) have largely been implemented.

- Groundwater concentrations in the wells immediately downgradient of the TMF continue to increase, largely as a result of continued loading from the TMF. CMM have been conducting short-term mitigations and trials to intercept groundwater high in sulphate and are also planning a longer-term seepage interception system.
- Groundwater concentrations further downgradient of the TMF (GW08S) do not show the same trends as the upgradient wells and are interpreted to result from infiltration of Wolfe Creek and not migration of the groundwater plume from the TMF.
- Groundwater elevations at most of the monitoring wells remained relatively stable through 2024 except for GW01, GW07S, GW07D, and GW14. GW01 has continued to decrease, GW07S and GW07D had substantial drawdowns dur to nearby hydraulic testing and have since recovered to pre-test levels, and GW14 has continued to decrease. Mining activities do not appear to have had a significant effect on water levels at the peripheral monitoring network and, thus, groundwater flows are not anticipated to have changed significantly.

3.6.4.1 Conceptual Hydrogeological Model

The conceptual hydrogeological model for the CMM site by SRK (2020) is provided in Figure 1.3. An update to the hydrogeological conceptual model was completed April 2024 is provided in Appendix B. SRK summarized the following key conclusions:

- At the Copper Mountain site, the majority of groundwater flows through unconsolidated sediments with flow through bedrock a lesser component. In particular, flows in the Wolfe Creek valley bottom are highest, where interaction with the creek's surface water occurs. Lower Wolfe Creek is entirely groundwater fed, with the majority of flow resulting from TMF seepage. The understanding of the groundwater and surface water system in Lower Wolfe Creek was significantly advanced in 2023.
- The primary sources of COI the CM site are the TMF and NERSAs, with the MF constituting the majority of mine-influenced load. Present water management practices result in most of the loading from the TMF recharging into Lower Wolfe Creek valley bottom sediments and ultimately discharging to Wolfe Creek.
- Groundwater flow and load towards the Similkameen River is believed to be minor and mostly through bedrock, except potentially in unconsolidated sediments in the SW38 tributary catchment. Bedrock K is assumed to be low, based on observations in and around the open pits.
- Groundwater plays a considerably larger role in the flow and loading contributions in the Wolfe Creek catchment. Concentrations of sulphate are increasing at Wolfe Creek compliance point (SW03) and mitigation actions are required to be considered.
    - Mitigation measures in the Upper Wolfe Creek Valley are not currently deemed urgent, given the lower estimated groundwater flows and loads, in addition to water load balance modelling indicating mitigation will have little benefit on the reduction of sulphate in Lower Wolfe Creek (SRK, 2023b). However, concentrations of some COIs have exhibited an upward trend since the mine's restart, attributing to NERSA operations and expansions. Some groundwater bypassing the water management features is contributing to sulphate loading downstream in the Lower Wolfe Creek valley; however the quantities are relatively low and inputs to Wolfe Creek have been significantly reduced since realignment of Wolfe Creek and extensions of the NERSA Seepage Collection System.
    - Groundwater interception through pumping on the valley flanks downgradient of the NERSAs in the Upper Wolfe Creek Valley does not appear as effective load removal as it would be in

the Lower Wolfe Creek Valley, primarily due to lower groundwater quantities resulting from lower hydraulic conductivities and saturated cross-sectional areas.

- According to the WLBM predictions, sulphate concentrations at the Wolfe Creek compliance location (SW03) are anticipated to increase to levels above the permit limit. Targeting groundwater interception efforts between the East Dam and the confluence of Wolfe Creek and the former Verde Creek is recommended. The priority for sulphate mitigation in groundwater should be in Lower Wolfe creek, and efforts are underway to advance the selection of mitigation option(s).

3.6.5 MDMER Monitoring Program

Copper Mountain Mine is subject to the *Metal & Diamond Mining Effluent Regulations* (MDMER). Routine water quality monitoring under the MDMER in 2024 included the following:

- Effluent monitoring of six authorized final discharge points, when discharging:
  - Level 6 Adit outflow structure downgradient of the pumpback station (SW09)
  - East Dam Terminus Pond outflow channel (SW27)
  - West Dam seepage collection system outflow channel downgradient of the Lower West Seepage Pumpback Station (SW07)
  - The outflow structure from the Lower SW38 Pumpback Station (SW38), which collects water from a small drainage on the southwest side of the D3 and South NAG NERSA, referred to as the Southwest NERSA drainage or SW38 drainage.
  - The outflow channel of Ingerbelle Pit (SW10A); however, a discharge from this location has only been observed once since restart of operations (in spring 2018).
  - Small seepage flow that emerges from a rocky outcrop on the natural slope below the north side of the Ingerbelle NERSA and adjacent site access road (SW61; added to the program June 14, 2023).
- Environmental effects monitoring at two water quality stations in the Similkameen River for a suite of parameters similar to that required under Permits 00261 and M-29.

Effluent monitoring under MDMER requires weekly testing for pH, TSS, applicable deleterious substances (which for CMM are arsenic, copper, lead, nickel, zinc and radium-226), and monthly acute toxicity testing, when there is discharge. In addition, an amendment of the MDMER became effective June 1, 2021 which added un-ionized ammonia as a deleterious substance. The testing frequency of deleterious substances and acute toxicity may be reduced to quarterly, if the conditions specified for each in the MDMER are met.

In 2024, there were no discharges throughout the year from SW07, SW09, SW10A, SW27, and SW38. MDMER authorized discharges occurred at SW61, at which CMML had no exceedances of the MDMER discharge limits in 2024. The testing frequency of deleterious substances and acute toxicity at SW61 qualified to be reduced to quarterly in September 2024.

Monitoring results from the MDMER authorized discharge points continued to report neutral pH, low TSS, and MDMER-listed deleterious substance applicable to CMM that were considerably less than 10% (generally less than 1%) of the authorized monthly average discharge limits. In addition, water samples collected for acute toxicity testing throughout 2024 reported the samples to be not acutely toxic.

3.7 ENVIRONMENTAL EFFECTS MONITORING AND ASSESSMENTS

3.7.1 Aquatic Effects Monitoring Program

Aquatic Effects Monitoring occurred in August 2024 and therefore fell under the requirements of the amended Permit 00261, dated March 17, 2022. This included a requirement under Section 4.1 to implement and maintain a Biological Effects Monitoring Program (BEMP). The March 2022 amendment also included additional requirements for the current BEMP program, requiring an update of the previously submitted BEMP from June 29, 2018. An updated BEMP program was prepared by Hatfield and submitted to ENV on July 18, 2022.

The updated 2022 BEMP monitoring program is consistent with previous programs for CMM, which were developed with inputs from both BC ENV and Environment Canada, and consists of the following study components:

- An assessment of acute toxicity of mine site waters, at various frequencies throughout the year, dependent on the discharge location and characteristics (Item 4.1 i);
- An assessment of sublethal toxicity (also commonly referred to as chronic toxicity) once a year during the late summer or fall low flow period (Item 4.1 i);
- An assessment of periphyton (biomass and community structure) and benthic invertebrate assemblages (following CABIN protocols) every year (Item 4.1 iii and v);
- An annual assessment of sediment chemistry (Item 4.1 iv);
- An assessment of invertebrate and fish tissue metal concentrations every three years (Item 4.1 vi) with the next round scheduled for 2022; and
- An annual assessment of water quality in the sediment trap (Item 4.1 vii)

Permit 00261 amended December 6, 2024 also requires an update to the BEMP, which has been renamed the Aquatic Effects Monitoring Plan (AEMP). The updated AEMP prepared by Hatfield dated March 7, 2025 was submitted to ENV for approval on March 8, 2025.

CMML retained Hatfield to fulfill the requirements of the 2024 aquatic environment monitoring program in accordance with Permit 00261 requirements, as outlined in the 2022 BEMP update (Hatfield 2023). The annual aquatic biology monitoring field program was conducted in August 2024. The monitoring study included the following elements:

Depositional sediment survey: Replicated sampling of depositional sediments present at each study area, specifically examining metals in the fine fraction of sediment;

Periphyton Survey: An assessment of periphyton biomass at each study area to make inferences on water quality including possible nutrient enrichment. Also, semi qualitative analysis of species composition at all Similkameen River and Wolfe Creek sites; and

Benthic invertebrate community survey: A survey compliant with federal EEM and CABIN methods and supplemented by habitat data, water quality and periphyton collection;

Detailed results of the aquatic environment monitoring conducted in 2024 in accordance with amended Permit 00261 dated March 17, 2022 and the BEMP update dated July 2022, are provided within the report titled "***Copper Mountain Mine, 2024 Aquatic Effects Monitoring Program"*** prepared by Hatfield dated March 2025, which is provided here in Appendix I.

Hatfield concluded that the results of this program, considered with other supporting data (e.g., flow and quality of mine drainages, and site water toxicity, stream hydrology, and water quality data at all receiving environment sampling locations), indicate the following about mine influences on Wolfe Creek and the Similkameen River:

> *"Overall, mine influences on water quality in Wolfe Creek and the Similkameen River have decreased in recent years, since increased interception and pumpback of previous mine drainages from the Copper Mountain site has occurred. However, mine-related effects on Wolfe Creek water quality have been apparent over time on dissolved ions (particularly sulphate), nutrients (particularly nitrate) and dissolved selenium; mine-related effects on Similkameen River water quality are less evident and small in magnitude, with multivariate assessment of water quality in the river showing broadly similar water quality among study areas since 2011, in contrast to Wolfe Creek where consistent differences in water quality exist between upstream reference areas and downstream near-field and far-field areas that have similar water quality. The tendency in Wolfe Creek for dissolved copper concentrations to vary independently and often inversely with concentrations of other, mine-associated water quality analytes, and higher observed concentrations of dissolved copper upstream of mine influences, indicates that observed concentrations of dissolved copper throughout Wolfe Creek are not primarily mine-related.*
>
> *These water quality changes in Wolfe Creek are associated with increased biomass of periphyton on stream substrates and increased abundance of benthic invertebrates, particularly grazing invertebrate taxa that consume periphyton. Periphyton biomass in Wolfe Creek over time shows no correlation with nitrate concentrations but a weak positive correlation with dissolved phosphorus, suggesting that primary productivity in the creek is P-limited.*
>
> *Abundances of sensitive mayflies, stoneflies, and caddisflies also increased and total numbers of taxa are similar across reference, near-field and far-field areas of Wolfe Creek, indicating a healthy invertebrate community. Although year-to-year variability is high, no consistent, long-term trends in periphyton biomass or benthic community structure were evident from 2012 to 2024.*
>
> *Water quality in the Similkameen River is generally similar among reference, near-field and far-field areas. Periphyton and benthos in near-field and far-field areas have shown a general, long-term increase and decrease in biomass or abundance from 2012 to 2024, likely associated with a multi-year bloom of the potentially invasive diatom Didymosphaenia geminata in these areas. In 2024, the relative abundance and distribution of Didymo in the Similkameen River was generally low relative to recent years at most locations but was higher at SRRA when compared to the previous year; benthic invertebrate community abundance at these locations of the river was similarly low (but generally consistent with observations at these stations from 2012 to 2014). As observed for Wolfe Creek, significant annual variability exists in invertebrate community composition in Similkameen River study areas. However, taxonomic richness of invertebrates was similar in all areas of the Similkameen, and any taxa showing significant differences over time among study areas showed similar or greater abundance in the far-field area than the upstream reference area. Over time, periphyton biomass across all Similkameen River study areas has shown correlation with nitrate rather than phosphorus, but this finding may be confounded by didymo blooms, which may occur in low-P environments.*

Taken together and consistent with previous years, results of the 2024 AEMP indicate a mild enrichment effect from mine influences on Wolfe Creek, and no mine-related effects on aquatic biological communities of the Similkameen River."

3.7.2 Baseline IDZ Aquatic Effects Assessment

As a supplemental assessment to the 2024 AEMP, Hatfield conducted additional sampling at three new stations in the Similkameen River, associated with the proposed discharge locations, at SW07, SW38 and SW09. The sampling SW07 and SW38 study areas were established at the edge of the 100 m initial dilution zone (IDZ) of each of the proposed discharge locations. The 100 IDZ for SW09 drainage channel confluence was deemed unsafe to access, and the study area was established 200 m upstream of the hydrological monitoring station, SIMK, approximately 600 m downstream of SW09. A full suite of sampling was completed at the SW07 IDZ and SIMK, including benthic and fish tissue that were not part of the main AEMP sampling program in 2024 . The additional sampling was conducted in August and September of 2024. The SW38 IDZ was determined to be unsafe to access due to high flows during both the August and September field programs.

The results from the 2024 IDZ sampling are to act as a baseline from which to test if and when discharging from these stations is approved. The results of this supplemental assessment of the IDZ zones has been reported separately from the main AEMP program, as they are not required under Permit 00261. The results from the IDZ assessment are presented in Appendix A7 of the report titled "***Copper Mountain Mine, 2024 Aquatic Effects Monitoring Program"*** prepared by Hatfield dated March 2025, which is provided here in Appendix I.

3.7.3 Molybdenum Risk Assessment and Monitoring

In 2020, CMML retained Hatfield Consultants to conduct a wildlife risk assessment to assess whether existing or predicted future molybdenum concentrations in the water downgradient of the TMF could cause unacceptable effects on cattle or wild ungulates. The risk assessment was a recommendation of the BAT Assessment (SRK 2019b), to evaluate the need to implement proposed mitigation measures to exclude cattle and wildlife from TMF contact water.

The wildlife assessment included the development of a wildlife exposure model used to predict the dose of molybdenum that cattle and wild ungulates would obtain during foraging in relevant areas surrounding the mine. The recommendations/findings from the assessment (Hatfield 2022) include;

- Risks to ruminant livestock and wildlife are not expected at current or projected future molybdenum concentrations associated with the TMF east and west dam seepages
- Additional surface water monitoring not recommended at this time
- Routine seasonal sampling of cattle blood chemistry is recommended to continue.

The assessment was completed in May 2022 and was shared with ENV, USIB and LSIB on May 19, 2022. A copy of the report was also appended in the "***Environmental Management Act Permit 00261 – 2022 Annual Report of Operations, Maintenance and Environmental Monitoring Programs"*** report which was submitted to ENV and MCM on April 30, 2023.

As recommended in the wildlife risk assessment report (Hatfield 2022), CMML continues to complete routine seasonal sampling of cattle blood chemistry to continue providing a long-term dataset of cattle health that could be used to further validate the findings of the risk assessment. Following completion of the 2024 sampling program, CMML retained Hatfield to complete a review of data collected since the 2022 risk assessment report.

A technical memorandum titled ***"2023 and 2024 Cattle Blood Monitoring Program Results",*** prepared by Hatfield dated March 13, 2025 is provided in Appendix I, and summarized the cumulative results of the monitoring program with seasonal cattle blood samples collected since 2020.

Overall, the assessment concluded that the cumulative results of the cattle blood monitoring program conducted between 2020 and 2024 did not identify a pattern that would suggest that current molybdenum exposure to cattle that graze downgradient of CMM was eliciting adverse toxicological effects associated with copper deficiencies, as as blood copper concentrations in the exposure herd were similar to those observed in the reference herd and generally within normal ranges outlined in the scientific literature

3.7.4 SBEB for Copper in Wolfe Creek

Copper concentrations in Wolfe Creek are commonly elevated above BC water quality guidelines during high flow periods primarily due to background contributions from sources upstream of the mine property. The EMA Permit 00261 amendment issued in June 2017 included a requirement to develop a science-based environmental benchmark (SBEB) for copper in Wolfe Creek that accounts for the background contributions. Following ENV approval in November 2021 of the proposed copper SBEB development plan (Hatfield 2019) submitted by CMML in November 2019, Hatfield Consultants completed development of the SBEB for dissolved copper in Wolfe Creek in 2022.

Based on ENV's feedback on the SBEB development plan, Hatfield used the background derivation approach for the development of the proposed dissolved copper SBEB for Wolfe Creek. This involved estimating the 95th percentile dissolved copper concentration from the upstream reference area dataset. Given the same water will flow by the compliance station (SW03), and the source of dissolved copper at SW03 is assumed to be primarily background geological conditions in the upstream catchment of Wolfe Creek, this approach allows for an SBEB to be derived that is consistent with background dissolved copper concentrations in the Wolfe Creek receiving environment. A report on the proposed SBEB for dissolved copper in Wolfe Creek (Hatfield 2022) was submitted to ENV for approval on August 29, 2022 and was appended in the 2022 Annual Permit 00261 Report.

In 2023, CMML retained Hatfield to conduct follow-up activities to assess the performance of site-specific targets developed for dissolved copper. The assessment included DGT (diffusive gradient in thin films) deployment and bulk sampling for potential toxicity testing. The sampling and analyses were recommended in the dissolved copper SBEB document (Hatfield 2022) to assess the bioavailability and toxicity of dissolved copper during peak concentration events that are typically experienced in Wolfe Creek during freshet. The following represents the key findings of the DGT assessment:

- Results from the DGT testing suggested that bioavailable copper was less than determined based on weekly discrete sampling of dissolved copper in Early May 2023 and downstream exposure stations (SW02 and SW03) had slightly greater concentrations of time-weighted average bioavailable copper than the reference station (i.e. SW46) during the freshet window, despite concentrations from discrete sampling events generally being greater at SW46. Regardless, DGT time-averaged copper measurements were less than the freshet SBEB of 8.4 µg/: during each retrieval event and, when compared to the results of discrete weekly dissolved copper measurements, were consistently less, suggesting the time-averaged bioavailability of copper ranged between 17% to 67% of that represented by the discrete weekly sampling.
- As expected, concentrations of dissolved copper and time-weighted, average bioavailability copper determined from the DGTs were greatest during the initial stages of freshet, with concentrations decreasing throughout May as freshet flow diminished. Regardless, DGT-derived copper measurements, as well as weekly sampling events at SW02 and SW03

performed throughout the freshet period in May 2023, indicated that measurement copper concentrations were consistently less than both he acute and chronic BC WQGPAL, suggesting low risk to aquatic life.

- Results of acute and sublethal toxicity testing conducted on water obtained from the SW46 reference station and the SW02 exposure station on May 1 and 16, 2023 did not identify toxicity to organisms exposed (i.e. rainbow trout, *D. magna*, and *C. dubia*), despite dissolved copper concentrations ranging between 2.1 and 8.3 µg/L.

The report, titled ***"2023 and 2024 Copper Bioavailability Assessment***", prepared by Hatfield can be found in Appendix I.

3.8 SURFACE EROSION AND SEDIMENT CONTROL

The CMM Surface Erosion and Sediment Control Plan (December 2019) includes the following general principles for surface erosion and sediment control to be employed in planning and implementing activities on site:

- The extent and duration of land disturbance will be minimized to the extent practical.
- Existing vegetation will be kept intact wherever practical.
- Sources of potentially sediment-laden waters will be intercepted as close to the source as practical.
- Construction in sensitive areas will be confined to periods of dry weather if practical.
- Excavated soils will not be stockpiled adjacent to a watercourse or in areas of unstable terrain.
- In all sloped areas being disturbed, the steepness and/or length of slopes will be minimized to the extent practical.
- Drainage and run-off facilities will be maintained through cleaning ditches and spillways in early spring and as required.
- Sedimentation ponds will be maintained as required.

Erosion and sediment control measures conducted in 2024 primarily consisted of the following activities:

- Sediment control during activities to widen the existing access roads to the Similkameen River from the Ingerbelle and Copper Mountain sides of the river in order to improve assess and conduct geotechnical assessments of the proposed New Ingerbelle bridge crossing.
- Sediment control during geotechnical drilling on the banks of the Similkameen River.

3.9 SOIL SALVAGE AND STOCKPILING

The locations of all soil storage areas at the end of 2024 are shown on Figure 3.9 below, as well as on the disturbance map provided in Figure 1.4 and on the 1:10,000 scale map provided in Figure D.1 of Appendix D. Estimated volumes for all stockpile locations are summarized in Table 2.4 of Section 2.3.1.

Soil salvaged from the mine area in 2024 was primarily from pit development within the Phase 5/Phase 7 area of the CM Main Pit.. An estimated 84,153 m³ of soil materials stored at the South Soil Stockpile were removed from the stockpile, by Arrow Environmental, for use in fabrication of biosolids reclamation soils. This amount is an estimate based on an end of year volume of biosolids reclamation soil produced and the blending ratio used. Approximately 300 m³ was removed from WCR STKP 2 for use in the beautification project for the entrance to the mine.

CMM's stockpile inventory at the end of 2024 is estimated to be 948,759 m^3. This value is slightly decreased from the end of year 2023 inventory of 1,031,532, reflected in the small amounts of soil that was salvaged in 2024.

Considering the projected disturbance area to reclaim at closure, and the absence of soil salvage during previous operation, the available soil storage volumes are considered insufficient to provide a suitable soil depth on its own to support a long-term self-sustaining vegetative cover over all new and historic disturbance areas. Given the expected soil deficiency, site reclamation activities will be supplemented with the use of biosolids and other growth substrate media which have proved successful in the past. CMML's plans for production of a fabricated biosolids and compost reclamation soil are described in the 2021 5yr MPRP Update Report. Information on reclamation activities for biosolids and compost materials conducted in 2024 are discussed in Section 4.3 and 4.4.

FIGURE 3.9: LOCATION OF SALVAGED SOIL STOCKPILES

3.10 BIODIVERSITY CONSERVATION MANAGEMENT

CMML is committed to biodiversity conservation, recognizing it as an important corporate priority. CMML follows the Mining Association of Canada's Toward Sustainable Mining (TSM) Biodiversity Conservation Management Protocol. In 2024, CMML received a level AAA for 2 of the TMS indicators, and a level AA for one TMS indicator for this protocol. The CMM Biodiversity Conservation Management Plan (BCMP), March 2025 describes the approach to biodiversity conservation management, which follows the best practices as laid out in the protocol and aims to minimize adverse effects on biodiversity resulting from mining during operations and post-closure.

The BCMP is a road map of pertinent components to biodiversity planning and management. It starts with the identification of biodiversity aspects and follows through with actions plans and adaptive management to protect and restore them.

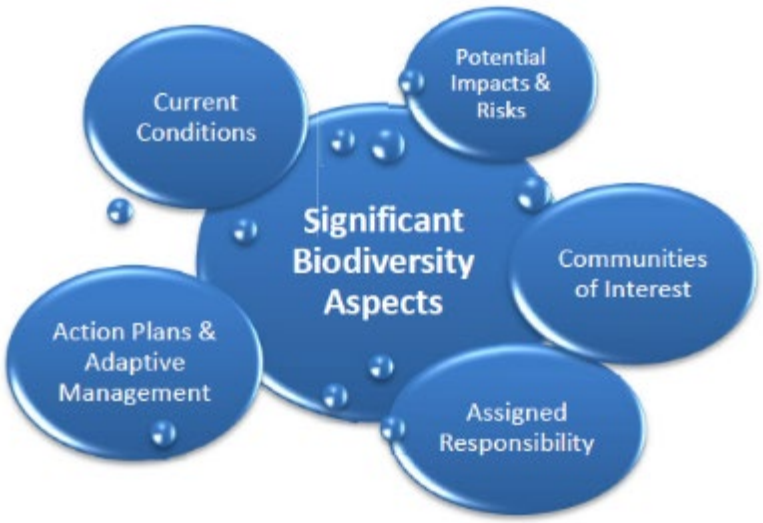


FIGURE 3.10: KEY COMPONENTS TO THE BCMP

The BCMP recognizes the Environmental Management System (EMS) in place at CMM since 2009. Many of these EMS management plans and SOPs contribute to the monitoring, mitigation, operational practices and procedures, and other management measures to protect the environment, and significant biodiversity aspects. These aspects include wildlife, aquatic life, habitat (living, travelling, breeding), functional ecosystems, clean water, available water, and traditional use. Activities with regard to the BCMP in 2024 included, but are not limited to:

- CMML participated in quarterly Joint Implementation Committee (JIC) meetings April 30 2024 (Q1 2024), July 31 2024 (Q2 2024), October 29 2024 (Q3 2024), January 15 2025 (Q4 2024).
- CMML continued to work with an Independent Water Review Board (IWRB), which was established in 2022, to provide a high level of oversight to achieve best practices in water management and stewardship. The IWRB met in June and October 2024 including a site visit that included a tour of the key water management facilities and structures.
- In May 2024, CMML invited the public to Copper Mountain Mine as part of a Mining Days event. During this event, CMML and their consultants provided information on reclamation, use of

biosolids, planting of trees and seedling, as well as information on aquatic monitoring that is completed each year.

- Completed the WildSafeBC Pledge Program Registration, committing to keeping our garbage, recycling, and organics secure at all time, keep the exterior of our building free of attractants, have our staff trained to follow WildSafeBC practices, and report conflicts with wildlife to the Conservation Officer Service.
- As detailed in Section 3.12.2, CMML actively monitors for bird (and other wildlife) activity that may be affected by mining activities.

Additionally, the sections below on Vegetation Management and Wildlife Management provide an overview of some additional 2024 biodiversity conservation management activities.

3.11 VEGETATION MANAGEMENT

Vegetation management in 2024 consisted of activities associated with the implementation of CMML's weed and invasive species management strategy, a component of CMML's overall Vegetation Management Plan, as well as vegetation monitoring of the established reclamation plots. Vegetation monitoring of the reclamation areas is discussed in Section 4.4.2 of the reclamation portion of this report.

3.11.1 2024 Invasive Plant Management Activities

Noxious weeds in B.C., including their seeds, are regulated under the *Weed Control Act* (RSBC 1996, Ch. 487), which requires owners to control the growth and spread of noxious weeds on their land. Noxious weeds are identified under the *Weed Control Regulation* (BC Reg 66/85, currently as amended up to & including BC Reg 76/2022). Copper Mountain has put in place a weed and invasive species strategy for the site to monitor and control populations of noxious invasive species before they spread, as required under *Mines Act* Permit M-29. Disturbed areas will be re-vegetated as soon as practical to out-compete invasive species. Details on CMML's weed and invasive species management procedures are included in the Vegetation Management Plan, most recently updated in March 2025.

Minor vegetation clearing was conducted along overgrown access footpaths to regular surface water monitoring locations by pulling and/or brush saw, primarily for safety reasons but may also lead to the spread of invasive weeds along such routes.

Riparian and bank areas in the Wolfe Creek Fish Habitat Offset Plan area were planted in May 2024 with a mix of native trees and shrubs to out-compete invasive vegetation. Cardboard mulch was applied to increase the competitiveness of planted vegetation. Large woody debris were placed in bank areas as a method to deter cattle from trampling sensitive riparian areas and the plants. Progress monitoring of these areas was completed in July 2024.

Helicopter seeding was conducted in October 2024 using native grass mix and fescue-dominant grass mix in reclamation areas located in East and South Extension NERSA. This project sought to establish local grasses and forbs on newly applied reclamation soils to outcompete invasive vegetation, and control erosion while allowing native trees and shrubs to move in naturally or artificially. Landscaping was also conducted in three areas surrounding the CMM gatehouse, including the application of a compost growth medium, hand seeding using native grass mix, planting drought-resistant shrubs and trees, and weeding.

Spectrum Resources Group (Spectrum) conducted herbicide treatments on the CMM site for two weeks commencing on June 18, 2024. Spectrum used ClearView™ and Tordon™ targeting top provincial and regional noxious weeds such as blueweed, scentless chamomile, diffuse knapweed, and Dalmatian Toadflax under the *Weed Control Act.* The distribution and inventory of target species were surveyed in August 2023 (Spectrum 2023).

Okanagan and Similkameen Invasive Species Society (OASISS) was invited to the CMM site to host invasive plants and biocontrol agent ID workshop on June 24, 2024. The educator shared knowledge and techniques

regarding identifying existing biological control agents and their host plants. Biocontrol agents for some invasive plant species on site were observed, such as *Mogulones crucifer*, a root-feeding beetle targeting Hound's tongue, which is a provincial noxious weed under the *Weed Control Act.*

3.12 WILDLIFE MITIGATION AND MANAGEMENT

The purpose of the Wildlife Mitigation Management Plan (WMMP) is to prepare for the unpredictable and to establish a wildlife-friendly environment in terms of employee behavior and attitudes, while implementing a reporting system that will further contribute to wildlife knowledge and management in the area. The WMMP outlines mitigation measures to reduce impacts on wildlife and their habitats throughout the Mine's lifetime. It provides a basis for adaptively managing observed or potential wildlife conflicts, supports future reclamation efforts and serves as a tool to track efforts contributing to biodiversity conservation on the Mine property.

The following is a summary of key components of the current Wildlife Mitigation Management Plan to prevent wildlife-human interactions:

- The entire CMML property is designated a no shooting and no hunting area. The only exception is authorized mine personnel and conservation officers in the unlikely event of wildlife encounters that are a threat to human safety
- Management of food attractants and a strict rule of no feeding of wildlife
- Wildlife have the right-of-way on all mine roads to help prevent collision mortality and to minimize unnecessary disturbance and associated physical stress
- Employee education – ongoing and as a component of routine site orientation for all workers and contractors
- Deterrents for nesting birds and other wildlife around stored equipment such as bird cannons and reflective tape
- Wildlife Sighting Log sheets placed in common areas around the mine site to facilitate employee reporting of wildlife sightings

In 2024, additional wildlife management activities that occurred include:

- Bear Aware training for all field employees working outside
- WildSafe Business Pledge
- Continued best practice for food waste management
- Collaborated with local ranchers to test cattle for molybdenum levels to ensure healthy livestock
- Conducted fish salvages to clear culverts and ensure safe passage for aquatic life
- Partnered with Associated Environmental Consultants and USIB, to carry out springtime snake surveys
- Continued bird nest surveys as required
- Set up bat monitoring stations around the proposed New Ingerbelle project site to track bat activity and ensure their protection

3.12.1 2024 Wildlife Observations

Figure 3.11 provides a summary of the 958 reported wildlife sightings recorded for a total of 1772 animals observed in 2024. This marks an increase from the 853 reported sightings in 2023 but remains below the 994 reported sightings in 2022. It continues to trend above the 781 reported sightings recorded in 2021 and the 253 reported sightings in 2020. The increase in reported sightings over the last four years is likely due to increased communication efforts to all CMM employees and contractors, emphasizing the importance of reporting wildlife observations. Observation sheets were posted throughout the mine site, and employees were encouraged to contact mine dispatch or the environment team to report any sightings. Additionally, the CMM environmental team promoted a wildlife sighting contest to further incentivize reporting.

Details recorded for each sighting include information such as physical characteristics, age, gender, behavior, and location. Spatial analysis of this data will support reclamation planning for the creation of suitable habitats aimed at restoring the site's pre-development wildlife capacity.

Wildlife observed in 2024 were predominantly deer, bears, elk, birds (including birds of prey), coyotes, marmots, and rainbow trout in Wolfe Creek. Within active mine areas, there were frequent sightings of mule deer, black bears, and birds. However, these species were more commonly observed on the property outside of the active mining zones. Additionally, sightings of elk, moose, and waterfowl were recorded in the outer areas of the property.

Beyond reported sightings, wildlife cameras are strategically placed across the mine property, collecting thousands of images annually. In 2022, an experiment conducted in partnership with Associated Environmental Consultants took raw photos from one game camera and ran them against a proprietary animal automated image detection software. This experiment was aimed at streamlining the process, with hopes to ultimately reduce worker hours. In 2023, a discussion and proposal were initiated for additional experiments with implementation taking place in 2024. As part of this effort, 20 game cameras have been installed around the CMM property to enhance wildlife monitoring and data collection.

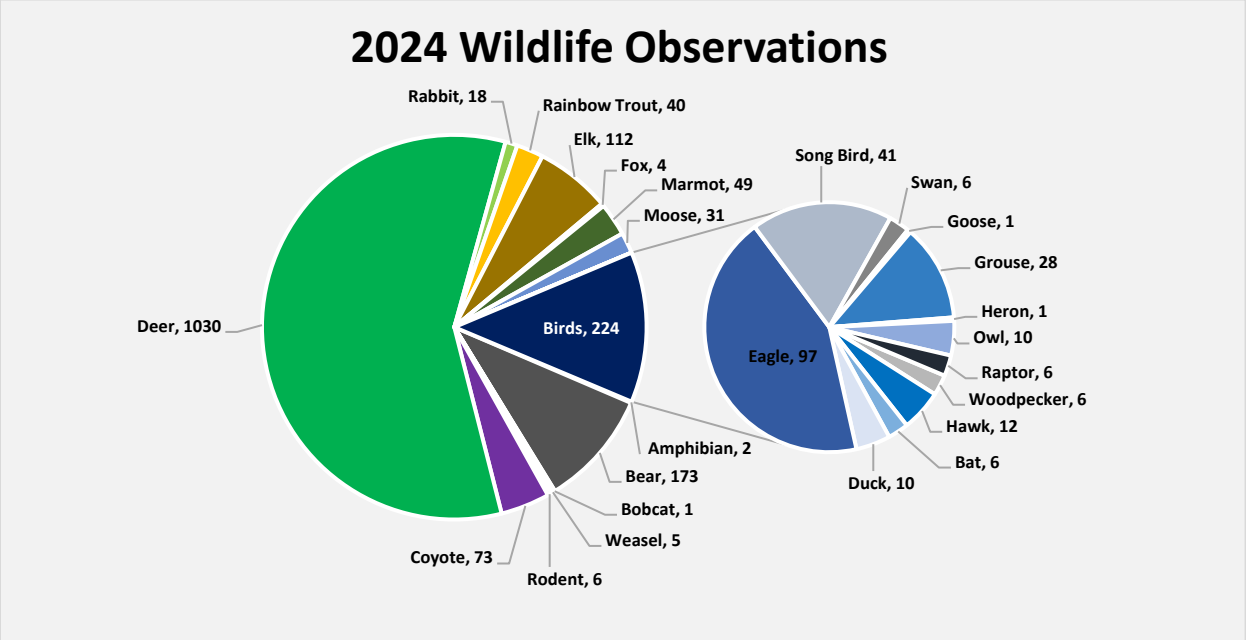


FIGURE 3.11: WILDLIFE OBSERVATIONS AT COPPER MOUNTAIN MINE IN 2024

3.12.2 Bird Surveys

Throughout the spring and summer of 2024, the CMM Environment Team conducted bird nest sweeps prior to the removal of trees and shrubs for various construction projects, as required. If active nests were observed, construction activities were halted, and a buffer zone was established around the area to prevent any disturbance. The nests were then monitored until they were no longer in use and the young birds had fledged.

In addition to bird nest surveys, Associated Environmental Consultants conducted bank swallow surveys near the Similkameen River where excavation work was taking place. These surveys ensured thorough monitoring of bank swallow habitats. Any identified nests were protected by establishing buffer zones and halting work in the affected areas until it was safe to resume.

In cases where a bird nest is found during a survey, the CMM Environmental Department issues an Environmental Alert notice to inform CMM personnel and contractors, ensuring proper protocol is followed (Figure 3.12), and clearly marks an appropriate buffer zone around the nest site.

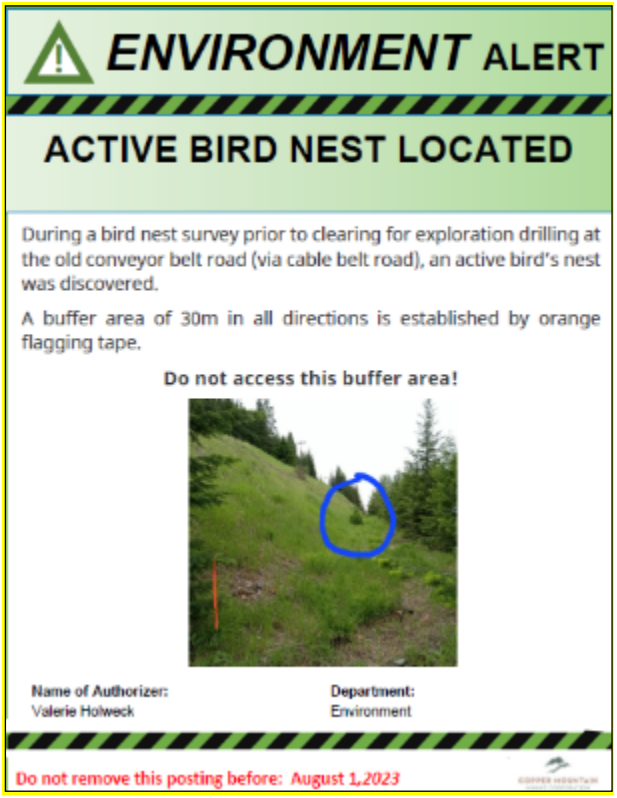


FIGURE 3.12: ENVIRONMENTAL ALERT SENT TO CMM PERSONNEL AND CONTRACTORS TO NOTIFY OF BIRD NESTING AREA

3.13 ARCHAEOLOGICAL RESOURCES

Archaeological and heritage resources are protected in British Columbia, under the *Heritage Conservation Act* (RSBC 1996), from intentional or accidental disturbance per Section 13. In general terms, under the Act, no person may damage, alter, cover, move or otherwise desecrate an archaeological or heritage object, without a permit issued under the *Heritage Conservation Act* (HCA). As required under *Mines Act* Permit M-29, CMML has an Archaeological and Cultural Heritage Resources Management Plan for the site, including procedures to be followed in the event of any archaeological remains being discovered on the mine property during the course of operations.

In May 2022, Archer CRM conducted an archaeological impact assessment (AIA) at selected areas of archaeological potential in the vicinity of the TMF. An archaeological overview assessment (AOA) and a preliminary field reconnaissance (PFR) was conducted in 2019 in support of a forthcoming *Mines Act* Permit Amendment Application for a proposed New Ingerbelle Pit pushback and mine life extension (New Ingerbelle Project), which included the TMF area for the associated proposed expansion of the TMF. The AOA and PFR identified subsurface archaeological potential (AOPs) (ARCHER 2020). The AIA conducted in 2022 focussed on identified AOP within or near the currently approved LOM footprint of the TMF and associated supporting infrastructure. No additional archaeological assessments were conducted in 2024 for current operations. An additional AIA field program was undertaken at Ingerbelle in 2024 in support of the New Ingebelle Project, the findings of which will be included in the permit amendment application for the Project.

3.14 AIR QUALITY MITIGATION AND MONITORING

3.14.1 Operation, Maintenance and Performance of Authorized Discharge Points

3.14.1.1 Primary Crusher Baghouse

The Primary Crusher and associated dust collection baghouse (ENV Site Reference No. E285751) is located approximately 1 km south of the Concentrator building (i.e. Mill), as shown on Figure 3.2.

Run of mine copper ore-grade rock is hauled by haul trucks from the open pits and dumped directly into the primary gyratory crusher feed bin. In addition, non-economic rock is occasionally run through the crusher to produce crushed rock for road capping and blast hole stemming materials. Rock in the feed bin drops by gravity directly into the gyratory crusher, which crushes the rock to a nominal minus 6-inch diameter. Crushed ore from the Primary Crusher is transferred from the overland conveyor to a surge stockpile on the south side of the Secondary Crusher, which is then transported by conveyor to the top of the Secondary Crusher building.

The crushing process at the Primary Crusher generates localized dust at the feed bin dump pocket and within the primary crusher building at transfer points along the conveyor.

Air Emission Control Works

Dust generated by the Primary Crusher facility is relatively coarse natural crustal material characteristic of local geology. Due to its relatively coarse characteristics, dust of this nature typically settles out within a few hundred meters of the source.

Air quality within the Primary Crusher building is controlled by a series of five interconnected dust hoods located at the transfer points from the crusher onto the feed conveyor and from the feed conveyor onto the overland conveyor. The interconnected dust hoods collect and direct dust laden air to a Met-Pro Flex Kleen baghouse dust collector with reverse pulse air jet bag cleaning system located at the Primary Crusher building. Dust-laden air is directed through a series of cartridge-type filters and then the collected dust is returned in a controlled manner to the conveyor. Clean air filtered through the baghouse is discharged through a vent in the north wall of the crusher building at an elevation of 1132 m. The vent is equipped with a backdraft damper and bird screen.

Operation

The maximum authorized discharge time for the Primary Crusher baghouse in accordance with Permit 105340 is 24 hours per day for 365 days a year. The Primary Crusher baghouse is only in operation when the Primary Crusher is in operation, and the annual average utilization of the Primary Crusher in 2024 was 65.2%.

There were no emissions from the Primary Crusher Baghouse when the system was not operational, as the building ventilation systems in the Primary Crusher facility were not operated during the periods when the dust collection system was not operational.

Maintenance Activities

Inspections of the baghouse dust collector for the Primary Crusher consisted of a visual inspection to confirm that all the components were operational and that the air exhaust was clean. The visual inspections were conducted at least once per day when the crushing facility and baghouse were in operation, though it was typically conducted multiple times a day during routine inspection of the entire crushing facility. Any issues observed or repairs conducted were noted on the Primary Crusher Operator Shift Record Sheets and are reported through the computerized service request system. All record sheets are kept on file at the Mill administration offices. In addition, maintenance staff complete more thorough dust collection baghouse inspections during scheduled preventative maintenance activities.

In 2024, there were no observations of dust discharge from the vent and to date there has been no evidence of dust built up on the exterior wall as a result of the air discharged from the clean air discharge vent.

The CMM Mill Maintenance department has a formal electrical and mechanical preventative maintenance (PM) program in place, which includes completion of a PM activity form developed specifically for the Primary Crusher baghouse based on the manufacturer's recommended maintenance activities. The manufacturer's recommendations did not include a recommended frequency for maintenance, as maintenance needs are highly variable depending on use and operating conditions. Based on experience with the system to date, CMML has found that it is appropriate to conduct PM's on at least a quarterly basis.

All repairs and maintenance activities are scheduled and tracked in a computerized work order system. A table listing all the maintenance and repairs conducted on the Primary Crusher baghouse in 2024 is provided in Appendix J. At least nine PM's on the Primary Crusher baghouse were documented for 2024 in CMML's computerized work order tracking system. A review of the maintenance log in Appendix J indicates that PM's were conducted on the Primary Crusher baghouse at least quarterly in 2024.

In addition to regular PM activities, the following provides a summary of key repairs or improvements made to the Primary Crusher dust collection baghouse system in 2024:

- Replaced differential pressure gauge
- Repaired dust collector piping

Performance Monitoring

CMM has automated instrumentation that continuously records the pressure differential measurements of the Primary Crusher baghouse and relays the measurements to the operator's Distributed Control System (DCS) display. This automated system was set up to provide a continuous and accurate record of baghouse performance for continuous performance monitoring by the operator. In the event of a pressure drop measurement outside of the recommended operational range, the system alarms and the Crusher Operator will immediately inform their supervisor and inspect the system. The Mill Maintenance department is contacted to conduct any necessary repairs.

The DCS system records the maximum pressure differential observed in a one-minute interval. This data is used to generate statistics on the maximum and average pressure differentials for each hour of the day.

In addition to automated pressure differential readings, when the Primary Crusher and baghouse were in operation, manual pressure differential readings were collected by the Crusher Operator and recorded on the

Crusher Operator Shift Record Sheets. Although manual measurements were no longer required of the operators after the automated system was set up in February 2014, operators continue to collect and record the readings during their circuit checks.

The maximum daily automated pressure differential measurements recorded for the Primary Crusher from January 1st to December 31st, 2024, are shown graphically below in Figure 3.13.

Due to the large number of data points, a table of the measurements has not been included in this report. An electronic copy of the data is available upon request. In Figure 3.13, values of zero for the automated measurements recorded by the DCS represent periods when the baghouse was not in operation due to crusher down times for operational or maintenance requirements. The automated system still collects readings whether the baghouse is operational or not.

The monitoring data indicates that the pressure differential for the Primary Crusher baghouse was typically within the 1 to 10 inches of water column as specified in Permit 105340.

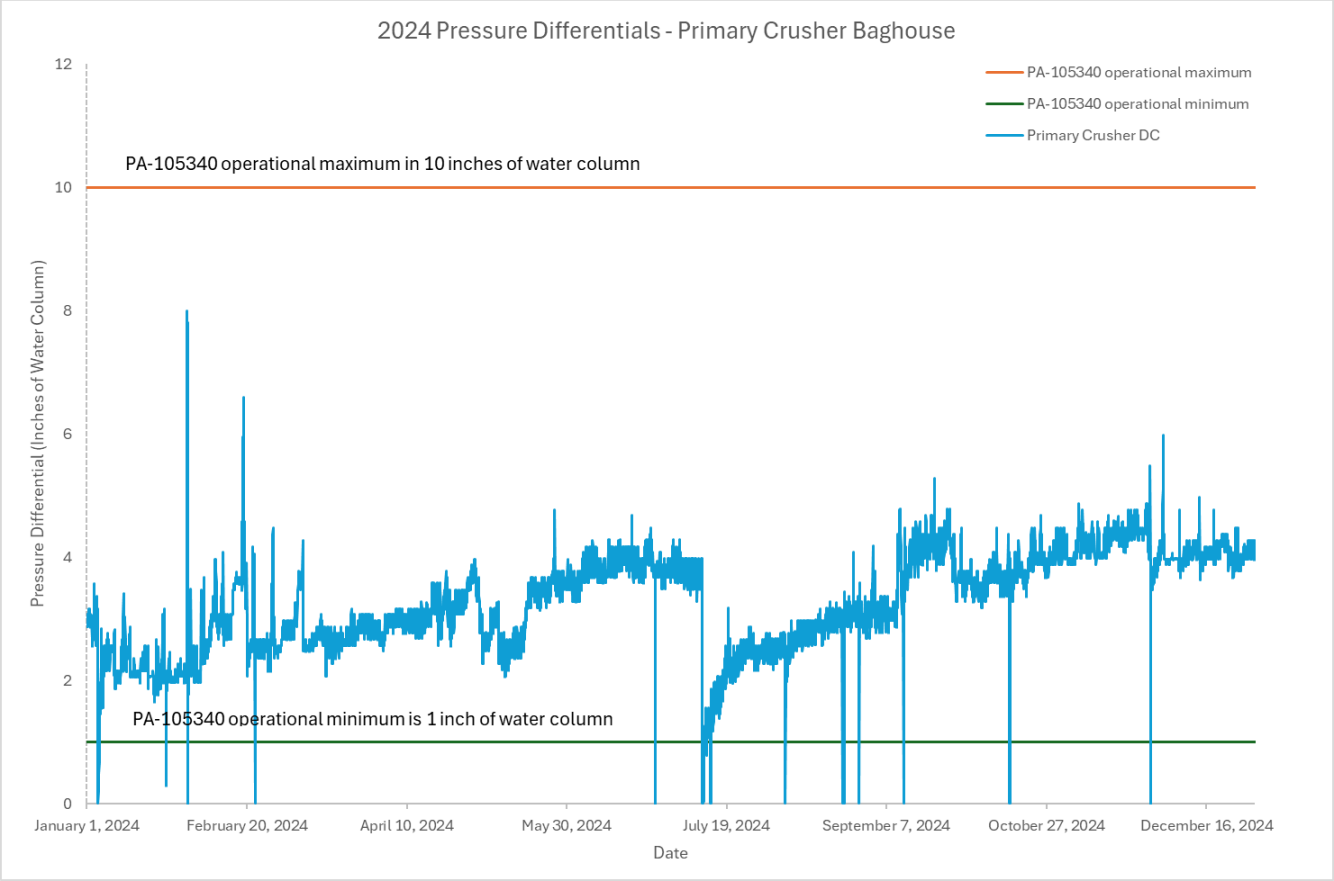


FIGURE 3.13: TREND OF 2024 PRESSURE DIFFERENTIAL MEASUREMENTS FOR PRIMARY CRUSHER BAGHOUSE

3.14.1.2 Secondary Crusher Baghouse

The Secondary Crusher building and associated dust collection baghouse (ENV Site Reference No. E303330) is located approximately 400 m west of the Concentrator building (i.e. Mill), as identified on Figure 3.2.

The Secondary Crusher was added to the existing operations, between the Primary Crusher and the SAG mill, in August 2014. The Secondary Crusher circuit consists of a large screen and cone crusher with interconnecting conveying system. Crushed copper ore-grade rock from the Primary Crusher, with a nominal

minus 6-inch diameter, is transferred from the overland conveyor (S1) for transport to a surge stockpile after which it is transported by a conveyor (S3) to a vibrating screen at the top of the Secondary Crusher building. The screen undersize material is directed onto the Secondary Crusher return conveyor (S4), while the oversize material is fed directly into the cone crusher, which crushes the ore-rock to a nominal 1-1.25-inch diameter. The crushed ore from the cone crusher drops onto the secondary crusher return conveyor which transfers it and the screened undersize material back to the overland conveyor (S5) for transport to the Coarse Ore Stockpile, located outside the mill.

The crushing process at the Secondary Crusher generates localized dust at the drop from the S2 conveyor onto the surge pile, within the Secondary Crusher building at conveyor transfer points, screen, and cone crusher, and at transfer between S4 belt and overland S5 belt.

Air Emission Control Works

Dust generated by the Secondary Crusher facility is relatively coarse natural crustal material characteristic of local geology. Due to its relatively coarse characteristics, dust of this nature typically settles out within a few hundred meters of the source.

Air quality within the Secondary Crusher building is controlled by a dust collection system that recovers dust from air extracted from six pickup points (dust hoods) situated throughout the conveyors, screen, and cone crusher. Dust laden air from the dust hoods reports to a Met-Pro Flex Kleen baghouse dust collector with a reverse pulse air jet bag cleaning system located in the Secondary Crusher building. Dust laden air is directed through bag type filters. Collected dust is normally accumulated in a mixing tank with water and pumped in a controlled manner to the mill as a slurry. In addition, a screw conveyor can be used to direct the dry collected dust to S4. However, this process is used only if the slurry system is out of operation. The dust collection exhaust fan discharges the cleaned air from the baghouse through ducting to a vent on the east side of the Secondary Crusher building at an elevation of 1185 m elevation. The vent is fitted with a 45° hood and a bird screen.

The emission control system installed at the Secondary Crusher is a high efficiency baghouse dust collector rated at better than 99.99% dust removal efficiency with predicted total particulate discharge loadings of 20 mg/m^3 or less.

Operation

The maximum authorized discharge time for the Secondary Crusher baghouse specified in Permit 105340 is 24 hours per day for 7 days per week. Operation of the Secondary Crusher baghouse in 2024 was considerably less than the authorized maximum. The Secondary Crusher baghouse is only in operation when the Secondary Crusher is in operation, and the annual average utilization of the Secondary Crusher in 2024 was 59.3%.

Maintenance Activities

Inspections of the baghouse dust collector for the Secondary Crusher consisted of a visual inspection to confirm that all the components were operational and that the air exhaust was clean. Visual inspections were conducted at least once per day when the crushing facility and baghouse were in operation, though it was typically conducted multiple times a day during routine inspection of the entire crushing facility. Any issues observed or repairs conducted were noted on the Secondary Crusher Operator Shift Record Sheets. All record sheets are kept on file at the Mill administration offices. In addition, maintenance staff complete more thorough dust collection baghouse inspections during scheduled preventative maintenance activities.

No visible emissions were observed from the discharge vent, and the exterior wall adjacent to the clean air discharge vent has not displayed evidence of dust build up from discharging air.

The CMM Mill Maintenance department has a formal electrical and mechanical preventative maintenance (PM) program in place, which includes completion of a PM activity form developed specifically for the Secondary Crusher baghouse based on the manufacturer's recommended maintenance activities.

All repairs and maintenance activities are scheduled and tracked in a computerized work order system. A table listing all the maintenance and repairs conducted on the Secondary Crusher baghouse in 2024 is provided in Appendix J.

The manufacturer's recommendations did not include a recommended frequency for maintenance, as maintenance needs are highly variable depending on use and operating conditions. Based on experience with the system to date, CMML has found that approximately quarterly PM's are appropriate, until the regular inspections and performance of the system indicates more frequent PM's are necessary. Such activities are scheduled and tracked in the computerized work order system.

A review of the maintenance log in Appendix J indicates that PM's were conducted at least quarterly during 2024, in accordance with Permit 105340. At least seven PM's on the Secondary Crusher baghouse were documented for 2024 in CMML's computerized work order tracking system.

In addition to regular PM activities, the following provides a summary of key repairs or improvements made to the Secondary Crusher dust collection baghouse system in 2024:

- Replacement dust collection piping
- Repairing dust collection blower and fan

Performance Monitoring

CMML has automated instrumentation that continuously records the pressure differential measurements of the Secondary Crusher baghouse and relays the measurements to the operators DCS display. This automated system was set up to provide a continuous and accurate record of baghouse performance for continuous performance monitoring by the operator. In the event of a pressure drop measurement outside of the recommended operational range, the system alarms and the Crusher Operator will immediately inform their supervisor and inspect the system. The Mill Maintenance department is contacted to conduct any necessary repairs.

The DCS system records the maximum pressure differential observed in a one-minute interval. This data is used to generate statistics on the maximum and average pressure differentials for each hour of the day.

In addition to automated pressure differential readings, when the Primary Crusher and baghouse were in operation, manual pressure differential readings were collected by the Crusher Operator and recorded on the Crusher Operator Shift Record Sheets. Although manual measurements were no longer required of the operators after the automated system was set up in February 2014, operators continue to collect and record the readings during their circuit checks.

The maximum daily automated pressure differential measurements recorded for the Primary Crusher from January 1 through December 31, 2024, are shown graphically below in Figure 3.14.

Due to the large number of data points, a table of the measurements has not been included in this report. An electronic copy of the data is available upon request. In Figure 3.14, values of zero for the automated measurements recorded by the DCS represent periods when the baghouse was not in operation due to crusher down times for operational or maintenance requirements. The automated system still collects readings whether the baghouse is operational or not.

The monitoring data indicates that the pressure differential for the Secondary Crusher baghouse was typically within the 1 to 10 inches of water column as specified in Permit 105340, with the exception of small periods of time in May, September, October and November where the results were below 1 inch of water column. The lower pressure differentials occurred during scheduled shutdown of the secondary crusher when the baghouse was not operational.

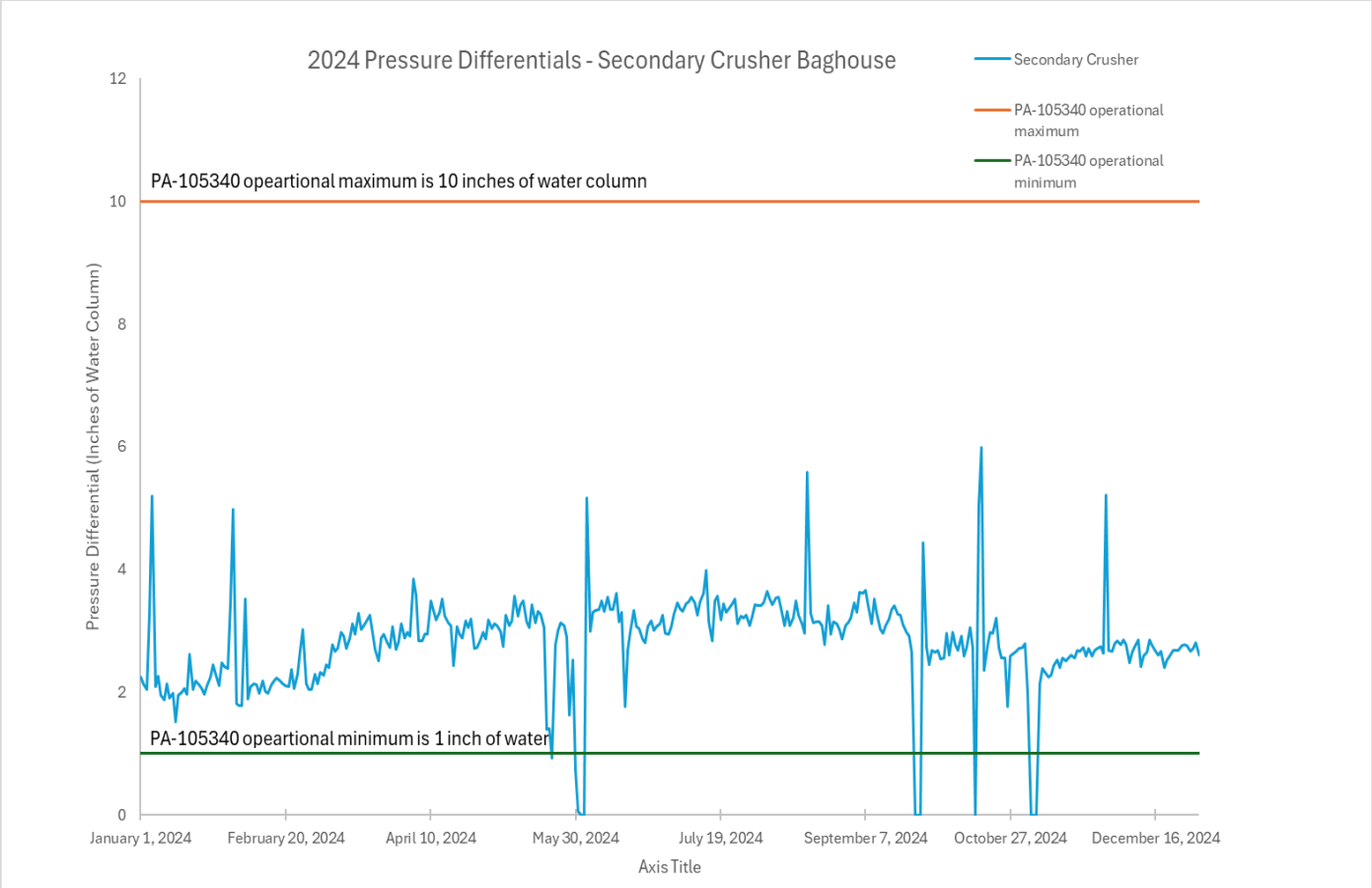


FIGURE 3.14: TREND OF 2024 PRESSURE DIFFERENTIAL MEASUREMENTS FOR SECONDARY CRUSHER BAGHOUSE

3.14.1.3 Lime Silo Vent Baghouse

The Lime Silo and associated dust collection baghouse (ENV Site Reference No. E285772) is located on the north side of the Mill building, as shown on Figure 3.2. The Lime Silo is a 150-tonne capacity vertical storage bin for the storage of dry granular quicklime (Calcium Oxide – CaO) for use in the mill process.

Air Emission Control Works

Dust in the lime silo is a relatively coarse lime particulate. Due to its relatively coarse characteristics, dust of this nature in an open air environment would typically settle out within a few hundred meters of the source. However, the dust generated in the Lime Silo is designed to be contained within the Silo. Air and dust are only displaced from the silo through a vent on top of the silo during the pneumatic filling of the silo by the lime delivery truck. Air and dust displaced through the vent from the Lime Silo during filling operations is directed to a Met-Pro Flex Kleen baghouse dust collector located on top of the silo. Collected dust is then returned to the silo by gravity. Clean air filtered through the baghouse filter is released directly from the baghouse unit through a vent equipped with a weatherhood and bird screen.

Operation

As described above, discharge of air from the Lime Silo baghouse, and thus operation of the baghouse, only occurs during deliveries of lime. The maximum authorized discharge time for the Lime Silo specified in Permit 105340 is 20 hours per week for 52 weeks a year. The process of blowing out lime from the delivery truck to the lime silo typically takes an average of 2-3 hours.

Appendix J provides a record of lime shipments to CMM in 2024, which represents the number of times that the Lime Silo baghouse would have been in operation in 2024. CMM received 107 deliveries of lime in 2024, which is equivalent to an average annual delivery frequency of 2.1 times a week. Assuming that the Lime Silo baghouse would have been in operation for, on average, approximately 2-3 hours per delivery, the discharge period in 2024 is estimated to be 4.2 to 6.4 hours per week as an annual average. Thereby operation of the Lime Silo baghouse in 2024 remained within permitted limits.

Maintenance Activities

Inspections of the baghouse dust collector for the Lime Silo were conducted on an intermittent basis throughout 2024, generally consisting of visual inspections during lime deliveries to confirm that all the components were operational and that no visible dust was discharging from the vent during operation. No visible emissions were observed from the discharge vent and to date there has been no evidence of dust build up on the exterior wall adjacent to the clean air discharge vent.

A table listing all the maintenance and repairs conducted on the Lime Silo baghouse in 2024 is provided in Appendix J.

The manufacturer’s recommendations did not include a recommended frequency for maintenance, as maintenance needs are highly variable depending on use and operating conditions. Since use of the lime silo baghouse is relatively low (only a few times a week on average during lime deliveries) compared to other baghouses at CMM, it is considered appropriate to conduct PM’s on a quarterly basis.

A review of the maintenance log in Appendix J indicates that PM’s were conducted on the Lime Silo baghouse at least quarterly in 2024. A total of 15 electrical and/or mechanical PM’s on the Lime Silo baghouse were documented for 2024 in CMML’s computerized work order tracking system.

Since the equipment is still in good condition, not a high demand system, and visually appeared to be operating well, the only repair made in 2024 was an improvement to the lime silo door seal.

Performance Monitoring

A transmitter at the pressure drop instrumentation on top of the Lime Silo baghouse was installed in June 2012 enabling the readout display to be relocated from its previous location on top of the silo to the control panel at ground level. The data is also transmitted to the DCS display inside the Concentrator building, where the pressure differential measurements can be monitored by the Control Room Operator and are recorded automatically by the DCS. Same as for the other dust collection baghouses, the DCS system records the maximum pressure differential observed in a one-minute interval. This data is then used to generate statistics on the maximum and average pressure differentials for each hour of the day.

The maximum daily automated pressure differential measurements recorded for the Lime Silo Vent baghouse from January 1st through December 31st, 2024, are shown graphically below in Figure 3.15. An electronic copy of the data is available upon request.

In Figure 3.15, the intermittent peaks represent periods when the Lime Silo baghouse was in operation (i.e. during a lime delivery). Overall, a review of the 2024 monitoring data indicates that the Lime Silo baghouse was in good operating condition, with typical pressure differential measurements within the 1 to 10 inches of water, when in operation, as specified in Permit 105340.

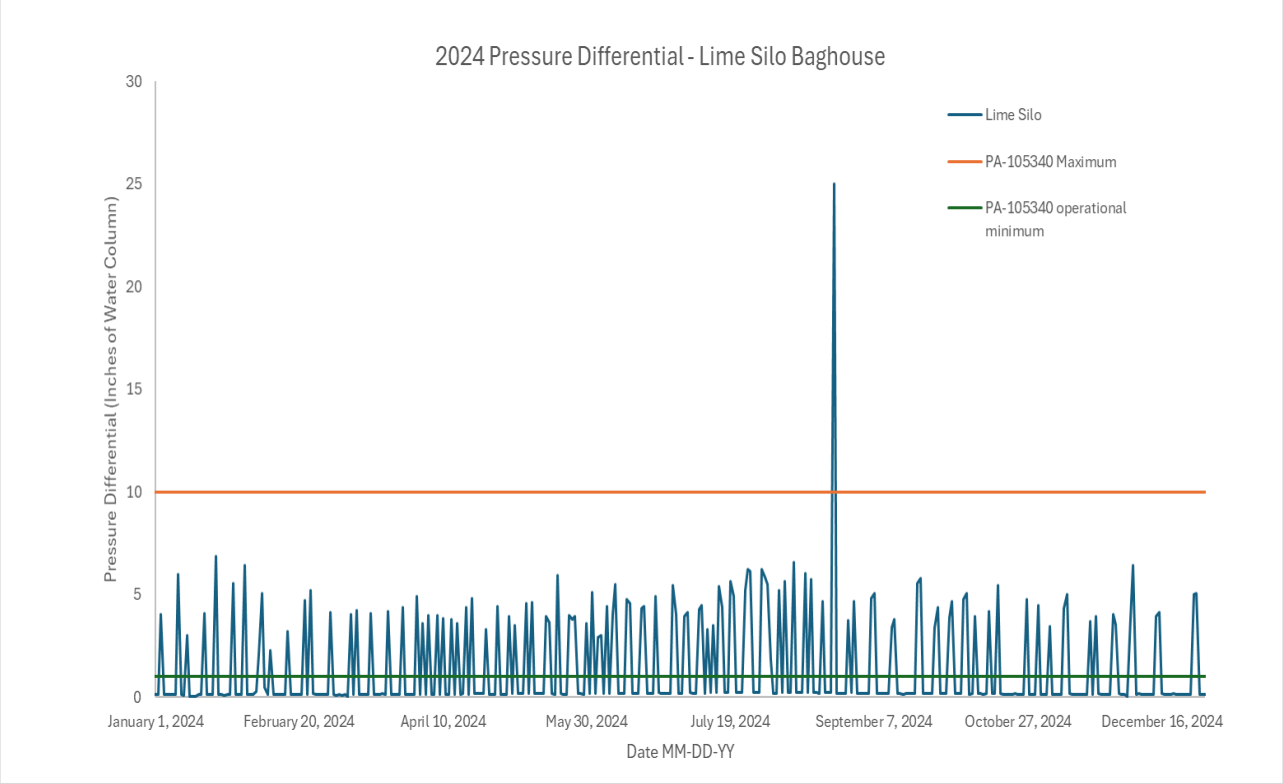


FIGURE 3.15: TREND OF 2024 PRESSURE DIFFERENTIAL MEASUREMENTS FOR LIME SILO BAGHOUSE

3.14.1.4 Assay Lab Baghouse

The sample preparation area (Bucking Room) of the Assay Lab and the associated dust collection baghouse (ENV Site Reference No. E285775) are located at the northeast corner of the Mill building, as shown on Figure 3.2. The sample preparation area is equipped with a laboratory sized jaw crusher, cone crusher, sample splitter and pulveriser to enable crushing and pulverizing of rock samples for on-site analysis at the adjacent Assay Lab.

Air Emission Control Works

Dust generated in the sample preparation process is relatively coarse natural crustal material characteristic of local geology. Due to its relatively coarse characteristics, dust of this nature in an open air environment would typically settle out within a few hundred meters of the source. However, the dust generated in the Assay lab is contained within the sample preparation area.

Air quality in the sample preparation rooms is controlled through the use of dust hoods with interconnected ductwork to the Assay Lab and to the Met Lab, that collects and directs dust laden air to a N.R. Murphy baghouse dust collector with a reverse pulse air jet bag cleaning system and hopper located within the Mill on the roof of the adjacent blower room. Collected dust reports from the hopper to collection barrels on the floor of the Mill for return to the mill process. Clean air filtered through the baghouse is discharged through a vent in the east wall of the Mill building, equipped with a backdraft damper and bird screen.

A modification was made to this system in August 2023 that involved disconnection of the existing ductwork from the Met Lab sample preparation area and connecting that ductwork to a new separate N.R. Murphy dust collection baghouse (referred to as the Met Lab Baghouse). The Assay Lab sample preparation area continues to be treated by the existing dust collection baghouse.

This modification to have each of the sample preparation areas treated by a separate designated baghouse was conducted to improve the air quality of both areas, as it was identified that the Assay Lab baghouse did not have sufficient capacity to service both sample preparation areas, thereby posing a health risk to CMM personnel working in those areas. CMML received an Order from MCM to address the issue as soon as possible. The Met Lab dust collection baghouse became operational on August 30, 2023 and has typically been in operation on average 8-12 hours per day, 3-4 days per week. CMML submitted a preliminary application on December 14, 2022 to amend Permit 105340 to include the Met Lab baghouse.

The following subsection provide operation, maintenance, and performance information specific to the Assay Lab dust collection baghouse authorized under Permit 105340.

Operation

The maximum authorized discharge time for the Assay Lab baghouse in accordance with Permit 105340 is 24 hours per day for 365 days a year. The Assay Lab baghouse is only in operation when the Assay Lab is open and the sample preparation area is in use. In 2024, the Assay Lab dust collection baghouse was typically used for 8 to 12 hours per day for 7 days a week, therefore operation of the baghouse in 2024 was considerably less than the authorized maximum.

Maintenance Activities

Inspections of the baghouse dust collector for the Assay Lab were conducted on an intermittent basis throughout 2024, generally consisting of a visual inspection to confirm that all the components were operational and a check of the level of fines in the dust collection barrels.

No visible emissions were observed from the discharge vent, and the exterior wall adjacent to the clean air discharge vent has not displayed evidence of significant dust build up.

A table listing all the maintenance and repairs conducted on the Assay Lab baghouse in 2024 is provided in Appendix J.

A review of the maintenance log in Appendix J indicates that PM's were conducted at least quarterly during 2024, in accordance with Permit 105340. At least eleven PM's on the Assay Lab baghouse were documented for 2024 in CMML's computerized work order tracking system.

Since the Assay Lab baghouse is not a high demand system, the equipment is still in relatively good condition, and it visually appeared to be operating well and no major repairs were needed in 2024. The only notable maintenance included balancing of the dust collector fan and emptying the dust collection barrels.

Performance Monitoring

CMML has automated instrumentation to continuously record the pressure differential measurements of the Assay Lab baghouse and to relay the measurements to the DCS. This automated system was set up in July 2018 to provide a continuous and accurate record of baghouse performance for annual reporting. The DCS system records the maximum pressure differential observed in a one-minute interval. This data is then used to generate statistics on the maximum and average pressure differentials for each hour of the day.

The maximum daily automated pressure differential measurements recorded for the Assay Lab baghouse from January 1st to December 31st, 2024, are shown graphically below in Figure 3.16. An electronic copy of the data is available upon request.

All of the automated pressure differential readings in 2024 were between 1.5 and 3 inches of water when the baghouse was in operation, consistent with previous years, which is within the range of 1 to 10 inches of water specified in Permit 105340.

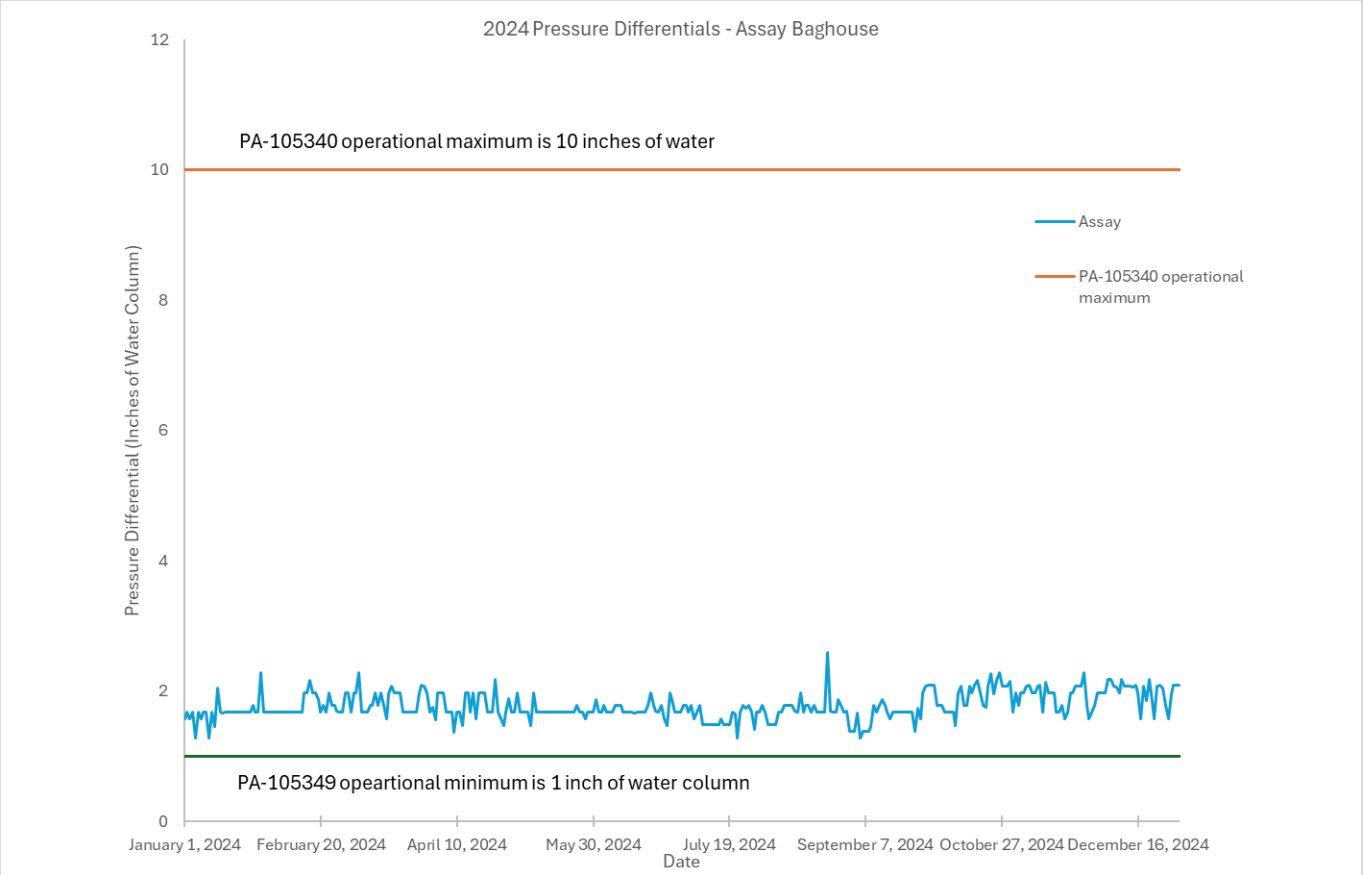


FIGURE 3.16: TREND OF 2024 PRESSURE DIFFERENTIAL MEASUREMENTS FOR ASSAY LAB BAGHOUSE

3.14.1.5 Portable Rock Crushing Plant

The portable rock crushing plant (ENV site reference number E303350) authorized under amended Permit 105340 was not used anywhere at the mine site in 2024. The portable rock crushing plant was sold and removed from the mine site in 2016.

In addition, no contractor crushing plants were operated at the mine site in 2024, therefore there are no maintenance and performance information and data to report for 2024.

3.14.1.6 Coarse Ore Stockpile Drop Point

The Coarse Ore Stockpile Drop Point (ENV Site Reference No. E303940) is located on the northwest side of the Mill building, as shown on Figure 3.2. The authorization applies to the discharge of fugitive dust from the ore drop onto the Coarse Ore Stockpile (COS).

The COS Ore Drop is the point from which crushed ore on the conveyor belt drops onto the top of the COS before continuing to the Concentrator building (Mill) for milling. The majority of the outer surface of the stockpile is composed of coarser material due to gravity separation and is therefore resistant to the effects of wind erosion. As a result, fugitive dust emissions from the COS are primarily associated with wind erosion at the ore drop from the conveyor to the top of the pile.

Air Emission Control Works

Dust generated by the COS Ore Drop is relatively coarse natural crustal material characteristic of local geology. Due to its relatively coarse characteristics, dust of this nature typically settles out within a few hundred meters of the source.

Dust emission levels from the ore drop onto the pile will primarily depend on the following factors:

(a) drop distance (i.e. height of the stockpile);

(b) moisture content of the crushed ore;

(c) precipitation; and

(d) wind speed.

Fugitive dust generation from the COS Ore Drop is primarily controlled by dust suppression measures applied along the crushing circuit upgradient of the COS Ore Drop. This includes a water spray system in the S4/S5 transfer chute and on the S4 and S5 conveyors. A foam dust suppression system was installed at the S4/S5 transfer point as a means of providing dust suppression throughout the winter when the water spray system was at risk of freezing. However, the use of the chemical reagents was negatively impacting the recovery at the mill in late 2017 and therefore the use of foam for dust suppression was indefinitely discontinued in 2018. More detail on dust suppression methods are discussed in Section 3.14.2.

Operation

The maximum authorized operating period for the COS Drop Point in accordance with Permit 105340 is 24 hours per day for 7 days per week. Operation of the COS Drop Point is estimated to be similar to the operation time of the Secondary Crusher. Actual operation of the COS Drop Point would therefore have been slightly less or slightly above 59.3%. The Secondary Crusher is occasionally operated to crush non-economic rock for blast hole stemming and road capping materials. The crushed non-economic rock is removed from the circuit just outside the Secondary Crusher building (along S5 conveyor) and does not reach the COS Drop Point. The operation also occasionally runs the primary crusher while bypassing the secondary crusher, this would not be included in the secondary crusher operating time but does contribute to the operation of the COS Drop Point.

Maintenance Activities

Continued monitoring of the water spray dust suppression system took place throughout 2024 to ensure water flow and distribution was optimal for dust suppression. Inspections of the dust suppression system consisted of a visual inspection by the Secondary Crusher operator to confirm that all the components were operational, and that the system was operating effectively. Continued additional focus was put on maintaining the existing chutes and conveyor systems. Shift supervisors and Secondary Crusher Operators inspected the circuit at least once a day and directed maintenance personnel for repairs as needed. All repairs and maintenance activities are scheduled and tracked in a computerized work order system. A table listing all the maintenance and repairs conducted on the COS Dust Suppression System in 2024 is provided in Appendix J.

Further detail on other measures implemented in 2024 to mitigate dust generated at the COS ore drop can be found in Section 3.14.2.

Performance Monitoring

Performance of the dust suppression measures to control dust generated at the COS Drop Point is monitored as part of the fugitive dust monitoring program. A source monitoring dustfall station (DF-05) is located approximately 200m downgradient (NE) of the COS. A temporary dustfall station (DF-u/gCOS), located approximately 350m upgradient (SW) of the COS ore drop, was also installed in August 2016 to assess the proportion of dustfall at DF-05 that may be contributed from sources upgradient of the COS and crushing

circuit. Samples were collected for a continuous sequence of bi-monthly exposures at both of these stations throughout the year in 2024. Details on the sample collection and results are discussed in Section 3.14.3. Overall, the dustfall monitoring samples from the COS source monitoring station in 2024 remained relatively low compared to previous years and dustfall monitoring at downgradient receiving environments also remained low.

3.14.1.7 Regulated Open Wood Burning Site

The Regulated Open Wood Burning site (ENV Site Reference No. E305090), authorized under amended Permit 105340 dated January 18, 2016, applies to the discharge of air contaminants from the controlled open burning of wood and associated products. The Regulated Open Wood Burning site is authorized to be in an area located on the east side of the mine property on the north end of the Non-economic Rock Storage Area (NERSA), within a 400m distance of the central location shown on Figure 3.2. Due to development of the NERSA, the permitted burn location was moved to a new location on the NERSA within the approved burn area. The 2024 location is identified in Figure 3.2.

No burning was conducted at the Regulated Open Wood Burning site in 2022, primarily due to conditions being unfavourable for burning (burning bans or poor venting conditions) when CMML staff were available to conduct and attend to a burn.

One instance of land clearing debris targeted for disposal by open burning was completed in accordance with the Open Burning Smoke Control Regulation under the Environmental Management Act.

It is noted, however, that CMM maintains a site wide Emergency Response Plan that include a Fire Prevention and Response Plan and fulfills the Permit 105340 Sections 3.5 requirement to have a Fire Prevention and Response Plan in place at all times. The Emergency Response Plan was last updated in December 2024 and is available upon request.

3.14.2 Fugitive Dust Management

Fugitive dust typically refers to small particles of geological or other origin that are moved into the atmosphere from non-ducted, open sources known as “non-point sources”. Non-point fugitive dust sources may originate from both stationary and mobile sources, including such things as open fields, open burning, agricultural activity, construction sites, logging road traffic, vehicle traffic on paved and unpaved roads, aggregate pits and storage piles, as well as open pit mines.

At Copper Mountain, the primary potential sources of fugitive dust include: haul truck operations, open pit operations including drilling and blasting, activity around the ore processing plant (concentrator building), concentrate hauling, vehicle traffic along the mine site access road and on the site road network, road grading, and wind erosion of waste rock stockpiles, soil stockpiles, low grade ore stockpiles and exposed tailings storage areas. Fugitive dust emission sources related to the processing plant include material transfer systems associated with the crushing facilities and the crushed ore stockpile. Studies undertaken at other mining operations have indicated that, in the absence of mitigation measures, dust entrainment by the wheels and the wake created by moving haul trucks generate almost 97% of suspended particulate emissions associated with mining activity, although most of this dust settles out rapidly and decreases to insignificant levels within the mine property boundaries. A list of potential fugitive dust sources found at CMM are present in Table 3.4, and identified on the site map provided in Figure 3.17.

In terms of geologic origin, potential fugitive dust at the mine site will originate predominantly from a combination of relatively inert naturally occurring matter including background soils such as soil, clay, silt and sand, copper/gold ore-grade materials or host rock materials.

The extent of fugitive dust emissions depends on several factors, the most important being particle size, wind speed, moisture content and dust density. Maximum fugitive emissions will take place during dry, windy weather where small and light particles are present in dry, active surface material. As a result, dust plumes tend to be most noticeable from potential sources when wind speeds are high and/or when vehicles are moving.

An assessment of the potential effects of air emissions, including non-point source emissions, was carried out in conjunction with the Application to Amend *Mines Act* Permit M-29 submitted to the Ministry of Energy, Mines and Petroleum Resources for review in April 2009 (SRK, 2009). In the assessment it was predicted that most of the suspended particulate matter generated in association with mining activity at Copper Mountain will settle out within a relatively short distance and generally within the property boundary. As a result, the overall conclusion of the assessment was that the reactivation, operation and decommissioning of the Copper Mountain project was anticipated to have no significant adverse effect on local or regional air quality and that potential impacts are likely to be of dust deposition of a nuisance nature in the immediate vicinity of the site rather than an ambient air quality concern.

In accordance with Permit 105340 issued October 3, 2011, CMML developed and implemented a Fugitive Dust Management Plan (FDMP) for the Copper Mountain Mine. The FDMP (revision 4) was submitted on March 27, 2023, and a letter of approval for the plan was issued by ENV on October 10, 2023. The FDMP was updated in July 2024, to reflect recent changes at the Copper Mountain Mine, including mine developments approved under the *Mines Act* Permit M-29 amendment issued July 23, 2019 and recent additions to fugitive dust mitigation measures. A review of the 2024 updates has been completed with updates to be finalized in 2025.

The Coarse Ore Stockpile (COS) Dust Action Plan developed in accordance with Section 3.2 of the Permit 105340 amendment issued January 8, 2016 was submitted to ENV on November 1, 2016 and approved on

February 2, 2017. All action items listed in the COS Dust Action Plan were completed in 2017, and therefore is not discussed further in this report.

CMML conducts an annual exposure reduction plan aimed at reducing overexposures for the most at risk groups in terms of crystalline silica quartz, metal fumes, and noise. The Exposure Reduction initiatives are reviewed with the Job Occupational Health, Safety, and Environment Committee and management to provide updates and request input. Key initiatives for 2024 were improving dust suppression in the crushing circuit, upgrading the ventilation system in the heavy-duty shop (still ongoing), and assessing noise overexposures in the shops across the site. In addition, the Fugitive dust management plan ensures a common understanding of the hazards to health, safety and environment of fugitive dust emissions, identify current dust sources, review existing controls and guidance in developing action plans appropriate to the risk(s), and communicate the actions to all CMM employees.

The following sections provide a summary of dust suppression activities conducted in 2024.

TABLE 3.4: FUGITIVE DUST SOURCES, LOCATIONS, AND MATERIALS AT COPPER MOUNTAIN MINE

Identifier	Location(s)	Potential Source	Dust-generating Material	Additional Comments
Open Pit Mining	Main Pit (formerly Pits 1, 2 and 3), North Pit	Drilling, blasting, materials handling, transportation of ore and non-economic rock.	Road dust, fine aggregate,	Encompasses all pit operations.
Mine Site Roads	Various	Movement of mobile equipment.	Road dust	Priority for dust suppression are high-traffic routes and roads immediately adjacent to receiving environments.
Primary Crusher Circuit	Northeast side of Main Pit	Feed bin dump, within the crusher building, conveyor transfer points.	Fine aggregate	Includes the crusher and crusher building, baghouse, and overland conveyor.
Secondary Crusher Circuit	~350 m southwest of the Mill	Drop points at surge pile and conveyor transfer points, within crusher building, screen, cone crusher.	Fine aggregate	Includes the crusher and crusher building, baghouse, and overland conveyor.
Coarse Ore Stockpile	~150 m west of the mill	Ore drop from conveyor.	Fine aggregate	Dust generation is a function of drop distance.
Concentrator Building		Lime silo, bucking room, assay lab, metallurgical lab.	Fine aggregates	Referred to as the Mill.
Land Use Change	Various	Soil disturbances.	Road dust, airborne soil	Includes grubbing, logging, and changing mine footprints.
Soil Stockpiles	Various	Wind erosion of dry stockpiles.	Aggregate	
Non-economic Rock and Low Grade Ore Stockpiles	Various	Equipment traffic, materials handling, wind erosion.	Road dust, aggregate	Includes the Realignment Support Landform
Tailings Management Facility	North of Mill and pits	Wind erosion of dry materials.	Fine aggregate	Priority given to the dams, particularly the slopes and crests.
Portable Crushing Plant (Temporary Contractors)	Various	Materials handling (dumping, crushing), transfer points, drop point	Road dust, aggregate	Applies to temporary rental units, as CMM no longer owns a portable crushing plant
Burning	Permitted Wood Burn Pile, Various (timber slash piles)	Smoke and ash from burning wood products	Fine ash	Operates on an as needed basis only, in accordance with regulations.

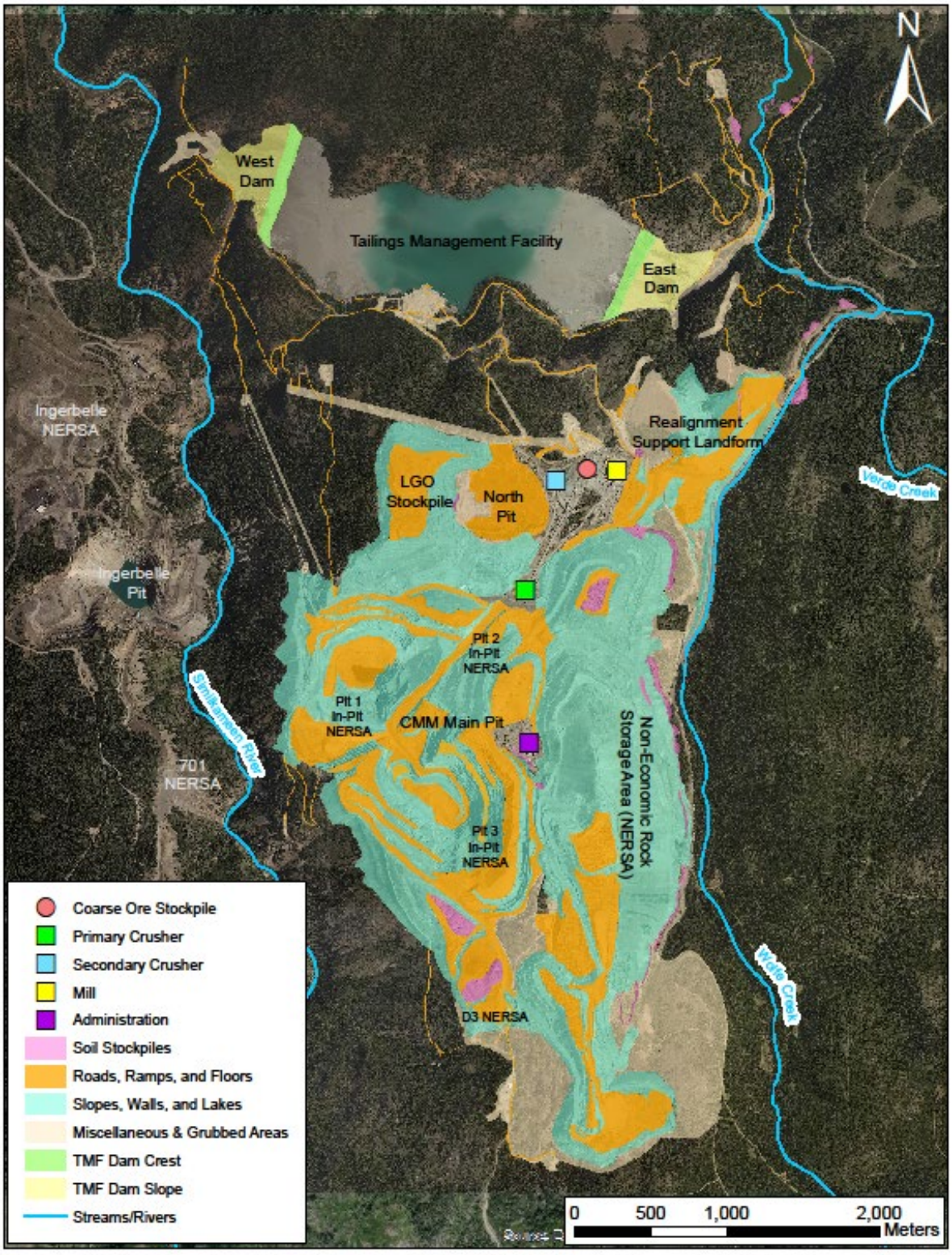


FIGURE 3.17: SITE MAP OF POTENTIAL FUGITIVE DUST GENERATION SOURCES AT COPPER MOUNTAIN MINE.

3.14.2.1 Mine Site Roads

Water Trucks

In 2024, it was observed that haul trucks travelling on haul roads continued to be one of the more significant sources of fugitive dust at the mine site. The mine continued to utilize its two largest water trucks (20,000 gallon and 13,000 gallon), primarily for watering haul truck roads and other mine site areas to minimize the generation of fugitive dust from these areas (Figure 3.18).

FIGURE 3.18: WATERING HAUL ROADS WITH 13,000 GAL CAT 773 WATER TRUCK.

CMML also owns a smaller 5,000 gallon water truck for use as a backup to the two newer and larger water trucks and occasionally to assist in dust suppression during particularly hot and dry weather. In addition, there is a 2,000 gallon water truck that is primarily used to transport water for the drill rigs. However, it was also used in 2024 to water smaller areas such as the parking lots at the Mill and Administration building, as well as the light vehicle road around those buildings.

The water trucks at CMM were used almost continuously throughout the day on dry and/or windy days throughout the spring, summer, and fall of 2024. Watering of haul roads was also conducted at night when needed, however this was typically less frequent than during the day, as the evening dew and less solar evaporation usually provided enough natural moisture to minimize dust generation. In addition, wind speeds were generally significantly lower at night, further minimizing the generation of dust plumes and enabling faster settling rates.

Water for dust control was pumped into the water truck tanks from the Reclaim Water Tank. A record of daily dust suppression watering activities was maintained in the water truck operator's daily log book.

Chemical Dust Suppressant Application

The unpaved mine access road from the mine entrance at the gatehouse off Copper Mountain Road up to both the Truck Shop/Administration and Mill building areas that is utilized only by light vehicle traffic and trailer trucks was sprayed with a Calcium chloride ($CaCl_2$) dust suppressant on May 27 and again on August 18,

2024. These particular roads were selected to receive the dust suppressant application since Calcium chloride is a more effective means of dust suppression on light vehicle traffic roads than water, and because the receiving environment is immediately adjacent to the downwind side of the road along a portion of the road. Application of the product on light vehicle roads enables the water trucks to focus efforts on watering the haul roads, which was observed to be effective. The Calcium chloride application areas are shown on the site map in Figure 3.19 below.

Overall, the use of multiple water trucks and application of Calcium chloride dust suppressant on light vehicle roads was found to effectively reduce the generation of fugitive dust from mine site roads throughout the 2024 dry season up to the onset of winter and the development of a permanent layer of snow and ice on the road surfaces with the aid of several water trucks.

FIGURE 3.19: CHEMICAL DUST SUPPRESSANT APPLICATION AREAS IN 2023.

3.14.2.2 Crushing Facilities

In 2024, crushed ore dropping off the end of the Overland Conveyor onto the COS continued to be a source of fugitive dust at the mine site. Water lines from the freshwater and reclaim water tanks feed several dust suppression locations in the crushing circuit. Currently, the dust suppression system consists of three water addition points utilizing engineered spray nozzles. These addition points are located downstream of the Secondary Crusher on the S4 conveyor, in the S4/S5 transfer chute, and on the tail end of the S5 conveyor. Historically, the water spray system on the conveyors has been shut down during the winter months to prevent freezing (aggregation) of ore material in the COS, which prevents the material from passing through the feeders below the stockpile. In 2020, it was discovered that the current water supply system was too little to provide sufficient water or head pressure to install improvement projects such as a sprinkler and spray bars at the head end of S5 conveyor. In 2021, a system was designed to upgrade this water supply system, including upgraded pumps and water lines, and installation of additional sprinklers/sprayers around the COS and S5 conveyor to reduce dust. In 2022, the booster pump was upgraded, and the additional sprinkler system was installed, but did not operate due to issues with frozen lines and plugging. These were in operation in 2024, with one recorded instance of freezing post unplanned crusher shutdown from February 9th – 11th.

Additional efforts to reduce dust within the crushing circuit in 2024 included continuation of a dry cleanup of conveyor areas and the crusher buildings by contracting a vacuum truck on as needed basis. A vacuum truck was on site cleaning dust build up in both the Primary Crusher and the Secondary Crusher buildings on January 29-30, February 20-21, March 24-25, April 18, May 16, June 20, August 13, and October 21-22, 2024. Further, installation of hoses and a sump at the Secondary Crusher (connected to the dust slurry pipeline system) in 2016 and 2017 allows for wet cleaning of the building. This method of dust management is only used when temperatures are warm enough to prevent zero freezing risk to the water supply pipes and inside the building itself.

3.14.2.3 Tailings Management Facility

Due to the local success of the single sprinkler trial on the East Dam in 2019, CMM rolled out a full-scale system in 2020, consisting of six high pressure rotating sprinklers on the East Dam crest. Two additional sprinklers were added to the system in 2023. The sprinkler system was used throughout the 2024 period during dry conditions.

The East Dam sprinkler, fed by a line from the nearby East Seepage Return pipeline, applied water in a circular shape, with a diameter of approximately 80 meters. The focus of the sprinkler system was wetting of the ground on the upstream crest (crest and beach) as well as the atomized water in the air during application were noted to mitigate airborne dust. This area was focused on as the predominant wind comes from the West.

The East Dam sprinklers, as noted above, were tied into the existing East Seepage return pipeline and, when the sprinklers are in use, a valve is shut to send 100% of the reclaim flow through the eight sprinklers. The system has proven to provide excellent coverage and wetting of the East Dam crest as well as the additional benefit of suppressing airborne dust particles.

Following the success of the East Dam sprinkler system, a similar system was constructed for the West Dam in late 2023 and became operational in the spring of 2024. This system is fed by a line tied into the nearby West Dam Seepage Return pipeline.

3.14.3 Fugitive Dust Monitoring Program

CMM commenced a fugitive dust monitoring program in 2013 to assess the potential impacts of fugitive dust from mining activities on the plants, soils, and ambient air quality in neighboring receiving environments. Seasonal dustfall monitoring was initially conducted at seven locations agreed upon with ENV, and then CMM elected to expand the program to twelve locations in 2014 to gain more representative data of inputs to receiving environments adjacent to the mine property. A thirteenth station (DF-13) was added to the required monitoring program to monitor dust from the south extension of the NERSA that was approved in the *Mines Act* Permit M-29 amendment issued July 7, 2015.

All thirteen of the stations were then included in the Permit 105340 required dustfall monitoring program specified in the amendment issued January 18, 2016, with minor adjustments to the locations of DF-04 and DF-09 to be more representative of receiving environment conditions downgradient of the TMF East Dam and to be outside the approved Life-of-Mine (LOM) footprint of the dam.

Of the thirteen stations, twelve of the stations require sampling canisters to be deployed for a continuous sequence of monthly exposures from April through October. Dustfall monitoring at DF-05, located downgradient of the COS, is the one station that requires bi-monthly exposures throughout the entire year. The amended Permit 105340 dated November 15, 2023 (Permit 105340 (2023))specifies the following ambient air quality objective (AAQO) for dustfall at monitoring locations designated as receiving environment sites:

Total Inorganic Particular (dustfall): 2.9 mg/dm^2/day as a monthly average

The above AAQO has been used here in the interpretation of results from receiving environment locations during the 2024 dustfall monitoring program. The following sections summarize the details and results for the 2024 climate and dustfall monitoring program.

TABLE 3.5: SUMMARY OF 2023 AND 2024 DATA FOR CMM AND PRINCETON WEATHER STATIONS

Copper Mountain Mine Weather Station

2023	Temperature (°C)			Precipitation			Wind (Max Gust)		Wind (Average Gust)	
Month	Mean	Min	Max	Rain (mm)	Snow (cm)	Total (mm)	Speed (km/h)	Direction of Max Gust	Speed (km/h)	Average Direction
Jan[1]	-3.0	-18.7	7.5	0.0	4.6	4.6	26.9	214	5.4	179
Feb[1]	-3.6	-21.0	5.6	0.0	11.9	11.9	31.8	210	7.2	198
Mar[1]	-0.9	-10.8	11.2	0.0	9.5	9.5	28.1	215	6.3	185
Apr[1]	2.9	-7.0	25.3	0.0	9.2	9.2	26.1	224	7.9	189
May	12.0	1.5	28.4	22.2	0.0	22.2	24.7	178	6.6	194
Jun	13.8	2.6	30.2	16.6	0.0	16.6	27.0	224	7.5	211
Jul	17.4	2.2	32.8	36.3	0.0	36.3	24.3	232	6.8	214
Aug	17.6	4.9	38.7	17.9	0.0	17.9	23.4	230	6.7	209
Sep	11.8	0.0	31.4	19.0	0.0	19.0	24.8	226	6.1	186
Oct[1]	5.7	-12.0	25.2	2.0	23.1	25.1	23.5	234	5.3	170
Nov[1,2,3]	-1.1	-9.1	10.2	17.3	2.2	19.5	32.3	216	5.3	181
Dec[1,2]	-2.1	-10.6	7.1	28.8	8.2	37.0	18.4	222	3.9	178
Yearly	5.9	-21.0	38.7	160.1	68.7	228.8	26	219	6.2	191

Snow data is provided as snowfall depth in cm. Converted to SWE and added to rain amount for total in millimeters.
Wind direction shown is direction that wind is from.
[1]Snow arm sensor and manual snow depth measurement showing discrepancy; manual measurement shown here
[2]Precipitation gauge not functioning; manual measurement show here
[3]Precipitation data collected from weather station above the admin building

Princeton CS Weather Station

2023	Temperature (°C)			Precipitation[1]			Wind (Max Gust)	
Month	Mean	Min	Max	Rain (mm)	Snow (cm)	Total (mm)	Speed (km/h)	Direction of Max Gust
Jan	-3.3	-21.0	6.5	0.4	3.0	3.4	44	335
Feb	-3.1	-19.3	9.0	0.0	5.7	5.7	54	297
Mar	0.6	-11.9	14.8	3.4	2.0	5.4	48	206
Apr	6.1	-7.1	29.5	2.5	0.0	2.5	59	230
May	15.0	1.5	32.0	40.3	0.0	40.3	49	252
Jun	16.5	1.5	34.4	38.8	0.0	38.8	61	272
Jul	19.9	4.9	35.6	13.7	0.0	13.7	56	252
Aug	18.9	4.6	35.4	20.9	0.0	20.9	56	251
Sep	13.7	-0.6	31.2	19.3	0.0	19.3	50	269
Oct	6.9	-12.2	22.8	19.0	0.0	19.0	49	270
Nov	0.2	-10.2	10.6	27.3	0.0	27.3	57	255
Dec	-1.1	-10.6	5.0	26.1	9.0	35.1	M	M
Yearly	7.5	-21.0	35.6	211.7	19.7	231.4	53	263

Wind direction shown is direction that wind is from.
Snow data is provided as the sum of the difference of snowfall depth during depth increases.
[1]Princeton CS Weather Station only recorded snow on ground and total precipitation. Rainfall calculated from the difference
Data found in table only includes what is provided from the Princeton CS weather station, some days were missing data
M = data missing

Copper Mountain Mine Weather Station

2024	Temperature (°C)			Precipitation			Wind (Max Gust)		Wind (Average Gust)	
Month	Mean	Min	Max	Rain (mm)	Snow (cm)	Total (mm)	Speed (km/h)	Direction of Max Gust	Speed (km/h)	Average Direction
Jan	-6.9	-33.6	8.6	-	68.2	68.2	63.7	203	3.9	179
Feb	-2.5	-15.9	7.8	-	28.2	28.2	52.4	209	5.1	169
Mar [1]	1.1	-14.3	20.0	9.9	0.1	10.0	20.8	217	6.4	187
Apr[1]	4.0	-5.0	19.7	13.8	20.2	34.0	29.3	221	8.0	204
May[1]	8.4	-2.6	27.7	36.0	0.0	36.0	28.5	217	8.8	212
Jun[1]	11.8	1.9	27.0	59.0	0.0	59.0	35.5	223	7.6	211
Jul[1]	19.8	4.9	37.4	27.0	0.0	27.0	20.5	239	7.6	223
Aug[1]	16.5	4.9	39.9	54.0	0.0	54.0	21.9	145	6.6	202
Sep[1]	13.6	-1.5	33.9	8.0	0.0	8.0	23.9	225	6.9	192
Oct	6.1	-3.8	22.4	16.3	2.0	18.3	28.9	230	6.4	100
Nov	-0.6	-20.6	22.7	0.8	15.0	15.8	70.0	359	6.0	179
Dec	-3.2	-24.7	17.4	18.2	14.1	32.3	63.4	299	4.7	185
Yearly	5.7	-33.6	39.9	243.0	147.8	390.8	38	232	6.5	187

[1]Precipitation data collected from weather station above the admin building
Snow data is provided as snowfall depth in cm. Converted to SWE and subtracted from total precipitation to estimate rainfall in millimeters.
Wind direction shown is direction that wind is from.

Princeton CS Weather Station

2024	Temperature (°C)			Precipitation			Wind (Max Gust)	
Month	Mean	Min	Max	Rain (mm)	Snow (cm)	Total (mm)	Speed (km/h)	Direction of Max Gust
Jan	-6.4	-37	4.8	8.2	41.0	49.2	38	215
Feb	-0.2	-19	9.9	-	6.0	21.6	45	204
Mar	2.8	-13	22.5	8.1	1.0	9.1	46	210
Apr	6.1	-6.8	22.4	9.3	0.0	9.3	48	207
May	10.3	-4.5	30	14.8	0.0	14.8	52	205
Jun	15	1.1	29	28.2	0.0	28.2	64	208
Jul	21.5	4.6	39.5	6.5	0.0	6.5	49	209
Aug	18.6	4.3	37.4	57.3	0.0	57.3	53	182
Sep	14.9	-4.1	34.7	7.1	0.0	7.1	48	200
Oct	7.5	-5.9	23.2	16.8	0.0	16.8	42	211
Nov	1.1	-9.1	11.6	10.6	2.0	12.6	47	202
Dec	-2.3	-9.6	6.9	14.3	17.0	31.3	44	208
Yearly	7.4	-37.4	39.5	181.2	67.0	263.8	48	205

3.14.3.1 Sample Locations

Dustfall sampling under the Permit 105340 (2023) monitoring program was conducted at thirteen required locations in 2024 consisting of the following:

- four key mine site dust generating sources (Primary Crusher, Coarse Ore Stockpile, TMF East Dam, and NERSA haul roads)
- eight receiving environment locations around the perimeter of the mine site; and
- an undisturbed reference area upgradient of the mine site.

In addition, CMML continued to conduct sampling at a temporary source monitoring station on the upgradient side of the COS and crushing circuit that was installed on August 31, 2016, as part of an assessment for the COS Dust Action Plan and has been monitored it at the same frequency as the COS source monitoring station (DF-05). The purpose of the temporary station, referred to as DF-u/gCOS, is to assess the proportion of dustfall at the COS monitoring station (DF-05) that may be contributed from sources upgradient of the COS and crushing circuit. There was no temporary portable crusher plant in operation throughout 2024, therefore no additional monitoring for this was required.

Table 3.6 provides a list of the thirteen routine dustfall monitoring stations operated in 2024 and the voluntary DF-u/gCOS monitoring station. The table provides the coordinates, installation date, and a brief description of the general location and objective for each monitoring location. The locations of the dustfall monitoring stations in 2024 are also shown on Figure 3.2.

As noted above, the locations of receiving environment monitoring stations DF-04 and DF-09 were adjusted at the start of the 2016 monitoring season, as agreed to with ENV and specified in the permit amendment issued January 18, 2016. DF-04 was previously located approximately 500m downgradient of the TMF East Dam. The location was within the currently approved LOM plan disturbance footprint for the TMF East Dam, and due to the narrow characteristics of the valley in this area, the station was within 10 m of the dirt access road to the toe of the dam. The location was not considered to be a representative receiving environment location, as inputs from the access road may have caused an over-estimate of inputs from the TMF East Dam. As of April 2016, the location of DF-04 was moved approximately 400m north of its original location, to just northwest of the East Seepage Return Pumphouse where it was outside the currently approved LOM disturbance footprint of the East Dam and expected to receive minimal inputs from the access road. To reflect this change in location, the station was renamed DF-04A. Additionally, due to other CMM construction projects that commenced in July 2017 in the vicinity of the East Dam and Seepage Return Pumphouse, increased haul traffic traveling directly past DF-04A (within 2 metres) returned values representative of a source station rather than a receiving station, and the location was subsequently excavated to expand the East Seepage Terminus Pond. To adequately quantify the dustfall deposition rates from increased traffic to and from East Dam, DF-04A was temporarily moved approximately 385 metres northeast of the DF-04A location in August 2017 and was referred to as DF-04B. In 2018, the station was moved to a location behind the East Seepage Return Pumphouse (north of pumphouse just west of former DF-04A location) to accommodate development of a new salvaged soil stockpile, and the monitoring station continued to be referred to as DF-04B.

The initial change in location of DF-04 to the new DF-04A location in April 2016 brought it in close proximity to the former DF-09 station. The DF-09 station was therefore relocated a little further east to the perimeter of the property near the crossing of Copper Mountain Road and Wolfe Creek and renamed DF-09A. Dustfall levels at this location are considered to be a conservative estimate of dustfall conditions in the receiving environment downgradient of the mine property and contain inputs from all mine sources.

The TMF East Dam source monitoring station, DF-07, also had to be moved a number of times since the beginning of the monitoring program in order to accommodate construction of the dam. Over the years, the location of the monitoring station has moved from being on the upper slope of the East Dam to the lower slope of the dam, and is currently identified as DF-07C. The changes in location do not represent a significant change, and based on observations at the site, it is believed to be equally, if not more, representative of fugitive dust leaving that source location as a result of winds across the crest and slope of the dam.

Additionally, in June 2021, the DF-10 monitoring location was moved approximately 500m NE of the previous monitoring station due to the construction of the Realignment Support Landform. As the landform construction progressed closer to the original dustfall monitoring station, the station became more reflective of a source monitoring location, as opposed to the receiving environment. The new monitoring location was renamed DF-10A. A notification was submitted to the Ministry of Environment on September 3, 2021, providing details of this change in location.

With the increased activity and changes in the TMF West Dam area, the DF-08 monitoring location at the shoulder of a frequently used unpaved access road was no longer reflective of the receiving environment. The dustfall station was moved approximately 200 m northwest of its original location in April 2023 prior to the start of the monitoring season and renamed DF-08A. A notification was submitted to the Ministry of Environment on March 20, 2023, providing details of this change in location.

TABLE 3.6: 2024 DUSTFALL MONITORING STATIONS

Station ID	Monitoring Category	Location Description and Purpose	Coordinates (UTM NAD 83)	Installation Date	EMS Number
DF-01	Reference	Reference station upgradient of mine site; approximately 1.5 km SW of GW06.	E679032 N5469667	15-Jul-13	E304990
DF-02	Receiving Environment	In clearing near GW01. Receiving environment station to monitor potential impacts of dust generated from the NERSA to upper Wolfe Creek Valley adjacent to the mine property as a result of winds from the north and west.	E681912 N5465645	15-Jul-13	E304991
DF-03	Receiving Environment	In clearing near SW17 and GW03. Receiving environment station to monitor potential impacts of dust generated from the NERSA to Wolfe Creek Valley adjacent to the mine property as a result of winds from the south and west.	E681415 N5467013	15-Jul-13	E304992
DF-04B	Receiving Environment	In clearing north of the East Seepage Return Pumphouse, approximately 900 m NE of East Dam. Receiving environment station to monitor potential impacts to Wolfe Creek Valley due to dust generated from the TMF East Dam as a result of winds from the west, as well as dust generated from the mine site, as a result of winds from the south.	E681731 N5470393	15-Jul-13	E304993
DF-05	Source	Approximately 200 m NE of Coarse Ore Stockpile (COS). Source station to characterize dust originating from the COS as a result of winds from the south and west. Since August 2014, also influenced by inputs from the Secondary Crusher circuit.	E680804 N5469102	15-Jul-13	E304999
DF-06	Source	NE side of Primary Crusher. Source station to characterize dust originating from the Primary Crusher facility as a result of winds from the south and west.	E680307 N5468134	23-Jul-13	E305000
DF-07C	Source	Slope of TMF East Dam. Source station to characterize dust originating from the East Dam as a result of winds from the west, as well as the south.	E681168 N5470234	15-Jul-13	E305001
DF-08A	Receiving Environment	In clearing ~400m NW of TMF West Dam; north of settling pond. Receiving environment station to monitor potential impacts to adjacent Similkameen Valley due to dust generated from the West Dam as a result of winds from the south and east.	E677986 N5471320	06-Jun-14	E304994
DF-09A	Receiving Environment	In clearing on west side of hay fields approximately 2.5 km NE of East Dam, near crossing of Copper Mountain Road and Wolfe Creek. Receiving environment station to monitor potential impacts to Wolfe Creek Valley due to dust generated from the TMF East Dam as a result of winds from the west, as well as dust generated from the mine site, as a result of winds from the south.	E681965 N5471527	06-Jun-14	E304995
DF-10A	Receiving Environment	In clearing approximately 1.5 km NE of COS. Receiving environment station to monitor potential impacts to Wolfe Creek Valley due to dust generated from the mine site, particularly the COS and the Realignment Support Landform, as a result of winds from the south.	E681796 N5469791	June 17 2021	E304996
DF-11A	Receiving Environment	In clearing approximately 1 km NE of the Primary Crusher; south of the mine entrance security gate. Receiving environment to monitor potential impacts to Wolfe Creek Valley due to dust generated from the mine site, particularly the Primary Crusher and NAG NERSA, as a result of winds from the south and west.	E681467 N5468299	06-Jun-14	E304997
DF-12	Source	North side of haul road ramp to NAG NERSA; in south end of Admin parking lot. Source station to characterize dust originating from NAG NERSA haul roads as a result of winds from the south and west.	E680316 N5466936	03-Oct-14	E305002
DF-13	Receiving Environment	In clearing south of the future south extension of the NAG NERSA; Receiving environment station to monitor potential impacts of dust generated from the NERSA to areas adjacent to the mine property as a result of winds from the north, northwest and northeast.	E680888 N5464252	31-May-16	E304998
DF-u/g COS (temporary)	Source	In clearing upgradient of the COS and crushing circuit; approximately 350 m SW of the COS ore drop and 600 m SW of DF-05.	E680406 N5468503	31-Aug-16	Temporary requirement under COS Action Plan approval

3.14.3.2 Sample Collection and Analysis

In 2024, all Permit 105340 required dustfall monitoring stations identified in Table 3.6 were monitored monthly for the required period of April through October, with the exception of DF-05 and DF-u/gCOS, which were monitored bi-monthly throughout the year, as required. Source monitoring downgradient of operation of a portable rock crushing plant was not monitored during 2024, since a portable rock crushing plant was not operated at CMM in 2024.

Dustfall sampling canisters were provided and prepared by ALS Environmental (Burnaby, BC). The sample containers are 2 litres HDPE wide mouth containers that are either 23.6 cm in height and 11.2 cm wide, and have an opening that is 9.4 cm in diameter providing a 69.40 cm^2 depositional area, or 23.4 cm in height and 10.4 cm wide, and have an opening that is 8.3 cm in diameter providing a 54.11 cm^2 depositional area, depending on the canister supplied by ALS Environmental. The canisters contain 500 mL of deionized water prepared with algaecide to prevent algal growth during the warmer months, or with a 75% alcohol solution (isopropyl) in winter months to prevent freezing. Each station is equipped with an 8 foot tall stand with a bracket at the top to secure the sample collection canister (Figure 3.20). The dustfall stands are constructed so that the top of each sample container is at a minimum of 8 feet above the ground surface. Bird wire is affixed to the top of the steel bracket in which dustfall canisters are inserted (see Figure 3.20), in order to prevent perching and possible contamination of samples by birds.

Each stand was constructed with two brackets to enable the collection of a duplicate sample (i.e. two separate sample canisters) at one of the stations during each of the months to evaluate reproducibility and natural variability.

With the exception of the DF-05 and DF-u/gCOS stations (bi-weekly), sample collection containers were deployed at twelve of the Permit 105340 dustfall monitoring stations for a continuous sequence of monthly exposures (28 to 32 days) for the period of April through October in 2024.

Exceptions to the standard monthly sampling schedule included the following:

- DF-01 were exposed for a period of 33 days in August because of scheduling logistics.
- DF-02 to DF-13 were exposed for a period of 33 days in May and August because of scheduling logistics.

Exceptions to the continuous bi-monthly exposures (13 to 16 days) for DF-05 and DF-u/gCOS were the following:

- DF-u/gCOS and DF-05 was exposed for a period of 17 days during the second half of March and the second half of November because of scheduling logistics.
- DF-u/gCOS and DF-05 was exposed for a period of 20 days during the second half of May because of scheduling logistics.
- DF-u/gCOS and DF-05 were exposed for a period of 7 days during the second half of August due to logistics issues and to align the sample change out to synchronize with the change out of the receiving environment samples at the beginning of September.

Some collected samples throughout the monitoring season were not analyzed due to the following reasons:

- DF-01 cannisters were not collected for April and May due to inaccessibility due to road conditions (snowpack).

- DF-02 cannister was not collected for April due to inaccessibility due to road conditions (snowpack and depth of water at stream crossing)

FIGURE 3.20: PHOTO SHOWING DUSTFALL MONITORING EQUIPMENT.

For sampling rounds during the summer months, the monthly sample containers were checked one to three times throughout the exposure period to ensure sufficient water levels were maintained. For canisters observed with low water levels, algaecide solution provided by ALS Environmental was added to the sample canister to return the water level to approximately 500 mL.

The sample canisters deployed during the winter months contained a 75% isopropyl solution in order to prevent freezing in temperatures down to -30°C. However, as occurred in previous years, it was found that the isopropyl solution in all canisters continued to freeze during the winter months in 2024, even at temperatures considerably above -30°C.

Dustfall samples are shipped to ALS Environmental (Burnaby, BC) for analysis of particulate mass, and reported as deposition rates in mg/dm²/day based on the exposure times of each sample. Samples are analyzed for total particulate mass, after which the sample is combusted, giving the total volatile (combusted) particulate mass. The inorganic or fixed particulate mass is then determined as the difference of total and combustible masses.

3.14.3.3 Sample Quality

Data Quality

A Quality Assurance/Quality Control (QA/QC) review of the 2024 dustfall data identified two samples as outliers that should be excluded from the dataset; DF-02 from August and DF-09 from May. The findings of the investigation suggest that the elevated dustfall results, which reported above the Permit 105340 Ambient Air Quality Objective (AAQO), were primarily caused by sample contamination and do not represent the dustfall conditions at the respective locations during May and August 2024. As part of the investigative procedures,

the laboratory conducted a thorough review of the original data and confirmed that no errors or discrepancies were found in the data entry or processing procedures. However, the laboratory did report notable observations regarding the samples, including a dirty appearance (brown in color), unpleasant odor, cloudiness, and the presence of decomposing materials and insects. Consequently, both samples have been excluded from the 2024 dataset used for the evaluation of results presented this this report (i.e. graphs and statistical analyses).

Reproducibility

Field quality assurance/quality control (QA/QC) protocols for sampling of dustfall at CMM involves the collection of field duplicates. A field duplicate is a second sample collected at the same time and location of the actual sample. Field duplicates are collected to evaluate the reproducibility of the sampling procedures and provides a measure of the natural variability in dustfall deposition.

Twenty-nine field duplicate samples were collected during the 2024 dustfall monitoring program and were analyzed for the same parameters as the actual samples. With a total of 129 dustfall samples collected for the Permit 105340 program from required monitoring sites in 2024, twenty-nine duplicate samples equate to a frequency of 22.4%.

Total inorganic particulate results for the twenty-nine field duplicates are summarized in Table 3.7 and include the relative percent difference (RPD) for each set of duplicates. RPD values greater than 20% are highlighted yellow and in bold font. Detailed results (i.e. total, fixed and volatile particulate dust fall) are provided in Appendix J.

The RPD for the twenty-nine sets of duplicates ranged from 0% to 71%. The duplicates were collected both from receiving environments and from the mine site and indicate varying reproducibility with the observed differences likely representative of the high degree of natural variability of particulate deposition. This could be explained by particulate heterogeneity within the air mass, caused by variability in the mass of individual dust particles and the number of particles in a given volume of air.

TABLE 3.7: SUMMARY OF FIELD DUPLICATE RESULTS FOR 2024

Station ID	Sample Month	Sample Duration (Days)	Total Inorganic Particulate Deposition Rate (mg/dm^2/day)		Relative Percent Difference
			Sample	Duplicate	
DF-01	June	29.0	0.27	0.24	12%
DF-01	July	30.0	0.31	0.29	7%
DF-02	July	29.9	0.7	0.58	19%
DF-03	April	29.9	0.91	0.6	**41%**
DF-03	August	33.0	2.24	2.53	12%
DF-04B	May	33.1	2.65	3.1	16%
DF-04B	August	33.0	0.81	1.27	**44%**
DF-05	January	15.4	51.3	24.3	**71%**
DF-05	January	16.1	35.2	33.9	4%
DF-05	May	19.9	4.98	7.57	**41%**
DF-05	June	14.9	138	114	19%
DF-05	November	15.1	14.2	22.1	**44%**

DF-06	April	30.0	46.3	48.1	4%
DF-06	August	33.0	37.1	44.1	17%
DF-06	October	65.1	65	61.4	6%
DF-07C	May	33.1	120	107	11%
DF-07C	August	33.0	5.14	4.77	7%
DF-08A	May	33.1	0.78	0.61	**24%**
DF-08A	September	28.0	0.31	0.4	**25%**
DF-09A	May	32.6	9.3	12.5	**29%**
DF-09A	September	28.1	0.37	0.39	5%
DF-10A	June	29.9	2.68	2.21	19%
DF-11A	May	33.2	0.7	0.95	**30%**
DF-13	May	32.8	0.24	0.26	8%
DF-13	June	28.9	0.61	0.65	6%
DF-13	October	30.0	1.6	1.42	12%
DF-ugCOS	February	14.8	94.9	86.9	9%
DF-ugCOS	April	14.9	104	104	0%
DF-ugCOS	September	14.8	32.8	35.4	8%

3.14.3.4 Results

CMML's 2013 and 2014 Annual Permit 105340 reports provided an interpretation of the dustfall monitoring results in terms of total particulates. It was subsequently discussed with the ENV that organic particulates such as insects, pollen, etc. appear to contribute a significant portion of the total particulate dustfall, particularly for the receiving environment monitoring stations. As the dust generated by the mine is rock based inorganic dust, total inorganic particulate results are more representative of dustfall contributed from mine site sources than total particulate dustfall. Recognizing the validity of this matter, the amended Permit 105340 permit issued January 18, 2016 and November 8, 2023 specify an ambient air quality objective for total inorganic particulates of 2.9 mg/dm²/day for receiving environment monitoring stations. The following discussion on the dustfall monitoring results is based on the results for total inorganic particulate deposition rates.

Table 3.8 provides a summary of monthly total inorganic particulate dustfall deposition rates for samples collected in 2024. The table provides individual sample results for each station for each monthly exposure period, with the exception of DF-05 and DF-u/gCOS. The monthly deposition rates shown for these stations are the calculated average of the results from two bi-monthly samples. Detailed results (i.e. total, fixed and volatile particulate dustfall) are provided in Appendix J.

Table 3.8 also provides the total inorganic particulate dustfall deposition rates for each station as a calculated seasonal average for the snow-free months of April to October 2024. The seasonal averages for 2023 and 2022 are also provided for comparison. The monthly and seasonal average results for background and receiving environment monitoring stations have been compared to the Permit 105340 specified Ambient Air Quality Objective (AAQO) for total inorganic particulate dustfall of less than 2.9 mg/dm^2/day as a monthly average.

In 2024, there were four instances when a receiving environment monitoring station reported a monthly average deposition rate above the Permit 105340 AAQO for total inorganic dustfall particulate matter. Non-compliance notification and reports were provided to ENV for all four exceedences. However, as noted above, two instances were determined to be the result of sample contamination and have been omitted from the dataset. More information on the other two instances is provided in the receiving environment results section below.

The total inorganic particulate dustfall deposition rates for each sample collected in 2024 are also provided in graphs in Figure 3.21 through Figure 3.23 to show the trends throughout 2024, and to provide a comparison with results from 2018 to 2024. Figure 3.21 shows the results for source monitoring stations, and Figure 3.22 and Figure 3.23 provide results for receiving environment stations close to the mine site and downgradient of the TMF dams, respectively. For reference, the Permit 105340 AAQO for total inorganic particulate dustfall is shown as a red line on the graphs for receiving environment stations.

Source monitoring stations are not compared to the Permit 105340 AAQO as these stations do not represent potential impact to the receiving environment, as the majority of dustfall measured at these locations falls out on disturbed ground within a few meters of the source monitoring locations. The source monitoring stations were established to obtain information for source characterization, monitor effectiveness of dust suppression measures, and to estimate changes in deposition rate with distance by interpolation of data from source and receiving environment monitoring stations.

Figure 3.24 shows the spatial distribution of seasonal average dustfall deposition rates for the snow-free months for the 2024 samples. Source stations are identified on the map with square symbols, while receiving environment stations are identified with circles.

TABLE 3.8: SUMMARY OF TOTAL INORGANIC PARTICULATE DUSTFALL MONITORING RESULTS FOR 2024 (MG/DM^2/DAY)

Station ID	Monitoring Category	Location	2024 Monthly Average Total Inorganic Particulate Deposition Rate (mg/dm^2/day)												2024		2024 AVERAGE	2023 AVERAGE	2022 AVERAGE
			Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Min	Max	APR-OCT	APR-OCT	APR-OCT
DF-01	Background	~1.5 km South of Mine	-	-	-	NA	NA	0.27	0.31	0.51	0.18	0.44	-	-	0.18	0.51	0.34	0.28	0.27
DF-02	Receiving	~900 m SE of NAG NERSA	-	-	-	NA	0.55	0.63	0.7	- (1)	0.51	0.49	-	-	0.49	0.7	0.58	0.34	0.44
DF-03	Receiving	~100 m East of NAG NERSA	-	-	-	0.91	0.36	1.03	0.96	2.24	0.48	0.72	-	-	0.36	2.24	0.96	0.61	0.67
DF-04B	Receiving	~800 m NE of East Dam	-	-	-	2.5	2.65	3.71	0.89	0.81	1.2	0.95	-	-	0.81	3.71	1.82	1.41	1.81
DF-08	Receiving	~300 m NW of West Dam	-	-	-	2.58	7.44	0.78	1.16	1.28	0.31	1.41	-	-	0.31	7.44	2.14	1.00	2.04
DF-09A	Receiving	~1.8 km NE of East Dam	-	-	-	0.48	- (1)	0.58	0.4	0.52	0.37	0.85	-	-	0.37	0.85	0.53	0.61	0.64
DF-10A	Receiving	~1km NE of COS	-	-	-	NA	1.64	2.27	2.68	2.62	2.77	0.43	-	-	0.43	2.77	2.07	1.85	1.92
DF-11A	Receiving	~1km ENE of Primary Crusher	-	-	-	0.49	0.55	0.7	0.74	0.53	0.66	0.49	-	-	0.49	0.74	0.59	0.74	0.94
DF-13	Receiving	South of NAG NERSA	-	-	-	0.22	0.24	0.61	0.46	1.2	0.45	1.6	-	-	0.22	1.6	0.68	0.37	0.33
DF-05	Source	NE side of COS	43.25	36.13	44.55	16.00	12.04	72.23	6.89	4.73	9.6	48.55	13.45	17.5	4.73	72.23	24.3	32.1	52.4
DF-06	Source	NE side of Primary Crusher	-	-	-	46.3	19	39	48	37.1	65.1	65	-	-	19	65.1	45.6	115.0	44.9
DF-07C	Source	Toe of East Dam	-	-	-	95.1	120	138	34.1	5.14	5.43	9.26	-	-	5.14	138.0	58.1	25.0	18.2
DF-12	Source	Admin parking lot; N of haul rd	-	-	-	9.2	8.15	12.4	8.66	5.52	4.93	5.32	-	-	4.93	12.4	7.7	5.40	4.76
DF-u/gCOS	Source	SW of COS and surge pile	60.80	37.35	104.45	62.20	61.70	43.35	26.55	29.20	25.53	27.75	24.90	19.60	19.60	104.45	39.5	92.1	20.3
DF-MacAgg*	Source	Temporary location; north of Gatehouse	-	-	-	-	-	-	-	-	-	-	-	-	-	-		1.13	6.04

Note: Orange highlighting indicates results from receiving environment stations that reported above the Permit PA-105340 AAQO of 2.9 mg/dm2/day.

< Indicates results less than the analytical detection limit shown.

DF-MacAgg* was not active in 2024

(1) Dustfall result has not been considered for reporting purposes due to sample contamination

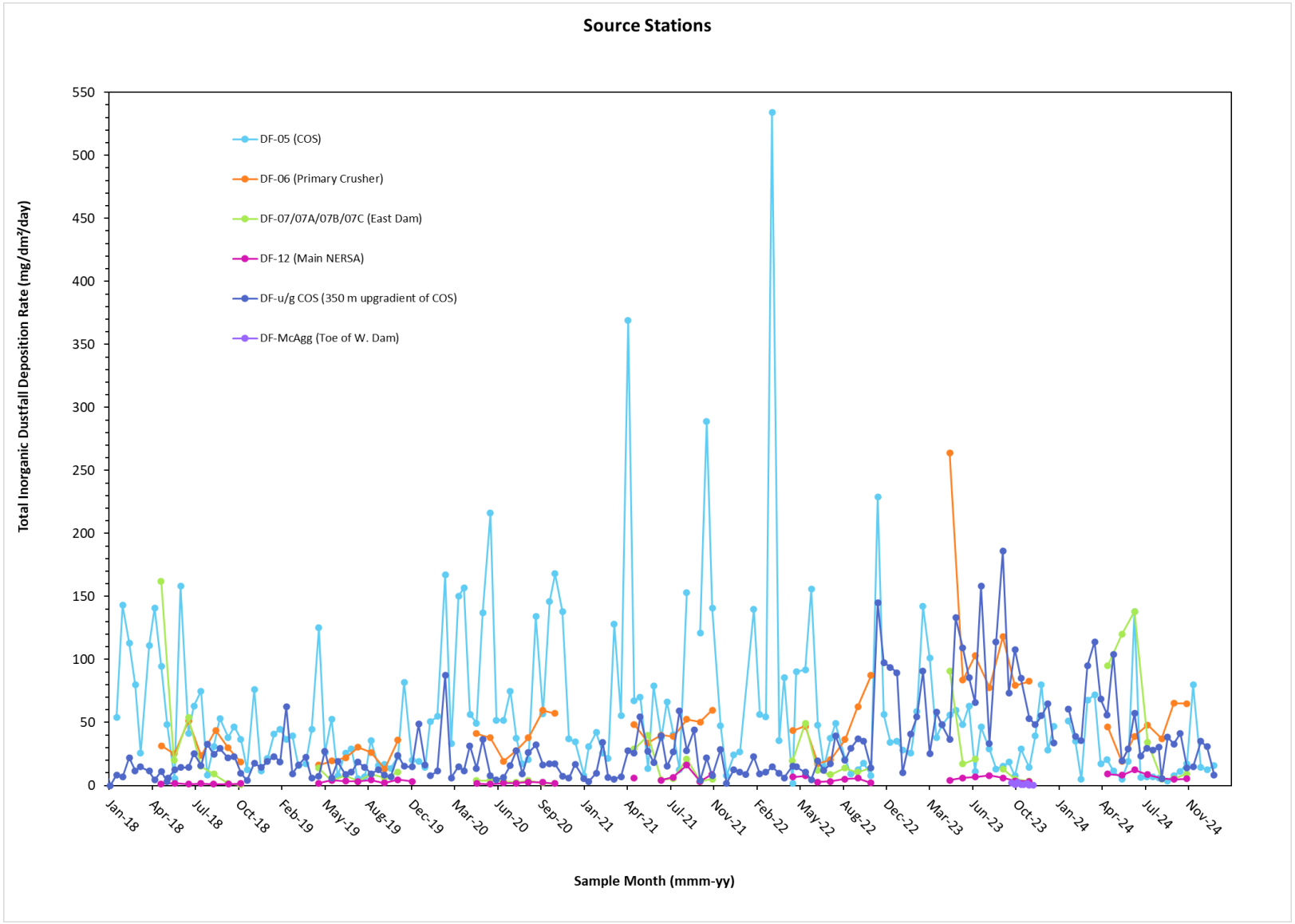


FIGURE 3.21: TRENDS FOR TOTAL INORGANIC PARTICULATE DEPOSITION AT SOURCE MONITORING STATIONS.

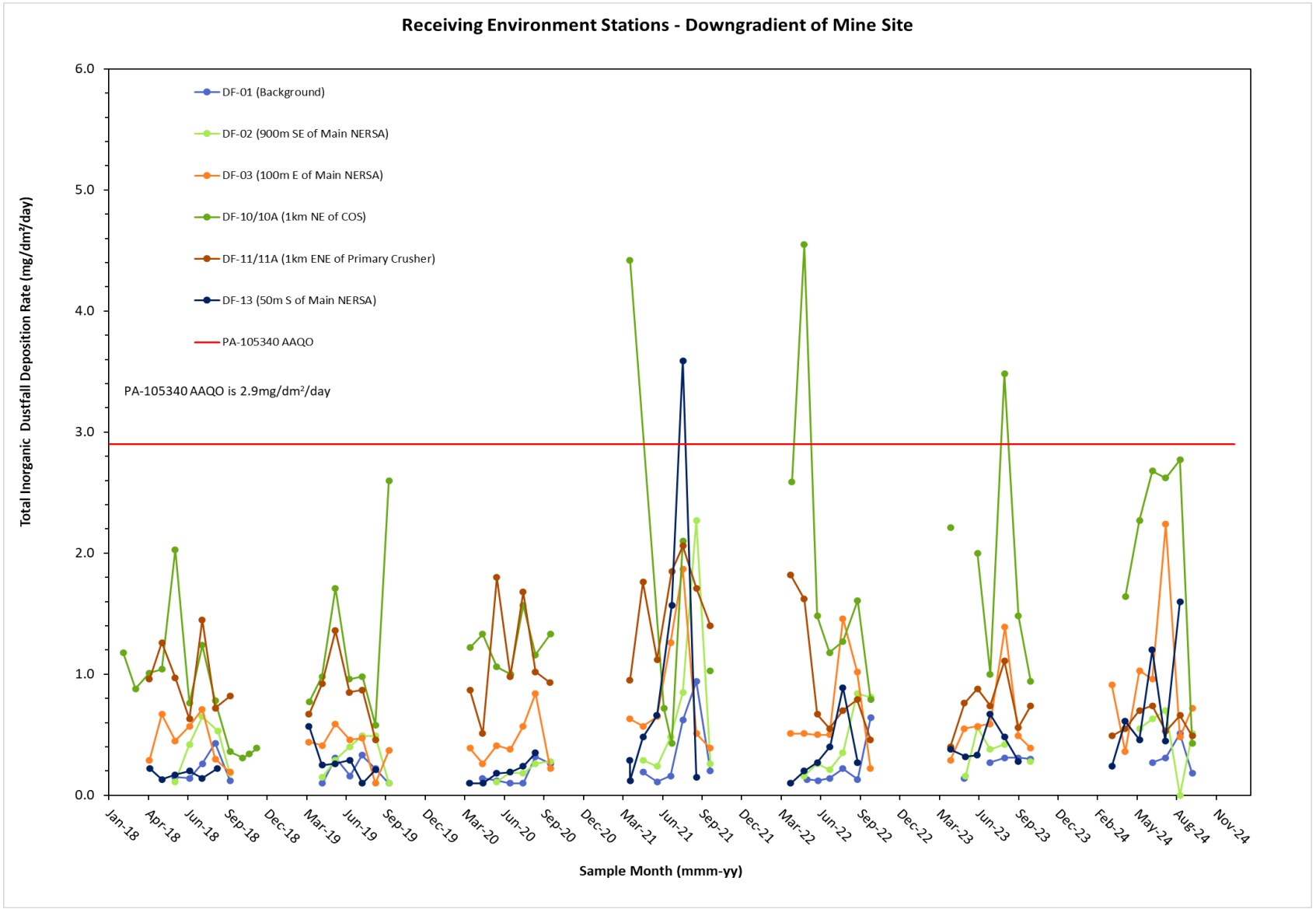


FIGURE 3.22: TRENDS FOR TOTAL INORGANIC PARTICULATE DEPOSITION AT RECEIVING ENVIRONMENT STATIONS DOWNGRADIENT OF MINE SITE.

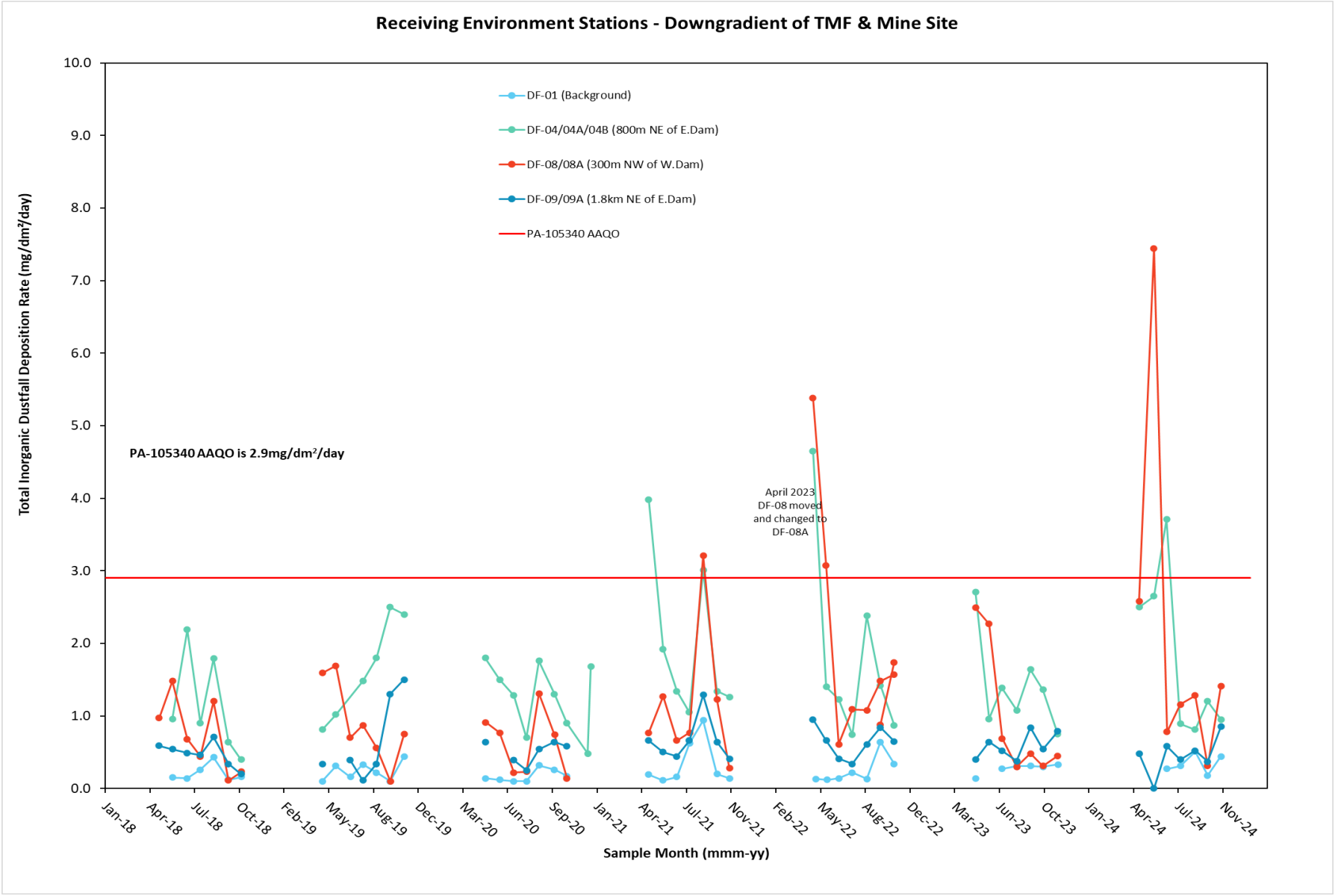


FIGURE 3.23: TRENDS FOR TOTAL INORGANIC PARTICULATE DEPOSITION AT RECEIVING ENVIRONMENT STATIONS DOWNGRADIENT OF THE TMF AND MINE SITE.

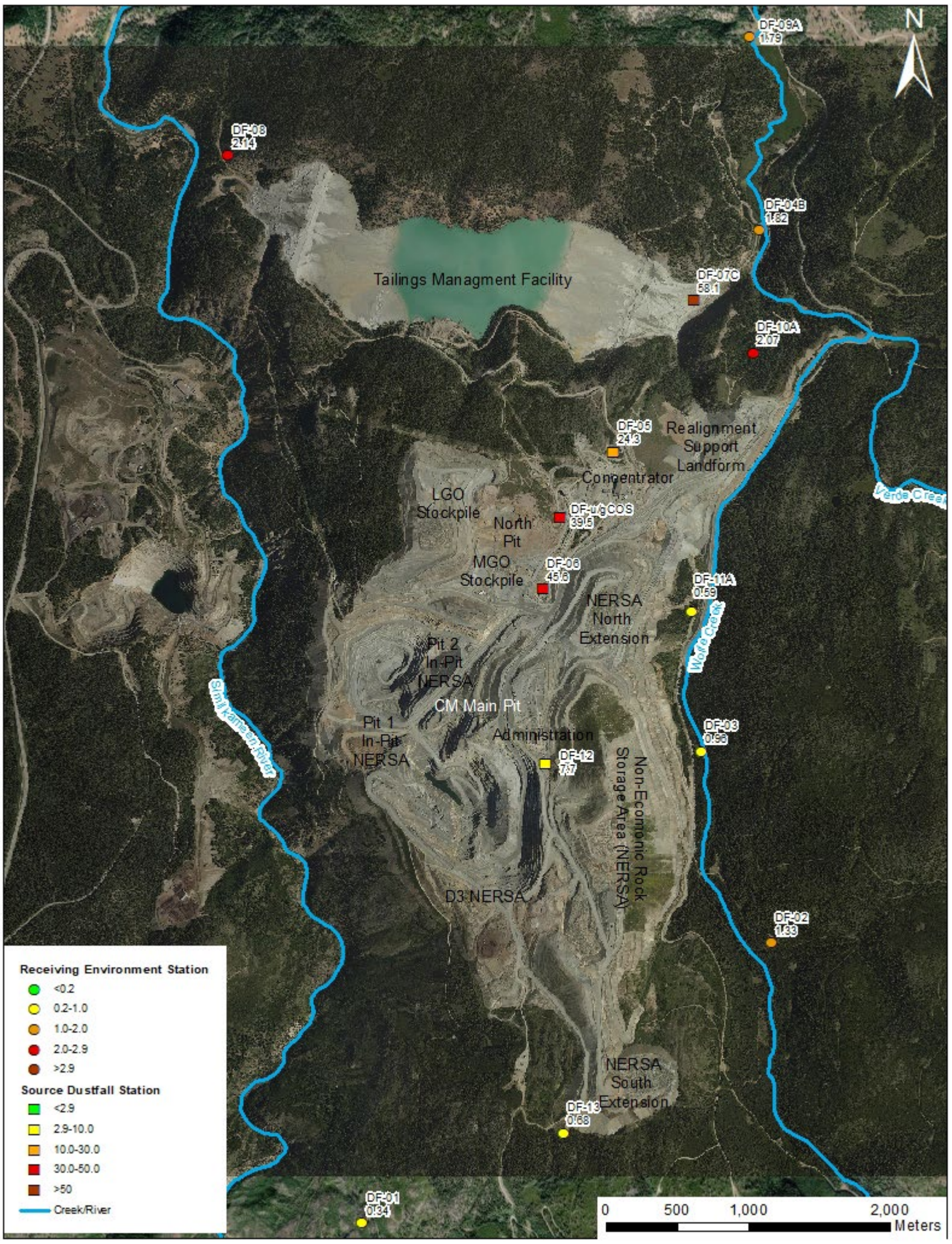


FIGURE 3.24: SPATIAL DISTRIBUTION OF 2024 AVERAGE TOTAL INORGANIC PARTICULATE DEPOSITION RATES FOR SNOW-FREE SEASON (APRIL – OCTOBER).

3.14.3.4.1 Source Monitoring Locations

For source stations (Figure 3.21), results from the first few years of the dustfall monitoring program typically showed that source locations generated increased dust loads in the early spring months, and periodic fluctuations in the summer months. This reflects the combination of dry snow free conditions and seasonal increase in strong wind velocity and frequency (strong afternoon winds common throughout spring season). Starting in 2020, the results generally no longer reflect this trend, as a result of dust suppression measures, however it was observed in spring 2024 (April to June) at the TMF East Dam (DF-07C), COS (DF-05) and haul road (DF-12) source monitoring locations. Peak dustfall deposition rates were recorded for the months of May and June 2024 at all three of these source locations (as well as some receiving environment locations discussed in Section 3.14.3.4.2), associated with the greater frequency and duration of high wind events experienced in spring 2024, as well as higher than normal maximum wind speeds (discussed in Section 3.3.1.2). Between April 1 and September 30, 2024, there were 35 days and 211 instances of 15-minute interval wind readings exceeding 20 km/h, compared to 23 days and 144 such instances during the same period in 2023.

Following the windy spring season, downward trends throughout the rest of the year at these locations likely reflects the effectiveness of mitigation measures, as CMML continued to focus considerable efforts in 2024 to make sure systems were in place in advance of the dry season, including application of calcium chloride dust suppressant over similar areas as the previous year, water trucks, and operation of the East Dam and West Dam sprinkler systems. In general, the lowest rates were observed during July to October in most of the source stations. For 2024, all source monitoring locations except DF-07C (East Dam) and DF-12 (haul road near Administration building), reported decreases of the seasonal average dustfall deposition rate compared to 2023.

Dustfall levels at the Coarse Ore Stockpile (COS) monitoring station (DF-05) were lower compared to those reported for 2023 and overall improved compared to the previous three years. As a seasonal average for the period of April through October, dustfall levels at DF-05 were lower in 2024 than 2023 and 2022. The 2024 seasonal average total inorganic dustfall for DF-05 of 24.3 mg/dm²/day was 24.3% lower than the 2023 seasonal average of 32.1 mg/dm²/day. Dustfall results at DF-05 are often reflective of the height of the COS and weather conditions. Although DF-05 results continued to be periodically elevated in 2024 with a peak of 138.0 mg/dm²/day in the first half of June, it is believed not to have had a negative impact on the receiving environments, as observed in the results from the nearest downgradient receiving environment monitoring station DF-10A during the previous years of higher dustfall deposition at DF-05.

To evaluate contributions to DF-05 from other mining activities, a temporary monitoring station was established on the upgradient side of the COS and crushing circuit on August 31, 2016 (DF-u/gCOS), with samples being collected semi-monthly, coinciding with the same exposure period as the DF-05 samples. Table 3.9 provides a summary of total inorganic particulate dustfall results from paired samples collected at DF-05 and DF-u/gCOS throughout 2024. The table also provides the results for each DF-u/gCOS sample as a percentage of the dustfall deposition rates at DF-05 for the same sampling period.

The dustfall monitoring results from DF-u/gCOS indicate that fugitive dust from upgradient sources may have contributed a considerable proportion of the dustfall levels measured at DF-05 in 2024. Dustfall rates at DF-u/gCOS were as high as 114 mg/dm^2/day during the first half of march, with an annual and seasonal average of 44.6 mg/dm^2/day and 39.5 mg/dm^2/day respectively, which is a decrease from last year's annual and seasonal average of 73.8 mg/dm^2/day and 92.1 mg/dm^2/day, respectively. The decrease reflects the reduction of mining activities in the North Pit during the latter half of 2024.

As a percentage of the dustfall deposition rate reported for DF-05 for the same sampling periods, the results from DF-u/gCOS were between 18 and 904% of the dustfall at DF-05 as shown in Table 3.9. As an annual average, upgradient sources were 156% greater than the dustfall measured at DF-05. The number of instances in which

DF-u/gCOS reported higher dustfall rates than DF-05 increased in 2024. This occurred in all months of 2024 except for the first half of June and second half of September, compared to having occurred in nine of the months in 2023. This increase in frequency of higher dustfall levels than DF-05 and in the overall increase in dustfall rates at DF-u/gCOS since late 2022 reflects increased activity in the vicinity of DF-u/gCOS as a result of mining activities in the North Pit area. Mining of the North Pit commenced in April 2022 and continued until mid-2024, after which they were suspended until 2025. The increased dustfall levels at DF-u/gCOS reflect contributions from activities such as drilling, blasting, digging and heavy equipment traffic occurring in the adjacent North Pit, the west rim of which is only 25 m from the DF-u/gCOS monitoring stations.

TABLE 3.9: 2024 TOTAL INORGANIC PARTICULATE DUSTFALL RESULTS FOR DF-05 AND DF-U/G COS

Start Date	End Date	Sample Duration (Days)	DF-05 (mg/dm^2/day)	DF-u/gCOS (mg/dm^2/day)	DF-u/gCOS as a % of DF-05
28-Dec-23	16-Jan-24	18.9	51.3	60.8	119%
16-Jan-24	31-Jan-24	15.0	35.2	39.1	111%
31-Jan-24	16-Feb-24	16.1	4.8	35.6	748%
16-Feb-24	29-Feb-24	12.9	67.5	94.9	141%
29-Feb-24	15-Mar-24	14.8	72.0	114.0	158%
15-Mar-24	1-Apr-24	17.1	17.1	68.4	400%
1-Apr-24	15-Apr-24	14.1	20.5	56.0	273%
15-Apr-24	29-Apr-24	14.2	11.5	104.0	904%
29-Apr-24	14-May-24	14.9	5.0	19.4	390%
14-May-24	3-Jun-24	19.9	19.1	29.2	153%
3-Jun-24	17-Jun-24	14.2	138.0	57.5	42%
17-Jun-24	2-Jul-24	14.9	6.5	23.5	364%
2-Jul-24	16-Jul-24	14.1	6.8	29.6	434%
16-Jul-24	30-Jul-24	14.0	7.0	28.2	405%
30-Jul-24	13-Aug-24	14.1	5.9	30.2	514%
13-Aug-24	27-Aug-24	14.0	3.6	5.5	153%
27-Aug-24	16-Sep-24	20.1	8.0	38.3	479%
16-Sep-24	1-Oct-24	14.8	11.2	32.8	293%
1-Oct-24	16-Oct-24	15.1	17.3	41.4	239%
16-Oct-24	31-Oct-24	14.8	79.8	14.1	18%
31-Oct-24	15-Nov-24	15.1	14.2	14.8	104%
15-Nov-24	2-Dec-24	17.1	12.7	35.0	276%
2-Dec-24	17-Dec-24	14.7	15.8	30.8	195%
17-Dec-24	2-Jan-25	16.2	18.3	8.5	46%
		Average	**27.0**	**42.1**	**156%**

Changes in dustfall levels downgradient of the Primary Crusher (DF-06) have historically reflected changes in ore moisture content, drought conditions, and the frequency of high velocity winds. However, the activities associated with mining of the adjacent North Pit have also contributed to the overall increase in dustfall deposition rates reported at the Primary Crusher source monitoring station (DF-06) since 2022. However, these rates have been lower in 2024 compared to 2023. The 2024 seasonal average for the period April through October for total inorganic dustfall at DF-06 was 45.6 mg/dm²/day compared to 115 mg/dm²/day and 44.9 mg/dm²/day in 2023 and 2022, respectively.

The source monitoring station for the Main NERSA haul road (DF-12), which is a permanent haul road location adjacent to the Administration Building, reported total inorganic dustfall deposition rates in 2024 between 4.93 mg/dm^2/day and 12.4 mg/dm^2/day for the period of April through October, with a seasonal average of 7.7 mg/dm^2/day. These results are moderately higher than 2023 but within the range of previous years.

At the East Dam source monitoring station (DF-07C), the monthly average total inorganic dustfall deposition rates in 2024 were higher than those recorded in the preceding two years. Specifically, the seasonal average total inorganic dustfall for the period of April through October in 2024 was 58.1 mg/dm²/day, in contrast to 25 mg/dm²/day in 2023 and 18.2 mg/dm²/day in 2022. The elevated dustfall levels observed in 2024 at DF-07C, located at the toe of the East Dam, despite operation of the sprinkler system on the dam crest, may be attributed to the higher wind speeds, particularly in the afternoons, as discussed above.

3.14.3.4.2 Receiving Environment – Background Reference Location

Dustfall samples for station DF-01 for the months of April and May 2024 could not be collected due to unsafe conditions for accessing this location caused by snow accumulation on the access route.

Dustfall deposition rates at background reference location, DF-01, for the June through October samples were comparable with historical background results collected between 2014 and 2023, which reported seasonal average deposition rates ranging from 0.17 to 0.37 mg/dm2/day. The seasonal average reported for 2024 was 0.34 mg/dm2/day. This 2024 seasonal average of 0.34 mg/dm2/day is higher than previous 2023 and 2022 years but still slightly below the historical high of 0.37 mg/dm2/day, which occurred in 2021 due to contribution from a nearby wildfire during the summer and fall. The 2024 seasonal average is likely also elevated as a result of contributions from the nearby upgradient Granite Creek fire which burned in the summer/fall of 2024, but may also reflect the effects of higher and more frequent high wind events, as discussed in Section 3.3.1.2.

3.14.3.4.3 Receiving Environment – Exposure Locations

For receiving environment exposure locations downgradient of mine activities, results for 2024 indicate that the deposition rates of total inorganic particulate dustfall at the receiving environment monitoring stations were typically higher than the background station, however, the majority of samples reported monthly average deposition rates below the Permit 105340 AAQO of 2.9 mg/dm^2/day. Monthly average deposition rates in 2024 ranged from 0.22 to 9.3 mg/dm²/day, with stations reporting seasonal average results generally higher than those observed in 2023. Four monitoring stations reported a single sample at each location with the monthly average dustfall rate above the AAQO in 2024: DF-02 in August, DF-04B in June, and DF-08 and DF-09A in May. However, the results for DF-02 and DF-09A were determined to be due to sample contamination and were omitted from the dataset and not discussed here.

The receiving environment monitoring stations downgradient of the West and East dams of the TMF both reported elevated dustfall deposition rates in the spring months of May and June. The DF-08 dustfall station is located approximately 800 m northwest of the TMF West Dam. During May 2024, a rate of 7.44 mg/dm²/day was observed which was above the Permit 105340 AAQO of 2.9 mg/dm²/day. The elevated dustfall rates are believed to be the result of very strong wind events experienced for extended periods of time at the mine this spring season, as

discussed in Section 3.3.1.2. Similarly, the DF-04B monitoring station, downgradient of the East Dam on the north side of East Seepage Pumphouse, reported a deposition rate of 3.71 mg/dm2/day for the month of June, which was above the AAQO.

The seasonal average rate of total inorganic particulate dustfall deposition for DF-04B in 2024 was 1.82 mg/dm²/day, which represents a marginal increase compared to the seasonal averages of 1.14 mg/dm²/day and 1.81 mg/dm²/day observed in 2023 and 2022, respectively. For DF-08, the calculated seasonal average deposition rate was 2.14 mg/dm²/day, which was also higher than the values recorded in 2023 and 2022.

3.14.3.4.4 Receiving Environment Summary

The seasonal average total inorganic particulate dustfall deposition rates at receiving environment stations for the snow-free months of April through October 2024 ranged between 0.18 to 9.3 mg/dm²/day (Table 3.8). The results were higher than results observed during 2023 seasonal averages.

Overall, dustfall monitoring in 2024 indicates that fugitive dust generated by mining activities is not likely to have had a negative impact to the receiving environments around the perimeter of the mine property, nor the neighbouring properties. The four instances of dustfall rates reported to be above the Permit 105340 AAQO were related to windy conditions typically occurred during spring and fall moths (two samples) or due to sample contamination (two samples). The monitoring results continue to indicate that the dust suppression measures implemented in recent years were effective.

3.14.3.5 Conclusions

Dust control works at the four Permit 105340 authorized dust collection baghouses (Primary Crusher, Secondary Crusher, Assay Lab and Lime Silo) were observed to be in good operating condition throughout 2024. There were no incidents of major malfunction, and no visible emissions have been observed from the discharge vents, and the exterior walls adjacent to the clean air discharge vents have not displayed evidence of dust build up. Pressure differential measurements were generally within the required operating range of 1 to 10 inches of water column. Preventative maintenance activities were conducted at least quarterly on each of the authorized dust collection baghouses.

With respect to authorized discharge periods, all four of the dust control baghouses at the authorized discharge points were operated within their respective authorized discharge periods. There were no exceedances reported of the maximum rate of discharge authorized for each discharge point for the Primary Crusher, Secondary Crusher and Assay Lab baghouses. A new baghouse was installed in August 2023 for the Met Lab to improve worker health and safety conditions.

The dust suppression measures installed on the overland conveyor system in 2013 through 2019 to reduce dust generated by crushed ore dropping from the conveyor onto the Coarse Ore Stockpile (COS) continued to be utilized and optimized in 2024.

The fugitive dustfall monitoring program in 2024 continued to monitor the same thirteen dustfall stations as were monitored in previous years, as well as one temporary dustfall station, DF-u/gCOS. The temporary source dustfall monitoring station (DF-MacAgg) was not in required in 2024, as the portable crusher was not in operation through the year. The fourteen monitoring locations, as required under the amended Permit PA105340 issued January 8, 2016 and associated COS Action Plan approved February 2, 2017, consisted of one background reference location, six source monitoring locations, and eight receiving environment locations.

Compared to 2023, the 2024 results for the source locations reported a decrease in levels of dust generation, except at DF-07C and DF-12.

Four instances were recorded in which the monthly average total inorganic particulate deposition rate exceeded the Permit 105340 AAQO at the following receiving environment monitoring locations: DF-02, DF-04B, DF-08, and DF-09A. However the elevated DF-02 (August) and DF-09A (May) samples were determined to be due to sample contamination. The other two exceedances were primarily attributed to the increased frequency, duration and velocity of high wind event experienced during the spring months of May and June.

Results for receiving environment stations in 2024 indicate that the deposition rates of total inorganic particulate dustfall were generally higher than the background station, however, dustfall monitoring indicates that fugitive dust generated by mining activities is not likely to have had a negative impact to the receiving environments around the perimeter of the mine property, nor the neighbouring properties.

3.15 OTHER ENVIRONMENTAL ASSESSMENTS AND MONITORING

3.15.1 Baseline Studies for New Ingerbelle Project

As part of the permitting process for the proposed New Ingerbelle open pit push-back and mine life extension, several baseline environmental assessments continued into 2024 to support the application for a Joint *Mines Act* and *Environmental Management Act* permit amendment (MAPA). Continuous environmental monitoring and assessments completed in 2024 include:

- Surface water monitoring consisting of biannual flow and water quality monitoring at up to eleven seasonal and continuous surface water drainages, since 2019.

- Hydrological monitoring and reporting on Similkameen River, since 2019, which involved maintenance and regular download of the continuous water level logger in the Similkameen River at the location of the proposed clear span bridge crossing, stage (water depth) and discharge measurements to refine the stage-discharge relationship, updates to the long term synthetic data record previously created using scaled historical discharge data from the Government of Canada Similkameen River at Princeton Station (08NL007), and updates to the flood frequency analysis.
- Hydrological monitoring and reporting on Whipsaw Creek hydrometric station established in 2021. Update the stage-discharge relationship using long term historical data record from Government of Canada Whipsaw Creek Station (08NL036).
- Water level and groundwater quality monitoring at eight groundwater monitoring wells since 2020. Downloads of continuous water level loggers from groundwater monitoring wells. Five additional wells were installed in 2024, and were sampled once following development.
- Dustfall monitoring which consisted of sampling during the snow-free months (May to October) of nine source and receiving environment locations, since 2019.
- Archaeological impact assessment of select areas of archaeological potential identified from the previously conducted archaeological overview assessment (2019) for the New Ingerbelle Project area.
- Continued monitoring and data downloads of the game cameras deployed around the Ingerbelle site to confirm wildlife presence.

4 RECLAMATION PROGRAM

The following sections briefly describe activities related to the reclamation program that were conducted at the Copper Mountain Mine in 2024, as well as that projected for the next five years.

4.1 LONG-TERM STABILITY OF MINE DEVELOPMENTS

4.1.1 Pits and Rock Storage Areas

Assessments and designs relating to the stability of Pits, NERSAs, and LGO Stockpiles have been provided in the following documents previously submitted to MCM under separate cover in 2024 or early 2025:

- ***2023 Open Pit and Rock Storage Areas Slope Stability Review, Copper Mountain Mine,*** prepared by WSP dated January 31, 2024 and submitted February 8, 2024.
- ***Copper Mountain Mine - North Pit Stabilization Updated Design Geotechnical Review,*** prepared by WSP dated July 25, 2024 and provided to MCM on July 31, 2024.
- ***2024 Open Pit and Rock Storage Areas Slope Stability Review, Copper Mountain Mine***, prepared by WSP dated March 5, 2025 and submitted March 7, 2025.

Geotechnical Incidents

There was one geotechnical incident within the pit development area during 2024 that was classified as a reportable incident under the Code. This was a 4-bench failure that occurred in the north wall of North Pit. Furthermore, there were two other instabilities that were exposed and were proactively reported to MCM before they failed, both in Phase 5 of the CM Main pit, one in the Southeast wall and one in the Southwest wall. There were no injuries or equipment damage resulting from any geotechnical incidents in 2024.

The pit walls were monitored with 2 slope stability radars which are capable of continuous monitoring and measures progressive deformation. The monitored areas are managed with alarms that alert supervisors of changes in the pit wall deformation, but sudden small-scale failures and rockfalls are not always detected in advance. The Riegl laser scanner was also used to monitor the walls for any deformation. The laser scanner produces broad scans of the pit walls and is used to identify areas of possible instability. Extensometer were also used to monitor cracks on the Realignment Support Landform, where low rates of movement were expected.

The reportable geotechnical incident was a 4-bench failure in the north wall of North pit, extending from 1236 m elevation to the 1190 m elevation. The failure occurred between the contact of the Princeton group and Nicola group on the east side and a plane of weakness on the west side. The main contributing factor was the removal of the toe material, exposing the bottom contact of the Princeton group. Recommendations were received by the geotechnical consultant (WSP) to create a 10m stepout below the failure before mining commenced, however before mining of the 1190 m elevation continued, the laser scanner detected a larger instability forming in the North wall and, at the same time as the snow melted, large cracks behind the crest of the highwall were detected. The geotechnical consultant then recommended a berm be placed at 22 degrees from the crest of the highwall to act as a barricade for the possible runout zone. Mining continued from the 1190 m elevation down but the wall did not fail and stabilized after a few months. A geotechnical drill program was subsequently completed in 2024 for the North Pit after which updated design recommendations to stability the north wall were received (WSP 2024).

Both non-reportable instability events that were proactively reported were within Phase 5 of the CM Main pit, one in the Southwest wall and one in the southeast wall. The southwest instability is a wedge and has been assessed as non-sliding, however there was still excessive raveling on the planes defining the wedge. A large fault defines the northern side of the wedge and this fault also intersects the Southeast wall and is one of the planes defining

the instability in that wall. The instability in the southeast wall is defined by a dyke swarm and the fault as mentioned above. A 20m stepout was completed below this instability and is currently still deteriorating. The double bench trial that was attempted in this wall was also attributed to the instability.

While mining Phase 4 of the CM Main Pit there were a few small raveling events from the existing wedges in the Southwest wall formed in 2021. Mining below this wall was managed with the Slope stability radar. A geotechnical drilling program was completed in 2023 which confirmed the presence of structures that could form similar wedges during the next phases of the CM Main Pit pushback, known as Phase 5 and Phase 7. Once Phase 4 was completed, mining of the Southwest wall of Phase 5 commenced and the structures that were identified were exposed and started raveling while mining. These structures have been mostly stable since the beginning of winter.

There were no geotechnical incidents relating to the construction of rock or soil storage areas in 2024.

4.1.2 Tailings Management Facility

There were no geotechnical incidents at the TMF in 2024.

Assessments and designs relating to the stability of the TMF, including the Wolfe Creek Realignment Project and associated water management, have been provided in the following documents previously submitted to MCM under separate cover in 2024 and early 2025:

- ***"CMM Tailings Management Facility, 2023 Dam Safety Inspection Report"*** prepared by KCB dated March 19, 2024 and submitted March 28, 2024***.***
- ***"CMM Tailings Management Facility, 2023 Construction Summary Report"*** prepared by KCB dated March 22, 2024 and submitted March 28, 2024***.***
- ***"Copper Mountain Mine Tailings Management Facility, 2024 Construction Staging and Planning"*** prepared by KCB dated March 27, 2024 and submitted March 28, 2024***.***
- ***"Copper Mountain Mine Tailings Management Facility, 2024 Annual Facility Performance Report"*** prepared by KCB dated March 20, 2025 and submitted March 29, 2025***.***
- ***"Copper Mountain Mine Tailings Management Facility, 2025 Construction Staging and Planning"*** prepared by KCB dated March 27, 2025 and submitted March 29, 2025***.***

In addition, the CMM TMF Operations, Maintenance and Surveillance Manual, Revision 4.1 was update by CMML in September 2024.

In 2024, the crests of the TMF dams were completed to El. 976 m. The pond water level at the end of 2024 was approximately El. 967.14 m which corresponds to approximately 9 m of freeboard. The effective beach width varied between 500m and 600m over the reporting period. Details of tailings placement and dam construction to end of 2024 is provided in the annual construction summary report prepared by Klohn Crippen Berger (KCB). This report will be prepared and submitted to MCM by June 1, 2025, as required under Section 10.6.5(5)(b) of the Mines Code.

Independent Tailings Review Board

CMML established an Independent Tailings Review Board (ITRB) in 2016, to whom technical operational developments are presented such that they can provide non-binding review and guidance to the Mine Manager on the TMF. The ITRB is specifically used to review site design elements, water management and reclamation of the TMF at Copper Mountain Mine and provides a high level experienced review of the TMF to ensure robust management and conformance with relevant regulations, guidelines and industry best practices.

The ITRB held two meetings in 2024. One meeting was held on March 12 and 13 and one meeting was held on October 21 and 22. Both meetings consisted of a presentation by the Engineer of Record (EoR) and the CMML Tailings Qualified Person (QP). Both meetings ended with a closeout discussion period

The ITRB reviews considered that overall stewardship of the TMF met the expectation of reasonably good practice. No conditions were noted that compromise TMF integrity or constitute occurrences of non-compliance.

As per Section 10.4.3(7) of the Health, Safety and Reclamation Code for Mines in BC (April 2024), an annual summary report on the activities of the ITRB was prepared by CMML titled "***2024 Report of Activities of Independent Review Board (ITRB)"*** dated January 27, 2025, 2025. This letter report was submitted to MCM on February 20, 2025, as well as on March 31, 2025 along with submission of the 2024 update of the TSF Register and notification of submission to MineSpace of the CMM TMF 2024 Annual Performance Report and the CMM TMF 2025 Construction Planning Letter and IFC Drawings prepared by KCB, as listed above.

East Dam Long-Term Stabilization – Wolfe Creek Realignment

A key component to help ensure the long-term stability of the TMF is to protect the toe of the East Dam from erosional damage by stream flows in Wolfe Creek. A design to realign Wolfe Creek away from the toe of the East Dam and into the Verde Creek channel (Wolfe Creek Realignment Project) was approved under *Mines Act* Permit M-29 in the amendment issued July 23, 2019, including construction of a permanent supporting landform to completely separate the Wolfe Creek drainage from the East Dam. Together, the realignment channel and supporting landform are designed to provide complete containment and bypass of PMF flows safely beyond the toe of the East Dam. The approved footprint of the Wolfe Creek realignment channel and associated sediment pond and permanent landform are shown in the LOM mine plan map provided in Figure 2.1.

Construction of the Wolfe Creek realignment channel was completed on November 30, 2021, although it became functionally operational by the summer of 2020 with Wolfe Creek flow diverted to the new realignment channel on September 30, 2020. CMML conducted reclamation of the Wolfe Creek realignment channel in 2020 through 2022.

With respect to the RSL, development continued in 2024, increasing the footprint by 0.8 ha. The full footprint of the RSL is currently planned to be completed in 2026, as described in the five-year mine plan summarized in Section 2.1.5.

As part of the Wolfe Creek Realignment Project at CMM, DFO issued Fisheries Act Authorization No. 18-HPAC-00425 to CMML on November 19, 2019. Pursuant to the Authorization, CMML completed construction of the fish habitat offsetting sites in the approved Wolfe Creek Fish Habitat Offsetting Plan (FHOP; Hatfield 2018) in December 2020 and completed additional modifications in 2021 and 2023. Addition information on reclamation and effectiveness monitoring for the FHOP are provided in Section 4.7.

4.2 ROCK STORAGE AREA RECLAMATION

In 2018, CMML commenced progressive reclamation of the Copper Mountain Mine site, the first since restart of operations in 2011, which has primarily focussed on reclamation of NERSA slopes. NERSA resloping activities in 2024 consisted of conducting resloping along the east side of the Main NERSA (or East NERS) and the South Extension NERSA and soil application on two out of three sections of the newly re-sloped area as well as one additional section on a previously re-sloped area on the east facing side of the main NERSA. Additional new resloped area completed in 2024 was approximately 18.94 ha and soil application of approximately 21.12ha. The location of the area resloped in 2024 is identified on the end of year 2024 mine map provided in Figure D.1 of Appendix D.

Table 4.1 below provides a summary of the annual amount of area resloped and applied with biosolids reclamation soil and native soil on NERSAs during the period of 2018 to 2024. All areas resloped are identified on the end of

year 2024 mine map provided in Figure D.1 of Appendix D and the areas applied with soil each year are shown on Table 4.1 below. Soil application areas along the Wolfe Creek realignment channel are also shown on Figure 4.1.

Except for an approximately 5.38 ha portion of the east slope of the South Extension NERSA that was resloped in 2024, all of the NERSA slopes that were recontoured between 2018 and 2024 have been covered with biosolids reclamation soil (119.4 ha) or native soils (5.69 ha) to an average thickness of 50 cm and have been seeded with native grasses and forbes. In addition, native shrubs and conifer seedling were planted in continuation of efforts beginning in 2023. Details of the soil application and revegetation of these areas are provided in Section 4.3 and Section 4.4, respectively.

In addition to resloping and soil application, the 2019 reclamation area includes a small approximately 0.88 ha area of the slope at the base of the north end of the 2019 resloped area that will not be resloped. It was agreed by the reclamation planning group, consisting of representatives of CMM, USIB, LSIB, Arrow, and MetroVancouver, that this small portion of the slope is not to be re-contoured, covered in soil, nor applied with any seed. The small section of the slope has been designated to be left as it currently is, to provide habitat similar to that of a natural talus slope, which are naturally common in the area. The exposed section of coarse rock slope will provide more suitable habitat for small rodents and reptiles, which in turn will attract their predator bird and mammal species. The incorporation of a talus-like slope in the 2019 NERSA reclamation area provides more diverse habitat, thereby enabling development of greater biodiversity within the reclamation area. A similar sized area (0.71 ha) within the NERSA area resloped in 2023 was also designated to be left for this purpose. These two designated talus slope areas are identified as exempt on the reclamation status map in Figure 1.5.

The planned 2025 NERSA reclamation areas are shown on Figure 4.2 below and on the 5-year mine plan map in Figure D.2 of Appendix D, consisting of areas on the South Extension NERSA.

TABLE 4.1: ROCK STORAGE AREA RESLOPE AND SOIL APPLICATION AREAS BY YEAR

Year	Resloped Areas		BGM Soil Reclamation Areas		Native Soil Reclamation Areas	
	2D (ha)	3D (ha)	2D (ha)	3D (ha)	2D (ha)	3D (ha)
2018	6.9	7.1	4.95	5.29	0	0
2019	17.08	18.7	7.47	8.09	0	0
2020	35.8	43.3	20.99	21.99	0	0
2021	20.0	21.0	20.94	22.33	3.03	3.1
2022	25.95	28.0	17.65	18.88	2.66	3
2023	3.08	3.4	26.28	28.54	0	0
2024	18.94	20.9	21.12	23.46	0	0
Total	127.75	142.4	119.40	128.58	5.69	6.1

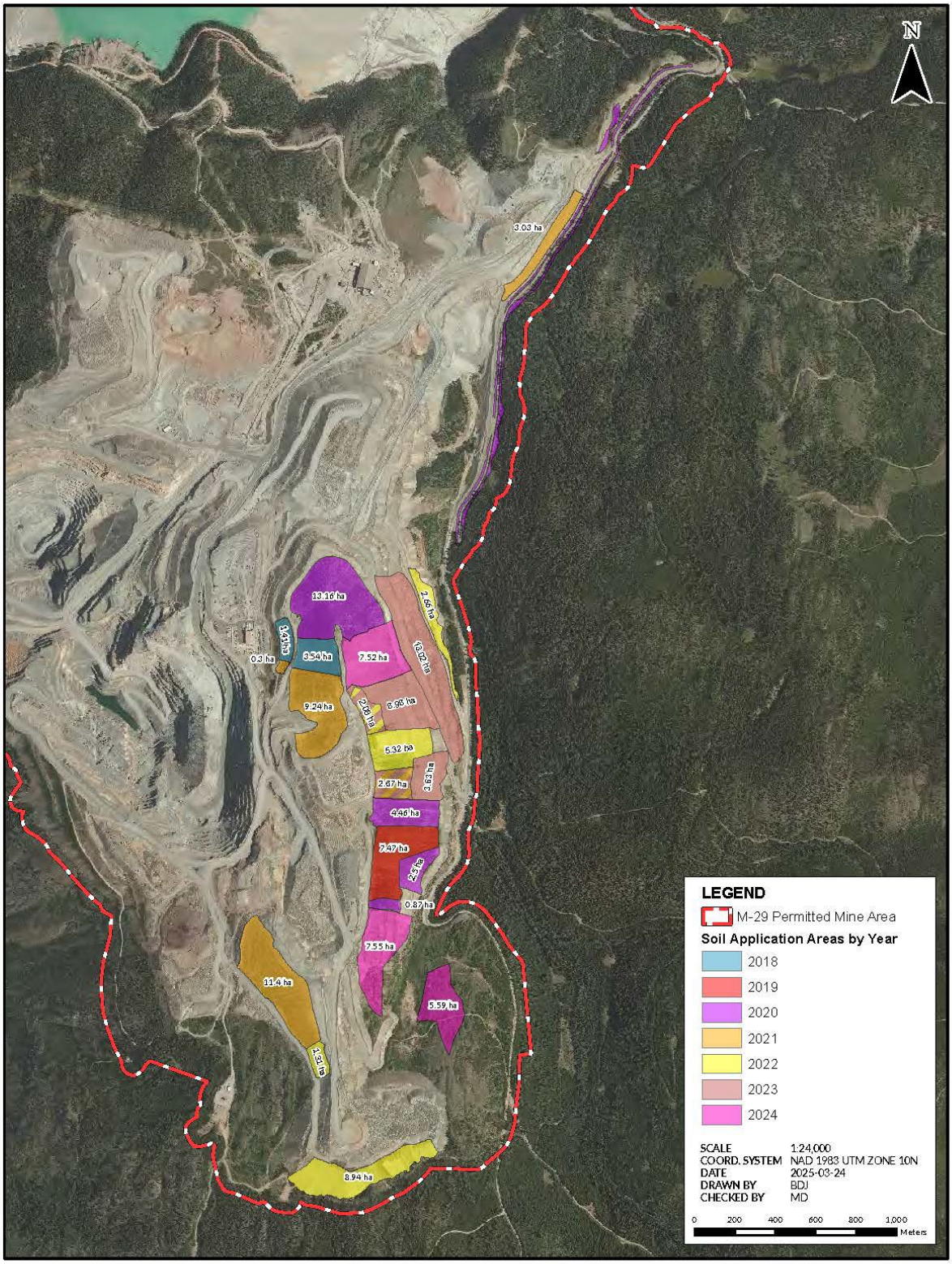


FIGURE 4.1: MAP OF SOIL APPLICATION AREAS BY YEAR FOR 2018 TO 2024

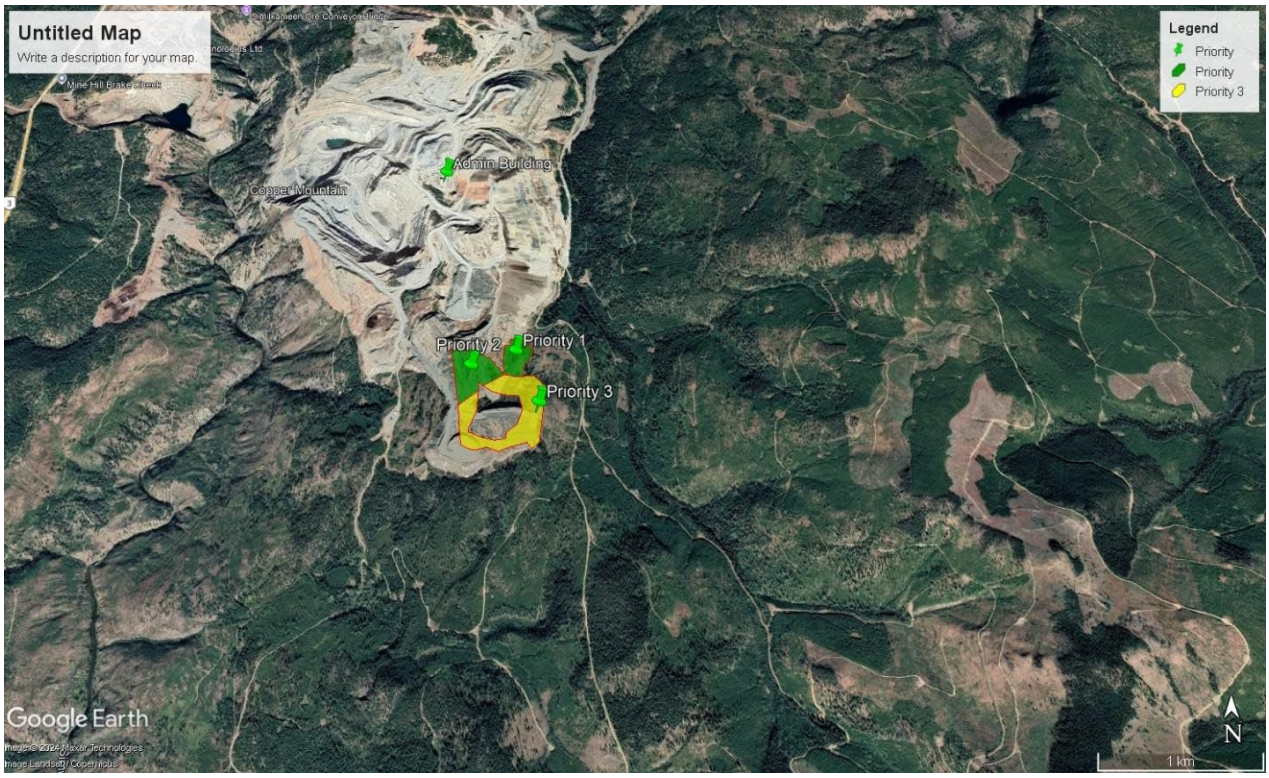


FIGURE 4.2: PROPOSED 2024 NERSA RECLAMATION AREAS

4.3 GROWTH MEDIUM

As described in Section 1.8.1, disturbed areas from historical mining activities at the mine site have been successfully reclaimed using Metro Vancouver biosolids to produce a growth medium for over 20 years, beginning with demonstration plots in 1992 and moving towards annual progressive reclamation activities up until 2009. Prior to the recommencement of operations in 2011 some 355.2 ha, or 41% of the total disturbed area had been reclaimed.

All previous biosolids storage and use at Copper Mountain Mine was conducted under Ministry of Environment Waste Management Permit PR 13061, issued to Metro Vancouver (formerly GVRD) in September 1994 and amended in June 1999. The Permit outlines requirements for direct application of biosolids to land as well as soil and biosolids quality standards and environmental monitoring requirements. In 2002, the introduction of the BC Organic Matter Recycling Regulation (OMRR) enabled land application of biosolids and included provision for fabricating topsoil and compost products using biosolids. Although the current approach at Copper Mountain Mine generally falls under the OMRR, all activities will also be conducted in consideration of the Permit requirements, where applicable.

In 2018, Copper Mountain Mine re-started progressively reclaiming disturbed areas using biosolids, as provided for in the mine and reclamation plan submitted in support of *Mines Act* Permit M-29 (SRK 2009). The current approach is to fabricate a biosolids topsoil, using Class A biosolids from Metro Vancouver's Annacis Island Wastewater Treatment Plant (WWTP) blended with local residual wood fibre and mineral soils and overburden materials salvaged in advance of new mine developments.

The use of biosolids blended topsoils will be an effective approach since, given the age of the property and the absence of soil salvage requirements in the past, soil salvage volumes will be limited relative to the overall area

requiring reclamation. Limited salvaged soil volumes means that areas scheduled to receive soils would have to be prioritized and capping depths minimized in order to maximize the coverage area. To overcome this limitation, site reclamation activities will be supplemented with the use of biosolids and other growth substrate media which have proved successful in the past. The fabricated biosolids topsoil (biosolids reclamation soil) is a complete soil capable of sustaining vegetation without additional nutrient or organic matter requirements, which will be particularly useful on areas that have little to no existing substrate, such as rock storage piles, and will conserve stockpiles of salvaged mineral soils. Similarly, CMML reclamation plan under *Mines Act* Permit M-29, as described in the 2021 5yr MPRP Update, also includes the use of compost to develop growth medium.

Additional growth medium are also planned to be tested as a part of the Reclamation Research Plan, as described in the ***"Copper Mountain Mine Reclamation Research Program"*** prepared by Associated Environmental dated October 2021 and submitted to MCM on October 2, 2024 in accordance with Condition C.16(a) of Mines Act Permit M-29. A copy of the Reclamation Research Program is provided here in Appendix C. This trial will look at five different substrate mixes, including a mixture of native soil and overburden, native soil and tailings material, compost and overburden, biosolids, wood fines and overburden at a mix rate of 1:1:3, and biosolids, woods finds, and overburden at a mix rate of 0.5:1:3. Each of these substrate plots will then be further broken down into 4 subplots, which will look at the straight substrate, the substrate plus biochar, the substrate plus mycorrhizae, and finally the substrate plus biochar and mycorrhizae. This is explained in further detail under Section 4.1 of the aforementioned Reclamation Research Program.

The following subsections provide a summary of activities related to the production, application, and monitoring of biosolids, compost, and native growth mediums at CMM in 2024.

4.3.1 Production and Application of Biosolids Reclamation Soil

Details of the joint biosolids program with Metro Vancouver and Arrow Environmental for the 2024 program at CMM can be found in Appendix C. Approximately 94,132 m^3 of biosolids reclamation soil was blended in 2024, of which 94,008 m^3 was applied onto approximately 23.46 ha in 2024. The remaining quantity of reclamation soil (586 m^3) is stored at the Arrow's South Soil Production Facility (SPF) at CMM.

In addition, 2025 reclamation plans are to produce an estimated total volume of 94,750 m^3 of biosolids reclamation soil. The planned application area for 2025 is an approximately 7 ha area on the NERSA South Extension, as showing in Figure 4.2.

Additional details on biosolids reclamation soil operations and reclamation in 2024 is provided in the ***Permit PR-13061 2024 Annual Report*** prepared by Arrow Environmental dated March 2025, which is provided here in Appendix C, and includes plans for 2025 operations and reclamation.

4.3.2 Native Soil Applications

A small amount of native soils were applied for the landscape beautification area located at the entrance to the gatehouse, no native soils were used in reclamation for 2024. Revegetation and monitoring activities on the areas applied with native soils in previous years are discussed in Section 4.4.

4.3.3 Compost Import and Stockpile

In 2024, CMML received 6,594 m^3 of Class A compost from the Ingerbelle Compost Facility owned and operated by Arrow Environmental Services at the south end of the Ingerbelle site. The compost was stockpiled at Arrow's South SPF on the historic D3 NERSA on the Copper Mountain side. A small volume was used for a landscape beautification project at the mine entrance and gatehouse,and the remainder is stockpiled for use in reclamation trial that will be developed in 2025, as discussed in Section 4.13.

The Ingerbelle Compost Facilty (IFC) is permitted by the BC Ministry of Environment and Climate Change Strategy (Permit Number 11002) and produces Class A compost using residential/commercial food waste and municipal biosolids, with clean wood residuals added as a carbon source and bulking agent. All compost produced at the ICF meets the strict standards for Class A compost set by the British Columbia Organic Matter Recycling Regulation (BC OMRR), as well as guidelines established by the Canadian Council of Ministers of Environment (CCME) and the BC Landscape Nursery Association (BCLNA). BC OMRR standards include time-temperature requirements to ensure pathogen destruction, Class A compost process requirements, and finished compost quality standards for pathogens and trace elements. The final Class A compost is tested and certified before it is removed from the compost facility.

Compost testing is conducted in accordance with the OMRR and the Guidelines for Sampling Biosolids, Compost, Soil and Vegetation (Van Ham and McDougall, 2022). Samples are tested by a laboratory certified by the Canadian Association for Laboratory Accreditation, in accordance with the BC Environmental Data Quality Assurance Regulation. A table providing the results of four samples of the Class A compost received and stockpiled at CMM in 2024 are provided in Appendix C with comparison to OMRR Class A Standards.

Compost produced at the ICF do not pose a high risk in terms of invasive species or nuisance weeds, as production of the compost uses municipal biosolids and food waste as primary feedstocks, both of which typically contain very low levels of weed seeds. Wood residuals used in the compost are locally sourced, clean, and do not contain stump/root portions of trees which might contain soil. Compost and feedstocks do not remain on site long enough to become contaminated with weed seeds from the surrounding natural environment. Compost temperatures are sufficiently high to degrade most weed seeds in the feedstocks. Temperature ranges are defined in the OMRR for this purpose.

Use of the Class A compost is initially planned to enhance reclamation at the historic Ingerbelle site, at a location that is not planned to be re-disturbed by development of the proposed New Ingerbelle Project. Specifically, this is the area shown on Figure 4.3 on the west and north slopes of the Ingerbelle NERSA located directly North of the Envirogreen facility on Highway 3 and extending around to the historic Ingerbelle mill building at the mine site. Of the 31,266 m^3 of Class A compost that was imported and stockpiled on the Ingerbelle Main NERSA in 2023, 10,274 m^3 was applied to a 9 ha area on the west slope of the NERSA, in the area shown in Figure 4.3. The remaining stockpile of 20,992 m3 will be used for additional reclamation enhancement activities on the Ingerbelle Main NERSA in the next couple of years.

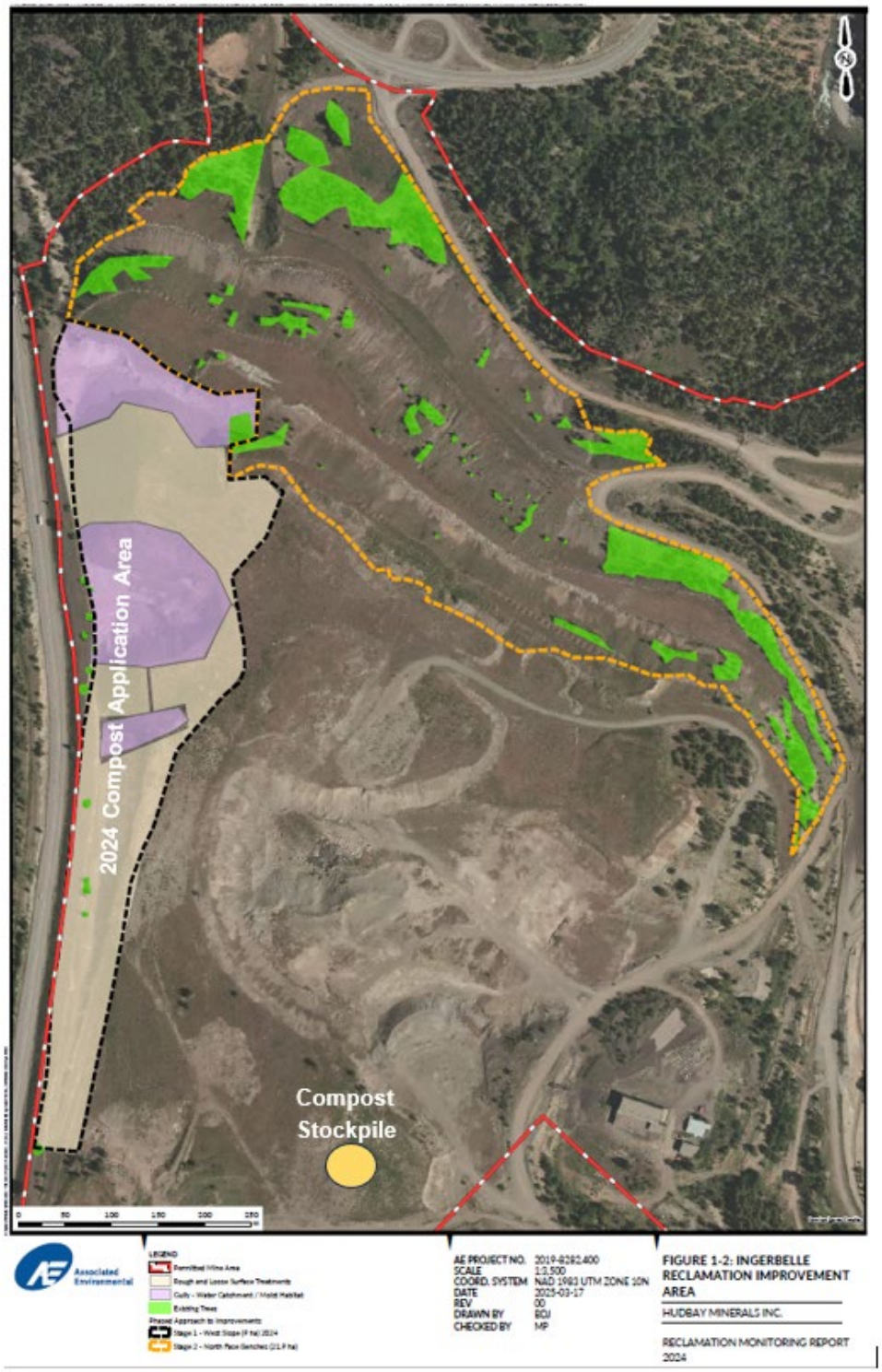


FIGURE 4.3: INGERBELLE RECLAMATION ENHANCEMENT AREA WITH 2024 COMPOSE APPLICATION AND STOCKPILE LOCATIONS (FROM ASSOCIATED 2025)

4.3.4 Soil Monitoring Program

Metro Vancouver conducts routine monitoring of their Annacis Island WWTP biosolids. The biosolids meet the substance limits as specified in Section 1.1.4 of Permit PR 13061, and also meet Class A biosolids criteria as defined in the BC Organic Matter Recycling Regulation (OMRR).

Results from pre- and post-application soil samples collected in 2024, as well as the biosolids samples, are summarized in the ***Permit PR-13061 2024 Annual Report*** provided in Appendix C.

Soil monitoring was also conducted as part of the reclamation monitoring program completed by Associated in 2024. Associated reported that the sample results were generally within target range and comparable to reference soils. Sample results and interpretation are provided in the report titled ***Reclamation Monitoring Report, 2024 Observations*** prepared by Associated dated March 2025, and provided here in Appendix C.

4.4 REVEGETATION

Revegetation activities in 2024 consisted of seeding of grasses and forbs and planting of trees and shrubs, the following sections provide summaries of the revegetation activities conducted in 2024 and reclamation monitoring results for all progressive reclamation areas commenced since 2018.

4.4.1 Seeding and Planting

The NERSA reclamation areas were seeded in the fall of 2024, with grass seed dispersed via helicopter on October 29, 2024. This was done as an adaptive approach to reclamation based on observations made in 2022 and 2023 (Associated 2023, 2024) that some reclamation areas showed declining vegetation cover, so seeding with low application rates of naturalized and non-invasive clover species is being trialled. The intention is to increase the vegetation cover and, with that, establish root systems for water penetration and nutrient cycling. This could help build the soil microbiome to support future tree and shrub establishment. A further benefit is that clover flowers attract insects, which in turn attract birds and rodents. Because of the low application rate, competition with trees and shrubs is not anticipated to be an issue in the future.

Detailed information about the seeding activities conducted in 2024 and seed blend compositions is provided in the ***Permit PR-13061 2024 Annual Report*** and ***Reclamation Monitoring Report, 2024 Observations*** are included in Appendix C.

Reclamation areas are planted with naturally occurring species native to the region, which are known to establish well from seedlings and are of traditional importance to First Nations. In 2023, seedling selection prioritized conifer tree species, whereas 2024 selections focused on deciduous. In spring 2024, CMM mine staff and management participated in a reclamation workshop where approximately 700 balsam poplar seedlings were planted to help demonstrate the challenges of revegetating the steep NERSA slopes. In the fall of 2024, a professional tree planting team planted a total of approximately 60,193 deciduous seedlings averaging 5,472 stems per hectare.

Detailed information about the planting activities conducted in 2024 are provided in the ***Reclamation Monitoring Report, 2024 Observations*** prepared by Associated dated March 2025 and included here in Appendix C.

4.4.2 Reclamation Monitoring Plan

In 2022, CMML retained Associated Environmental to develop a formal reclamation monitoring plan for the CMM site. This plan, finalized in June of 2022, is a framework for reclamation monitoring at CMM and is a living document that is updated as required. The ***CMM Reclamation Monitoring Plan*** was provided in the 2022 Annual Reclamation Report.

The Reclamation Monitoring Plan identifies targets and indicators and outlines the methods to be used when completing monitoring surveys. A key component of the plan is to include training of CMM staff and USIB and

LSIB members to complete the reclamation monitoring. Training opportunities also included working with not-for-profit associations, including Oasis and Similkameen Invasive Species Society. In June 2024, OASISS conducted an infield training session focused on biological control options and invasive plant management at CMM.

4.4.3 Monitoring of 2018 to 2022 Reclamation Areas

In July of 2024, Associated team members completed monitoring as per the Reclamation Monitoring Plan. The monitoring was completed at all previously established permanent survey plots (PSP), apart from PSP #13 which had been disturbed (removed) by 2023 reclamation operations. The results and interpretation of the monitoring program is provided in the report titled ***Reclamation Monitoring Report, 2024 Observations*** prepared by Associated dated March 2025, included in Appendix C of this report. The results and recommendation from this monitoring will be shared with Arrow Environmental and will inform future reclamation planning and implementation.

In 2024, no new permanent sample plots (PSP) were established in the 2023 areas due to site preparations for planting and woody debris placement posing a risk to losing a PSP if it was placed in that area. New PSPs are planned to be established during 2025 monitoring in both 2023 and 2024 areas, including replacing PSP #9 which was previously unable to be located during monitoring surveys.

Observations found that in 2024 there was an increase in native vegetation cover in comparison to previous years whereas invasive species trends were inconsistent, with increases and decreases, largely influenced by prickly lettuce and tumble mustards infestations. Targets for invasive species density have been met in the 2021 reclamation areas, with the 2019, 2020, and 2022 areas close behind. Overall, revegetation targets for diversity, cover and invasive species cover are not being met in reclamation areas other than the Wolfe Creek realignment. Continual inputs and adapted efforts in consultation with First Nations are being applied in achieving these targets. Detailed revegetation summaries are provided in Appendix C.

The findings provided in the report will help to plan future reclamation activities. In summary, a lot of effort will be required to achieve ELUP objectives. To achieve these objectives, Associated (2025) recommended the following:

- Create concave features at different scales to retain moisture
- Construct diverse topographic features at different scales to create a variable landscape
- Plant native, early-succession species, including deciduous trees and shrubs
- Anticipate repeat applications or entries for seeing and planting
- Management invasive species by re-scarifying, revegetating, and treating reclamation areas to reduce invasives, including exploring the use of fire, focussed herbivory with goats, and re-seeding
- Set up remote watering to support initial years of vegetation establishment
- When planting seedlings, take action to ensure survival, including (D. Bucher, personal communications, 2023; note that all of these efforts were applied in the fall of 2024):
    - Remove competing vegetation in the direct vicinity of the seedling
    - Expose the soil to allow for snowmelt and rain to penetrate to the roots
    - Plant seedlings as low to the ground as possible to maximize soil moisture availability
    - Mound the soil around tree seedlings to provide shade
    - Plant trees as soon as the snow melts if spring planting, and close to last frost if fall planting

- Fertilize trees

More details on these recommendations are provide in Appendix C.

In addition to the above reclamation monitoring, vegetation quality monitoring is conducted by Arrow in accordance with EMA permit PR 13061 which requires tissue samples to be collected for forage quality analysis during the first growing season on reclamation areas applied with biosolids reclamation soil. Arrow also conducted a vegetation cover assessment in August 2023. A vegetation quality assessment was conducted in July 2024 on areas with soil applied in 2023 and seeded in the fall of 2023. In 2023, three areas of the east slope of the main Non-Economic Rock Storage Area (NERSA) received fabricated soil using biosolids. This was divided into the Upper East NERSA and the Lower East NERSA. Two composite samples of vegetation were collected from the lower East NERSA area in July 2024.

In general, Arrow Environmental concluded that the 2024 vegetation was of a very high quality and contained more than adequate levels of the main nutrients required by domestic ruminant livestock (cattle) for normal growth. The majority of both plots on the lower East NERSA slope were observed to be unvegetated and bare ground (average 60%). Vegetation on both plots consisted primarily of prickly lettuce (averaged about 25% of the plots). Other vegetation that was present consisted primarily of grasses including fall rye, wheatgrass, and bluegrass. Other species observed in the plot include mustard, scotch thistle, and yarrow.

Results from the vegetation monitoring conducted by Arrow Environmental are summarized in the ***Permit PR-13061 2023 Annual Report*** provided here in Appendix C.

4.5 OPEN PIT RECLAMATION

No reclamation of open pits has taken place in 2024.

4.6 TAILINGS IMPOUNDMENT RECLAMATION

No reclamation of the Tailings Management Facility has taken place in 2024.

4.7 WATERCOURSE RECLAMATION

Watercourse reclamation work in 2024 was focussed on the Wolfe Creek FHOP, as summarized below.

4.7.1 Wolfe Creek Fish Habitat Offset Plan

As part of the Wolfe Creek Realignment Project at CMM, DFO issued Fisheries Act Authorization No. 18-HPAC-00425 to CMML on November 19, 2019. Pursuant to the Authorization, CMML commenced construction of the Wolfe Creek Fish Habitat Offsetting Plan (FHOP; Hatfield 2018) in the fall of 2020. The authorized FHOP design is comprised of six fish habitat offsetting sites consisting of five components to improve fish productivity and one site to improve fish passage. The FHOP sites are located along a 1.5 km portion of the Wolfe Creek valley outside of the M-29 permitted mine area on fee simple land parcels owned by CMML, located approximately 2.5 km downstream of the mine property.

CMML completed construction of the five fish productivity components of the FHOP in December 2020, consisting of a series of meandering spawning channels and overwintering/summer rearing ponds. The one remaining component of the FHOP, the improved fish passage component was completed in summer 2021.

During the 2023 effectiveness monitoring program for the FHOP, Hatfield recommended some small remedial activities to improve the flow through of the creek between site 5 and Site 6. Following approval from DFO, work was completed in October of 2023. A small channel was excavated between the two sites, Coer logs were used to stabilize the banks and large woody debris was placed to provide additional erosion control. In 2024, additional supplemental planting took place. This included the installation of 888 willow and red-osier dogwood live stakes

within the floodplain zone. An additional 24 willow and black cottonwood live stakes were installed around the newly constructed connection channel at Site 6.

To better evaluate future supplemental planting in the upland areas, a trial area was planted on the north side of the Site 4 pond. If successful, this application will be expanded to other riparian upland areas of the FHOP in 2025. The list of species planted includes:

- Black cottonwood
- Hybrid white spruce
- Interior Douglas-fir
- Paper birch
- Ponderosa pine
- Trembling aspen
- Black gooseberry
- Choke cherry
- Common snowberry
- Douglas maple
- Elderberry
- Mountain alder
- Mock orange
- Oceanspray
- Oregon grape
- Saskatoon
- Soopalallie

A key component to ensuring the FHOP is successful is riparian vegetation establishment to support key riparian functions and improve fish habitat. CMML retained Associated to create a vegetation management plan (Associated 2021) for the FHOP sites to support planning, planting, and monitoring, with the goal of establishing functioning riparian areas. Associated conducted a riparian health assessment of the FHOP sites in May 2023. Based on observations, Associated provided recommendations for adaptive management of the sites to improve the riparian health in a report title "***Fish Habitat Offset Project, Revegetation management Plan"*** dated July 2023.

Year 4 (2024) monitoring of the FHOP occurred in September 2024 for surveillance monitoring, including evaluating the success of the Site 6 remediation work, evaluating the success and progress of the revegetation management plan, and assess watercress abundance within the fish index sites. Details of the Year 4 monitoring are provided in the report titled ***"Wolfe Creek Fish Habitat Offsetting Plan (FHOP) – 2024 Surveillance Monitoring Summary"*** prepared by Hatfield dated January 7, 2025. A copy of the report is provided here in Appendix L.

4.8 ROAD RECLAMATION

No reclamation of roads on the mine property has taken place in 2024.

4.9 INFRASTRUCTURE DECOMMISSIONING

No decommissioning of mine infrastructure has taken place in 2024.

4.10 STRUCTURES AND EQUIPMENT

No activities relating to the removal of equipment and treatment of foundations have taken place in 2024.

4.11 SECURING OF MINE OPENINGS

No activities related to securing of potentially dangerous surface areas and underground openings have taken place in 2024.

4.12 CHEMICAL, REAGENT AND SPECIAL WASTE DISPOSAL

Disposal

CMML contracts the services of certified waste disposal companies to dispose of chemicals and other wastes classified as hazardous under the BC Hazardous Waste Regulation. The substances are stored in appropriate containers in designated staging areas at the mine site and are then transported by the disposal company to an authorized offsite disposal facility, or in the case of used oil, to an oil refinery for recycling.

Contaminated Sites

During drilling activities for the baseline groundwater monitoring program in summer 2020 for the proposed New Ingerbelle development, an area of potential hydrocarbon contamination was identified. Further investigation was completed and a conceptual site model was developed by a Contaminated Sites Approved Professional. The recommendation is to complete a Screening Level Risk Assessment to guide the remediation plan. Three additional wells were drilled in the area in 2021. No samples were collected from the three contaminated site monitoring wells in 2021, 2022, 2023, and 2024 due to lack of water in the wells.

Remediation works took place in July and September 2024, which included excavation of two contaminated areas and treatment of the petroleum hydrocarbon contaminated material. Hamilton & D'Ambra Consucting Inc. (HDC) was retained to plan and monitor the excavation, in which the clean overburden was first removed and stockpiled, and the contaminated soil was transported to Environmental Technologies Ltd. (ETL) for treatment. An oxygen releasing compound was then mixed with clean soil placed below the water table in the excavation, prior to backfilling with the previously stockpiled clean overburden. A full report detailing the remediation efforts, titled ***"Ingerbelle Petroleum Hydrocarbon Contaminated Soil Excavation and Remediation"*** prepared by HDC dated January 29, 2025 is provided in Appendix K.

4.13 RECLAMATION RESEARCH

The subsections below provide a summary of research that commenced or was in progress in 2024.

Progressive Reclamation

The progressive reclamation activities completed in 2018 to 2024 on the slopes of the main NERSA, NERSA South Extension and RSL as described in Section 4.2, were developed to be reclamation research trials. The purpose of these reclamation trials at CMM was to support reclamation activities in alignment with the end land use objectives defined in *Mines Act* Permit M-29. To meet these end land use objectives, re-vegetation must encompass the establishment of a self-sustaining vegetation community, using native species, culturally important species and species that assist in erosion control. Re-vegetation also considers invasive weed suppression. The goal of the seeding trial on the 2018 area, and the different seed blends applied on the 2019 to 2024 soil application areas is to examine the successful establishment of native species, along with the prevention of erosion and invasive plant establishment on plots receiving biosolids reclamation soil product. The annual seeding plans, in terms of the seed blends, were developed based on findings from the monitoring of the seed blends that were applied in the years prior. The results of the 2018, 2020, 2021, 2023 and 2024 seed applications will continue to be monitored and assist with future decision making on surface preparations and seeding at CMM.

Tree Seed Germination Trial

In 2022, CMM provided in-kind support to a research company “Global TreeGro”. Global TreeGro has been developing and testing its technology designed to increase the effectiveness of tree seedling establishment from seed. To achieve this, Global TreeGro had two objectives:

1) to create a structure that is degradable in the field that limits water loss to the environment while simultaneously increasing water accessibility to the seed, and

2) to provide a moist environment directly surrounding the seed for a prolonged period to allow the seed to germinate.

The trial was conducted to evaluate the viability of using the structure in Fall plantings. The initial planting was conducted mid-October 2022 and the first germination results assessed in Spring 2023. Additional seed modules were also planted in 2023.

In total, 2400 modules were planted, each containing two hybrid spruce seeds. Two different types of structures were tested. The first contained pressed tablets that expand upon imbibition, and the second contained loose substrate. Three different sites were selected at Copper Mountain for their varying levels of sun and wind exposure. This was done to evaluate the effectiveness of the structure in different reclamation scenarios. No updates on the results of this trial were available at the time of this report.

Tree Planting Trial

In 2023 ,CMML create four small trial plots on 1 ha of the NERSA reclamation area. The approach included;

- Add soil amendments to balance nutrients based on soil analysis;
- Inoculate the seedlings and/or soil with mycorrhizal fungi;
- Incorporate native topsoil that has been stockpiled for less than 1 year (i.e. with seed bank viability);
- Incorporate snow catchment, including site preparation and snow fencing;
- Use variable seeding rates and compositions of early- and late-succession species;
- Apply variable site preparation methods and seedling density.
- Analyse nutrient availability overtime and consider nutrient loading at different biosolids application rates.

In total, 2000 stems were planted, 500 in each of four plots. A summary of the species plant is provided in Table 4.2 below. Additional small plot trials are planned to be installed in the Spring of 2025.

TABLE 4.2: LIST OF SPECIES PLANTED IN NERSA TREE PLANTING TRIAL

Type	Common Name	Species	Quantity
Shrub (forb)	Kinnikinnick	*Arctostaphylos uva-ursi*	160
Shrub	Oceanspray	*Holodiscus discolor*	160
Shrub	Mock orange	*Philadelphus lewisii*	80
Shrub (tree)	Chock cherry	*Prunus virginiana*	160
Shrub	Prickly rose	*Rosa acicularis*	80
Shrub	Wood’s rose	*Roas woodsii*	80

Shrub	Pussy willow	*Salix discolor*	160

4.14 FIVE-YEAR RECLAMATION AND RESEARCH PLAN

The 5-year mine plan map (EOY 2029) provided as Figure D.2 in Appendix D shows the progressive reclamation areas on the NERSA planned to be resloped and revegetated at the Copper Mountain site in 2025, as well as the area planned for 2026 to 2029. As has occurred since 2018, it is planned that biosolids reclamation soil will be applied and seeding will be completed, by Arrow Environmental, as the resloping of NERSA slopes progresses. More detailed information on reclamation plans for the next five years is provided in the 2021 5yr MPRP Update Report submitted September 30, 2021.

As described in the 2021 5yr MPRP Update and above in Section 4.3.3, progressive reclamation of some outstanding disturbance areas and previously revegetated areas on the Ingerbelle side will also be carried out in the upcoming five-year period using application of biosolids and/or compost reclamation soils. This will be limited to areas of the historic site that are not planned to be re-disturbed by the mine plan being developed for the New Ingerbelle pit push-back, which is a 25 ha area on the north and west slopes of the main historic Ingerbelle NERSA (Figure 4.3). As was conducted in 2024, the general plan is to apply biosolids or compost reclamation soils on accessible benches to infill the inside angle at the toe of each lift to develop a smoother undulating topography and to apply a thick enough layer of the soil materials to the bench platform to support establishment of native trees and shrubs. In addition, accessible areas at the toes of some bench slopes that have sparse soil and vegetation growth may receive application of additional reclamation soils. Areas applied with the reclamation soils will be seeded with native grasses and forbs and planted with native trees and shrubs, likely in the form of tree islands. Detailed plans will be developed in collaboration with USIB and LSIB.

As noted in Section 1.7.5, a detailed ELUP is in the process of being developed in conjunction with the USIB and LSIB. The detailed ELUP will be used to inform reclamation planning for the annual reclamation areas, including revegetation strategies, target plant species, required soil moisture, long-term maintenance and monitoring.

Upcoming progressive reclamation, construction projects, and special assessments will provide research opportunities, both through actual research trials and assessments as well as required project monitoring. Research plans and other activities that will provide research opportunities in the next five years, as provided in the 2021 5yr MPRPU, include, but are not limited to, the those described in the subsections below.

As required under Section C.16 in the amended *Mines Act* Permit M-29 issued December 20, 2023, CMML developed a Reclamation Research Program report in 2024, in consultation with USIB and LSIB, that includes details for achieving the research requirements outlined in the M-29 Permit, including a schedule for implementation of planned reclamation research and description for how results will be utilized and report. This document is included in Appendix C.

Progressive Reclamation

All progressive reclamation sites also act as research tools and help CMM to understand treatments and vegetation strategies are most successful. Reclamation plans are inherently adaptive, building on the findings of previous reclamation activities.

Progressive reclamation on the Copper Mountain side commenced in early 2018 with application of a biosolids reclamation soil on a portion of the west slope of the NERSA. Reclamation of this portion of the slope, as well as those completed on the east, north and south sides of the NERSA between 2019 and 2024, and those planned for the Copper Mountain and Ingerbelle NERSAs over the next five years, represent an opportunity to demonstrate

the effectiveness of using biosolids and compost to revegetate rock storage areas in a highly visible and easily accessible area where further mining related activity is not anticipated.

Going forward, exploration and resource extraction activities are ongoing, and reclamation opportunities on the Copper Mountain site will be identified annually in accordance with mine operations planning.

The production and use of biosolids reclamation soils and compost reclamation soils for reclamation at Copper Mountain Mine is a different process than the previous methods of biosolids applications used at the mine site. The initial progressive reclamation efforts will provide research opportunities to identify the most effective blends and application rates for successful re-vegetation using native species (historic reclamation was conducted using agronomic species). In addition, monitoring of areas applied with different soils (native soil, biosolids reclamation soil, and compost reclamation soil) will provide research opportunities to identify differences in re-vegetation success.

Native Plant Growth

As required under *Mines Act* Permit M-29, the mine site is to be re-vegetated using appropriate/native plant species including culturally important native species where practicable. Use of native plant species has not previously been conducted on the mine property, as previous re-vegetation was conducted using agronomic grasses and legumes. As such, use of native species in progressive reclamation areas since 2018 will be an opportunity to research a number of factors including identifying the most successful seed mixes, application rates, soil depths, and soil compositions.

Similarly, re-forestation through planting of native shrubs and tree species in progressive reclamation areas will provide an opportunity to research techniques to achieve successful successionary forest structures with diverse wildlife habitats. Research opportunities include tests to determine the response of seedlings to various thicknesses of soils, concentrations of biosolids, and planting techniques (such as spring versus fall planting, and construction of tree islands and corridors.

Thompson Rivers University, in partnership with Arrow Environmental and MetroVancouver, commenced a research field study in 2021 and 2022 to test two soil amendments, biosolids and wood chips, in combination with a mining sub-soil, to determine their relative effects on native plant growth. The study is an NSERC funded research project with the objective to determine the best methods of restoring native grassland communities with blended biosolids soils. The research project will use ecological theory and restoration practices to look at how planting order and priority effects will impact biodiversity and plant growth on mine-influenced subsoil. An array of 48 soil treatments are being tested on the historic 701 NERSA at CMM to determine how additional nutrients in the soil will affect plant growth and arrival order. Findings will be provided in annual reclamation reports for the years they become available to CMML.

CMML is planning additional test plots for growth of native plants in amendments of biosolids with CMM tailings material within the next five years. Given the previous success of reclamation of the TMF with biosolids and agronomic grasses (prior to 2010), it is expected that this amendment method will be successful with native species as well.

Reclamation planting was conducted in 2021 and 2022 along the Wolfe Creek realignment. This includes planting of many of the species outlined in the Wolfe Creek Revegetation Plan developed by Associated Environmental (2020) with input from USIB and LSIB as well as CMM. Planting was also conducted on the NERSAs in 2022, 2023 and 2024. Monitoring of these plantings continues to provide research learnings for application in subsequent years.

Microbial Diversity

CMML has also partnered with Thompson Rivers University (TRU) in a study funded by the Genome BC's Sector Innovation Program to advance methods for the use of genomic tools in the assessment of environmental performance of mine reclamation with respect to restoring diverse native plant communities. One approach has been to analyze soil microbial community and diversity using environmental DNA (eDNA). However, biodiversity measurements of the microbial community are biased due to the presence of 'relic' DNA, which can exaggerate microbial biodiversity. Relic DNA is extracellular DNA from dead microorganisms that can persist in soils for years and can account for the majority of the total microbial DNA pool. The objective of TRU's genome is to standardize a method that can selectively analyze eDNA from living microorganisms to provide a better estimation of microbial diversity at mine sites.

The work commenced in summer 2021 with collection of soil samples and vegetation surveys at CMM sites reclaimed with biosolids of various ages. Additional field sampling and survey was completed seasonally for a period of one year. At the end of the project, TRU will submit a report to Genome BC summarizing the findings from the project. The findings of the study are also anticipated to be published in scientific journals. CMML will provide results of the study in the annual reclamation report for the year the report to Genome BC comes available.

Wolfe Creek Realignment and Fish Habitat Offset Plan

The Wolfe Creek realignment channel, sediment traps, and fish habitat offset area, were constructed for closure. Post-construction monitoring and reclamation of these structures commenced in 2021 and long-term monitoring results will provide useful feedback to inform general reclamation techniques to be used at site, as well as specific recommendations for construction, reclamation, and closure of other watercourses, should the need arise for similar works in the future.

For the FHOP, monitoring and reporting is required under the *Fisheries Act* Authorization annually for the first three years and then every three years for two more periods following completion of construction. 2023 was the final year of the required annual reporting, and therefore the next required report is scheduled for 2026. Further results of the realignment and FHOP monitoring will continue to be reported in subsequent annual reclamation reports.

Wolfe Creek Water Quality SPO and SBEB Development

CMML and Hatfield are currently in discussion with BC ENV regarding development of Site Performance Objectives (SPOs) and Science-Based Environmental Benchmarks (SBEBs) for sulphate, nitrate, copper, molybdenum and selenium in Wolfe Creek which will be protective of aquatic organisms and other water uses downstream of the mine site. A proposed SBEB for dissolved copper was developed and submitted to ENV for approval in August 2022, and accepted on May 29, 2024 and subsequently adapted into the December 6, 2024 amendment of EMA Permit 00261. The development of other SPOs and SBEBs is planned to occur in 2025 and 2026. The outcome of the SPO and SBEB development will inform the need for additional operation water quality mitigation measures and long-term water quality management needs. The SPO and SBEB development reports will be submitted to ENV for approval and incorporation into a Permit 00261 amendment, and will be included in the annual Permit 00261 and M-29 reclamation report for the year in which there are completed.

Bioreactor Field-Scale Trial

Bioreactor treatment was proposed as a potential best achievable technology (BAT; SRK 2019b) for reducing concentrations of selenium and nitrate in seepage from the non-economic rock storage areas at Copper Mountain. Pilot and demonstration-scale trials are required to demonstrate the operability and performance of a bioreactor prior to full-scale implementation, of which the pilot scale trial was completed in 2022. The engineering for the

demonstration-scale trial will be completed in 2025. Plans for construction and operation will be determined in 2025 as well.

Engineered Wetland Trial

In the BAT Assessment (SRK 2019b), an engineered wetland in Wolfe Creek in the meadow downstream of East Dam (upstream of SW03) was proposed as a potential BAT for controlling discharge to Wolfe Creek, not as a primary treatment or mitigation method but as a secondary or polishing treatment method. A trial would be required prior to a full-scale installation along Wolfe Creek. Trials are useful for evaluating hydraulic control through the seasons, establishing different plant communities and for estimating removal rates for the different constituents of potential concern. Multi-year trials are preferable to understand how vegetation develops and performs over time.

It was proposed that the trial of an engineered wetland would be initiated after the effects of the primary BATs have been evaluated following the completion of the Wolfe Creek realignment and upgrade of the East Dam and NERSA contact water seepage collection and pump-back systems. This would allow the trial to be tailored to the new configuration of the lower section of Wolfe Creek and would allow personnel and resources to focus on the proposed bioreactor trial for Wolfe Creek.

CMML plans to monitor the primary BATs for several years, and then, if the results suggest that additional mitigation measures will be necessary later in operations or closure, will commence with plans to research a wetland trial informed by the findings of the two-year BAT implementation monitoring.

Kinetic Testing of Princeton Group Volcanics and Sediments

Geochemical kinetic testing commenced in 2023 for PAG non-economic rock materials from the Princeton Group Volcanics and Sediments (PGV; lithogeochemical Zone 10) that have been exposed by mining of North Pit. The kinetic testing is comprised of laboratory humidity cell tests and field barrel tests, which will continue into 2025. The testing is being conducted to estimate time to acid onset and provide data for mine water quality predictions given the lack of historical mining and monitoring data for the PGV rock units. Results of the testing will be used to inform management of the PAG materials during operations and closure.

Selenium Attenuation by Soil Organic Matter

In the 2016 Mine and Reclamation Plan Update (CMML 2017a) and associated *Mines Act* Permit Amendment (MAPA) Application, CMML requested that organic-rich soils be left in place in the foundations of expanded rock storage area footprints to take advantage of the potential for passive attenuation of selenium that could be available at closure (after flushing of explosives residue from the rock storage areas reduces the nitrate concentrations), thereby reducing or eliminating the need for long-term active measures such as pumping and water treatment.

Quantification of the attenuation available is not well understood, though CMM considers qualitative evidence for attenuation is provided by the lower selenium concentrations observed in seepage during the care-and-maintenance period (1996 to 2010) compared to the operational period since 2010. In support of the request to not salvage soils from the footprint of rock storage areas, CMML submitted a technical letter prepared by SRK (2017c) with discussions on attenuation mechanisms, soils types in the rock storage area foundations, utilization of soil organic matter, and a list of literature references. Following review of the supporting document, MCM responded that there is insufficient evidence to detail the nature of this attenuation and expected performance, and stated that additional information and testwork would be required before MCM could consider the benefits of soil salvage for reclamation versus potential attenuation of selenium and/or nitrate in underlying soils.

CMML is planning to conduct research within the next five years to assess the mechanisms and sustainability of the attenuation of selenium and nitrate in organic soils, and conduct additional characterization of the availability

of organic matter in the soils at CMM. The duration of the test work is not known at this time, and will be developed as part of the study design.

Although the footprints of the rock storage areas at CMM will largely be fully developed for the currently approved mine plan by the time the findings of this research become available, the results will be used to inform the future reclamation strategy for rock storage areas for future mine life extensions, such as the New Ingerbelle Project.

5 RECLAMATION LIABILITY COST ESTIMATES

The *Mines Act* Permit M-29 amendment dated December 20, 203 required CMML to increase the required reclamation security in the amount of $40,602,000 by February 29, 2024, based on an update reclamation liability cost estimate provided by CMML for the 2021 5yr MPRP Update. CMML provided the additional security to MCM on February 26, 2024, bringing the total amount of security held under *Mines* A*ct* Permit M-29 to $61,585,000. An additional security of $4,000,000 was provided to MCM on June 2024, as required under Permit M-29 condition D.1(b), related to construction of a TMF closure spillway. The total amount of security held under Permit M-29 at the time of this report was $65,585,000.

The reclamation security is held by the Minister of Finance to ensure performance of the approved reclamation program and all the conditions of this permit in a manner satisfactory to the Chief Inspector. The permit also provides for the amount of reclamation security posted to be reviewed annually following submission of the Annual Reclamation Report.

CMML's posted reclamation security for Copper Mountain Mine includes liabilities for all mine disturbance areas on the Ingerbelle side of the property, including mineral and surface tenures held by third parties, with the exception of the District Lot 401 (Lela crown granted mineral claim) owned by Envirogreen Technologies Ltd. As a result, CMML no longer controls access to, or activity upon, these areas and considers reclamation responsibility to lie with the land tenure owners.

Updated reclamation liability cost estimates for the Copper Mountain Mine property were submitted on September 30, 2021 in conjunction with the updated mine development and reclamation plans submitted in the 2021 5yr MPRP Update Report. CMML subsequently retained Ausenco to prepare revised 5-Year and Life-of-Mine (LOM) reclamation liability cost estimates for the 2021 5yr MPRP Update, in accordance with MCM's Major Mines Reclamation Security Policy (interim) issued April 5, 2022 and with consideration of the review comments received on CMML's previous 2021 5-Year MPRP reclamation liability costing submission. This revised costing for the 2021 5yr MPRP Update was provided to MCM for review in mid-April 2023 and was the basis for the increase in security approved in the amended permit issued December 20, 2023.

For consistency and comparability, CMML used the 5-yr (EOY 2025) costing spreadsheet prepared by Ausenco (2023) for the revised 2021 5yr MPRP reclamation liability costing to prepare the annual closure cost estimate for the Copper Mountain Mine property for the EOY 2024 costing for the 2024 Annual Reclamation Report. The following changes were made relative to the 5-yr (EOY 202) costing spreadsheet:

- Replaced projected 2025 disturbance and reclamation areas with actual EOY 2024 disturbance and reclamation areas, as were summarized in the previous section of this 2024 Annual Report;
- Replaced projected 2025 rehandling costs for stockpiled potentially-acid generating (PAG) rock with actual EOY 2024 tonnage of stockpiled PAG rock;
- Added decommissioning for additional groundwater wells installed in 2024;
- Reduced remediation costs for the Ingerbelle hydrocarbon contaminated site to reflect remediation activities completed in 2024; and,
- Updated equipment rates from 2021-2022 Blue Book rates to 2023-2024 Blue Book rates.

The estimated cost for outstanding reclamation on the Copper Mountain Mine property as of December 31, 2024, including both the active Copper Mountain site and the historic Ingerbelle site, is estimated to be approximately $65.765 million CDN, an increase of $0.638 million CDN compared to the previous year. This represents the estimated costs of outstanding reclamation of mine site disturbances and closure activities needed to close the site at the end of year 2024 under an early closure scenario. Aside from the security for the TMF closure spillway, this estimate for EOY 2024 is higher than the projected end of EOY 2025 reclamation cost estimate and

reclamation security of $61.585 million currently held under Pemit M-29, primarily due to the increase in equipment rates from the 2023-2024 Blue Book compared to those from the 2021-2022 Blue Book used in the costing estimates for the 2021 5yr MPRP Update. The detailed cost estimate for EOY 2024 reclamation liability is provided in a digital file submitted under separate cover in confidence to MCM in accordance with Part 10.1.4(8) of the Code.

SIGNATURE PAGE

This Technical Report titled ***"2024 Annual Report Mines Act Permit M-29 and EMA Permit 00261 and 105340"*** for Copper Mountain Mine, British Columbia, Canada," dated March 2024, was prepared by:

Original signed by

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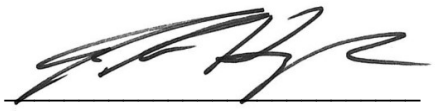
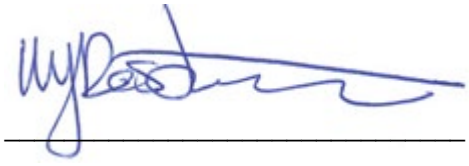
Environmental Scientist

Reviewed by:



Colleen Hughes, EP

Environmental Manager



Michelle DesJardins, M.Sc.

Regulatory Compliance Superintendent

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