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March 31, 2025

Kathryn Larson Mineland Reclamation Supervisor Minnesota DNR-LAM 1525 Third Avenue East Hibbing, MN 55746

Reference: NorthMet Project Permit to Mine Project Update 2024

Dear Ms. Larson,

Please find attached the NorthMet Project Permit to Mine Project Update 2024 submitted on behalf of NewRange Copper Nickel LLC, in follow-up to your request dated March 14, 2025, and Minnesota Rules 6132.1300. Two hard copies of this report will be delivered in person to the DNR office in Hibbing this afternoon.

Thank you in advance for your efforts in review of this Project update. If any questions or concerns arise during the DNR's review of this documentation, please do not hesitate to contact me at 218-461-7746 or Christie.Kearney@NewRangeCopperNickel.com.

Sincerely,

Christie Kearney

Christie M. Kearney, P.E. Sustainability, Environmental, and Regulatory Affairs (SERA) Director NewRange Copper Nickel LLC

Encl:

NorthMet Project Permit to Mine Project Update 2024 NorthMet kinetic test data_12312024.xlsx 2025-03-31 NorthMet WC Update-NR response to DNR comments 2025-02-12.xlsx NorthMet kinetic test data_04302024 - DNR comment response.xlsx PolyMet 2018 Annual Report GIS Data.zip



NorthMet Project

Permit to Mine Project Update 2024

Version 1

Issue Date: March 31, 2024



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Acronyms, Abbreviations, and Units

Acronym	Stands For	
AOC	Area of Concern	
DMR	Discharge Monitoring Report	
DNR	Minnesota Department of Natural Resources	
FTB	Flotation Tailings Basin	
HRF	Hydrometallurgical Residue Facility	
MPCA	Minnesota Pollution Control Agency	
MPP	Mine to Plant Pipelines	
MSFMF	Mine Site Fueling and Maintenance Facility	
NPDES	National Pollutant Discharge Elimination System	
OSLA	Overburden Storage and Laydown Area	
PTM	Permit to Mine	
SDS	State Disposal System	
SPCC	Spill Prevention, Control, and Countermeasure	
SWPPP	Stormwater Pollution Prevention Plan	



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1.0 Introduction

The NorthMet Mining Project Nonferrous Permit to Mine (NorthMet PTM) was stayed by the Minnesota Court of Appeals in September 2019 pending the court's decision on the merits. In January 2020, the Court of Appeals reversed the NorthMet PTM insofar as it failed to include a definite term and remanded the entire permit for a contested case hearing. The Minnesota Supreme Court granted review. On April 28, 2021, the Minnesota Supreme Court reversed the Court of Appeals' decision in significant part, limiting the contested case hearing on remand to one issue and ordering that the Minnesota Department of Natural Resources (DNR) "determine and fix the appropriate definite term for the permit to mine as necessary." The contested case hearing was held on March 27-31, 2023, with a recommendation from the Administrative Law Judge published Nov. 28, 2023. The contested case is now going through the exception/objection process; however, the DNR decisionmaker has stayed the proceeding until August 14, 2025.

In addition to the above listed activities on the NorthMet PTM, litigation on other permits that have occurred restricts construction from starting, including the revocation of the 404 Permit June 6, 2023 following a 401(a)(2) hearing and remand of the National Pollutant Discharge Elimination System (NPDES) / State Disposal System (SDS) Permit August 2, 2023. With the schedule of receipt of these permits somewhat uncertain, the timing of construction activities described in this report is uncertain due to these pending actions by the DNR, the U.S. Army Corps of Engineers, and the Minnesota Pollution Control Agency (MPCA).

Nonferrous Metallic Mineral Mining Rules (Minnesota Rule 6132.1300) require permittees to submit an annual report to the DNR. The purpose of the report is to document actual mining and reclamation completed in the past calendar year (2024), to describe the mining and reclamation activities planned for the upcoming year (2025), and to provide a contingency reclamation plan to be implemented if operations cease in the upcoming year. The NorthMet PTM was issued to PolyMet Mining Corp. and Poly Met Mining, Inc. (PolyMet) on November 1, 2018. Even though the NorthMet PTM has been remanded to the DNR, this Project update is being submitted with contents consistent with annual report requirements (Minnesota Rule 6132.1300).

As of February 2023, following a conversion and name change under Minnesota Statutes §§ 302A.682-.692, Poly Met Mining, Inc. is now NewRange Copper Nickel LLC (NewRange). NewRange is "for all purposes the same entity that existed before the conversion." Minn. Stat. § 302A.691, subd. 1. Thereafter, PolyMet Mining Corp. and Teck American Inc. formed a joint venture, each owning 50% of NewRange.



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In addition to the content requirements for the annual report defined in rule and in NewRange's PTM, the following additional information is tabulated and attached as follows:

- Table 1
 NewRange's Leadership and Environmental Team
- Table 2Permits Held and Permit Status as of March 2024
- Table 3Flotation Tailings Basin Dam Height Status through Year 2024 and Planned
at the End of the Construction Phase

A March 14, 2025, letter from the DNR requested the following information provided below. Due to the limited amount of time provided to complete these tasks, a portion of these requests were not able to be fulfilled and will be submitted at a later date or in the 2025 Project update.

1. Provide an update and summary on all demolition or scrapping activities that occurred in the non-ferrous mining area.

The salvage and recycle activities that occurred in 2024 were focused within the Concentrator and included:

- 26,000 tons of ferrous scrap was removed from the Concentrator. Ferrous scrap was hauled off site in 2024, except for the rebar that was removed from the concrete during demolition. That rebar has been stockpiled on-site to be removed at a later time.
- 65,590 cubic yards of concrete was removed from the Concentrator and crushed into 1.5" minus engineered aggregate for beneficial reuse and is stockpiled on site.

The work in the Concentrator demolition project has concluded; no additional work in 2025 is planned. See the 2022 and 2023 Project updates for a summary of the demolition and salvage activities that occurred in those years.

2. Provide an update on the ongoing waste characterization testing.

See Appendix A for a technical memo from MineraLogic, our geochemistry consultant, providing an update on our ongoing humidity cell test results through Dec. 31, 2024. The kinetic test data are also being submitted in digital form with the submittal of this Project update. See also Appendix B, which are responses to the comments we received from the DNR on our Nov. 2024 Update on NorthMet Kinetic Test Program.



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3. Report on drill hole data from 2019 to 2024.

Refer to Section 2.1.6 for 2024 exploratory borehole data.

- 2019: Fourteen exploratory boreholes for geotechnical core logging were completed; see Figure 9.
- 2020: There were no exploratory boreholes completed.
- 2021: There were no exploratory boreholes completed. 2022: There was one exploratory borehole completed; see Figure 9.1.
- 2023: Twenty geotechnical boreholes were completed for exploration core samples, geotechnical core logging, packer testing, and televiewing; see Figure 9.1.
- 4. Report on blast hole data from 2019 2024.

There has been no blasting completed during these calendar years. In future annual reports once operations begin, a section will be added to describe blast hole data collected from the prior the calendar year.

5. Report on legacy reclamation that may have occurred between 2018 - 2023.

See the response to Question 8 below for reclamation activities that occurred on the tailings basin between 2018-2024.

In 2023, reclamation included the removal of waste from the on-site SW-619 industrial landfill. SW-619 was constructed on top of a private landfill SW-467, with waste placement from 2006 through 2010.

SW-619 waste removal activities were conducted as per an MPCA-approved workplan. The wastes that were removed consisted of demolition wastes, asbestos containing materials, and tires. Waste removal began on August 21, 2023 and were completed September 20, 2023. The waste removed from the SW-619 landfill was transported to and disposed of at General Waste and Recycling, LLC in Keewatin, MN apart from large tires, which were removed from the waste and stockpiled near the landfill to be removed later. A total of 520 trucks hauled approximately 9,805 tons to General Waste.

The SW-467 landfill remains, and repair of the SW-467 landfill cover that was damaged during the SW-619 landfill removal was completed in October 2023. Repairs included final grading and cover re-establishment. The SW-467 Construction Certification Report was submitted to the MPCA in January 2024 and received approval on February 7, 2025. A notice of permit termination for the SW-619 landfill was submitted to the MPCA on March 7, 2025 and is pending approval by the MPCA.



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Once approved, a post closure care summary report will be submitted to the MPCA to close out the SW-467 landfill, which was reclaimed in 1995.

See Section 2.2 for reclamation activities that occurred in 2024.

6. Provide copies of documents (deed, etc.) for the change in land control that occurred on November 1, 2018.

The redacted version of the Framework Agreement was provided to the DNR on October 31, 2018, which provided this information.

7. Confirm if dust control measures were employed at the existing basin from 2018 until present, or if dusty conditions were noted.

No dust control measures have been necessary on the surfaces of the tailings basin between 2018-2024, and no dusty conditions have been noted during this time. During the summer of 2024, a demolition contractor used coarse tailings from a borrow source on Cell 2W and employed a water truck to minimize dust as they hauled the material on the tailings basin roads to the Concentrator where it was used as fill and road material within the building.

8. Confirm if maintenance or erosion control measures were employed from 2018 until present and include a summary of any monitoring of the tailings basin or plant site.

Maintenance and erosion control of the tailings basin is completed in accordance with NewRange's Dam Safety Permits. Activities in 2018 through 2024 are detailed in NewRange's annual dam safety reports, which are summarized below:

- 2018: periodic grading of crest of dam roadways to repair minor surface erosion caused by stormwater runoff and the Cell 2E north toe-of-dam seepage area maintenance
- 2019: periodic grading of crest of dam roadways and access ramps to repair minor surface erosion caused by stormwater runoff, coarse tailings fill placement along the west end of the Cell 1E/2E splitter dam upstream beach, and the Cell 2E north toe-of-dam seepage area maintenance
- 2020: periodic grading of crest of dam roadways and access ramps to repair minor surface erosion caused by stormwater runoff and vegetation clearing along the Cell 2E north dam, Cell 2E east dam, and Cell 1E-2E splitter dam
- 2021: periodic grading of crest of dam roadways and access ramps to repair minor surface erosion caused by stormwater runoff, and vegetation clearing along the Cell 2E north dam, Cell 2E east dam, and Cell 1E-2E splitter dam. Additionally, vegetation was mechanically cleared along the bedrock outcrop area of the Cell 1E-2E splitter dam near Seep 1E-2E_E1.



- 2022: periodic grading of crest of dam roadways and access ramps to repair minor surface erosion caused by stormwater runoff
- 2023: periodic crest of dam roadways and access ramps grading to repair minor surface erosion caused by stormwater runoff
- 2024: access road grading, surface erosion repairs, and improvements to the Cell 1E North Embankment

For monitoring between 2018 through 2024, refer to:

- NewRange's Dam Safety Permit annual reports submitted to the DNR for geotechnical monitoring completed on the tailings basin
- NewRange's Water Appropriation Permit annual reports submitted to the DNR for water level monitoring in two wells east of the tailings basin
- NewRange's NPDES/SDS Permit Discharge Monitoring Reports (DMRs) and Consent Decree reports submitted to the MPCA monthly, quarterly, and annually for water quality monitoring around the tailings basin and Plant Site
- NewRange's Air Permit annual reports to the MPCA for monitoring of our boiler at the administration building
- NewRange's EPRCA Tier II annual report to the Minnesota Department of Public Safety for monitoring of our onsite chemical inventory
- NewRange's Biological Opinion annual reports to the U.S. Fish and Wildlife Service for wildlife and habitat monitoring of our properties.

Monitoring for 2025 will be similar.

9. Provide a summary and maps of any work associated with water management at Cell 2W.

No water management work has been performed on Cell 2W.

10. Report all legacy basin monitoring from 2019 to 2025.

Refer to Question 8, which lists a summary of the monitoring of the tailings basin and Plant Site between 2018 through 2024. Monitoring for 2025 will be similar.

11. Indicate if there have been modifications to the FTB South Seepage Management System at SD-026 since 2018, or if any modifications are planned.

An existing seepage management system, which was constructed as part of an existing Consent Decree with the MPCA, currently captures seepage leaving the former LTVSMC tailings basin in the southern portion of Cell 1E. This seepage management system is at the headwaters of Second Creek and upstream of SD026, the NPDES/SDS compliance point. No improvements to this seepage management system have taken place beyond normal system maintenance and installation of variable frequency drives for electrical



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efficiency and pump operation. The FTB South Seepage Management System will be constructed during NorthMet Project construction.

12. Include reclamation for all transportation and utility corridors to the Construction Contingency Reclamation Plan in the Anticipated Closure Activities list.

Reclamation activities that were included in the Construction Contingency Reclamation Plan for the transportation and utility corridors include:

Roads- Where roads are abandoned, the road culverts would be removed to prevent potential flow obstructions due to clogged or dammed culverts. Where culverts are removed, channels would be graded to maintain a stable restored area. Road surfaces would be regraded to similar surroundings conditions followed by topsoil placement and seeding.

Pipeline- The Mine to Plant Pipelines (MPP) and the Colby Lake Pipeline would be removed, recycled, disposed, or abandoned in place. Buried pipelines that are left in place would be capped off and details of pipe size, material, and purging would be documented.

Subject to the limits on reclamation described in the preceding paragraph, aboveground pipelines and other facilities (i.e., pump booster station, associated controls) would be disassembled or demolished and the material recycled or disposed. Underground pipelines would be abandoned in place. Manholes and aboveground pipeline supports and foundations would be demolished to ground level or below and covered with at least two feet of soil. Surface areas would be vegetated to achieve restoration goals.

Railroad Tracks- The newly installed Railroad Spur would be removed and recycled or disposed of. The rail bed would be regraded to similar surrounding conditions, followed by topsoil placement and seeding.

13. Revise "Plant Site Reclamation at End of Construction Phase" figures to include legacy features that will be reclaimed by end of construction phase.

Due to the lateness of the request, an updated version of the "Plant Site Reclamation at End of Construction Phase" will be provided in the 2025 Project update. The construction phase will not begin in 2025, so this should not be needed sooner than next year's report.

14. Provide enough detail on figures to observe wetland impacts. Include wetland ID numbers. It may be helpful to include an inset map.

Due to the lateness of the request, updated figures to address this request will be provided in the 2025 Project update. No wetland impacts will occur in 2025, so this should not be needed sooner than then next year's report.



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2.0 Mining and Reclamation Completed in the Past Calendar Year (2024)

(Minnesota Rules, part 6132.1300, subpart 2 and NorthMet Mining Project PTM Special Condition 17)

This section describes any mining and reclamation activities conducted, corrective actions conducted, changes to the approved mining and reclamation plan¹ including how they were proactively addressed with the DNR, new rock types or formations encountered, changes in ownership or organizational structure, and wetland replacement activities that occurred during the past calendar year. It also describes monitoring activities and results. In future annual reports once operations begin, an updated GIS data package depicting the annual progression of the footprints of each mine feature will be included as a separate submittal with this Project update, as listed in PTM Special Condition 17.

2.1 Mining Activities

(Minnesota Rules, part 6132.1300, subpart 2, item A and NorthMet Mining Project PTM Special Conditions 4b, 72, and 91a)

2.1.1 Types, Amounts, Sequence, and Schedule of Mining

(Minnesota Rules, part 6132.1300, subpart 2, item A(1))

There was no mining nor stockpiling of materials associated with mining (ore, lean ore, or waste rock) conducted during the past calendar year.

In future annual reports once operations begin, this section will describe types, amounts, sequence, and schedule of mining the ore body and stockpiling materials. Future annual reports will also summarize the mining rates and schedule for the various materials mined and produced in Table 4, and provide additional waste rock stockpile and pit backfill activity information in Table 5; in this Project update, Table 4 and Table 5 are provided as placeholders.

2.1.2 Mine Management/Dispatch System

(NorthMet Mining Project PTM Special Condition 4b)

There was no mining or reclamation completed during the past calendar year and, the Mine Management/Dispatch System is not yet in place.

¹ The mining and reclamation plan approved with issuance of the NorthMet Mining Project PTM consisted of "Sections 7-11 and 15 along with related appendices of the Permit to Mine application" (Reference (2)). A standalone Mining and Reclamation Plan (Reference (1)) was created from these portions of the PTM Application and was submitted with the 2018 Annual Report.



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In future annual reports once operations begin, this section will present summary statistics and analysis of the performance of the tracking and success of material delivery to the correct destination from the Mine Management/Dispatch System.

2.1.3 Beneficiation Process

(Minnesota Rules, part 6132.1300, subpart 2, item A(2))

No beneficiation took place during the past calendar year.

In future annual reports, this section will describe any changes in the beneficiation process.

2.1.4 Flotation Tailings Management

(NorthMet Mining Project PTM Special Condition 91a)

No Flotation Tailings were produced, nor placed, during the past calendar year.

In future annual reports once operations begin, this section will document the sulfur content of the Flotation Tailings, the total tons of Flotation Tailings placed in the Flotation Tailings Basin (FTB) from the start of operations through the past calendar year and remaining planned capacity, and any changes to the Flotation Tailings waste characterization program.

2.1.5 Residue Management

(NorthMet Mining Project PTM Special Condition 91a)

No Residue was produced, nor placed, during the past calendar year.

In future annual reports once the Hydrometallurgical Plant is operational, this section will document current chemical characterization of the Residue, the total tons of Residue placed in the Hydrometallurgical Residue Facility (HRF) from the start of operations through the past calendar year and remaining planned capacity, and any planned changes in operations that could impact reclamation and postclosure.

2.1.6 Exploration and Drilling

(NorthMet Mining Project PTM Special Condition 72)

Ten geotechnical boreholes and fifteen packer testing boreholes were drilled at the Mine Site in 2024. The locations of these boreholes are shown on Figure 10 and 10.1, respectively.

Ninety-nine exploratory boreholes were permanently sealed in 2023 and early 2024 at the Mine Site. Permanent sealing included the removal of casings and permanent sealing of the boring with grout. The permanent sealing campaign was conducted under the oversight of the Minnesota Department of Health and DNR. These exploratory boreholes were installed in



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2005 and had been temporarily sealed since that time. The locations of the sealed exploratory boreholes are shown on Figure 11.

2.2 Reclamation Activities

(Minnesota Rules, part 6132.1300, subpart 2, item B and NorthMet Mining Project PTM Special Condition 60)

Reclamation conducted during 2024 were at the SW-467 landfill and at the tailings basin. At the SW-467 industrial landfill this included re-establishing portions of the landfill topsoil cover, reinforcing erosion control BMPs, and re-seeding the exposed soils on the landfill cover due to erosion caused by a large spring rain event.

As described in Section 1, Question 8, reclamation on the tailings basin included surface erosion repairs and improvements to the Cell 1E North Embankment.

2.2.1 Reclamation Research

No reclamation research was conducted during the past calendar year and no grants were applied for, for such research.

2.2.2 Reclamation Methods and Sequence

See the response to Section 2.2 for reclamation activities conducted during the past calendar year.

In future annual reports, this section will describe reclamation methods applied and sequencing of such activities. Future annual reports will also provide a summary of reclamation activities in Table 7; in this Project update, Table 7 is provided as a placeholder.

2.2.2.1 Areas of Concern

(NorthMet Mining Project PTM Special Condition 60)

Section 1, Question 5 discusses the removal of waste from the SW-619 industrial landfill conducted during late 2023. This landfill was constructed on top of SW-467, also an industrial landfill known as the Private Landfill, beginning in 2006. The Private Landfill was documented as Area of Concern (AOC)-8 in a 2002 Phase I Environmental Site Assessment (Phase I) prepared for Cliffs Erie on the former LTVSMC site.

Demolition activities were conducted within the interior of Concentrator during 2024 and are further described in Section 1, Question 1. The Concentrator is part of AOC-46 Plant Site Proper that was identified in the Phase 1.



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Oil-filled transformers and switchgear were moved off-site for recycle and disposal from a substation on the northwest corner of Cell 1E. The Phase I had identified various locations of transformers and substations at the tailings basin as AOC-48.

There were no other changes to AOCs within the PTM are during the past calendar year.

2.2.3 Corrective Actions

There were no corrective actions conducted during the past calendar year.

2.3 Status of Ongoing Postclosure Maintenance Activities

(Minnesota Rules, part 6132.1300, subpart 2, item C and NorthMet Mining Project PTM Special Condition 20a)

No postclosure maintenance activities were conducted during the past calendar year.

2.4 Scope and Schedule Changes from the Approved Mining and Reclamation Plan

(Minnesota Rules, part 6132.1300, subpart 2, item D and NorthMet Mining Project PTM Special Conditions 22 and 60 (as applicable))

2.4.1 Changes to the Approved Mining Plan

No changes to the approved mining plan (Reference (1)) occurred during the past calendar year.

2.4.2 Changes to Approved Reclamation Plan

No changes to the approved reclamation plan (Reference (1)) occurred during the past calendar year.

2.4.2.1 New Areas of Concern

(NorthMet Mining Project PTM Special Condition 60)

No new AOCs were identified within the mining area during the past calendar year.

2.5 Characterization of New Rock Types or Formations

(Minnesota Rules, part 6132.1300, subpart 2, item E and NorthMet Mining Project PTM Special Condition 45)

No new rock types or formations were encountered during the past calendar year.



2.7 Ownership or Organizational Structure Changes

(Minnesota Rules, part 6132.1300, subpart 2, item F)

No changes to ownership or organizational structure occurred during the past calendar year.

2.8 Land Control Changes

(NorthMet Mining Project PTM Special Condition 5b)

No changes to land control were made in the non-ferrous mining area during the past calendar year.

2.9 Wetland Replacement Activities

(Minnesota Rules, part 6132.1300, subpart 2, item G)

No wetland impact activities nor wetland replacement activities associated with impacts from the approved Wetland Replacement Plan occurred during the past calendar year.

In future annual reports, a summary of wetland impacts and wetland replacement activities will be provided on Table 8 and Table 9; in this Project update, Table 8 and Table 9 are provided as placeholders. The approved Wetland Replacement Plan for these impacts is included as Appendix 1 of the Mining and Reclamation Plan (Reference (1)).

2.10 Annual Monitoring Summary

(NorthMet PTM Application Section 14.2 and NorthMet Mining Project PTM Special Conditions 16 and 57)

A summary of the annual monitoring listed in the PTM is summarized below. No related appendices are provided for 2024; however, in future annual reports, additional details may be provided in appendices.

No monitoring activities were conducted during the past calendar year for the following topics:

- Mine pit monitoring (not applicable because mine pits do not yet exist)
- Stockpile monitoring (not applicable because stockpiles do not yet exist)
- Transportation and Utility Corridors monitoring (not applicable because Project ore is not being moved via the corridor)
- FTB monitoring (not applicable because the FTB does not yet exist)



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- HRF monitoring (not applicable because the HRF does not yet exist)
- Flotation Tailings monitoring (not applicable because Flotation Tailings have not yet been produced)
- Dust control and the Fugitive Emission Control Plans (not applicable until commencement of operations under the Air Individual Permit 13700345-101)

Pertaining to the requirement to provide surface water or groundwater quality data as required by other permits in accordance with NorthMet Mining Project PTM Special Condition 16:

- The NorthMet Project's NPDES/SDS Permit No. MN0071013, which requires DMRs, was stayed by the Minnesota Court of Appeals in June 2019, remanded to the MPCA January 24, 2022, with further remand by the Minnesota Supreme Court on August 2, 2023. This permit has not yet been reissued by the MPCA as of the date of this submittal.
- Legacy NPDES/SDS Permit No. MN0054089 for the Hoyt Lakes Tailings Basin Area was transferred from Cliffs Erie to PolyMet (now NewRange) on November 1, 2018. Submittal of associated surface water and groundwater quality data collected during the past calendar year to the DNR has been satisfied through submittal of this data via the MPCA's DMR system for that permit.
- The NorthMet Project's Section 401 Water Quality Certification 1999-55528-JKA includes conditions requiring monitoring of wetland water quality (monthly from May to October) and stream water quality (quarterly). This certification was issued on December 20, 2018, with the first annual report due the year after construction activities begin. Construction activities have not yet started; therefore, reporting has not yet begun.

Dam stability monitoring has been provided to the DNR as part of Dam Safety Permit requirements.

See Section 1, Question 8 for additional monitoring of the tailings basin and Plant Site.

2.11 Additional Reports, Documents, and As-built Drawings (if necessary)

(NorthMet Mining Project PTM Special Condition 36, 37, 56, 70, 83b)

NewRange submitted three Industrial Stormwater Pollution Prevention Plans (SWPPPs) to the MPCA on August 31, 2018; these SWPPPs were submitted to the DNR with the 2018 Annual Report. The new Industrial Stormwater General Permit became valid April 1, 2020, and NewRange obtained coverage under the new permit March 27, 2020. NorthMet Mining Project PTM Special Condition 36 requires that NewRange submit any revisions to these



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plans to the DNR with the annual report. There were no updates to the Industrial Stormwater SWPPPs this past calendar year as the latest update to the Industrial Stormwater General Permit has not yet been published.

NewRange's last updated Spill Prevention, Control, and Countermeasure (SPCC) Plan was submitted to the DNR with the 2020 Annual Report. The NorthMet Mining Project PTM Special Condition 37 requires NewRange to submit any revisions to this plan with the annual report.

In future annual reports, this section will describe any Project-related documents that were developed or updated and are required to be provided to the DNR as a result, as required by NorthMet Mining Project PTM Special Conditions 36, 37, 56, 70, and 83b. Such documents include Industrial SWPPPs, SPCC plans, as-built drawings for facilities listed in PTM Application Table 3-2 (Reference (2)), a report on pit shell contours and pit slope stability for any mine pit that has reached its final pit shell contour, and, at least one year prior to the anticipated start of the East Pit backfill, a plan to amend the backfill for the East Pit.

3.0 Operating Plan – Mining and Reclamation Planned for the Upcoming Year (2024)

(Minnesota Rules, part 6132.1300, subpart 3)

This section describes any planned mining and reclamation activities, intention to close a mining area or portion of an area, changes to the approved mining and reclamation plan² including how they will be proactively addressed with the DNR, anticipated changes in ownership or organizational structure, and planned wetland replacement activities for the upcoming year as well as evidence of liability insurance.

As described in Section 1.0, NewRange is currently in ongoing litigation on the PTM, had its Section 404 Permit revoked, and its NPDES/SDS Permit remanded back to the MPCA. These actions restrict construction from starting. The final construction schedule will take into account the outcome of this litigation and any changes to the 404 Permit and the NPDES/SDS Permit. Although the reporting for this Project update is through 2025, for ease of reporting, this Project update describes the anticipated development through the end of the construction phase, at a date yet to be determined. Once NewRange has a more defined schedule for construction, this schedule will be provided to the DNR for review and discussion.

There is no change from the GIS data package depicting the anticipated progression of the footprints of each mine feature that was submitted with the 2018 Annual Report; this GIS

² The mining and reclamation plan approved with issuance of the NorthMet Mining Project PTM consisted of "Sections 7-11 and 15 along with related appendices of the Permit to Mine application" (Reference (2)). A standalone Mining and Reclamation Plan (Reference (1)) was created from these portions of the PTM Application and was submitted with the 2018 Annual Report.



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data package is included again as a separate submittal with this Project update, as listed in PTM Special Condition 17.

3.1 Anticipated Rate of Mining and Mining Activities

(Minnesota Rules, part 6132.1300, subpart 3, items A and B and NorthMet Mining Project PTM Special Conditions 91a)

The focus of the work associated with the construction phase will be development of the Mining Area at the Mine Site, Plant Site, Transportation and Utility Corridors, and Colby Lake Pipeline Corridor. There will be no Duluth Complex or Virginia Formation rock blasted within the mine pits. Beneficiation processing will not begin at the Plant Site, and therefore no nonferrous tailings will be deposited in the FTB.

The following provides an overview of anticipated site development activities within the Mine Site, Plant Site, Transportation and Utility Corridors, and Colby Lake Pipeline Corridor through the end of construction.

3.1.1 Mine Site Development

Mine Site development is anticipated to include the clearing of trees and woody vegetation and the construction of:

- approximately 22,000 feet of the haul roads
- the Overburden Storage and Laydown Area (OSLA)
- the stockpile footprints:
 - approximately 13 acres of Category 1 Waste Rock Stockpile foundation and Groundwater Containment System
 - approximately 63 acres of Category 2/3 Waste Rock Stockpile foundation, underdrain system, if necessary, liner system, and overliner drainage system
 - approximately 29 acres of Category 4 Waste Rock Stockpile foundation, underdrain system, if necessary, liner system, and overliner drainage system
 - approximately 32 acres of Ore Surge Pile foundation, underdrain system, if necessary, liner system, and overliner drainage system
- stormwater ponds A, B, C-East, and D and related ditches and dikes
- the Equalization Basin Area, including the Construction Mine Water Basin, High Concentration Equalization Basin, Low Concentration Equalization Basins, the Central Pumping Station, and Construction Mine Water Pumping Station



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- mine water management system infrastructure, including sumps, ponds, pipelines, and pumping systems
- approximately 127,000 linear feet of Mine to Plant Pipelines (MPP) and associated mechanical and electrical controls
- stripping of approximately 95 acres of overburden from the East Pit footprint
- the Mine Site power distribution system
- the Mine Site Fueling and Maintenance Facility (MSFMF)
- the Railroad Spur

These features are shown on Figure 1. Table 4 summarizes the planned handling of blasted rock (outside of the mine pit footprints) and saturated mineral overburden at the Mine Site for these activities. Table 5 provides additional anticipated waste rock stockpile and pit backfill activity.

3.1.2 Plant Site Development

Plant Site development is anticipated to include the clearing of trees and woody vegetation as well as the following construction and refurbishment (repair/upgrade of existing infrastructure) activities:

- construction of the Waste Water Treatment System and Lined Pretreatment Basin
- refurbishment of the existing buildings to accommodate Project ore beneficiation processes and production schedule
- construction of the Beneficiation Plant Flotation and Reagent Buildings
- construction of the Concentrate Dewatering, Concentrate Storage, Concentrate Loadout, and Limestone Preparation Buildings
- refurbishment of maintenance and shop buildings in the Process Plant and at Areas 1 and 2 Shops
- construction of the first lift of the FTB buttress and dams and associated underdrain and emergency overflow
- construction of the Flotation Tailings discharge system and return water system installation and refurbishment



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- construction of approximately 24,000 linear feet of FTB Seepage Containment System, including access road, cutoff wall, piping, valves, pumps, and other mechanical and electrical systems
- construction of stormwater management system (ponds, ditches, culverts, and dikes)
- construction of the Sewage Treatment System
- refurbishment of raw water, potable water, and fire water systems and Plant Reservoir for plant operations
- refurbishment of power distribution systems across the Plant Site
- refurbishment and construction of rail line and roads

These features are shown on Figure 2.

3.1.3 Transportation and Utility Corridors Development

Transportation and Utility Corridors infrastructure construction is anticipated to occur during the construction phase, including construction of approximately 11,000 linear feet of new rail (Connection Track) and power distribution system between the Mine and Plant Sites, and refurbishment of the railroad track along the Railroad Corridor (mainline railroad), as needed. The MPP will also be constructed and upgrades to Dunka Road will commence.

These features are shown on Figure 3.

3.1.4 Colby Lake Pipeline Corridor Development

The Colby Lake Pipeline infrastructure refurbishment is anticipated to occur during the construction phase and will include the refurbishment of the pipeline and Colby Lake Pumphouse.

3.1.5 Types, Amount, Sequence, and Schedule of Mining

No mining nor stockpiling of materials associated with mining (ore, lean ore, or waste rock) is anticipated to be conducted during the upcoming year.

In future annual reports, this section will describe types, amounts, sequence, and schedule of mining the ore body and stockpiling materials. Future annual reports will also summarize the anticipated mining rates and schedule for the various materials mined and produced in Table 4, and provide additional anticipated waste rock stockpile and pit backfill activity information in Table 6; in this Project update, Table 4 and Table 6 are provided as placeholders.



3.1.6 Beneficiation Process

No beneficiation is anticipated to occur during the upcoming year.

3.1.7 Flotation Tailings Management

(NorthMet Mining Project PTM Special Condition 91a)

No Flotation Tailings are anticipated to be produced or placed during the upcoming year.

3.1.8 Residue Management

(NorthMet Mining Project PTM Special Condition 91a)

No Residue is anticipated to be produced or placed during the upcoming year.

3.2 Anticipated Reclamation Activities

(Minnesota Rules, part 6132.1300, subpart 3, item C)

Reclamation during the construction phase will generally include restoring areas disturbed during construction and temporary laydown areas associated with site development that are no longer needed. Reclamation methods and sequencing are described further in Section 3.2.2.

3.2.1 Reclamation Research

No reclamation research is currently planned during the upcoming year.

3.2.2 Reclamation Methods and Sequence

Reclamation will be progressively completed as construction of site features advances. Areas disturbed by construction and temporary laydown areas will be graded, scarified, and seeded according to the Reclamation Seeding and Mulching Plan (Attachment 1 of Appendix 14 of Reference (2)). During construction of FTB dams, the exterior face of the dams will be amended with a bentonite layer to limit oxygen infiltration into the Flotation Tailings as indicated on Drawing FTB-024 of Appendix 6 of Reference (1). The bentonite amendment will entail addition of granulated bentonite (approximately 3% by dry weight) to an 18-inchthick layer of the dam construction material, overlain by an additional 30-inch layer of dam construction material. The exterior dam faces will be permanently vegetated by a qualified reclamation contractor according to Minnesota Rules, part 6132.2700, and requirements of the Reclamation Seeding and Mulching Procedure (Attachment 1 of Appendix 14 of Reference (2)). In addition, the pit rim overburden backslopes and associated pit rim berms and exclusion dikes will be reclaimed once portions reach their final extents. The overburden portions of the pit walls will be sloped and graded (refer to Drawing EW-008 of Appendix 3 of Reference (1)). The sloped areas and other areas disturbed will be vegetated to conform to Minnesota Rules, part 6132.2700.



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Not all locations that will require reclamation during the construction phase are known at this time, as these will be determined during final design and construction. However, anticipated areas for reclamation are shown on Figure 4 and Figure 5.

3.3 Notification of Intent to Close a Mining Area or Portion of a Mining Area

(Minnesota Rules, part 6132.1300, subpart 3, item D)

No portions of the Mining Area are planned to be closed during the upcoming year.

3.4 Anticipated Scope and Schedule Changes from the Approved Mining and Reclamation Plan for the Upcoming Year.

(Minnesota Rules, part 6132.1300, subpart 3, item E)

3.4.1 Anticipated Changes to the Approved Mining Plan

No changes to the approved mining plan (Reference (1)) are planned to occur during the upcoming year.

3.4.2 Anticipated Changes to the Approved Reclamation Plan

No changes to the approved reclamation plan (Reference (1)) are planned to occur during the upcoming year.

3.5 Category 1 Waste Rock Stockpile Cover Analysis (if applicable)

(NorthMet Mining Project PTM Special Condition 71)

Not applicable; the upcoming year is neither five years after the first waste rock is placed in the Category 1 Waste Rock Stockpile nor the year when 75 million tons of rock will have been placed in the stockpile. When one of the aforementioned milestones is anticipated to be reached, the applicable future annual report will include a required analysis of the size of the stockpile.

3.6 Environmental Liability Insurance

(Minnesota Rules, part 6132.1300, subpart 3, item F and NorthMet Mining Project PTM Attachment 1, Special Condition 8)

Evidence that NewRange's environmental liability insurance policy remains in force is provided in Appendix C.

3.6.1 Analysis of Potential Environmental Liabilities

(NorthMet Mining Project PTM Attachment 1, Special Condition 8)



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Current environmental liabilities to the NorthMet Project are described in the Legacy Closure Plan (Appendix 15.1 of Reference (2)). Because there has been no construction, no mining, no stockpiling of materials, nor production or deposition of tailings, there is no change in the potential environmental liabilities in the mining area from the time of permit issuance when \$10,000,000 of environmental liability insurance was purchased, as directed by the DNR. Thus, no additional analysis was performed of potential environmental liabilities.

3.6.2 Analysis of Potential Future Environmental Liabilities (if applicable)

(NorthMet Mining Project PTM Attachment 1, Special Condition 9)

Not applicable; the upcoming year will not be one year after tailings are first deposited in the FTB. When the aforementioned milestone is anticipated to be reached, the applicable future annual report will include evaluation and report on the future environmental liability insurance premium costs that the State of Minnesota could incur in the event of unplanned closure of the Project.

3.7 Anticipated Changes in Ownership or Organizational Structure

(Minnesota Rules, part 6132.1300, subpart 3, item G)

There are no anticipated changes to ownership or organizational structure in 2025.

NewRange hired a new environmental specialist (Bryan Harp) in March 2024 and a new compliance lead (Jason Lieffring) in July 2024 after Cam Trembath left the company in March 2024. Contact information for the NewRange General Manager and the environmental team are included in Table 1.

3.8 Anticipated Changes in Land Control

(NorthMet Mining Project PTM Special Condition 5b)

No changes are anticipated in the upcoming year to land control for the lands within the mining area that could result in changes to closure.

3.9 Wetland Replacement Plan

(Minnesota Rules, part 6132.1300, subpart 3, item H)

No changes to the Wetland Replacement Plan are anticipated for the upcoming year. Minor changes to the approved Wetland Replacement Plan (Appendix 1 of Reference (1)) were documented in 2019 due to revisions to the wetland delineations by the U.S. Army Corps of Engineers (as noted in the NorthMet Project – Wetland Conservation Act Notice of Decision Condition 3). These revised delineations were provided to the DNR July 2, 2019. NewRange has not yet received confirmation from the DNR in response to the July 2, 2019 letter. In



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future annual reports, this section will provide a description of any changes anticipated to the Wetland Replacement Plan or activities.

Table 10 provides a summary of anticipated wetland impacts, and Table 11 provides a summary of anticipated wetland replacement activities.

4.0 Contingency Reclamation Plan

(Minnesota Rules, part 6132.1300, subpart 4)

The goal of the Legacy Closure Plan and Construction Contingency Reclamation Plan, as provided in Appendix 15.1 and 15.2 of Reference (2), respectively, is to identify reclamation actions that would need to be performed by the state in the event NewRange were to cease management of the facility during construction (which includes the upcoming year).

4.1 Anticipated Closure Activities

(Minnesota Rules, part 6132.1300, subpart 4, item A)

The Legacy Closure Plan (Appendix 15.1 of Reference (2)) and Construction Contingency Reclamation Plan (Appendix 15.2 of Reference (2)) includes:

- demolition and removal of ferrous and nonferrous buildings and structures
- reclamation of haul roads and OSLA
- reclamation of stockpile footprints
- reclamation of the stormwater systems and mine water management systems
- reclamation of the Equalization Basin Area
- reclamation of the power distribution systems
- reclamation of the MSFMF and Railroad Spur
- reclamation of the tailings basin
- reclamation of the transportation and utility corridors

As of the date of this submittal, construction has not yet begun under the NorthMet PTM. Therefore, only the Legacy Closure Plan (Appendix 15.1 of Reference (2)) is relevant to potential closure activities required.



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4.2 Contingency Monitoring Plan

(NorthMet Mining Project PTM Special Condition 16b)

The Contingency Monitoring Plan that is associated with the Legacy Closure Plan and the Construction Contingency Reclamation Plan was submitted with our 2018 Annual Report and remains valid; this plan was included as Appendix B of the 2018 Annual Report. This plan coincides with the contingency reclamation plans and describes the water quality monitoring that would need to be conducted if NewRange were to cease management of the facility during the construction phase before Mine Year 1.

4.3 Maps and Cross Sections

(Minnesota Rules, part 6132.1300, subpart 4, item B)

Figures of the activities associated with the Legacy Closure Plan and Construction Contingency Reclamation Plan are included in Appendix 15.1 and 15.2 of Reference (2), respectively.

4.4 Cost Estimates and Financial Mechanisms

(Minnesota Rules, part 6132.1300, subpart 4, item C and NorthMet Mining Project PTM Special Condition 22 (as applicable))

4.4.1 Cost Estimates

The NorthMet financial assurance estimate will be updated prior to the start of construction. The 2019 NorthMet Financial Assurance Estimate Update and current financial assurance funding are summarized in Table 1-1. Based on the 2019 NorthMet Financial Assurance Estimate Update, there was an excess of \$2.6M in financial assurance for the Project. The 2019 financial assurance update included \$13M for reclamation associated with future construction activities, which had not yet begun, so these are not yet liabilities for NewRange. Based on these estimates, there is \$15.6M in excess financial assurance over the legacy liabilities that were onsite at the time, as shown on Table 1-2. With the continued salvage and recycle program at the Plant Site, described in Section 1, Question 1, the removal of the landfill, described in Section 1, Question 5, and the sealing of ninety-nine boreholes at the Mine Site, described in Section 2.1.6, the existing legacy liabilities are also being reduced. Regardless, NewRange's financial assurance that is in place with the DNR is significantly more than the existing liabilities onsite.



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Table 1-1Financial Assurance Summary

Financial Assurance (FA) Estimate	2019 Estimate Update	FA in Place	Difference	
Legacy Reclamation Costs	\$45,633,344			
Legacy Long Term Costs	\$13,603,672			
Construction Reclamation Costs	\$13,164,826			
Total	\$72,401,842	\$75,000,000	+\$2,598,158	

Table 1-2Current Liabilities*

Financial Assurance (FA) Estimate	2019 Liabilities	FA in Place	Difference	
Legacy Reclamation Costs	\$45,633,344			
Legacy Long Term Costs	\$13,603,672			
Construction Reclamation Costs				
Total	\$59,237,016	\$75,000,000	+\$15,762,984	

* As of the 2019 NorthMet Financial Assurance Estimate Update, which doesn't account for the salvage and reclamation work described in Section 4.4.1; there have been no increase in liabilities onsite apart from inflation.

4.4.2 Financial Instruments

NewRange is not proposing changes to the financial instruments for the NorthMet Project based on this Project update.

5.0 Corrective Action Plan (if necessary)

(Minnesota Rules, part 6132.1300, subpart 5)

5.1 Corrective Actions Completed during the Past Calendar Year

(Minnesota Rules, part 6132.1300, subpart 5, item A)

No corrective actions were necessary or completed during the past calendar year.

5.2 Anticipated Corrective Actions for the Upcoming Year

(Minnesota Rules, part 6132.1300, subpart 5, item B)

NewRange does not foresee violations of the PTM during the upcoming year. As such, no corrective actions are anticipated in the upcoming year and thus none are included here.



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5.3 Corrective Actions Cost Estimate for the Upcoming Year

(Minnesota Rules, part 6132.1300, subpart 5, item C)

Not applicable; no corrective actions are anticipated in the upcoming year, and none are underway.

6.0 Maps

(Minnesota Rules, part 6132.1300, subpart 6)

6.1 Mining and Reclamation Maps for the Past Calendar Year

No mining, construction, reclamation, or water modifications occurred during the past calendar year, thus there are no updates.

6.2 Mining and Reclamation Maps for the Upcoming Year

Maps showing the development of the Mining Area planned for the construction phase are attached as follows:

- Figure 1: Mine Site Development at End of Construction Phase
- Figure 2: Plant Site Development at End of Construction Phase
- Figure 3: Transportation and Utility Corridors Development at End of Construction Phase
- Figure 4: Mine Site Reclamation at End of Construction Phase
- Figure 5: Plant Site Reclamation at End of Construction Phase
- Figure 6: Watershed Modifications at End of Construction Phase
- Figure 7: Planned Wetland Impacts at the Mine Site: End of Construction Phase
- Figure 8: Planned Wetland Impacts at the Plant: End of Construction Phase

7.0 References

1. Poly Met Mining, Inc. Mining and Reclamation Plan: NorthMet Project. March 2019.

2. **Barr Engineering Co.** Permit to Mine Application (v3). Prepared for Poly Met Mining, Inc. NorthMet Project. December 2017.



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Table 1	NewF	Range's Leadersh	ip and	Environme	ental	Team

Position	Name	Phone Number	Email Address
General Manager	Tannice McCoy	218-471-2150	tannice.mccoy@newrangecoppernickel.com
Sustainability, Environmental, and Regulatory Affairs (SERA) Director	Christie Kearney	218-461-7746	christie.kearney@newrangecoppernickel.com
Permitting and Environment Manager	Kevin Pylka	218-750-2054	kevin.pylka@newrangecoppernickel.com
Compliance Lead	Jason Lieffring	218-471-2186	jason.lieffring@newrangecoppernickel.com
Mesaba Environmental Lead	Paul Drevnick	218-235-9906	paul.drevnick@newrangecoppernickel.com
Environmental Specialist	Bryan Harp	218-606-5672	bryan.harp@newrangecoppernickel.com

Table 2 NorthMet Project Permits Held and Permit Status as of March 1, 2025

Type of Permit	Permit Number	Date Issued	Date of Expiration	Permit Status (in compliance, under SOC, etc.)	Additional Information
Permit to Mine		11/01/2018	N/A	In Compliance; Remanded to DNR	For NorthMet Project
Wetland Conservation Act Approval		11/01/2018	N/A	In Compliance	For NorthMet Project
Dam Safety Permit	2016-1380	11/01/2018	10/31/2045	In Compliance	For the Flotation Tailings Basin
Dam Safety Permit	2016-1383	11/01/2018	10/31/2045	In Compliance	For Hydrometallurgical Residue Facility
Dam Safety Permit (Legacy)	1981-2100	11/01/2018	10/31/2045	In Compliance	For the existing tailings basin
Water Appropriation Permit	2016-1363	11/01/2018	N/A	In Compliance	For East Pit Dewatering
Water Appropriation Permit	2016-1364	11/01/2018	N/A	In Compliance	For Central Pit Dewatering
Water Appropriation Permit	2016-1365	11/01/2018	N/A	In Compliance	For West Pit Dewatering
Water Appropriation Permit	2016-1367	11/01/2018	N/A	In Compliance	For Mine Processing and Mine Site Infrastructure
Water Appropriation Permit	2016-1369	11/01/2018	N/A	In Compliance	For Mine Processing and Plant Site Infrastructure
Water Appropriation Permit	2017-0260	11/01/2018	N/A	In Compliance	For Colby Lake for Mine Processing Make-up Water
Takings Permit	23235	11/01/2018	N/A	In Compliance	For NorthMet Project
Public Waters Work Permit	2017-2077	11/01/2018	11/01/2023	In Compliance; extension requested Nov. 1, 2023	For Dunka Road Upgrade Culvert Extension at Unnamed Tributary to Wyman Creek

Type of Permit	Permit Number	Date Issued	Date of Expiration	Permit Status (in compliance, under SOC, etc.)	Additional Information
Air Individual Permit, Part 70 Permit	13700345-101	12/20/2018	12/20/2023 (administratively extended)	In Compliance	For NorthMet Project; reissuance application submitted 6/15/2023
U.S. Army Corps of Engineers 404 Permit	MVP-1999-05528- JKA	3/22/2019	12/31/2034	Revoked June 2023	For NorthMet Project
Section 401 Water Quality Certification	1999-5528-JKA	12/20/2018	N/A	Tied to 404 Permit	For NorthMet Project
NPDES/SDS Permit	MN0071013	12/20/2018	11/30/2023 (administratively extended)	Remanded to MPCA	For NorthMet Project; reissuance application submitted 6/2/2023
NPDES/SDS Permit and Consent Decree (Legacy)	MN0054089	05/04/2001 (modified: 12/01/2018)	11/30/2005 (administratively extended)	In Compliance	For the existing tailings basin
Minnesota Construction Stormwater NPDES/SDS General Permit	Permit # MNR100001, Permit ID C00053253	6/12/2019	7/31/2028	In Compliance	For the Mine Site
Minnesota Construction Stormwater NPDES/SDS General Permit	Permit # MNR100001, Permit ID C00053251	5/14/2019	7/31/2028	In Compliance	For the Plant Site
Minnesota Construction Stormwater NPDES/SDS General Permit	Permit # MNR100001, Permit ID C00053252	5/14/2019	7/31/2028	In Compliance	For the Tailings Basin
Minnesota Construction Stormwater NPDES/SDS General Permit	Permit # MNR100001, Permit ID C00053254	11/24/2020	7/31/2028	In Compliance	For the Transportation and Utility Corridors
Minnesota Industrial Stormwater NPDES/SDS General Permit	Permit # MNR050000, Permit ID MNR053DMW	4/1/2020	03/31/2025 (administratively extended)	In Compliance	For the Transportation and Utility Corridors; coverage relevant during operations (after construction)

Type of Permit	Permit Number	Date Issued	Date of Expiration	Permit Status (in compliance, under SOC, etc.)	Additional Information
Minnesota Industrial Stormwater NPDES/SDS General Permit	Permit # MNR050000, Permit ID MNR053DNH	4/1/2020	03/31/2025 (administratively extended)	In Compliance	For the Mine Site; coverage relevant during operations (after construction)
Minnesota Industrial Stormwater NPDES/SDS General Permit	Permit # MNR050000, Permit ID MNR053DNJ	4/1/2020	03/31/2025 (administratively extended)	In Compliance	For the Plant Site; coverage relevant during operations (after construction)
Minnesota Solid Waste Facility Permit (Legacy)	Permit #SW-619	8/26/2010 (modified 1/15/2019)	8/26/2015 (administratively extended)	In Compliance	For the legacy landfill; landfill removed 2023. Construction certification approved 3/7/2025. Requested permit termination 3/7/2025.
U.S. Forest Service Special Use Permit	LAU404101	1/23/2025	12/31/2044	In Compliance	Partridge River Stream Gage Monitoring

Note: This table does not include the separate permits held for the geotechnical program at the Mine Site and Plant Site for installation of monitoring wells and geotechnical drilling. A listing of those permits has been provided to the DNR separate from this Project update.
Table 3Flotation Tailings Basin Dam Height Status for Year 2024 and 2025 and Planned at the End of the Construction
Phase

			2024 - 2025	End of Construction Phase
Dam Segment Location	Figure Reference ⁽¹⁾	Permitted Dam Height ⁽²⁾	Dam Height (ft MSL) ⁽²⁾	Planned Dam Height (ft MSL) ⁽²⁾
Cell 2E North Dam	Drawings FTB-008 and FTB-010	1,732	1,580 (no change) ⁽³⁾	1,602
Cell 1E/2E East Dam	Drawings FTB-011 and FTB-012	1,732	N/A ⁽⁴⁾	N/A ⁽⁴⁾
Cell 1E/2E South Dam	Drawings FTB-013 and FTB-014	1,732	1,670 (no change) ⁽³⁾	1,670 (no change) ⁽³⁾

Notes:

N/A - not applicable

(1) Flotation Tailings Basin and FTB Seepage Containment and Stream Augmentation Systems Permit Application Support Drawings (Appendix 6 of Reference (1)) which shows the Dam Segment Locations.

(2) Elevations of tailings basin dams/dikes are in feet, relative to Mean Sea Level (MSL). Elevations shown are for the end of the calendar year.

(3) Elevations given are current elevation, with no change in elevation since permit issuance.

(4) Cell 1E/2E East Dam is not needed until Mine Year 7.

Table 4 Mining Rates and Production Summary for Year 2024, and Planned at the End of the Construction Phase

			2024 (Actual)		End of Construction Phase (Planned)			
	0	re	Conce	Concentrate		feed	Concentrate	
		cubic	Cu	Ni		cubic	Cu	Ni
Facility ⁽¹⁾	short tons	yards ⁽³⁾	short tons	short tons	short tons	yards ⁽³⁾	short tons	short tons
East Pit Ore	0	0	N/A	N/A	0	0	N/A	N/A
Central Pit Ore	0	0	N/A	N/A	0	0	N/A	N/A
West Pit Ore	0	0	N/A	N/A	0	0	N/A	N/A
Plant	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

Waste	2	024	End of Construction Phase		
Rock ⁽²⁾	short tons	cubic yards ⁽³⁾	short tons	cubic yards ⁽³⁾	
Stockpiled	0	0	1,030,000	540,000	
Used in Construction	0	0	0	0	
Total	0	0	1,030,000	540,000	

Saturated Mineral	20)24	End of Construction Phase		
Overburden	short tons	cubic yards ⁽⁴⁾	short tons	cubic yards ⁽⁴⁾	
Total	0	0	1,800,000	1,210,000	

Unsaturated Mineral	20)24	End of Construction Phase		
Overburden	short tons	cubic yards ⁽⁴⁾	short tons	cubic yards ⁽⁴⁾	
Total ⁽⁵⁾	0	0	2,580,000	1,730,000	

Notes:
N/A – not applicable
(1) Tracking includes both ore feed and concentrate; therefore, "facility" can be either a pit or the plant.
(2) Total waste rock, which includes the categories listed on Table 5 and Table 6.
(3) Cubic yards based on conversion factor of 1.9 short tons per cubic yard for ore and waste rock.
(4) Cubic yards based on conversion factor of 1.5 short tons per cubic yard for saturated and unsaturated mineral overburden.
(5) Unsaturated mineral overburden need only be tracked when extracted from its original location, not when moved again, per NorthMet Mining Project Special Condition 91.

Flotation	20	24	End of Construction Phase		
Tailings	short tons	cubic yards	short tons	cubic yards	
Total	0	0	0	0	

Hydromet	20	24	End of Construction Phase		
Residue	short tons	cubic yards	short tons	cubic yards	
Total	0	0	0	0	

Table 5 Stockpile and Pit Backfill Activity for Year 2024

	Waste Rock to In-pit Disposal		2024 (Actual)						
Stockpile Name and Location	(Y/N)	Average Sulfur Content %	Amount of Material (short tons)	Amount Surface Storage Used (CY)	Amount Surface Storage Remaining ⁽¹⁾ (CY)				
Category 1 Waste Rock Stockpile	•		•						
Waste Rock	N	N/A	0	0					
Unsaturated Mineral Overburden or Peat	N/A	N/A	0	0	N/A				
Total	N	N/A	0	0	90,530,000				
Category 2/3 Waste Rock Stockpi	le								
Waste Rock	N	N/A	0	0	NI/A				
Overburden	N/A	N/A	0	0	IN/A				
Total	N	N/A	0	0	31,890,000				
Category 4 Waste Rock Stockpile									
Waste Rock	N	N/A	0	0	NI/A				
Overburden	N/A	N/A	0	0	IN/A				
Total	N	N/A	0	0	7,890,000				
Ore Surge Pile									
Ore	N/A	N/A	0	0	1,620,000				

Notes:

"In-pit" indicates whether rock is placed in one of the waste rock stockpiles on the surface or within the East and Central Pits in later years.

CY = cubic yards

Y/N = yes/no

N/A = not applicable

(1) Amount surface storage remaining is based on the total capacity of the stockpile in tons and the density of placed rock.

Table 6 Stockpile and Pit Backfill Activity Planned at the End of the Construction Phase

	Waste Rock to In- pit Disposal	End of Construction Phase (Planned)				
Stockpile Name and Location	(Y/N)	Amount of Material (short tons)	Amount Surface Storage Used (CY)	Amount Surface Storage Remaining ⁽¹⁾ (CY)		
Category 1 Waste Rock Stockpile						
Waste Rock	Ν	0	0	90,530,000		
Category 2/3 Waste Rock Stockpile						
Waste Rock	Ν	0	0	31,890,000		
Category 4 Waste Rock Stockpile						
Waste Rock	Ν	1,030,000	540,000	7,350,000		
Saturated Mineral Overburden (Planned)	(2)					
Overburden	N/A	1,800,000	1,210,000	N/A		
Unsaturated Mineral Overburden (Planne	ed) ⁽³⁾					
Overburden	N/A	2,580,000	1,730,000	N/A		
Ore Surge Pile						
Ore	N/A	0	0	1,620,000		

Notes:

"In-pit" indicates whether rock is placed in one of the waste rock stockpiles on the surface or within the East and Central Pits in later years.

CY = cubic yards

Y/N = yes/no

N/A = not applicable

(1) Amount surface storage remaining is based on the total capacity of the stockpile in tons and the density of placed rock.

(2) Saturated Mineral Overburden is included as a separate "location" for planned amounts of materials needing storage. Saturated Mineral Overburden will be placed on lined stockpiles or disposed of in-pit.

(3) Unsaturated Mineral Overburden is included as a separate "location" for planned amounts that will be used as general construction material. Unsaturated Mineral Overburden will not be stockpiled beyond a temporary basis prior to use during construction.

Table 7 **Reclamation Summary for Year 2024**

Name	GPS Coordinates Entry Point	Figure Reference	Area (acres)	Landform Type ⁽¹⁾	Physical Alterations ⁽²⁾	Seed Mix Composition	Amendments ⁽³⁾	Additional Comments ⁽⁴⁾
Temporary Reclamation								
Surface erosion repairs and improvements to Cell 1E North Embankment	Various		Various	Tailings basin	Re-establish grade	NA	NA	See Section 1, Question 8
Permanent Reclamation								
						MNDOT Spec. 3876		
SW-467 Industrial Landfill Cover	-92.179901; 47.597610		0.60	Landfill	Reestablish topsoil	Mix #250	NA	See Section 1, Question 5

Landforms include stockpile, pit, tailings basin, dike, reclaimed road, etc.
 Physical alterations include sloping, discing, crimping, application of overburden, or other physical alterations.
 Amendments include biosolids, fertilizer, mulch, etc. If this includes fertilizer, include the type of fertilizer, pounds per acre, NPK ratio, timing, and method of application in the comments.
 Include any acceptable research or innovative reclamation grant information in comments.

Table 8 Wetland Impacts Summary for Year 2024

	Wetlands Impacted – 2024 (Actual) ⁽¹⁾									
Mining Area	Wetland ID	Dominant Circular 39 Community	Total Wetland Area within the Mining Area (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Remaining Wetland Area (acres)	Dominant Eggers and Reed Wetland Community	Wetland Quality	Type of Impact(2)	Reason for Impact
Not applicable; no wetland impact activities occurred in 2024										
		TOTAL						•		

(1) In future annual reports, figures will be included showing the wetland impacts.
(2) The types of wetland impact are excavation (E), fill (F), fragmentation (Fr), and seepage containment system (C).

Table 9 Wetlands Mitigation Summary for Year 2024

Wetland Mitigation – 2024 (Actual) ⁽¹⁾											
Wetland	Direct Wetland Impacts (acres) Bank Credits Required ⁽²⁾ Bank Credit Purchased		Bank Credits Purchased	Remaining Bank Credits after 2024							
Type 2 Fresh (Wet) Meadow	Not applicable (N/A); no wetland impact activities nor wetland mitigation activities occurred in 2019	N/A									
Type 2 Sedge Meadow	N/A	N/A									
Type 3 Shallow Marsh	N/A	N/A									
Type 4 Deep Marsh	N/A	N/A									
Type 5 Shallow, Open Water	N/A	N/A									
Type 6 Shrub-Carr	N/A	N/A									
Type 6 Alder Thicket	N/A	N/A									
Type 7 Hardwood Swamp	N/A	N/A									
Type 7 Coniferous Swamp	N/A	N/A									
Type 8 Open Bog	N/A	N/A									
Type 8 Coniferous Bog	N/A	N/A									
Wetland Total	N/A	N/A	1,400 credits	1,400							

See Table 8, which shows the wetland impacts.
 Per Minnesota Rules 8420.0522 Subp. 4.A.(1), the replacement ratio for withdrawal of existing wetland bank credits from within the Project bank service area (#1) is 1:1 for a greater than 80% area.

Table 10 Planned Wetlands Impacts at the End of the Construction Phase

				Total Wetland	Permitted We	etland Impacts		Wetlands to be Im	pacted – End o	f Construction Phase (Planned) ⁽¹⁾
Mining Area	Wetland ID	Dominant Circular 39 Community	Dominant Eggers and Reed Wetland Community	Area within the Mining Area ⁽²⁾ (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Type of Impact(3)	Reason for Impact
Mine Site	8	2	Sedge meadow	6.80	6.80	0	6.80	0	F,E	Construction
Mine Site	9	3	Shallow marsh	1.80	0.07	0	0.07	0	F	Construction
Mine Site	13	4	Deep marsh	5.03	0.09	0	0.09	0	F	Construction
Mine Site	14	2	Wet meadow	0.33	0.33	0	0.33	0	F	Construction
Mine Site	19	3	Shallow marsh	1.68	0.05	0	0.05	0	E	Construction
Mine Site	24	6	Alder thicket	0.80	0.39	0	0.39	0	E	Construction
Mine Site	27	8	Coniferous swamp	1.07	1.07	0	1.07	0	E	Construction
Mine Site	32	8	Coniferous bog	73.36	70.99	2.37	13.74	0	F,E, Fr	Construction
Mine Site	43	6	Alder thicket	8.39	6.39	0	6.39	0	F	Construction
Mine Site	44	6	Alder thicket	3.55	2.27	0	2.27	0	E	Construction
Mine Site	47	8	Open bog	0.54	0.40	0.14	0.40	0.14	F, Fr	Construction
Mine Site	48	8	Coniferous bog	88.16	27.30	1.86	22.85	1.86	F,E, Fr	Construction
Mine Site	48A	7	Coniferous swamp	2.65	2.19	0.02	2.19	0.02	F, Fr	Construction
Mine Site	51	6	Alder thicket	7.47	7.45	0.02	7.45	0.02	F, Fr	Construction
Mine Site	52	6	Alder thicket	3.88	3.88	<0.01	3.88	<0.01	F,E, Fr	Construction
Mine Site	68	7	Coniferous swamp	24.22	10.89	0.09	8.66	0.09	F,E, Fr	Construction
Mine Site	76	8	Coniferous bog	3.92	2.21	0	2.21	0	E	Construction
Mine Site	77	8	Coniferous bog	13.31	0.94	<0.01	0.94	<0.01	F,E, Fr	Construction
Mine Site	78	8	Coniferous bog	2.41	2.41	0	0.76	0	F	Construction
Mine Site	81	7	Coniferous swamp	1.68	1.44	0.24	1.44	0.24	F,E, Fr	Construction
Mine Site	85	8	Coniferous bog	1.41	1.41	0	1.41	0	Ш	Construction
Mine Site	88	8	Coniferous bog	5.58	2.84	0	2.84	0	F	Construction
Mine Site	90	8	Coniferous bog	166.79	25.6	0	4.46	0	F,E	Construction
Mine Site	95	8	Coniferous swamp	2.54	2.54	0	2.54	0	Ш	Construction
Mine Site	96	8	Coniferous bog	17.54	13.20	0	0.27	0	F,E	Construction
Mine Site	97	8	Coniferous bog	4.46	2.57	1.89	2.57	1.00	F,E, Fr	Construction
Mine Site	99	8	Coniferous bog	1.40	0.49	0	0.49	0	F,E	Construction
Mine Site	100	8	Coniferous bog	176.19	102.96	3.44	59.81	2.66	F,E, Fr	Construction

				Total Wetland	Permitted We	etland Impacts		Wetlands to be Im	pacted – End of	f Construction Phase (Planned) ⁽¹⁾
Mining Area	Wetland ID	Dominant Circular 39 Community	Dominant Eggers and Reed Wetland Community	Area within the Mining Area ⁽²⁾ (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Type of Impact(3)	Reason for Impact
Mine Site	100A	6	Alder thicket	1.66	1.66	0	1.66	0	F	Construction
Mine Site	101	8	Coniferous bog	14.45	11.97	0.08	10.44	0.08	F,E, Fr	Construction
Mine Site	103	8	Coniferous bog	118.84	109.97	8.86	8.95	5.58	F,E, Fr	Construction
Mine Site	104	8	Coniferous bog	3.57	1.82	0.10	1.82	0.10	F, Fr	Construction
Mine Site	107	8	Coniferous bog	40.92	31.63	0.10	0.95	0	F,E, Fr	Construction
Mine Site	107B	3	Shallow marsh	4.51	2.89	0	0.24	0	F,E	Construction
Mine Site	120	3	Shallow marsh	0.58	0.12	0	0.12	0	E	Construction
Mine Site	200	7	Hardwood swamp	6.36	6.36	0	0.34	0	F	Construction
Mine Site	202	8	Open bog	3.11	3.11	0	2.81	0	F	Construction
Mine Site	552	8	Coniferous bog	8.72	8.72	0	7.13	0	F	Construction
Mine Site	567	3	Shallow marsh	1.40	1.40	0	1.40	0	F	Construction
Mine Site	2009	6	Alder thicket	0.20	0.20	0	0.20	0	F	Construction
Mine Site	2010	7	Coniferous swamp	0.47	0.47	0	0.47	0	F	Construction
Mine Site	2015	6	Alder thicket	0.26	0.26	0	0.02	0	F	Construction
Mine Site	2017	6	Alder thicket	0.25	0.25	0	0.25	0	F	Construction
Railroad Connection Corridor	1038	7	Coniferous swamp	0.07	0.07	0	0.07	0	F	Construction
Railroad Connection Corridor	R-3	6	Shrub-carr	0.10	0.10	0	0.10	0	F	Construction
Railroad Connection Corridor	R-4	6	Alder thicket	0.20	0.20	0	0.20	0	F	Construction
Railroad Connection Corridor	R-5	3	Shallow marsh	0.07	0.07	0	0.07	0	F	Construction
Dunka Road and Utility Corridor	22B	3	Shallow marsh	0.34	0.34	0	0.34	0	F	Construction
Dunka Road and Utility Corridor	22C	6	Alder thicket	0.38	0.38	0	0.38	0	F	Construction
Dunka Road and Utility Corridor	54A	7	Coniferous swamp	0.60	0.60	0	0.60	0	F	Construction
Dunka Road and Utility Corridor	54B	6	Alder thicket	0.13	0.13	0	0.13	0	F	Construction
Dunka Road and Utility Corridor	54D	7	Coniferous swamp	0.09	0.09	0	0.09	0	F	Construction

				Total Wetland	Permitted We	etland Impacts		Wetlands to be Im	pacted – End o	f Construction Phase (Planned) ⁽¹⁾
Mining Area	Wetland ID	Dominant Circular 39 Community	Dominant Eggers and Reed Wetland Community	Area within the Mining Area ⁽²⁾ (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Type of Impact(3)	Reason for Impact
Dunka Road and Utility Corridor	390	6	Alder thicket	0.41	0.41	0	0.41	0	F	Construction
Dunka Road and Utility Corridor	392	6	Alder thicket	0.14	0.14	0	0.14	0	F	Construction
Dunka Road and Utility Corridor	394	7	Coniferous swamp	0.64	0.64	0	0.64	0	F	Construction
Dunka Road and Utility Corridor	395	7	Coniferous swamp	0.01	0.01	0	0.01	0	F	Construction
Dunka Road and Utility Corridor	396	6	Alder thicket	0.65	0.65	0	0.65	0	F	Construction
Dunka Road and Utility Corridor	400	8	Coniferous bog	0.14	0.14	0	0.14	0	F	Construction
Dunka Road and Utility Corridor	553	7	Coniferous swamp	0.09	0.09	0	0.09	0	F	Construction
Dunka Road and Utility Corridor	554	7	Coniferous swamp	0.11	0.11	0	0.11	0	F	Construction
Dunka Road and Utility Corridor	569	6	Alder thicket	0.68	0.68	0	0.68	0	F	Construction
Dunka Road and Utility Corridor	716	6	Alder thicket	0.02	0.02	0	0.02	0	F	Construction
Dunka Road and Utility Corridor	814	8	Coniferous bog	0.75	0.75	0	0.75	0	F	Construction
Dunka Road and Utility Corridor	862	6	Alder thicket	0.78	0.78	0	0.78	0	F	Construction
Dunka Road and Utility Corridor	1034	6	Alder thicket	0.02	0.02	0	0.02	0	F	Construction
Dunka Road and Utility Corridor	1035	6	Alder thicket	0.16	0.16	0	0.16	0	F	Construction
Dunka Road and Utility Corridor	1124	6	Alder thicket	0.44	0.44	0	0.44	0	F	Construction
Dunka Road and Utility Corridor	R-7	3	Shallow marsh	0.18	0.18	0	0.18	0	F	Construction
FTB	251	6	Alder thicket	1.43	1.43	0	1.43	0	С	Construction
FTB	272	4	Deep marsh	1.11	1.10	0.01	1.10	0.01	C, Fr	Construction
FTB	278	6	Alder thicket	1.04	0.23	0	0.23	0	С	Construction

				Total Wetland	Permitted We	etland Impacts		Wetlands to be Im	pacted – End of	Construction Phase (Planned) ⁽¹⁾
Mining Area	Wetland ID	Dominant Circular 39 Community	Dominant Eggers and Reed Wetland Community	Area within the Mining Area ⁽²⁾ (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Direct Wetland Impacts (acres)	Fragmentation Impacts (acres)	Type of Impact(3)	Reason for Impact
FTB	279	6	Alder thicket	4.84	3.33	<0.01	3.33	<0.01	C, Fr	Construction
FTB	282	3	Shallow marsh	14.25	7.42	0	7.42	0	С	Construction
FTB	284	6	Alder thicket	2.92	2.51	0	2.51	0	С	Construction
FTB	290	7	Coniferous swamp	0.48	0.37	0.02	0.37	0.02	F,E, Fr	Construction
FTB	292	4	Deep marsh	1.71	1.71	0	1.71	0	С	Construction
FTB	307	3	Shallow marsh	0.78	0.78	0	0.78	0	С	Construction
FTB	308	4	Deep marsh	7.17	2.91	0	2.91	0	С	Construction
FTB	309	2	Wet meadow	0.02	0.02	0	0.02	0	С	Construction
FTB	312	6	Shrub-carr	1.98	1.33	0	1.33	0	С	Construction
FTB	314	3	Shallow marsh	24.87	6.01	0	6.01	0	С	Construction
FTB	572	4	Deep marsh	7.33	0.02	0	0.02	0	С	Construction
FTB	582	4	Deep marsh	27.49	8.11	0	8.11	0	С	Construction
FTB	586	4	Deep marsh	1.89	1.53	0	1.53	0	С	Construction
FTB	587	3	Shallow marsh	0.97	0.17	0	0.17	0	С	Construction
FTB	590	3	Shallow marsh	5.43	5.38	0	5.38	0	С	Construction
FTB	591	4	Deep marsh	2.71	0.70	0	0.70	0	С	Construction
FTB	593	4	Deep marsh	9.80	8.47	0.15	8.47	0.15	C, Fr	Construction
FTB	811	7	Coniferous swamp	0.20	0.20	0	0.20	0	С	Construction
FTB	968	7	Coniferous swamp	13.76	11.37	0	11.37	0	С	Construction
FTB	1134	3	Shallow marsh	14.45	8.73	0.02	8.73	0.02	C, Fr	Construction
FTB	1139	3	Shallow marsh	20.25	2.54	0	2.54	0	С	Construction
FTB	1155	3	Shallow marsh	0.55	0.41	0.15	0.41	0.15	C, Fr	Construction
FTB	1156	3	Shallow marsh	14.49	11.08	0.06	11.08	0.06	C, Fr	Construction
FTB	1159	3	Shallow marsh	0.05	0	0.05	0	0.05	Fr	Construction
FTB	T14	4	Deep marsh	45.20	45.20	0	45.20	0	E	Construction
	•		TOTAL	1,066.63	620.26	19.67	333.43	12.25		

See Figure 7 and Figure 8, which show the planned wetland impacts at the Mine Site and Plant, respectively, at the end of the construction phase.
 Wetland acreages are based on the U.S. Army Corps of Engineers 2018 revised delineation.
 The types of wetland impact are excavation (E), fill (F), fragmentation (Fr), and seepage containment system (C).

Table 11	Planned Wetlands Mitigation Summary at the End of the Construction Phase	
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	Direct Wetland	d Impacts ^(1,2,3)	Wetland Mitigation			
Wetland Type	Permitted (acres)	At the End of Construction Phase (acres)	Bank Credits Required ⁽⁴⁾	Bank Credits Purchased	Remaining Bank Credits at the End of Construction Phase	
Type 2 Fresh (Wet) meadow	15.80	0.35	0.35			
Type 2 Sedge meadow	23.93	6.80	6.80			
Type 3 Shallow marsh	70.45	45.27	45.27			
Type 4 Deep marsh	75.67	70.00	70.00			
Type 5 Shallow, Open Water	0	0	0			
Type 6 Shrub-carr	4.03	1.43	1.43			
Type 6 Alder thicket	112.64	34.04	34.04			
Type 7 Hardwood swamp	14.06	0.34	0.34			
Type 7 Coniferous swamp	86.16	30.29	30.29			
Type 8 Open bog	7.64	3.35	3.35			
Type 8 Coniferous bog	517.78	153.81	153.81			
Wetland Total	928.16	345.68	345.68	1,400 credits	1,054.32	

Includes wetlands impacted by fragmentation.
 See Table 10, which shows the wetland impacts.
 Wetland acreages are based on the U.S. Army Corps of Engineers 2018 revised delineation.
 Per Minnesota Rules 8420.0522 Subp. 4A.(1), the replacement ratio for withdrawal of existing wetland bank credits from within the project bank service area (#1) is 1:1 for a greater than 80% area.

Figures



	2
Partridge	

The final extent of the Mining Area boundary will be determined by applicable legal descriptions and surveys. Only includes portion that is part of Mining Area.

Only shown where proposed stormwater ditches connect to existing drainage features for routing of water

There will be clearing of trees and woody vegetation around site development shown. ⁵ These are provisional representations of Public Waters Inventory watercourses downloaded from the Minnesota Geospatial Commons website (https://gisdata.mn.gov/) on November 3, 2017. Due to previous disturbance in this area, data sources may show watercourses that no longer exist.

³ The National Hydrography Dataset (NHD) is a feature-based database that interconnects and uniquely identifies the stream segments or reaches that make up the nation's surface water drainage system. NHD features are created from DNR 24K Streams and 1:24,000 USGS quadrangle maps. Due to previous disturbance in this area, data sources may show watercourses that no longer exist.

Imagery Source: 2016 St. Louis County Pictometry

HD)	MINE SITE DEVELOPMENT AT END OF CONSTRUCTION PHASE NorthMet Project NewRange Copper Nickel LLC
3,000	Figure 1 2024 PTM Project Update



0	6,000	PLANT SITE DEVELOPMENT AT END OF CONSTRUCTION PHASE NorthMet Project NewRange Copper Nickel LLC
t		Figure 2 2024 PTM Project Update



Figure 3 2024 PTM Project Update



HD)	MINE SITE RECLAMATION AT END OF CONSTRUCTION PHASE NorthMet Project NewRange Copper Nickel LLC
3,000	Figure 4 2024 PTM Project Update



0 6,000	PLANT SITE RECLAMATION AT END OF CONSTRUCTION PHASE NorthMet Project NewRange Copper Nickel LLC
t	Figure 5 2024 PTM Project Update



2024 PTM Project Update











Credits: Data sources



Credits: Data sources



Appendices

Appendix A2024 Geochemical Characterization Annual Update on NorthMet



(218) 491-5226

Technical Memorandum

То	Christie Kearney, NewRange Copper Nickel LLC
From	Tamara Diedrich, Spencer Bingham, MineraLogic LLC
Subject	Geochemical characterization annual update, NorthMet
Date	March 27th, 2025
Сс	

1 TERMS OF REFERENCE

A kinetic test program ("Program") was initiated by NewRange Copper Nickel LLC ("NewRange") for the NorthMet Project ("Project") in 2004 to support waste rock management planning, environmental review, and permitting for the Project¹. Data from the Program were used to inform waste management strategies for the Project, and to define parameters for a water quality model used to support environmental review and permitting (referred to herein as the "Water Model") (Barr, 2015). As of December 31st, 2024, the humidity cell tests (HCTs) in this Program that are still active have been ongoing for approximately 1012 weeks (over 19 years).

Over the course of the Program, tests have been discontinued when no longer needed to support Program objectives. In June 2019, NewRange received agreement² from the Minnesota Department of Natural Resources (DNR) to terminate the majority of the tests, and modify operating parameters for a subset of HCTs for a limited period of time prior to being terminated. After termination, test residues were subjected to characterization according to SRK and MineraLogic (2019a). The DNR provided agreement to proceed in June 2023³ with terminating the tests that had been subjected to modified operating procedures.

The most recent Program status update was submitted to the DNR in November 2024 (MineraLogic, 2024). That update included observations from ongoing HCTs, descriptions of termination activities, and results from the post-termination characterization of the test

¹ Following a conversion and name change under Minnesota Statutes 302A.682-.692, Poly Met Mining, Inc. is now NewRange Copper Nickel LLC (NewRange). NewRange is "for all purposes the same entity that existed before the conversion." Minn. Statute 302A.691, subd. 1. Thereafter, PolyMet Mining Corp. and Teck American Inc formed a joint venture, each owning 50% of NewRange. For consistency, the corporate entity advancing the Project is referred to herein as "NewRange" without regard to timing relative to February 2023.

² Approval provided via email from the DNR (Jennifer Engstrom) to NewRange (Christie Kearney) on June 6th, 2019, with the reference "FW: PolyMet Waste Characterization Program Modifications and Reductions".

³ Approval provided via email from the DNR (Michael Kunz) to NewRange (Christie Kearney) on June 15, 2023, with the reference "RE: NewRange Copper Nickel – NorthMet Humidity Cell Test Modification Request".

residues. The purpose of this memo is to provide a further update on the ongoing HCTs to accompany a digital data submittal with data from these same HCTs.

2 OVERVIEW

Trends observed for select water quality parameters (as of December 31st, 2024) are discussed below for the ongoing Program HCTs.

Kinetic test data from the Program obtained from the last project update through December 31st, 2024, are being submitted digitally along with this memo as the file named "NorthMet kinetic test data_12312024".

3 WASTE ROCK KINETIC TEST PROGRAM

As identified in SRK and MineraLogic (2019b), the objectives of the Program for the ongoing waste rock HCTs are:

- 1) Confirm continued effective neutralization by silicate mineral dissolution of the proton acidity generated through sulfide mineral oxidation in rocks near 0.12 wt. % sulfur (S).
- 2) Continue to monitor a sample with very low sulfur content (0.02 wt. % S) for generation of alkalinity in the near absence of sulfide oxidation.
- 3) Monitor samples with sulfur content above 0.12 and below 0.6 wt. % S for potential onset of acidic conditions.

The ongoing HCTs are shown with rationale in Table 1.

Lab #	Sample	Rock Type	Waste Rock Category ²	S (wt. % S)	Rationale for Selection
HC 104	00-326C (225-235)	Ultramafic	1	0.12	Highest sulfur content Category 1 test
HC 1	99-320C (830-850)	Anorthositic	1	0.09	Second highest sulfur content Category 1 test
HC 40	00-334C (30-50)	Anorthositic	1	0.02	Lowest sulfur content
HC 2	00361C (310-320)	Anorthositic	2/3	0.18	Low sulfur for Category 2/3
HC 47	00-326C (60-70)	Troctolitic	2/3	0.14	Low sulfur for Category 2/3
HC 5	26030 (1047-1052)	Sedimentary Hornfels	2/3	0.24	Mid sulfur for Category 2/3
HC 53	00-369C (20-30)	Troctolitic	2/3	0.21	Mid sulfur for Category 2/3
HC 7	00-340C (990-995)	Sedimentary Hornfels	2/3	0.55	High sulfur for Category 2/3
HC 23	00-357C (535-540)	Ultramafic	2/3	0.2	Confirm dip in pH was temporary

Table 1	Cells t	hat remain	ongoing	under	standard	operating	procedures ¹
Table I.	Cella t	natremain	unguing	unuer	Stanuaru	operating	procedures

Notes

¹ These cells continued to be rinsed by approximately 0.5 L of deionized water, once per week under existing laboratory conditions.

² Waste rock categories are described in Barr (2015).

Time series plots showing evolution of select parameters in leachate from ongoing waste rock HCTs are provided in Figure 1 and Figure 2. Release rates were calculated using the measured volume of leachate recovered each week. Key observations with respect to the stated continuation objectives include:

- The observed pH values remain within historical ranges.
- Category 2/3 cells continue to maintain leachate with pH higher than approximately 5.5. Cell HC 23 (Sample 00-357C (535-540)), which displayed a decrease in pH around weeks 550-600 has since appeared to recover, with the exception of two isolated measurements. Several other cells have been observed to have a temporary decrease in pH in the same time range; including HC 12 (a blank cell), HC 61 and HC 105; suggesting a systematic error or change in laboratory procedure. There is no indication that any of the Category 2/3 cells currently under testing are trending toward acidic conditions after approximately 1,012 weeks (over 19 years).

- Sulfate release continues to trend downward after the first four years of kinetic testing for cells other than HC 5 (Sample 26030 (1047-1052)) and HC 7 (Sample 00-340C (990-995)) which exhibit an increasing trend in sulfate release at around testing week 700.
- Alkalinity release rates continue to be stable.

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Cat 1 --- 0.02% S; HC 40; Anorthosite --- 0.09% S; HC 1; Anorthosite -→- 0.12% S; HC 104; Ultramafic

Figure 1. Time series of pH and release rates for total alkalinity, sulfate and calcium for ongoing waste rock HCTs. Open symbols denote release rates calculated on measurements below the detection limit.

NewRange To: MineraLogic From: **Subject:** NorthMet kinetic test program update March 27, 2025 Date: Page: 6 of 10



Cat 1 — 0.02% S; HC 40; Anorthosite — 0.09% S; HC 1; Anorthosite 🔶 0.12% S; HC 104; Ultramafic

Figure 2. Time series of release rates for nickel, copper, cobalt and arsenic for ongoing waste rock HCTs. Open symbols denote release rates calculated on measurements below the detection limit.

4 OBSERVATIONS FROM FLOTATION TAILINGS KINETIC TEST PROGRAM

Three cells containing samples representative of potential future tailings continue to be monitored for any changes in pH, alkalinity, sulfate or metal release. Cells T12 (Coarse Parcel 3) and T13 (Fine Parcel 3) were selected as they contained sulfur at concentrations (both at 0.14 wt. %) near the operational target for the Project. Cell T58 (Pilot Plant 3 (CuSO4) -100 +200) was selected for continuation with a lower sulfur content (0.08 wt. %).

Additionally, Cell T1 (P1S (-ACS, -BCS, -CCS, -DCS)) continues to be tested because, prior to termination, nickel, copper, and cobalt concentrations started to trend upward. Further monitoring is being conducted.

Time series data showing evolution of select parameters in leachate from ongoing tailings cells are provided in Figure 3 and Figure 4. Key observations include:

- These tailings cells remain above pH 6 for the entire duration of kinetic testing and display no sign of that trend changing.
- Nickel, copper, and cobalt concentrations have decreased from peak values observed in T1. There is no obvious explanation for what may have caused this disturbance to previously established trends.

5 CONCLUSIONS

Trends in leachate chemistry observed in data through December 31st, 2024 from waste rock and Flotation Tailings HCTs are generally consistent with those observed in previous years. There is no indication that any cells currently in operation are trending towards acidic conditions. Cell HC 23 (Sample 00-357C (535-540)), which displayed a decrease in pH around weeks 550-600 has since appeared to recover, similar to several other cells which is suggestive of a systematic error or change in laboratory procedure. The last rinse event for which Cell HC 23 has produced leachate with a pH of below 5 was for week 614. The pH has been 5 or greater since that time.



Flotation Tailings - HC T1; SolidsP1S(-ACS, -BCS, -CCS, -DCS) - HC T12; CoarseParcel 3 - HC T13; FineParcel 3 - HC T58; Pilot Plant 3 (0.25 Cu feed) Composite (-100 + 200 mesh)

Figure 3. Time series of pH and release rates of alkalinity, sulfate, and calcium for ongoing unmodified flotation tailings HCTs. Open symbols denote release rates calculated on measurements below the detection limit.


Flotation Tailings - HC T1; SolidsP1S(-ACS, -BCS, -CCS, -DCS) - HC T12; CoarseParcel 3 - HC T13; FineParcel 3 - HC T58; Pilot Plant 3 (0.25 Cu feed) Composite (-100 + 200 mesh)

Figure 4. Time series of release rates of nickel, copper, cobalt, and arsenic for ongoing unmodified flotation tailings HCTs. Open symbols denote release rates calculated on measurements below the detection limit.

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6 **REFERENCES**

Barr Engineering Co., 2015. Waste Characterization Data Package (Version 12). NorthMet Project. February 13, 2015.

MineraLogic, LLC, 2024. Update on Northmet Kinetic Test Program. November 4, 2024.

SRK Consulting (Canada) Inc., MineraLogic LLC, 2019a. [Memorandum to Poly Met Mining Inc.] Re: Modified HCT Procedure and Plan for Weathered Material Analysis for Discontinued Kinetic Tests, Northmet Project. June 3, 2019.

SRK Consulting (Canada) Inc., MineraLogic LLC, 2019b. [Memorandum to Poly Met Mining Inc.] Re: Update and Recommendations for Kinetic Test Program, Northmet Project. March 29, 2019.

Appendix BNewRange Responses to DNR Comments on Nov. 2024 Update on
NorthMet Kinetic Test Program

Report: Technical Memorandum: Update on NorthMet Kinetic Test Program (November 4th, 2024)

Reviewers: DNR - Zach Wenz, Michael Olson, Mike Kunz, Jennifer Engstrom

Date: DNR received Nov. 22, 2024; DNR comments 2/12/25; NewRange responses 3/31/25

Comment ID #	Document page #	Section #	DNR Comments/Questions (02/12/2025)	Company Responses (3/31/2025)
1	General		Note, the DNR agrees with some of the kinetic test leachate time series data observations discussed. However, it is not the intent of this review to find agreement with the presented observations or provide a detailed analysis of the data provided from the DNR's perspective. Nonetheless, the DNR is issuing some comments that are believed to be relevant for consideration for interpreting the time series and static phase testing data.	Noted.
2	General		Note that this and other data collected will need to be incorporated into future evaluation of the project (e.g., see special conditions 32-34 of the November 1, 2018 Permit to Mine decision).	Noted.
3	General		If data from this report is intended to be used to support future project decisions, a report presenting the specific data applications will be required. See also comments provided in May 22, 2019 on "Modified HCT Procedure and Mineral Characterization Plan" (dated March 29, 2019).	Noted. If data from this report are to be used to support future project a separate report will be presented.
4	4	Fig. 1	Note, it appears that many of the HCT leachates exhibit a modest pH decrease around weeks 550-600. After which the leachate pH gradually increases near week 700 and then has remained relatively stable. Similarity of trends for multiple HCTs is suggestive of some type of systematic error or change in lab procedure (e.g., type of rinse water, rinse routine, air flow, etc.).	Agreed. A statement to this effect has been added to the annual upd kinetic test program, dated March 14th, 2025.
5	6	2.2	Note it does not appear that the elevated Co, Cu, and Ni concentrations have decreased for sample T1. The leachate time series data continues to exhibit elevated concentrations for these metals since about week 650.	Noted. Additional data in the 2024 geochemical characterization an for cell T1 show Co, Cu, and Ni values trending downwards. This HC continue to be monitored.
6	7	Fig. 3	Note for sample HC T58, an apparently significant leachate chemistry shift is evident as a modest increase in pH and an associated large increase in alkalinity starting around week 750.	Noted. Additional data in the 2024 geochemical characterization an for cell T58 show that the observed shift in leachate chemistry arour appears to have resolved with values reflecting those typical to the landndred cycles.
7	10	3.2	Note, a critical parameter to aid interpretation of the metal and sulfate release rates is the HCT sample water content. Leachate chemistry is the end result of water and rock reactions between rinse intervals subsequently diluted with rinse water. Because these are Option A cells, reducing the rinse water volume may significantly effect retaining pore water in the sample between rinses. Fully understanding the cause for changes to solute release from decreased rinse volumes likely needs to include an analysis of changes to pore water volume and how stable pore water volume is week to week.	Noted. An analysis of changes to pore water volume and its stability considered in any future interpretation of the modified humidity cell

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Report: Technical Memorandum: Update on NorthMet Kinetic Test Program (November 4th, 2024)

Reviewers: DNR - Zach Wenz, Michael Olson, Mike Kunz, Jennifer Engstrom

Date: DNR received Nov. 22, 2024; DNR comments 2/12/25; NewRange responses 3/31/25

Comment ID #	Document page #	Section #	DNR Comments/Questions (02/12/2025)	Company Responses (3/31/2025)
8	19	5.3.1/ fig. 9	Note, it is not clear what sulfur concentrations are being compared here. By method design, the actual contents of a humidity cell are not chemically, mineralogically, or physically determined prior to HCT initiation. Post HCT operation, the observed release of solutes can be summed and added to the post operation chemical analyses of the actual HCT crushed rock sample to determine the most accurate initial composition of the rock in the HCT. More explanation is needed to define what the "Initial S (wt%)" and "S depleted (%)" terms are to understand the text and interpret figure 9.	Initial sulfur concentrations were measured from a split of crushed, and homogenized tailings/rock, while another split from the same sa used to construct the humidity cell.
9	20	5.3.1	The sulfur and carbon data spreadsheet only presents Initial S and final S release values for S depletion calculations. The kinetic test data spreadsheet should include the cumulative mass release calculations used to derive the final S release.	A revised spreadsheet that includes cumulative mass of sulfur relea provided with the geochemical characterization annual update, title kinetic test data_04302024 - DNR comment response". Cumulative release is also included in the spreadsheet of currently operating ce "NorthMet kinetic test data_12312024".
10	20	Fig. 10	Note the log scale for this plot obscures how similar or not the different measures of total sulfur are. A percent difference plot would be more informative.	If this information is used for supporting further work on the Project, presented as a percent difference plot.
11	21	Fig. 11	Note that figure 11 does not appear to illustrate qualitative conformity to the original sulfate release rate trend with bulk sulfur content. The original trend appears to be both meaningfully greater and lower than values at end of testing.	The observation of a qualitative dependence of sulfate release rates sulfur content persists. If this observation is used to support a future decision, additional analysis will be conducted.
12	28	6	The concluding paragraph makes some overarching statements regarding rock reactivity that are not clearly defined. First, it appears the statements should only refer to CAT 1 and CAT 2/3 rock and tailing. Second, it is not indicated what is considered "low pH conditions" to qualify the support for the waste rock management strategies. Third, no conceptual basis is provided to extrapolate the kinetic test work results to operational conditions. More interpretive analysis, content, and context is needed to address these three issues.	No extrapolation of kinetic test results to operational conditions is ir this time. If such extrapolation is conducted in the future, a concept additional analysis, content, and context will be provided in a separa (see response to Comment 3).
13	PDF page 261	Appendix	The "Addendum to Report AMG 93" text indicates some material was sent to an XRD expert in Germany. The DNR would like to see those results and associated reporting when the information is available.	These results and associated reporting will be shared when they are

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Appendix C 2025 Environmental Insurance

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CERTIFICATE OF LIABILITY INSURANCE

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